

# CONFLICT OF INTEREST ON OWNERSHIP VERSUS FREE CASH FLOW: DIVIDEND POLICY EFFECTIVENESS<sup>1</sup>

Putu Anom Mahadwartha

Universitas Surabaya

## ABSTRACT

Indonesia mempunyai masalah keagenan yang unik. Konflik antara prinsipal dengan prinsipal lebih mempengaruhi nilai perusahaan dibandingkan konflik antara prinsipal dengan manajer (agen). Kebijakan dividen memegang peranan penting dalam mengatasi masalah keagenan. Dividen dapat menjadi mekanisme pengikat (bonding) untuk mengikat kepentingan manajemen dengan kepentingan pemegang saham. Selain itu aliran kas bebas, dan aset sebagai kolateral (collateral assets) juga memegang peranan penting untuk mengurangi masalah keagenan antara pemegang saham dengan pemegang utang (debtholders). Aset kolateral merupakan mekanisme covenant utang untuk mengurangi konflik antara pemegang saham dengan pemegang utang (debtholders). Penelitian ini menguji hipotesis substitusi dalam teori keagenan antara dividen dan struktur kepemilikan (manajerial dan outsiders). Penelitian ini berargumen walaupun kebijakan dividen, dan struktur kepemilikan (manajerial dan outsiders) merupakan mekanisme untuk mengurangi konflik keagenan namun semua mekanisme yang ada selalu saling meniadakan, karena manajemen sangat memperhatikan biaya keagenan dari adanya pengendalian konflik keagenan. Sedangkan kaitan antara struktur kepemilikan, aliran kas bebas, dan aset kolateral juga mempunyai efek yang berbeda terhadap dividen. Penelitian ini menguji lima hipotesis yaitu hipotesis mengenai efek substitusi, aset kolateral, dan hipotesis pengaruh aliran kas bebas dalam mempengaruhi dividen dibandingkan dengan struktur kepemilikan. Sampel adalah perusahaan non-keuangan yang terdaftar di Bursa Efek Jakarta (sekarang Bursa Efek Indonesia) selama periode 1995 sampai dengan 2004. Penelitian ini menggunakan model Logit dengan Andrew dan Hosmer-Lemeshow Goodness-of-Fit Tests, dan Wald test untuk menguji hipotesis. Hasil penelitian mendukung hipotesis substitusi, dan aset kolateral sebagai debt covenant. Hipotesis mengenai aliran kas bebas tidak terdukung. Hal ini mengindikasikan bahwa manajer tidak bersedia mengorbankan aliran kas bebas untuk pemegang saham, sehingga kebijakan dividen dalam mengendalikan konflik keagenan kurang efektif di Indonesia. Masalah keagenan melalui ekspropriasi aliran kas bebas oleh manajer tidak berdampak besar pada nilai perusahaan dibandingkan dengan ekspropriasi aliran kas bebas oleh pemegang saham mayoritas.

*Keywords: Ownership Structures, Free Cash Flow, Dividend Policy, Agency Theory*

## RESEARCH BACKGROUND AND ISSUES

“The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together” (Black, 1976). A number of researchers provide theoretical as well as empirical evidences on different aspects of dividend policy but many issues are still unresolved.

As one of developing markets, Jakarta Stock Exchange (JSX) is likely to be quite different from what typically is the case in respect of an efficient market. Different capital markets have different behavior of listed companies. The behaviors of listed firms on the JSX are also different from the

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companies listed on other market. The dividend policies of listed firms also assumed different. The behavior of the companies listed on the JSX appears different from what might be expected from the empirical findings derived from developed markets and knowledge of financial markets derived from finance textbooks. The research provides empirical evidences of agency costs on dividend policy in an emerging market (Jakarta Stock Exchange – JSX).

As transparency international published their corruption perception index in 2005, Indonesia is rank 137 with score 2.2 along with Azerbaijan, Cameroon, Ethiopia, Iraq, Liberia, and Uzbekistan. Their findings suggest that Indonesia is country with high level of corruption<sup>2</sup>. This study assumes that agency conflict in Indonesia is a corruption in firm level<sup>3</sup>.

As agency theory argued that dividend policy is the mechanism of bonding to management behavior with regard to firm value. Dividend will decrease the ability of management to perquisites firm cash flow. Pinkowitz *et al* (2003) found that dividends are worth a lot more in countries with high corruption than they are in countries with low corruption. In other words, investors value cash paid out by the corporation in countries with high corruption because they have good reasons to expect that cash kept within the firm will be wasted or stolen. La Porta *et al* (2002) argues that country with lack investors protection will suffers from agency problems and prune firm value. Poor governance prevents investors from receiving the full return on their investment, because third parties pick off the fruits of those investments before they received. For instance, controlling shareholders in a company in Indonesia might siphon off earnings for their own profit rather than using them to provide a return to outside investors.

Conflict of interest between managers and shareholders is the central discussion in agency theory literature. Several researches have been conducting to test the conflict and the affect to value of the firms. Major researches that tested ownership structure from agency theory perspective such as Jensen *et al* (1992), Morck *et al* (1988), McConnel and Servaes (1990), Holderness *et al* (1999), and Lemmon and Lins (2000). Mainly major researches conducted using developed country financial data. Generally, the researches found supporting result regarding ownership structure as mechanism to control agency problems. Managerial ownership, and outside ownership are among other the mechanism to control agency conflict. Managerial ownership and outside shareholders are use as mechanism to reduce agency conflict between managers and shareholders (agent versus principals' conflict). Meanwhile outside shareholders mechanism also induce conflict between founder shareholders and managers (majority) with outside shareholders (minority). The issues of managerial and outside shareholders also test with regard their relationship to dividend policy as bonding mechanism of agency conflict.

Eisenhardt (1989) argue that there are two paradigms of agency conflict, those are: (1) positivist agency theory and (2) principal-agent research. Positivist agency theory explains the conflict between principal and agent while principal-agent research elaborates the conflict between principal and principal, principal and customers, etc. Majority of empirical research in Indonesia based on positivist agency theory rather than principal-agent research.

Free cash flow also becomes major issue in this research. This research argues that free cash flow will less employ as sources of management perquisites because bonding mechanism from dividend. Dividend will lower the chance of managers to use free cash flow for their own interest. As sources of perquisites, therefore free cash flow will have higher affect to dividend than ownership structure. Shareholders more concern on their fund invested in the firms, rather than concern on alignment of interest between parties.

Meanwhile, debtholders more concern on fund invested (loan) and secure mechanism of their loan especially from nonperforming loan. High level of collateral assets will lower boundary of debt covenant and increase firm's debt level. Substitutions hypothesis argued that debt and dividend have negative relationship because firms concern on cost of such policy. Therefore, high level of collateral asset will increase debt level, and lower dividend level.

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<sup>2</sup> [http://www.transparency.org/policy\\_and\\_research/surveys\\_indices/cpi/2005](http://www.transparency.org/policy_and_research/surveys_indices/cpi/2005)

<sup>3</sup> support by Stulz in <http://www.nber.org/reporter/fall05/stulz.html>

Several researches in Indonesia such as Mahadwartha (2002a), Mahadwartha (2002b), Mahadwartha and Hartono (2002), Mahadwartha (2003), Tandelilin (2003), Ismiyanti and Hanafi (2003), and Mahadwartha (2004) also tried to examine the bonding and monitoring argument of debt and dividend policy. Generally, Indonesian empirical researches found significant support for balancing model of agency cost. Firms concern of cost arises from mechanism to reduce agency problems. The researches have not focused their findings on the differences between agency problems developing country versus developed country.

This study argues that agency problems in Indonesia arises from inside versus outside shareholders, shareholders versus debtholders, and partially managers versus shareholders. This study argues that dividend as bonding mechanism have a lessen support as agency conflict reduction mechanism in Indonesian firms. Although several research such as Mahadwartha (2002a), Mahadwartha (2002b), Mahadwartha and Hartono (2002), and Mahadwartha (2003) showed a strong support for balancing model of agency cost in Indonesia, this study have not focused the argument on the balancing models nevertheless on dividend as bonding mechanism in agency conflict.

### **1. Research Problems**

Four research problems formulate from the preface of this study and such problems will be hypothesize and test using appropriate statistical test. The research problems are:

- a. Does managerial ownership affect dividend policy?
- b. Does outside shareholder affect dividend policy?
- c. Does free cash flow affect dividend policy?
- d. Does free cash flow have higher magnitude (absolute) to dividend policy than ownership structures to dividend policy?
- e. Does a collateral asset affect dividend policy?

### **2. Research Objectives**

Based on research problems discussed above, this research has four salient purposes, which are:

- a. To examine whether managerial ownership influences dividend policy as the control mechanism.
- b. To examine whether outside shareholder influences dividend policy as the control mechanism.
- c. To examine whether free cash flow influences dividend policy as the control mechanism.
- d. To examine whether free cash flow have higher magnitude (absolute) to dividend policy than ownership structures to dividend policy.
- e. To examine whether collateral asset influences dividend policy as the control mechanism.

### **3. Research Contributions**

The results of this research project would contribute to improve understanding about dividend policy as bonding mechanism in Indonesia. The empirical results would also provide the information regarding effect of cash flow, collateral asset, and ownership structure on dividend. Capital market investors also could use the result as valuable information when conducting fundamental analysis on buy or sell decision, or constructing stock portfolios.

Investors will have additional information to support their investment decision. Regulators can use the research result to arrange new rules and regulation based on agency conflict and increase minority shareholders protection against managers and majority shareholders disturbing actions.

#### 4. Research Originals

The conceptual framework proposed in this study is different to previous studies in some points of view. Firstly, this study is focusing on dividend hypotheses to test unique agency problems in Indonesia as representation of developing country. Previous empirical researches in Indonesia more concern on testing balancing model of agency theory. However, there is little attention about dividend as bonding mechanism in agency problems.

Secondly, this study proposes dividend policy as binomial variable, based on preliminary financial data examination. Thirdly, in testing dividend hypotheses, this study focus on three conflict of interest between managers versus shareholders, inside shareholders versus outside shareholders, and shareholders versus debtholders.

#### LITERATURE REVIEW

Corporate dividend policy has been an issue of interest in the financial literature. Thus far, that issue has been examining under the assumption that the firm is one homogeneous unit whose clear objective is to maximize its market value (Brennan, 1970; Miller and Modigliani, 1961; and Miller and Scholes, 1982). Dividend decision is one of the most important decisions of the company, and not surprisingly then a great many studies have already been published in this area but some important issues are remaining unresolved.

This part of the paper contains an extensive review of agency cost theory of dividend policy along with major empirical evidences, and a brief summary table of the major studies on agency cost theory of dividend policy including the methods of analysis, data used and the notable findings. The previous empirical evidence supports that agency cost arises from conflict between shareholder-manager, and shareholder-bondholder. Generally, the previous studies also suggest that payment of dividend reduces the agency cost. The summary of the major empirical studies on agency cost theory of dividend policy along with their data set, methodology and the remarkable findings presented in Table 1.

Agency cost is nothing but an implicit cost that usually arises for the conflict between managers and shareholders (principal and agent). Dividend policy will act as a bonding mechanism in agency conflict (Mahadwartha, 2004). The payment of dividend reduces the agency conflict between managers and shareholders by reducing the discretionary funds available to managers (Jensen and Meckling, 1976; Rozeff, 1982; Easterbrook, 1984; Crutchley and Hansen, 1989).

**Table 1.** Summary of the Major Studies on Determinants of Dividend Policy

Author	Data	Dependent Variable	Method	Findings Regarding the Agency Cost Theory
Rozeff (1982)	1000 US cross sectional non-regulated firm from 64 spans over the period of 1974-1980	Dividend Pay-out Ratio	OLS	Agency cost: Support
Gerber (1988)	Primary and secondary data	Target Pay-out Ratio	OLS	Agency cost: Support
Jensen, Solberg and Zorn (1992)	Cross-section of 565 US firms in 1982 and 632 US firms in 1987 respectively	Dividend Pay-out Ratio	3 Stage Least Square (3 SLS)	Agency cost: Support
Alli, Khan and Ramirez (1993)	Cross section of 105 US non-financial sector over the period of 1983-1985	Dividend Pay-out Ratio	2 Stage Multivariate (Factor Analysis and OLS)	Agency cost: Support
Holder,	Cross section of 477 US	Mean Standard	OLS	Agency cost:

Langrehr, and Hexter (1998)	firms over the period of 1983-1990	Deviation of Dividend Pay-out Ratio		Support
Saxena (1999)	Cross section of randomly selected 333 NYSE listed regulated and non-regulated firms over the period of 1981-1990	Dividend Pay-out Ratio	OLS	Agency cost: Support

Jensen (1986) documented if firms have free cash flows then they should pay dividends or retire their debts to reduce the agency cost of free cash flow. In addition, a similar type of conflict exists between shareholder and bondholder because shareholders can expropriate wealth from bondholders by paying themselves dividends rather than their debts. Bondholders on the other hand will protect their investment through covenant on firm's policies (such as dividend policy in the bond indenture) (Kalay, 1982).

## 1. Hypotheses Development

### 1.1. Shareholder-Manager Conflict and Dividend Policy

Dividend can be used in reducing the agency problem between managers and stockholders. The payment of dividends reduces the discretionary funds available to manager for perquisite consumption and helps address the manager-stockholder conflict (Jensen and Meckling, 1976; Easterbrook, 1984; and Crutchley and Hansen, 1989). Agency theory argues that managerial ownership will align managers and shareholders interest and reduces agency conflict. Reducing in agency conflict will increase value of the firms significantly.

Rozeff (1982) was the first explicitly recognize the role of insider ownership as one of monitoring role to managers. Firms establish higher dividend payouts when insiders hold a lower fraction of the equity and/or greater numbers of equity hold by outside shareholders. This evidence supports the argument that dividends payments are part of the firm's optimum bonding package and serve to reduce agency conflict. Jensen *et al* (1992) examine the relationship between ownership, dividend policy and leverage, concluded that manager make financial policy trade off to control agency costs in an efficient manner. Balancing model of agency theory also tested by Mahadwartha and Hartono (2002) for Indonesian capital market (JSX). The research found that balancing model hold in Indonesia, and firms concern to minimize the trade off agency cost on debt and dividend policy.

As developing capital market, this study introduces the Indonesian unique characteristic. Higher level of managerial ownership will decrease conflict with insiders' principal, but increase the conflict between managers and inside shareholders with outside shareholders<sup>4</sup>. Hence, higher level of managerial ownership will decrease dividend payment, to support managers' perquisites and insiders' principal on firm value.

H1a: Managerial ownership affect dividend policy with negative sign

The balancing model also a relation between firm's transaction cost and agency cost. If the firm pays high level of dividend to reduce firm agency cost and at the same time firms needs external funds for investment that raises firm transaction costs. Rozeff (1982) also attempt to examine trade off between transaction costs and firm agency costs. Rozeff's hypothesis concludes that if outside equity holders own a majority of the equity, they will demand a higher dividend as part of the

<sup>4</sup> In Indonesia, outside shareholders usually call as "public" shareholders. Preliminary data shows average percentage of public shareholders is 30% from total shareholders in listed firms.

optimum monitoring package. Rozeff (1982) incorporated one variable as the percentage of stock held by managers. Rozeff predict that the dividend payout negatively related to the percentage of stock held by managers.

The fraction of stock held by outsiders may not be the only determinant of dividend demand. If outsiders are minority shareholders, the firms' ownership will be more concentrated and may more easily influence by insider behavior, thereby reducing agency costs and leading to lower optimal dividend payout. Hence, dispersion of ownership among outsider stockholders may influence the dividend decision, with more dispersion leading to higher dividends.

As developing capital market, Indonesian capital market has lower dispersion of outside shareholders. Family ownerships have been dominating Indonesian listed firms, and have been suggesting that agency conflict between managers and inside shareholders minimum. Mahadwartha (2004) shows firms with higher level of institutional internal ownership have higher financial performance. Institutional internal was representation of family ownerships. The evident suggest that agency conflict shifted from principal versus agents to principal (founders) versus principal (outside shareholders). This study argues that lower level of outside shareholders will increase dividend payment, to fulfill founder shareholders personal wealth.

Rozeff (1982) used the number of common stockholders to measure ownership dispersion. The prediction is that the dividend payout positively related to the number of common stockholders in the firm. To correct for scale affects, the variable taken by Rozeff as the natural log of the number of common shareholders. Rozeff found a significantly negative function of the firm's number of common stockholders. Rozeff (1982) finally concluded that higher dividend payments reduce agency conflicts between managers and shareholders. The result support by Miller and Rock (1985) that insiders' ownership is relevant to assessment of dividend signals.

On the other hand, Easterbrook (1984) observed whether dividend reduces agency costs and found to some extent different from others. Easterbrook (1984) found that dividend might keep firms in the capital market, where monitoring and control to managers is available at low cost, and useful to adjust the level of manager's risk and the different classes of investors.

H1b: Outside shareholders affect dividend policy with negative sign

## 1.2. Free Cash Flow and Dividend Policy

Jensen (1986) argues that if firm has free cash flow, it is better off sharing them with shareholders as dividend payout or retire the firm's debt in order to reduce the possibility of these funds being wasted on unprofitable (negative net present value) projects and on personal interest of managers<sup>5</sup>. Jensen (1986) is famous as initiators of free cash flow model in agency conflict.

Dividend initiation can reduce agency costs because they reduce free cash flow available to managers. Given the previous performance as proxy for efficiency in allocating funds, the relatively poor firm's performance has more impact in reducing agency costs following dividend initiations (Lipson *et al*, 1998). On the other hand, dividend omissions can increase agency costs because they enlarge the free cash flow available to manager's perquisites. However, the financial condition of firms at the time of a dividend omission may limit the degree to which agency costs can raise. Since many firms only omit dividends after experiencing financial problems, the funds retained rather than distributed as dividends should be closely monitor.

Agency costs are more likely to increase following a dividend omission if the firm's previous performance has not triggered closer monitoring of managers. That is, relatively poor performance prior to the dividend omission should automatically heighten monitoring of the firm's manager, while relatively strong performance prior to the dividend omission enlarges free cash flow without necessary triggering closer monitoring of the firm's managers (Akhigbe and Madura, 1996).

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<sup>5</sup> Perquisites also called personal interest such as expensive office furniture, excessive meeting facilitations, etc.

Jensen's (1986) free cash flow hypothesis indicates that when a firm has cash in excess of what is required to finance positive net present value (NPV) investment projects, it is better for manager to return the excess cash to shareholders as dividends in order to maximize shareholders wealth. Otherwise, he argues, the existence of free cash flow may lead management to undertake suboptimal investment projects. Moreover, Lang and Litzenberger (1989) called the extended form of the free cash flow hypothesis as the overinvestment hypothesis. If it is assumed that a firm's investment are scale expanding and exhibit decreasing marginal efficiency of capital, an average  $Q^6$  less than unity implies overinvestment. The overinvestment hypothesis predicts that the average return in response to announcements of sizable dividend changes is larger for over investing firms than for value-maximizing firms.

It is shows that the size of the declared dividend is an increasing function of expected cash flow. Nevertheless, Bar-Yosef and Huffman (1986) observe a trend that the higher the level of expected cash flow, the lower the managerial effects of cash flow on dividends. In addition, a similar relationship observed with respect to changes in expected cash flows.

Lang and Litzenberger (1989) investigated the informational content of dividends in the framework of the principal-agent conflict model developed by Berle and Means (1932) and extended by Jensen (1986). Lang and Litzenberger (1989), however re-examines the dividend announcements to determine whether the free cash flow has explanatory power. They concluded that free cash flow has explanatory power. Jensen's (1986) free cash flow theory lays the agency problem of managers and shareholders over the distribution of free cash flows generated by the firm.

Mahadwartha (2004) support the argument that managers' perquisite is higher for firms with high level of free cash flow. As free cash flow increase, shareholders will induce managers to pay dividend as bonding for managers' perquisites. The study suggests outside shareholders will hurt more from this policy rather than inside shareholders (family shareholders). This study argues that firms with high level of free cash flow will have higher dividend payment as indications of shareholders' bonding on managers' perquisites.

H2a: Free cash flow affect dividend policy with positive sign

This research also argues that free cash flow will have higher magnitude to dividend than ownership structures. Managers more concern on free cash flow as perquisites than bonding from managerial ownership and outside shareholders. Mahadwartha (2005) shows that free cash flow significant variables (with greater magnitude) to affect financial performance on crisis than before crisis. Thus this research support Mahadwartha (2005) result that free cash flow will affect dividend with higher magnitude (in absolute term) than ownership structure (managerial and outsiders).

H2b: Free cash flow affect dividend policy with greater magnitude (absolute) than managerial ownership and outside ownership

### **1.3. Shareholder-Bondholder Conflict and Agency Cost**

Similar type of conflict like shareholder-manager also exists between shareholder and bondholder. Shareholders may expropriate wealth from bondholders by paying themselves dividends. Bondholders try to contain this problem through restrictions on dividend payments in the bond indenture (Kalay, 1982; and Smith and Warner, 1979).

Titman and Wessels (1988) argue that firms with more collateral asset have fewer agency problems between their bondholders and stockholders because these assets may serve as collateral against borrowing. Alli (1993) considered the ratio of net plant to total assets as a proxy for collateral assets and agency problem between shareholders and bondholders and expected a positive

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<sup>6</sup> Simple approximation of Q describe by Chung and Pruitt (1994) as proxy for investment opportunities

relationship between collateral assets and dividend payout ratio. Therefore, they found a significantly positive relationship between collateral assets and dividend payout ratio.

Contrary from Alli (1993), this study argues that firms with low level of collateral assets will pay more dividends and vice versa. This study suggests that low level of collateral assets will lower the indenture of debtholders to constraint dividend payment. In return, the conditions increase the agency conflict between shareholders versus debtholders. La Porta *et al* (2002) suggest that developing country have low level of investors' protection. Indonesia as developing country also suggests having low level of investor protection<sup>7</sup>.

H3: Collateral assets affect dividend policy with negative sign

## RESEARCH METHODS

### 1. Data and Sample

Samples are non-financial sector companies listed in Jakarta Stock Exchange over the period of 1995-2004. Financial sector excluded from the sample because they maintain different type of accounting records and characteristics that makes a problem to cope with conventional accounting system. Empirical research in finance usually divided into regulated industry (firm) for financial industry (firm), and unregulated industry (firm) for non-financial industry (firm).

It is worth to mention that some companies are exclude from the sample because either all of the company or market data of those companies are unavailable. So, the sample size became smaller than the actual companies listed in Jakarta Stock Exchange. The final sample consists of 158 Jakarta Stock Exchange listed non-financial sector companies. Data are balance sheet, income statement, and cash flow report from 1995 until 2004. Data collected from the full version and audited annual reports of the Jakarta Stock Exchange listed companies from 1995 to 2004.

### 2. Variables

**Dividend Policy (DDIV).** Dividend usually defined as dividend payout ratio (dividend divided by net profit after taxes). Two main problems arise from such measurement. Firstly, companies' pay dividends in excess of net profit after taxes, and secondly some companies pay dividends when net profit after taxes is even negative. The payment of dividend from negative profit creates a discontinuity in the variable with negative values being rather meaningless. Preliminary data shows only 42% listed firms pay dividend from 1995 until 2002 and 67.3% pay dividend before 1998 financial crisis. Hence, dividend data is not normal and inclined binomial. Therefore this study propose a dummy variable to proxy dividend policy (DDIV=1 for paying firm, and DDIV=0 for non-paying firm).

**Managerial Ownership (MO).** Agency theory views that firms pay higher amount of dividends as monitoring and bonding package when insiders hold a lower percentage of common stock to reduce agency cost. The proportion of stock held by managers considered as the proxy of insiders' ownership.

**Outsider Ownership (OW).** As agency theory argues that widely spread ownership have more bargain power and more influence on management actions such as pay more dividends to control the influence of wide spread ownership and to reduce agency cost. The proportion of outsider common stockholders considered as the proxy of dispersion of ownership for agency cost arises for the conflict between manager and shareholder.

**Free Cash Flow (FCF).** Jensen's (1986) free cash flow hypothesis suggests that firms with more growth opportunities have lower free cash flow and therefore, it needs to pay lower dividends to reduce the agency cost of free cash flow. Jensen's free cash flow hypothesis was supported by

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<sup>7</sup> Transparency international has been publicizing corruption perception index in 2005.



Rozeff (1982), and Smith and Watts (1992). This study contradict from Jensen (1986), argues negative relationship between free cash flow and dividend payout ratio because a unique agency problems in Indonesian listed firms. This study used Hackel *et al* (1996) measurement of FCF with discretionary methods divided by total assets.

$$FCF = \frac{TFCF + DOCO + DCEX}{\text{Total Assets}}$$

$$TFCF = (OCR - OCO) - CEX$$

OCR = operating cash inflows

OCO = operating cash outflows

CEX = capital expenditures

$$DOCO = (OCO \text{ growth} - \text{sales growth}) * (0,2 * OCO)$$

$$DCEX = (CEX \text{ growth} - \text{cost of goods sold growth}) * CEX$$

$$OCO \text{ growth} = (OCO_t - OCO_{t-1}) / OCO_{t-1}$$

$$\text{Sales growth} = (\text{Sales}_t - \text{Sales}_{t-1}) / \text{Sales}_{t-1}$$

$$CEX \text{ growth} = (CEX_t - CEX_{t-1}) / CEX_{t-1}$$

$$\text{Cost of goods sold growth (COGS)} = (COGS_t - COGS_{t-1}) / COGS_{t-1}$$

**Collateral Assets (CA).** The ratio of net fixed assets to total assets considered as the proxy of collateral assets. Titman and Wessels (1988) suggest a positive relationship between collateral assets and dividend payout ratio because firm with more collateral assets have fewer agency problems between shareholder and bondholder which leads to the higher level of dividend payments. On contrary, this study argues that unique agency problems in Indonesia will induce a negative affect of collateral assets to dividend payment.

Table 2 shows summary of independent variables and description of the variables. This study uses four independent variables and single dependent variables (dividend) that test dividend hypotheses. This study also include crisis period as control variable. Dummy crisis variable (DC) with cut off data 1995 – 1997 (DC=0) and 1998 – 2004 (DC=1) will be use as control variable for crisis period.

**Table 2.** Description of the Independent Variables

Issue	Variables	Proxies	Calculation
Dividend Hypotheses	1. Insider Ownership 2. Outsider Ownership 3. Free Cash Flow 4. Collateral Assets	1. Managerial Ownership 2. Proportions of Common stock held by outside shareholders 3. Free cash flow Hackel, Livnat, and Rai (1996) 4. Collateral Assets	1. Proportion of Stock held by managers 2. Proportion of Outside Common Stockholders 3. Discretionary FCF divided by total assets 4. Ratio of Net Fixed Assets to Total Assets

### 3. Methods of Analysis

This study uses Logit model to test the hypotheses, because dependent variable is dummy variable. The goal is to quantify the relationship between the individual characteristics and the probability. Test for Goodness of fit model is Andrews and Hosmer-Lemeshow Goodness-of-Fit Tests with binary logit Quadratic hill climbing. This research uses Wald-test to examine the differences of coefficients among parameters (Greene, 2000: 153). The Wald test computes a test statistic based on the unrestricted regression. The Wald statistic measures how close the unrestricted estimates come to satisfying the restrictions under the null hypothesis. If the restrictions are in fact true, then the unrestricted estimates should come close to satisfying the restrictions.

Logit model equation:

$$\text{DPR} = \alpha + \beta_1 \text{MO} + \beta_2 \text{OW} + \beta_3 \text{FCF} + \beta_4 \text{CA} + \beta_5 \text{DC} + \varepsilon_t$$

Note:

DPR = dividend payout ratio; dummy D=1 for dividend paying firms, and D=0 for non dividend paying firm

MO = managerial ownership; percentage of managers' ownership

OW = outside ownership; percentage of outsiders' ownership

FCF = free cash flow; Hackel, Livnat, and Rai (1996)

CA = collateral asset; net fixed assets to total assets

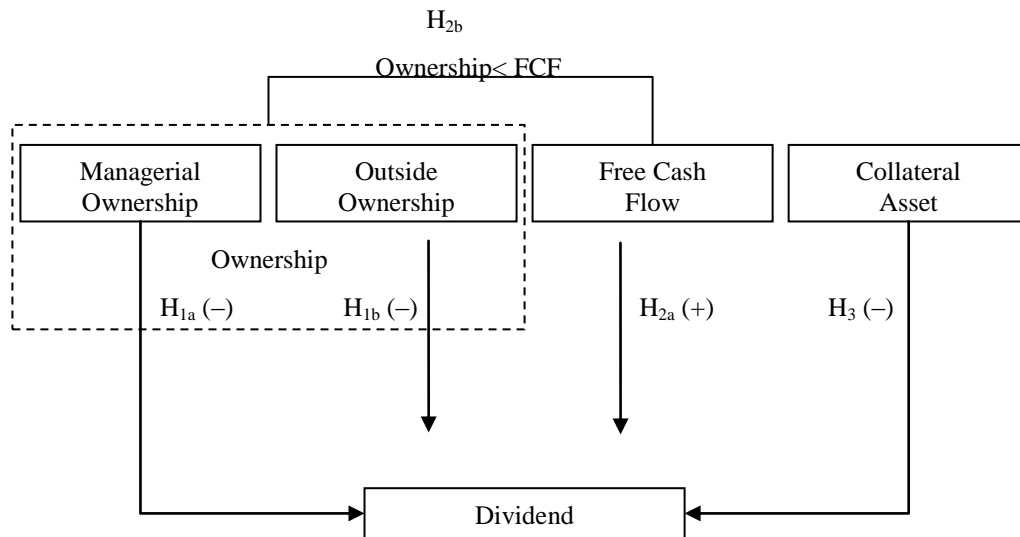
DC = dummy crisis, DC=0 for 1993-1996; and DC=1 for 1997-2004

$\varepsilon_t$  = error term

**Table 3.** Test for Hypothesis

Hypotheses	Test
H1a : Managerial ownership affect dividend policy with negative sign	$\beta_1 < 0$
H1b : Outside shareholders affect dividend policy with negative sign	$\beta_2 < 0$
H2a : Free cash flow affect dividend policy with positive sign	$\beta_3 > 0$
H2b : Free cash flow affect dividend policy with greater magnitude (absolute) than managerial ownership and outside ownership	$\beta_1 < \beta_3$ $\beta_2 < \beta_3$
H3 : Collateral assets affect dividend policy with negative sign	$\beta_4 < 0$

Table 3 shows tests for coefficient parameters of four independent variables, represent for four hypotheses. The research framework shows in Figure 1 that explained the relationship between independent and dependent variables, and the sign of the hypothesis.



**Figure 1.** Research Framework

## RESULT AND DISCUSSION

### 1. Descriptive Statistics

Table 4 shows descriptive statistics for independent variables. The independent variables are managerial ownership (MO), outsider ownership (OW), free cash flow (FCF), and collateral assets

(CA). The result shows that there is 29.4% outsider ownership among firms, and only 1.1% is managerial ownerships. Free cash flow has the highest standard deviation than other independent variables. The result suggests that free cash flow fluctuated within and between firms' years.

**Table 4.** Descriptive Statistics for Independent Variables

This research uses four independent variables which are MO for managerial ownership, OW for outsider ownership, FCF for free cash flow, and CA for collateral assets. Period analysis from 1995 to 2004 with 1559 firm years.

Variables	N	Minimum	Maximum	Mean	Std. Deviation
MO	1559	0	0.7600	0.0116	0.0621
OW	1559	0	0.9342	0.2940	0.1659
FCF	1559	-329.8247	2647.4702	3.0663	80.4675
CA	1559	-3.6275	1	0.5512	0.2489

Table 5 shows descriptive statistics with cut-off Crisis period (DC). The result shows managerial ownership lower during crisis than before crisis while outsider ownership remains constant. Free cash flow also lower during crisis meanwhile collateral assets slightly increase.

**Table 5.** Descriptive Statistics with cut-off Crisis Period

DDIV for dummy dividend policy, and DC for dummy crisis period with cut-off 1997. Total firms year for before crisis period is 474 (1995-1997), and crisis period is 1085 (1998-2004).

Variables	DC	N	Mean	Std. Deviation	Std. Error Mean
MO	0	474	0.0284	0.1067	0.0049
	1	1085	0.0043	0.0199	0.0006
OW	0	474	0.2943	0.1407	0.0065
	1	1085	0.2939	0.1759	0.0053
FCF	0	474	4.8872	122.7296	5.6372
	1	1085	2.2708	52.2663	1.5868
CA	0	474	0.5188	0.1983	0.0091
	1	1085	0.5654	0.2669	0.0081
DDIV	0	474	0.93	0.255	0.012
	1	1085	0.39	0.489	0.015

Table 6 shows the result of independent sample test (Levene and equality test) between before and during crisis period. Levene assumed that variances of the two groups are equals. The result shows that managerial ownership, outsider ownership, and collateral assets have significant differences before and during crisis period. Meanwhile free cash flow shows insignificant result. The result suggest that although free cash flow increase between period, the magnitudes statistically indifference with zero. Levene's test for outsider ownership is significant while t-test equality showed insignificant result. The test suggests that outsider ownership have different variances between groups.

**Table 6.** Independent Sample Test for with cut-off Crisis Period

Total firms year for before crisis period is 474 (1995-1997), and crisis period is 1085 (1998-2004). Levene's and t-test of equality of means used to test data differences between before crisis and crisis period.

Variables	Levene's F test	t-test Equality of Mean	Mean Difference
MO	179.7525 ***	7.1728 ***	0.0241
OW	40.4468 ***	0.0415	0.0004
FCF	2.0418	0.5904	2.6164
CA	19.5571 ***	-3.4134 ***	-0.0466

DDIV	1815.7586 ***	22.5588 ***	0.5359
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\*) 10%; \*\*) 5%; \*\*\*) 1% significant level.

Table 7 shows independent sample test for Levene's and t-test equality of mean with cut-off dividend payment (DDIV). The result shows that all variables statistically significant using Levene's test. However, free cash flow insignificant using t-test equality of mean. The result suggest that firms paying dividend and non-paying dividend have different magnitude of managerial ownership, outsider ownership, free cash flow, and collateral assets.

**Table 7.** Independent Sample Test for with cut-off Dividend Policy

Total firms year for non-paying firms is 690, and paying firms is 869. Levene's and t-test of equality of means used to test data differences between non-paying and paying firms.

Variables	Levene's F test	t-test Equality of Mean	Mean Difference
MO	30.3736 ***	-2.9429 ***	-0.0093
OW	17.7294 ***	2.3692 **	0.0200
FCF	7.9441 ***	1.4602	5.9891
CA	23.3783 ***	9.5568 ***	0.1179
DC	3887.1719 ***	22.5588 ***	0.4597

\*) 10%; \*\*) 5%; \*\*\*) 1% significant level.

The differences of managerial ownership between paying and non-paying dividend is negative. Firms that pays dividend have lower managerial ownership than firms with no dividend do. The dividend paying firms decrease when economic environment enter crisis period. Majority of firms have financial difficulties and reallocated there cash to support day-to-day operation, and strengthen their assets.

## 2. Regression Result and Goodness of Fit Tests

Table 8 shows LOGIT regression result with dummy dividend as dependent variable. All variables are statistically significant and showed negative magnitude to dividend payment except for constant variable. McFadden R<sup>2</sup> showed 25% explanation level of independent variables to dividend variable.

**Table 8.** Regression Result of Logit Model

MO for managerial ownership; OW for outsider ownership; FCF for free cash flow; CA for collateral assets; DDIV for dummy dividend policy (dependent variable); and DC (control variable) for crisis period. Period analysis from 1995 to 2004 with 1559 firm years.

Variables	Coefficient	
Constant	$\alpha$	4.1733 ***
MO	$\beta_1$	-1.9433 *
OW	$\beta_2$	-0.6613 *
FCF	$\beta_3$	-0.0015 **
CA	$\beta_4$	-2.3171 ***
DC	$\beta_5$	-3.1129 ***
McFadden R <sup>2</sup>	25%	
DDIV = 0	690	
DDIV = 1	869	

\*) 10%; \*\*) 5%; \*\*\*) 1% significant level.

Managerial ownership negatively affects dividend policy (H<sub>1a</sub> not rejected). Outsider ownership has negative magnitude toward dividend (H<sub>1b</sub> not rejected). Free cash flow has negative effect to dividend policy (H<sub>2a</sub> rejected). Collateral assets have negative effect to dividend policy (H<sub>3</sub> not

rejected). Meanwhile, crisis period have negative effect to dividend policy, as support by t-test in Table 7.

Table 9 showed goodness of fit test for regression model in Table 8. The test divided observation into ten category based on their risk (the magnitude of their prediction from actual). The result showed that Hosmer-Lemeshow and Andrew statistically significant of 1%. Table 10 supports the result of Table 9. Table of prediction divide model into two main categories. First category is estimated model, which shows estimation result from the original model. Second category shows constant probability model, which is depend on modified original model into LOGIT model with constant probability of dependent variable (dividend).

**Table 9.** Goodness-of-Fit Tests

Logit model tested using Andrews and Hosmer-Lemeshow. Total observation will divided into 10 (quantile). Expected value of DDIV = 0 and DDIV = 1 then estimate using Logit model from Table 8.

No	Quantile of Risk		DDIV=0		DDIV=1		Total Obs	H-L Value
	Low	High	Actual	Expect	Actual	Expect		
1	0.0205	0.2436	128	122.626	27	32.3739	155	1.12753
2	0.2442	0.3019	130	113.403	26	42.5971	156	8.89581
3	0.3022	0.3614	102	104.277	54	51.7227	156	0.15001
4	0.3615	0.4169	101	95.2438	55	60.7562	156	0.89324
5	0.4177	0.4761	69	86.7914	87	69.2086	156	8.22069
6	0.4768	0.5539	63	75.7404	93	80.2596	156	4.16549
7	0.5540	0.8303	64	61.1103	92	94.8897	156	0.22464
8	0.8381	0.9253	14	15.3804	142	140.620	156	0.13745
9	0.9254	0.9500	8	9.57072	148	146.429	156	0.27463
10	0.9500	0.9999	11	5.85654	145	150.143	156	4.69340
Total			690	690.000	869	869.000	1559	28.7829
H-L Statistic:				28.7829	Prob. Chi-Sq(8)		0.0003	
Andrews Statistic:				32.1094	Prob. Chi-Sq(10)		0.0004	

The prediction showed that even model predicted using different methods the proportion of correct prediction (65.62% and 50.66%) is higher than incorrect prediction (34.38% and 49.34%). The result of goodness of fit model and prediction evaluation support that LOGIT model statistically fit.

**Table 10.** Prediction Evaluation

The test using Binary Logit Quadratic Hill Climbing with 1559 firms year and success cut-off = 0.5

	Estimated Equation			Constant Probability		
	DDIV=0	DDIV=1	Total	DDIV=0	DDIV=1	Total
Total	690.00	869.00	1559.00	690.00	869.00	1559.00
Correct	421.98	600.98	1022.96	305.39	484.39	789.78
% Correct	61.16	69.16	65.62	44.26	55.74	50.66
% Incorrect	38.84	30.84	34.38	55.74	44.26	49.34

Table 11 showed Wald test of hypothesis  $H_{2b}$ . Wald test analyzed differences between  $\beta_1$  and  $\beta_3$ ; and  $\beta_2$  and  $\beta_3$ . The equation are  $\beta_1 = \beta_3$  or  $\beta_1 - \beta_3 = 0$ ; and  $\beta_2 = \beta_3$  or  $\beta_2 - \beta_3 = 0$ . The result of Wald test on  $\beta_1 = \beta_3$  showed that magnitude of free cash flow to dividend lower than the magnitude of managerial ownership to dividend ( $H_{2b}$  rejected). The result of Wald test on  $\beta_2 = \beta_3$  showed that magnitude of free cash flow to dividend lower than the magnitude of outsider ownership to dividend ( $H_{2b}$  rejected).

**Table 11.** Wald Test  $H_{2b}$ ;  $\beta_1 = \beta_3$  and  $\beta_2 = \beta_3$

Wald test is use to test hypothesis  $H_{2b}$ , with  $\beta_1 = \beta_3$  or  $\beta_1 - \beta_3 = 0$ ; and  $\beta_2 = \beta_3$  or  $\beta_2 - \beta_3 = 0$ .  $\beta_1$  is coefficient for managerial ownership.  $\beta_2$  is coefficient for outsider ownership, and  $\beta_3$  is coefficient for free cash flow.

Wald	Coefficient <sup>a</sup>				Differences	
$\beta_1 - \beta_3$	MO =	1.9433	>	FCF =	0.0015	1.9418 *
$\beta_2 - \beta_3$	OW =	0.6613	>	FCF =	0.0015	0.6598

\*) 10%; \*\*) 5%; \*\*\*) 1% significant level.

### 3. Discussion

Table 12 showed summary of statistical result of five hypotheses. Three hypotheses confirm as predicted, which are  $H_{1a}$ ,  $H_{1b}$ , and  $H_3$ . Managerial ownership negatively affects dividend policy. Firm that has managerial ownership less likely to pay dividend because managerial ownership and dividend policy are bonding mechanism on agency theory perspective. If one mechanism already exists then other mechanism less likely used to control agency conflict. Firms concerned on cost that occurred when they used bonding mechanism to decrease agency conflict. The result supports substitution hypothesis of agency cost (Mahadwartha and Hartono, 2002; Mahadwartha, 2002b and 2003; Ismiyanti and Hanafi, 2004).

**Table 12.** Summary of Statistical Result

<b>Hypotheses</b>	<b>Result</b>
H <sub>1a</sub> : Managerial ownership affect dividend policy with negative sign	Not Rejected
H <sub>1b</sub> : Outside shareholders affect dividend policy with negative sign	Not Rejected
H <sub>2a</sub> : Free cash flow affect dividend policy with positive sign	Rejected
H <sub>2b</sub> : Free cash flow affect dividend policy with greater magnitude (absolute) than managerial ownership and outside ownership	Rejected
H <sub>3</sub> : Collateral assets affect dividend policy with negative sign	Not Rejected

Firm that has outsider ownership will less likely use dividend policy to control bonding mechanism. The argument is the same as managerial ownership, and the result confirm that substitution hypothesis hold in such situation. Firm with high collateral assets will has lower probability to pay dividend. This study argues that low level of collateral assets will lower the indenture of debtholders to constraint dividend payment.

Free cash flow has negative effect on probability of dividend payment. High free cash flow will decrease the probability firm pays dividend. The research suggests that managers with free cash flow will reluctant to pay dividend and uses free cash flow for their own interest. Jensen (1986) argued that agency problem arises from expropriation of free cash flow by managers. The result also suggests that dividend ineffective as bonding mechanism for agency problems and firm that have high free cash flow will have high agency problems. Indonesian firms less consider to use dividend as bonding mechanism. Research data showed that 690 firm's years are non-paying firms (44.25%) and 869 firm's years are paying firms (55.74%). The data also support the use of dummy variables as proxy for dividend.

The effect of managerial ownership and outsider ownership to dividend policy is higher (in absolute term) than the effect of free cash flow to dividend policy. The research suggests that ownership structure is more effective to control agency problems than using free cash flow. Manager's have higher control on free cash flow for Indonesian firms, and induce them to expropriate free cash flow. Mahadwartha (2006) showed that managers have more chance to expropriate cash flow when firms have lower investment opportunity. The expropriation problems become severe when economic condition is unfavorable (crisis period).

Collateral assets have negative effect on dividend policy. Firms that have high collateral assets will have fewer agency problems between bondholders and stockholders because these assets may serve as collateral against borrowing. Firms that concerned on cost to control agency problems will have lesser dividend when they have collateral assets to control the same agency problems. The result supported Titman and Wessels (1988). This result also suggests that low level of collateral assets will lower the indenture of debtholders to constraint dividend payment.

## **CONCLUSION AND SUGGESTION**

### **1. Conclusion**

The research have several conclusion based on the hypotheses. The conclusions for this research are:

1. Managerial ownership has negative effect on probability of dividend payment. High managerial ownership will lower the probability of dividend payment. The result supported substitution hypothesis of agency theory.
2. Outsider ownership has negative effect on probability of dividend payment. High outsider ownership will lower the probability of dividend payment. The result supported substitution hypothesis of agency theory.

3. Free cash flow has negative effect on probability of dividend payment. Managers reluctant to pay dividend and will expropriate free cash flow for their own interest.
4. The effect of managerial ownership and outsider ownership to dividend policy is higher (in absolute term) than the effect of free cash flow to dividend policy.
5. Collateral assets have negative effect on dividend policy. Firms that have high collateral assets will have fewer agency problems between bondholders and stockholders because these assets may serve as collateral against borrowing.

## 2. Suggestion

The result has several suggestions for policy maker, shareholders, bondholders, and future research. Policy maker will have to emphasize the protection of shareholders interest especially from manager's perquisites. The result will provide shareholders with important information on firm's free cash flow and their rights for dividend payment. Shareholders will force managers to pay dividend and reduce agency problems. Agency conflict between managers and shareholders lies beneath the use of free cash flow by managers for their own interest. Shareholders have to implement tight control on the use of free cash flow, especially for firm with lack of investment opportunity or in sudden economic shock (crisis).

Bondholders will cover from agency problems when firm have high level of collateral assets. The result suggests bondholders to use collateral assets as indicator of financial competences. Future research might as well enhance research issues on free cash flow, dividend, and other financial policies as well. Future research should try to proxy dividend using dividend payout ratio, and test the argument on different sector.

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