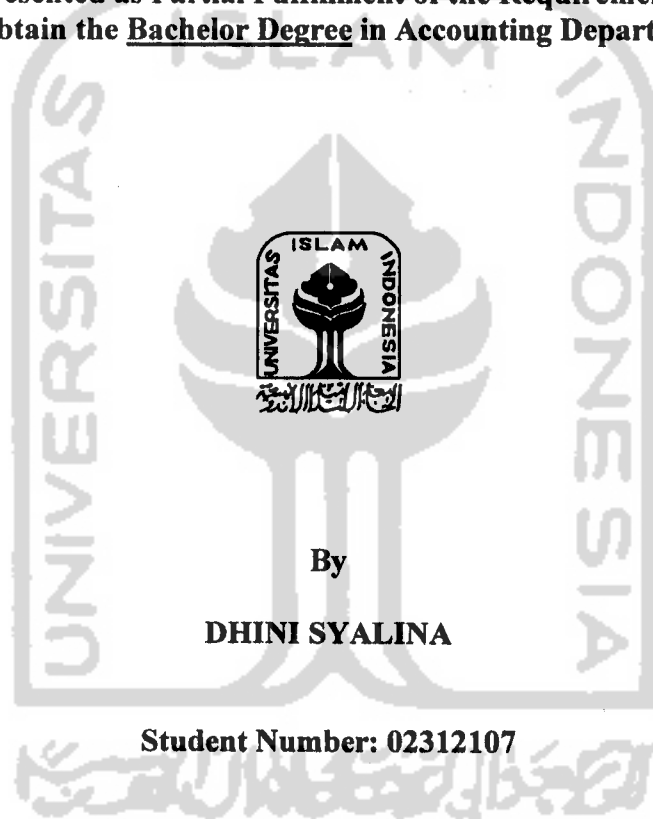


**THE IMPACT OF OWNERSHIP STRUCTURE ON CORPORATE  
FINANCIAL POLICIES**

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**A THESIS**

**Presented as Partial Fulfillment of the Requirements  
to Obtain the Bachelor Degree in Accounting Department**



By  
**DHINI SYALINA**

**Student Number: 02312107**

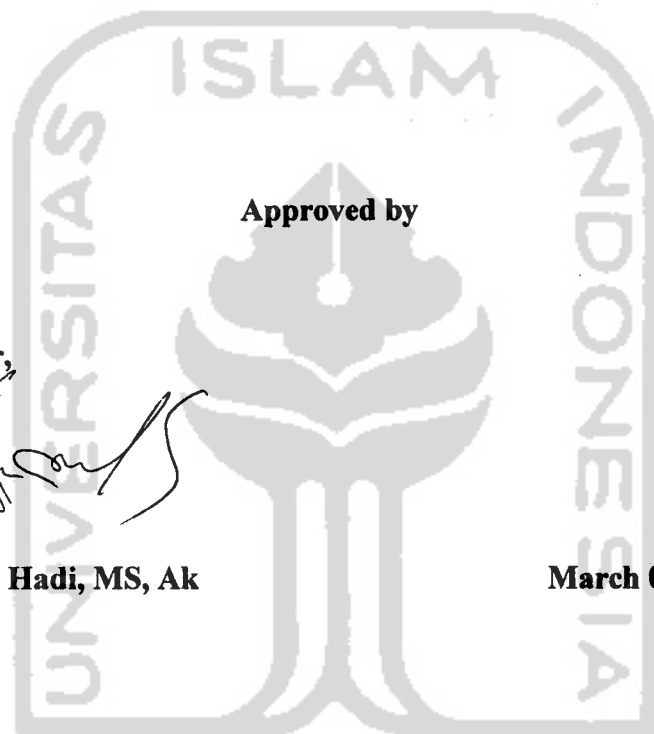
**DEPARTMENT OF ACCOUNTING  
INTERNATIONAL PROGRAM  
FACULTY OF ECONOMICS  
ISLAMIC UNIVERSITY OF INDONESIA  
YOGYAKARTA  
2006**

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### STATEMENT OF FREE PLAGIARISM

Herein I declare the originality of this thesis; there is no other work which has ever presented to obtain any university degree, and in my concern there is neither one else's opinion nor published written work, except acknowledged quotation relevant to the topic of this thesis which have been stated or listed on the thesis bibliography.

If in the future this statement is not proven as it supposed to be, I am willing to accept any sanction complying to the determined regulation for its consequence.

Yogyakarta, March, 2006

Dhini Syalina



**THE IMPACT OF OWNERSHIP STRUCTURE ON CORPORATE FINANCIAL  
POLICIES**

**A BACHELOR DEGREE THESIS**

**By**

**DHINI SYALINA**

**Student Number: 02 312 107**

**Defended before the Board of Examiners  
On February 27, 2006  
and Declared Acceptable**

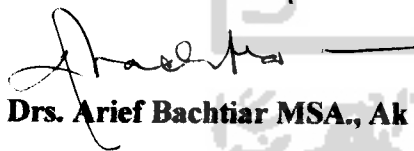
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## PREFACE

There is nothing to say but praise to the Almighty God for giving me the chance to complete this thesis and defended it in front of the examiners.

This thesis is done after struggling hard for several months searching for the topics, finding the supported literatures, studying the statistical techniques to operate EViews software, and formulating a new research. At first, agency theory is quite difficult to understand because there are so many conflicting argumentations about, but as we think about it seriously, it would be a lot easier to comprehend.

In this occasion, I would like to give my gratitude to all parties who support me in completing this thesis. They are:

1. My thesis Advisor Mr. Syamsul Hadi for your patience and guidance.
2. My Parents and sisters for always spelled my name in every prayer.
3. My Beloved Arfinaldo who lighten' up my days and night in Yogya.
4. My Best friend Ricka, Arie, Fiki, Intan, Indrie, ndut for your never stop supports.
5. My language advisor Mrs. Noor and my Eviews instructor Mr. Mansur who helped me in finishing this thesis.
6. My Friends from Riau especially in Cendana Duri and Rumbai, International Accounting class of 2002, Warning Kost, Keep the spirit guys!!

Hope this research may increase our understanding about the applicability of agency theory in Indonesia Corporation and may provide some insight to the policy makers about the use of debt and dividend policies in mitigating agency problem.

## TABLE OF CONTENTS

<b>I.</b>	<b>INTRODUCTION</b>	
1.1.	Research Background.....	1
1.2.	Problem Formulation.....	5
1.3.	Research Objectives.....	6
1.4.	Usefulness of the Research.....	6
1.5.	Research Limitation.....	7
1.6.	Organization of the Thesis.....	8
<b>II.</b>	<b>LITERATURE REVIEW</b>	
2.1.	Agency Theory	
2.1.1	Agency Conflict between Stockholders and Managers.....	9
2.1.2	Agency Conflict between Stockholders and Creditors.....	10
2.2.	Ownership Structure as Determinant of Agency Costs.....	11
2.3.	Literature Review and Hypothesis Development .....	15
2.3.1	The Impact of Ownership Structure on Corporate Debt Policy.....	16
2.3.2	The Impact of Ownership Structure on Corporate Dividend Policy.....	18
2.3.3	Substitutability between Debt and Div policies.....	19
<b>III.</b>	<b>RESEARCH METHODOLOGY</b>	
3.1.	Data Description and Source.....	20
3.2.	Operational Definition of Variable.....	21

3.3.	Empirical Design.....	24
3.4.	Testing Procedure.....	26
<hr/>		
<b>IV.</b>	<b>DATA ANALYSIS</b>	
4.1.	Descriptive Analysis.....	27
4.2.	Regression Analysis.....	29
4.3	Classical Assumption Test	
4.3.1.	Auto-Correlation Test.....	30
4.3.2.	Normality Test.....	31
4.3.3.	Multicollinearity Test.....	32
4.3.4.	Heteroskedasticity Test.....	33
4.4.	Analysis and Discussion of Hypothesis Testing.....	34
4.4.1.	Analysis of the Model.....	36
4.4.2.	The Impact of Ownership Structure on Corporate Debt Policy	
4.4.2.1.	Insider Ownership.....	38
4.4.2.2.	Institutional Ownership.....	40
4.4.2.3.	Stockholder Dispersion.....	41
4.4.3.	The Impact of Ownership Structure on Corporate Dividend Policy	
4.4.3.1.	Insider Ownership.....	42
4.4.3.2.	Institutional Ownership.....	44
4.4.3.3.	Stockholder Dispersion.....	46
4.4.4.	The Impact of Firm's-Specific "Real" Attributes.....	47

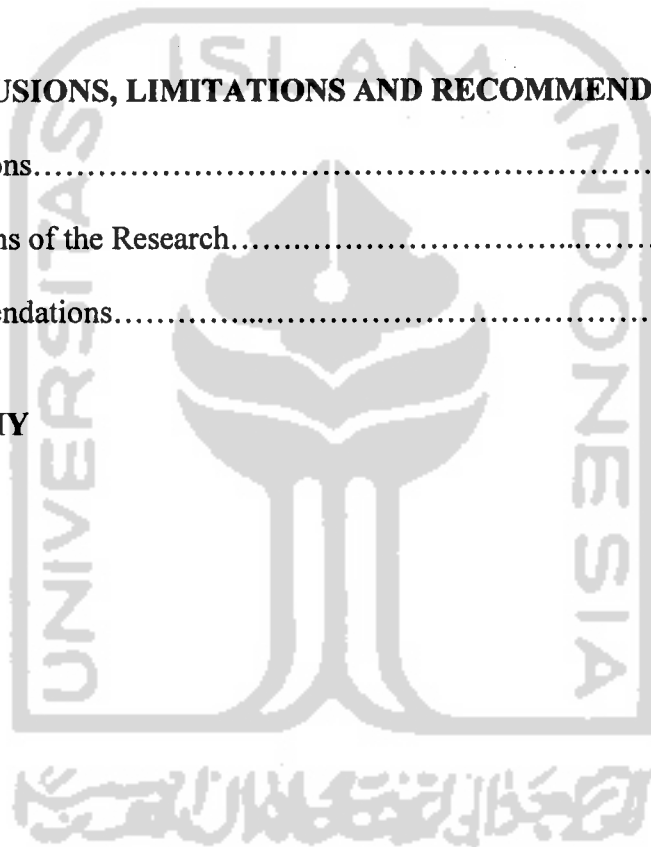
4.4.4.1. The impact of Firm's Assets Structure on Corporate Debt Policy.....	47
4.4.4.2. The Impact of Firm's Profitability and Growth on Corporate Dividend Policy.....	48
4.4.5. Substitutability between Debt and Dividend Policies.....	49

**V. CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS**

5.1. Conclusions.....	51
5.2. Limitations of the Research.....	54
5.3. Recommendations.....	55

**BIBLIOGRAPHY**

**APPENDICES**





## LIST OF TABLES

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### Tabel 4.1

Summary of Descriptive Statistics.....	27
--	----

### Tabel 4.4

Summary of SLS Result Panel A.....	35
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Summary of SLS Result Panel B.....	36
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## LIST OF FIGURES

### Figures I

Research Object.....I

### Figures II

Output T SLS Model 1.....IV

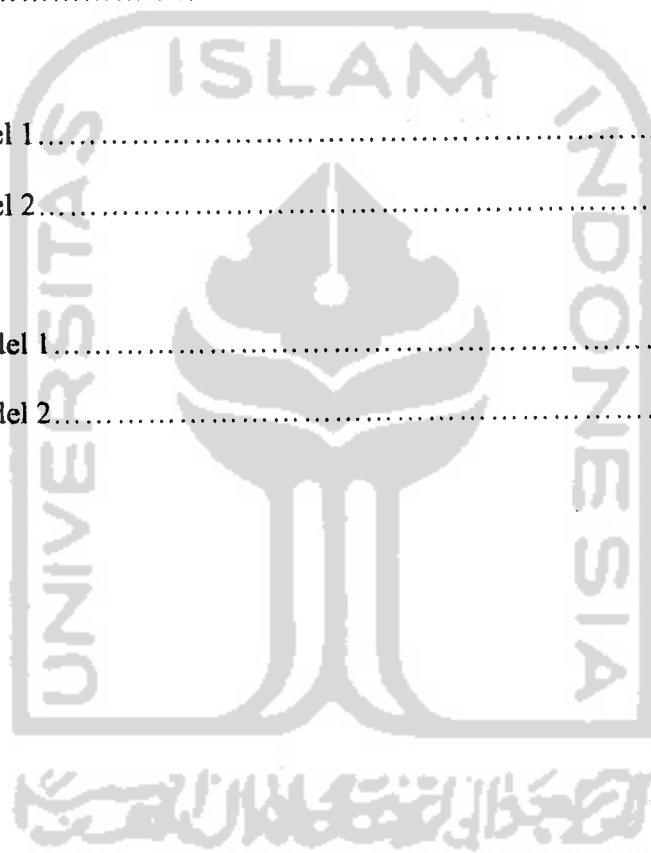
Output T SLS Model 2.....V

### Figures III

Normality Test Model 1.....VI

Normality Test Model 2.....VII

### Figures IV



## ABSTRACT

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Agency theory recognizes that because common stockholders are dispersed and hold diversified portfolios, they delegate financial and other decision making to corporate managers. However, managers may have personal goals that compete with shareholder's wealth maximization, and such conflicts of interest are addressed by agency theory. Equity agency cost are incurred when managers do not attempt to maximize firm value; And stockholders incur costs to monitor the managers and influence their action.

Agency theory suggests several ways to mitigate equity agency cost. Among those mechanisms, financial policies in the form of debt and dividends may reduce equity agency costs by "bonding" the free cash flow. In many agency studies, ownership structure of the firm in the form of insider ownership, institutional ownership, stockholder dispersion can also considered as determinants of equity agency costs. Extant literatures about agency theory suggest substitutability and simultaneous determination of several of the agency-conflict-reducing mechanisms.

Extant literatures about agency theory suggest links between financial policy and ownership structure of the firm. Studies of ownership structure and financial policy assume that any causality among these choices runs from ownership structure to financial policy. This research tries to examine the impact of ownership structure on corporate debt and dividend policies as well as the substitutability between these two financial policies in Indonesia manufacturing firms.

This research finds that insider ownership has negative but insignificant impact on leverage ratio, while both institutional ownership and stockholder dispersion have negative and significant impact on leverage ratio. This research also finds that insider ownership has a positive and significant impact on dividend payout ratio, while both institutional ownership and stockholder dispersion have negative and insignificant coefficient. Finally, this research finds that there is an interrelationship between leverage ratio and dividend payout ratio, representing substitutability between the two mechanisms.

Keywords: Agency theory, equity agency costs, financial policies, debt, dividend, ownership structure, insider ownership, institutional ownership, stockholder dispersion, substitutability.

## INTISARI

Teori Keagenan menyadari bahwa oleh karena para pemegang saham terbesar dan mempunyai portofolio yang terdiversifikasi, mereka mendelegasikan pengambilan keputusan keuangan dan keputusan lain pada manajer perusahaan. Namun demikian, manajer perusahaan mungkin mempunyai tujuan pribadi yang berseberangan dengan maksimisasi kesejahteraan pemegang saham, sehingga timbul adanya konflik kepentingan. Biaya keagenan ekuitas timbul ketika manajer tidak berusaha untuk memaksimalkan nilai perusahaan, dan pemegang mengeluarkan biaya untuk mengawasi dan mempengaruhi tindakan manajer.

Teori keagenan mengusulkan berbagai cara untuk menurunkan biaya keagenan ekuitas. Dari mekanisme-mekanisme tersebut, kebijakan keuangan dalam bentuk hutang dan deviden dapat menurunkan biaya keagenan ekuitas dengan membatasi aliran kas perusahaan. Pada beberapa penelitian keagenan, struktur kepemilikan perusahaan dalam bentuk kepemilikan insider. Kepemilikan Institusional dan penyebaran pemegang saham juga dianggap sebagai determinan dari biaya keagenan ekuitas. Literatur keagenan menemukan adanya hubungan substitusi dan penetapan secara simultan dari berbagai mekanisme penurun biaya keagenan.

Berbagai literatur teori keagenan mengusulkan adanya keterkaitan antara kebijakan keuangan dan struktur kepemilikan perusahaan.

Penelitian mengenai struktur kepemilikan dan kebijakan keuangan mengasumsikan bahwa hubungan kausalitas terjadi dari struktur kepemilikan terhadap kebijakan keuangan. Penelitian ini berusaha untuk menyelidiki pengaruh struktur kepemilikan terhadap kebijakan-kebijakan hutang dan deviden perusahaan, sekaligus menguji hubungan substitusi antara kedua kebijakan tersebut pada perusahaan manufaktur di Indonesia.

Penelitian ini menemukan bahwa kepemilikan insider berpengaruh negatif tetapi tidak signifikan terhadap Rasio Leverage, sedangkan kepemilikan institusional dan penyebaran pemegang saham berpengaruh negative secara terhadap rasio leverage. Penelitian ini juga menemukan bahwa kepemilikan insider berpengaruh positif secara signifikan terhadap Rasio pembayaran dividen. Sedangkan kepemilikan institusional dan penyebaran dividen perusahaan berpengaruh negative tidak signifikan. Akhirnya penelitian ini menemukan bahwa terdapat hubungan interdependensi antara rasio Leverage dan rasio pembayaran dividen, yang menunjukkan adanya hubungan substitusi antara kedua mekanisme tersebut.

**Kata Kunci :** Teori keagenan, biaya keagenan ekuitas, kebijakan keuangan, hutang, dividen, struktur kepemilikan institusional, penyebaran pemegang saham, hubungan substitusi.

## CHAPTER I

### INTRODUCTION

#### 1.1 Research Background

In large business, separation of ownership and management is a practical necessity. Major corporations may have hundreds of thousands of stockholder. There is no way for all of them to be actively involved in management. Authority has to be delegated to managers (Brealey and Myers, 2000). Managers are empowered by the owners of the firm stockholders to make decision. An agency relationship arises whenever one or more individual or organization, called an agent, perform some service and then delegates decision making authority to that agent (Brigham et al, 1999).

The separation of ownership and management has clear advantages. It allows share ownership to change without interfering with the operation of the business. It allows the firms hire professional managers, but it also bring problems if the managers' and owners' objective differ (Brealey and Myers, 2000).

In most large corporation, potential agency conflicts are important, because large firm managers generally own only a small percentage of the stock. In this situation, stockholders' wealth maximization could take a back seat to any number of conflicting managerial goals (Brigham et al, 1999). Rather than attending the wishes of stockholders, managers may seek a more leisurely or luxurious working lifestyle, they may shun unpopular decision; or they may attempt built an empire with their

stockholder's money. Agency cost are incurred when managers do not attempt to maximize firm value, and stockholder incur costs to monitor the manager and influence their actions (Brealey and Myers,2000). Further more, recognizing the impact of these conflicts between owners and managers, the market makes unbiased estimates such as costs and reduces the value of of firm shares accordingly. These losses are the firm's agency cost of equity (Moh'd et al., 1998).

Agency theory suggests several ways to reduce equity agency costs. Among those agency-conflict-reducing mechanisms, the role of financial policies in the form of debt and dividends are well investigated in many studies (e.g. Jensen and Meckling 1976; Jensen, 1986; Titman and Wessels, 1988; Friend and Lang, 1988; Crutchley and Hansen, 1989; Jensen et al., 1992; Mehran, 1992; Bathala et al., 1994; Schooley and Barney, 1994; Moh'd et al., 1995, 1998; Agrawal and Knoeber, 1996; Chen and Steiner, 1999; Ang et al., 2000). Jensen (1986) argues that because debt "bonds" the firm to make periodic payments of interest and principals, it reduces the control managers have over the firm's cash flow and the incentives to engage in non optimal activities. However, debt financing introduces conflict of interest between stockholder and creditors that give rise to agency cost of debt. One concern of bondholders is that stockholder may seek to expropriate their wealth by increasing their risk through corporate investment decisions (Crutchley and Hansen, 1989). In the absence of any restriction, management is tempted to take action that would benefit stockholders at the expense of bondholders. To protect themselves, bondholders place provision which impose constraints on management's decision that

cover most operating aspect that may limit management's ability to take optimal actions on certain issues (Jensen and Meckling, 1976). Other more obvious debt agency cost include bankruptcy cost and the costs incurred as bondholders seek contractual protection (Crutchley and Hansen, 1989)

Agency theory posit that the dividends provide an incentive for managers to reduce the costs associated with the principal-agent relationship (Moh'd et al., 1995). Payouts to stockholders reduce the resources under managers' control, there by reducing managers' power, and making it more likely they will incur the monitoring of the capital markets which occurs when the firm must obtain new capital (Jansen, 1986). Distribute resources in the form of cash dividends forces managers to seek outside capital, thus causing them to reduce agency cost as they subject themselves to the scrutiny of the capital market place (Moh'd et al, 1995). However, the use of dividends is not costless. When external capital is raised to pay for dividends, substantial floatation costs must be paid to investment bankers (Crutchley and Hansen, 1989).

In many studies, ownership structure of the firm is also considered as a determinant of equity agency costs (e.g. Jensen and Meckling 1976; Jensen, 1986; Titman and Wessels, 1988; Friend and Lang, 1988; Crutchley and Hansen, 1989; Jensen et al., 1992; Mehran, 1992; Bathala et al., 1994; Schooley and Barney, 1994; Moh'd et al., 1995, 1998; Agrawal and Knoeber, 1996; Chen and Steiner, 1999; Ang et al., 2000). According to Jensen and Meckling (1976), equity agency costs may be reduced is for managers to increase their common stock ownership in the firm, better

aligning their interests with stockholders' interest. From the theoretical perspective, Sheifer and Vishny as mentioned in Bathala et al. (1994) argue that institutional investors, in view of their significant economic stakes, have an incentive to monitor managers, thus reducing the agency costs. Then the nature of the distribution of shares among the outside stockholders has also been suggested as a device to mitigate agency costs. Since ownership represents a source of power that can be used either to support or oppose exiting management, the concentration or dispersion of that power becomes relevant (Moh'd et al., 1998).

Extant literature about agency theory suggests substitutability and simultaneous determination of several of the agency-conflict-reducing mechanism. Rozeff as mentioned in Schooley and Barney (1994) contends that dividend policy and insider ownership are substitute tools used to reduce agency costs. Agrawal and Knoeber (1996) postulate that "where a specific mechanism is used less, others may be used more resulting in equally good performance". Jensen et al. (1992) also find a negative interrelationship between debt and dividend policies representing the substitutability relationship between the two mechanisms. To be considered substitute mechanism, the use of one should be inversely related to others.

Studies of insider ownership and financial policy assume that any causality among these choice runs from insider ownership to financial policy. Insider ownership is typically viewed as exogenous and its determinant is not subjected to economic analysis (Jensen et al., 1992). For example, Schooley and Barney (1994) and Moh'd et al (1995) investigate the impact of ownership structure on corporate



dividend policy while in 1998 they examine the impact of ownership structure on corporate debt policy. This point of view is supported by the study of Jensen et al (1992) that tries to examine interrelationship between insider ownership, debt and dividend policies. They find that more insider ownership permits managers to control the financial policies of the firms but there is no reason to believe that insiders are attracted to or repelled by any particular financial policy. Given that background, this research tries to examine the impact of ownership structure on corporate debt and dividend policies as well as the substitutability between these two financial policies in Indonesia manufacturing firms where as prior studies (Moh'd et al, 1995, 1998) have examined either debt policy or dividend policy in isolation, this research examines both policies in an integrated framework utilizing a simultaneous system of equations estimation procedure. Then, the title of this thesis is **“The Impact of Ownership Structure on Corporate Financial Policies”**. This thesis focuses on an agency theory perspective.

## **1.2. Problem Formulation**

On the basis of the background presented above, this research proposes the following questions:

1. What is the impact of ownership structure on corporate debt policy?
2. What is the impact of ownership structure on corporate dividend policy?
3. Is there a substitutability relationship between corporate debt and dividend policies?

### **1.3. Research Objectives**

In line with the research questions mentioned before, this research is intended mainly to:

1. Investigate the impact of ownership structure on corporate debt policy
2. Investigate the impact of ownership structure on corporate dividend policy
3. Investigate whether there is a substitutability relationship between corporate debt and dividend policies.
4. To prove the prior research about the impact of ownership structure on corporate debt and dividend policy in Indonesia market.

### **1.4. Usefulness of the Research**

First of all, this research may increase our understanding about the applicability of agency theory in Indonesia corporations of particular interest is the composition of equity ownership structure as a determinant of corporate debt and dividend policies.

Secondly, this research may provide some insight to the policy makers about the use of debt and dividend policies in mitigating agency problem. This understanding hopefully will enable policy makers to use these financial policies more effectively.

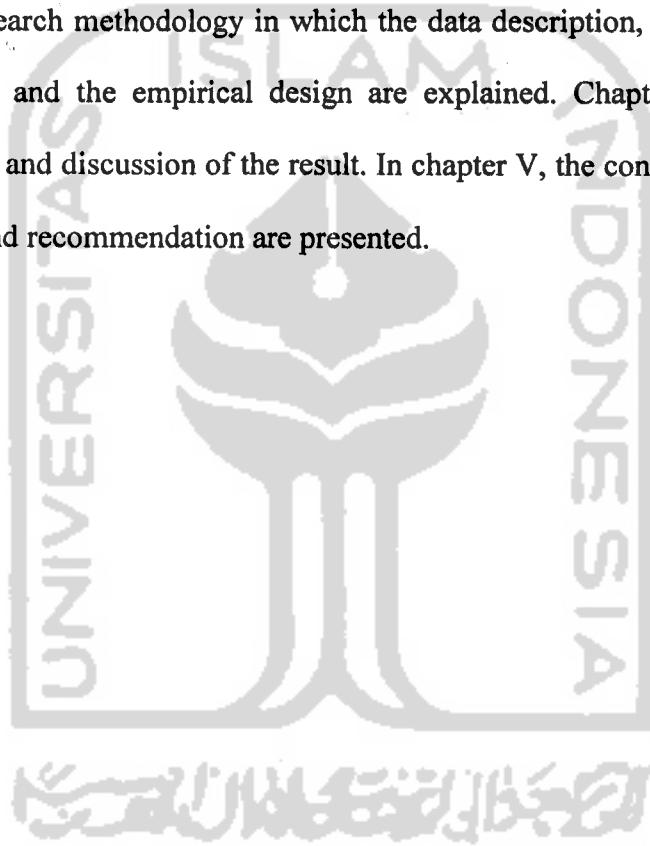
### **1.5. Research Limitation**

This research is conducted within several units:

1. This research only examines manufacturing firms listed in Jakarta stock exchange. The choice of only manufacturing firms as the research population is intended to avoid excessive industry effect that may distort the analysis. This argumentation is consistent with Jensen and Meckling's (1976) statement that bank, and other highly regulated industries have a tendency to use higher debt to equity ratios for equivalent level of risk than the average non-regulated firms. However, this research assumes that the data of the same firm in different year is treated or considered as independent case of data.
2. This research focuses on the condition after the Indonesian monetary crisis and the use of data over the period 1999-2003. The data for the period before 1999 especially for the period 1997 is not used because it is worried that during the monetary crisis, the data of the firms does not reflect the normal operations of the firm, but it is more affected by instability in political, social, and monetary condition.
3. The variables utilized in this research are leverage ratio, dividend payout ratio, insider ownership, institutional ownership, stockholder dispersion, asset structure, profitability and growth. Although there are other variables suggested by the agency theory that can serve as control variables, they are not employed in this research due to the lack of data.

## 1.6. Organization of the Thesis

This thesis is arranged in the following order: Chapter I deal with the research background, problem formulation, research objectives, benefit of the research, research limitation and organization of the thesis. Chapter II deals presents theoretical background, literature review, and the development of the hypothesis. Chapter III describes the research methodology in which the data description, operationalization of the variables, and the empirical design are explained. Chapter IV reports the research findings and discussion of the result. In chapter V, the conclusion, limitation of the research and recommendation are presented.



## CHAPTER II

### THEORETICAL BACKGROUND

#### 2.1 Agency Theory

##### 2.1.1 Agency Conflict between Stockholders and Managers

Agency theory recognize that because common stockholders and dispersed and hold diversified portfolios, they delegate financial and other decision making to corporate managers (Cruthley and Hansen, 1989). Agency relationship is a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authoring to the agent (Jensen and Meckling, 1975).

In most large corporation, potential agency conflicts are important, because large firms manager generally own only a small percentage of the stock. In this situation, stockholders wealth maximization could take a back seat to any number of conflicting managerial goals. For example, people have argued that the primary goals seems to be to maximize the size of their firms by creating a large, rapidly growing firm, managers increase their job security because a hostile take over is less likely; increase their own power, status and salaries; and create more opportunities for their lower-and middle-level managers. Furthermore, since the managers of most large firms own only a small percentage of the stock, it has been argued that they have a voracious appetite foe salaries and perquisites, and that they generously contribute corporate dollars to their favorite charities because they get the glory while outside

stockholders bear most of the cost (Brigham et al, 1999). Agency cost are incurred when managers do not attempt to maximize firm lane; and stockholders incur costs to monitor the managers and influence their actions (Brealey and Myers, 2000).Furthermore, recognizing the impact of these conflicts between owners and managers, the market makes unbiased estimates or such costs and reduces the value of firm shares accordingly. These losses are the firm's agency cost of equity (Moh'd et al., 1998).

### **2.1.2 Agency Conflict between Stockholders and Creditors**

In addition to conflicts between stockholders and managers, there can also be conflicts between stockholders (through the managers) and creditors. Creditors have a claim on part of the firm's earnings stream for payment of interest and principal on the debt, and they have a claim on the firm's assets in the event of bankruptcy. However, stockholders have control (through the managers) of decisions that affect the riskiness of the firm.

Creditors lend funds at rates that are based on the firm's risk, which in turn based on the risk ness of the firms existing assets, expectations concerning the riskiness of future asset addition, the existing capital structure, and expectation concerning future capital structure decisions. These are the primary determinant of the riskiness of firm's cash flows. Hence the safety of its debt. Now suppose stockholders, acting through management, because a firm to sell some relatively safe assets and invest the proceeds in a large new project that is far riskier than the firm's

old assets. This increased risk will cause the required rate of return on the firm's debt to increase, and that will cause the value of the outstanding debt to fall similarly, suppose its managers borrow additional funds and use the proceeds to repurchase some of the firm's outstanding stock in an effort to "leverage up" stockholder's return on equity. The value of the debt will probably decrease, because now there will be more debt backed by an unchanged amount of assets. In both situations, stockholders tend to gain at expense of creditors.

However, indeed, creditors attempt to protect themselves against these types of actions by placing restrictive covenants in debt agreement. Moreover, if creditors perceive that a firm's managers are trying to take advantage of them, they will either refuse to deal further with the firm or else will charge a higher than normal interest rate to compensate for the risk of possible exploitation. Thus, Firms which deal unfairly with creditors either loose access to the debt markets or are saddled with high interest rates and restrictive covenants all of which are detrimental to stockholders (Brigham et al, 1999).

## **2.2 Ownership Structure as Determinant of Agency Costs**

In many studies, ownership structure of the firm is also considered as the determinant of equity agency cost (e.g, Jansen and Meckling, 1986; Friend and Lang, 1988; Crutchley and Hansen, 1989; Jensen et al, 1992; Mehran, 1992; Schooley and Barney, 1994; Bathala et al, 1994; Moh'd et al, 1995, 1998; Agrawal and Knoeber, 1996; Chen and Steiner, 1999; Ang et al, 2000). According to Jensen and Meckling

(1970), equity agency cost may be reduced if for managers to increase their common stock ownership in the firm, better aligning their interest with stockholder's interest.

As the owner-manager's fractions of the equity falls, his fractional claim on the outcomes falls and this will tend to encourage him to appropriate large amounts of the corporate resources in the form of perquisites. Furthermore, as the manager's ownership claim falls, his incentive to devote significant effort to creative activities such as searching out new profitable ventures falls. Hence, agency costs increase with reduction in managerial ownership (Ang et al, 2000).

Of particular importance to manager's common stock ownership decision is the cost of increasing their ownership stake. These costs arise from the fact that their managers must reduce the diversification of their personal wealth as they increase their ownership stake in the firm (Crutchley and Hansen, 1989). Acting independently, a manager might choose to hold too few shares because he bears all of the cost of lost diversification, but we would expect the extent of insider shareholdings to be negotiated within the firm (Agrawal and Knoeber, 1996). Often, companies grant senior manager's performance and the executive's continued service most large corporations also provide executive stock option, which allow managers to purchase stock at some future time at a given price (Brigham et al, 1999).

However, using increased managerial stock ownership to control agency cost is not costless. As managers' wealth becomes more poorly diversified, they will require increasing amount of compensation (Crutchley and Hansen, 1989). Moreover, there is conflicting argument by Schooley and Barney (1994) that beyond a particular



point, the point of entrenchment, an increase in insider ownership may be expected to increase agency costs. As management's ownership of a firm's stock increase, the firm's managers tend to become less diversified than other stockholders. Thus capital budgeting projects with high within-firm risk may be rejected, even if the project is justified based on its effect on the firm total systematic risk. Also, managerial stock ownership gives executives increased control of the firm via voting rights. Increased control affords executives the opportunity to pursue their own agendas with a diminished threat of being replaced through either a hostile take over or proxy fight.

From the theoretical perspective, Sheifler and Vishny as mentioned in Bathala et al (1994) argue that large stockholders, in view of their significant economic stakes, have an incentive to monitor managers, thus reducing equity agency costs. Specifically, they relate the large stockholder's behavior to take over related monitoring agents is underscored by their sizeable equity investments in the stock market (Bathala et al, 1994). Historically, institutional investor dissatisfied with managerial or stock performance simply sold their holdings, i.e., followed an "exit" policy. However this has become increasingly difficult for many institutions. Coffee as mentioned in Bathala et al (1994) provides an insight into the changing behavior of institutional investors from being passive investor to active monitors. He suggest that the trend toward increased activism on the part of institutional investors can be explained by the fact exercising "voice" has become increasingly more expensive because they must accept substantial discounts in order to liquidate their significant holdings. Even too much institutional ownership may have costs associated with it.

Some have argued that institutional ownership increases stock price volatility, while others suggest that it induces short term myopia in management (Bathala et al, 1994).

Then, the nature of the distribution of shares among the outside stockholders has also been suggested as a device to mitigate agency costs. Since ownership represents a source of power that can be used either to support or oppose existing management, the concentration or dispersion of that power becomes relevant (Moh'd et al, 1998). Aggregate expenditure on monitoring by the non managing stockholders decreases as their individual ownership decline. This is due to the well-known free-rider problem in spending for quasi-public goods, such as monitoring effort. Each monitoring stockholder, with ownership  $\lambda$  percent must incur 100 percent of the monitoring costs, but realize only  $\lambda$  percent of the monitoring benefit (in the form of reduced agency costs). A non monitoring stockholders, however enjoys the full benefits of a monitoring stockholder's activity without incurring any monitoring cost. Thus, as the equity ownership become more dispersed, aggregate expenditure on monitoring declines and magnitude of owner- manager agency cost problems increase (Ang et al, 2000). Furthermore, diffused stockholders have little effect or influence in management, thus permit managers to control financial policies of the firm and pursue their own interest, as posited by the agency theory (Moh'd et al, 1998).

### 2.3 Literature Review and Hypothesis Development

Extant literature about agency theory suggests substitutability and simultaneous determination of several of agency conflict control mechanisms. The effect that these several mechanisms to control managers-stockholders agency problems have on firm performance has been the subject of a number of empirical studies. The extent to which several of the control mechanisms are used is decided within the firm. Since all of these control mechanisms are alternative way to provide incentives to managers, each might plausibly be used instead of another. Where one specific mechanism is used less, other may be used more, resulting in equally good performance. If so, we would expect the use of this mechanisms are to be negatively related. However, this is not the only possibility, positive relations might also exist when one mechanism is most effective when coupled with other mechanisms (Agrawal and Knoeber, 1996). Given the costs and benefits of the different agency-cost-reducing mechanism, managers are expected to optimize their usage such that the total agency costs in the firm are minimized (Bathala et al., 1994).

The agency theory suggests links between the firm's financial policy and ownership structure (Mehran, 1992). Studies of ownership structure and financial policy assume that any causality among these choices runs from ownership structure to financial policy. Insider ownership is typically viewed as exogenous and its determinants are not subjected to economic analysis (Jensen et al, 1992). This point of view is supported by the study of Jensen et al (1992) that tries to examine the interrelationship between insider ownership, debt and dividend policies find that

more insider ownership permits managers to control the financial policies of the firms, but there is no reason to believe that insiders are attracted to or repelled by any particular financial policy. Institutional holdings are also assumed to be exogenous and beyond the control of management. Managers are assumed to have control over the levels of debt, however it is unlikely that managers can decide on a “target” level of institutional ownership in the firm’s equity (Bathala et al, 1994). Similarly, ownership dispersion is treated as exogenous variable that may influence the firms agency costs. (E.g. Moh’d et al, 1995, 1998; Ang et al, 2000)

### **2.3.1 The Impact of Ownership Structure on Corporate Debt Policy**

Ownership structure has been argued by previous researchers as a determinant of corporate debt policy. Friend and Lang (1998) investigate the effect of managerial self-interest on debt policy. They conclude that managerial ownership has an inverse causal relation to debt. The reasoning behind the conclusion is that insiders with a major stake in an organization are less diversified, thus have greater incentive to reduce greater financial risk from excessive use of debt such as financial distress or bankruptcy. Another supportive argument is that the higher the ownership of managerial insiders, the less the owner-manager conflicts (Jensen and Meckling, 1976) and the greater the ability or power of managerial insiders to adjust debt ratio by their own interests. Bathala et al (1994) in supporting Friend and Lang (1988) argue that increased managerial ownership aligns interests of managers with the interests of outside stockholders and reduces the role of debt as an agency-conflict-

mitigating device. Negative relationship between insider ownership and debt is also found by other researcher such as Jensen ('92), Moh'd ('98) and Chen & Steiner ('99). Based on these findings, insider ownership is hypothesized to be inversely related to the level of firm's leverage ratio.

Hypothesis 1 : Insider ownership has negative impact on leverage ratio

HO 1 : Insider ownership has no negative impact on leverage ratio

Moh'd ('98) indicating that institutional investors may serve as substitute for the disciplinary role of debt in the capital structure. On the basis of these findings, institutional ownership is hypothesized to be inversely related to the level of firm's leverage ratio.

Hypothesis 2 : Institutional ownership has negative impact on leverage ratio.

HO 2 : Institutional ownership has no negative impact on leverage ratio

Moh'd ('98) find that stockholder dispersion is negative related to the level of debt. The reasoning behind this relationship is that diffused stockholders have little effect or influence on management, thus, permits managers to control financial policies of the firm and pursue their own interest. Since managers usually prefer low debt ratio due to the diversification costs, stockholder dispersion therefore should be hypothesized to be inversely related to the level of firm's leverage ratio.

Hypothesis 3 : Stockholder dispersion has negative impact on leverage ratio.

HO 3 : Stockholder dispersion has no negative impact on leverage ratio.

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### **2.3.2 The Impact of Ownership Structure on Corporate Dividend Policy**

In Indonesian setting, a strong significant positive relationship between insider ownership and dividend ratio were found by Wilberforce (2000). Using the argument of Scholey and Barney (1994); and Crutchley and Hansen (1989), he concludes that in Indonesian firms, the levels of insiders are entrenched.

Following the findings of Wilberforce, it is hypothesized that insider ownership has a positive impact on the level of firm's dividend payout ratio.

Hypothesis 4 : Insider ownership has positive impact on dividend payout ratio

HO 4 : Insider ownership has no positive impact on dividend payout ratio

Moh'd ('95) also examine the impact of institutional ownership and stockholder dispersion on firm dividend payout ratio and find positive relationship for both of them. They argue that small stockholder seek a high level of div pay out to attract and compensate large stockholders (e.g. Institution) for their economies of scale in performing this monitoring role. Positive relationship between institutional ownership and dividend payout ratio were also found by Wilberforce (2000) for Indonesian firms. Following the previous findings, are expected to be positively related to dividend payout ratio.

Hypothesis 5 : Institutional Ownership has positive impact on dividend payout ratio.

HO 5 : Institutional Ownership has no positive impact on dividend payout ratio.

Hypothesis 6 : Stockholder dispersion has positive impact on dividend payout ratio.

HO 6 : Stockholder dispersion has no positive impact on dividend payout ratio

### 2.3.3 Substitutability between Debt and Div policies

Jensen ('92) report a negative interrelationship between debt and dividend ratio representing the substitutability relationship between the two mechanism. The substitutability between debt and dividend ratio may also explained by Jensen (1986) free cash flow hypothesis. According to this hypothesis, dividends and agency cost by reducing the cash flow available for spending at the discretion of managers. Based on the explanation above, it is hypothesized a negative interrelationship between leverage ratio and dividend payout ratio, representing substitutability between the two mechanisms.

Hypothesis 7 : There is a negative interrelation between leverage ratio and dividend payout ratio, representing substitutability between the two mechanisms.

HO 7 : There is no negative interrelation between leverage ratio and dividend payout ratio, representing there is no substitutability between the two mechanisms.

## CHAPTER III

### RESEARCH METHODOLOGY

#### 3.1 Data Description and Source

Population refers to the entire group of people, events or things of interest that the researcher wishes to investigate (Sekaran, 1992). The population of this research consists of manufacturing firms listed in Jakarta Stock Exchange. The choice of only manufacturing firms is intended to avoid excessive industry effect that may distort the analysis. This argumentation is based on Jensen and Meckling (1976) which states that banks and other highly regulated industries have a tendency to use higher debt to equity ratios for equivalent level of risk than the average non-regulated firm

This research utilizes secondary data. Related data from the firms over the period 1999 to 2003 are taken from Indonesian Capital Market Directory for the year of 1999, 2000, 2001, 2002 and 2003. The data for the period below 1999 not used because it is worried that during monetary crisis, the data of the firms doesn't reflect the normal operation or policy of the firm, but it is more affected by the instability in political, social and monetary condition. In this research, every set of firm's data included the data of the same firm in a different year, is treated or considered as an independent case of data. Therefore every firm which the data meet the requirement for a given year is included in the analysis, regardless the firm is included in other years or not.



This research uses purposive sampling method to select the data for the analysis purposive sampling is a non probability sampling that conforms to certain criteria (Cooper & Schindler, 2001).

The criteria or requirements used are as follows:

1. The firms have been registered in the Jakarta Stock Exchange and their data are listed in Indonesian Capital Market Directory for the given year being investigated.
2. The firms must have the data of leverage ratio, dividend payout ratio, insider ownership, institutional ownership, and stockholder dispersion as they are the main variables in the research

The sampling procedure resulting 71 cases of data used in the analyses

### **3.2 Operational Definition of Variables**

To test the hypothesis, this research employs eight variables consist of five main variables and three control variables. The main variables are leverage ratio, dividend payout ratio, insider ownership, institutional ownership and stockholder dispersion. The control variables are asset structure, profitability, and growth. These variables are selected on the basis of previous theoretical and empirical studies that explore debt and dividend policy issues.

1. Leverage ratio (Friend and Lang 1988)

This variable is defined as the ratio of total debt to total assets.

$$DEBT_{it} = TL_{it}/TASSET_{it}$$

Where:

TLit : Total liabilities of firm i at time t

TASSETit : Total assets of firm i at time t

2. Dividend payout Ratio (Moh'd)

This variable is defined as the ratio of dividend per share to earning per share.

$$DIVit = DPSit/EPSit$$

Where:

DPSit : Dividend per share of firm i at time t

EPSit : Earning per share of firm i at time t

3. Insider ownership

It is defined as the ratio of directors' and commissioners' shareholdings to total shareholding of the company.

$$INSDRit = D\&CSHDit/TSHDit$$

Where:

D&CSHDit : Directors' and commissioners' shareholdings in firm i at time t

TSHDit : Total shareholding in firm i at time t

4. Institutional ownership

It is defined as the ratio of institutional shareholding of total shareholding of the firm.

$$INSTit = ISHDit/TSHDit$$

Where:

ISHDit : Institutional shareholding in firm i at time t

TSHDit : Total shareholding in firm i at time t

5. Shareholder dispersion (Setyawan 1999)

It is calculated by dividing one with standard deviation of standard deviation of the data of stockholders' shareholdings. As the study by Setyawan (1999), the stockholders, in this purpose is considered as a group in which every stockholders represent one group.

Setyawan (1999) use natural logarithm indicating the more diffuse or disperse the stock ownership. In this research, high value of STKDSP indicating that the data of stockholders shareholdings are relatively homogeneous showing that the stock ownership are well dispersed or not concentrated to only a few groups of stockholders.

$$STKDSP_{it} = 1/SDDSHD_{it}$$

Where:

STKDSPit : Standard deviation of the data of stockholders shareholding in the Indonesia capital market directory of firm i at time t

6. Asset structure (Jensen et al 1992)

This variable is defined as the ratio of fixed assets to total assets.

$$ASSET_{it} = FASSET_{it}/TASSET_{it}$$

Where:

FASSETit : Fixed asset of firm i at time t

TASSETit : Total asset of firm i at time t

7. Profitability (Titman and Wessel 1998)

This variable is measured as the ratio of operating profit to net sales.

$$\text{PROFit} = \text{OPit}/\text{SALESit}$$

Where:

OPit : Operating profit in firm i at time t

SALESit : Net sales in firm i at time t

8. Growth ( Faisal 2000)

This variable is measured as the natural logarithm of the ratio of total assets to previous total assets.

$$\text{GROWit} = \ln \text{TASSETit}/\text{TASSETit-1}$$

Where:

TASSETit : Total asset in firm i at time t

TASSETit-1 : Total asset in firm i at time t-1

All the Data is taken from proxy Indonesian Capital Market Directory in the summary of financial statement.

### 3.3 Empirical Design

On the basis of the interrelationship among the debt and dividend policies proposed in the hypothesis, it is deemed that a simultaneously equation approach is appropriate methodology to use. The methodology is in keeping with the view that debt and dividend policies are integral aspect of managerial financial policy in the agency framework.

Following Bathala et al (1994) the simultaneous equations model is estimated using two-stages least squares (2 SLS) methodology. A two equation model with leverage ratio and dividend payout ratio as the dependent variables is proposed. Additionally, the leverage ratio appears as a regressor in the dividend payout ratio and vice versa. Thus, leverage ratio and dividend payout ratio are simultaneously determined. The proportion of insider ownership, institutional ownership and stockholder dispersion of common stock is included as an explanatory variable in both equations, in addition to several other control variables. The specification of the simultaneous equation model is as follows:

$$DEBT = \alpha_0 + \alpha_1 DIV + \alpha_2 INSDR + \alpha_3 INST + \alpha_4 STKDSP + \alpha_6 ASSET$$

$$DIV = \beta_0 + \beta_1 DEBT + \beta_2 INSDR + \beta_3 INST + \beta_4 STKDSP + \beta_5 PROF + \beta_6 GROW$$

In a system comprising of interdependent endogenous variables, the 2-SLS method is preferred over the ordinary least squares method as the latter would lead to biased and inconsistent parameter estimates (Bathala et al, 1994).

The 2-SLS method unlike the OLS method, allow us to see how the debt policy affect dividend policy separately on how the dividend policy affect debt policy by separating the result into two different decision variable.

### 3.4 Testing Procedure

In this research, One-tailed test, or directional test, places the entire probability of an unlikely outcome into the tailed specified by the alternative hypothesis (Cooper and Schindler, 2001).

To test hypothesis 1, 2 and 3 the debt equation is used.

$$\text{DEBT} = a_0 + a_1 \text{DIV} + a_2 \text{INSDR} + a_3 \text{INST} + a_4 \text{STKDSP} + a_6 \text{ASSET}$$

Hypothesis 1, 2, and 3 are accepted if the coefficient of INSDR, INST, and STKDSP are negative and significant.

To test hypothesis 4, 5 and 6, the div equation is used.

$$\text{DIV} = \beta_0 + \beta_1 \text{DEBT} + \beta_2 \text{INSDR} + \beta_3 \text{INST} + \beta_4 \text{STKDSP} + \beta_5 \text{PROF} + \beta_6 \text{GROW}$$

Hypothesis 4, 5 and 6 are accepted if the coefficient of INSDR, INST, and STKDSP are positive and significant.

To test hypothesis 7, both DEBT and DIV equations are used. Hypothesis 7 is accepted if the coefficients of DIV in DEBT equation and DEBT in DIV equation are negative and significant.

## CHAPTER IV

### RESEARCH FINDINGS & DISCUSSION

#### 4.1 Descriptive Statistics

The descriptive statistics of data is computed by EVIEWS software. By analyzing the descriptive statistics of the data, we can get some insight about the characteristics of the data that may influence the research findings. This descriptive statistics for main variables included in the model are presented in table 4.1

**Table 4.1**  
**Summary of Descriptive Statistics**

	DEBT	DIV	INSDR	INST	STKDSP	ASSET	PROF	GROW
Mean	0.4670	0.3571	0.2356	0.5866	0.0573	0.3184	0.1370	0.1783
Standard Deviation	0.2187	0.3085	0.3142	0.2136	0.0514	0.1624	0.0875	0.2926
Minimum	0.1100	0.0010	0.0010	0.1160	0.0210	0.0790	-0.2150	-0.1910
Maximum	0.8700	1.1530	0.9060	0.9530	0.3450	0.7290	0.3170	1.4160

The number of the data included in the analysis is 71 cases. This amount of data is relatively small compared to the agency studies in develop country is, for example Jensen et al (1992) uses 565 firms, while Bathala et al (1994) used 516 firms. This condition is understandable since this data is the only cases found in Indonesia market that are going to be used for the research.

The mean of leverage ratio of the research objects is 46.7%, indicating that on average 46.7% of its assets is financed by its debt. This amount is relatively equal compared to the developed market where more of its asset is financed by its debt. This condition is consistent with the finding of Chen and Steiner (1999), where the average debt to equity ratio is 48.78%. The standard deviation of leverage ratio is 21.87%, less than the mean. It shows that data on leverage ratio variable is grouping data and homogeny distributed. These results also supported with minimum value range 0.1100 and maximum value 0.8700. This value range is small enough and supports the statement that data is not distributed or was homogeny.

The mean of dividend payout ratio of the research objects is 35.7%. This amount is also considered high compared with the research finding in develop country where its typically less than 20% (Chen and Steiner, 1999), indicating that these tools are being used to reduce agency costs. The standard deviation of dividend payout ratio is 30.85%, smaller than its mean, it shows the data was grouping and homogeny distributed. This finding is support with minimum value 0.0010 and maximum value 1.1530 which has not high range enough.

The mean of insider ownership of the research objects is 23.6%. This amount is relatively high compared to insider ownership in the developed markets where the agency researches have been conducted, which typically less than 10% (e.g, Schooley and Barney, 1994; Chen and Steiner, 1999). Moreover, this number is higher than the entrenchment level (14.9%) founded by Schooley and Barney (1994). Above this level, insiders are quite powerful in making their decisions and tend to reduce the



firm debt due to their undiversifiable risk. However, this comparison may be misleading due to the unsimilarity of the measurement used. The standard deviation of insider ownership is 31.42%, higher than the mean. It shows that data on insider ownership variable is not homogeny. These results also supported with minimum value range 0.0010 and maximum value 0.9060. This range is high enough and supports the statement that data was distributed or was not homogeny.

The mean of institutional shareholdings is 58.7%. This amount is relatively equal compared to institutional ownership in developed market where the agency researches have been conducted, which typically more than 50% (e.g. Chen and Steiner, 1999). This condition is consistent with the argument of Bathala et al (1994) that institutional investors nowadays have dominant proportion of the firm's ownership structure. The standard deviation of institutional ownership is 21.36%, smaller than its mean, it shows the data was grouping and homogeny distributed. This finding is support with minimum value 0.1160 and maximum value 0.9530 which has low range enough.

#### **4.2 Regression Analysis**

The dependent variables are leverage ratio and dividend payout ratio. The leverage ratio appears as a regressor in the dividend payout ratio and vice versa. Thus, leverage ratio and dividend payout ratio are simultaneously determined. The proportion of insider ownership, institutional ownership and stockholder dispersion of common stock is included as an explanatory variable in both equations, in addition to

several other control variables. The specification of the simultaneous equation model is as follow:

$$\text{DEBT} = \alpha_0 + \alpha_1 \text{DIV} + \alpha_2 \text{INSDR} + \alpha_3 \text{INST} + \alpha_4 \text{STKDSP} + \alpha_6 \text{ASSET}$$

$$\text{DIV} = \beta_0 + \beta_1 \text{DEBT} + \beta_2 \text{INSDR} + \beta_3 \text{INST} + \beta_4 \text{STKDSP} + \beta_5 \text{PROF} + \beta_6 \text{GROW}$$

Where:

DEBT	= Leverage ratio, the ratio of total debt to total assets.
DIV	= Dividend payout ratio, the ratio of dividend per share to earning per share.
INSDR	= Insider ownership, the ratio of directors' and commissioners' shareholdings to total shareholding of the company.
INST	= Institutional ownership, the ratio of institutional shareholding of total shareholding of the firm.
STKDSP	= Stockholder dispersion, considered as a group in which every stockholders represent one group.
ASSET	= Asset structure, the ratio of fixed assets to total assets.
PROF	= Profitability, the ratio of operating profit to net sales.
GROW	= Growth, the natural logarithm of the ratio of total assets to previous total assets.

### 4.3 Classical Assumption Test

#### 4.3.1 Auto-Correlation Test

Theoretically, a regression model analyses will give a reliable estimated model parameter providing it's fulfills the classical assumption of normal linear regression, which is normality assumption, passes the test of auto-correlation, the test of multicollinearity and heteroskedasticity test. To indicate whether there is auto-correlation or not in regression model, this research will use Durbin Watson Test (DW).

By EVIEWS software, it could be known the value of Durbin Watson Test is 1.912417 for model 1 in panel A and 2.052075 for model two in panel B. According to Singgih Santoso (2000), if the value of Durbin Watson Test lies between -2 until +2 so it is assumed there's no auto-correlation. The results for Durbin Watson Test indicate for both of the models show that there is no auto correlation among variables in the regression model.

#### 4.3.2 Normality test

The basic assumption in running regression is that the error term of the model is normally distributed. The normality testing method used is using graphical analysis and residual statistics. The normality plot of residual values shows normality test result, if the plots of residuals values lied about the normal line; this indicates that the data is normally distributed. Residual statistic represents normality test by looking at the probability of Jarque-Bera test. It must show how that the probability of standardized residual is not significant or in the other hand the result is higher than 0.05.

From EVIEWS software, the normality test of model 1 and model 2 can be seen in the appendix behind. Normality test result of model 1 shows the result of the skewness is 0.370259, this value is lies between -2 and 2. The probability of jarque-bera test of this model is 0.177152, means this number is not significant at any accepted level. So we can say that model 1 is normally distributed.

Normality test result of model 2 shows the result of skewness of this model is 0.186752, this value is lies between -2 and 2. Furthermore, the probability of jarque-bera test of this model is 0.456333, means this number is not significant at any accepted level. So we can say that model 2 is also normally distributed.

#### 4.3.3 Multicollinearity Test

Multicollinearity happened when some of the information contributed by two or more of the independent variables for predicting the dependent variable may be different but some information may be identical. It also tends to confuse the interpretation of confidence interval estimates for the B parameters (Mendenhall et.al. (1989). According to Koencoro(2001), multicollinearity exist when there is a perfect or almost predict free relationship between some or all independent variables. This common problem presents in economics, since in economics everything depends on everything else.

Muticollinearity means that there is linear Relationship between two or more independent variables. Correlation coefficient among independent variables. Correlation coefficient among independent variables must be weak. There are strong multicollinearity problem if the partials correlation between independent variables is more than 0.8.

The Pearson's correlation matrix shows the correlation relationship of all the independent variable with dividend pay out ratio to debt ratio. Matrix however, the correlation matrix also shows the correlations between the independent variables are

either low degree or moderate degree which suggests the absence of multicollinearity between independent variables. The Pearson's or between each pair of independent variables should not exceed 0.8, otherwise independent variables with coefficient in excess of 0.80 may be suspected of exhibiting multicollinearity. Multicollinearity is usually regarded as a problem because it means that regression coefficient may be unstable (Bryman & Cramer, 1997).

From the correlation analysis of the regression models, all coefficient of correlations between independent variables are less than 0.8, which mean it does not appear to be strong correlation between any two of the explanatory variables.

#### **4.4.4 Heteroskedasticity Test**

Heteroskedasticity test is the analysis of regression residuals to examine the degree to which a specified model satisfies the assumption of the multiple linear regression models (Mendenhall et.al., 1989). According to Hanke and Reitsch (1998) as stated by Koencoro (2001), heteroskedasticity appears when error or residual from the model observed do not have a constant variances. Further more, the heteroskedasticity symptoms commonly happened in cross section data than in time series data.

One way to test the heteroskedasticity problems is by using the white methods. The X2 test is a general test to find out missrecification model exist or not, with assumptions:

- a. Residual is homoscedasticity and an independent variable.
- b. Linear specifications of model already correct.

The null hypothesis do not fulfilled will caused t-statistic significant, otherwise if t-statistic not significant means both assumptions above already fulfilled, and the model free from heteroskedasticity problems.

All the two models also free from the heteroskedasticity problems, this can be seen from the explanation of quantitative micro software(2000), that white's heterokedasticity test is a test for heterokedasticity in the residual from least squares regression. The null hypotheses are errors are both homoskedastic and independent of the regressors, and the linear specification of the models is correct. Failure of any of these conditions will lead to a significant, as can be seen from the appendix behind. So it implies that none of the conditions above violated by the regression models. Hence all the models employed in the research are free from heteroskedasticity problem.

#### **4.4 Analysis and Discussion of Hypothesis Testing**

The simultaneous equation model is estimated using Two-Stages Least Squares (2-SLS) methodology. In a system comprising of interdependent two endogenous variables, the 2-SLS method is preferred over the Ordinary Least Square (OLS) method as the later would lead biased and inconsistent parameter estimates. The 2-SLS method unlike the OLS method, allow us to see how the debt policy affect

dividend policy separately on how the dividend policy affect debt policy by separating the result into two different decision variable.

In this research, one tailed t-test is used to test the significance of the 2-SLS coefficient for each variable. A one tailed test, or directional test, places the entire probability of an unlikely outcome into the tail specified by the alternative hypothesis (Cooper and Schindler, 2001).

The results of the 2-SLS analysis by EVIEWS software are summarized in the table 4.4, Panel A and Panel B.

**Summary of 2 SLS result**

**Table 4.4**

**Panel A**

Dependent Variable: DEBT				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:46				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR INST DIV STKDSP ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DIV	-0.387843	0.081532	-4.756953	0.0000
INSDR	-0.033230	0.080283	-0.413915	0.6803
INST	-0.345332	0.072984	-4.731603	0.0000
STKDSP	-0.629932	0.284318	-2.215587	0.0302
ASSET	0.335393	0.091723	3.656597	0.0005
C	0.745220	0.053046	14.04845	0.0000
R-squared	0.719982	Mean dependent var		0.467042
Adjusted R-squared	0.698443	S.D. dependent var		0.218680
S.E. of regression	0.120087	Sum squared resid		0.937353
F-statistic	33.42567	Durbin-Watson stat		1.912417
Prob(F-statistic)	0.000000			

**Panel B**

<b>Dependent Variable: DIV</b>				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:18				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR INST STKDSP DEBT ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DEBT	-0.541570	0.160054	-3.383680	0.0012
INSDR	0.587701	0.082970	7.083287	0.0000
INST	-0.106238	0.119294	-0.890561	0.3765
STKDSP	-0.286906	0.374362	-0.766388	0.4463
PROF	0.213416	0.272373	0.783541	0.4362
GROW	0.087305	0.067826	1.287180	0.2027
C	0.505451	0.163680	3.088050	0.0030
R-squared	0.761503	Mean dependent var		0.357056
Adjusted R-squared	0.739144	S.D. dependent var		0.308502
S.E. of regression	0.157564	Sum squared resid		1.588897
F-statistic	34.05788	Durbin-Watson stat		2.052075
Prob(F-statistic)	0.000000			

**4.4.1 Analysis of the Model**

Overall, the equation system displays a comparatively high degree of explanatory power for regressions of firm's policy. As showed in the table 4.2, adjusted R2 for DEBT equation is 0.720. It means that 72.0% of the variation in leverage ratio is explained by the explanatory variables in the equations. The explanatory for the DEBT equation in panel A are dividend, insider ownership, institutional ownership, stockholder dispersion, and asset structure. The sig F for debt equation is 0.000 since F is less than 0.01, it indicates that the explanatory variables in the DEBT equation as a whole have a significant impact on leverage ratio at 0.01 level.



Adjusted R2 for DIV equation is 0.762. It means that 76.2% of the variation in leverage ratio is explained by the explanatory variables in the equations. The sig F for dividend equation is 0.000. Since the sig F is less than 0.01, it indicates that the explanatory variables in the DIV equation as a whole have a significant impact on div payout ratio at 0.01 levels.

The result of the analysis support the proposition financial decisions such as debt policy and dividend policy are interdependent. Specifically, leverage ratio has a negative influence on a firm's dividend levels. An F test was performed to test whether all independent simultaneously influence dependent variable or not. Furthermore, an F test is purposed to test the null hypothesizes whether the independent variables in the equation are not influencing the dependent variable. If the Independent variables in the equation influence the dependent variable as a whole, then the null hypothesis must be rejected. Vise versa, if the Independent variables in the equation do not influence the dependent variable as a whole, then the null hypothesis must not be rejected. The model one, the leverage ratio equation, showed that the null hypothesis could be at rejected at 0.000 level. The model two, the dividend payout ratio equation, showed that, the null hypothesis also could be rejected at the 0.000 level. These result shows that the leverage ratio variable is negatively influence the dividend payout ratio variable and the dividend payout ratio variable is also negatively influencing the leverage ratio variable. Together, these results suggest that there is interdependence exists between the two equations above as a firm's policy decisions.

The other significant variables in the debt and dividend equations, however, would indicate that the pecking order theory (Jensen et al, 1992) is not a complete explanation for a firm's financial decisions. The significant coefficients on asset structure imply that bankruptcy and agency costs also play a role in financial policy. The evidence is also consistent with the theory that insiders take major positions in firms where the potential for control is high. The result provide strong support for a modified version of the pecking order theory, which suggests that agency costs also affect the firm's financing decision.

#### **4.4.2 The impact of Ownership Structure on Corporate Debt Policy**

##### **4.4.2.1 Insider Ownership**

As showed in table 4.4, insider ownership has a negative and insignificant impact on leverage ratio at any accepted level. Therefore conclusion which can be taken by pursuant to the test result is for the Hypothesis 1, HO 1 is failed to reject, because P-Value greater than level of the significant. So, hypothesis 1 which states that insider ownership has negative impact on leverage ratio is not accepted. This means that insider ownership has no impact on the corporate debt policy. In Indonesia market, the result is inconsistent with the finding of Jensen et al (1992), Bathala et al (1994), Moh'd et al (1998), and Chen and Steiner (1999). But, this is consistent with the study requiring pre-sets level of share ownership, Chaganti and Damanpour (1991) find that insider stock ownership has no impact on the firm's debt ratio.

Jensen et al (1992) found that more insider ownership, leads to less debt. But in Indonesia case, we can analyze that insider ownership has no impact towards the leverage ratio. A possibility why this research have different result with the previous research (also in Indonesia case) is the period or time when the researches are conducted. Aritejo (1999), Masdupi (2000) and Wahidawati (2002) took year 1992 until 1996 as their period, while this research takes year 1999 until 2003. Economic crises that started from 1997 and still happen until now really have significant impact to the firms' capital structure. Therefore, to secure their own position, managers in Indonesian firms do not try to lessen the firm financial risk through under leveraging even the insider ownership of the firm's stock increases, the managers do not tend to be less diversified than other stockholders.

While, in develop country like US, the regression result is consistent with the previous research about insider ownership, where insider ownership has significant negative impact on leverage ratio. In develop country, it can be explained that as insider ownership of a firm's stock increases, the firms managers tend to be less diversified than other stockholders. This to secure their own position, they try to lessen the firm's financial risk through under leveraging (Mehran, 1992). Moreover, higher managerial stock ownership gives executives increased control of the firm via voting rights. Increased control affords executives the opportunity to pursue their own agendas with a diminished threat of being replaced through either a hostile takeover or a proxy fight (Schooley and Barney, 1994).

If there is a negative impact of insider ownership on leverage ratio in Indonesia case, this explanation may be true as the Indonesian firms analyzed in this research on average have relatively high insider ownership (23.6%), which is higher than the entrenchment level of 14.9% & found by Schooley and Barney (1994). But the theory above doesn't work in Indonesia. Another possibility argument is, in Indonesia, a firm with higher insider ownership doesn't have lower agency costs of equity and higher agency costs of debt because the incentives of managers would be more closely aligned with owners than with creditors. Or in Indonesia, this may occur when managers hold enough shares and, hence, voting power to control the firm and pursue their own-self interest. This phenomenon is able to explain why in Indonesia case, there is no negative impact of insider ownership on leverage ratio.

#### **4.4.2.2 Institutional Ownership**

Consistent with the finding of Grier and Zychowicz (1991), institutional investors may substitute for the disciplinary role of debt in the capital structure. Institutional shareholdings also appear to influence the financial policies of the firms, with institutional holders substituting for the disciplinary role of debt in the capital structure.

This can be showed in table in table 4.4, where institutional ownership has a negative and significant impact on leverage ratio at 0.01 levels. Therefore conclusion which can be taken by pursuant to the test result is for the Hypothesis 2, HO success to reject because P-Value smaller than level of the significant. So, hypothesis 2 which

states that institutional ownership has negative impact on leverage ratio is accepted. This result is consistent with the finding of Bathala et al (1994) and Moh'd et al (1998).

This relationship is supported by the substitutability arguments which suggest that firms with greater institutional monitoring require less leverage to control agency cost of the firm as noted by Bathala et al (1994). Consistent with that reasoning, Moh'd et al (1998) states that institutional investors may serve as substitute for the disciplinary role of debt in the capital structure.

In Indonesia case, based on the result above, the significance result showed that institutions are important monitoring agent and exercise an active role consistent with protecting their significant stake in the firm.

#### **4.4.2.3 Stockholder Dispersion**

As showed in table 4.4, stockholder dispersion has a negative and significant impact on leverage ratio at 0.05 levels. Therefore conclusion which can be taken by pursuant to the test result is for the Hypothesis 3, HO is succeed refused because P-Value smaller than level of the significant. So, hypothesis 3 which states that stockholder dispersion has negative impact on leverage ratio is accepted. This means that stockholder dispersion has an impact on the corporate debt policy. In Indonesia, when outside ownership is diffuse, those outside shareholders have little influence on managers' conservative debt postures (Moh'd et al, 1998).

The result supports the hypothesis proposed previously, the direction is consistent with the finding of Moh'd et al (1998). Plausible explanation of this finding is that diffused stockholders have an effect or influence on management, thus permit managers to control financial policies of the firm and pursue their own interest. Since managers usually prefer low debt ratio due to the diversification costs, therefore it is proven that stockholder dispersion should be hypothesized inversely related to the level of firm's leverage ratio. But, this finding is not supported by Rozeff (1982) as mentioned in diffused the ownership, a negative or insignificant relationship could be expected between ownership dispersion and the level of debt.

#### **4.4.3 The Impact of Ownership Structure on Corporate Dividend Policy**

##### **4.4.3.1 Insider Ownership**

As showed in table 4.4, insider ownership has a positive and significant impact on dividend payout ratio at 0.01 levels. Therefore conclusion which can be taken by pursuant to the test result is for the Hypothesis 4, HO is succeed refused because P-Value smaller than level of the significant. So, hypothesis 4 which states that that insider ownership has positive impact on dividend payout ratio is accepted. This result is consistent with the finding of Schooley and Barney (1994) and Wilberforce (2000).

This finding can be explained by the study of Schooley and Barney (1994) which found a significant nonmonotonic relation between dividend yield and the level of dividend ratio. Beyond a particular point, the point of entrenchment (14.9%),

an increase in insider stock ownership tends to increase agency costs. As management's ownership of a firm's stock increases, the firm's managers tend to become less diversified than other stockholders. Thus capital budgeting projects with high within-firm risk may be rejected, even if the project is justified based on its effect on the firm's total systematic risk. Also managerial stock ownership gives executives the opportunity to pursue their own agendas with a diminished threat of being replaced through either a hostile take over or a proxy fight. At high levels of ownership (higher than entrenchment level), agency cost tend to rise with further increases in the ownership percentage, and the increased scrutiny placed on the firm by higher dividends become necessary.

Moreover, as managers' wealth becomes more poorly diversified, they will require increasing amount of compensation (Crutchley and Hansen, 1989). Hence, to reduce agency costs when the firm's common stock is more diversified, usually managers hold larger equity stakes, rely less on leverage, and rely less on dividends. As insider ownership increases, much of managers and the reward in the form of dividend become more expected. In Indonesian setting, a strong significant positive relationship between insider ownership and dividend ratio were found by Wilberforce (2000). Using the argument of Schooley and Barney (1994); and Crutchley and Hansen (1989) he conclude that in Indonesian firms, the level of insiders are entrenched. This reasoning may true in this research since Indonesian firms analyzed in this research have relatively high insider ownership (23.6%) that is higher than the entrenchment level of 14,9% found by Schooley and Barney (1994).

But this finding is inconsistent with Jensen et al (1992) where the result is negative sign and statistically significance of the coefficient on insider ownership in the dividend equation. This also indicates that insider ownership is an important determinant of a firm's dividend policy, but the result is contrary different with above explanation. Where based on the finding of Jensen et al (1992), the benefits of dividends in reducing agency costs are smaller for firms with higher insider ownership. Closely held firms might also select dividend levels that allow shareholders to realize the tax benefits of capital gain.

#### **4.4.3.2 Institutional Ownership**

As showed in table 4.2, institutional ownership has a negative but insignificant impact on dividend payout ratio at any accepted level. Therefore, conclusion which can be taken by pursuant to the test result is for the Hypothesis 5, HO is failed to reject, because P-Value greater than level of the significant. So, hypothesis 5 which states that institutional ownership has positive impact on dividend payout ratio is not accepted. This means that institutional ownership has no impact on the corporate dividend policy.

The result does not support the hypothesis proposed previously and the direction is also inconsistent with the finding of Moh'd et al (1995). The positive relationship between institutional ownership and dividend pay out ratio can be explained by the argumentation of Moh'd et al (1995) that small shareholders seek a high dividend payout to attract and compensate large shareholders (e.g institution) for



their economies of scale in performing this monitoring role. This argumentation implies that institutional investors expect high dividend payment as return for their investments. Another possible explanation for this finding is that high dividend payout ratio is used to complement institutional monitoring role to reduce agency costs. Agrawal and Knoeber (1996) argue that positive relations might exist when one agency control mechanism is most effective when coupled with other mechanism. As an example, institutional shareholdings might facilitate shareholdings takeovers as could bigger blocks held by outsider, that if jointly together will produce better control over managerial activities.

But unfortunately in Indonesia case for the period of 1999 until 2003, the finding is not consistent with the prior research even with the prior research by Wilberforce that conducted also in Indonesia, but using the data from different period of time. While, positive relationship between institutional ownership and dividend payout ratio were found by Wilberforce (2000) for Indonesian firms. This may be indicate that during 1999 until 2003, dividend policies of Indonesian firms did not influenced by external shareholders. Viewing from this research, Indonesian firms in forming their dividend policies only depend on insider shareholders. Indonesian firms in forming their dividend policies only depend on their number of insider ownership in that firms, as probably this were the only determinant that mostly considered important by the management dealing with firms' dividend policy.

Furthermore, this inconsistency might also occur because of some certain reason such as the different proxy that the researcher used, or the different

explanatory variables that included in the equation used, the different the period of the data taken for the research, and many other factor such as research data that more affected by the instability in political, social and monetary condition. So the firm doesn't reflect the normal operation and policy.

#### **4.4.3.3 Stockholder Dispersion**

As showed in table 4.4, stockholder dispersion has a negative but insignificant impact. On dividend payout ratio at any accepted level. Therefore, conclusion which can be taken by pursuant to the test result is for the Hypothesis 6,  $H_0$  is failed to reject, because P-Value greater than level of the significant. So, hypothesis 6 which states that stockholder dispersion has positive impact on corporate dividend ratio is not accepted. This means that stockholder dispersion has no impact on the corporate dividend policy. Although the result doesn't support the hypothesis proposed previously, the direction is inconsistent with the finding of Moh'd et al (1995). This is proven that in Indonesia market, the positive relationship theory between stockholder dispersion and dividend payout ratio can not be applied. While, the prior researcher, such as Shleiver and Vishny as mentioned in Moh'd et al (1995) explained that small shareholders seek a high level of dividend payout to attract and compensate large shareholdings (e.g institutions) for their economics of scale in performing this monitoring role. This argumentation implies that small shareholders tend to seek firms with high dividend payout ratio in their investment decision due to their disabilities in monitoring role. But in Indonesia, small shareholders do not attempt to

seek firms with high dividend payout ratio in their investment decision but they are attempting to seek firms with other advantages besides dividend. Such as the stability financial condition of the firm for the last five years, or the firm size can be seeing from its net sales, etc.

#### **4.4.4 The Impact of Firm's-Specific "Real" Attributes**

As noted earlier, simultaneous equations with Two Stages Least Square (2-SLS) have two primary advantages over the Ordinary Least Square (OLS). First the 2-SLS permits an analysis of interdependence among endogenous variables that are related to common exogenous variables. Second, the coefficient parameter estimates of the exogenous variables would be unbiased and consistent. In the latter context, it is useful to compare the 2-SLS estimate presented in table 4.4 panel A and panel B.

##### **4.4.4.1 The impact of Firm's Assets Structure on Corporate Debt Policy**

Debt policy can be affected by firm-specific real characteristics that can affect the supply curve of debt offered to the firm, or the firm's demand for debt. Based on Jensen et al (1992), features that increase the costs of monitoring the firm's activities should decrease the supply of debt to the firm. Conversely, a firm's level of assets structure should be related positively to debt levels (Ravid, 1988).

Result in table 4.4 panel A of assets structure as a control variable of debt equation is significantly influence the leverage ratio of the firms at 0.01 levels. It is consistent with the previous evidence by Ravid (1988) on the determinant of debt

policy above. This result shows that in Indonesia firms, every percentage increases in asset structure will also increase the leverage ratio as much as 0.335393 percent. But this finding is inconsistent with DeAngelo and Masulis (1980) which predict the opposite relationship between debt and assets structure.

#### **4.4.4.2 The Impact of Firm's Profitability and Growth on Corporate Dividend Policy**

The financial literature has related dividends to the firm's profitability and growth. Rozeff (1982) argues that higher dividend payments reduce agency conflicts between managers and shareholders and finds evidence of relationship among growth, profitability and dividends.

The result for the dividend equation, reported in table 4.4 panel B are generally inconsistent with the finding of Rozeff above. Both of growth and profitability as the dividend payout ratios' control variables do not influence the dividend at any accepted level. In Indonesia, growth and profitability are not considering a factor for firm to decide a dividend policy. This result might happen because from the finding above, insiders ownership variable really holds an important role through the dividend policy. A strong significant positive relationship between insider ownership and dividend ratio were found by Wilberforce (2000). Using the argument of Schooley and Barney (1994); and Cruthchley and Hansen (1989) he conclude that in Indonesian firms, the level of insiders are entrenched. This reasoning may true in this research since Indonesian firms analyzed in this research have

relatively high insider ownership (23.6%) that is higher than the entrenchment level of 14,9% found by Schooley and Barney (1994).

That's why in Indonesia case, only insider ownership and leverage ratio has an impact on dividend payout ratio, another variables such us institutional ownership, stockholder dispersion, profitability, and growth are not influencing the dividend pay out ratio individually.

#### **4.4.5 Substitutability Between Debt and Dividend Policies**

Agency theorists have drawn a link between the issuance of debt and the payment of cash dividends (Jensen et al, 1992). Specifically, it is suggested that dividend payments and debt act as substitute in reducing agency cost. For this reason, dividend payout ratio serves as explanatory variable with an hypothesized inversely in the debt equation and leverage ratio serves as explanatory variable also with an hypothesized inversely.

Substitutability between debt and dividend policies is proven if the coefficients of DIV in DEBT equation and DEBT in DIV equation are negative and significant. As showed in table 4.4, dividend payout ratio has a negative and significant impact on leverage ratio at 0.01% level. Similarly, leverage ratio has a negative and significant impact on dividend payout ratio, representing substitutability between the two mechanisms is not rejected.

The explanation behind this substitutability relationship can be based on the argumentation of Jensen et al (1992) that firms with high dividend payouts find

financing less attractive than equity financing. This is consistent with explanation that firms with high fixed financial cost are unwilling to commit simultaneously to higher dividend payouts to explain the negative sign of debt toward dividend ratio.

The more debt used by a firm indicating the higher the financial risk. Therefore the level of debt used by a firm is also determining their access to the availability and cost of the external source of capital for the firm. Firms with low debt to equity ratio have opportunity to expand their level of debt. The possibility for the firm to increase their leverage, have impact in determining the dividend policy. (Sutrisno, 2001)

In particular the result from the dividend equation indicates that firms set dividend levels that permit managers to finance expected investment internally. If dividend policy corresponds to managerial projections of future investment opportunities, firms can maintain stable dividends and obtain needed equity financing internally. Obviously, this policy is most plausible if the costs of external equity are large. Evidence in the debt equation indicates that profitable firms use less debt. Based on Jensen et al (1992), this kind of observation suggests that firms set their debt and dividend policies to take advantage of retained earnings.

## CHAPTER V

### CONCLUSION, LIMITATIONS AND RECOMMENDATION

#### 5.1 Conclusion

Based on the research findings and discussion presented in the previous chapter, we can draw some conclusions as follows:

1. In general, ownership structure of insider ownership, institutional ownership and stockholder dispersion are negatively related to firm's leverage ratio. Insider ownership have negative but insignificant impact on leverage ratio at any accepted levels, but both institutional ownership and stockholder dispersion are negatively and significant impact on leverage ratio. This finding indicates institutional investors play dominant role in the determination of corporate debt policy. The negative and insignificant relationship between insider ownership and leverage ratio, however, is inconsistent with the previous research by Jensen and Meckling (1976) in advance country like US. In previous finding, the managers desire to reduce firm's financial risk through under leveraging because as insider ownership of a firm's stock increases, the firm's managers tend to be less diversified than other stockholders as noted by Mehran (1992). But in Indonesia, it shows that even the insider of ownership firm's stock increases, managers do not attempt to reduce the financial risk through under leveraging. There is no impact of insider ownership on corporate debt policy. Furthermore, the negative and significant relationship between institutional

ownership and leverage ratio shows that larger institutional holdings engender greater monitoring effort to restrain opportunistic behavior by managers, permitting the firm to utilize less debt while negative and significant relationship between stockholder dispersion and leverage ratio indicates that diffused stockholders have an effect or influence on management, thus, permit managers to control financial policies of the firm and pursue their own interest.

2. In general, ownership structure of insider ownership, institutional ownership, and stockholder dispersion are not positively related to firm's dividend payout ratio. Not all of them show positive coefficient, only insider ownership has positive and significant impact at 0.01 levels. This finding implies that high dividend payment is expected by most of the stockholder positive relation between insider ownership and dividend payout may occur when the level of insider ownership rise beyond the level of entrenchment as postulated by Schooley and Barney (1994). Beyond this entrenchment level, an increase in insider ownership will increase agency cost, thus high dividend payout ratio should placed to mitigate those costs. Moreover as insider ownership increases, much of managers' investments are concentrated on one company and the reward in the form of dividend becomes more expected. The negative coefficient of institutional ownership and shareholder dispersion in this research are inconsistent with the argument of Shleiver and Vishny as mentioned in Moh'd et al (1995) that small shareholder seek high level of dividend payout to attract and compensate large shareholders (e.g institution) for their economies



of scale in performing this monitoring role. This argumentation implies that both institutional investors and small shareholding expect high dividend payment. This inconsistency happens because Indonesian firms in forming their dividend policies only depend on insider shareholders, as probably this were the only determinant that mostly considered important by the management dealing with firms' dividend policy. It is proven by since Indonesian firms analyzed in this research have relatively high insider ownership (23.6%) that is higher than the entrenchment level of 14,9% found by Schooley and Barney (1994).

3. Finally, the analyses prove that there is substitutability relationship between debt and dividend policies. The substitutability relationship is proven if dividend payout ratio has a negative and significant impact on leverage ratio and vice versa. The analysis shows that dividend payout ratio has a negative and significant impact at 0.01 levels, which shows a strong significant influence. This finding is consistent with Jensen et al (1992) that firms with high dividend payout find debt financing less attractive than equity financing. This is consistent with the explanation that firms with high fixed financial costs are unwilling to commit simultaneous into higher dividend payouts to explain the negative sign of debt toward the dividend ratio. The substitutability relationship between leverage ratio and dividend payout ratio may also explain by Jensen's (1986) free cash flow hypothesis. According to this hypothesis, dividend and debt are substitute mechanisms to mitigate agency cost by reducing the cash flow available for spending at the discretion of managers.

### 3.4 Testing Procedure

In this research, One-tailed test, or directional test, places the entire probability of an unlikely outcome into the tailed specified by the alternative hypothesis (Cooper and Schindler, 2001).

To test hypothesis 1, 2 and 3 the debt equation is used.

$$\text{DEBT} = a_0 + a_1 \text{DIV} + a_2 \text{INSDR} + a_3 \text{INST} + a_4 \text{STKDSP} + a_6 \text{ASSET}$$

Hypothesis 1, 2, and 3 are accepted if the coefficient of INSDR, INST, and STKDSP are negative and significant.

To test hypothesis 4, 5 and 6, the div equation is used.

$$\text{DIV} = \beta_0 + \beta_1 \text{DEBT} + \beta_2 \text{INSDR} + \beta_3 \text{INST} + \beta_4 \text{STKDSP} + \beta_5 \text{PROF} + \beta_6 \text{GROW}$$

Hypothesis 4, 5 and 6 are accepted if the coefficient of INSDR, INST, and STKDSP are positive and significant.

To test hypothesis 7, both DEBT and DIV equations are used. Hypothesis 7 is accepted if the coefficients of DIV in DEBT equation and DEBT in DIV equation are negative and significant.

## 5.2 Limitation of the Research

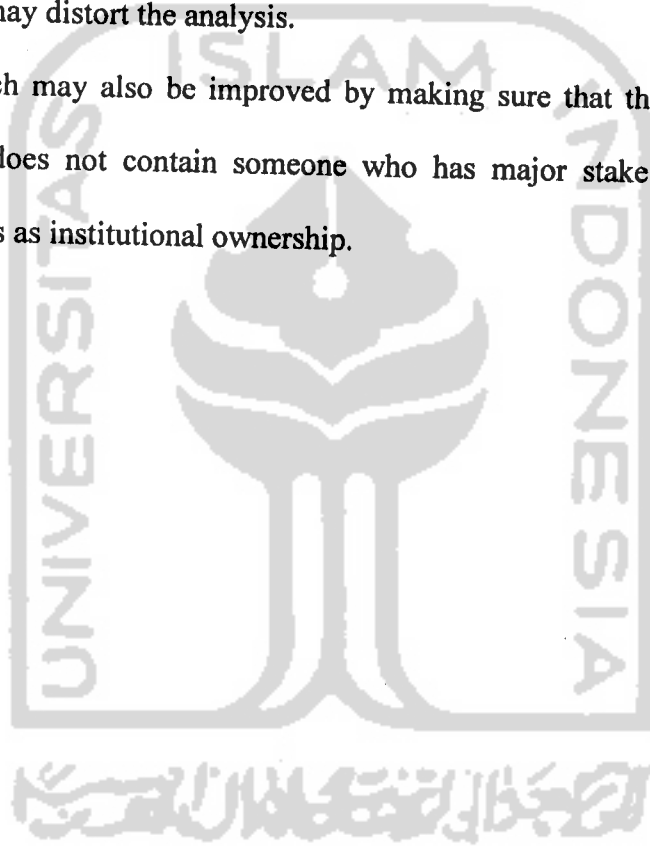
This research however is subjected to several limitations as follows:

1. This research only uses manufacturing firms at the research population, while the choice is intended to reduce industry affect that may distort the analysis, the research finding may not be able to generalize to other industries.
2. The number of research objects included in the analysis is relatively low compared to previous agency studies conducted in developed countries. This lack of data usually due to selection criteria that requires firms with complete data of leverage ratio, dividend payout ratio, insider ownership, institutional ownership and stockholder dispersion as they are the main variables in this research.
3. The validity of insider ownership, institutional ownership and stockholder dispersion variables are questionable. It is possible that an insider of a firm A is also has major stakes on another firm which serve as institutional ownership of firm A. This condition may cause the impact of each variable to be biased. The measurement of shareholders dispersion that considers stockholders represent one group also contains limitation. In this research, public shareholders are considered as one group, where as in reality, public investors may contains a lot of individual investors.

### 5.3 Recommendations

Based on the research limitation previously mentioned, there are some recommendations for further studies as follows:

1. This research can be improved by utilizing insider sample, not only restricted to manufacturing firms. However, researcher should be careful of the industry effect that may distort the analysis.
2. This research may also be improved by making sure that the variable insider ownership does not contain someone who has major stake on another firm which serves as institutional ownership.



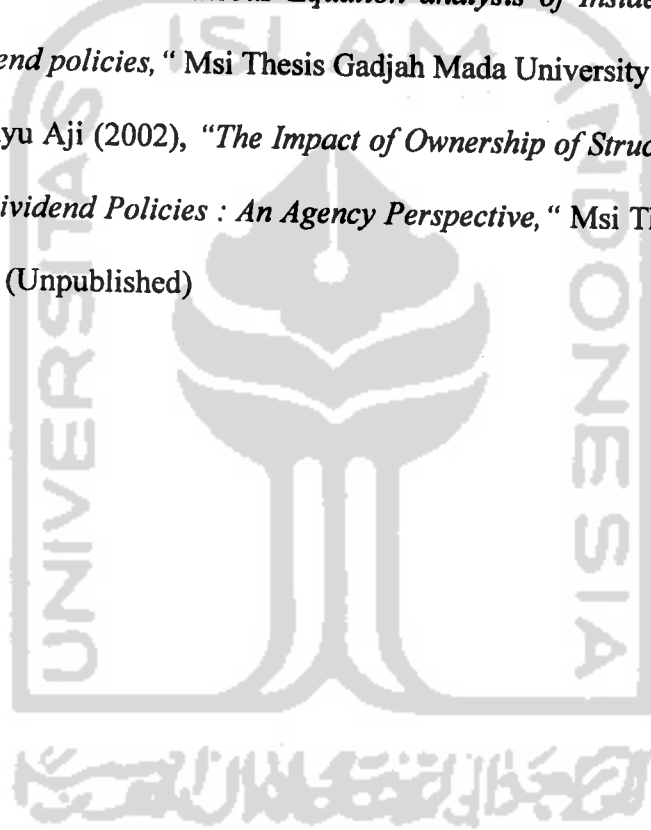
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# APPENDICES



APPENDIX I

RESEARCH OBJECT

NO	YEAR	COMPANY NAME	DEBT	DIV	INSDR	INST	STKDSP	ASSET	PROF	GROW
1	1999	PT Gudang Garam Tbk	0.2800	0.4220	0.0710	0.7210	0.0380	0.1700	0.2370	0.2120
2	1999	PT Selamat Sempurna Tbk	0.2500	0.1990	0.0790	0.6800	0.0310	0.4560	0.2230	0.1490
3	1999	PT Sunson Textile Manufacturing	0.8000	0.0010	0.0140	0.3740	0.0450	0.5930	0.1550	-0.0780
4	1999	PT Lautan Luas Tbk	0.4300	0.5390	0.3600	0.6300	0.0380	0.2120	0.0940	0.0410
5	1999	PT Siantar Top Tbk	0.2100	0.3570	0.6030	0.8550	0.0390	0.5040	0.1290	0.3720
6	1999	PT Apac Citra Centertex Tbk	0.8400	0.2000	0.0810	0.3750	0.0400	0.7290	0.0320	-0.0210
7	1999	PT Kanwell Indonesia	0.6700	0.6870	0.8020	0.3570	0.0410	0.2280	0.0890	-0.1910
8	1999	PT Hanjaya Mandala Sampurna	0.5200	0.4920	0.1900	0.4470	0.0460	0.2620	0.2640	0.2170
9	1999	PT Daya Sakti Unggul Corporation	0.6500	0.3760	0.0010	0.3930	0.0370	0.4610	0.0910	0.9820
10	1999	PT Budi Acid Jaya	0.7000	0.3880	0.0110	0.1320	0.0940	0.5050	0.1940	0.0870
11	1999	PT Duta Pertiwi Nusantara	0.1300	0.7960	0.7090	0.9530	0.0460	0.1080	0.2910	0.0410
12	1999	PT Dynaplast Tbk	0.3400	0.5170	0.3400	0.7100	0.0630	0.4680	0.1770	0.0380
13	1999	PT Nipress Tbk	0.7900	0.0350	0.0120	0.3710	0.0680	0.4170	0.1670	-0.0730
14	1999	PT Berlina Tbk	0.3200	0.3280	0.0705	0.5140	0.0530	0.3460	0.3170	0.0770
15	1999	PT Kedaung Indah Can	0.3800	0.5900	0.9060	0.9270	0.0580	0.3680	0.1390	-0.0970
16	1999	PT Lion Metal Works Tbk	0.2200	0.7900	0.8010	0.5770	0.0530	0.2080	0.2450	0.1010
17	1999	PT Kurnia Kapuas Utama GI Tbk	0.4400	0.0490	0.0300	0.4430	0.0620	0.0840	0.2530	-0.0930
18	1999	PT Metrodata Electronics Tbk	0.6500	0.0130	0.0040	0.1160	0.0210	0.1560	0.1010	0.0170
19	2000	PT Gudang Garam Tbk	0.4400	0.4290	0.0170	0.7210	0.0380	0.1500	0.2170	0.2940
20	2000	PT Lautan Luas Tbk	0.5100	0.2090	0.0360	0.6300	0.0380	0.2060	0.0950	0.1610
21	2000	PT Hanjaya Mandala Sampurna	0.3500	1.0610	0.8190	0.4470	0.0460	0.2280	0.2040	0.2720
22	2000	PT Tunas Baru Lampung	0.5600	0.1640	0.0810	0.7820	0.0590	0.6640	0.1350	0.2470
23	2000	PT Duta Pertiwi Nusantara	0.2300	0.3620	0.3190	0.5630	0.0460	0.0810	0.2050	0.2380
24	2000	PT Surya Intrindo	0.3800	0.8090	0.0740	0.6860	0.0290	0.3560	0.1160	0.5660
25	2000	PT Berlina Tbk	0.4100	0.4390	0.1050	0.5140	0.0530	0.2760	0.2660	0.3320
26	2000	Summitplast Int Tbk	0.1600	1.1530	0.8060	0.4180	0.1060	0.3590	0.1880	0.4040

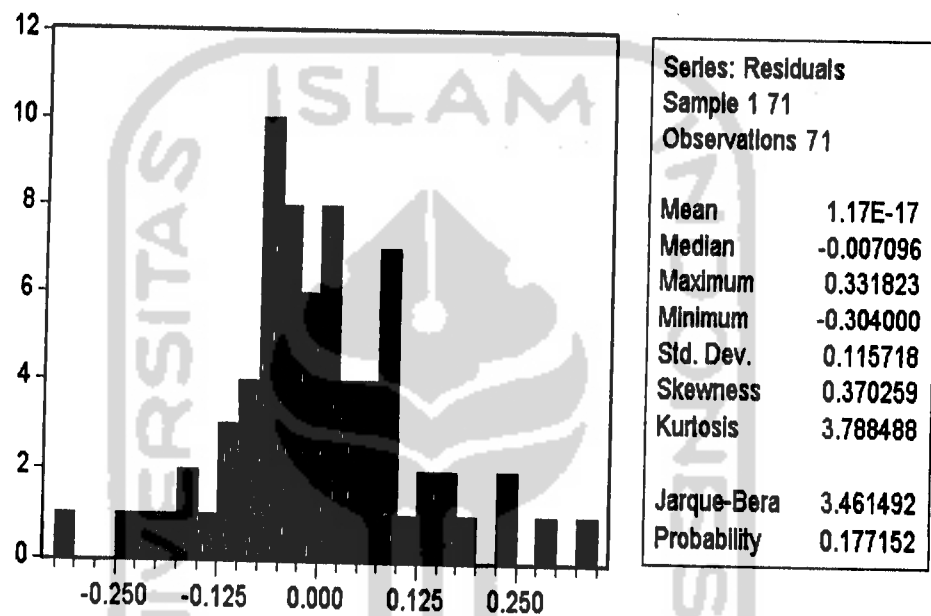
NO	YEAR	COMPANY NAME	DEBT	DIV	INSDR	INST	STKDSP	ASSET	PROF	GROW
27	2000	PT Kedaung Indah Can	0.4200	0.3990	0.0460	0.9270	0.0580	0.3440	0.1860	0.1990
28	2000	PT Sumi Indo Kabel	0.2000	0.8120	0.8010	0.9300	0.0230	0.4120	0.0010	0.1140
29	2000	PT Lion Metal Works Tbk	0.2000	0.7960	0.8010	0.5770	0.0530	0.1700	0.1910	0.1150
30	2000	PT Intraco Penta Tbk	0.8100	0.0280	0.0030	0.2650	0.0650	0.1510	0.2280	0.2590
31	2000	PT Metrodata Electronics Tbk	0.4400	0.2440	0.0840	0.7160	0.0210	0.1280	0.0700	0.6570
32	2000	PT Hexindo Adiperkasa Tbk	0.7200	0.0010	0.0010	0.3430	0.0580	0.1070	0.1530	0.0880
33	2001	PT Gudang Garam Tbk	0.3900	0.2760	0.0740	0.7210	0.0380	0.1630	0.1880	0.2150
34	2001	PT Sunson Textile Manufacturing	0.6800	0.0020	0.0140	0.3740	0.0450	0.5860	0.1120	0.0370
35	2001	PT Lautan Luas Tbk	0.4900	0.2490	0.0360	0.6300	0.0380	0.2400	0.0690	0.0850
36	2001	PT Tunas Baru Lampung	0.7500	0.0010	0.0010	0.1820	0.0590	0.3690	0.0740	0.0010
37	2001	PT Hanjaya Mandala Sampurna	0.5600	0.1170	0.0460	0.4470	0.0460	0.2050	0.1880	0.1050
38	2001	PT Ryane Adibusana Tbk	0.1100	0.7010	0.3050	0.8710	0.0400	0.1410	0.2460	0.4270
39	2001	PT Surya Intrindo	0.5300	0.0010	0.0140	0.6860	0.0290	0.3380	0.0200	0.2170
40	2001	PT Duta Pertiwi Nusantara	0.1600	0.7910	0.7900	0.5630	0.0460	0.0790	0.1240	-0.0410
41	2001	PT Dynaplast Tbk	0.4800	0.4510	0.3840	0.7100	0.0630	0.3900	0.1830	0.1760
42	2001	PT Fatrapolindo Nusa	0.4500	0.2580	0.0318	0.4980	0.2560	0.6070	0.2290	0.0270
43	2001	PT Lapindo Int Tbk	0.8100	0.0060	0.0040	0.8110	0.0370	0.4020	0.0330	1.1390
44	2001	PT Selamat Sempurna Tbk	0.4200	0.4270	0.0190	0.6800	0.0310	0.5050	0.1900	0.0670
45	2001	PT Lion Metal Works	0.1400	0.4660	0.8010	0.7570	0.0530	0.1650	0.1740	-0.0450
46	2001	PT Sumi Indo Kabel	0.1700	0.9110	0.8010	0.9300	0.0230	0.4190	0.0300	0.0020
47	2001	PT Intraco Penta Tbk	0.8400	0.0910	0.0390	0.3650	0.0650	0.1500	0.0960	0.3190
48	2001	PT Lapindo Packaging Tbk	0.8100	0.0060	0.0030	0.7160	0.0270	0.4020	0.0330	1.1390
49	2001	PT Arwana Citramulia Tbk	0.7000	0.0020	0.0170	0.3890	0.0630	0.6560	0.1680	0.2200
50	2001	PT Metrodata Electronics Tbk	0.4200	0.2050	0.0840	0.7160	0.0210	0.1330	0.0440	0.2970
51	2001	PT Hexindo Adiperkasa Tbk	0.7300	0.0030	0.0010	0.3430	0.0580	0.2060	0.1110	1.4160
52	2002	PT Gudang Garam Tbk	0.3700	0.2760	0.0770	0.7210	0.0380	0.2450	0.1650	0.1390
53	2002	PT Lautan Luas Tbk	0.5600	0.2000	0.0360	0.6300	0.0380	0.3140	0.0440	0.1680
54	2002	PT Lionmesh Prima Tbk	0.6800	0.1620	0.0250	0.3220	0.0660	0.3950	0.0130	-0.1190
55	2002	PT Hanjaya Mandala Sampurna	0.4700	0.1340	0.0490	0.4470	0.0460	0.1770	0.1800	0.0350
56	2002	PT Duta Pertiwi Nusantara	0.1300	0.4750	0.7090	0.8630	0.0460	0.1450	0.1020	-0.0460
57	2002	PT Dynaplast Tbk	0.3900	0.3870	0.0040	0.7100	0.0630	0.5550	0.1960	-0.0970

NO	YEAR	COMPANY NAME	DEBT	DIV	INSDR	INST	STKDSP	ASSET	PROF	GROW
58	2002	PT Fatrapolindo Nusa	0.2800	0.3550	0.3180	0.9480	0.2560	0.5330	0.2130	0.0390
59	2002	PT Selamat Sempurna Tbk	0.4000	0.8430	0.7190	0.6800	0.0310	0.4530	0.1390	0.0280
60	2002	PT Lion Metal Works Tbk	0.1300	0.8060	0.8010	0.7570	0.0530	0.1460	0.2080	0.0780
61	2003	PT Lionmesh Prima Tbk	0.6300	0.1400	0.0250	0.3220	0.0660	0.3700	0.0360	-0.0200
62	2003	PT Gudang Garam Tbk	0.3700	0.3140	0.0770	0.7210	0.0380	0.2840	0.1260	0.1150
63	2003	PT Lautan Luas Tbk	0.6700	0.2040	0.0360	0.6300	0.0380	0.3090	0.0440	0.3090
64	2003	PT Aneka Kimia Raya Tbk	0.3200	0.1930	0.0840	0.7330	0.3450	0.2740	0.0320	0.1180
65	2003	PT Cahaya Kalbar Tbk	0.7300	0.0020	0.0053	0.5010	0.0390	0.5400	0.0050	-0.0170
66	2003	PT Tunas Baru Lampung	0.5600	0.0030	0.0010	0.1820	0.0590	0.3290	0.1010	0.1190
67	2003	PT Hanjaya Mandala Sempurna	0.4300	0.3830	0.0190	0.4470	0.0460	0.2090	0.1630	0.0380
68	2003	PT Prima Alloy Steel Tbk	0.6900	0.0010	0.0059	0.3690	0.0530	0.2930	0.0750	0.1960
69	2003	PT Selamat Sempurna Tbk	0.2400	0.9490	0.8900	0.6800	0.0310	0.3970	0.1400	0.0800
70	2003	PT Lion Metal Works Tbk	0.1400	0.8730	0.3010	0.5770	0.0530	0.1280	0.1970	0.1010
71	2003	PT Kedaung Indah Can	0.8700	0.0020	0.0060	0.9270	0.0580	0.4490	-0.2150	-0.1340



### FIGURES III

#### NORMALITY TEST MODEL 1



## OUTPUT TSLS MODEL 2

Dependent Variable: DIV				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:18				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR INST STKDSP DEBT ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DEBT	-0.541570	0.160054	-3.383680	0.0012
INSDR	0.587701	0.082970	7.083287	0.0000
INST	-0.106238	0.119294	-0.890561	0.3765
STKDSP	-0.286906	0.374362	-0.766388	0.4463
PROF	0.213416	0.272373	0.783541	0.4362
GROW	0.087305	0.067826	1.287180	0.2027
C	0.505451	0.163680	3.088050	0.0030
R-squared	0.761503	Mean dependent var	0.357056	
Adjusted R-squared	0.739144	S.D. dependent var	0.308502	
S.E. of regression	0.157564	Sum squared resid	1.588897	
F-statistic	34.05788	Durbin-Watson stat	2.052075	
Prob(F-statistic)	0.000000			

Estimation Command:

```
=====
TSLS(Z,M=500,C=0.0001,DERIV=AA,-SHOWOPTS) DIV DEBT INSDR INST STKDSP
PROF GROW C @ INSDR INST STKDSP DEBT ASSET PROF GROW C
```

Estimation Equation:

```
=====
DIV = C(1)*DEBT + C(2)*INSDR + C(3)*INST + C(4)*STKDSP + C(5)*PROF + C(6)*GROW
+ C(7)
```

Substituted Coefficients:

```
=====
DIV = -0.5415704188*DEBT + 0.5877007627*INSDR - 0.1062383476*INST -
0.286906374*STKDSP + 0.2134156104*PROF + 0.08730463132*GROW + 0.5054510672
```

## FIGURES II

### OUTPUT TSLS MODEL 1

Dependent Variable: DEBT				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:46				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR INST DIV STKDSP ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DIV	-0.387843	0.081532	-4.756953	0.0000
INSDR	-0.033230	0.080283	-0.413915	0.6803
INST	-0.345332	0.072984	-4.731603	0.0000
STKDSP	-0.629932	0.284318	-2.215587	0.0302
ASSET	0.335393	0.091723	3.656597	0.0005
C	0.745220	0.053046	14.04845	0.0000
R-squared	0.719982	Mean dependent var	0.467042	
Adjusted R-squared	0.698443	S.D. dependent var	0.218680	
S.E. of regression	0.120087	Sum squared resid	0.937353	
F-statistic	33.42567	Durbin-Watson stat	1.912417	
Prob(F-statistic)	0.000000			

Estimation Command:

```
=====
TSLS(Z,M=500,C=0.0001,DERIV=AA,-SHOWOPTS) DEBT DIV INSDR INST STKDSP
ASSET C @ INSDR INST DIV STKDSP ASSET PROF GROW C
```

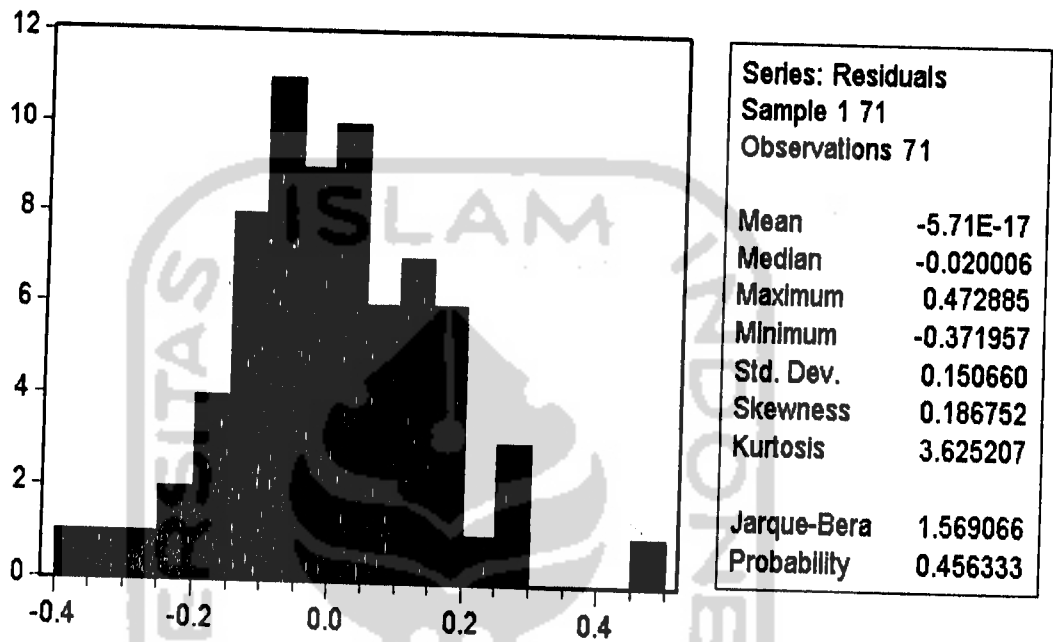
Estimation Equation:

```
=====
DEBT = C(1)*DIV + C(2)*INSDR + C(3)*INST + C(4)*STKDSP + C(5)*ASSET + C(6)
```

Substituted Coefficients:

```
=====
DEBT = -0.3878433715*DIV - 0.03323015635*INSDR - 0.3453323205*INST -
0.6299315325*STKDSP + 0.3353930176*ASSET + 0.745220166
```

## NORMALITY TEST OF MODEL 2





**FIGURES IV**

**MULTICOLINIERITY TEST OF MODEL 1  
VARIABLE DIV**

Dependent Variable: DIV				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 19:49				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR INST STKDSP ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.143910	0.078102	1.842580	0.0699
INSDR	0.769015	0.075699	10.15883	0.0000
INST	0.102450	0.109463	0.935934	0.3527
STKDSP	-0.058239	0.429185	-0.135697	0.8925
ASSET	-0.077972	0.138144	-0.564427	0.5744
R-squared	0.674372	Mean dependent var	0.357056	
Adjusted R-squared	0.654637	S.D. dependent var	0.308502	
S.E. of regression	0.181299	Sum squared resid	2.169375	
F-statistic	34.17132	Durbin-Watson stat	2.143879	
Prob(F-statistic)	0.000000			

**MULTICOLINIERITY TEST OF MODEL 1  
VARIABLE INSDR**

Dependent Variable: INSDR				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 19:51				
Sample: 1 71				
Included observations: 71				
Instrument list: INST STKDSP ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INST	0.192850	0.152452	1.264983	0.2103
DIV	0.673197	0.212845	3.162850	0.0024
STKDSP	-0.075118	0.446147	-0.168370	0.8668
ASSET	-0.107290	0.157258	-0.682254	0.4975
C	-0.079392	0.088574	-0.896335	0.3733
R-squared	0.664737	Mean dependent var	0.235641	
Adjusted R-squared	0.644418	S.D. dependent var	0.314239	
S.E. of regression	0.187383	Sum squared resid	2.317422	
F-statistic	10.87589	Durbin-Watson stat	2.061360	
Prob(F-statistic)	0.000001			

**MULTICOLINIERITY TEST OF MODEL 1  
VARIABLE INST**

Dependent Variable: INST				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 19:53				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR STKDSP ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INSDR	0.432134	0.328359	1.316041	0.1927
DIV	-0.216836	0.399612	-0.542616	0.5892
STKDSP	0.119075	0.502095	0.237157	0.8133
ASSET	0.056368	0.163784	0.344158	0.7318
C	0.537444	0.101862	5.276194	0.0000
R-squared	0.070796	Mean dependent var		0.586620
Adjusted R-squared	0.014481	S.D. dependent var		0.213629
S.E. of regression	0.212076	Sum squared resid		2.968436
F-statistic	2.582703	Durbin-Watson stat		2.192281
Prob(F-statistic)	0.045035			

**MULTICOLINIERITY TEST OF MODEL 1  
VARIABLE STKDSP**

Dependent Variable: STKDSP				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 19:56				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR INST DIV ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INST	0.008869	0.031579	0.280867	0.7797
INSDR	-0.003689	0.034754	-0.106150	0.9158
DIV	-0.004789	0.035293	-0.135697	0.8925
ASSET	0.056272	0.039101	1.439125	0.1548
C	0.036740	0.022516	1.631721	0.1075
R-squared	0.037146	Mean dependent var		0.057282
Adjusted R-squared	-0.021209	S.D. dependent var		0.051447
S.E. of regression	0.051990	Sum squared resid		0.178394
F-statistic	0.636547	Durbin-Watson stat		2.279045
Prob(F-statistic)	0.638245			

**MULTICOLINIERITY TEST OF MODEL 1  
VARIABLE ASSET**

Dependent Variable: ASSET				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 19:57				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR STKDSP INST DIV PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
STKDSP	0.540686	0.375704	1.439125	0.1548
INST	0.051103	0.097742	0.522832	0.6028
INSDR	-0.051622	0.107551	-0.479971	0.6328
DIV	-0.061609	0.109152	-0.564427	0.5744
C	0.291635	0.061474	4.744013	0.0000
R-squared	0.071293	Mean dependent var	0.318423	
Adjusted R-squared	0.015008	S.D. dependent var	0.162379	
S.E. of regression	0.161156	Sum squared resid	1.714099	
F-statistic	1.266641	Durbin-Watson stat	2.048268	
Prob(F-statistic)	0.292002			

**MULTICOLINIERITY OF MODEL 2  
VARIABLE DEBT**

Dependent Variable: DEBT				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:29				
Sample: 1 71				
Included observations: 71				
Instrument list: INSDR INST STKDSP ASSET GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INSDR	-0.168766	0.127896	-1.319558	0.1916
INST	-0.556806	0.159668	-3.487263	0.0009
STKDSP	0.169768	0.585516	0.289946	0.7728
PROF	-3.146816	1.439109	-2.186642	0.0324
GROW	0.049967	0.096583	0.517349	0.6067
C	1.246012	0.228139	5.461639	0.0000
R-squared	0.006959	Mean dependent var	0.467042	
Adjusted R-squared	-0.069428	S.D. dependent var	0.218680	
S.E. of regression	0.226144	Sum squared resid	3.324182	
F-statistic	8.274349	Durbin-Watson stat	1.724108	
Prob(F-statistic)	0.000004			

**MULTICOLINIERITY OF MODEL 2  
VARIABLE INSDR**

Dependent Variable: INSDR				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:31				
Sample: 1 71				
Included observations: 71				
Instrument list: DEBT INST STKDSP ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DEBT	-1.096395	0.196866	-5.569230	0.0000
INST	-0.088331	0.177999	-0.496241	0.6214
STKDSP	-0.683671	0.553184	-1.235884	0.2209
PROF	-0.679227	0.398369	-1.705021	0.0930
GROW	-0.110543	0.100464	-1.100317	0.2753
C	0.951466	0.214350	4.438846	0.0000
R-squared	0.478261	Mean dependent var	0.235641	
Adjusted R-squared	0.438127	S.D. dependent var	0.314239	
S.E. of regression	0.235548	Sum squared resid	3.606392	
F-statistic	11.91667	Durbin-Watson stat	1.785243	
Prob(F-statistic)	0.000000			

**MULTICOLINIERITY OF MODEL 2  
VARIABLE INST**

Dependent Variable: INST				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:31				
Sample: 1 71				
Included observations: 71				
Instrument list: DEBT INSDR STKDSP ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INSDR	-0.042729	0.086105	-0.496241	0.6214
DEBT	-0.785022	0.134955	-5.816905	0.0000
STKDSP	0.040068	0.389208	0.102946	0.9183
PROF	-0.975155	0.256069	-3.808168	0.0003
GROW	0.106680	0.069269	1.540081	0.1284
C	1.075633	0.105655	10.18057	0.0000
R-squared	0.453910	Mean dependent var	0.586620	
Adjusted R-squared	0.411903	S.D. dependent var	0.213629	
S.E. of regression	0.163826	Sum squared resid	1.744540	
F-statistic	10.80561	Durbin-Watson stat	2.172937	
Prob(F-statistic)	0.000000			

**MULTICOLINIERITY OF MODEL 2  
VARIABLE STKDSP**

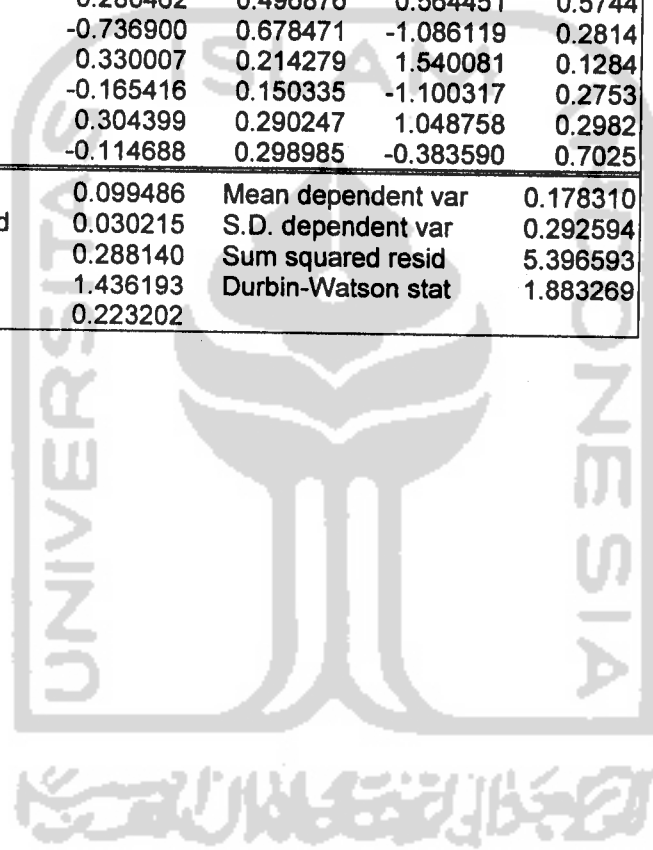
Dependent Variable: STKDSP				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:32				
Sample: 1 71				
Included observations: 71				
Instrument list: DEBT INST INSDR ASSET PROF GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INST	0.004069	0.039522	0.102946	0.9183
INSDR	-0.033582	0.027173	-1.235884	0.2209
DEBT	-0.035257	0.052849	-0.667124	0.5071
PROF	0.023470	0.090197	0.260204	0.7955
GROW	-0.024189	0.022271	-1.086119	0.2814
C	0.080372	0.053307	1.507723	0.1365
R-squared	0.043879	Mean dependent var	0.057282	
Adjusted R-squared	-0.029669	S.D. dependent var	0.051447	
S.E. of regression	0.052205	Sum squared resid	0.177147	
F-statistic	0.596599	Durbin-Watson stat	2.084413	
Prob(F-statistic)	0.702602			

**MULTICOLINIERITY OF MODEL 2  
VARIABLE PROF**

Dependent Variable: PROF				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:33				
Sample: 1 71				
Included observations: 71				
Instrument list: DEBT INST INSDR STKDSP ASSET GROW C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
STKDSP	0.044336	0.170390	0.260204	0.7955
INST	-0.187059	0.049121	-3.808168	0.0003
INSDR	-0.063027	0.036966	-1.705021	0.0930
DEBT	-0.344399	0.059056	-5.831729	0.0000
GROW	0.017392	0.030812	0.564451	0.5744
C	0.416821	0.053693	7.763088	0.0000
R-squared	0.375884	Mean dependent var	0.137028	
Adjusted R-squared	0.327875	S.D. dependent var	0.087521	
S.E. of regression	0.071752	Sum squared resid	0.334647	
F-statistic	7.829467	Durbin-Watson stat	1.731383	
Prob(F-statistic)	0.000008			

**MULTICOLINIERITY OF MODEL 2  
VARIABLE GROW**

Dependent Variable: GROW				
Method: Two-Stage Least Squares				
Date: 01/22/06 Time: 20:34				
Sample: 1 71				
Included observations: 71				
Instrument list: DEBT INST INSDR STKDSP ASSET PROF C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PROF	0.280462	0.496876	0.564451	0.5744
STKDSP	-0.736900	0.678471	-1.086119	0.2814
INST	0.330007	0.214279	1.540081	0.1284
INSDR	-0.165416	0.150335	-1.100317	0.2753
DEBT	0.304399	0.290247	1.048758	0.2982
C	-0.114688	0.298985	-0.383590	0.7025
R-squared	0.099486	Mean dependent var	0.178310	
Adjusted R-squared	0.030215	S.D. dependent var	0.292594	
S.E. of regression	0.288140	Sum squared resid	5.396593	
F-statistic	1.436193	Durbin-Watson stat	1.883269	
Prob(F-statistic)	0.223202			



**FIGURES V**

**HETEROSKEDASTISITY TEST OF MODEL 1**

White Heteroskedasticity Test:				
F-statistic	1.023266	Probability	0.435254	
Obs*R-squared	10.34446	Probability	0.410810	
Test Equation:				
Dependent Variable: RESID^2				
Method: Least Squares				
Date: 01/22/06 Time: 20:52				
Sample: 1 71				
Included observations: 71				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000194	0.025271	0.007661	0.9939
DIV	-0.056801	0.033738	-1.683595	0.0975
DIV^2	0.016762	0.032386	0.517572	0.6067
INSDR	0.054710	0.056156	0.974243	0.3338
INSDR^2	-0.033267	0.061951	-0.536984	0.5933
INST	0.005251	0.066491	0.078980	0.9373
INST^2	0.008062	0.055880	0.144275	0.8858
STKDSP	0.053338	0.237174	0.224889	0.8228
STKDSP^2	-0.337864	0.702013	-0.481279	0.6321
ASSET	0.098577	0.073607	1.339235	0.1855
ASSET^2	-0.132650	0.099564	-1.332308	0.1878
R-squared	0.145697	Mean dependent var	0.013202	
Adjusted R-squared	0.003313	S.D. dependent var	0.022203	
S.E. of regression	0.022166	Akaike info criterion	-4.638984	
Sum squared resid	0.029480	Schwarz criterion	-4.288428	
Log likelihood	175.6839	F-statistic	1.023266	
Durbin-Watson stat	1.749486	Prob(F-statistic)	0.435254	

## HETEROSKEDASTICITY TEST OF MODEL 2

White Heteroskedasticity Test:				
F-statistic	0.958910	Probability	0.497376	
Obs*R-squared	11.75410	Probability	0.465625	
Test Equation:				
Dependent Variable: RESID^2				
Method: Least Squares				
Date: 01/22/06 Time: 20:20				
Sample: 1 71				
Included observations: 71				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.103032	0.054284	1.897999	0.0627
DEBT	-0.123388	0.124085	-0.994388	0.3242
DEBT^2	0.031914	0.118593	0.269104	0.7888
INSDR	0.015147	0.090261	0.167816	0.8673
INSDR^2	-0.025110	0.100065	-0.250939	0.8027
INST	-0.098342	0.113564	-0.865962	0.3901
INST^2	0.052708	0.094542	0.557508	0.5793
STKDSP	0.349358	0.441924	0.790540	0.4324
STKDSP^2	-1.276088	1.316660	-0.969186	0.3365
PROF	-0.060204	0.106558	-0.564988	0.5743
PROF^2	-0.147578	0.361525	-0.408210	0.6846
GROW	0.038112	0.041636	0.915369	0.3638
GROW^2	-0.010302	0.036434	-0.282760	0.7784
R-squared	0.165551	Mean dependent var	0.022379	
Adjusted R-squared	-0.007094	S.D. dependent var	0.036517	
S.E. of regression	0.036647	Akaike info criterion	-3.611029	
Sum squared resid	0.077893	Schwarz criterion	-3.196736	
Log likelihood	141.1915	F-statistic	0.958910	
Durbin-Watson stat	2.058332	Prob(F-statistic)	0.497376	