INVESTMENT OPPORTUNITY SET AND FIRM VALUE: THE ROLES OF FIRM POLICIES IN INDONESIAN FIRMS

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Abstract: *This paper attempts to synthesize the linkages between investment opportunity set (IOS), firm value, managerial ownership and firm policies in Indonesia. As a measure of growth, IOS is hypothesized to have a positive relationship with firm value. However, we argue that the linkage may not be direct, for there is a role played by firm policies on dividend and capital structure. The relationship between IOS and firm value could be mediated by firm policies, as determined by the agents of the firm, namely the managers. However, Indonesia is a unique developing market characterized by high ownership concentration and low level of managerial ownership. This could therefore moderate the link between firm growth rate and firm policies on dividend and capital structure. Based on the theories and previous studies, this paper puts forward some propositions.*

Keywords: *investment opportunity set, firm value, firm policy*

INTRODUCTION

The primary goal of a firm is shareholder wealth maximization, which translates into maximizing the market value of the firm's stock. The market value of the firm comprises of the value of assets in place and the present value of growth opportunities. The present value of growth opportunities reflects the value of future investment which are expected to yield rates of return in excess of opportunity cost of capital. Firm value may also depend on how the firm finances its capital, and what percentage of current earning is retained and reinvested rather than paid out as dividend. Each of the firm's investment and financing decision is likely to affect the level, timing, and risk of the firm cash flows, and ultimately the price of its stock.

Growth opportunities of a firm depend on the firm's opportunity to invest. When there are good investment opportunities, firm growth prospect increases. Previous studies have shown that investment opportunity sets play an important role in corporate financing. The mix of assets in place and investment opportunities affects a firm's capital structure (Smith & Watts, 1992; Gaver & Gaver, 1993; Gul, 1999), the maturity and covenant structure of its debt contracts (Skinner, 1993), a firm's dividend policy (Smith & Watts, 1992; Gaver & Gaver, 1993; Gul, 1999), its compensation contracts (Smith & Watts, 1992; Gaver & Gaver, 1993), and its accounting policies.

Therefore, having growth opportunities may not guarantee a positive impact on value if the firm policies are not geared towards achieving the objective of shareholder wealth maximization. Firm policies on capital structure and dividend are determined by the managers. As agents, they are expected to act according to the shareholders' or principals' interests. Many

studies, however, argue that this may not be the case. Conflict of interests between the agents and the principals may occur, and create what is called the agency problem. This problem has its costs, and the costs would ultimately reduce the firm value.

One way of reducing the conflict is by increasing managerial ownership in the firm. This means that if managers have stock in the firm, they are less likely to take actions that are not in the interest of shareholders. (Jensen and Meckling, 1976; Singh and Harianto, 1989, Aggarwal and Samwick, 1999; Hermalin and Weisbach, 1991; Morck et al., 1988). This aspect is important where the firm is faced with higher levels of uncertainty such as firm with high investment opportunities.

The accounting literature has given more attention in recent years to test the relationship between investment opportunity set (IOS), and corporate policy choices, including financing, dividend and compensation policies (Smith & Watts, 1992; Gaver & Gaver, 1993; Skinner, 1993; Gul, 1999). The test, however, has not been sufficiently investigated in emerging market, particularly in Indonesia. A study on this market is particularly worthwhile due to the fact that it is a unique developing country characterized by high ownership concentration, low levels of managerial ownership and insufficient legal framework for investor protection (Setiawan, 2004). We are particularly interested to know how managerial ownership in Indonesia moderate the relationship between IOS and firm policy, and how firm policies on capital structure and dividend in turn mediates the relationship between IOS and firm value.

DISCUSSIONS

Investment Opportunity Set and Firm Growth

Myers (2001) introduced the term 'investment opportunity set" (IOS) to refer to the extent to which a firm value depends on future discretionary expenditures. The market value of a firm is comprised of the value of assets in place and the present value of growth opportunities. The present value of growth opportunities reflects the value of future investment which is expected to yield rates of return in excess of opportunity cost of capital. Because the firm's investment opportunity set consists of projects which allow the firm to grow, it can be thought of as the growth prospect of the firm. Previous studies have noted that IOS is an indicator of firm growth (Smith & Watts, 1992: Gaver & Gaver, 1993: Kallapur & Trombley, 1999), so they classified the firm into growth firm and non-growth firm using some proxies of IOS. Essentially, these proxies are financial ratios categorized as price-based, investment-based and variance-based ratios.

Growth Opportunity and Firm Value

The difference of stock price between growth firms and non-growth firms are due to the believe that earning and future cash flows of growth firms are higher than non- growth firms. From an investor's point of view, firm growth is a signal that the firm has profitable prospects, and they hope, returns on their investments are higher. As a result, growth has a positive relationship with stock price.

The relationship between growth opportunities and firm value receive little attention in previous empirical studies. However there is a sound theoretical basis for hypothesizing that growth opportunities are related to firm value. The asymmetric information model of Ambarish, John, and William (1987) and free

cash flow theory of Jensen (1986) provide the foundation that there is a relationship between growth opportunities and firm value. Both predict that the stock price response to new financing depends on the growth prospect. For growth (non-growth) firms, that is, firms having many (limited) growth opportunities, a positive (negative) price response is predicted.

In an efficient market, stock prices reflect the full information in stock market. Thus, market ought to react differently between growth firms and non-growth firms about information. Miller and Rock (1985) present a model in which managers are aware of a deviation of current period earning from expected value, but investors do not have this information. Since the firm's sources and uses of fund must be equal, investors are able to deduce the amount of deviation of earning from the expected value by observing the firm's financing and dividend decisions. The market interprets an expected change in the net dividend (dividend minus financing) as a signal of change in earning. This change is expected to persist and affect future earning as well. Thus, an expected increase (decrease) in financing is accompanied by a proportional decrease (increase) in stock price.

Ambarish, John, and William (1987) generalize Miller and Rock (1985) by constructing a model such that financing and dividend convey information about the value of asset in place and/or the value of growth opportunities. Ambarish, et al. (1985) show that the stock price responses to new financing depend on the relative contribution of asset in place and growth opportunity to information asymmetry. For non-growth firm, a firm for which the predominance of information is assets in place, the announcement effect is negative. For a growth firm, that is, a firm for which the predominant source of information is growth opportunities, the announcement effect is positive.

Jensen (1986) hypothesizes that free cash flow, that is, cash flow in excess of that required to fund all positive net present value project, is likely to be wasted on organizational inefficiencies or invested in negative net present value project. This theory of free cash flow suggests a role for growth opportunities in the determination of the stock price response to a new financing. When a firm announces its intention to raise additional fund, the market assesses the firm's ability to make profit out of invested fund.

The Ownership Structure, Dividend, and Capital Structure in Agency Theory

Agency theory derives from the conflict of interest between corporate managers, outside stockholders, and bondholders. Managers choose their stock ownership in the firm, the firm's mixture of outside debt and equity financing, and dividend to reduce the cost of this agency conflicts. Agency cost can arise either from conflict between firm shareholders and its managers or between firm shareholders and its bondholders. The former arises because managers only bear a fraction of the cost of perks that they may consume but enjoy their full benefit. Therefore managers have a tendency to over-consume on such items. This arises because debt financing gives shareholders an incentive to substitute low risk projects with project bearing more risk (Jensen and Meckling, 1976) or to reject project that have a positive net present value when the related benefit accrue to the bondholder (Myers, 2001). Because the principal's and agent's goal may not coincide, the former may make expenditure to restrict an agent's activity. In addition, the agent may enter into arrangement that constrain, or bond, activities which the principal may see as diverging from his or her interest. Nonetheless, despite bonding and monitoring, discrepancy between the agent's action and the principal's interests may remain and Jensen & Meckling term this the residual loss. Together the monitoring and bonding costs and residual loss comprise agency costs.

There are several ways to reduce agency costs. The first way is for managers to increase their common stock ownership in the firm, better aligning their interests with stockholder's interests (Jensen and Meckling,). However, as managers increase their ownership in the firm, their personal wealth becomes less diversified. Thus, using increased managerial stock ownership to control agency costs is not costless. As managers' wealth becomes more poorly diversified, they will require increasing amounts of compensation.

A second way is to increase dividend payout, so there is not enough free cash flow to finance their investment and then, managers try to get fund from outside. (Rozeff, 1982). Paying larger dividends increase the chance that external equity capital will have to be raised. When new equity is raised, managers are monitored by exchanges, the Securities and Exchange Commission, Investment bankers, and providers of new capital.

The third way is to use more debt financing (Jensen and Meckling, 1976). Using more debt reduces total equity financing, reducing in turn the scope of the manager-stockholder conflict. Debt financing reduce excess cash flow in the firm and so reduce extravagance done by the managers (Jensen, et al, 1992; Jensen, 1996).

The fourth way is by having institutional investors as agents monitoring. Moh'd et al (1998) argued that share distribution between outside stockholders (institutional investors) and shareholder dispersion can reduce agency problems.

Policies of dividend and capital structure can also be examined by the characteristics of company. The company's characteristic could be: (1) the growth rate, and (2) Diversity of share ownership.

A few previous studies in Indonesia has indicated that debt to equity had a correlation with ownership structure and moral hazard problems (Kwik, 1994, 1996). On the other hand, Setiawan (2004) found that there is no correlation between managerial ownership and debt equity choice in Indonesia. He found that low managerial ownership made managers less able to pursue their own agendas of self gain or managerial utility maximization. In other words, low managerial ownership make managers powerless in setting firm policy.

Problem Statement

Previous studies have examined the relationship between IOS and firm policy, and there is a different result between these studies (Smith & Watts, 1992; Gaver & Gaver, 1993; Skinner, 1993: Cahan & Hossain, 1996; Kalapur & Trombley, 1999; Gul, 1999). Other researchers examined the relationship between firm growth and firm value (see for example, Ambarish et.al., 1986). They suggested that firm value is affected by firm growth through firm policy. Their study did not use IOS as indicator of growth firm. Lastly, there are also researchers who examined the relationship between managerial ownership and firm policy (Jensen & Meckling, 1976; Jensen, 1986; Kim & Sorensen, 1986; Agrawal & Mendelker, 1987; Jensen et.al., 1992; Mehran, 1992). The findings of these studies are mixed.

To date, there has been no study examining the relationship between IOS and firm value through firm policy in Indonesia. There has also been a dearth in the study on the moderating influence of managerial ownership on growth opportunity and firm policy. With its unique characteristics of high ownership concentration, low levels of managerial ownership and insufficient legal framework for investor protection, this study therefore tries to examine the effect of firm policy as mediating variable affecting the relationship between growth opportunity and stock price and how managerial ownership can moderate the rela-

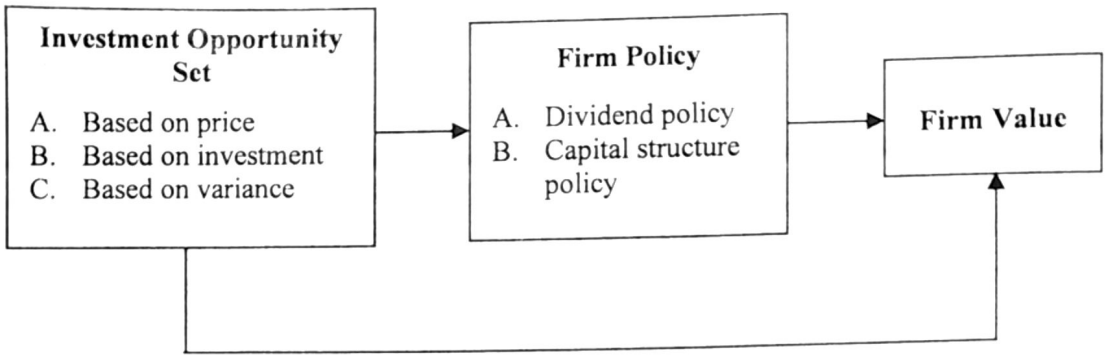

Figure 1. Theoretical Framework on the Linkages between Investment Opportunity Set, Managerial Ownership, Firm Policies, and Firm Value

tionship between IOS and firm policy in Indonesia.

Theoretical Framework

Based on the discussion above, a theoretical framework to describe the linkages of investment opportunity set, managerial ownership, firm policies and firm value is shown in *Figure 1*.

CONCLUSIONS

Based on the above review and the theoretical framework, the following propositions are put forward to test the relationship between variables.

1. Investment Opportunity Set and Firm Value

The difference in stock price between growth firms and non-growth firms is in line with the basic principles of stock price setting that stock price is made from present value of future earning and future cash flow. The growth firm as measures by its investment opportunity set, have higher future earning and future cash flow than non growth firm. The reasoning leads to the following proposition.

Proposition 1: The higher the firm growth, the higher will be the firm value.

Investment Opportunity Set and Dividend Policy

Free cash flow is cash generated by operation that is not needed to fund positive net present value projects. Thus the existence of the free cash flow problem indicates a poor IOS. There is a negative relationship between free cash flows and IOS. Greater IOS means that the firm has more positive net present value projects available. Cash flows generated by operations are needed to fund these projects, and managers are less likely to use cash in sub-optimal ways. The agency cost problems is not as serious if IOS is higher, reducing the need to use mechanisms such as debt or dividend to impose discipline on manager's use of cash. More growth opportunities for firms result in lower free cash flow and dividend payment. Therefore, higher growth firm are expected to pay less dividend. This leads to the next proposition.

Proposition 2: The higher the firm growth, the lower will the dividend payout ratio be.

2. Investment Opportunity Set and Capital Structure Policy

Under-investment problem arises because, with risky debt outstanding, manager may, while acting in the stockholder best interest, not invest in positive net present value investments because the payoffs go to the debt holders as all the proceeds will be used to repay the debt.

Since debt requires consistent cash outflows and the reward from growth options are often not realized until after the debt mature, growth firm will tend to issue less debt (Gaver and Gaver, 1993; Smith and Watts,1992).

Non-growth firms with higher asset in place will issue debt to finance investment opportunity because they have the assets in place to support such issuance. In contrast, growth firm with lower assets in place, may avoid the possibility of payoffs to debtholders, so they finance investment projects with equity. Therefore, growth firms will have lower financing leverage than non-growth firms.

Proposition 3: The higher the firm growth, the lower will the debt-to-asset ratio be.

3. *Investment Opportunity Set, Dividend Policy and Firm Value*

The principals and management of the firm are interested in growth opportunities of the firm. From the investors' point of view, firm growth is a signal that the firm have profitable prospect and they hope return on their investment are higher. As a result, firm growth has a positive relationship with stock price. Management have information about growth opportunities, but investors do not. It is a bad signal for investors if a profitable firm increases dividend, because it may indicate that the firm has reduced the plan to invest (Hartono, 1999). Stock price will respond to this signal negatively. This reasoning leads to the following proposition.

Proposition 4: The higher the growth, the less the dividend payout ratio tends to increase firm value.

4. *Investment Opportunity Set, Capital Structure, and Firm Value*

The stock price is affected by firm policy which in turn, also depends on growth opportunities (Ambarish, et al., 1987). They noted that for non-growth firms, the stock price responds negatively if firms have more equity in their capital structure. For growth firms, the stock price response positively if they have more equity in their capital structure. This argument was supported by Jensen (1986). Free cash flow theory of Jensen noted a role for growth opportunity in the determination of stock price response to new financing. They found that for firms with profitable growth opportunities, the price change is likely to be positive because a new fund enables the firms to acquire positive net present value. Hence,

Proposition 5: The higher the growth, the less debt-to-asset ratio tends to increase firm value.

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