GROWTH AND MATURITY HYPOTHESES ON DIVIDEND POLICY: INDONESIAN PERSPECTIVE

Fitri Ismiyanti
Department of Management, Faculty of Economics and Business, Airlangga University,
email: fitri.ismiyanti@feb.unair.ac.id

Abstract

This research is aimed at testing the increase and decrease in dividends in relation to market reaction intertwined with the profitability of the firm. The main contribution of this study is the separation of the market reaction based on the firm's lifecycle. The differentiation of the firm's lifecycle purports to analysis whether there is distinguished influence between the increase (decrease) in dividends on firms at growth stage and that on firms at maturity stage. Data used are manufacturing firms listed on the Indonesia Stock Exchange for the period of 1994-2008.

Keywords: dividend, profitability, growth stage, maturity stage

Abstrak

Penelitian ini bertujuan untuk menguji peningkatan dan penurunan dividen dalam kaitannya dengan reaksi pasar terkait dengan profitabilitas perusahaan. Kontribusi utama dari penelitian ini adalah pada pemisahan reaksi pasar berdasarkan siklus hidup perusahaan. Siklus hidup perusahaan dalam penelitian ini dimaksudkan untuk menganalisa apakah ada perbedaan pengaruh kenaikan (penurunan) dividen pada tahap pertumbuhan dan tahap kedewasaan. Data yang digunakan dalam penelitian ini adalah perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia untuk periode 1994 – 2008.

Kata kunci: dividend, profitability, growth stage, maturity stage

JEL Classification: G3, G30, G35

1. Research Background

Does the change in dividends contain information? Theoretical models developed by Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985) find that dividend policy contains information on future cash flows of the firm. An increase in dividends delivers good news whilst the decrease in dividends conveys bad news. The models also predict that there is a positive relationship between the change in dividends and price reaction to the change in dividends. Empirical research conducted by Asquith and Mullins (1983), Brickley (1983), and Healy and Palepu (1988) strengthen positive relationship between the change in dividends and price reaction to the change in dividends. However, the finding is contradictory with the irrelevant dividend model of Miller and Modigliani (1961).

Miller and Modigliani (1961) argue that the higher the dividend payout ratio, the lower the retained earnings and capital gains, and vice versa. Accordingly, the total wealth of stockholders does not change. According to Miller and Modigliani (1961), the value of the firm hinges on future cash flow distribution yielded by the firm's investment.An increase or decrease in dividends can be interpreted by investors as either positive or negative news on the firm, reflected by stock price reaction, since the information content of dividends is differently interpreted by investors. This study argues that smart investors will be able to interpret the information correctly.

Several conditions are required by investors to interpret the information content of dividends. Grullon, Michaely, and Swaminathan (2002) develop the condition using the

maturity hypothesis. The firm experiencing maturity phase has smaller investment opportunity so as to lower reinvestment rate, return on investment (ROI), growth rate, and risk. The decline in investment rate will render the firm excessive in cash flows, which are subsequently distributed as dividend payments. Firms facing maturity stage tend to increase their dividend payments.

Concerning the increase is in dividends at the maturity stage, market reaction will be positive according to the maturity hypothesis argument. On the contrary, if firmat the maturity stage decreases dividends, market will react negatively. If the reactions fit with the prediction of maturity hypothesis, the market is considered a smart market.This research discusses the maturity condition of Indonesian firms to examine signals brought about by the increase in dividends and to test Indonesian capital market from the perspective of the signal interpretation. Besides, this research proposes new condition through growth hypothesis argument. The firm at the growth phase will have reverse pattern from the firm facing maturity stage. The firmat the growth stage is henceforth called “growing firm”.

This study argues that a growing firm will have high reinvestment rate, ROI, growth, and risk. If the growing firm increases dividends, market will react either negatively or positively, but the reaction is not stronger than that of mature firm, since the market knows that the dividend payments are highly likely caused by high risk of the firm such that the firm compensates investors for the risk through dividend increase. Subsequent contradiction is that the increase in dividends will enhance stockholder’s wealth directly. This contradiction is matched with contra-argument that the effect of an increase in stockholder’s wealth on account of dividend increase will be lesser since it is followed by the firm losing internal financing source which is cheaper to finance its growth.

If positive reaction prevails when the growing firm increases dividend payments, the market considers the increase in dividends to be a signal of firm’s profitability in the future without considering the increase in risk. In fact, profitability improvement of a growing firm is sometimes not worthwhile if the risk increase is taken into account. The market, assuming that the increase in dividends will provide information content of excessive cash flows of the firm, will react positively to the increase in dividends (Jensen, 1986). However, the argument does not consider the growing firm’s condition. The growing firm highly requires cash flows to realize its investment opportunity.

Why does market react positively to the cash dividend payment? First, it is possible that the market has yet to realize that there are maturity and growth stages such that the reaction is inclined to be positive. In contrast, the market will react negatively to the decrease in dividends. Another condition possibly not known by stockholders is the change in profitability corresponding with the change in dividends.One of the implications of the model is that the change in dividends will be followed by the change in the firm’s profitability (earnings growth rate or return on assets) with the same direction of change. Benartzi, Michaely, and Thaler (1997) test the model of Bhattacharya (1979) and find that increased dividend payments are not followed by the increase in earnings growth. On the other hand, firms that decrease dividend payments experience earnings increase two years after the decline in dividends.

This finding contradicts the signaling model of dividend that argues the change in dividends is a positive signal of the firm’s profitability. Firms increasing dividend payments are inclined to experience an increase in profitability. This argument will be slightly different if related to the conditions of maturity and growth. When the firm at the maturity stage increases dividends triggered by the increase in profitability, the positive reaction of market will be stronger than that of a growing firm. Figure 1 depicts the pre-condition, condition, and market reaction.

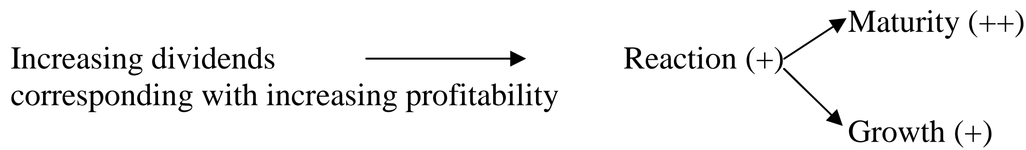


Figure 1. The Condition of Increasing Dividends corresponding with an Increase in Profitability, Market Reaction, and the Difference in Reaction between Maturity Condition and Growth Condition

This research argues that firms at the maturity stage will distribute dividends because they have high profitability. The increase in dividends will encourage the firms to maintain or even enhance profitability for maintaining positive market reaction. If the increase in dividends is negatively reacted, then the firms' worry is that they have shifted to the decline phase. The market perceives that those firms will face tough time, indicated by deteriorating profitability, for instance. A mature firm that increases dividends corresponding with increasing profitability will experience positive reaction stronger than will a growing firm in the same pre-condition. The market considers that the increase in dividends is a positive signal that will be followed by increased profitability.

Subsequent condition that will be tested is the pre-condition of decreasing dividends corresponding with increasing profitability in the condition of mature firm and growing firm. Signaling theory argues that a decrease in dividends will be negatively reacted by market as the market perceives that the firm is experiencing financial problem, such as lack of cash. This condition then leads to the firm's decreasing value.

The prevalence of pre-condition of decreasing dividends corresponding with an increase in profitability causes different market reaction. This study argues that if the pre-condition of decreasing of dividends corresponding with increasing profitability exists, the market will react positively as the market has additional information on profitability that will be good news. The firm's profitability basically indicates its capability of increasing stockholder's wealth through increasing earnings. This argument leads to the market reacting positively to the decrease in dividends corresponding with increasing profitability.

The next condition is mature firm and growing firm. If the pre-condition of decreasing dividends corresponding with increasing profitability prevails, the positive reaction of market will be stronger for growing firms than for mature firms. Mature firms generally have stable profitability due to stable investment. However, if their profitability increases, it will provide the market with additional information. This new information will eliminate negative news on decreasing dividends since the decrease is deemed to be beneficial as it will be harnessed to invest in profitable investment in the future.Stronger positive reaction for growing firms are due to the perception of market that decreasing dividends corresponding with increasing profitability indicates that the firms have invested in assets that will contribute to the enhancement of stockholder's wealth in the future. Figure 2shows the pre-condition, condition, and market reaction.

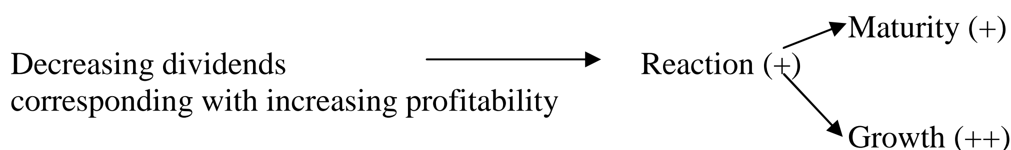


Figure 2. The Condition of Decreasing Dividends Corresponding with Increasing Profitability, Market Reaction, and the Difference in Reaction between Maturity Condition and Growth Condition

This study then examines market reaction in the pre-condition of increasing dividends corresponding with decreasing profitability, and the condition of mature firm and growing firm. Figure 3 explains the pre-condition, condition, and market reaction.

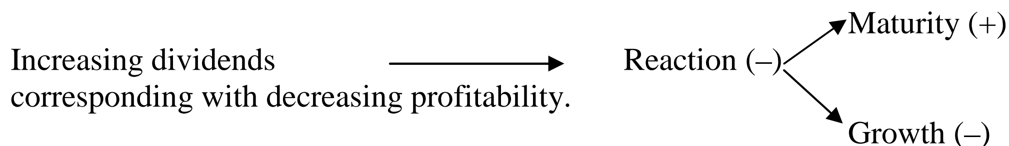


Figure 3. The Condition of Increasing Dividends Corresponding with Decreasing Profitability, Market Reaction, and the Difference in Reaction between Maturity Condition and Growth Condition.

The pre-condition of increasing dividends corresponding with decreasing profitability will be negatively reacted by the market as there is an indication that the increase in dividends cannot be maintained in the future owing to the decreasing profitability which in turn causes decreasing stockholder's wealth. However, this research argues differently if the conditions of mature firm and growing firm are included and explained in the model.An increase in dividends corresponding with decreasing profitability will be positively reacted for mature firms as the market perceives that the increase is normal for firms at the maturity stage. Mature firms usually have low investment rate and growth so that the increase in dividends indicates that the firms distribute excessive cash for the sake of the stockholder's interest as the investment rate is low.

Increasing dividends corresponding with decreasing profitability will be negatively reacted for growing firms as the market assumes that the firms are incapable of managing available investments such that the profitability declines. The increase in dividends impoverishes this situation. Although the increase in dividends generally enhances stockholder's wealth, it does not send signal that the firm will have sufficient cash in the future to maintain current level of dividend payment. The pre-condition of decreasing dividends corresponding with decreasing profitability will also be negatively reacted by the market. Generally, firms with decreasing dividends and deteriorating profitability are perceived by the market as firms that have low performance as well as low capability of improving stockholder's wealth. Figure 4explains the argument for the aforementioned pre-condition and condition.

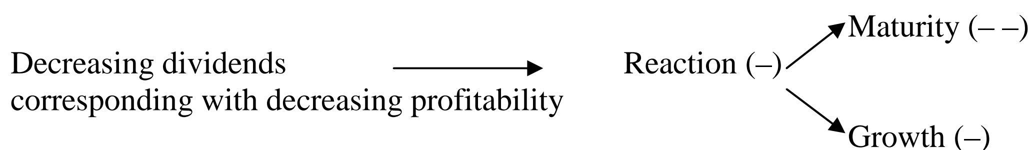


Figure 4. The Condition of Decreasing Dividends Corresponding with Decreasing Profitability, Market Reaction, and the Difference in Reaction between Maturity Condition and Growth Condition.

Mature firms that decrease dividends corresponding with decreasing profitability will get stronger negative reaction than will growthfirms. The market perceives that the growing firms are entering decline phase. Low cash flows lead to low dividend payment and low profitability such that these firms are deemed by stockholders to be firms unable to increase their wealth.Meanwhile, for growth firms, the decrease in dividends corresponding with decreasing profitability will be negatively reacted but at lesser extent compared to that for

mature firms. The market expects that these firms have good prospect in the future and will provide stockholders with returns if well managed.

This study mainly purports to explain the existence of information content of a change in dividends intertwined with the firm's lifecycle. This research also tries to link the change in dividend policy with the change in the firm's lifecycle. This study has several objectives:

a. Analyze market reaction to the increase (decrease) of dividends.
b. To analyze the market reaction to the increase (decrease) in dividends in the condition of mature firms.
c. To analyze the market reaction to the increase (decrease) in dividends in the condition of growing firms.
d. To analyze the market reaction (positive) to the increase in dividends corresponding with increasing profitability.
e. To analyze the market reaction (positive) to the decrease in dividends corresponding with increasing profitability.
f. To analyze the market reaction (negative) to the increase in dividends corresponding with decreasing profitability.
g. To analyze the market reaction (negative) to the decrease in dividends corresponding with decreasing profitability.

The coverage of this study is the difference in market reaction explained and developed from the pre-condition of dividends and profitability, and the condition of mature firm and growing firm. This research does not examine dividend omission and initiation dividends. This study also limits the research objects, focusing on Indonesian firms listed on the Jakarta Stock Exchange. Moreover, the development of pre-condition is only for dividends corresponding with profitability.

2. Literature Review

2.1. Dividend Policy: Signaling Theory Approach

Perfect capital market does not prevail in the real world due to its assumption of tax-free world. Tax-free assumption is used to generalize real condition into financial and corporate theories. The important cause of this market imperfection can be also explained by information structure. The difference in information structure amongst stakeholders in the firm renders information asymmetric. Insidershave better information on the firm's cash flowsin the future. Most researchers find that dividends contain information on the firm's prospect (John and William, 1985; Bhattacharya, 1979; and Miller and Rock, 1985).

Dividend announcement has information on current earnings and even on future earnings. If the amount of investment is known, and dividends are residuals, then higher dividend paymentindicates the firm's high earnings. Dividends used are net dividends. Net dividends are dividends plus stock repurchases subtracted by equity. If market does not know the firm's prospect, higher dividend payment will be followed by an increase in stock price. The interpretation of dividend announcement has appeared since Miller and Modigliani (1961) and was then developed by Miller and Rock (1985).

Signaling model has been developing in the end of 1970sand the early 1980s. Empirical research supporting this signaling model that of Bhattacharya (1979), Miller and Rock (1985), and John and William (1985). The basic idea of this model is that the firm adjusts dividends to give a signal of the firm's prospect. The dividend payment can be utilized as a signal that the firm has performed well whereas the decrease in dividends shows bad performance of the firm. This argument can explain why the firm pays dividends adjusted to earnings.

2.2. Lifecycle of the Firm

This research adopts firm's lifecycle. Firm's lifecycle is stages of sales growth of the firm. The sales growth stages begin from introduction to growth, maturity,and decline. The firm's lifecycle is related to the change in sales growth, leading to the firm shifting from one stage to another. The first stage of sales growth is introduction stage. At this stage, firms try to build customer confidence in their products and strive for introducing new products to the market such that firms at this stage tend to have low return on investment, small reinvestment rate, and high risk.

The second stage of sales growth is growth stage. At this stage, products have been better known and got positive response from the market. Firms also have high growth rate, indicated by high reinvestment rate,high return on investment, but also high risk.Subsequently, the third stage of sales growth is maturity stage. At this stage, firms reach their peak such that profits are high but the firms are experiencing decreases in reinvestment rate, return on investment, growth rate, and risk. Firms at this stage again try to introduce new products. This policy purports to prevent customers from boredom and to maintain customer loyalty.The next stage of sales growth is decline stage. At this stage, the products of firms begin to be left by customers such that the growth rate reaches zero. Reinvestment rate and profits also decrease; the firms sometimes experience loss.

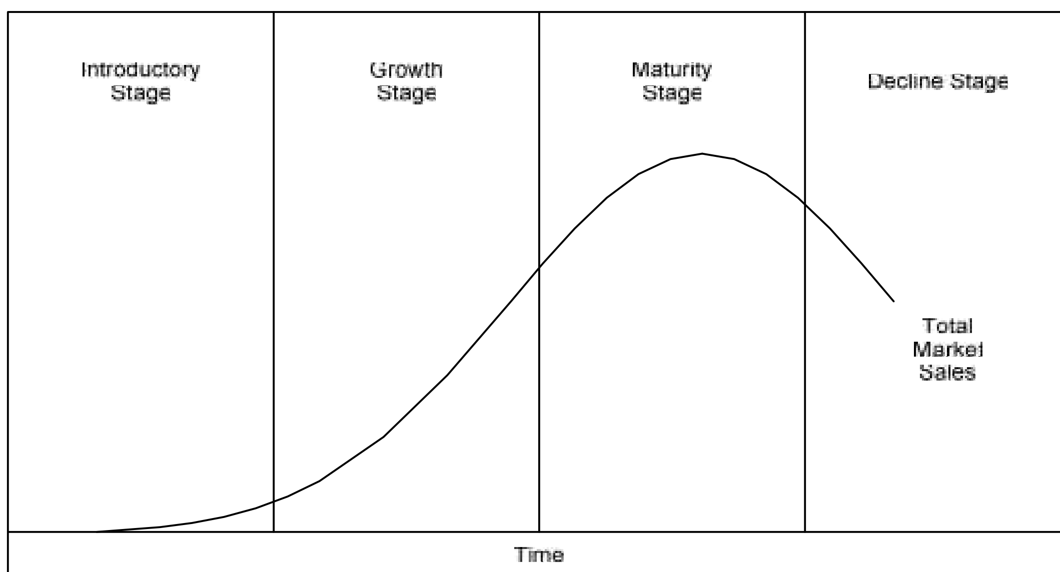


Figure 5. Lifecycle of The firm consisting of: Introduction, Growth, Maturity, and Decline Stages.

2.3. Dividend-Change Hypothesis

Bhattacharya (1979) finds positive market reaction to the increase in dividends and negative market reaction to the decrease in dividends. The firm is inclined to increase dividends when it estimates high profitability and cash flows in the future, and it tends to decrease dividends if management certain that there is no sufficient cash flowsto support dividend payment. The change in dividend payment contains information enabling investors to revise their prediction of the firm's prospect and consequently have to adjust the stock price when the change in dividends is announced.

Around the announcement date, the increase (decrease) in dividends generally yields positive (negative) abnormal returnsto investors. There are three explanations concerning the positive relationship between the change in dividends announcement and the change in stock

price, that are a) signaling theory of dividend, b) information on the firm's future investment, and c) the existence of dividend clienteles.

The increase and decrease in dividends can be interpreted by investorsas positive and negative news on the firm, reflected by the stock price reaction. The main rationale behind this is that information content of dividends is differently interpreted by investors. This study argues that smart investors will be able to interpret it correctly.

H_1: The increase (decrease) in dividends will be reacted positively (negatively) by the market.

2.4. Lifecycle Hypothesis

The firm experiencing maturity stage has smaller investment opportunity such that reinvestment rateis low, return on investment(ROI) declines, growth rate declines, and risk decreases. The decrease in investment rate leads to the firm having excessive cash that will be distributed through dividend payment. The firm at this stage is inclined to increase the dividend payment.

Regarding the increase in dividends at maturity stage, market reaction will be positive according to maturity hypothesis argument. On the contrary, if the firm at the maturity stage decreases dividends, the market will react negatively. If the reaction fits with the prediction of maturity hypothesis, the market is deemed smart market.

H_2: The increase (decrease) in dividends in the condition of mature firms will be reacted positively (negatively) by the market.

A growing firm will have high reinvestment rate, ROI, and risk.If the growing firm increases dividends, the market will react negatively or positively, but not stronger than that for mature firms since the market knows that the dividend payment is triggered by high risk assumed by the firm such that the firm compensates stockholders for the risk through the increase in dividends. The next contradiction is that the increase in dividends will directly enhance the stockholder's wealth. This contradiction is matched with contra-argument that the effect of an increase in stockholder's wealth on account of the increase in dividends will be lesser since it is followed by the firm losing internal financing source which is cheaper to finance its growth.

If the reaction is positive to the increase in dividends for the growing firm, the market perceives the dividend increase as a signal of the firm's future profitability without considering the increase in risk. In fact, profitability improvement of a growing firm is sometimes not worthwhile if the increase in risk is taken into account. The market, assuming that the increase in dividends will provide information content of excessive cash flows of the firm, will react positively to the increase in dividends (Jensen, 1986). However, the argument does not consider the condition of a growing firm. The growing firm highly requires cash flows to realize its investment opportunity.

If there is negative reaction to the increase in dividends, the market perceives that the increase in dividends is done to compensate investors for the increasing risk when the firm is at growth phase.

H_3: The increase (decrease) in dividends in the condition of growing firms will be reacted negatively (positively) by the market.

2.5. Positive Reaction Hypothesis

The firm at the maturity stage tends to distribute dividends since the firm has high profitability. The increase in dividends will encourage the firm to maintain or even to boost its profitability for maintaining positive reaction of the market. If the increase in dividends is negatively reacted, then the firms' worry is that they have shifted to the decline phase. The market perceives that those firms will face tough time, indicated by deteriorating profitability, for instance.

A mature firm that increases dividends corresponding with increasing profitability will experience positive reaction stronger than will a growing firm in the same pre-condition. The market considers that the increase in dividends is a positive signal that will be followed by increased profitability.

H_4: The increase in dividends corresponding with increasing profitability will be reacted positively and stronger on mature firms than growth firms.

The prevalence of pre-condition of decreasing dividends corresponding with an increase in profitability causes different market reaction. This study argues that if the pre-condition of decreasing of dividends corresponding with increasing profitability exists, the market will react positively as the market has additional information on profitability that will be good news. The firm's profitability basically indicates its capability of increasing stockholder's wealth through increasing earnings. This argument leads to the market reacting positively to the decrease in dividends corresponding with increasing profitability.

The next condition is mature firm and growing firm. If the pre-condition of decreasing dividends corresponding with increasing profitability prevails, the positive reaction of market will be stronger for growing firms than for mature firms. Mature firms generally have stable profitability due to stable investment. However, if their profitability increases, it will provide the market with additional information. This new information will eliminate negative news on decreasing dividends since the decrease is deemed to be beneficial as it will be harnessed to invest in profitable investment in the future.

Stronger positive reaction for growing firms are due to the perception of market that decreasing dividends corresponding with increasing profitability indicates that the firms have invested in assets that will contribute to the enhancement of stockholder's wealth in the future. It is substantiated by the increase in profitability that supports the positive market perception.

H_5: The decrease in dividends corresponding with increasing profitability will be reacted positively and stronger on growth firms than mature firms.

2.6. Negative Reaction Hypothesis

The pre-condition of increasing dividends corresponding with decreasing profitability will be negatively reacted by the market as there is an indication that the increase in dividends cannot be maintained in the future owing to the decreasing profitability which in turn causes decreasing stockholder's wealth. However, this research argues differently if the conditions of mature firm and growing firm are included and explained in the model.

An increase in dividends corresponding with decreasing profitability will be positively reacted for mature firms as the market perceives that the increase is normal for firms at the maturity stage. Mature firms usually have low investment rate and growth so that the increase in dividends indicates that the firms distribute excessive cash for the sake of the stockholder's interest as the investment rate is low.

Increasing dividends corresponding with decreasing profitability will be negatively reacted for growing firms as the market assumes that the firms are incapable of managing available investments such that the profitability declines. The increase in dividends impoverishes this situation. Although the increase in dividends generally enhances stockholder's wealth, it does not send signal that the firm will have sufficient cash in the future to maintain current level of dividend payment.

H_6: The increase in dividends corresponding with decreasing profitability will be reacted negatively and stronger on mature firms than growth firms.

The pre-condition of decreasing dividends corresponding with decreasing profitability will also be negatively reacted by the market. Generally, firms with decreasing dividends and deteriorating profitability are perceived by the market as firms that have low performance as well as low capability of improving stockholder's wealth.Mature firms that decrease dividends corresponding with decreasing profitability will get stronger negative reaction of market than will growthfirms. The market perceives that the growing firms are entering decline phase. Low cash flows lead to low dividend payment and low profitability such that these firms are deemed by stockholders to be firms unable to increase their wealth.

Meanwhile, for growing firms, the decrease in dividends corresponding with decreasing profitability will be negatively reacted but at lesser extent compared to that for mature firms. The market expects that these firms have good prospect in the future and will provide stockholders with returns if well managed.

H_7: The decrease in dividends corresponding with decreasing profitability will be reacted negatively and stronger on mature firms than growth firms.

2.7. Research Framework

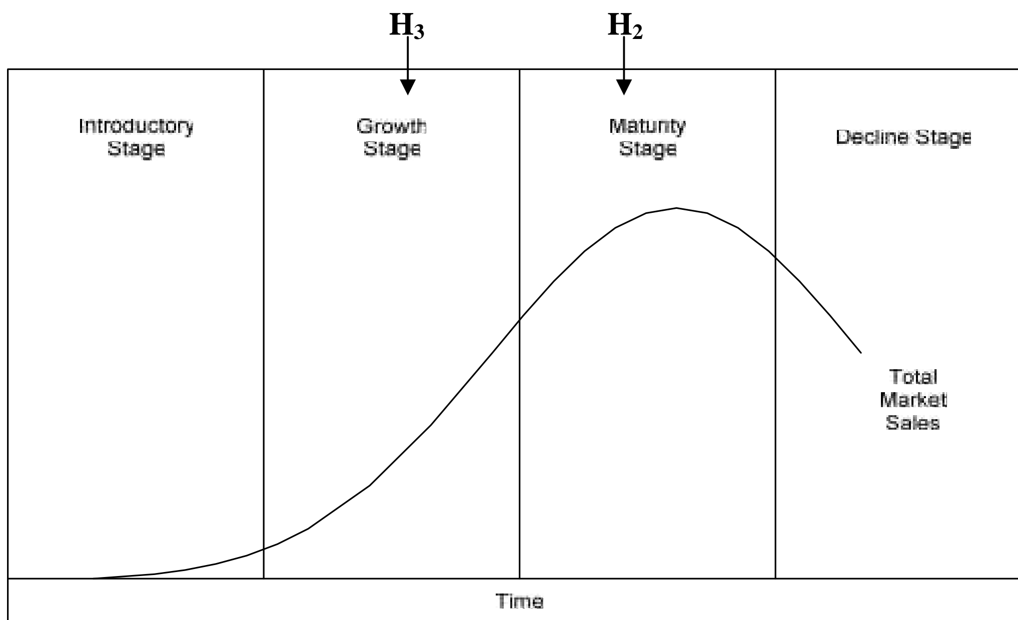
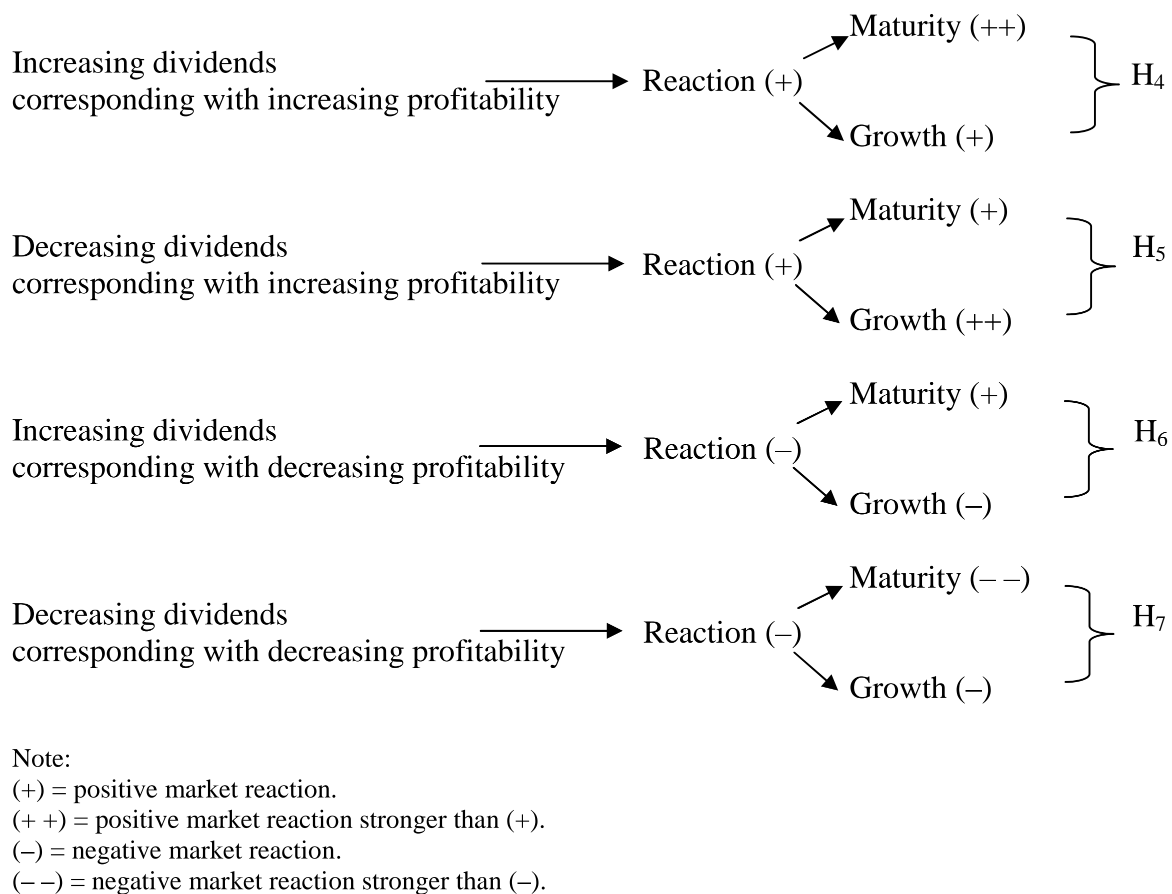


**Figure 6. Lifecycle of Firm consisting of:
Introduction, Growth, Maturity, and Decline stages.**

Figure 6 elaborates on the researched lifecycle that is growth and maturity stages. The figure is also a test of market reaction to the announcement of increase or decrease in dividends and increase or decrease in profitability.



Note:
(+) = positive market reaction.
(+ +) = positive market reaction stronger than (+).
(–) = negative market reaction.
(– –) = negative market reaction stronger than (–).

Figure 7. Explains H_4 to H_7 for the Positive Reaction and the Negative Reaction in the Condition Maturity and Growth, as well as the Four Pre-Conditions.

3. Research Methods

3.1. Data and Samples

Samples used in this study are non-financial firms listed on the Indonesia Stock Exchange, with complete financial data for the period of analysis supported by Indonesian Capital Market Directory(ICMD) and Indonesian Securities Market Database (ISMD-UGM). Samples are firms experiencing increases and decreases in dividends as well as changes in profitability. The sample period used is from 1994 to 2008. The limitation of sample firms is the main hindrance to data collection such that pooling data method is utilized in this study. This research uses analysis steps as follows:

a. Divide firms into growth and mature firms using graphics that links total sales annually. If the graphic shows a tendency to increase, firm will categorized as a growthfirm. If the graphic shows a tendency to decrease, firm will categorized as a mature firm.
b. Divide the firms into 4 group: i) the first group: increasing dividends with increasing profitability; ii) the second group: decreasing dividends with increasing profitability; iii) the third group: increasing dividends with decreasing profitability; and iv) the fourth group: decreasing dividends with decreasing profitability.
c. The next step is to calculate market reaction to the increase or decrease in dividends and the increase or decrease in profitability for mature and growthfirm and also for the four groups described in Step 2. The market reaction is calculated using market-adjusted return model.

3.2. Variables

This research employs several variables as proxies for phenomena to be tested, such as the change in dividends, the change in profitability, abnormal returns, and the change in sales.

a. The change in dividends (D): the change in dividends is the delta of dividendsyear t_{+1}year t_0.

$$\Delta D_{i,0} = \frac{D_{i,0} - D_{i,-1}}{D_{i,-1}}$$

b. The change in profitability (ROA): the change in profitability is the delta of profitability year t_{+1}andyear t_0. The proxy for profitability is return on asset (ROA) predicated upon the study of Barber and Lyon (1996).

$$ROA_t = \frac{Operating\ Income}{Total\ Asset_t}$$

$$\Delta ROA_{i,t} = ROA_{i,t} - ROA_{i,t-1}$$

c. Abnormal returns (AR): calculate the market reaction to dividend and profitability information. The test of information content of dividends is conducted through the stock price reaction to the change in dividends. Furthermore, the prevalence of abnormal returnsis examined from $t_{-6}$to t_{+5}. Estimation period used is 120 days before the dividend announcement, except 6 days before and 5 days after the event, using single index model such that excess returnsin the event period can be found. The parametersof market model ($_i$and $_i$) are estimated using Scholes and William's (1977) method.
Formula to calculate the market model is:

$$AR_{it} = R_{it} - R_{Mt}$$

where:

AR_{it} : abnormal return
R_{it} : realized return
R_{Mt} : market return m on date t

6-day cumulative abnormal returns ($t_{-6}$to t_{-1}) and ($t_0$to t_{+5}) are calculated for each firm annually. Subsequently, the difference in average is tested between in the period before the change in dividends and in the period after the change in dividends.

d. Percentagechange insales (SL): the change in sales is used to know the conditions of maturity and growth of firms. This research argues that firms with high growth will have higher increase on sales than maturity firms.

$$\Delta SL_{i,0} = \frac{SL_{i,0} - SL_{i,-1}}{SL_{i,-1}}$$

3.3. Analytical Technique

This research utilizes correlation analysis and t-test. Correlation is used to analyze the conditions of maturity and growth of firms by correlating the age of firm to the change in sales. Eventually, t-test is used to analyze the difference between reaction before the change in dividends and reaction after the change in dividends.

4. Result and Discussion

The results are organized as follows. First, the result shows descriptive statistics for all firms. Second, this research shows grouping result for growth and mature firms and also the four groups:(1) the first group: increasing dividends with increasing profitability; (2) the second group: decreasing dividends with increasing profitability; (3) the third group: increasing dividends with decreasing profitability; and (4) the fourth group: decreasing

dividends with decreasing profitability.Third, this research shows calculation result for AR, AAR, and CAAR for all firms from 1994-2007. Fourth, the result shows the t-table.

Table 1. Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
SALES	2.968	-1.0000	359.6777	3.3299	28.8198
DIVIDEN	2.968	-1.0000	18.8041	0.3544	1.9193
ROA	2.968	-.9858	6.3978	0.0637	0.6329
Valid N (listwise)	2.968				

This research uses pooling data with 2,968 firm-year observations and 212 firms from 1994-2007. Table 1 show the descriptive statistics for 212 firms used in this research.

4.1. Grouping Result

In this research, we categorized 212 firms into growth firms and mature firms. Using pooling data, there are 122 growth firms and 90 mature firms. Next, for each year we categorized those 226 firms into four groups. Group 1 consists of firms experience increasing dividends corresponding with increasing profitability. Group 2 consists of firms experience decreasing dividends corresponding with increasing profitability. Group 3 consists of firms experience increasing dividends corresponding with decreasing profitability. And group 4 consists of firms experience decreasing dividends corresponding with decreasing profitability.

4.2.Calculation result for dividends, AAR, and CAAR

Table 2 shows calculation result for dividends, AAR, and CAAR for growth firms. Table 3 shows calculation result for dividends, AAR, and CAAR for mature firmsGroup 1, Group 2, Group 3, and Group 4. The results are combination of positive and negative values.

Table 2. AAR and CAAR for Growth Firms

Variables	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
DDIV	0.1979	0.1425	0.3898	-0.0389	0.8653	2.9062	0.5497	0.6907	0.5658	0.5888	0.6456	0.5085	0.5488
AAR	0.0071	0.0068	-0.0039	-0.0016	-0.015	0.0044	0.0062	0.0051	0.0008	-0.002	0.0004	0.0017	-0.0009
CAAR	0.0084	0.0081	0.0164	-0.0087	0.0609	0.0981	-0.012	-0.005	0.0022	0.0215	0.0255	0.0193	-0.0009

Table 3. AAR and CAAR for Mature Firms

Variables	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
DDIV	0.6089	0.1943	0.3039	1.0143	0.8065	0.6685	0.9754	0.2414	0.8041	0.6371	0.2597	0.3087	0.5232
AAR	0.0024	-0.0036	-0.0033	-0.0027	-0.0012	0.0511	0.0007	-0.0107	-0.0006	-0.0103	-0.003	0.0074	-0.014
CAAR	0.0126	-0.0261	0.0207	0.0047	0.0169	0.2150	-0.126	0.0856	0.0213	-0.0375	0.0887	0.0034	-0.011

Table 4 shows the AAR is different in each group. In Group 1 is found a positive reaction both in the firm's growth as well as in mature, but the reaction was stronger in mature firms. In Group 2 and Group 3 also found the same thing with the Group 1. However, in Group 4 was found a different reaction, which responded negatively to the growth conditions and responded positive in the mature.

Table 4. AAR for Four groups in Growth and Mature Condition and Their Strengthens

	AAR Growth	Strength	AAR Mature	Strength
Group1	0.0010	(+)	0.0034	(++)
Group2	0.0010	(+)	0.0041	(++)
Group3	0.0004	(+)	0.0024	(++)
Group4	-0.0033	(-)	0.0046	(+)

4.3. T-test Table

Table 5 shows t-test result for growth and mature firms, Group 1, Group 2, Group 3, and Group 4. From the table it looks a significant level difference within each period.

Table 5. T-test Table

% sig	5%	10%
Growth and Mature	-	t + 6
Group1: increasing dividends with increasing profitability	-	t + 4
Group2: decreasing dividends with increasing profitability	t – 4 t – 7	-
Group3: increasing dividends with decreasing profitability	-	t -2
Group4: decreasing dividends with decreasing profitability	-	t + 10 t – 9

Based on Table 5 shows that Group 1 (increasing dividends with increasing profitability) responded at t+6 and 10% significance level. Group 2 (decreasing dividends with increasing profitability) responded at t-4, t-7 and the 5% significance level. Group 3 (increasing dividends with decreasing profitability) responded at t-2 and 10% significance level. While Group 4 (decreasing with decreasing profitability, dividends) responded at t+10, t-9 and 10% significance level.

H_1 accepted because based on the calculations in Table 2, followed by a dividend increase AAR value is also positive; this indicates that the increase in dividend by the market responded positively. H_2 accepted because based on the calculations in Table 3, during the period 1994-2007 firm's dividend did not decline for maturity firms therefore dividend increase is accompanied by positive market reaction.

H_3 is accepted (Table 3) increasing rate of dividend responded positively by the market, while the declining dividend responded negatively. This indicates that the market in Indonesia is a sophisticated market because they react according to dividend information content. H_4 was rejected (Table 4), mature firms have stronger positive reaction when compared with growth firms. This indicates that market believe mature firms usually have excess paid dividend and growth firms have less excess cash to pay as dividend. This result supports the classification of mature firms and growth firms.

H_5 was rejected (Table 4), mature firms have a stronger positive reaction than the growth firms in the event of dividend reduction and improved profitability. Improved profitability provides an indication that the firms have higher expected cash flow and their future value will increase. Although the high profitability firms are lowering their dividend, investors perceived as policy to increase their future cash flow through profitable investment opportunity. Conversely, the decline in the firm's dividend growth is viewed as a change in firm policy that may be a signal that management is pursuing other investment opportunity or

expansion policy. For some investors, it is considered harmful and reasoned of positive reaction for dividend declined in mature firms than strong growth firms.

H_6 was rejected (Table 4), there were no negative reactions. Both for growth and mature firms, investors still react positively and the reaction was stronger in mature firms. If firms decline in profitability, then the investor prefers to invest in mature firms. This, probably due to the maturity stage is indeed relatively low growth rates. As long as firms pay sufficient dividends then they will still provide a strong positive reaction.

H_7 was rejected (Table 4), the negative reaction appears only on the growth firm while mature firm still getting a positive reaction, however investors less likely to invest in firms that have decreased level of dividends and profitability. Mature firms probably have a good image and their lower level of dividend is still attractive to investors. Investors also have high expectations that future cash flow of mature firms higher than growth firms.

Based on the analysis and discussion, it can be concluded that there is a difference between the market reaction to dividend increase and decrease in the growth firms and mature firms. It can be seen through the results of independent sample t-test with a test that shows the difference of significance in t+6, t+4, t-4, t-7, t-2, t+10, and t-9. For prospective investors, both firms had an introductory stage, growth, maturity, or decline, can be used as a benchmark to assess the condition of the firm. It can also be used as one of the considerations before the prospective investors to invest.

Increase or decrease the level of dividends, and profitability should be observed more detail to predict firm performance and profit projections for the future. If conditions are unhealthy firms, the investment should not be done to avoid losses in the foreseeable future. Future research should discuss on the use of free cash flow rather than ROI to proxy profitability. Firms with aggressive growth more concern on future cash flow rather than current ROI. They will spend more capital to realize investment opportunity set. Hence, they may suffer lower profitability in the short term periods. Meanwhile further analysis should include arguments that dividend policies are depending on investors and managers decision. Managers may deliberate this action (convey information) to outsiders, while profitability is depend on sales (consumers) and efficiency (production). Managers will fewer concerns to convey information about the future growth using profitability, although there are some earning management techniques and efficient production techniques. Thus outsiders may more concern on dividend policy rather than current profitability to predict the future prospect of the firms.

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