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ISTANBUL DOGUS UNIVERSITY
SOCIAL SCIENCES INSTITUTE

ASYMMETRIC VOLATILITY MODELLING IN THE ISTANBUL STOCK EXCHANGE

MBA THESIS

by

Güler ERTAŞ

Assoc. Prof. Dr. Alövsat MUSLUMOV

İSTANBUL, July 2006

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1. INTRODUCTION

1.1. Overview

In the financial world, capital structure policy refers to the strategic decisions regarding maximization the firm's value, while dividend policy pertains to the decision of how to distribute this value.

Numerous theoretical and empirical studies have been undertaken on the dividend policy choices of companies from developed and developing countries which have high importance in finance literature. In the light of all theoretical and empirical research carried out in this field, significant articles and their methodological approaches are re-examined and the related findings are reported in this thesis.

This paper also looks into the dividend policies of Turkish companies listed on the Istanbul Stock Exchange (ISE), employing event study methodology (ESM). In addition, the study examined whether those firms follow stable and regular dividend policy, and also analyse how firms' dividend distributions effect financial markets before and after events (event day=0).

The study aimed to investigate the dividend policies of these companies and to investigate the changes occurred in the legal arrangements between the years 1992 and. A number of empirical investigations conducted in the Turkish market have yielded the conclusion that the companies in question adhere to dividend policies that are both unstable and irregular. The capital markets are not experiencing any information signaling impact as a consequence of the instability that has been seen. To put it another way, dividend policies do not offer Turkish investors any type of information on the future prospects of companies.

The study's findings also indicate that the primary determinant affecting firms' dividend policies is the company's earnings generated in a specific year. The fact that developing countries such as Turkey have weak-form markets and also activities of companies, their financial structure and investment policies affect dividend to be distributed to shareholders,

because inflation will affect interests of the firm in developing countries. Therefore, firms's earnings change because of inflation.

Because of this, change in earnings determines changes in dividend policies. As a result, instability and unregularity in earnings are the most important negative factor for dividend policies. Therefore, companies that incur losses in a specific year are unable to distribute dividends to their shareholders.

With regulation of Board of Capital Market in 1995, companies that traded on ISE had gained freedom in determining their own dividend policy. In accordance with the initial legal amendment in 1982 and subsequent to 1995, Corporations listed on ISE are permitted to pay cash dividends on an annual basis. The stockholders are entitled to receive these dividends at the last day of May in the subsequent fiscal year. This research contains periods of 1982-1995 and 1995-2004. In order to get more healthy results from data in empirical study, company data were used between 1998 and 2004.

1.2. The Purpose of the Thesis

This thesis purports to shed light on various research conducted on the topic of dividend and dividend policies in finance literature while trying to search for answers to questions such as dividend types, dividend payments and dividend policy decisions. Moreover, some other issues are considered in the study: How companies determine the amount to pay in dividends and the process by which those dividends are paid out to stockholders.

A clarification of the rationale for share repurchases as an alternative to dividends may be achieved via an analysis of the distinction between cash dividends and stock dividends. Further questions will be addressed: What factors do executives consider when determining the amount of dividend to declare? From a tax perspective, which form of payout is the least costly? Also, some empirical evidence on how firms determine and change their dividends is further investigated.

The reactions of the stock markets to the cash dividend increase announcements were explored by this thesis, which was conducted within the context of Turkey's growing stock market. Additionally, the dividend policy framework and the current literature on this

subject were also taken into consideration. The decision-making process regarding dividends of companies listed on ISE examined within the scope of legal regulations.

1.3. Thesis Structure

The current thesis comprises four chapters. The first chapter delves into the fundamental concepts of policy of dividend, the historical evolution and theoretical development of dividend policy in finance literature, and the association dividend policy with firm's value. The thesis also covers theoretical approaches, particularly the theory of Miller and Modigliani, which presents basic argument concerning dividend policy in perfect competition market.

Second section involves profit share distribution types, factors affecting dividend policy, choices of people for dividend payment and payment methods. In addition, second section is made up of legal regulations and comparison related to dividend policies between countries.

Third section includes historical progress of regulations and latest regulations. In addition, dividend policies of firms traded on ISE are evaluated in continuing study. In the last section, results and comments of empirical study take place for 805 of sample based on cash dividend announcements of companies traded on ISE.

2. DIVIDEND POLICY

2.1. Basic Explanations for Dividend Policy

The concepts of profit and profit determination will be briefly discussed prior to the explanation for dividend and dividend policy.

The profit is commonly defined as the money a business has left after deducting all costs associated with generating revenue. The source of profit distribution is not only composed of the financial profit of the respective term but also the free reserves and other equity items that are not limited primary agreement.

Firm profit can be defined as financial profit. Dividend is the profit after tax and other deductions. According to legal regulations, in most of the countries, firms pay dividend to their shareholders out of annual distributable profits.

Bishop et al. (2000) pointed out that a finance manager considers two operational decisions: capital budgeting and financing. The decision of capital budgeting pertains to the determination of real assets the company should get, whereas financing decision pertains to the determination of how these assets should be financed. Furthermore, managers must decide whether or not distribute a percentage of the earnings generated by their company to stockholders as dividends or to keep them in the company. Managers must prioritize their efforts on maximizing the wealth of firm's shareholders.

Apart from determining the needed profit for investment, managers also have to evaluate the potential impacts of their decisions on equity prices.

Moreover, if cash dividend distribution is not made and cash is kept within the business, the value of stock will increase. Cash dividend payouts are more often expected in a context with abundant financial resources, but less so when external financing opportunities are limited.

It is often the case that dividends are more likely to be distributed by well-established and profitable companies. However, companies that do not provide dividends do not necessarily suffer from financial losses all the time. A corporation should keep the earnings and reinvest them in the company if it thinks that its growth opportunities have more NPV than those of the investment oppurtinities available to its shareholders.

It is impossible for a company to continue growing indefinitely. The distribution of dividends may be the most effective method for management to guarantee that shareholders get a return on the the earnings of the business once it has reached a certain scale and has exhausted its growth potential. A dividend announcement by a company may indicate a slowdown in its growth, but it also provides a proof of its ability to consistently generate profit.

Consequently, according to Modigliani and Miller, a firm must first determine the most appropriate level of investment and then establish the most suitable profit distribution policy and external financing at the desired level.

2.2. Historical and Theoretical Background in Relation to Dividend Policy

An ongoing contentious issue in finance literature is whether or not dividend policy actually affects a company's value. Various opinions have been stated on this issue. As a result of this, grouping about profit share as from the beginning of 1950, various theories and hypotheses have been made. Especially, it is seen that three groups have made remarks. While some contend that increasing dividends that a company pays would enhance the value of the company, others contend that the opposite is true. A third theoretical stance argues that dividends are inconsequential, implying that changes in dividends, whether increases or decreases have no impact on stock prices.

According to the first group, increase in profit share increases firm's value. The pioneer of this group, Lintner's (1956) "Stick Dividend Policy" model states that dividend policy has two parameters; to avoid dividend cuts, management chooses a low target payout ratio and does not modify dividend policy until managers are confident that new earnings levels are

sustainable. As a result, Lintner's classic study shows that most U.S. corporations tend to gradually adjust their dividends in response.

Lintner (1956) also claimed that there ispositive correlation between dividend policy and sales volume, cash flow, current profit and that these firms might follow similar dividend policies. In.the fallowing parts of this study the article of Lintner will be discussed with more detailes.

According to this first group dividend policy increases company's value; firm's dividend makes a positive effect that based on value of company on properties such as "Bird in the Hand" and "Information of Dividend" hypotheses. These hypotheses explain dividend's positive effects on a firm's value. The explications of this hypothesis will be given in next parts.

The second group claimed that an increase in dividend decreases firm's value because of taxes and share issue costs. Michael Brennan (1970) is one of the most preminent figures of this assumption as well. Utilising the Farrar-Selwyn method, he analyzed the effect of the personal tax structure on corporate financial policies.

The "Middle of the Road" group holds the third perspective, asserting that the dividend policy does not affect a company's value. This represented on Miller and Modigliani's work (1961) as well as addressed in Black and Scholes's study (1974). Especially, the Theory of Modigliani-Miller (M&M) serves as the foundation for modern thought about capital structure and dividend policy.

The decision of a company over whether to reinvest that company's earnings or to pay those earnings out to investors in the form of is not financially relevant to investors, according to the Modigliani-Miller Divident Irrelevancy theorem. In a perfect market where taxes or relevant transaction costs do not apply, capital gains would be equivalent to dividends. The M&M Theory asserts that dividend policy does not impact shareholder's wealth, as investors are indifferent between getting returns as dividend payment and capital

gains provided that the investment policy of company remains unaffected by its dividend policy (Shapiro, Alan C., 1990).

According to Easterbrook (1984), dividends have a significant effect on a company's financing policies since they facilitate the distribution of cash and encourage irms to issue additional securities. Companies are able to maintain their presence on the stock market, where they can watch their management at a cheaper cost, thanks to dividend distribution.

Baker, Farrelly and Edelman's research (1985) arrived at conclusion that dividend policy has an effect on the value of a firm. They conducted research through the use of a survey questionnaire that was administered to the CFOs of 562 US companies listed on the New York Stock Exchange (NYSE). The companies were then categorized into three major sector groups. Chi-square analysis was used for differences of responses. They found that 318 responses of chief executive officers that agreed that dividend policy influence common stock prices.

Several authors state that all these different viewpoints are inadequate for determination of effects of dividend policies on firm's value (Allen at al., 2002).

Another assumption, as stated by Black (1976), is that dividend policy may be likened to a jigsaw. Black argues that upon closer examination of the dividend picture, it becomes increasingly evident that is a complex puzzle, characterized by with pieces that are incomplete and do not fit together.

Kania and Bacon (2005) argue that the financial world has not yet developed a model for firms in order to create an effective dividend policy. Numerous studies have produced contradictory findings and conclusions, while some scholars have adopted "normative" approach to addressing inquiries about decisions regarding dividends, some others have adopted "behavioral" approach by looking at management to get insights into the factors that influence their decision-making process.

Given these developments, it seems that dividend decisions are not explicitly stated, and even less is known about the process. Dividends, however, are regarded as a signal by the informational content hypothesis, introducing new information into the market.

2.3. The Association between Dividend Policy with the Value of a Firm, and Its Theoretical Applications

Diverse arguments were suggested while looking at association dividend policy with the value of a firm. Explanations derived from these arguments are provided below.

2.3.1. Dividend Irrelevance Theory and its Arguments in Perfect Capital Markets

Miller and Modigliani's work (1961) stated that dividend payments are irrelevant, and that dividend policy should not have any effect on the wealth of shareholders, which is predicated on the presumptions of perfect capital markets (a market without of arbitrage opportunities), rational behavior and perfect certainty. This is called 'Dividend Irrelevance Theory'.

Understanding this theory requires clarifying these generally accepted assumptions. Rational behavior implies that an investor is characterized by his/her desire for geater income, such as cash payouts or a rise in the market value of his/her shares, which contributes to increase in his/her wealth. Perfect certainty assures every investor has absolute confidence on the future investment program.

In other words, an investor calculates the firm's value depending on its potential for future profits; independent of whether firm pays dividends or not, or its selection of policy of dividend policy. Since the investors are able to generate "homemade" dividends by modifying their portfolios to fit their preferences, M&M propose that an investor's dividend policies are essentially quite similar.

In a competitive financial market, a company paying dividends has the same value as one not paying dividends; $V^d = V^{nd}$, where d: dividend and nd: not paying dividend.

Miller and Modigliani formulated a theory positing that the firm's value remains unaltered by its financing or the distribution of dividends in a perfect financial market, in the absence of asymmetric information, taxes, insolvency and costs. The firm's value is only impacted by risk of investment and future earnings.

As per the M&M dividend irrelevancy theory, the Dividend Discount Model (DDM) is utilized as a fundamental valuation model for shares. As a general rule, the DDM asserts that a stock's price is a function of future dividends that are projected to be paid out, along with the required rate of return on the shares. As an illustration, the current price of a stock is equal to the present value of all its future dividends, which has been discounted using the suitable discount rate. One can express that mathematically as:

$$P_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1+r_t)^t}$$

P_0 denotes the current stok price; t represents the dividend time; D_t denotes the dividends paid at period t; r_t denotes the required rate of return for period t. The stock price is a critical factor in determining of the value of a firm. In a perfect capital structure, an investor's required rate of return on equity shares (r) equals to the sum of dividends and capital gains.

$$r = \frac{D_1 + (P_1 - P_0)}{P_0}$$

P_0 denotes the current market stock price; P_1 denotes the expected market price at the end of period; and D_1 denotes the dividend at the end of period.
By rearranging the equation; P_0 is obtained as the current market price of shares;

$$P_0 = \frac{D_1 + P_1}{(1+r)}$$

If n is number of shares, $n*P_0 = V_0$; that time the equation changes;

$$nP_0 = V_0 = \frac{nD_1 + nP_1}{(1+r)}$$

According to the M&M theorem, the value of two firms is identical regardless of their capital or financial structures in a perfect market.

The first Firm U is unleveraged, meaning it is entirely funded only by equity. The second Firm L is leveraged; meaning it is funded by a combination of equity and debt.

Proposition I (*without* taxes), $V_U = V_L$

V_U denotes the value of an unleveraged firm = price of buying all of the firm's equity, and V_L equals the value of a levered firm = price of buying all of the firm's equity, plus all its debt.

As explained in Proposition I, a potential investor is considering purchasing either firm U or L. Therefore, instead of buying the shares of the leveraged firm L, he/she might be interested in purchasing the shares of firm U and borrowing the same amount B that firm L borrows. There would be the same returns on either of these investments in the long run. Thus, L's price must be equal to the price of U minus the money borrowed B, which is L's debt value, while the value of U's price is the price of U minus the amount borrowed B.

Furthermore, this explanation clarifies the role of some assumptions made in the theorem. Our underlying assumption is that the cost of borrowing money for the capitalist is the same to that of the firm.

$$rs = r0 + \frac{B}{S}(r0 - rB)$$

Under conditions of asymmetric information or in the absence of efficient markets, this statement may not necessarily hold true.

Proposition II:

Variable	Description
r_S	The cost of equity capital for a levered company
r_0	The cost of capital for an all-equity company
r_B	The cost of debt capital
B/S	The debt-to-equity ratio

.

These propositions assume the absene of taxes, transaction costs, and equal borrowing rates imposed people and companies. These outcomes might seem irrelevant.

Modigliani and Miller's empirical study (1963) shows that;

Proposition I (with taxes): $V_L = V_U + T_C B$

V_L denotes the value of a levered firm,

V_U denotes the value of an unlevered firm,

$T_C B$ denotes the tax rate (T_c) * the value of debt (B)

Based on this, firms can benefit from being leveraged since they can claim deductions for interest payments. Thus, leverage reduces tax payments. Dividend payouts are non-deductible.

Proposition II: $r_S = r_0 + \frac{B}{S}(r0 - rB)(1 - TC)$

r_S denotes the cost of equity.

r_0 denotes the cost of capital for an all equity firm.

r_B denotes the cost of debt.

B / S denotes the debt-to-equity ratio.

T_C denotes the tax rate.

Assumptions made in the propositions with taxes are:

-Corporations are subject to taxation at the rate T_C, on their earnings after deducting interest,

-No transaction cost exist,

-Both individuals and companies borrow at the same rate.

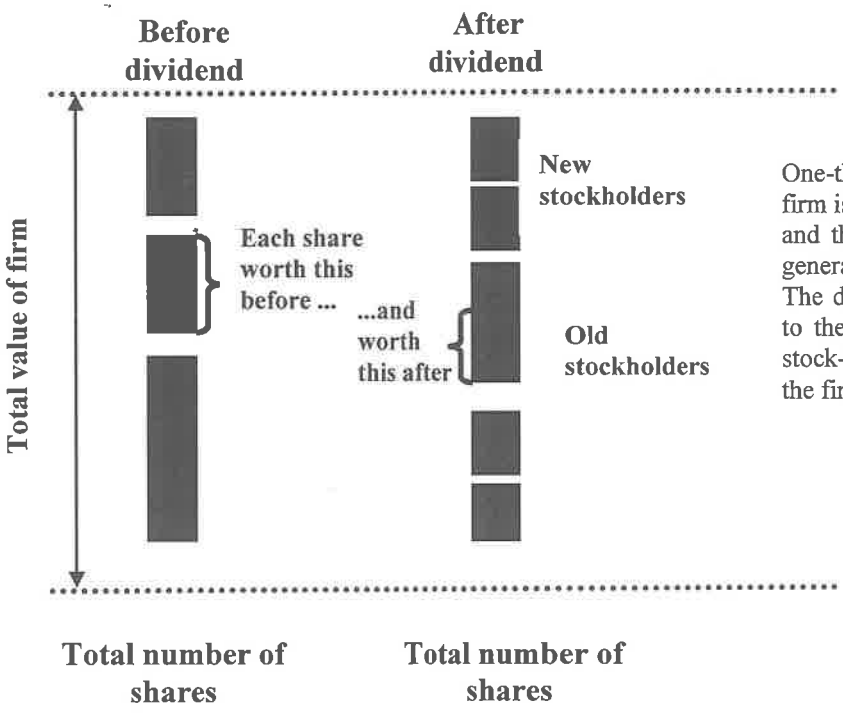
Another research conducted by Black and Scholes (1974) provides support that the payout strategy of corporations, regardless of whether it is high-yield or low-yield, does not appear to have any effect on stock prices. This result reached by Black and Scholes's validated the dividend irrelevance argument proposed by M&M.

Black and Scholes (1974) explored the link between dividend yield and stock's returns. They established a 25 portfolios consisting of common stocks that are publicly traded on NYSE, using the Capital Asset Pricing Model. Thus, their objective is to assess the long-term effects of dividend yield. In this work, the regression model was utilized. Their analysis revealed that the coefficient for dividend yield does not exhibit a statistically significantly deviation from zero for any sub-periods that span the years 1926 to 1966. These results suggested that there was no difference significantly in total rates of return across portfolios. Both high and low yield equities are expected to provide the same amount of return.

Accordingly, Black and Scholes reached the conclusion that it is not possible to demonstrate a casual relationship between variations in yield lead and variation in stock prices.

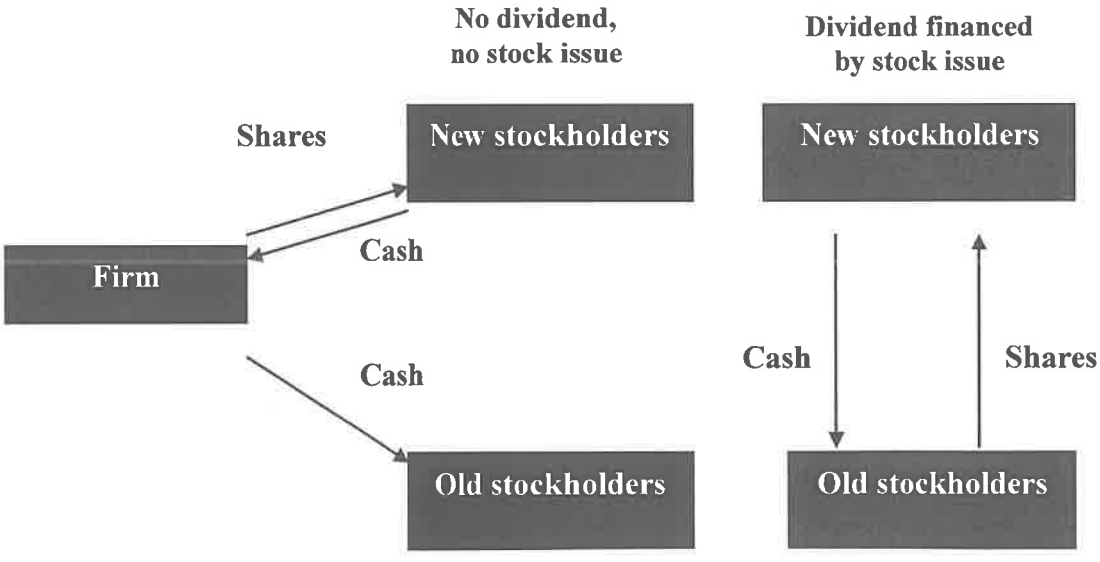
Besides, below figures show that dividend irrelevance the value of a firm;

Figure 1



One-third of the entire value of the firm is distributed as a dividend, and the funds for this payment are generated by issuing new shares. The dividend payment is equivalent to the transfer of value to the new stock-holders. The overall value of the firm has not been affected.

Figure 2



There are two different ways for the orginal shareholders to get funds from the firm, and in both scenarios, the amount money gained is counterbalanced by a decrease in the value of the old stockholders' stake in the firm. If the firm opts to distribute dividends, the value per share will decline since new shares will be issued against the company's assets. If the old shareholders sell a portion of stocks, the value per share remains unchanged, but there are fewer shares owned by the old stockholders.

Source: Brealey and Myers, "Principles of Corporate Finance", 1999, page, 443.

2.3.2. Dividend Irrelevance Arguments in Imperfect Capital Markets (Clientele Effect)

According to Modigliani and Miller, there exists strong correlation between company's dividend policy and the tax rates of investors, a phenomenon referred to as the "clientele effect" in the finance literature.

Clientele Effect Theory posits that stock prices of the firms are determined via demands and ambitions of investors in reactions to changes in tax, dividend, or other policies that influence the firm. The theory assumes that investors are drawn to various corporate policies, and that the alteration of a firm's policy will prompt investors to modify their stock holdings correspondingly, resulting in a change in stock price. Any modifications made to the dividend policy adopted by a firm will not affect the share price of that firm. There is further support for this viewpoint from Fischer Blacky and Myron S. Scholes (1974).

Elton and Gruber's study (1970) established a relationship between dividend policy of a firm and the tax rates for investors, and supported the clientele effect that Miller and Modigliani proposed. To test their hypothesis, they analyzed all stock dividends listed on NYSE during the years 1966-1967. They observed the behavior of common stock prices on ex-dividend day) and showed that tax brackets are associated with dividend policy.

In a paper conducted by Allen and Michaely (2002), it is stated that many firms regularly pay dividends and rarely repurchase their shares. Share repurchases, however, are subject to a lower tax rate as capital gains, whilst dividends are subject to a higher tax rate. Given that dividends are subject to a significant amount of taxation as income, they argue that there is a tax disadvantage that is connected with dividends. Unrealized capital gains would be subject to a greater tax rate than dividend payments, even though the tax rates on dividens and capital gans are equal (which they are not). To illustrate this, Allen and Michaely provide an example concerning texes. They highlight the fact that capital gains are not required to be realized right away, which gives the opportunity to defer the tax that is linked with them. On the other hand, they contend that investors have the option to choose when they will earn capital gains, in contrast to dividends, which have a fixed

timing. Constantinides (1984) demonstrated that investors are ready to pay for this option, which is referred to as the tax timing option, in order to delay the realization of capital gains.

The fact that all investors are, in fact, subject to individual taxation is an essential point to keep in mind. There are a significant number of financial institutions that do not pay taxes, including pension funds and endowments. Therefore, they do not have a preference for dividend payments above capital gains on their investments. Individuals and corporation directly or indirectly hold stocks.

In his research, Pettit (1977) suggested that investors might create clienteles depending on the tax brackets that they fall into. It is possible that investors who are subjected to higher tax rates might want to invest in stocks that do not pay dividends, whilst investors who are in lower tax brackets would choose to invest in equities that pay dividends. Through an analysis of the portfolios of 914 individual investors, he discovered empirical data that lends credence to the idea of a clientele effect A strong positive correlation was found between the ages of investors and the dividend yields of their portfolios, whereas a large negative correlation was found between the incomes of investors and dividend yields. He concluded that older investors with lower incomes are more inclined to hold high-dividend equities, whereas investors with lower incomes tend to hold stocks with high-divident. This demonstrates that portfolios with lower systematic risk have a preference for high-payout equities, indicating a tax-induced clientele effect.

Several more empirical studies have examined the connection between changes in dividend and clientele changes. One such Richardson, Sefcik and Thompson's study (1986) investigated a sample consisting 192 companies based in the US that had begun paying dividends between the years 1969 and 1982. They explored whether the increased trading volume of firms' stocks was associated with changes in dividend policy or whether it was the consequence of investors in a variety of tax clienteles adjusting their portfolios. The results of their investigation revealed that the information that was included in the dividend announcement was the primary cause of the increased trading volume, with just a minor portion of the improvement being ascribed to the adjustement of the clientele.

2.3.3. Dividend Relevance Arguments

The dividend relevance theory posits that a firm's value can be impacted by its dividend policy predicated on investors' preference. Namely, some investors may favor receiving current dividends over future capital gains, while others might prefer capital gains to delay tax payments rather than incur immediate taxes on dividends.

In reality, certain investors may have preferences for specific dividend policies. For instance, investors seeking current income are more inclined to favor firms that pay out a substantial portion of their profits, while investors who do not want current income often prefer the opposite. Therefore, it seems that dividend policy have, in fact, an effect on the company's value.

Two opinions were declared below to explain Gordon Lintner Model based on Dividend Relevance Argument. One of the opinions, stated by Gordon (1963) suggests that substantial dividend payments have a positive effect on a firm's value. This is due to the fact that paying high dividends reduces risk and influences stock prices. Additionally, according to the Gordon Growth Model, high-dividend companies are predicted to be less sensitive to swings in discount rates, and therefore, exhibit lower price volatility. Capital incomes model are capitalized at higher rate than interest shares.

However, Gordon and Lintner argue that decrease in interest share will increase profitability rate on stocks due to the fact that investors regard interest share as more reliable than capital income. According to them, investors give more value to one dollar expected interest rate than one dollar capital income due to the fact that g factor in total expected yield equation is considered to be more risky than D_1 / P_0 factor that shows interest share income. In the event that the dividend payout is raised, the required rate of return (ks) will fall significantly. Compared to the dividend payments received today, the future capital gains are less predictable.

The result is that cash flows of companies which distribute low interest will be capitalized at higher rate than companies that distribute high interest. In MM theory suggested that interest share policy does not affect investor's profitability rate for stock.

$$Ks = \frac{D_1}{P_0} + g$$

However, Miller and Modigliani suggest that many shareholders invest their interest share in another firm and that in the long run, risk of firm's cash flow is evaluated not with interest share policy but with risk of assets' cash flow.

On the contrary, there is another viewpoint suggesting a negative effect. This perspective argues its ideas based on tax and export costs. The statements of these proponents are provided below.

2.3.3.1. Bird in the Hand Theory

Investors find one unit dividend more valuable than one unit capital income. This is because the prices of companies' stocks are determined in the market, making capital income inherently risky. However, dividends are considered less risky as they are controlled by the Board of Directors.

Dividends offer the advantage of the lower risk compared to an equivalent amount of capital gains, indicating that investors prefer companies that pay dividends.

In reality, there are some critiques to this argument. The point to be criticized is the fact that dividend policy does not influence cash flow or risk. Especially in imperfect markets, there is an asymmetrical information issue between investors and company managers. Therefore, investors think that dividends distributed by companies convey valuable information about performance of the firm. Moreover, since dividend paid in high amount gives positive signals about future income of companies, it is claimed that there will be a surge in the price of firm's stocks.

According to Myron Gordon and John Lintner's (1962) argument, shareholders, who are often risk averse, would rather have dividends paid out immediately rather than waiting for

higher dividend payments in the future. Consequently, a change in dividend policy affects shareholders' required return: If the dividend that is paid out today is decreased in order to invest in the company at the initial required rate of return, then the firm's value is destroyed if the required rate of return for shareholders rises as a result of this choice.

2.3.3.2. Agency Cost Theory

Agency costs are contingent upon and a function of free cash flow a firm. Namely, Dividend increases reduce free cash flows, thereby lessening agency problems and raising equity values. In contrast, dividend decreases boosts free cash flow, which can exacerbates the agency problems and lower share price. Agency problems typically arise between shareholders and management in an imperfect market. Modigliani and Miller (1961) suggest that information asymmetries exist, wherein managers have more valuable information regarding prospects of their firms than investors do.

Furthermore, managers typically increase dividends when they are certain that future earnings are going to maintain a higher dividend payout level, and they decrease dividends as a last resort. Thus, dividend increases that is more than usual conveys a message that management is optimistic about the future, whereas a dividend increase that is lower than - expected, or a dividend deccrease, sends a negative signal. Meanwhile, a dividend increase is in line with expectations is generally viewed as a neutral signal.

By utilizing a two-period model with two different types of companies, Bhattacharya (1979) makes an effort to clarify why corporations would opt to pay or distribute dividends despite the fact that doing so would result in a tax disadvantage. In the first period; management has knowledge of their expected profitability that remains unknown to investors. To signal their investment, managers of high valuable firms opt to pay higher dividends in the second period. 'Low quality' companies are unable to imitate the acts of 'high quality' companies because of the significant transaction costs that are related with acquiring external funding during the second period.

LaPorta at al. (2000) stated that Anglo-Saxon legal regimes have two models of legal protection and dividend policy. According to the "Outcome Model", dividends are paid out

due to pressure from minority shareholders, compelling company insiders to distribute cash dividends. Based on the predictions of model, it is expected that larger payouts of dividends would be connected with stronger minority shareholder rights.

As per the "Substitute Model", insiders have an intention of issuing stock in the future while simultaneously paying dividends to develop repute by treating minority shareholders ethically. This model makes prediction to those made by the outome model. Agency Theory is highly relevant and supports the results of agency model of dividends. These tests were carried out on a cross section of 4,100 firms from 33 nations at the end of 1999, considering various levels of minority shareholder rights.

The findings of the studies, which were based on regression analysis, indicate that companies operating in nations with common law had a tendency to pay higher dividends than those operating under civil law regimes. Payout ratios are greater for poor growth companies in countries that follow the common law system, while they have no correlation with growth potential in nations that follow the civil law system.

Barnea, Haugen and Senbet (1981) identified three factors that are the root cause of agency problems. These factors include information asymmetries, wealth transfer from bondholders to shareholders, and partial ownership of the firm. Potential wealth transfers from bondholders to shareholders include managers accepting high-risk, high-return projects, rejecting projects with positive net present value, and engaging in excessive perquisite consumption that exceeds the level considered appropriate for prudent corporate managers.

Covenants that establish claim precedence are a potential means by which conflicts between bondholders and shareholders might be avoided, according to Fama and Jensen's (1983) proposal. On the other hand, these orders may be sidestepped by making large dividend payments to shareholders.

John and Kalay (1982) concentrated on the conflicts between stockholders and bondholders, seeking to find a model of arrangements that minimizes the cost of conflict.

Furthermore, despite the fact that dividend policy has the potential to make a considerable contribution to agency costs, it is not a key driver for wealth expropriation for bondholders. When it comes to companies that have bondholder covenants that set restrictions on dividend payments or distributions, the actual dividend payouts frequently remain lower than the greatest amount that is authorized by these limits.

Besides, dividend policy has an effect on agency costs by reducing them through heightened monitoring by capital markets. As a result of high dividend payouts, the amount of money that is available for investment possibilities and perquisite spending is restricted, which forces management to look for external funding in the capital markets.

Easterbrook (1984) stated that there are other mechanisms performing a similar role in reducing agency costs; however dividends may serve as a cost-effective means of accomplishing this.

In conclusion, it is generally accepted that an increase in dividends would result in a rise in equity value as a consequence of reduced agency costs. On the other hand, a fall in dividends is likely to result in a decline in stock value owing to the fact that agency costs might increase.

2.3.3.3. Information Content of Dividends or Signaling Theory

The dividends have the potential to act as a signal to the general public on the expectations that management has for future policies and prospects, making them a source of information content. Miller and Rock (1985) demonstrated substantial positive returns in the context of cash disbursement announcements, which are consistent with the signaling hypothesis. This hypothesis posits that such disbursements provide signal for valuable information regarding the firm's future cash flows. In their studies, Bhattacharya, (1979) and John and Williams (1985) asserted that signaling theory of corporate dividend policy posits that managers utilize dividends to convey their private information to investors.

In a study connected with; Brav, Graham, Harvey and Michaely (2003) explained that managers perceive dividends as a means of conveying information about future earnings.

Moreover, since dividends paid in high amounts give positive signals for future income of a company, it is suggested that it will cause an increase in price of stocks.

Especially, in imperfect markets, there is an asymmetrical information problem between investors and company managers. Thus, it is thought that dividends distributed by companies carry valuable information about a firm's performance.

Miller and Rock's theoretical paper (1985) illustrate a signaling model wherein insiders have incentives to manipulate the effects of dividend announcement for short run earnings.

The favorable reactions of the stock prices to the dividend increase announcements or initiating new dividends can be explained by the signaling theory. Asquith and Mullins (1983) and Healy and Palepu's works (1988) supported that earnings are associated with unexpected dividend changes which interpreted as management signaling future expectations. However, some empirical studies have found no correlation between future earnings and unexpected dividend changes (Benartzi, Michaely and Thaler 1997).

Nevertheless, Asquith and Mullins (1983) studied the effect of dividends on wealth of stockholders by analyzing the sample of 168 companies. The empirical findings show larger positive excess returns compared to earlier studies on dividends. This outcome is independent of factors like earning announcements, and the excess returns are positively associated with the size of the initial dividend payment.

Asquith and Mullins's findings show that initial and following dividends align with the view that dividend conveys valuable information to the public. Their study utilizes daily data and controls for information. The firms analyzed had either never paid dividend during their corporate histories or had not done so for at least 10 years. The study included 168 firms that had not paid dividends for at least 10 years. The researchers computed the average daily excess returns as well as the average daily cumulative excess returns for the 10 days preceding and following the announcement of the first dividend distribution. The findings for the 2-day announcement period are both substantial and statistically

significant, with 70% of the companies responding positively to the initial dividend announcement. The 2-day excess return stands at 3.7% with a t-statistic of 6.59.

The regression analysis revealed a positive and statistically significant relationship between the total amount of the initial dividend and the magnitude of the company's excess return on the day the announcement was made. For this sample, initiating dividends and subsequent dividend increases shareholders' wealth.

In conclusion, initiating a dividend policy holds importance as a source of information, and the reaction of market is notably robust and favorable. Also, Asquith and Mullins' findings corroborate the work of Aharony and Swary (1980).

In general, announcements of increased dividend payments are linked to a rise in stock prices, whereas announcements of reduced dividend payments tend to correspond with a decline in stock prices (Pettit, 1972; Swary, 1980; Brickley, 1983; Aharony and Dotan, 1994; and Kaestner and Liu, 1998).

Previous studies have primarily focused on assessing the speed of the market's response to unexpected earnings. Despite employing various methods to quantify unexpected earnings, all of them consistently find that positive unexpected earnings lead to an increase in stock prices, whereas negative unexpected earnings cause a decline in stock prices (Brown 1978, Aharony and Swary 1980).

The hypothesis regarding the content of information on dividends has been tested with several empirical studies using annual, quarterly data. Aharony and Swary's (1980) paper examined tha data that containes quarter reported earnings and dividends were adjusted for stock splits and stock dividends. This study employs an expectation model.

The sample included 2612 dividend announcements made after and 787 made before quarterly earnings announcements. This sample was categorized into three groups: no change in dividends, dividend increases, and dividend decreases. In addition, market model is applied to assess abnormal returns and cumulative effects around the days of quarterly

dividend and earnings announcements. The t- statistics are utilized to determine whether abnormal returns (ARs) differ significantly different from zero or not.

The dividend announcement effect, as documented by Aharony and Swary (1980), is small yet statistically significant, independent of the informational influence of earnings announcements. Their analysis specifically examines dividend announcement dates that deviate from earnings announcement dates by at least 11 days.

Over the course of the two-day period during which dividend increases were announced, a significant average excess return of around 1% was found. The semistrong variant of the efficient capital market hypothesis is supported by their research. In addition, these authors (Ross, 1977; Bhattacharya, 1979 and Miller and Rock (1985) developed the signalling theory of dividends.

Besides, in a recent survey administred to financial executives conducted by Brav et al. (2003), it is reported that managers rarely perceive dividends as a self-imposed costly tool to signal a firms' ability and differentiate it from competitors. Instead, CEOs and CFOs hold the view that dividends are a means of conveying information to the market.

In his research, Watts (1978) discovered that the announcement of dividend had a beneficial effect. However, he came to conclusion that economic relevance of the information content was insignificant as it would not allow for the generation of abnormal returns after taking into account the costs of transaction. The purpose of Pettit's research was to advocate for the utilization of observed dividend changes rather than the unanticipated dividend changes..

A worldwide database that was collected from the World Bank was utilized by Aivazian (2002) in order to do an analysis of recent developments. The research compared dividend policies of eight different emerging market nations between the years 1980 and 1990. These countries include Korea, India, Pakistan, Thailand, Malaysia, Turkey, and Zimbabwe. A control sample of companies from the United States is used to compare these nations.

Stock repurchases convey a positive signal, indicating of management's belief that the current stock price is undervalued. Tender offers convey a more positive signal than open market repurchases since the company specifies a specific price. It is common for the stock prices to increase when repurchases are announced.

2.3.3.4. Free Cash Flow Hypothesis

In accordance with the free cash flow theory, a company ought to pay dividends if it has free cash flows. Because of this, a fall in dividends may actually be seen as a good signal, signaling that the company has profitable projects with positive net present value (NPV), if investors believe that the financial manager is operating in their best interests.

In contrast, if a firm reduces dividends in order to accumulate additional free cash flows for its own benefit, the stock price will decrease significantly. This decline is attributed to firm's investment in projects with a negative NPV.

Yoon and Starks (1995) investigated the associations the wealth effects of dividend changes with cash flow signalling and investment opportunities. Their findings are cross-sectional evidence on the level of dividends suggests that these are negatively associated with investment policies. Furthermore, they discovered that there was no difference in the way that the stock price responded to changes in dividend among companies that offered a variety of investment opportunities. The three-day cumulative average abnormal return for dividend (increases, decreases) was as follows for firms with $q<1$ (+1.54%, -5.30%); $q>1$ (+0.67%, -4.60%).

The results showed statistical significance for all figures. As per the free cash flow hypothesis, companies with $q>1$ would not experience any changes, while the cash flow signaling hypothesis suggests that all four numbers should exhibit significant results.

A significant rise in capital expenditure is observed in response to both dividend increases and decreases, leading to a considerable decline in capital expenditures. This finding aligns with the cash flow hypothesis. A relevant study conducted by Aivazian at al. (2003) provides evidence that the majority of firms exhibit strong reluctance to cut dividends,

even if it requires borrowing to fulfill the dividend payments. Similarly, firms tend to increase dividends only when they are confident that their operations can sustain the increased dividends over an extended period.

Lang and Litzenberger's study (1989) revealed that the market's response to changes in dividends is more noticable for firms that have a lower Tobin's Q, which is a ratio of market value to replacement cost. Based on this finding, the authors contend that the free cash flow hypothesis is more likely to be correct than the information signaling hypothesis. A higher Q-value has tradionally been associated with greater investment opportunities or superior management.

By simultaneously announcing management projections of future year's earnings, we can control for cash flow signals and improve upon the method from Lang and Lizenberger (1989).

Jensen's (1986) free cash flow hypothesis, combines agency theory with information asymmetries in market. Conflicts of interest arise between managers and stockholders as a result of the money that is left over after funding every project with a positive net present value.

2.3.3.5. Theory of Transaction Cost

Transaction cost theory posits that high dividend payouts result in increased transaction costs associated with accessing the capital markets. Therefore, there is a tendency to avoid dividend payments to minimize these transaction costs, ultimately diminishing the value of dividends.

2.3.3.6. The Tax Disadvantage Theory

When compared to capital gains, dividends are subject to more severe tax consequences, ac cording to the tax disadvantage hypothesis. When it comes to investments, investors who are in higher tax brackets could choose capital gains and, as a result, a smaller payout ratio. Furthermore, taxes imposed on capital gains are only paid upon the sale of the stock, which allows for the sale of the shares to be deferred indefinitely.

Since capital income in most countries is taxed at lower rates than dividend income, profit transfer of income gained by company to the partners as dividend income instead of capital income means reduction of income remaining after tax payment (Finnerty, 1986). In addition to this, even if capital income and dividend income are taxed equally, capital income will be taxed at lower level effectively. Therefore, investors are foreseen to prefer low profit distribution (Keown, 1996). Even if effective tax rates are applied to profit share and capital incomes are the same, there is a position for capital income preference.
Eckbo and Verma (1994) examined a sample of Canadian firms and found support for the consensus-dividend hypothesis, finding that as voting power of owner/managers increases, cash dividends decrease. They also found if managers have absolute control of the firm, dividends are almost always zero. From a sample of the UK firms, Porterba and Summers (1984) show that taxes affect the equilibrium relation between market returns and dividend yields.

Lasfer (1996) conducted research focusing on the UK firms and revealed that dividend policies are formulated to minimize tax liabilities and to maximize the after-tax returns for shareholders. The complexity of ownership structure, tax status, and dividend policy are interesting to study as Thailand has an imputed taxation system, which is quite different from that of the dual-taxation system used in the US, where corporate profits are taxed first at the corporate level and then at the recipient level after distribution. A dual-taxation system means that the relative tax differential between capital gains and dividends will influence the desirability of dividends for some groups of investors.

In addition, certain investors are tax-exempt (for example, pension funds and other institutional investors). The system of corporate and personal tax in Thailand may make the tax preferences of shareholders notably different than from those of the US firms.

It can be clearly shown that the tax preference could affect whether the shareowner would prefer dividends or capital gains, giving rise to this hypothesis:

After explaining all these theories, it is summarized these theories relationship with dividend policy as following:

Theories	Dividend Payment Relevance
M&M Irrelevance	Irrelevance
Clientele Effect	Irrelevance
Bird-in-the-Hand	Positive Relevance
Agency Cost	Positive Relevance
Information Signaling	Positive Relevance
Transaction Cost	Negative Relevance
Tax Disadvantage	Negative Relevance

2.3.3.7. Theoretical Behavioral Models

The concept of "homemade" dividends allows investors to tailor their personal portfolios according to heir individual preferences, thereby generating income. Analysts often argue that this income is derived from individuals adjusting their portfolio composition to align with their desired outcomes.

Eeldstein and Green (1983) proposed a model that considers five key factors in the corporate dividend lecision-making process:

1- Dividend policy is affected by the consumption needs of investors. Retaining earnings and paying dividends incur different tax liabilities, and the costs associated with selling shares to generate income can outweigh the tax advantages of dividend payments.

2- When compared to the market value of dividends, the market value of retained earnings frequently appears to be lower.

3- The goal of sustaining steady-state growth and having an optimal debt-to-equity ratio is aligned with the dividend payments that are made.

4- Addressing the agency costs that are incurred as a result of the separation of company owners and managers may be accomplished through the use of dividend payments. It is possible to make use of them for signaling reasons, which will assist reduce the expenditures incurred by the agency.

5- Despite the fact that the model admits the existence of asymmetric information and agency costs, it does not rely primarily on these faults in the market. Instead, it takes into consideration the participation of shareholders who have a wide range of tax obligations and a variety of objectives within the context of an equilibrium framework that takes into account uncertainty, which ultimately results in dividend payments.

Information-based models are applied for the goal of presenting an explanation for the presence of corporate dividends. On the other hand, the tax effects of dividends are presented as a counterargument to the reason. Both the aforementioned model and the notion of dividend clienteles are congruent with one another.

Even in the absence of taxes and transaction fees, dividends and capital gains may not always be regarded perfect substitutes. This is due to the presence of self-control concerns that restrict the capacity to delay satisfaction (Thaler and Shefrin 1981).

When shares sold for immediate income experience subsequent price increases, shareholders may experience regret aversion, leading to a preference for dividends. This preference is driven by a consumption rule that emphasizes the utilization of dividends rather than relying on invested capital.

It has been shown that there is a positive correlation between dividend yields and the rate of dissaving that were intended. Age is positively associated with dissaving, while income is negatively associated with it. Consequently, the dividend yields of portfolio have a positive association with age, but these yields have a negative association with income.

Marsh and Merton (1986) introduced the rational expectations model of dividend policy as management's response to permanent earnings. The amounts of equilibrium dividends are established by taking into account the anticipated profits in the future. The incorporation of dividends as signals is not compatible with this model.

For instance, investors who are looking for a reliable and stable source of income often prefer investing in bonds, which ensure that interest payments are made on a consistent

basis, rather than dividend-paying stocks, which are subject to value fluctuations. Because of the fixed nature of the interest payments that bonds receive, bondholders are no t concerned with the specific dividend policy of a certain corporation.

The second argument posits that investors would benefit more from a modest or nonexistent dividend payout. Advocates of this perspective emphasize the higher taxation rates that are imposed on dividends in comparison to capital gains. The argument against dividends is predicated on the premise that a company can enhance its overall value and, as a result, increase the market value of its stock by reinvesting funds rather than distributing them as dividends.

In addition to dividend payments, companies have a number of alternatives for excess cash, according to advocates of the no-dividend policy. The reinvestment of financial assets, the acquisition of new businesses and successful assets, the repurchase of firm shares, and the implementation of further projects are the alternatives that are available. An alternative viewpoint, on the other hand, emphasizes the relevance of a high dividend distribution for investors. This is because it provides assurance regarding the financial well-being of the firm and is appealing to individuals who are looking for quick income.

Also, numerous examples demonstrate how changes in dividend distributions can impact security prices. If dividend distributions were to be reduced or eliminated entirely, it would have a detrimental effect on businesses that have a lengthy history of making reliable dividend payments. On the other hand, raising dividends or making extra repayments of the same dividends would have a positive impact on these companies.

Despite these arguments, no single paradigm comprehensively explains observed corporate dividend behavior. Social norms and attitudes have a substantial impact on investor behavior (Shiller, 1984). Unfortunately, financial theorists have largely overlooked this motivation as a result of the challenges involved in integrating investor's behavior into conventional financial pricing models (Arbel, Carvell, and Postnieks, 1988). Taking into consideration these factors throughout the modeling process may assist enhance the building of a theory that explains the continuous presence of corporate dividend policy, as

stated by Shiller (1989). Additionally, this can help improve the overall quality of the theory.

Not only do ordinary investors face risk, but they also face uncertainty, which can be characterized by a lack of straightforward judgment and objective evidence (Knight, 1964). There is a possibility that social pressures may cause shareholders to engage in trading activities that cannot be rationally explained and to make misjudgments. These are not the result of rational lapses; rather, they are the result of blunders affected by the psychology of mass investors, which has a profound impact on the overall activity of the market (Shiller, 1984).

A socioeconomic-behavior paradigm should be incorporated into economic models in order to provide a better explanation for dividend policy, which is incompatible with the goal of wealth maximization of the shareholder.

Distributions of dividends may be seen as the socioeconomic repercussion of the growth of corporations. The motivation for dividend payments, which are meant to boost the attractiveness of equity issues, is the information asymmetries existing between shareholders and management (Frankfurter and Lane, 1992). When managers are aware that shareholders wanted dividends, they might choose either increase or initiate dividend payments to appease investors (Frankfurter and Lane, 1992). Dividend payments to stockholders are ritualistic reminders of the link between management and company's owner (Ho and Robinson, 1992). This contributes to promote the stability of the company. Frankfurter and Lane (1992) suggested that dividends are not simply a tradition, but also a way to alleviate investors concerns.

2.4. The Relationship between Dividend Policy and Stock Price

The graph that is provided below provides an illustration of the stock price plotted against dividend policy (payout) within the context of the dividend relevance theory. This graph is used to investigate the relationship between dividend policy and stock price. As per the dividend relevance hypothesis, investors prefer quick payouts, but in accordance with the

dividend irrelevance theory, they want to defer tax payments related with their investment (taxes). The graph is based on the assumption that a zero percent payout will result in a stock price of $30

According to the dividend irrelevance theory (MM), if it is correct, the stock price will remain unchanged at $30 regardless of whether the company keeps all of its earnings, pays out all of its earnings, or adopts a policy in between these two extremes. However, if investors have a preference for receiving dividend payments instead of capital gains, then an increase in dividend payouts (corresponding to a lower level of earnings retention) would result in a surge in the stock price.

Conversely, if investors prefer to defer tax payments, they would favor capital gains over dividends. Consequently, as the firm pays out more in dividends (retains a smaller portion of earnings), the stock price would decline

Figure 3 Possible stock price effects

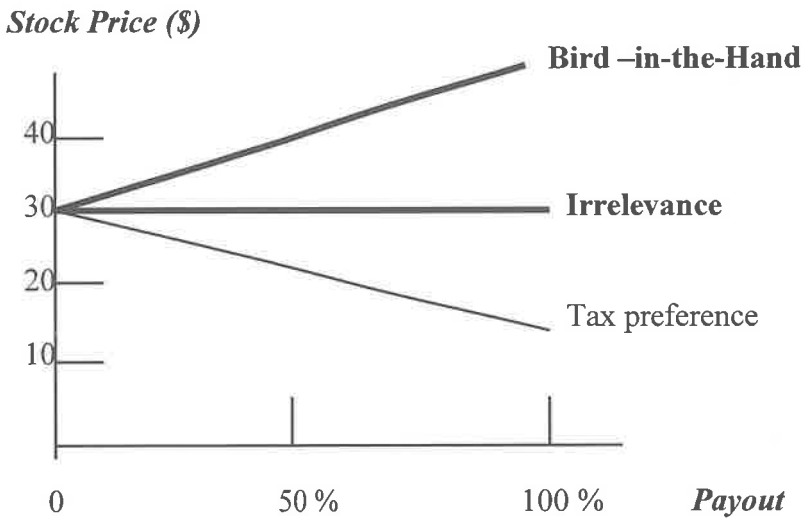
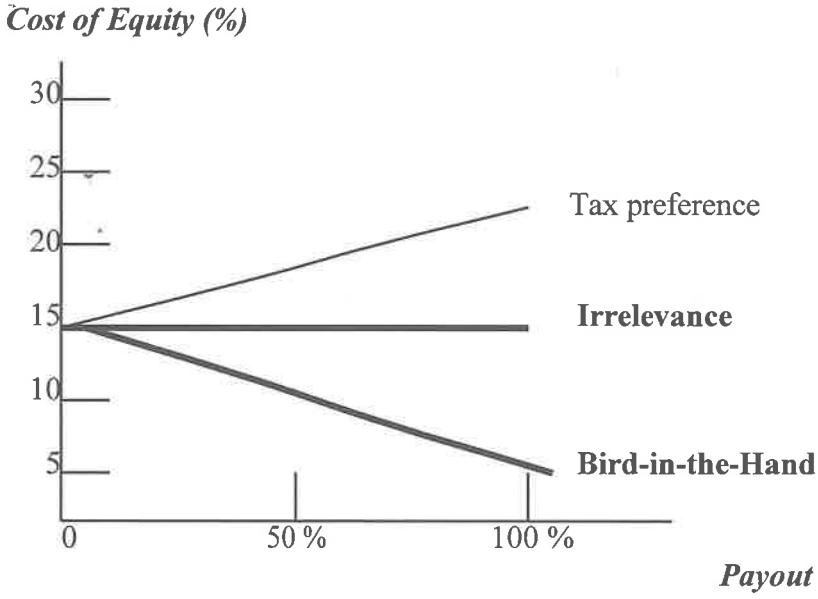


Figure 4 Possible cost of equity effects



Source: Brigham, Fundamentals of Financial Management, 10th edition, 2004.

Rationale for Paying Dividends

There are, in fact, reasonable justifications for corporations that are distributing dividends to continue paying them, despite the fact that the tax disadvantages of dividends are obvious, particularly for individual investors. First, there exist investors that have a preference for receiving dividends, either due to their exemption from or minimal tax obligations, or because they rely on regular cash flows. The reduction or elimination of dividends would not be regarded as positively by this investor group, and companies that have continuously provided dividends over extended periods of time are likely to have attracted investors that possess such traits.

Second, adjustments in dividend payouts provide firms with an avenue to communicate their level of confidence regarding future cash flows to the financial markets. Firms that exhibit higher levels of confidence are more inclined to increase dividends, a phenomenon often resulting in an upward movement of stock prices as a response.

In conclusion, in order to comprehend the valuation effects of dividend payments, it is essential to consider the associated between costs and benefits. Higher dividend levels

entail increased tax burdens and more frequent visits to capital markets, resulting in elevated transaction costs. However, they also signify a reduction in agency costs.

Given the tendency of firms to adhere to a sticky dividend policy, changes in dividends serve as signals of management's insider information. An increase indicates improved long-term performance, while a decrease suggests underlying issues with long-term performance. Therefore, cutting dividends is perceived negatively by the market, leading to a decline in stock prices.

Third, dividends can be utilized by firms to modify their financing mix and moving closer to an optimal ratio for debt. The primary benefits getting from dividend payments are tax clientele, agency cost, signalling and corporate liquidity.

Taxes are levied on the returns of shareholders through dividends or capital gains. The tax clientele theory posits that corporate investors favor a higher dividend payout ratio because dividends are subjected to taxation at a lower rate than capital gains. On the other side, individual investors with high incomes prefer a dividend payout ratio that is lower since dividends are subject to a higher taxation than capital gains. The results of empirical testing indicate a positive relationship between a company's dividend payment and the ownership of corporate investors, investors who are free from paying taxes, or investors who have tax-deferred investments. Nevertheless, there is a negative relationship between the company's dividend payout and the ownership of high-income individual investors.

Finally, the commitment to paying dividends may help reducing the amount of cash flows that are accessible to managers, which in turn may help reducing the conflicts that arise between stockholders and managers.

2.5. Residual Dividend Approach

Residual Dividend Approach is the method of distributing the residual amount as profit share after resources are allocated for investment expenses based on net profit of the firm. When it comes to funding any new initiatives, firms preferring to implement the residual dividend policy rely only on equity that is produced within the company. Therefore,

dividend payments are only provided from the residual equity once all of the capital needs for projects have been satisfied.

Prior to the distribution of any dividends, these firms often make it a priority to keep their debt-to-equity ratio in a balanced state. This indicates that the decision to pay dividends is made only if there is sufficient money remaining after all of the expenditures associated with operations and expansion have been satisfied.

Retained earnings are considered reinvested earnings as long as the returns on these investments exceed what shareholders could earn from other investments with similar risk levels. The graphical depiction that is located above provides an illustration of this idea, which states that a firm will keep its earnings up until the point where the marginal cost of capital intersects with the investment opportunity schedule. Following this, the residual earnings are distributed to the stockholders.

The most important advantage of the residual dividend policy is that it maximizes the utilization of lower-cost retained earnings, which in turn minimizes flotation costs and overall cost of capital. Furthermore, it helps avoid any negative signals associated with stock issues.

Nevertheless, strict application of the residual dividend policy would result in significant fluctuations in dividend payments from year to year due to varying capital requirements and internal cash flows. This inconsistency in dividend payments over time would create conflicting signals for investors on the future prospects of the company.

As a result of these signaling and clientele effects, the required return on equity would be increased, which would more than compensate for the advantages of decreased floatation costs. On an annual basis, the residual policy is followed by a small number of publicly held companies, if any at all, due to the aforementioned factors. Although the residual approach is not typically utilized in the process of determining yearly dividends, it does play a part in the process of creating long-term dividend policy for many companies.

On the basis of the residual dividend theory, it is proposed that dividends should be seen as the amount left over after a company has pursued all viable and feasible investment opportunities.

If one follows this strategy, the decision on the payout is reached in three stages:

1. Determine the level of capital expenditures that is optimal;
2. Make an estimate of the total amount of equity financing that will be required to support the expenditures;
3. Make use of earnings that have been reinvested in order to fulfill the equity need. When the available earnings that are reinvested are greater than the amount of equity that is required, the surplus, also known as the residual, is then distributed to stockholders as dividends.

In accordance with the residual dividend model, the following formula is utilized to compute dividends:

*Dividends = Net Income * Target Equity Ratio * Capital Needed*

To illustrate, let's say that a corporation has a target equity ratio of 60% and necessiatates to invest $50m in new projects. The company would require $30m in equity (0,6*50). If the company's net income is $100m, the dividend would be $100 million-$30 million, resulting in $70m in dividends. However, if the capital requirements were $200m, the company would not distribute any dividends.

Through the use of the residual dividend model, firms pay lower dividends when they encounter more attractive investment opportunities. However, strictly following this policy would lead to fluctuating dividend payments, which is typically unfavorable for investors..

Dividend stability can be maintained through the following steps:

1. Estimate the amount of earnings that will be gained and the investment opportunities over the following five to ten years.
2. Use these projections to calculate the average residual payout ratio.
3. Establish a target payout ratio based on this analysis.

2.6. The Measures of Dividend Policy

When determining the amount of dividends paid out, companies often use two factors. The first is the dividend yield, which has a relationship between the dividend that is paid out and the price of the stock:

Dividend Yield = Annual Dividends per share / Price per share

The significance of the dividend yield lies in the fact that it offers a measurement of the portion of the total return that is derived from dividends, with the remaining portion being derived from price appreciation.

Expected Return on Stock = Dividend Yield + Price Appreciation

A dividend yield can also be utilized for an investment screen and as a risk indicator. Their investment strategy is to purchase stocks that have high dividend yields. The equities that have high dividend yields provide excess returns when the performance of the market and the risk involved are taken into consideration.

Dividend paid share, dividend payout ratios, and dividend yield declared per share in addition to dividend payout ratio and dividend yield are the three factors that are utilized in the process of evaluating dividend policy.

2.7. The Dividend Payment Time Line

Earnings are redistributed as dividends. A quaerterly dividend is the norm for most companies, which pays a regular dividend every quarter. The board of directors determines the dividend. Dividend payments will be made to shareholders registered on the record date, according to the announcement.

It is possible for a company to pay additional dividends to shareholders if it has had a particularly good year. The payout ratio measures dividends relative to earnings, which is the measure by which dividends are paid. Four sections are involved in the process of paying cash dividends.

The date when investors must hold shares to be eligible for a dividend payment is known as the record date. The ex-dividend date is four days before the record date; on this day, the stock trades without the right to receive the upcoming dividend (i.e., ex-dividend).

Third section is declaration date, which is when the board of directors announces a payment of dividends. Distribution date, also known as the payment date, is the day on which dividendd are actuall paid to shareholders. This date typically occurs two or more weeks after the shareholders who owned shares on the record date are entitled to receive their dividends.

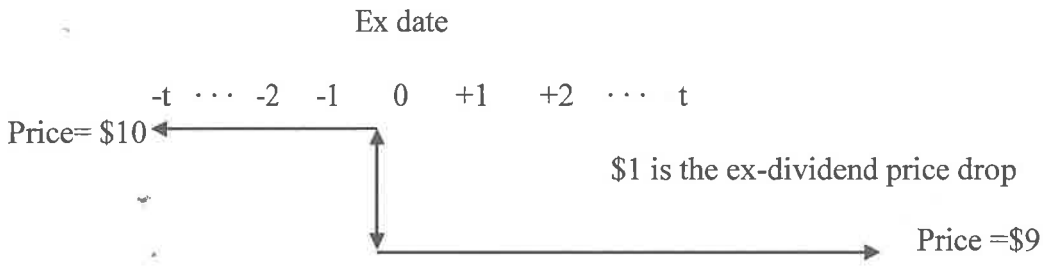
Approximately two weeks after that, investors get an email with information regarding the dividend payment. Shares are traded with dividends or cumulative dividends up until several days before record date. After this point, they are traded ex-dividends. There are also stock dividends that companies announce.

Figure 5 The Time Line for Dividend

- **Announcement Date**: The Board of Directors declares the quarterly dividend per share.
- **Ex-Dividend Date**: Investors must purchase the stock by this date to be eligible to receive dividends.
- **Holder-of-Record Date**: The company finalizes its books and records to determine the owners eligible for dividends.
- **Payment Date**: Dividends are paid to shareholders.

Source: Ross, Westerfield, Jordan and Roberts, "Fundamentals of Corporate Finance", 1999, page 556 .

Figure 6 **Example of Dividend Payment Procedure**



Source: Ross, Westerfield, Jordan and Roberts, "Fundamentals of Corporate Finance", 1999, page, 557.

Ex-Dividend Date (Time 0): The stock price is expected to drop by the dividend amount. For instance, if the dividend is $1 per share, the stock price will decline from $10 to $9.

- Before the ex-dividend date (Time -1): Dividend = $0, Price = $10.
- On the ex-dividend date (Time 0): Dividend = $1, Price = $9

Research indicates:

- Market reactions to unexpected dividend increases are generally favorable, resulting in positive abnormal returns over a 3-day announcement period.
- Earnings tend to rise significantly following the initiation of dividends.
- Announcements of unexpected dividend reductions or omissions tend to be perceived negatively by the market, causing negative abnormal returns over the same 3-day period.

2.8. Potential Dividend Policy Types Used In Practice

Dividends typically refer to the distribution of profits as cash payouts. They can be categorized in various ways. These dividends might be distributed in cash or issued as extra shares of stock. Stock dividends raise the overall count of shares available, often resulting in a reduction in the stock price.

Second, dividends may be classified as either regular or special. Regular dividends are distributed at consistent intervals, such as quarterly, semi-annually, or annually, while special dividends are additional payments made at irregular intervals. Most U.S. companies pay regular dividends quarterly, with special dividends issued at irregular intervals.

Finally, companies might distribute dividends that surpass their retained earnings, referred to as liquidation dividends. The Internal Revenue Service treats them as a return on capital instead of regular income, which can result in different tax consequences for investors.

Cash dividends are the most common type of payout. U.S. firms, in particular, have paid out almost half of their net income as cash dividends. Franklin Allen and Roni Michaely (2002), found that before the 1980's, companies that began distributing cash typically did so through dividends. However, since the early 1980s, the majority of firms have favored share repurchases for cash payouts.

Corporations can use a number of dividend payment methods to distribute a certain percentage of their earnings to its stockholders. Corporations may, however, either pay no cash dividends or may pay more dividends than their net revenue.

First, a firm might opt to distribute a fixed percentage of its earnings to its shareholders, following a constant payout ratio policy. If the firm's earnings decline or fluctuate, the dividend payments will similarly be affected. As noted earlier, investors often perceive volatile dividends as a negative and risky factor, potentially leading to a decline in share prices

Second, a firm might choose to implement a regular dividend policy, which entails the payment of a periodic payoutof a fixed-dollar dividend. Stockholders receive positive signals that the company is operating well using this technique, which also minimizes the amount of uncertainty that exists. Generally speaking, businesses that adhere to this policy will proceed to increase their regular dividend only once their earnings have established a constant level of stability.

Third, by paying low regular and extra dividends, a firm may pay additional dividends; when earnings exceed the normal level, the firm can distribute an extra dividend. This approach is commonly employed by companies with fluctuating sales and earnings.

2.8.1. The Advantages and Disadvantages of Potential Dividend Policy Types

The stable earnings policy of the company provides two significant advantages. To begin, it guarantees stable and predictable dividends, which conveys a favorable message to investors on the dependability of future revenues. Second, particular investor clienteles are able to readily recognize this policy thanks to its accessibility. However, on the other hand, it may put pressure on management to pay out more than is reasonable, which might possibly weaken the company or force it to defer investments that are lucrative, temporarily increase its debt ratio, or issue new common stock during a financial crisis.

The constant payout ratio policy leads to variable dividend payments, which (1) conveys confusing signals about future earning expectations and (2) is less appealing to many investor clienteles. Consequently, the policy contributes to the inconsistent nature of dividend payments.

The low regular plus extras policy offers benefits that are comparable to those of the stable, predictable dollar dividend policy. However, the low dollar amount reduces the likelihood that the firm will be compelled to take unfavorable actions in order to satisfy the dividend payment. From the investor's perspective, however, cash flows are less reliable than they would be under the secure, predictable dollar dividend policy.

Due to its drawbacks, only a small percentage of businesses today adhere to a policy of maintaining a stable payout ratio. Generally speaking, low-growth companies that have profits that are reasonably steady or continuously rising implement the stable, predictable dividend policy. On the other hand, cyclical companies that have earnings that are more erratic prefer to implement the low regular plus extras policy.

2.8.2. Dividend Policies Made by Firms

The authors test four dividend models in finance literature: The Full Adjustment Model, the Partial Adjustment Model (Lintner, 1956), the Waud Model (Waud, 1966) and the Earnings Trend Model (Fama and Babiak, 1968). Fama and Babiak support to Lintner's partial model for adding prior year earnings. According to their findings, profit shares of a

company may increase within a year. Managers want to see whether profit is permanent before arranging distibution of profit shares.

All four of the models are based on firm earnings (E), dividends (D), and payout ratio (r). The models differ in their assumptions about the speed of adjustment towards a desired payout ratio. The description of managers' dividend decision-making process is examined with this paper of Lintner's (1956)

The conclusion that can be drawn from this strategy is that dividends are not distributed until the management is certain that positive free cash flow will be maintained on a consistent basis in the years to come. To begin, the dividend levels are initially established at a relatively low or cautious level, and then gradually increased over the course of time. The reduction of dividends is taken into consideration only as a final option.

Companies make decisions about their dividend policy in order to ascertain the manner in which they will distribute their dividends and the ratio in which they will do so. Four "stylized facts" may be used to characterize the process by which dividends are calculated, according to the empirical study conducted by Lintner:

According to Lintner's (1956) "Stylized Facts" Model;

1. Businesses have a long-term goal for the dividend payout ratio they will achieve. On the other hand, growing firms have a smaller payout ratio than mature organizations when it comes to dividend paying corporations. Mature companies pay out a higher proportion of their revenues as dividends.

2. Managers place a greater emphasis on fluctuations in dividends than they do on absolute levels.

3. Changes in dividends are more likely to occur in response to adjustments in long-term, sustainable levels of profits than they are to a change in earnings in the short-term.

4. The management team is hesitant to make modifications to the payout that might potentially need to be reversed.

Lintner (1956), in his classical study, conducted a survey with managers of 28 firms in the 1950's with the purpose of gaining an understanding of how the managers establish their dividend policies. A significant number of respondents stated that their policy was directed by a certain percentage of their earnings. For example, one company could desire to pay out 40% of its profits in the form of dividends, whereas another company would have the objective of 50%. It may be deduced from this that dividends have a tendency to alter in response to changes in profits.

In his study, Lintner (1956), made the conclusion that the majority of firms are likely to follow the 'lead' of other firms operating in the same sector. On the other hand, there are instances where the firm could be concerned with maintaining some kind of conformity to other companies, whose securities are, from an investment standpoint, close substitutes for the firm's own securities, despite the fact that the other firms are in completely different sectors. The Industry-Related Dividend Leadership Hypothesis was the name that was eventually given to this concept.

It has been demonstrated via empirical evidence that dividends have a tendency to react slowly to changes in profits. There is a connection between changes in dividends and the amount of profits, the target payout ratio, and the speed of adjustment, according to an empirical model that was provided by Lintner. He contends that businesses that are more "conservative" take longer to attain their goal payout when earnings are higher. The formula that follows, which was developed by Brealey and Myers (1999), provides an illustration of these results.

Take for example a company that never deviated from a predetermined payout ratio. To that purpose, the dividend payment that is scheduled to be made in the next year (DIV1) would be equivalent to a fixed percentage of profits per share (EPS1).

DIV_1 = target dividend

= target ratio x EPS_1

The dividend change would equal,

$DIV_1 - DIV_0$ = target change

= target ratio x $EPS_1 - DIV_0$

Managers feel that consistent payouts lessen unfavorable investor reactions, according to Lintner's 1956 study. The findings of Lintner's (1956) survey are supported by surveys of chief financial officers (CFOs) conducted by Baker, Farrelly, and Edelman (1985) and Baker and Farrelly (1988).

Lintner's empirical study was supported by Turnovsky (1967) and Fama and Babiak (1968). According to these two studies, dividends are a function of both the current and historical profit, and fluctuations in sales level are negatively correlated with expected future earnings. In spite of the fact that it has been 30 years since Lintner's original survey, current income continues to be the most important criterion in establishing the dividend policy of a corporation.

2.9. Stock Dividends and Stock Splits

These dividend distributions do not raise the overall value of shareholders holdings. With a stock dividend, each shareholder owns a greater number of shares, but each share's value decreases accordingly. Similarly, a stock split results in shareholders holding more shares, which are also worth less.

The most well-known stock splits research was done by Fama, Fisher, Jensen and Roll (1969). The results show that 60 monthly sample of split-up stocks had positive abnormal performance before the split date between 1927 and 1959. Besides, Fama (1969), hypothesized that stock splits may be regarded by investors as a sign of impending changes to the company's expected cash flows, especially about dividend increases.

2.10. Share Repurchases

There are two benefits associated with stock repurchases: first, the capital gains tax that is associated with a repurchase can be deferred; second, repurchases do not constitute a long-term commitment and do not establish expectations for regular recurrence. Therefore, increasing dividends will convey a stronger signal of the company's business policy—this is especially true if it is anticipated that the surplus cash would be permanent. On the other hand, if the surplus of cash is meant to be transitory, the company can decide to repurchase its shares. All things considered, repurchase announcements are often regarded as positive signals by investors. When a firm repurchases its own stock, shareholders have the choice of either selling their remaining shares or keeping them in their possession.

2.11. The Factors Which Affect to Dividend Policy

As a firm makes a decision about profit distribution for that year, it has to analyze certain factors. These factors which may affect profit distribution of a firm are mentioned below by the firm. A number of factors, including tax preferences, external financing costs, signaling, agency and transaction costs, inflation, liquidity position, earnings stability, control, and management's personal preferences, have been cited as factors that influence management's decisions on dividends.

A theoretical research by Allen and Michaeli (2002) outlines that a firm's dividend policy may be influenced by five imperfections of the capital market: taxes, asymmetric knowledge, incomplete contracts, institutional constraints, and transaction costs.

2.11.1. Legal Constraints

Laws that regulate profit distribution policies change in different countries. While there are free regulations in developed markets, legal regulations are stricter in developing countries. Legal limitations determine dividend distribution policies of firms. Especially in Turkey, regulations about profit distribution policy are arranged by the Turkish Trade Code, Capital Market Law and other tax laws. Details of this issue are found in the section related to legal regulations.

It is possible for management to come to the conclusion that it is optimum to issue dividends despite the fact that doing so increases a tax burden on individual investors. This applies in situations when institutions refrain from investing in non-dividend-paying or low-dividend-paying shares owing to regulatory constraints.

2.11.2. Taxes

Different tax treatment of dividend income and capital gains influence the dividend policies adopted by firms. If dividends face higher taxes than capital gains, and investors cannot employ dynamic trading strategies to bypass this higher tax burden, then minimizing dividend payouts becomes the optimal strategy.

Divergent taxation of dividend income and capital income impacts the dividend policy implemented by companies. Optimal dividend minimization is the best approach when dividends are subject to greater taxes than capital gains and investors are unable to employ dynamic trading strategies to avoid this higher taxation.

2.11.3. Investment

Firms may keep their profit within the company if they want to use their profit gained in that period for investment purposes. However, exports will bring costs. As a result, stock number of firm in the market will increase and this will create a negative situation for shareholders.

2.11.4. The Cost of Financing

Especially, newly established or small companies may want to use profit in order to strengthen financing instead of distributing dividend because they will provide growth by investment.

2.11.5. Export Cost

According to export cost, financing may arise after high amount of payments made by companies. The fact that this need is supplied from internal resources, this will bring an

additional cost because new exports will be necessary. In addition to this, if the amount of export is more than required resources, then a negative condition for current partners will arise.

2.11.6. Liquidity

If companies make profit regularly, dividend payment will be easier. If companies can not make profits regularly or cannot make enough profits, this situation will cause problems in dividend payment. Profit of a company may not be enough for dividend payment. Liquidity situation is also important. There will be no liquidity problem for dividend payment. Especially in case of inflation, dividend distribution may not be made due to an increase in capital need.

2.11.7. Transaction Cost

Positive payouts of dividends may be optimal if it minimizes transaction costs to stockholders, whether they are direct transaction costs or the effort of self-control.

2.11.8. Payback of Debts

If companies continue their activities with the help of debt, they will prefer repayment of their debt instead of dividend distribution.

2.11.9. Control

Especially, small scale companies prefer keeping their profit within the company instead of dividend distribution because current partners may not receive new shares in case of export due to dividend payments, and this will cause reduction of control on companies.

3. THE COMPARISON OF COUNTRIES REGARDING DIVIDEND POLICIES

There are variations in how firms establish their dividend policies across different countries. In the United States, companies generally distribute dividends on a quarterly basis, while in other countries, dividends are typically paid either semi-annually or annually. Aivazian, Booth and Cleary (2003) found out that there is a very little similarity between dividend policies of developing countries and dividend policies of developed countries. For example, in two developed markets, such as the US and the UK, there is a liberal and flexibility business law and regulations, but in developing countries such as Turkey, business law is heavily regulated. Especially, in Turkey, dividend payout ratio is about 60%, median is 62% and according other 7 countries such as Korea, India, Malaysia, Tayland, Zimbabwe, Pakistan, Jordan, the payout ratios are high in Turkey. The cause of this is regular arrangements in that period.

Aytaç (1997) stated that while there are no direct restrictions on making dividend decisions, certain limitations have been placed on internal financing in countries like Germany and Switzerland to maintain a balance between dividend payouts and retained earnings. Additionally, some emerging market governments impose constraints on dividend policy to safeguard the interests of both minority shareholders and creditors (Glen, 1995).

Aivazian, Booth and Cleary (2002) identified the leading corporations in terms of size from eight emerging markets; including India, Korea, Malaysia, Thailand, Turkey, Pakistan, and Zimbabwe over the period from 1980 to 1990. The dividend policies of corporations were examined via a comparative analysis of a control sample of companies based in the United States. The finding indicated that the control group, which consisted of the 100 largest companies in the US had an average dividend payout of 41% and a median of 39%. The median payout ratios for the eight developing markets are comparable to those of the corresponding US companies. The dividend yield of Turkish businesses is clearly higher than that of US firms, but Pakistan firms also exhibit higher dividend yield

These companies had greater return on equity (ROE), lower levels of debt, higher coverage ratios, and larger current ratios, particularly in Turkey, which had the highest number of corporations that cut their dividends. On average, the firms in Turkey that reduced their payouts were more financially stable than the ones that boosted their payments. This conclusion was reached after considering the entire objective factors considered.

Korea and Malaysia have more advanced legal and accounting systems compared to other countries in the region, although they still do not fully meet the standards of the United States.

The Turkish Commercial Code, based on Continental European business law (civil law), was adopted in the 1950s. Generally, civil law countries have weaker legal protections for minority shareholders compared to those found in common law countries (La Porta et al., 1999, p.6).

However, Karacan (1997) asserted that civil law countries have begun incorporating elements of common law, and the establishment of the Capital Markets Board in Turkey aligns with this legal framework.

Glen (1995) pointed out dividend payout ratio rather than the absolute level of dividends is more important to firms in emerging markets. As well as being approximately two-thirds as high as those in OECD countries, dividend payout rates in developing countries are lower.

In his study, Adaoğlu (1999) compared dividend policies of developed and under developed countries. These comparisons are stated as dividend decisions, frequency of payments and source of dividend payments following:

- In the U.K. and the U.S., the management exclusively makes dividend decisions, which are then announced at the annual general meeting. Shareholders do not have any voting power to influence this decision.

- In Turkey, the board of directors determines the dividend policy at the annual general meeting, which is then subject to approval by shareholder vote.

-There are no restrictions on the frequency of dividend payments in the U.K. and the U.S.
- In Turkey, companies listed on ISE are required to distribute dividends annually. However, it is common practice for many corporations to distribute dividends either quarterly or annually.

- Dividend payments in the UK and the US are directly made from the net profit of the respective fiscal year.

- In Turkey, dividends are paid out from the "net profit available for distribution." This atmount is calculated by subtracting prior years' losses, legal taxes, and the first legal reserve from the net profit of the fiscal year.

In the Czech Republic and Iceland, companies can partially deduct dividend payments, but no country permits a full deduction. In Germany, for instance, a higher tax rate is applied to retained earnings than to income paid out as dividends, effectively acting as a partial tax deduction for dividend distributions.

In certain nations, the tax rate applied to dividend income matches to the rate on capital gains. For instance, in Korea, dividend earnings are subject to a flat tax rate of 16.5% (Damodaran, 2003). In the United States, shareholder returns are subject to double taxation, involving both corporate tax and income tax. However, a tax reform in 1986 equalized the tax rates for profit share and capital income at 28% (previously 50% for profit share and 20% for capital income)..

In Germany, investors face higher taxex on dividends compared to capital gains, but this is partially offset by a split-rate system of corporate taxes. In some other countries, shareholder returns are not subject to double taxation. For instance, in Australia, while shareholders are subjected to taxation on their dividends, they are allowed to offset the amount of corporate tax already paid by the company under a system called the imputation

tax system. In contrast, German firms generally distribute a smaller percentage of their cash flows than firms in the UK and the US.

In another study Yılmaz (2003) showed that, dividend distribution ratios are between 30% -40%, especially in underdeveloped countries period 1986 through 2002. This ratio is more high than developed countries. For example, this ratio is 66% in 1993.

4. LEGAL ARRANGEMENTS IN TURKEY

The Turkish Capital Market has been organized as per the general provisions of the Turkish Commercial Code, Civil Code, and Code of Obligations as well as notifications communicated by the Central Bank of Turkey up to 1981. However, serious arrangements were undertaken in the capital market concurrently with Capital Market Code No 2499 that has come into force after 1981.

The aim of such arrangements is to effectively increase the public share in economic development by channelizing their savings into stocks and to spread the capital to the base. As with the Code No 2499 in which statutory arrangements are framed in a literal sense, a huge niche was filled up with respect to the arrangements of the capital market. Today, Code No 2499 is still in effect, in accordance with the economic developments of the market.

Before 1982, shareholders asked profit shares to be secured under the laws, and the followings were implemented as per the developments in the Capital Market; enormous amendments were undertaken in the Capital Market CMB Code No 2499, dated 1981, by adding new provisions to the Code No 3794 in 1992. Afterwards, Code No 4487 was amended in accordance with the continued developments in the market in 1999.

Statutory arrangements on basics for profit distribution and the notifications issued by the board on specific dates are supplemented as in other particularities as yet.

In the notification called **"The Basics for public incorporated companies, dependent on the Code of the Capital Market, to abide by Dividend and Dividend Advance Payments"** issued by CMB with serial IV No 27 in 2001, the basics for dividends, dividend advance payment and profit disturbing to nonvoting shares holders and dividend security are included particularly for public incorporated companies to be dependent on Code of Capital Market.

The basics for profit disbursements of the public incorporated companies with more than 250 shareholders are specified as max 75% of distributable profit before 1982, it is specified as min 50% of distributable profit between 1982 and 1994 as per the framework

of statutory legislations. a cash dividend which is known as 'first dividend' in Turkey (Aytaç, 1998).

"First dividend ratio and dividend payments" known as Compulsory Dividend in Turkish Capital Market are set forth in Code No 3794 Article 15 with amended Code No 2499 come into force in 1992; and in Article 7 of "The Basics for public incorporated companies, dependent on Code of Capital Market, to abide by Dividend and Dividend Advance Payments" Serial IV No.1 issued on February 26, 1982.

It is forbidden to pay all other dividend payments and to set up reserves without paying first dividend to the shareholders in pursuance with the Article 15. While dividends were paid up to the shareholders before the end of the 9^{th} month, this period was decreased to the end of the 5^{th} month as a result of the new arrangements organized in 1995.

Other important revision is to abolish the compulsory first dividend payments for the companies trading in ISE as of 1994. This particularity is not in effect for the companies that are not trading in ISE.

Furthermore, it is allowed to distribute first dividend of the companies trading in ISE as cash or free stock in pursuant with the notification released in 1995. Besides, it is allowed to distribute less than minimum dividend distribution ratio of 50% provided that it is agreed by ordinary general board.

While it was mandatory to distribute 20% of distributable profits obtained from activities in 2003, this ratio was determined as 30% in 2004.

5. ANALYSIS OF EMPIRICAL TESTS OF DIVIDEND THEORIES

The contradictory findings of empirical analyses can be attributed to variations in modeling approaches, analytical methods, data types, or the sample periods used.

Since dividend income is subject to taxes, Elton and Gruber (1970) argued that the market assigns a lower value to a dollar of dividends in comparison to a dollar of capital gains. This view is consistent with the results of earlier studies. As a consequence of this, they anticipate that the stock prices on the day that the dividend is exempt from taxation would normally decrease by a lesser amount than the amount of the paid dividend. Additionally, they made the observation that the ratio of price movement to dividend increases, which results in a fall in the ex-dividend return as the dividend yield of the security grows. In addition, Elton and Gruber noticed that the indicated tax bracket decreased as the yield on the investment increased.

That study investigates the effect of dividends on shareholder wealth by analyzing a sample of 168 firms (Asquith P. and Mullins D. W., 1983). The empirical findings revealed larger positive excess returns compared to previous studies focusing on dividends.

This outcome is independent of other factors, including earnings announcements, and the excess returns are positively correlated with the size of the initial dividend payment. The following dividend increases were also examined, and the findings lend credence to the argument that both initial dividend and subsequent payouts provide the general public with information that is of great value. This study utilized daily data and controlled for information effects.

All of the companies that were analyzed had not distributed dividends throughout their business histories or for a period of at least 10 years. 168 companies that had not paid dividends for at least ten years were the subjects of the research. The researchers focused on the average daily excess returns and cumulative excess returns for the ten days prior to and following the announcement of the first dividend. The findings during the 2-day period of announcement are not only considerable but also statistically significant, with a positive

market reaction being recorded for 70% of the companies. The 2-day excess return stands at 3.7%, with a t-statistic of 6.59.

The regression results indicated a positive and significant relationship between the size of the initial dividend and the firm's excess return on the announcement day. For this sample, initiating dividends and subsequent dividend increases enhance shareholder wealth. In conclusion, initiating a dividend policy is important as it serves as an information signal, and the market reaction is both strong and positive.

Asquith, Healy, and Palepu (1989) investigated 121 stock splits involving firms that did not pay dividends before or during the year of the announcement. Their research suggests that earning increased significantly in the years leading up to the split.

Barber and Lyon (1997) focused on two main aspects in their analysis. First, they considered the computation of long-run abnormal returns by comparing cumulative abnormal returns, which are the sum of monthly abnormal returns, to buy-and-hold abnormal returns, which represent returns over the entire holding period.

Second, they assess three main techniques to constructing a benchmark for anomalous returns, including the use of a reference portfolio, a matched control business, and the use of the Fama-French three-factor model.

Two conclusions may be drawn from the empirical findings. To begin, using a reference portfolio, such as an evenly weighted market index, to determine long-run anomalous returns presents difficulties since actual rejection rates surpass theoretical rejection rates. However, when employing this technique to estimate aberrant long-term stock returns, the test statistics are well-specified.

Second, when long-run abnormal returns are computed as the difference between the buy-and-hold returns of sample company and the reference portfolio (which may me something like a market index), the test statistics show a significant negative bias. However, this bias is reduced when buy-and-hold abnormal returns are computed by subtracting the returns of sample firms from those of a control company that has been properly selected.

Aydoğan and Muradoğlu's (1998) work investigated the price responses in the Turkish stock market to the announcement and implementation of rights issues and stock dividends. To collect data, a postal questionnaire was utilized, which included the date of the board meeting, the decision to issue stock dividend rights, as well as date and method by which this information was made public.

As the market evolved, the second sub-period saw a diminishing of the previous sub-period's large and consistent price responses to the revelation of board decisions. Additionally, around the dates of the announcements, anomalous returns were similar for widely and closely held businesses, showing that first sub-period's excess returns were not brought on by a rise in the supply of shares from the latter group.

Throughout the second sub-period, cumulative anomalous returns were negative for generally held firms and positive for tightly held companies. Excess returns following the actual implementation of stock dividend-rights offers were larger, despite the fact that they were not statistically significant. Additionally, throughout this time frame, the cumulative anomalous returns were positive for tightly held companies.

The present study was inspired by suggestive data showing that the market responses to the execution of stock dividends-rights offers may differ from those to board decision announcements. To explore this phenomenon, the study used a larger sample size, encompassing all companies listed on ISE and all stock dividend rights offering implementations.

It is possible to draw the conclusion that non-parametric tests, including the rank test and the sign test, did not demonstrate any superiority to the established ESM. A substantial event window was seen over a period of up to 18 days in this investigation. Furthermore, despite the fact that the sign test is more effective than the rank test when it comes to handling extremely abnormal returns, it was not suitable for this specific case.

The literature contains a substantial body of research on the effect of dividend announcements on equity prices. In general, announcements of increased dividend

payments are linked to rising equity prices, whereas dividend reductions announcements are associated with declining equity prices (Pettit, 1972; Aharony and Swary, 1980; Kwan, 1981; Brickley, 1983; Aharony and Dotan, 1994; and Kaestner and Liu, 1998).

Adaoğlu (2000) empirically investigated whether corporations listed on the ISE adhere to stable cash dividend policies. The data includes industrial and commercial firms listed on ISE. Selected dividend policy observations for the periods 1985-1994 and 1995-1997 total 916 and 566 respectively. Lintner model was used as methodology.

Time-series, cross-sectional, and panel data regression are all integrated. Additionally, the pooled ordinary least squares, fixed effect model, and random effect model are all employed as regression procedures. The Hausman test and F-statistic are employed in order to select the best model. These experiments demonstrate that, in order to assess the regulation impact, the estimate approach is a random effect model. The Lintner model output is negative and has a reduced target payout ratio following the regulation adjustment in 1995. There has been an increase in resources for internal finance as well as companies that stopped paying cash dividends.

Travlos (2001) looked into the reactions of the stock market to cash dividend increase announcements and stock dividends in Cyprus' stock market. The test outcomes revealed that when companies announce increases in their cash or in stock dividends, the stock market returns for such companies are considerably positive.
The hypothesis (H1: There is a positive and considerable abnormal return when a stock dividend is announced) predicts that cash dividends have a positive influence on company value.

Stock returns from 1985 to 1995 are used to generate the sample data. ESM based on the market model was utilized to determine the shareholder wealth effect for dividend announcements. Each security's market-adjusted and risk-adjusted daily returns are calculated.

Nevertheless, the positive CARs observed within the two-day window around the cash dividend announcements provide support for hypothesis H1.

A paper by DeAngelo (1992) documented the common practice of NYSE firms paying special dividends, but this practice is now rare. However, over the past few years, large special dividends have become more common.

Firms that discontinue paying special dividends tend to replace them with more frequent regular dividend increases, without changing the overall pattern of total dividends, according to the Lintner (1956) model. Companies that reduce special dividends often increase regular dividends, effectively making the two types of payouts more substitutable—a trend that has become more evident in recent years. The stock market usually reacts to the special dividend announcements, bıt it does not systematically differentiate between increases and decreases in specials that still result in a positive level. Managers are incentivized to issue special dividends more frequently, making them more similar to regular dividends.

Firms that persist in paying special dividends tend to have lower levels of institutional ownership, suggesting that the long-term shift toward a more sophisticated shareholder base contributed to the decline of less distinct dividend signals. Additionally, special dividends were not replaced by stock repurchases, indicating that the majority of special dividends ceased independently, rather than due to managers recognizing the tax benefits of repurchases.

When compared to value-maximizing enterprises, overinvesting firms get stronger agency-related advantages from dividend payment increases, which leads to higher abnormal returns, according to Lang and Litzenberger (1989). Finally, there is conflicting data supporting the free cash flow theory, which most scholars believe is due to flawed empirical research rather than erroneous theoretical assumptions.

According to research by Brav, Graham, Harvey, and Michaely (2003) growing historical profits per share (EPS) is a factor in many US companies' justicifations for stock repurchases.

Erik Lie (2000) demonstrated that corporations typically adopt three strategies when they have funds exceeding industry norms before certain events: initiating or increasing regular dividends, repurchasing shares, and paying special designated dividends (SDDs). According to Lie (2000) excess funds are mostly nonrecurring for firms engaging in SDD and self-tender offers, while they are recurring for those that increase regular dividends. There are two potential sources for positive returns. The first is the signaling hypothesis, which suggests that managers have valuable information on future cash flows that the public does not have. The second is excess fund hypothesis, which argues that cash disbursements may reduce agency problems between managers and shareholders.

La Porta et al. (2000) underscored the relevance of external investors' capacity to compel management to distribute dividend cash. Analyzing data at country level and focusing on dividend payments, they demonstrate that payout policies differ across legal regimes in ways that are consistent with investors in jurisdictions that provide adequate legal protection using their power to extract dividends from companies, particularly when profitable reinvestment opportunities are limited.

Inconsistent results have been obtained from additional research on the applicability of the free cash flow hypothesis to various payout methods, including share repurchases and special dividends.

Brav et al. (2003) reported that dividend decisions are made with great caution, as demonstrated by executives' strong hesitancy to initiate dividends and their significant reluctance to cut dividends once they begin distributions to shareholders. Consequently, dividend-paying companies tend to have more steady and consistent earnings than non-dividend-paying companies, and they experience less earnings volatility.

Gorman, Weigand, and Zwirlein (2005) investigated the empirical characteristics of companies that resume cash dividends in order to ascertain whether or not dividend resumption is comparable to dividend initiation, signifies a substantial dividend increase, or is perceived as a distinct occurence by companies before and after the announcements. The primary objective was to assess how the market perceives dividend resumption in comparison to other types of dividend changes.

They discovered that firms resuming dividens earned significantly higher long-term excess returns compared to those announcing dividend initiations or increases. The average cumulative excess return for companies resuming dividends is 136% within a two-year timeframe surrounding the event, which exceeds the returns observed in studies of dividend initiations or increases. The results indicate that there is no systematic risk (beta) associated with the resumption of regular dividend payments, although the conditional (GARCH) total risk is significantly lower. Additionally, dividend resumption, considered as a distinct occurrence, differs from other favorable changes in a firm's dividend policy.

The study examined a sample of firms from NYSE, AMEX and NASDAQ that are listed on the Center for Research in Security Prices (CRSP) database that resumed regular cash dividend payments between 1974 and 1995. In this paper, it is investigated stock returns around dividend resumption, changes in profitibility and changes in risk around dividend resumption.

They computed daily buy-and-hold excess returns and found that sample firms gained substantial cumulative excess returns of 2.8% from days -1 to +1 around the dividend resumption announcement (t= +3.54). The findings suggest that a firm's announcement of intention to reinstate regular cash dividend payments sends a positive signal to the public.

In addition to that, they performed a cross-sectional regression analysis in order to estimate the return for 3-day announcement period. The value of adjusted R-squared was 1.74%. It was found that the announcement returns associated with dividend resumption are insensitive to the duration of time. Their provide credence to the hypothesis that changes in dividend are linked to both past and present changes in profitability.

Using both recent and historical data, Koch and Sun (2004) conducted an investigation into the statistical correlation that exists between market reaction and dividend increases in relation to earnings changes. The investigation's results showed that there was a statistically significant negative correlation between the reaction of the market during the announcement of the dividend change and the earnings change that came before it. The conclusions that may be drawn from this are that investors view changes in dividends as

signals that reinforce the consistency of previous earnings movements. They also discovered that choices to boost dividends are impacted more by the growth of profits in the past and the growth of earnings in the present than by the potential growth of earnings in the future. Instead than reflecting future expectations, dividends continue to represent the performance of the company in the past.

Fama and French (1999) reported a decline in the percentage of non-financial companies paying dividends in the US from 66.5% in 1978 to 20.7% in 1998. Besides, three factors (profitability (+), investment opportunities (-) and size of company) are identified as influencing a company's likelihood of paying dividends.

Allen (2002) stated that six key empirical observations are crucial in the discussion regarding payout policies:

1. Established and large corporations generally distribute a substantial portion of their earnings to shareholders through dividends and share repurchases.

2. Dividends have historically been the primary form of payout, while share repurchases gained prominence only in the mid-1980s and have subsequently become an important method of payment.

3. The proportion of dividend-paying companies among US exchange-traded companies has steadily decreased. Starting in the early 1980s, the majority of companies have chosen to make cash payments to stockholders via repurchases rather than issuing dividends.

4. Individuals in high tax brackets receive substantial amounts of cash dividends and bear significant tax burdens on these dividend payments

5. Corporations tend to smooth our dividends relative to earnings, whereas repurchases exhibit greater volatility compared to dividend payments.

6. The market typicall responds favorably to announcements of share repurchases and dividend increases, while it tends to respond unfavorably to announcements of dividend decreases.

This pattern has been well-documented in numerous research, including those by Pettit (1972), Chărest (1978), Aharony and Swary (1980), and Michaely, Thaler, and Womack (1995) for dïvidends, as well as by Ikenberry, Lakonishok, and Vermaelen (1995) for share repurchases. This is consistent with the perspective that managers have more information than external investors, and that changes in dividends and share repurchases may signal insights into future cash flows (Bhattacharya, 1979, or Miller and Rock, 1985), or the cost of capital (Grullon and Michaely 2002, Grullon, Michaely and Swaminathan 2002).

In a study conducted by Odabaşı (1998), the stock return reactions to earnings dividend announcements on ISE were analyzed. The event study used 92 securities and 600 earning announcements between 1992 and 1995. The Sharpe Model (1964) was applied to eliminate market-wide factors from price changes. AR, CARs, SAR, CSAR are computed, respectively. Besides, an expectation model was employed to classify earnings announcements as either good or bad news. The results show that the mean squared excess return on the announcement day was significantly greater than during the non-event period, supporting the idea that these announcements convey valuable information.

Yılmaz (2003) conducted a similar study in Turkey and demonstrated that companies listed on ISE distributed cash dividend, they took that dividend back via capital increase with charge period 1986 through 2001. After 1995, companies began to distribute shares in stead of cash dividend payment. According to and Muradoğlu (2003), companies increased their capital by share distribution, thus, they charged and increased their capacity of debt and capital.

6. THE EVALUATION OF DIVIDEND POLICY OF THE COMPANIES IN ISE

This research presents an analysis based on a research of the dividend policies of companies listed on ISE. The impact of dividend announcements on the wealth of shareholders was assessed through the standard ESM, applying the single-factor market model to adjust for risk-adjusted returns. Given the large sample size, the z-test statistic was employed. Consequently, the study's hypothesis was formulated and tested accordingly.

H1: There is a positive and significant abnormal return following a cash dividend announcement, which positively impacts shareholders' wealth.

6.1. The Explanation of Study and Data

In this study, a table formed up to illustrate the cash dividends and cash dividend disbursements details of 321 companies by reviewing their data, which are trading on ISE in Turkey, for 20-year period during 1985-2004.

Data on 3469 cash dividends events, along with daily stock returns, were collected from company news section of ISE website over a thirteen-year period, from 1992 to 2004. Besides, news (announcement dates) of companies that were listed in the ISE are shown periodically on the web side were read and prepared as an excel table.

At the same time, distributable periodic net profits has been checked and calculated then entered in the table. Dividend rates distributed as cash and stock and yearly dividend rates that have to be distributed as a legal obligation are also shown at the table.

Moreover, study data are compiled and calculated by using annual bulletins issued by ISE, financial tables of companies, and news released by various companies under investigation. However, some companies are removed from the analysis because of the shortage in data, such as lack of distributable profit and company details of 552 event year between 1985 and 1992 as well as unusable balance sheets and income tables of 133 event year.

Besides that, cash dividend details of 13 event year have not been obtained. Hence, 558 event years are removed from analysis since their dividend disbursement activities not to be performed because of their loss in business. Total of 1315 problematic event year are removed from data table, and it is determined that the best period for data usability is between 1992 and 2003, and only 1138 event year are included for analysis. To increase the usability of data to be used sample period between 1998 and 2004. During the study period, a total of 805 cash dividend announcements were made by 208 companies, encompassing both small and large-scale companies.

The determination of dividend announcements in this research was carried out using the standard ESM, which accounted for risk-adjusted returns. Eight steps were used to ESM in this research. The first step involved identifying the event date, which is the point in time when the market initially becomes aware of the relevant new information. The second step was to determine the number of trading periods (typically measured in days) before and after the event date fall within the event time window.

In the present study, event window is -15 through -5, -1 through 0, 0 through +1, -2 through +2, -4 through +4, +5 through +15, -15 through +15, -30 through +30, and -50 through +50, the estimation period might range from -250 through +250 is used. The estimation period refers to the period during which the returns on the stock are observed without the influence of the event date. 208 firms are selected as a sample, thus, the fourth step is realized. Besides, -250 and +250 trading days of those firms are entered in the excel table as estimation period and the announcement dates coming across with those days are formed at second column. After that daily incomes and daily end-day prices based on ISE-100 index between the years 1998 and 2004 are entered in the table and compared.

Yearly legal dividend payment obligation rates are shown in the same table where current and previous dividends are shown. The table that includes the data is written in matlab program because of the long time needed for calculations, and then results obtained by some calculation methods.

Before delving into the results, the study will provide a detailed explanation of the calculation methods and the formulas employed.

6.2. Methods Used in the Study

The Standardized Abnormal Return (SAR) is computed for each firm and day within the event window using the following formulas:

$$SAR_{jt} = \frac{\tilde{AR}jt}{\sqrt{\tilde{SAR}}}$$

where:

- SARjt is the standardized abnormal return for firm j at time t.
- AR_{jt} = is the abnormal return for firm j at time t
- $\sqrt{sAR}$ = square root of the variance of the AR for firm j at time t
- sAR = standard deviation of the abnormal return for firm j at time t

The variance is calculated using the following formula:

$$SAR = \left(\frac{\sum_{t=-250}^{-50} (ARjt(est.period) - \overline{ARj()})}{Dj - 2} \right) * \left(1 + \frac{1}{Dj} + \frac{\left(Rmt(event.window) - \overline{Rm}\right)}{\sum_{t=-250}^{-50} Rmt(est.period) - \overline{Rm(est.period)})} \right)$$

where:

s^2AR is the variance of the abnormal return for firm j at time t.

ARjt(est. Period) represents the abnormal return for firm j at time t over the estimation period.

ARj is the mean abnormal return for firm j over the estimation period.

Dj is the number of observed trading day returns for firm j over the estimation period.

Additional terms used in the analysis:

$R_{mt\ (event.\ window)}$ is the return on the market (ISE 100) at time t over the event window

$R_{mt\,(est.\ period)}$ is the return on the market (ISE 100) at time t over the estimation period

$\overline{Rm}$ is the mean return on the market (ISE 100) over the estimation period

In the subsequent analysis, alpha is computed to establish the relationship between the stock and the overall market when no specific event occurs. The residual for the firm for during the estimation period is obtained by subtracting the actual return from the expected return on the stock.

For the cumulative analysis, the Z-statistic (ZtZ_tZt) is calculated as:

$$.Z_t = \left(\frac{1}{\sqrt{N}}\right)\left(\frac{\sum_{T_1}^{T_2} SARjt}{(T2-T1+1)\left(\frac{D_j-2}{D_j-4}\right)}\right)$$

where:

Z_t = the Cumulative TSAR Z-statistics for each day in the event window

N = 208 represents the number of firms in the sample SAR_{jt} = SAR for firm j for each day in the event window.

SARjt is the standardized abnormal return for firm j on each day in the event window.

T_1 = earliest date in the window (-15)

T_2 = later date in the event window (ranges from -15 through +15)

D_j = number of observed trading day returns for firm j over the estimation period

7. THE ANALYSIS AND INTERPRETATION OF THE RESULTS

The Stock Market Response to Dividend Changes on the Istanbul Stock Exchange

AR (Panel A) and CAR (Panel B) induced by cash dividend announcements (n = 805), calculated using the market model (risk-adjusted). Z-statistics are provided in parentheses

Table 1

Panel A: Daily Abnormal Returns (AR)

	Market Model (risk-adjusted)	
Period	**Cash dividends**	**z - value**
-4	0,0477	
	(1,3438)	
-3	-0,0024	
	(0,0670)	
-2	0,0057	
	(0,1621)	
-1	0,0361	
	(1,0172)	
0	0,0373	
	(1,0514)	
+1	0,0794 **	
	(2,2377) **	z-value >1,96
+2	0,0438	
	(1,2351)	
+3	-0,0264	
	(0,7457)	
+4	-0,1127 ***	
	(3,1776) ***	z-value >2,25

*, **, ***, significant at the 0.10, 0.05, and 0.01 level, respectively.

Panel B: Cumulative Abnormal Returns (CAR)

Period	*Market Model (risk-adjusted)*	
	Cash dividends	**z – value**
(-15, -5)	0.246	
	(2.07) **	z-value >1,96
(-1, 0)	0.076	
	(1.49)	
(0, +1)		
(-2, +2)	0.208	
	(2.59) ***	z-value>2,25
(-4, +4)	0.112	
	(1.04)	
(+5, +15)	-0.195	
	(-1.63)	
(-15, +15)	0.164	
	(0.82)	
(-30, +30)	-0.134	
	(-0.48)	
(-50, +50)	-1.178	
	(-3.27)	

*, **, ***, significant at the 0.10, 0.05, and 0.01 levels, respectively.

Table 1, Panel A displays AR for the period from day -4 to +4, while panel B presents CAR findings for a sample included 805 cash dividend announcements over various time windows. In Panel A, using the market model (risk-adjusted) daily returns in the left-hand column, six out of nine AR are positive. Notably, the returns on days +1 and +4 (0,0794% with z-statistic of 2,24 and -0,1127% with z-statistic of 3,18 for risk adusted returns respectively) are statistically significant.

When examining the CAR presented in Panel B, the windows (-15, -5), (0, +1) and (-2, +2) show a statistically significant positive wealth effect around the cash dividend announcements (0.246% with a z-statistic of 2.07 and 0.208% with a z-statistic of 2.59 for risk-adjusted returns) both before and after the announcements. The results explained that the event period (-15, -5) and after event day (0, +1), cash dividend announcements affect positively abnormal returns. The average excess return of approximately 1% is notably detected during the 2-day announcement window for dividend increases. Therefore, the

significant positive CARs recorded within the 2-day period around the cash dividend announcements provide support for hypothesis H1.

Table 2

Time Window	Average TSAR (Z-Statistics)	Average TSAR (Z-Statistics)	Average TSAR (Z-Statistics)
Period	**Cash Dividend Increase**	**Cash Dividend Stable**	**Cash Dividend Decrease**
(-15, -5)	0.524 ***	0.1488	-0.1646
	(2.93) ***	(0.656)	(-0.688)
(-1, 0)	-0.0015	0.0997	0.1398
	(-0.019)	(1.03)	(1.37)
(0, +1)	0.1928 **	0.1669 *	-0.08232
	(2.52) ***	(1.72) *	(-0.807)
(-2, +2)	0.225 *	0.1619	0.1711
	(1.86) *	(1.06)	(1.06)
(-4, +4)	0.1329	0.2374	0.2336
	(0.82)	(1.15)	(1.08)
(+5, +15)	-0.2658	-0.1877	0.06842
	(-1.48)	(-0.824)	(0.285)
(-15, +15)	0.3927	0.1991	0.137
	(1.31)	(0.523)	(0.341)
(-30, +30)	0.141	0.1292	-0.4883
	(0.335)	(0.242)	(-0.866)
(-50, +50)	-0.7804	-0.7381	-1.693 **
	(-1.44)	(-1.07)	(-2.34)

*, **, ***, significant at 0.10, 0.05, and 0.01 levels, respectively.

Table 2 presents the abnormal returns for a sample included 805 cash dividend announcements (decrease, stable, increase) over time windows. In (-15,-5) period before event, there are important results (0.524% average tsar and z-statistics of (2.93)) at 0.01 level and more significant and this is good news for market. In general, companies that trade on ISE determined dividend payment rate on year-end profit at Extraordinary Management Board meeting according to the legal legislation. At this meeting, day for dividend payment is also announced. At the meeting of Ordinary Board, announcement of

dividend payment is made approximately (15 days- 1 month) before. Looking at (-15,-5) period, it is observed that announcement about cash dividend payment has affected the market. The fact that information affected the stock prices positively has been supported with results. Observing (0, +1) period, results are observed to be very significant (0.192% with z-statistic of 2.52). This is good news for market, and share returns increase. This effect continued before and after (0) event day. (-2, +2) period is significant according to the result of statistics. Cah dividend stable is significant in period (0, +1) and cash dividend decrease is significant in period (-50, +50). In fact, this is bad news for stock market.

196 observation cash increase (24.35%), 221 observation cash stable (27.45 %), 361 observation cash decrease (44.84%) and 27 observation from loss to dividend (3.35%) of cash dividend announcements of 805 sample. As already seen, cash dividend payment increases in selected sample is at low level. It is especially related to the legal release of dividend payments after 1995. Capital increase of firms with charge decreased cash dividend increases in time.

8. CONCLUSION

This thesis conducted an investigatation on the dividend policies of firms listed on the ISE by using ESM. The main purpose of the thesis was to ascertain whether these firms adher a stable dividend policy, and empirically analyse how their dividend distributions impact financial markets before and after specific events, focusing on the ISE as a case study.

The study's results also demonstrated that the most crucial factor influencing a firm's dividend policy is the earnings generated by the company in a specific year. The fact that developing countries such as Turkey have weak-form markets and also activities of companies, their financial structure and investment policies affect dividend to be distributed to shareholders, because inflation will affect interests of the firm in developing countries. Therefore, firms's earnings change because of inflation.

With regulation of Board of Capital Market in 1995, companies that traded on ISE had gained freedom in determining their own dividend policy. Taking first legal amendment into account in 1982, research contains periods of 1982-1995 and 1995-2003. In order to get more healthy results from data in empirical study, company data were used between 1995 and 2003. After regulation release in 1995, companies focus on free-of-charge capital investment in stead of cash dividend distribution.

The empirical study, by using cash announcements of 805 sample (chosen in the period of 1998-2004) and even-study methodology, has indicated that market is reacting after the announcements of dividend payment. With this announcement, market is activated after and before the event and share / stock price increases. In conclusion, this valuable information supports information signalling hypothesis.

In conclusion, this thesis aimed to explore various aspects of dividend policy as well as provide insights into how the stock market on ISE responds to these policies, serving as a basis for future research.

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