LTA 1/01 • P. 58–97

SEPPO KINKKI

Dividend Puzzle – A Review of Dividend Theories*

ABSTRACT

Dividend policy has been one of the areas of corporate finance to be analyzed with a rigorous model, and it has since been one of the most thoroughtly researched issues in modern finance. There are a number of theories of dividend behaviour, and empirical studies provide little evidence for one over the other. Also the conceptions concerning corporate dividend theories are different. The main part of the discussion is related to the evaluation of financial research, because at all times researchers have tried to solve the dividend puzzle by using new theories and insights.

Key words: *Dividends, value of the share, agency theory, information content, signalling, clientele effects, ex-date effects*

1. INTRODUCTION

In finance, there are some areas, which have puzzled researchers. One of them is the dividend behaviour of firms. Along with capital structure, dividend policy has been one of the first areas of corporate finance to be analyzed with a rigorous model, and it has since been one of the most thoroughly researched issues in modern finance[1]. In spite of this, much remains unex-

* The author wish to thank Harri Seppänen, Pasi Sorjonen, Leo Virtaneva and an anonymous referee for very useful comments on earlier drafts of this paper. Financial support for the research from the Liikesivistysrahasto is gratefully acknowledged.

1 According to Frankfurter–Philippatos (1992) the subject of dividend policy has created a voluminous literature of its own and a handful of theories have been offered to resolve the inherent paradox of dividend payments to

SEPPO KINKKI, Lic.Sc. (Econ), Principal Lecturer

Helsingin liiketalouden ammattikorkeakoulu • e-mail: seppo.kinkki@helia.fi

plained concerning the role of dividends[2]. Black (1976 p. 5) epitomizes the lack of consensus by stating "The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together."

Dividend policy determines the division of earnings between payments to stockholders and reinvestments in the firm. Managers' task is to allocate the earnings to dividends or retained earnings. Retained earnings are one of the most significant sources of funds for financing corporate growth. Corporate growth makes it eventually possibly to get more dividends.

The goal of this study is to describe the discussion on dividends and dividend theories. The main part of that discussion is related to the evolution of financial research, because at all times people have tried to solve the dividend puzzle by using new theories and insights. There are a number of theories of dividend behaviour, and empirical studies provide little evidence for one over the other. The discussion has lasted over half a century, and as a whole, these studies are interested in the following questions: (1) Why do firms pay dividends? (2) How do they set their dividend policy? (3) Does dividend policy affect share value? [3]

2. DIVIDENDS AND FIRM VALUE

This chapter reviews theories concerning dividends and firm value. This question is one of the unsolved problems in the financial theory and has resulted in a great number of studies during the decades. To a great degree, the accepted theory tells us that dividends are irrelevant when firms are financing their actions. That is both in the absence of taxes (Miller–Modigliani (1961)) and in their presence (Miller–Scholes (1978)). At the same time researchers have documented a statistically significant relation between dividend yields and stock prices[4]. The basic ques-

shareholders. Cooley–Heck (1981) studied the opinions of finance professors concerning articles with significant contributions to the finance literature. In ranking among others were mentioned Walter (1956), Miller–Modigliani (1961) and Brigham–Gordon (1968) although they represent different theoretical views on the dividend decision.

2 Weston (1981) and Megginson (1997).

3 In international research on dividends and dividend announcements are mentioned at least in the following connections: relationship between dividends and firm value (Williams 1938), clientele effects of dividends (Miller–Modigliani 1961), signalling effects of dividend announcements (Miller–Modigliani 1961), behavioural models of dividend policy (Lintner 1962), ex date effects of dividends (Elton–Gruber 1970), dividends and CAP (Brennan 1970), consumer preference theory (Bar–Yosef – Kolodny 1976), dividends and taxes (Miller–Scholes 1978), dividends and investment decisions (Fama 1974), stable dividend hypothesis (Matripragada 1976), asymmetric information (Bhattacharya 1979), dividends and Wealth Transfer Hypothesis (Kalay 1980), agency costs and dividends (Rozeff 1982), the effect of regulation on dividends (Choi 1989), executive stock option plans and dividend policy (Lambert–Lanen–Larcher 1989), information content of stock repurchases (Karanjia 1990), various ways to divide dividends (Löyttyniemi 1991), option valuation (Adams–Wyatt–Walker 1994), corporate cross-ownership (Salin 1995), foreign influences on dividends (Hines 1996), major shareholder's influence on dividend decision (Kinkki 1998), dividends as intra-industy information transfers (Laux–Starks–Yoon 1998), the effects on legal regimes in different countries (LaPorta et al 1999).

4 Hess (1982) and the studies cited there.

tion is still unsolved: Why do companies pay dividends? In Finland, dividend policy as such has been the main concern in relatively few empirical studies[5].

There are many models, which theoretically explain the market price of a share. Most of these are based on assumptions that each security has an intrinsic value based on the economic conditions of the firm. These economic conditions are determined on a basis such as earnings, dividends, capital structure and growth potential. This is called the fundamental stock analysis.

Commonly used methods in fundamental analysis are to develop different kinds of valuation models, which are usually based on four kinds of criteria: earnings, cash flow, dividends and net assets[6]. Fundamental stock analysis explaining the (market) value of the share is here divided into two categories: (1) dividend theories and (2) earnings theories. The value of the share can then be determined on the basis of discounted dividends or discounted earnings.

2.1. Dividend theories

One of the most commonly used models is the so-called dividend model of share prices, based on earnings that the shareholder gains on his share.[7] That model is based on discounted (dividend) earnings based on shareholding when the shareholder's rate of return is changing[8]. It is presumed that private investors buy future dividends when they buy a share and then a share is worth only what an investor can get out of it. The market establishes share prices by discounting an anticipated stream of future dividends[9]. Models based on that assumption are, for instance, Walter's (1956) model and Gordon's (1959, 1962, 1966) model.

Solomon's (1963) model includes discounted dividends and earnings and, on the other hand, investments made by discounted retained earnings. His model is an extended version of Walter's and Gordon's models and includes features from both of them. Other dividend-based models are Lintner's (1962) propositions, Portenfield's (1967) conceptions, as well as the models of Malkiel–Cragg (1970) and Bower–Bower (1970).

The models, which were discussed so far, are based on discounted dividends. They presume that the investor knows the stream of future dividends and so they suppose perfect knowl-

5 Högholm–Liljeblom (1997).
6 According to Koskela (1984) there are two main types of models, which explain the market value of the share: (1) models based on dividends and (2) models based on other economic determinants (Koskela p 42). Kim (1985) uses the terms (1) relevance theory (models based on dividends) and (2) irrelevance theory (models based on other economic determinants).
7 Koskela p. 19.
8 William (1938) was the first to articulate the basic formula of share valuation, where the value of the asset should be equal to the present value of all future dividends discounted at the required rate of return. The model's k_t includes both the riskless rate of return and part of the risk.
9 According to Hichman–Petry (1990), the model of discounted dividends is theoretically valid but forecasting future dividends is difficult, particularly when dividends are low or nonexistent.

edge. The model of Whitbeck–Kisord (1963) is not based on discounted dividends but also in their model dividends is one of the illustrative factors. Eades (1982) developed a dividend-signalling model of the dissipative signalling cost type. Hagen (1973) determined the market value of the stochastic process representing the company's dividend policy.

Ohlson (1990) reviewed and synthesized the theory of security valuation for multiple-date settings with uncertainty. The theory results in a formula that determines security value as a function of expected dividends adjusted for their risk and discounted by the term structure of risk-free rates. Models such as CAPM is only seen in special cases. Earnings are seen as an information variable that suffices to determine a security's payoff, price plus dividends[10]. Ohlson postulates that only (anticipated) dividends can serve as a generally valid capitalization (present value) attribute of a security.

Goetzmann–Jorion (1995) re-examined the ability of dividend yields to predict long-horizon stock returns. They used two series beginning in 1871 (up to 1993), a monthly series for the United States, and an annual series for the United Kingdom. As a result, dividend yields only display marginal ability to predict stock market returns in either country.

Dempsey (1996) advanced a discounted dividend model of share prices in the context of personal taxation. In terms of the model, consistent costs of capital expressions are advanced relating investor and firm perspectives. Rees (1997) analysed a sample of 8,287 firms/years drawn from UK industrial and commercial sectors during the years 1987–1995. The evidence strongly suggests that earnings distributed as dividends have a bigger impact on value than do earnings retained within the firm.

In Finland Torkko (1974) tested the application of Gordon's model. The sample was 23 firms from the years 1963–1971 but the results were not very encouraging. Suvas (1994) tested, in his dissertation, Gordon's new model, as well as the models of Malkiel–Cragg (1970) and Bower–Bower (1970). Martikainen (1990) studied 28 Finnish companies listed on the Helsinki Stock Exchange during 1975–1986 and found significant positive correlation between the dividend growth rate and stock market returns

2.2. Earnings theories

Many researchers are critical of dividend theories. In traditional earning theories, the market price of a share depends on the company's profits. Dividends have no effect on the shareprice. Shareholders are presumed to be so traditional that, when the company keeps the profits and does not pay dividends, they expect the firm to invest capital so that it gives at least their rate of return. Dividend policy then does not affect the market price of the share.

10 Later Ohlson (1992) developed a model that relates earnings and unexpected earnings to market returns.

According to the theory of financial economics, the value of the company can be regarded as the present value of its cash flows.[11] Earnings theoreticians include, for instance, Miller–Modigliani (1961, 1966)[12], Baumol (1963), Friend–Puckett (1964), Watts (1973), Fama (1974), Black–Scholes (1974), Black (1976), Rubinstein (1976), Ross (1977), Miller–Scholes (1982) and Copeland–Weston (1988)[13]. The classic work of Miller–Modigliani's demonstrated that the firm's investment decisions and dividend decisions do not depend on one another[14]. They found that a firm's taxes, growth and capital structure do not affect dividends. Thus dividend policy "does not matter"[15] .

Pilotte (1986) studied, in his dissertation, the impact of stockholder wealth on external financing by non-dividend-paying firms. The sample was limited to firms having an established "no cash dividend" policy. The results were generally consistent with the hypothesis that the decision to issue new securities conveys information about the managers' assessments of the value of the firm's assets in place and investment opportunities. The sample also indicates that at least some firms obey cash dividend policy, as it would not affect the value of their shares. A different view was also adopted by Bar–Yosef–Kolodny (1976) who explained dividend policy by using the consumer preference theory.

Yli-Olli (1979) and Suvas (1994) tested the propositions of Modigliani–Miller in Finland. Yli-Olli presented the link between the cost of capital and the market valuation of the firm based on the theory of Modigliani–Miller and made attempts to modify the assumptions of that theory to be comparable with capital markets in Finland. The results showed that in Finland the dividend policy has no effect on the market value of the firm.[16]

Suvas (1994) studied the propositions of Modigliani–Miller from different angles. According to model, the value of the firm's equity becomes zero when expected cashflows to the shareholders are clearly positive. Suvas presented an alternative definition of the cost of equi-

11 The value of the firm in the absence of taxes may be seen as (1) the discounted cash flows, or (2) the current earnings plus future investment opportunities, or (3) the stream of dividends, or (4) the stream of earnings (Miller–Modigliani (1961).

12 Miller–Modigliani's model assumes that dividend policy does not affect the firm's share price but is determined by certain characteristics of the firm.

13 Black–Scholes (1974) tested the relationship between security returns and dividend yield by forming well-diversified portfolios and ranking them on the basis of their systematic risk (their "beta") and then divided yields within each risk class. They found out that dividend yield had no effect on security returns.

14 Fama's (1974) results are consistent with this view, even though, because of possible sampling errors, his study did not reject the hypothesis that there could be period-to-period association between the dividend and investment decisions of the firm. Brennan (1971) was critical against Gordon's valuation models on dividends. His conclusion was that dividends do not affect the share prices through discounted dividends but, instead, in another way as determined in CAPM.

15 There are also researchers who explain the market value of the share and do not explicitly argue that dividends do not matter. Such researchers include, for instance, Steward (1973).

16 Significant dependent variables were however earnings (expected earnings before interest), leverage (value of the outstanding debt of the firm), growth of the firm and size of the firm (the book value of total assets).

ty that does not have the drawback of the model of Modigliani–Miller. Suvas also derived valuation models for firms with growth opportunities.[17]

In Finland, Kjellman–Hansen (1993) found that managers might change their dividend policy if their firms are undervalued, since the manager seeks to increase the firm's market value. It would mean that managers see dividends as one way to affect the market value of the firm.

2.3. Stock market efficiency and dividend research

Up to the beginning of 1970s, the discussion on the market value of the firm was divided into two groups: (1) dividend theories and (2) earnings theories, where both parties tried to explain the market price of a share. Both schools have presented theoretically acceptable propositions and also developed empirical support for their concepts. The theoretical propositions and empirical results were, however, not parallel.

In the beginning of the 1970s, the discussion separated as a consequence of many reasons. Among these were: (1) Fama's (1970) theory of efficient capital markets, (2) The Capital Asset Pricing Model, which was first called the Markowitz–Sharpe–Lintner model and from which Brennan (1970) formulated his own version, also including dividends, and (3) the hypothesis of Elton–Gruber's (1970) on stock price movements on the ex-dividend day.

Because of new insights in the discussion of share prices, the earlier schools of dividend and earnings theories blurred with these new insights. The studies were interested mainly in market efficiency and the Capital Asset Pricing Model. In the background were questions about factors affecting the market value of the share, titles under which studies were made and also viewpoints were changed. When researching stock market efficiency, a hypothesis about how markets react to dividends, dividend announcements and dividend changes was also tested. Brennan's (1970) version of the Capital Asset Pricing Model also includes dividends.

According to Martikainen (1989), the empirical research on accounting devoted to the analysis of relationships between accounting figures and security prices can be divided into four categories: (1) share price valuation models and the determination of market equity values, (2) measurement of unexpected earnings and their contemporaneous association with

17 Suvas also relaxed the assumptions of perfect capital markets and included bankruptcy costs, non-debt tax shields and personal taxes in his model. He found that bankruptcy costs are necessary for the existence of an interior optimal capital structure, and that empirically estimated relative magnitudes of these costs are sufficient to induce optimal non-corner solutions. The particular personal tax rate combination generally leads to an optimal zero debt capital structure even without the existence of bankruptcy costs or non-debt tax shields. Suvas found that the effects of personal taxes are found to be of crucial importance, because optimal leverage solutions cannot be brought into the range consistent with observed debt-to-firm-value ratios, unless sufficient bankruptcy costs, realistic personal tax rates and nontrivial non-debt taxshields simultaneously exist.

security returns, (3) research concentrating on semi-efficiency tests using accounting data, (4) research on the connection between corporate finance and the capital asset pricing model.

Dividends are included in (1) share price valuation models, (3) models concerning semi-efficiency tests and (4) models concerning corporate finance and the capital asset pricing model. Dividends are not directly included in studies on (2) unexpected earnings and their contemporaneous association with security returns. Indirectly, researchers have however been interested in the connection between dividends as signals of future earnings. Modigliani–Miller (1958) and Miller–Modigliani (1961) already presented this connection. As a conclusion, the discussion concerning dividends was divided into many branches but still researchers were puzzled by dividends.

Stock market efficiency tests in Finland are briefly described next, as they relate to dividends, and then the results of the Capital Asset Pricing Model (CAPM), which includes dividends, are explained.

The studies concerning stock market efficiency in Finland have produced mixed results. According Korhonen (1977) the Helsinki Stock Exchange seems to be in the category of informational week-form efficiency by nature. Berglund (1986) and Virtanen–Yli-Olli (1987), tested Korhonen's results[18]. Korhonen (1977) and Berglund–Liljeblom–Wahlroos (1987) have studied semi strong-form efficiency in Finland. In testing strong-form efficiency, Korhonen also tested how the market reacted to various dividend informations such as stock dividends, dividends and new issues of stock[19].

Berglund–Liljeblom–Wahlroos (1987) extended the results obtained by Korhonen by using daily data. They found significant positive excess returns on the announcement day for stock dividends and mixed announcements of stock dividends and new issues. For new issues, the announcement day return was insignificant, although a slightly positive preannouncement price development was detected.

The results from these studies show that the efficiency of the Finnish stock market is not especially high compared with other stock markets in the world. According to Martikainen (1989), there exists evidence on anomalies from market evidence even in the weak-form sense[20]. According to the results presented in the previous chapter, corporations' market value has a strong relation to dividend cashflows. If the markets have a concrete view on future dividend decisions, then the market value of the share should beforehand react to dividend announcements.

18 They determined that the UNITAS index does not follow the random walk model. Both theoretically and statistically satisfactory models were found.
19 Other public sources of information tested by Korhonen included accounting income figures (three alternative definitions of income and two models of expected income were used), mergers and divestitures.
20 Martikainen (1989) p. 8.

Stock market efficiency tests have mainly concentrated on earnings and economic characteristics of the firm rather than dividends. Informational characteristics of earnings mean that earnings convey information about future earnings[21]. As a result, accounting earnings announcements and stock price fluctuations are closely related to one another.

Numerous researchers[22] showed that accounting earnings reflect factors that affect stock prices. The evidence also indicates that annual and quarterly earnings convey information to the market. The stock price change on the day of the quarterly earnings announcement is smaller than the total stock price change associated with the unexpected quarterly earnings. Therefore alternative sources of information exist that allow the market to anticipate the accounting earnings. It was also found that abnormal returns are more highly associated with earnings than with operating cashflow.

According Charitou–Vareas (1998) the relationship between cash flows and dividend changes substantially depends (a) on the magnitude of total accruals and (b) on growth opportunities as proxies by the firm's market-to-book ratio. Assuming stock markets to be informationally efficient, they should rather lead than lag accounting earnings. Fama (1981) discovered that real stock market returns lead economic variables and are not led by them.

As a conclusion, the studies concerning stock market efficiency tests in Finland have found that stock prices react to announcements on the financial characteristics of a firm. Among these characteristics are: profitability (Koskela 1984, Martikainen 1990, Laitinen 1991), growth (Koskela 1984, Martikainen 1990, Laitinen 1991), financial status (Koskela 1984), risk (Koskela 1984), accrued earnings (Niskanen 1990, Martikainen–Puttonen 1991), cash flow (Niskanen 1990, Martikainen–Puttonen 1991), financial leverage (Martikainen 1990, Laitinen 1991), operating leverage (Martikainen 1990), capital investment (Ikäheimo–Lumijärvi 1990), rate of interest for debt (Laitinen 1991).

2.4. Dividends and macroeconomic factors

There are a number of studies, which try to explain the market price of a share by using various kinds of information. That information can be divided into two groups: (1) information under the control of the managers and (2) information out of management control. The second group includes, for instance, macroeconomic factors. According to U.S. results, macroeco-

21 Ball-Brown (1968) tested the hypotheses according to which unexpected increases in earnings are accompanied by positive abnormal rates of return and unexpected decreases are accompanied by abnormal rates of return. They found that the prices reacted positively to "good" news and negatively to "bad" news. The average movement to "good" news was a positive change of 7.5 % and the average movement to "bad" news was a negative change of 10%. They also reported that 85–90% of the relevant accounting earnings figures leaked to the investors before their normal release.

22 For instance Watts–Zimmermann (1986), chapter three and the studies mentioned there.

nomic factors are important determinants of stock returns. In Finland, the relation between stock market and macroeconomic factors has been studied, for instance, by Lahti–Pylkkänen (1989), Martikainen–Yli-Olli (1991)[23] and Viskari (1992)[24].

It seems that in Finland studies concerning stock prices and macroeconomic factors have failed to indicate dependence between these two subjects. Kjellman–Hansen (1993) found that managers see microeconomic issues per se more important than macroeconomic issues and thus macroeconomic factors obviously do not matter when managers are making their dividend decisions. According Kallunki–Martikainen et al. (1997), in Finland the relation between macroeconomic factors and stock returns is rather sample-specific and time-variant. In Finland macroeconomic factors have no dependence on stock prices, unlike in the United States. Obviously in Finland, macroeconomic factors have thus no dependence on dividends. Finnish research concerning dividends and stock market efficiency has had mixed results.

Semi-strong efficiency assumes that stock markets react to all published information. It seems that stock markets react to earnings and certain economic characteristics. Dividend announcements have received mixed results. Macroeconomic factors have been found as an explanatory variable concerning stock prices in U.S. stock markets but not in Finland. As a hypothesis, it would be possible to propose that all published information is not as important to the market. This situation is presented in figure 1.

Dividends seem to include better information than earlier prices or macroeconomic factors but represent weaker information compared with some economic characteristics and earnigs.

2.5. Dividends and equilibrium models

Two equilibrium models mostly explain stock market behaviour: the Capital Asset Pricing Model (CAPM) and the Arbitrage Pricing Theory (APT). The relation between dividends and the value of the firm has been tested mostly in the circumstances of the Capital Asset Pricing Model (CAPM). One of the inherent assumptions is the use of basic CAPM concerning dividend policy. Using CAPM implicitly assumes the irrelevance hypothesis, indicating a strong tendency among scholars to accept the irrelevance position[25].

23 Martikainen–Yli-Olli (1991) investigated the macroeconomic factors on Finnish stock returns by applying the Arbitrage Pricing model. The results were quite poor. They argued (p. 249) "The result implied that it is apparently very difficult to find any stable economic interpretation to the price factors from the pre-specified macroeconomic factors in the Finnish stock market. This, however, does not mean that it would be impossible in other stock markets."

24 Viskari's macroeconomic factors were: industrial production, real money supply, short term interest, consumer price index and the real exchange rate. These factors explained about 7 per cent of stock prices. Lahti–Pylkkänen tested the following macroeconomic factors: industrial production, real money supply, long-term interest rate and monthly inflation. The explanation percentage was about eight. Other major news of political nature and about major world events was also tested. The results were quite poor.

25 Bar-Yosef & Kolodny (1976 p.181). In the tests performed, knowledge of a firm's dividend policy made a

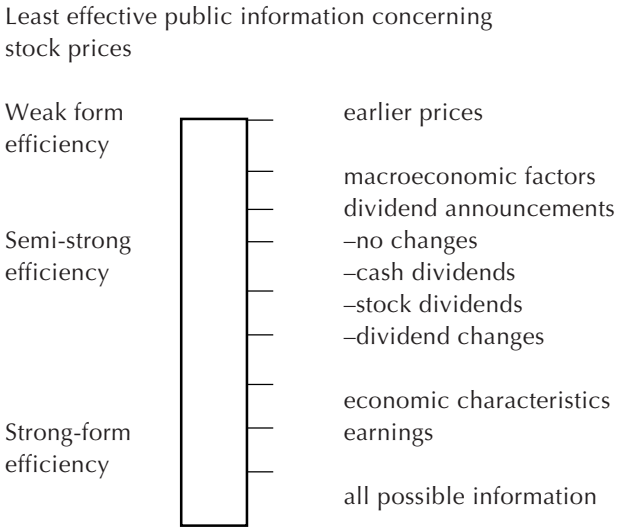


FIGURE 1. Impact of public information on stock prices

The relation between expected equity returns and anticipated dividend yields has led to the hypothesis that they are positively related. Studies testing the before-tax return differentials across dividend yields are based on Brennan's (1970) after-tax formulation of the capital asset pricing model. The relation between a firm's before-tax equilibrium return and anticipated dividend yield [26] has been found to be significantly positive in many studies, including Litzenberger–Ramaswamy (1980, 1982), Morgan (1982), Elton–Gruber–Rentzler (1983) and Christie (1990). Dividend studies explaining the value of the firm are divided into two groups: (1) studies based on discounted dividends and (2) studies based on the CAPM model.[27] According to Bar–Yosef–Kolodny (1976) "implicit in the wide practical use of the CAPM is the assumption of dividend irrelevance".

significant contribution to explaining the return received on the firm's security. As a conclusion, Bar-Yosef & Kolodny argued that investors have a net preference for receiving their return in the form of dividends to receiving it in the form of capital gains. Contrary to the assumptions made in the use of CAPM, security market imperfections and/or institutional factors exist in the market place to the extent that they have a significant influence on investor behavior.

26 The model is derived under the assumptions of unlimited borrowing and lending at the risk free rate of interest and unrestricted short sales. The dividends paid by corporations are assumed to be certain and known to investors.

27 It must noticed that, even though we are studing dividend models, dividends are not the only factor affecting the value of the firm. They are here called dividend models because according to them dividends, among other factors, affect the value of the firm.

2.6. Clientele effects and ex-date effects of dividends

2.6.1. Clientele effects

When firms make their dividend decisions, one important question is how stock prices are affected by dividends. The effects of firms' dividend policies on stock returns have been widely studied[28]. For the most part, researchers have documented a statistically significant relation between dividend yields and stock returns; however, the explanation of this common empirical finding has been controversial. This problem can be divided into two various questions: (1) Do firms with higher dividend yields have higher stock prices and vice versa? And, on the other hand, (2) how does stock markets react to dividend announcements? The first question is called the clientele problem and the second is called ex-date effects on dividends.

Miller–Modigliani (1961) originally suggested clientele effects. They argued that investors choose the corporations whose payout ratio they prefer. Each payout ratio tends to attract a class of investors, a clientele. From the firm's point of view, any clientele is as good as any other. If the firm changes its payout ratio, the result would be a change in the clientele, but that will not affect the value of the firm because any clientele is, from the firm's perspective, as good as any other.

In clientele effects, the studies assume that some classes of investors may prefer different levels of dividends due to their different levels of taxation. There may be a hypothesis that low-dividend firms attract investors with a high tax rate and that high-dividend firms attract investors with a low tax rate. Lease–Lewellen–Schlarbaum (1976) used panel data collected at Purdue to analyse the demographic attributes and portfolio compositions of a wide variety of individual investors. According to the results of Lease–Lewellen–Schlarbaum, private investors preferred long-term capital gains, followed by dividend income and then short-term capital gains.

The optimal dividend yield, for example, for private investors, corporations and capital funds may be different. In studies, this phenomenon has been widely demonstrated[29]. Opposite views are presented by Hess (1982) and Barclay (1987), whose empirical evidence does not support clientele effects on asset prices. Booth–Johnson (1984) examined the ex-dividend day behaviour of Canadian stock prices, but the ex-dividend day price ratios do not provide much evidence in support of dividend tax clienteles.

28 A partial listing includes Friend–Puckett (1964), Brennan (1970), Elton–Gruber (1970), Black–Scholes (1974), Litzenberger–Ramaswamy (1980, 1982), Hess (1982), Booth–Johnston (1984), Kaplanis (1986), Barclay (1987), Davidson–Mallin (1989), Crossland–Dempsey–Moizer (1991), Michaely (1991).

29 Elton–Gruber (1970), Eades–Hess–Kim (1984), Handjiinicolaou–Kalay (1984), Grinblatt–Masulis–Titman (1984), Lakonishok–Vermaelen (1986), Backlay (1987) and Crossland–Dempsey–Moizer (1991) (UK-data). See also Davidson–Mallin (1989) and Davidson (1989).

In Finland Hietala (1987) and Sorjonen (1995) have studied clientele effects. They however were not able to find any tax clientele effects in their tests.

2.6.2. Ex-date effects

Ex-date effects of dividends means that a share, purchased on its ex-dividend day, does not include a claim to a previously announced dividend. If the same share is purchased on the previous day, it includes the before-mentioned claim. Because of the price change of a share, it is possible to estimate the marginal valuation of dividends and capital gains in the market.

According to Modigliani–Miller, the market price of the share should be irrelevant to dividends. Dividends should only include information on future earnings. If so, then the market price of the share should react to announcements on dividends and not to the payment of dividends. Empirically it has been found, however, that stock prices also fall based on payment of dividends.

Traditionally, it was believed that stock prices should fall by exactly the amount of the dividends[30]. Empirical evidence does not support that conclusion[31]. Elton–Gruber (1970) presented their hypothesis to explain why on ex-dividend days stock prices could fall less or more than the amount of dividends. They showed that the price relative to dividends depends on marginal stockholder tax rates.[32] By that observation, it was possible to draw conclusions on the market's relative valuation of taxable dividends and capital gains.

Litzenberger–Ramaswamy (1980) argue that the ex-date effect is best explained by differential taxation of dividends and capital gains and, like Elton–Gruber (1970), that the dividend effect is complicated by clientele effects. Kalay (1982) showed that the marginal tax rates of stockholders cannot be inferred, in general, from the relative price drop and therefore, according to him, the documented ex-dividend day behaviour of stock prices is not necessarily evidence of a tax effect or clientele effect. However, in Kalay's study the correlation between the ex-dividend relative price drop and the dividend yield is still positive, which is consistent with a tax effect and a tax induced clientele effect.

30 That would be the situation in the world with no taxes or transaction costs (Kaplanis (1986)).

31 See for instance Barclay (1987) and the studies cited there.

32 Elton–Gruber (1970) argued that the marginal investor who wishes to sell near the ex-dividend day is indifferent between selling on the ex-dividend day and selling on the previous day. Elton–Gruber examined ex-dividend day returns for a sample of NYSE firms and found that the average price change on the ex-dividend day is less than the value of dividend. They also found that the price-change-to-dividend ratio increases with the dividend yield of the security. Investors with high marginal tax rates hold stocks looking for low dividends and vice versa, which is consistent with a tax clientele effect. In the equation above it would mean that $a > 0$ implies that dividends are preferred to capital gains, $a = 0$ indifference between dividends and capital gains, and $a < 1$ implies dividend preference over capital gains.

According to Gagnon–Suret (1991), even under controlled conditions, detecting a tax clientele effect requires a much larger number of observations than available to most researchers, especially those who study non-U.S. markets.

There are two main competing hypotheses about the determination of the fall-off.[33] The so-called "clientele hypothesis" (Elton–Gruber 1970) assumes that shareholder clienteles do not switch around the ex-dividend day, whereas the "short-term trading hypothesis" (Kalay 1982) claims that the normal clientele of a share changes around the ex-dividend day, so that the fall-off is determined by the activities of short-term traders who are taxed equally on dividends and capital gains.

Miller–Scholes (1982) represent opposite views in the "short-term traders" hypothesis. They argue that, if the stock price drop on the ex-dividend day is different from the dividend amount, short-term traders who face no differential taxes on dividends versus capital gains could make arbitrage profits. According to McInish–Puglisi (1980), when transaction costs are considered, the market for preferred stocks is efficient with respect to ex-dividend related price behaviour. Booth–Johnson (1984) examined ex-dividend day behaviour of Canadian stock prices (when Canada first began to tax capital gains) and found that ex-dividend day price was significantly different from zero or one.

Kaplanis (1986) studied option price movements around ex-dividend, using UK Traded Options Market data from 1979 to 1984 and found that the average expected fall-off implicit in option prices is around 55 to 60% of the dividend and significantly different from it. Also the fall-off varied inversely with the dividend yield, which is consistent with the prediction of the "tax clientele hypothesis".

Barclay (1987) researched ex-dividend day behaviour of common stock prices during the pre-tax period before the year 1910. Grammatikos (1989) studied the Tax Reform Act of 1986[34]. On the other hand, Crossland–Dempsey–Moizer (1991) provides evidence of the clientele effect in the UK stock market[35]. Han (1994) examined whether the Tax Reform Act (TRA) of 1986 had an effect on ex-date stock behaviour for the National Association of Security Dealers Automatic Quotation (NASDAQ), the New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX). Baker–Farrelly–Edelmaqn (1985) made a survey of management views on dividend policy.

In Finland,[36] Hietala (1987, 1990) and Sorjonen (1988, 1995,2000) have studied ex-date effects. Sorjonen's findings were consistent with the findings of Hietala. Stock prices fell from 78% to 92% of the amount of dividend from 1960 to1985 and from1989 to1990 and from 1993 to 1997 stock prices fell on average 70–75% of the amount of dividend. Thus, according

33 Kaplanis (1986)
34 The Tax Reform Act of 1986 eliminated the preferential tax treatment of capital gains relative to dividends.
35 Davidson–Mallin used a sample of 172 UK Stock Exchange ex-dividend events when Crossland–Dempsey–Moizer had 1.020 ex-dividend events.
36 Ex-dividend day behavior of stocks made by various data Hietala (1987) pp 50–53 and the studies mentioned there.

to Sorjonen, this is consistent with the view that taxes affect the valuation of dividends[37]. Hietala–Keloharju (1995) investigated the ex-dividend behaviour of two classes of shares, whose trading is potentially dominated by investors under different tax regimes. The groups are restricted stocks (on Finnnish investors) and unrestricted stoks. The results support the hypothesis that long-term investors are the marginal investors and that the unrestricted shares face much higher taxation in dividends.

As a conclusion of studies concerning dividends' clientele and ex-date effects, it seems that the theories and empirical results are internationally mixed in nature. Modigliani–Miller claimed that empirically noticed stock price changes in connection with dividends are caused by a so-called information effect. Elton–Gruber explained that they are caused by different taxation between clienteles. Kalay argued that short-term traders cause them. In Finland, the empirical results support the tax effect theory.

2.7. Signalling effects of dividend announcement

The signalling effect of dividends assumes that dividends convey information about future earnings.[38] Changes of dividends give messages to investors about the firm's future cash flows. Modigliani–Miller (1959) and Miller–Modigliani (1961) hypothesized that dividend reductions convey information that future earnings prospects are poor.

The basic hypothesis includes that dividends and future earnings are in relation to each other. The studies then examine fundamentally how dividends affect future earnings. Such studies are, for instance, Lintner's (1956) and Watt's (1973) propositions. Under the title of signalling or information content of dividends, a number of studies have been made to examine the reaction of stock markets to dividend announcements. These studies have, in fact, examined stock markets' semi strong-form efficiency.

Empirical results have found the signalling effect of dividends especially on U.S. data [39].

37 See also Kasanen's (1988) comment on Sorjonen where he postulates that, even if all the calculations and estimates are correct, the true shareholder preferences also depend on other factors besides taxation. Kasanen mentions the company position with the labor unions and goverment and various creative ways to give dividend-like payments. The ex-dividend price drop can reflect other things than the personal tax rates of typical investors. Actually, according to Kasanen, we may be witnessing an estimate of an overall tax preference of a biased group of investors.

38 According to Karanjia (1990), there is no universal answer to the question: What especially do dividends signal? Asquith–Mullins (1986) comment that announcement dividend increases signal "improved prospects" for the firm's real earnings and the shares are priced on these improved prospects rather than the dividend increase per se. Miller (1986) argues that a steady dividend flow signals that the firm's finances are under control. Also Easterbrook (1984) claims that it is unclear what dividends signal, or, do they do so, why dividends are better signals than apparently cheaper methods. Easterbrook argues that dividend increases are ambiguous. They can pretend either future growth or a lack of investment opportunities. Shefrin–Statman (1984) claim that raising and lowering of dividends provide information that is not otherwise available.

39 Watts (1973), Aharony–Swary (1980) and Kwan (1981). Dann (1981) analyzed the returns of various security classes around announcement of common stock repurchases. He hypothesizes that security value around stock

Fama–Fisher–Jensen–Roll (1969) proposed the basic hypothesis explaining price reactions to stock dividends and stock splits. These announcements signal higher expected future earnings, which can later result in higher cash dividends.

According to Taylor (1979) "on dividend testing we find less unanimity in conclusions than in other reaction testing areas". It is possible that earnings announced at the same time as dividends in fact, cause the signalling effect. Aharony–Swary (1980) only researched those dividend announcements which were separated from earnings announcements at least by ten trading days.[40] When dividends decreased, the average stock price decrease was –3.76% and, when they rose, the stock price increased +0.72%. Both results were statistically significant.

Vermaelen (1981) finds that a stock repurchase follows a significantly higher stock price response than a corresponding equivalent dividend increase. He also documents that smaller firms with higher levels of inside ownership tend to repurchase stock more often rather than increase dividends. Kane–Lee–Marcus (1984) examined whether investors evaluate earnings and dividends announcements in relation to each other. They found that the abnormal return corresponding to any earnings or dividend announcement depends on the value of the other announcement. Investors gave more credence to unanticipated dividend increases or decreases when earnings are also above or below expectations, and vice versa.

Patell–Wolfson (1984) examined the effects of the Dow Jones News Service news releases about earnings and dividend announcements on three intraday stock price behaviour: mean returns, return variance, and serial correlation in consecutive price changes. They found that the price reaction to earnings and dividend announcements begins very quickly (within a few minutes). Dividend announcements, as a class, induce a much weaker response than do earnings. However, the price reaction to announcements of dividend changes is similar to that of earnings announcements, in both magnitude and duration. Unchanged dividends have essentially no effect.

Asquith–Mullins (1986) argue that dividends and stock repurchases play somewhat different roles in signalling information to shareholders Bar–Yosef–Huffman (1986) showed that the size of declared dividend is an increasing function of expected cashflow. Ofer–Thakor (1987) hypothesises that firms will repurchase stock only when they are largely undervalued and will pay dividends to correct minor stock mispricing. In doing so, they will signal good future investment prospects to the stock markets.

repurchases may be influenced by one or more of the following effects: personal tax savings, information of signaling, bondholder expropriation, and corporate tax effects of debt financing.

40 Their sample consisted of 2,610 dividend announcements that were preceded by earnings announcements. The total sample was 149 firms from 1963 to 1976.

Karanjia (1990) found similar results in his doctoral thesis. The abnormal stock price reaction to a stock repurchase reaction was found to be almost twice as large as that corresponding to a dividend increase. Liljeblom (1989) revealed a significant difference between the price reactions to announcements of proxy statements and the price reactions to equally good announcements (stock dividends and/or stock split).[41]

John–Lang (1991) placed insider trading on a level with dividend announcement and found out that insider trading immediately prior to the announcement of dividend initiations has explanatory power. Schatzberg–Datta (1992) studied corporate dividend announcements and the weekend effect. According to them, stock returns vary systematically across days of the week and average returns are actually negative on Mondays[42]. Frankfurter–Lane (1992) criticize event studies, in which positive (negative) abnormal returns are associated with announcements of dividend increases (decreases).

Employing random samples has mainly made studies concerning the signalling effect of dividends. DeAngelo–DeAngelo–Skinner (1994) used selected samples when they researched firms with losses and firms without losses. They found significant differences between these two groups in their dividend decisions[43]. DeAngelo–DeAngelo–Skinner (1996) studied the signalling content of managers' dividend decisions for 145 NYSE firms whose annual earnings decline after nine or more consecutive years of growth. They found no support for the notion that dividend decisions help identify firms with superior future earnings. The increasing diversity of corporate control, and the emergence of more varied types of ownership structure suggest that this is an appropriate time to reflect on recent developments and their implications for understanding of the underlying economics of the processes involved.

Brooks (1996) empirically investigated the change in asymmetric information at earnings and dividend announcement. According to Brooks, the dividend announcement may be important for reasons other reduction of information asymmetry, but the actual announcement does not reduce information asymmetry among traders. Akhigbe–Madura (1996) measured the change in corporate long-term performance following dividend adjustments. They focused specially on dividend initiations and omissions. They found that firms experience favourable long-

41 For a five-day event window around the announcement, the average excess return was +3.7% for stock splits and +5.2% for stock dividends and stock splits. For stock dividends the average five-day return was +1.2%. For announcements of convertible debt issues by means of rights issue, an excess return of –1.2% at the event time t=+1 was detected.

42 In a sample of 138,824 dividend announcements over 26 years, 3,484 firms were investigated to find possible seasonalities. Tests provided no support for the information hypothesis and suggest that the anomalous pattern of returns is driven by some factor unrelated to information arrivals.

43 Their sample consisted of 167 NYSE firms with losses and 440 NYSE firms without losses from the years 1980–1985. As a result they found out that 50.9% of loss firms reduced their dividends versus 1.0% of firms without losses.

term share price performance following dividend initiations. Conversely, firms omitting dividends experience unfavourable long-term share price performance.

According Laux–Starks–Yoon (1998) same dividend announcement can have diverse effects within the same industry. Although managers signal information about the announcing firm, the dividend change can also disclose information relevant for the announcer's rivals. Their results suggest that for rivals without extensive market power or growth options relative to the announcer, dividend increases elicit a negative reaction. Conversely, rivals with relatively more market power and growth options experience positive reactions to dividend increases and no reaction to dividend decreases. According Howe–Shen (1998) the stock prices of industry competitors do not react to dividend initiations. Thus, the information conveyed to the market by the decision to initiate dividends contains no industry-wide component.

As a conclusion based on international signalling studies concerning dividends: cash dividends also signal alone, and dividend and earning announcements are in relation to each other. Price reaction begins very quickly, unchanged dividends have no effect, stock dividends and/or stock splits signal, and also stock repurchases signal. The signalling effect is stronger in selected samples.

Finnish data is not as encouraging. Finnish results are, however, based on random samples. On the other hand, share repurchases, which are used in the U.S., and according to empirical results include some kind of information, are seldom used in Finland owing to legal restrictions.

Korhonen (1977) and Wahlroos (1979) found poor results on Finnish data concerning the applicability of Lintner's model (1956)[44]. Yli-Olli (1980) tested models based on propositions of Lintner and Watt and found out that the causality between dividends may be reversed and that in Finland the firms "show" net income only so much as they will pay dividends. The models based on the information content of the dividend hypothesis did not gain any empirical support in the Finnish stock market. Yli-Olli (1982) compared informational content on Japanese, Swedish and Finnish firms and found this effect especially in some Japanese and Swedish firms. In Finnish firms this conclusion only gained weak support in a small sample of firms.

Based on Finnish data, it also seems that, if dividends only include cash dividends, the results are not very encouraging [45]. When stock dividends and right issues are also studied, the results are much better. Berglund–Liljeblom–Wahlroos (1987) found high returns connect-

44 According to Wahlroos (p. 234) reasonable doubt concerning the "information content of dividends" hypothesis may be expressed.

45 Finnish tests on the signaling hypothesis have been made by testing Lintner's applications. Lintner connects dividends, however, to cash dividends. "The dividend theory" states that prices are equal to the present value of the cash flow to the investor (that is, cash dividends)." Lintner (1962) p. 268.

ed to stock dividends. One reason for this was assumed to be the signalling effect of stock dividends.[46]

Löyttyniemi (1991) studied rights issues and stock dividends in Finland. According to him, a rights issue should convey less information about asset prices or the ownership structure than general cash offerings.[47] Martikainen–Rothovius–Yli-Olli (1991) studied the long-term stock return reactions to dividend information. They used the so-called naive model (all dividend changes are regarded as unexpected). When researching the information content of cash dividends, they found that cash dividends were associated very strongly with abnormal returns and that this supported the assumption that dividend changes convey information about future successfulness of the companies.

Kjellman–Hansen (1993) examined whether managers of Finnish listed firms convey information about future investment opportunities to the stock market through signalling. They studied share issues as well as dividend increases as signals. They found that new share issues convey information about the company's intention to survive, and an increased dividend payment may be announced due to undervaluation of the firm. Heikkilä (1997) analyzed 87 announcements of unexpected changes in dividends during 1983–1994 using the actual announcement dates. The results suggest that both the sign of an unexpected dividend change and the magnitude of it convey relevant information to the market. However, the information content appeared to be considerably weaker during the latter subperiod (1989–1994) of the study[48].

As a conclusion, signalling effects have been found in international studies widely. In Finnish studies, the results are not very encouraging if they are based on cash dividends and Lintner's or Watt's models testing the relation between dividends and future earnings. If also share issues, stock dividends and/or stock splits are included as dividends, then the results are stronger.

So far, this work has concentrated on market reactions to dividends. Next, the focus will shift to the inside of the corporation. How dividend decisions are determined, as part of dividend policy will be addressed.

46 The announcement effects of dividend per share change, stock dividend, and the effect of rights issue on dividends, should be different. The predictability of the change in dividends per share is greater than the predictability of stock dividends and right issues. The timing of stock dividends and right issues are always unknown, whereas the timing of the dividend per share announcement is known quite well.

47 Stock dividends are an account transfer with no new investments in the company. Existing shareholders receive new shares without payment. Stock dividends do not change the debt-to-equity ratio and therefore have only informational effects.

48 During 1990–1993 there was a depression in Finnish economy, which may effect on the results.

3. DIVIDEND POLICY

3.1. Behavioural models of dividend policy

Behavioural models of dividend policy assume that the change in dividends can be explained by the last period's dividends and the target dividends, which can be expressed as a fraction of this period's earnings. Lintner (1956) first published the basic model for that kind of dividend policy. His model is based on a set of interviews with managers about their dividend policies. From Lintner's interviews, it was apparent that dividend policies across firms were hardly uniform.

Some common characteristics were however identified: managers tend to change dividends when unanticipated and non-transitory changes have occurred in their firm's earnings. Using an econometric model based on these perceived patterns, Lintner found that he could explain a significant portion of annual dividend changes for a sample of companies over the period 1918–1941. According to Lintner, the key determinant of dividend changes is the firm's bottom line net income.[49]

Lintner's original findings were supported in later empirical works by Pettit (1972), Watts (1973) and Fama (1974), who used the same types of models as Lintner. Healy–Palepu (1988) researched earnings information conveyed by dividend initiations and omissions, and the findings reported provided strong support for Lintner's description of managers' decision-making processes. As a conclusion, Copeland–Weston (1988 p. 663) propose that most corporations desire to avoid reducing dividends, because a dividend cut signals a future permanent decline in earnings. Thus dividends only increase with a lag after earnings rise, and dividends increase only after an increase in earnings appears clearly sustainable and relatively permanent.

The Lintner model has fared well relative to its competitors in tests on aggregate data by Brittain (1966), who in his studies isolated the major determinants of corporate dividend poli-

49 Lintner (1956 p. 112) also argued that there is no evidence that the normal or target equilibrium ratio of dividends to profit for corporations as a whole would be any different during the postwar years than during the preceding quarter century. Lintner found in interviews that: (1) Managers believe that firms should have some long-term dividend payout ratios, (2) Large earnings changes not in line with current dividend payouts were the chief factor behind the dividend decision, (3) Managers avoided making changes in dividend payout rates that might have to be reversed within the next year, (4) Managers focused on the changes in dividend payout rates rather than the amount of the payout itself. (5) Investment funding requirements had little effect on changing the pattern of dividend behavior. Copeland–Weston (1988) pospones that paying stable dollar dividends is not the only dividend policy. They described three major types of dividend payout schemes: (1) Stable dollar amount per share is also the policy implied by the words 'stable dividend policy'. That dividend policy is followed by most firms. (2) Constant payout ratio is followed by very few firms. Since earnings fluctuate, following that policy means that also dividends will fluctuate and it results in unreliable signals to the market about the future prospects of the firm. (3) Low regular dividend plus extras is a compromise between the first two and gives flexibility to the firm but leaves investors a bit uncertain about what their income will be.

cy. Theobald (1978) tested intertemporal dividend models by Lintner by using UK data but the results were quite poor[50].

Mantripragada (1976) tested the question of stable dividend policy and its relation to share prices. The stable dividend hypothesis argues that the market price of a share with stable dividend payments should be higher than the market price of a similar share with payments, which fluctuate, on average, by approximately an equal amount. Little empirical support was however found in support of the stable dividend hypothesis. Mantripragada's empirical study was extended by Schnabel's (1981) theoretical work where he pointed out that, in the presence of cash demands and quadratic liquidation costs, the investor will attempt to hold a portfolio that is efficient along the three dimensions of expected return, variance of return, and the variance of dividend yield.

Kolb (1981) developed, by using the discriminant analysis, a model based on economic and institutional factors to determine the payment of dividends and to predict changes in the annual cash dividend of a firm. The most significant factors were earnings, liquidity and profitability. Variables designed to measure managerial attitudes were of relatively minor importance.

Kim (1985) in his dissertation studied if Lintner's model could explain repatriation of earnings from U.S.-owned foreign subsidiaries to their U.S. parent. The results showed that the U.S.-owned foreign subsidiaries had more stable dividend payment records than their U.S. parent companies and they did not follow their U.S. parent companies' dividend payout policy. Also Hines (1996) used Lintner's models when comparing U.S. corporations' dividend payout from domestic and foreign profits. Baker–Farrelly–Edelman (1985) carried out a questionnaire survey just like Lintner and found that most of his observations were still valid.

According to Marsh–Merton (1987 p. 3), "except for certain debt-indenture restrictions and accumulated-earnings tax penalties, there do not appear to be any significant legal, accounting-convention, or corporate-tax factors to exert pressures on managers of publicly traded and widely held corporations to follow any particular dividend policy". In that situation, there are factors influencing the dividend decision and dividend policy[51]. They criticized Lintner's model on the basis that it does not take into account the cross-sectional dependencies among firms' dividend policies. According to them, it is reasonable to expect that, in addition

50 Theobald's data consists of 41 UK firms from the period 1964 to 1975. The Advanced Corporation Tax in March 1973 effectively reduced the cost of dividends to the firm, which perhaps partly explains the poor results.
51 Weston–Copeland (1991) pp. 658–661. Choi (1989) isolated, in his dissertation, common factors which determined the dividend policy of unregulated firms. These factors were tax factor, transaction cost factor, agency costs factor, information signaling factor, risk factor and profitability factor. Within the signaling framework, he found that dividends are related positively to the profitability factor and the agency costs factor, and related negatively to the risk factor and transaction cost factor.

to its own economic circumstances, the firm would use the dividend behaviour of other firms to calibrate its dividend policy. They formed the trendautoregressive model, in which a distributed lag of past dividend together with a time trend was used to explain subsequent dividend changes.

Campbell–Shiller (1988) studied whether data on accounting earnings, when averaged over many years, help to predict the present value of future dividends. Choi (1989) found that regulation effects on the dividend policy exist and this regulation effect increases the dividend payout of regulated firms. Thus regulated firms decrease their dividends when they move from regulated environments to deregulated environments.

Theoretically, a manager's task is to maximize the value of the firm. Pinegar–Wilbricht (1989) surveyed the extent to which managers use the assumptions and/or inputs of capital structure models generated by academicians in making financing decisions[52]. They found out that, in general financing planning, principles are more important in governing the financing decisions than are specific capital structure theories. The capital structure decision is less binding than either the investment or dividend decision of the firm.

In Lintner's sample, the dividend changes were largely dividend increases since he primarily surveyed healthy firms. DeAngelo–DeAngelo–Skinner (1990) analysed the relation between dividend reduction and poor earnings performance by firms listed on the New York Stock Exchange. They found out that an annual loss is essentially a necessary but not sufficient condition for dividend deduction.[53]

Ackert–Smith (1993) researched the difference of narrowly and broadly defined dividends and market efficiency. Narrowly defined dividends consist of cash dividends and broadly defined dividends also include share repurchases and cash mergers and acquisitions[54]. Stock prices should reflect the discounted value of total expected cash flows received by shareholders rather than just cash dividends. They claim that investors tend to receive their stock returns in the form of relative smooth streams of ordinary cash dividends and a more volatile series of stock repurchases and cash acquisition payments.

52 A survey was sent to chief financial offices of each of the Fortune 500 firms for 1986. The number of useable responses was 176.

53 DeAngelo, DeAngelo and Skinner (1994) compared the dividend decisions of 167 NYSE firms with at least one annual loss during 1980–1985 with those of 440 NYSE firms with no losses during the same period. 50.9% (85) of 167 loss firms reduced dividends in the initial loss year whereas 1% of non-loss firms reduced dividend in the initial loss year. 25 of 167 loss firms omitted dividends during their initial loss year whereas only one of the 440 non-loss firms did so during the six-year sample period.

54 According to Bagwell–Showen (1989), in recent years ordinary dividends represent less than half of the total cash distributed to shareholders.

3.2. Earnings management

Empirically it has been found that firms tend to keep the dividends at about the same level and are not willing to lower that level[55]. A firm that has relatively stable earnings is often able to predict its future earnings. Such a firm is therefore more likely to pay a higher percentage of its earnings out as dividends than a firm with fluctuating earnings is. The unstable firm is not certain that in future years the earnings would materialize as hoped, and therefore it is likely to keep a higher proportion of current earnings as retained earnings. A lower dividend level will be easier to maintain if earnings fall off in the future.

Lintner (1956) found that managers were not willing to change their dividend policy without an unanticipated and nontransitory change in their firm's earnings Two major hypotheses have been researched:[56] (1) No stock price changes are associated with certain voluntary changes in accounting procedures, (2) Stock price changes are associated with accounting changes. Gordon (1964) amounted a theory of managerial choice of accounting techniques. Gordon suggested that managers select accounting procedures to increase reported earnings and the growth rate of reported earnings and to decrease the variance of earnings changes[57].

The manager has a certain choice of accounting procedures. The law announcements give frontiers in which the manager can choose accounting methods quite freely. Changes in accounting procedures affect agency costs and can transfer wealth between parties to the firm[58]. According Lilien–Mellman–Pastena (1988) unsuccessful firms are more likely than successful firms to improve income through accounting changes.

Watts–Zimmermann (1986) studied a set of hypotheses, which examined the managers' choice among accepted accounting procedures. The hypotheses were (1) Bonus plan hypothesis. Managers of firms with bonus plans are more likely to choose accounting procedures that shift reported earnings from future periods to the current period. (2) Debt/equity hypothesis. The larger a firm's debt/equity ratio, the more likely the firm's manager is to select accounting procedures that shift reported earnings from future periods to the current period. (3) Size hypothesis. The larger the firm, the more likely the manager is to choose accounting procedures that defer reported earnings from current to future periods.

Brittain's (1970) initial hypothesis was that net earnings are a poor measure of the ability

55 Koskela (1984) p.32

56 Watts–Zimmerman (1986) p. 72. In the CAPM world there are no transaction costs, no costs of contracting and no information processing costs. So it costs investors the same amount to process accounting calculated under different methods. There is no reason for a firm's manager to prefer one accounting method over another. Without additional assumptions, an accounting change has no implications for stock prices in the CAPM world.

57 Gordon (1964) assumes that: (1). The corporate manager maximizes his or her utility. (2). Corporate stock prices are a function of the lever, the rate of growth and the variance of accounting earnings changes. (3). The corporate manager's compensation depends on the corporation's stock price.

58 Watts–Zimmermann (1986) p. 217.

to pay dividends. He was accompanied by the corollary that cash flow (net earnings plus depreciation allowances) would be a better basis for the explanation of dividends and, as a conclusion, he argued that "obviously cash flow is not an ideal indicator of the ability to pay dividends" (Brittain 1970 p. 11). DeAngelo–DeAngelo–Skinner (1994) studied 76 NYSE firms with persistent losses and dividend reductions. They found out that managers' accounting choices primarily reflect their firms' financial difficulties rather than attempts to inflate income. Researchers see dividend here as signals to the firm's interest groups about the economic condition of the firm.

The accounting methods are often likely to affect the taxable return and therefore also the taxes. The studies may be divided into groups that take this into account: (1) Accounting changes that do not affect taxes, (2) Accounting changes that affect taxes. One of the studies that began the discussion on earnings measurement and stock prices[59] was by Kaplan–Roll (1972). They examined accounting changes that do not affect taxes, and the result was that there exist no stock price changes related to changes in accounting techniques excluding those affecting federal income taxes.

Michaely (1991) analysed the behaviour of stock prices around ex-dividend days after the implementation of the 1986 Tax Reform Act, which first (1987) reduced the difference between the tax treatment of realized long-term capital gains and dividend income and then completely eliminated the differential in 1988. The results showed that this tax change had no effect on the ex-dividend stock price behaviour.[60]

3.3. Dividend policy and earnings management studies in Finland

In Finland, Korhonen (1977) first studied dividend policy. He reported poor results on Lintner's (1956) model with Finnish data. Yli-Olli (1980) tested models based on Lintner's propositions and found out that causality between dividends and net income may be reversed and that in Finland the firms "show" net income only so much as they will pay dividends.

Yli-Olli (1982) found out that dividend policies of Finnish firms differ from one another, and also compared with Swedish and Japanese firms. In Finnish firms, the past dividends most strongly determined future dividends. According to Martikainen–Rothovius–Yli-Olli (1990), "the relative amount of stock dividends has decreased significantly during the 1980s. This decrease in the relative importance of stock dividends may well have increased the informational value of cash dividends. Simultaneously Finnish firms have gradually changed their dividend poli-

59 Also the term "competing hypotheses" is used here in literature.
60 According to Michaely the results were inconsistent with the hypothesis that long-term individual investors have no significant effect on ex-day stock prices during this time period. The results indicate that the activity of short-term traders and corporate traders dominates the price determination on the ex-day.

cies toward the situation where their dividend yields merely follow the changes in their earnings."[61]

Löyttyniemi (1991) analysed the effects of share issues on dividends in Finland. Changes in dividends can be announced by declaring a change in the dividend per share or indirectly by announcing a stock dividend or a rights issue.[62] A basic principle in the Finnish bookkeeping law is conservatism, which means that the accountant should report the lowest value among possible alternative values for assets and the highest alternative value for liabilities. Revenues should be recognised later rather than sooner and expenses sooner rather than later. Finnish accounting rules have provided the firms with exceptionally large opportunities to smooth income internationally and therefore researchers typically adjust reported earnings to better describe the "economic reality"[63].

In Finland, Martikainen–Ankelo (1989) tested how the explanatory power of corporate earnings on stock return is affected when four alternative adjustments of depreciation are carried out. The four used depreciation methods were: (1) straight-line depreciation, (2) annuity depreciation, (3) realization depreciation and (4) tax-based accelerated depreciation. As a result, Martikainen–Ankelo found out that earnings adjusted with the tax-based accelerated depreciation explained stock prices in the most effective way. The lowest explanatory variable was the connection between annuity depreciation adjusted earnings and stock returns.

Kasanen–Niskanen (1992) tested the stability of Finnish firms' dividend policies. Their study is based on Lintner's (1956) theory, which postulates that current dividends are a function of earlier dividends and current earnings. The empirical findings showed that the major tax reform of 1969 had an effect on the aggregate dividend policies of the sample firms. Lowering of the dividend taxation caused an upward shift in the dividend and a downward shift in the dividends growth rate. There was however differences between industries. The effect was clearest in the paper industry.

In some countries, such as Finland, shares bought in rights issues are taxed differently than shares bought in the secondary market. The rights issue is taxed more lightly than ordinary shares.[64] That tax effect means that investors would prefer buying shares from share issues than from the secondary market. To be able to reach a suitable dividends level, managers

61 Martikainen–Rothovius–Yli-Olli (1990) p. 13.
62 Löyttyniemi found that share issues have consirerable effects on dividends. Using Finnish data and a sample period 1975–1989, the analysis revealed that that 72.1% of dividend increases are channeled through share issues and only 27.9% of dividend increases derive from direct chances in dividends per share. According to Hietala (1987) p. 59 the annual dividend yield in Finland and in the U.S. are about the same, ie on average 5%. Löyttyniemi's results are inconsistent with Bagwell–Shoven's (1989) results in the U.S.
63 Kallunki–Martikainen et al. (1997).
64 The day of purchase for shares in the rights issue is the day of purchase of the original shares. Some of the capital gains are taxed lighter after a five-year holding period starting from this original date.

must be able, to a certain extent, affect the reported earnings. Finnish tax laws grant managers a cost reserve to affect reported earnings.

Kasanen–Kinnunen–Niskanen (1991) tested whether the target dividends are driving the reported earnings. The management of corporate earnings is generally believed to be motivated by the firm's contracts. In Finland, the tax rate is very high and taxable income is tied to report earnings. On the other hand, blocked ownership creates a need to pay stable dividends.[65] The results showed that earnings management, measured by the difference between target dividends (taxes included) and unmanaged earnings, is positively correlated with the observed earnings management, measured by the difference between reported and unmanaged earnings.[66]

According Kallunki–Martikainen et al. (1997), the reported earnings of Finnish firms are typically close to zero and have low variability over time. This is because taxation is based on reported earnings figures and the tax rate has been higher than in many other western countries. As a result, Finnish firms have incentives to systematically reduce reported earnings figures to avoid taxes. Therefore, the reported earnings as such have little information content for investors.

As aconclusion the studies concerning dividend policy are mainly based on Lintner's (1956) findings and most of his observations have been found to be valid later as well. Companies have dividend policies and they differ from one another. Finnish studies have slightly mixed results. Companies have also moved to earnings management when trying to keep their dividends at the same level.

3.4. Agency theory and dividends

Traditionally, corporate dividend policy has been examined under the assumptions that the firm is one homogenous unit and that the management's objective is to maximize its value as a whole. The agency cost approach differs from the traditional approach mainly in the sense that it explicitly recognizes the firm as a collection of groups of individuals with conflicting interests and self-seeking motives.[67] Under the agency theory, these behavioural implications cause individuals to maximize their own utility instead of maximizing the firm's wealth.

According to Jensen–Meckling (1976), agency problems in corporations primarily arise from external debt and external equity. Jensen–Meckling analysed how firm value is affected

65 The possibilities for earnings management in Finland have been substantial, compared with e.g. the U.S. Therefore in Finland it is easier to conduct a powerful empirical test of the model. Kasanen–Kinnunen–Niskanen p. 4.

66 The sample consisted of 37 manufacturing and trade-sector firms listed on the Helsinki Stock Exchange from the years 1971–1989.

67 A detailed description of the agency costs can be found in Jensen–Meckling (1976) and Easterbrook (1984).

by the distribution of ownership between inside shareholders who can consume perquisites, and outside shareholders who cannot. Within this framework, increased managerial ownership of equity alleviates agency difficulties by reducing incentives to consume perquisites and expropriate shareholder wealth. Jensen–Meckling argues that equity agency costs would be lower in firms with larger proportions of inside ownership. Managers are better aligning their interest with stockholders when they increase the shareholders' common stock ownership of the firm.[68] Dividends are believed to play an important role in reducing conflicts between managers and stockholders. Any dividend policy should be designed to minimize the sum of capital, agency and taxation costs.

According to Bathala (1990), in the agency costs and dividends literature, two lines of thought can be found explaining cross-sectional variations in payout ratios. The first view holds that a firm's optimal payout ratio is the results of a trade-off between a reduction in the agency costs of external equity and an increase in the transaction costs associated with external financing resulting from dividend payments as the payout ratio increases. The second view argues that inside ownership and external debt are substitute mechanisms in mitigating agency costs in a firm.

The basic study for the first line of thought is based on Rozeff's (1982) propositions. Rozeff suggests that dividend payout ratios may be explained by reduced agency costs when the firm increases its dividend payout and, on the other hand, by increased more expensive external capital[69]. Rozeff selected a sample of 1,000 nonregulated firms in 64 different industries and was able, by regression analysis, to explain 48% of the cross-sectional variability on dividend payout across individual firms.[70]

68 According Crutchley–Hansen (1989) in the case of 100% ownership, managers can reduce equity agency costs to zero. As managers increase their ownership of the firm, their personal wealth becomes less diversified. They should also have to resort to large personal borrowings to finance the larger outlays. Using increased managerial stock ownership to control agency costs is not costless. Ang–Cole–Lin (1999) analyzed small companies where shareholding was concentrated. They used two alternative measures of agency costs: (1) expenses standardized by annual sales, (2) ratio of annual sales to total sales. According the results, agency costs are higher among firms that are fully owned by their managers, and these costs increase as the equity share of owner-manager declines. These results hold true after controlling for differeneces across industries, the effct of economics of scale, and differences in capital structure.

69 An agency relationship is a contract in which one or more persons (the principals) engage another person (the agent) to take actions on behalf of the principals which involve the delegation of some decision-making authority to the agent. Agency costs include all costs frequently referred to as contracting costs, transaction costs, moral-hazard costs and information costs. In any contracting relationship total agency costs are minimized.

70 Rozeff used five proxy variables in a multiple regression equation to test his theory. Hypotheses tested were: (1) Firms that grow faster can reduce their need to use external financing by paying lower dividends. (2) Dividend payout is negatively related to the percentage of insiders because given a lower percentage of outsiders there is less need to pay dividends to reduce agency costs. (3) The number of stockholders is positively related to dividend payout. (4) Riskier firms have lower dividend payout. The very existence of strong cross-sectional regularities of Rozeff's results suggests that there is an optimal dividend policy.

Starting with Rozeff's empirical work, Lloyd–Jahera–Page (1985) and Jahera–Lloyd–Modani (1986) formed their own multiple regression models to set surrogate variables for agency costs and transactions costs. Unlike Rozeff, they also had a scale variable in the model. The empirical results revealed that high revenue growth and high beta values are associated with low payout ratios. With respect to ownership structure, a high percentage of stock held by insiders tends to lower and a large number of shareholders tend to raise the payout ratio.[71] Dempsey–Laber (1992) tested Rozeff's basic model again and their results were similar to Roseff's findings.[72]

Easterbrook (1984) argues that the capital acquisition process is an effective mechanism for reducing agency costs. Born–Rimbey (1993) examined the relation between prior financing activity and the market response to initial dividends and found evidence consistent with the Easterbrook agency cost model.

Crutchley–Hansen (1988) argues that agency cost in a firm can be controlled with three financial variables: manager's personal equity ownership, corporate leverage and corporate dividend payment. They argue that, when the cost of using dividends to control agency costs is higher, managers would rely more heavily on personal common stock ownership and leverage, and less on dividends. On the other hand, when the cost of personal equity ownership is higher, managers would choose to pay higher dividends, and hold a smaller fraction of common stock. Managers try to choose the best combination of the three financial variables when minimizing agency costs.

Bathala (1990) proposed, in his dissertation, a hypothesis that the firm-specific optimal payout ratio arises as the result of a trade-off between a reduction in the agency costs of external equity and an increase in the agency costs of external debt as the payout ratio increases. Then dividend payment is one of the several substitute mechanisms, which resolve agency problems in the firm. The proportion of inside ownership, debt financing, analysts' monitoring activity, institutional holdings, board composition, and the firm's growth rate are the mechanisms proposed as substitutes to dividend payments in the agency costs context.[73]

71 The correlation coefficients between dependent variables were inconsistent with those of Roseff and in their regression model the best R^2 was .32.

72 Their sample was 968 firms from 1974–1980 and 739 firms from the period 1981–1987. The results were that Rozeff's model possesses both high explanatory power and structural stability over time. Rozeff's R^2 was .48 and Dempsey's and Laber's .41.

73 Bathala criticises Rozeff's work in three ways:

1) Rozeff ignores the strong possibility that dividend payments impact agency costs of external equity and external debt in an opposite manner. Bathala argues that if Rozeff had recognized this, the agency cost curve drawn by him would not have been a monotonically decreasing function of the firm's payout ratio.

2) Rozeff argues that transaction costs of external financing would increase with the payout ratio. According to Bathala, it is theoretically hard to conceive that dividend payments would have a major influence on the costs of external financing. More probably the transaction costs of external financing would be expected to depend mainly

Schooley–Barney (1994) tested the hypothesis that the relation between cash dividends and chief executive officer stock ownership is nonmonotonic. Their evidence showed that, until the chief executive officer becomes entrenched, increased executive stock ownership reduces agency costs and decreases dividend yield. Beyond that point, increased stock ownership increases dividend yield. Whether additional stock ownership can reduce agency costs depends upon the chief executive officer's degree of control in the firm.

The following table (table 1) summarizes studies concerning Rozeff's model on dividends. Rozeff's empirical model was estimated by using the ordinary least squares regression analysis. To be able to compare Rozeff's results with other studies, only the results based on the ordinary least squares regression analysis are used[74].

After Rozeff's agency theory based proportions increased researchers' interest in ownership structure and its applications in solving the dividend puzzle. According to the study, the interest groups affecting corporate decision-making and also dividend policy are managers[75], shareholders and debtholders. Among others Kanniainen (1990) and Kaplan–Minton (1994) studied the effects of managers. Kose–Lang (1991) and Slowin–Sushka (1993) research various shareholder groups. Ihamuotila (1994) gave sights on decision making between debtholders and shareholders and Denis–Denis–Sarin (1997) studied corporate diversification. Cho (1998) showed that corporate value affects ownership structure, but not vice versa.

Dewenter–Warther (1998) compared dividend policies of U.S. and Japanese firms and found out that that Japanese firms face less information asymmetry and fewer agency conflicts than U.S. firms do, and that this affects dividend policy. Maug (1998) analysed the incentives of large shareholders to monitor public corporations, and found that liquid stock markets are beneficial because they make corporate covernance more effective. LaPorta et al. (1999) studied the effects of legal regimes on dividend policies in different countries and found that firms in common-law countries, where investor (= minor shareholder) protection is typically better, make higher dividend payouts than firms in civil-law countries.

upon factors such as risk-return characteristics of the security issued, type of security, issue size, and other characteristics of the firm/issue.

3) Bathala also criticizes the proxies for transaction costs chosen by Rozeff. According to Bathala, the growth variables employed in Rozeff's study are in fact acency cost variables. The negative coefficients for growth variables reflect the effect of agency costs and not transaction costs. The negative relationship between a firm's beta and its payout ratio could probably be reflecting higher bankruptcy potential and not transaction costs, as explained by Rozeff.

74 Bathala (1990) used also 3SLS.

75 Holderness–Kroszner–Sheehan (1999) found that managerial ownership has risen in U.S. from 13 percent for the universe of exchange-listed corporations in 1935 to 21 percent in 1995. According to them lower volatility and greater hedging opportunities associated with the development of financial markets appear to be important factors explaining the increase in managerial ownership.

TABLE 1: Dividend studies based on Rozeff's applications on agency theory

In the table: ROZ = Rozeff (1982), LJP = Lloyd–Jahera–Page (1985), JLM = Jahera–Lloyd–Modani (1986), CH = Crutchley–Hansen (1989), BAT = Bathala (1990), DL = Dempsey–Laber (1992), SB = Schooley–Barney (1994)

	Rozeff	LJP	JLM	CH	BAT	DL1	DL2	SB
Sample size	1000	957	386	603	240	968	739	235
Sample years	74–80	77–83	74–80	81–85	84–86	74–80	81–87	75–80
Dependent variable payout	Aver payout ratio	Aver payout ratio	Aver. payout ratio		Aver payout ratio Divid/ share	Aver payout ratio	Aver. payout ratio	
SCALE VARIABLES								
Firm size		**	**	***	**			
TRANSACTION COST PROXIES								
Estimated sales	–**	–**	–			–*	–**	–***
Earlier sales	–**	–*	–**			–***	–***	–***
Earnings volatility				*	**			
Beta	–**	–**	–**			–***	–***	–***
AGENCY COST PROXIES								
Number of stockholders	**	*	**			***	***	***
Stocks owned by managers	–**	–**	–**		–**	–***	–***	–***
Stock's market value			+					
OTHER VARIABLES								
Advertising and R&D				–***				
Adjusted R^2	0.48	0.31	0.32	0.46		0.41	0.37	0.519
F	185.5			101.7		134.0	85.7	40.2

* = significant at the 10% level
** = significant at the 5% level
***= significant at the 1% level

According to LaPorta et al (2000), however, there are no fully satisfactory theoretical agency models of dividends that derive dividend policies as part of some broad optimal contract between investors and corporate insiders. The existing agency models have not yet fully dealt with the issues of choice between debt and equity in addressing agency problems, the choice between dividends and share repurchases, and the relationship between dividends and new share issues.

In Finland Rozeff based agency theory application has studied Kinkki (1999) who found that dividend payout is affected by legal regimes (restricted equity) and corporate covernance

measured major shareholder's voting power. According the results the more voting power has major shareholder the more increased volatily of dividend payout.

3.5. Conclusions on dividend theories and future research areas

We have discussed theories of dividend behaviour, the dividend "puzzle". During decades the dividend research has turned from market value theories towards agency problems, corporate control and control benefits. Next are described some conceptions of corporate dividend theories.

Kim (1985) categorizes corporate dividend theories in his dissertation in the following way:

1) Irrelevance Theory
   Because of: Homemade Dividends, Residual Theory of Dividends, Clientele Effects
2) Relevance Theory 0% Payout Bias (Because of: Two-Birds-In-The-Bush Argument, Lower Capital Gain Tax Rates, Floatation Costs in Issuing New Stocks),
   Relevance Theory 100% Payout Bias (Because of: One-Bird-In-The-Hand Argument, Transaction Costs in Buying and Selling Shares, Institutional Demand),
3) Optimum Dividend Theory (Because of: Information Effect on Stock Price, Signalling Effect on Stock Price, Agency Theory)
4) Stock Repurchase Theory (Because of: Information or Signalling Hypothesis, Leverage Hypothesis, Dividend Tax Avoidance Hypothesis, Bondholder Expropriation Hypothesis, Wealth Transfer among Shareholders)
5) Historical Dividend Payment Model of Behaviour (Dividends to the Market, Intracompany Dividends)

Ang (1987) classifies dividend studies in the following way: (1) Dividend theory under perfect markets: The Modigliani-Miller model, (2) Dividend theories under imperfect markets (In that group dividends are related to the following subjects) a) Agency costs, b) Taxes, c) Asymmetric information, d) Costly transformation, e) Endogenous investments and financing decisions.

Copeland–Weston (1988) classify dividend studies in the following way:[76] (1) relationship between dividends and firm value, (2) clientele effects and ex-date effects of dividends, (3) behavioural models of dividend policy, (4) signalling effects of dividend announcements.

Choi (1989) in his dissertation classifies dividend studies in the following way: (1) the dividend announcement effects on the stock price, (2) stock price movements around ex-dividend dates, (3) different types of dividend payments, (4) dividend policies of specific industries and (5) behavioural patterns that seem to explain dividend payments.

76 This classification is also used in Finland by Martikainen–Yli-Olli–Gunaserakan (1991).

Karanjia (1990) summarises, in his dissertation, theories of dividend behaviour: (1) need for cash (Closely regulated firms need a steady stream of cash from dividends to finance current consumption or to satisfy monitoring investors.), (2) clientele effects, (3) information signalling effects, (4) agency costs effects and (5) other explanations.

Allen–Michaely (1995) see that, in perfect and complete capital markets, firms cannot alter their value by changing dividend policy. Because markets are less than perfect, dividends, or more generally payout policy, represent one of the most important financial decisions faced by corporate financial managers. According to them there are five potential imperfections to be considered when dividend policy is determined: (1) taxes, (2) asymmetric information, (3) incomplete contracts, (4) institutional constraints and (5) transaction costs.[77]

Högholm–Liljeblom (1997) divide the empirical research related to dividend topics (in Finland) into three main categories: 1) studies modelling the dividend policy and/or informational content of unexpected cash dividend announcements (and the incremental power of these as compared to earnings announcement), 2) studies investing stock price behaviour on the ex-dividend day for cash dividends, and 3) studies investigating price reactions at the announcements of a suggested alternative form for increasing the future gross cash dividend amount paid out, the stock dividend.[78]

According Heikkilä–Ikäheimo (1997) the relationship between company dividend decisions and stock market returns can be divided into three main categories: 1) the relationship between dividend policy and the value of the company, 2) the information content of dividend decisions and 3) the ex-dividend day behaviour of stock prices.

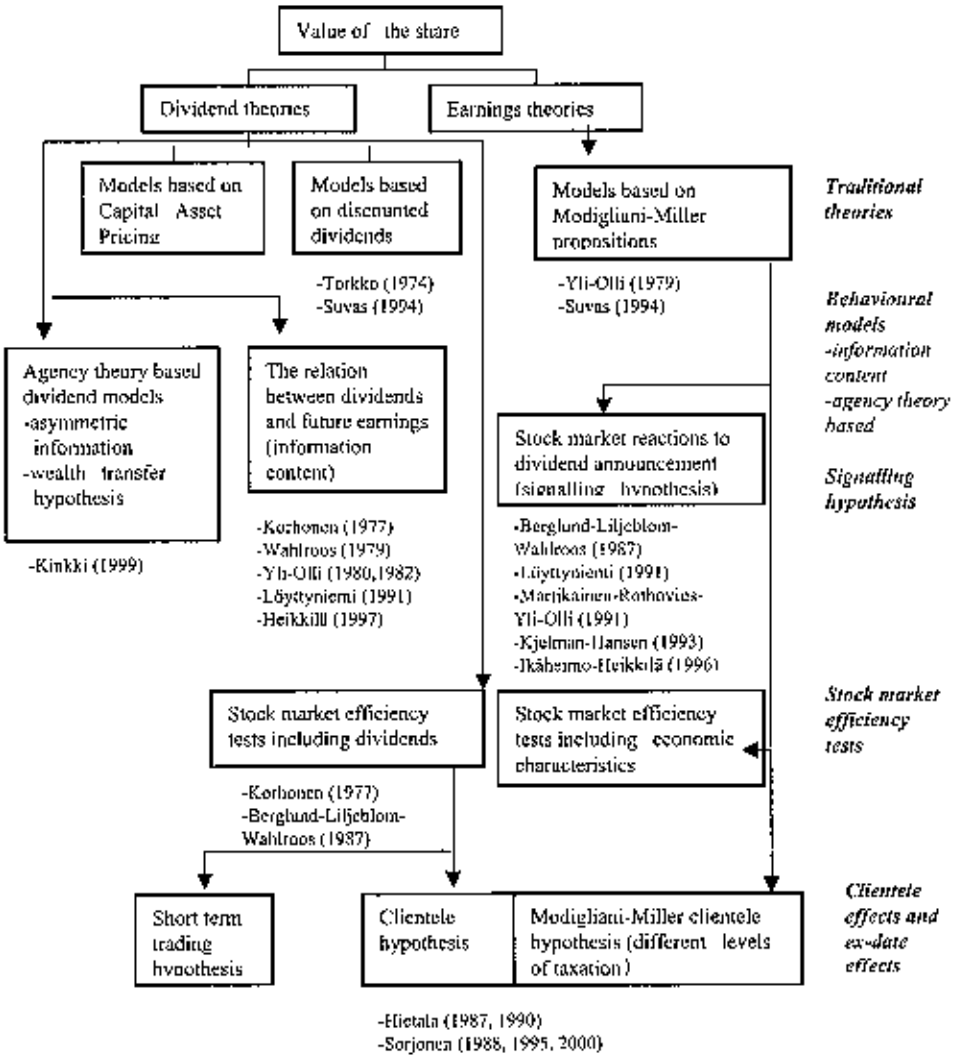
As a conclusion about studies made so far on dividend policy, they are classified in this study as follows (figure 2): The figure lists Finnish studies (made under the conditions of weaker-form efficiency stock markets).

Historically there has been discussion on why firms pay dividends and whether it affects the market value of the share. Until the 1960s this discussion was divided into two schools of thought: Dividend theoreticians (Gordon et al.) claimed that the market value of the share depends on dividends. On the other hand, earnings theoreticians (Modigliani–Miller et al.) stated

77 Allen–Michaely (1995) classify dividend studies relaxing the basic assuptions of Modigliani–Miller (1961). Allen–Michaely however do not mention Rozeff's (1982) agency-theory based optimal dividend policy applications and numerous studies followed by them (Lloyd–Jahera–Page (1985), Jahera–Lloyd–Modani (1986), Crutchley–Hansen (1989), Bathala (1990), Dempsey–Laber (1992) and Schooley–Barney (1994)).

78 They also conclude that the first two lines of research on cash dividends follow the paths opened when the basic assumptions of the Miller–Modigliani (1961) dividend irrelevance propositions are relaxed, namely the assumptions concerning no taxes, no informational asymmetries, and no agency costs. Relaxing the latter two assumptions can lead to value effects produced by dividend announcements, the effect of differential tax treatment for cash dividends and capital gains can cause clientele effects and ex-dividend day behaviour where the stock price drop does not correspond to the size of the dividend paid out.

FIGURE 2. Theories of the value of the firm including traditional theories, stock market efficiency theories, theories of clientele effects and ex-date effect, dividends behavioural theories and agency theories; Finnish evidence.



that the market value of the share was not affected by dividends. In the background, Lintner (1962) studied how managers set their dividends (behavioural models of dividend policy).

Empirically it has been found that the market value of the share and dividends has some kind of interdependence. Dividend theories explained that it was because the value of the

share depends on dividends. Earnings theories argued that by dividends managers signal the firm's future earnings (signalling hypothesis). Modigliani–Miller also argued that changes in dividend policy do not affect the value of the firm because only clienteles change but not the value of the firm (clientele hypothesis). In this question researchers were also interested in how dividend announcements and dividends affect share prices (ex-date effects).

The discussion was polarised until the 1970s when the Capital Asset Pricing Model and market efficiency hypothesis gave a new insight into the discussion on corporate finance (Brennan formulated his model on clienteles). Later studies have relaxed the perfect market assumptions made by Miller–Modigliani and found views on the agency theory (Jensen–Meckling 1976), asymmetric information in dividends (Bhattacharya 1979) and wealth transfer hypothesis (Kalay 1980).

Rozeff's (1982) agency-theory based optimal dividend applications confused the discussion still more. The later discussion on dividends is concentrated on studing the importance of various ways to divide earnings (Löyttyniemi 1991, Ackert–Smith 1993) and dividend policies in various situations (Choi 1989). Dividends and taxes have been researched all the time. In the latter part of the 1990s the discussion turned back to Modigliani–Miller (1961), relaxing the basic assumptions of the dividend irrelevancy. In fact, it is one way to explain the dilemma between the propositions of Miller–Modigliani and some schools based on empirical results[79]. Latest discussion (LaPorta 1999, 2000) turned to legal regimes and controlling shareholders. They may also include future research areas[80].

Foreign ownership has considerably increased in Finland, largely due to the abolition of foreign ownership restrictions in 1993. Foreign owners are often institutional investors with remarkable economic resources and possibilities to strongly affect the structure of shareholding. That may affect the price behaviour of the Finnish stock market[81] and requires research.

In dividend decisions, the question is about decision-making and controlling power. The one who affects dividend decisions is doing it from the perspective of his/her own preferences. Controlling the corporation makes also it possible to control dividend decisions[82]. Future research areas might be found in that direction. The three groups affected the most by the firm's

79 Allen–Michaely (1995) relaxed taxes, asymmetric information, incomplete contracts, institutional constrains and transactions costs. Högholm–Liljeblom (1997) relaxed taxes, informational asymmetries and agency costs.

80 According Barnes–Davidson–Wright (1996) during the last decade increased diversity of corporate control, the emergence of more varied types of ownership structure, privatisation of corporate ownership, shift to less highly leveraged transactions, the greater involvement of active investors (particularly fund managers) and the growth of demergers. That gives "a vital need for more work to be done in the areas of valuation, control and corporate governance" (p.666).

81 Kallunki–Martikainen et al. (1997)

82 Normally there are two kinds of reasons to buy stock: (1) dividend paid to shareholder and (2) possibility of selling these shares later against profit. Look for instance Salin (1995).

dividend policy are stockholders, bondholders and management. Studies so far have researched the relations between each group as a whole[83]. The role of controlling shareholder in different situations requires more research.

Dividend puzzle has remained unexplained over half a century and still it looks like we must say as Black (1976) stated "The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together". ■

REFERENCES

ACKERT, L., SMITH, B. (1993). Stock Price Volatility, Ordinary Dividends, and Other Cash Flows to Shareholders. The Journal of Finance, Vol XLVIII, Nro 4, 1147–1160.

ADAMS, P.D., WYATT, S.B., WALKER, M.C. (1994). Dividends, Dividend Policy and Option Valuation: A New Perspective. Journal of Business Finance and Accounting, Vol 21, No 7, September.

AHARONY, J., SWARY I. (1980). Quartelty Dividend and Earnings Announcements and Stockholders' Returns: An Empirical Analysis. The Journal of Finance. Vol XXXV, No 1, 1–12.

AKHIGBE, A., MADURA, J. (1996), Dividend Policy and Corporate Performance. Journal of Business Finance and Accounting, Vol 23, Nos 9–10, December, 1267–1289.

ALLEN, F., MICHAELY, R. (1995). Dividend Policy in Jarrow, R.A., Maksimovic, V., Ziemba W.T., (editors) Handbooks in Operations Research and Management Science, Vol 9.

ANG, J.S. (1987). Do dividends matter? A review of corporate dividend theories and evidence. Monograph series in finance and economics. 1987:2.

ANG, J.S., COLE, R.A., LIN, J.W. (2000). Acency Costs and Ownership Structure. Journal of Finance. Volm LV, No 1, February 2000.

ASQUITH, P., MULLINS, jr., (1986). Signaling with Dividends, Stock Repurchases, and Equity Issues. Financial Management, pp. 27–44.

BAGWELL, L., SHOVEN, J. (1989). Cash Distributions to Shareholders, Journal of Economic Perspectives, 3, 129–140.

BAKER, H., K., FARRELLY, G., E., EDELMAN, R., B. (1985). A Survey of Management Views on Dividend Policy. Financial Management. Autumn 1985.

BARCLAY, M. (1987). Dividends, Taxes, and Common Stock Prices; The Ex-Dividend Day Behavior of Common Stock Prices Before the Income Tax. Journal of Financial Economics, 19, 31–44.

BARNES, P., DAVIDSON, I., WRIGHT, M. (1996). The changing nature of corporate control and ownership structure. Journal of Business Finance and Accounting, Vol 23, Nos 5–6, July, 651–673.

BAR-YOSEF, S., HUFFMAN, L. (1986). The Information Content of Dividends: A Signaling Approach. Journal of Financial and Quantitative Analysis, Vol 21, No1, 47–58.

BAR-YOSEF, S., KOLODNY, R. (1976). Dividend Policy and Capital Market Theory. The Review of Economics and Statistics, Vol LVIII, Nro 2, 181–190.

BATHALA, C. (1990). The role of dividends in resolving agency problems. Texas 1990.

BERGLUND, T., LILJEBLOM, E. AND WAHLROOS, B. (1987). Stock price reactions to announcement of stock dividends and rights issues. A test of liquidity and signaling hypothesis. Finance 8:2, 109–132.

BHATTACHARYA, S. (1979). "Imperfect Imformation, Dividend Policy and "The Bird in the Hand" fallacy, The Bell Journal of Economics, 10, 259–270.

BLACK, F. (1976). The Dividend Puzzle. Journal of Portfolio Management, 2, 5–84.

BLACK, F., SCHOLES M. (1974). The effects on dividend yield and dividend policy on common stock prices and returns. Journal of Financial Economics 2, 1–22.

83 That area is seen to be an important area for future research as a whole (Allen–Michaely, 1995) and also in Finland (Högblom–Liljeblom, 1997).

BOOTH, L., JOHNSTON, D. (1984). The Ex-Dividend Day Behavior of Canadian Stock Prices: Tax Changes and Clientete Effects. The Journal of Finance, Vol XXXIX, Nro 2, 457–476.

BOWER, D.H., BOWER, R.S. (1970). Test of a stock valuation model. Journal of Finance 25:2 (May), 349–362.

BRENNAN, M. (1971). A Note on Dividend Irrelevance and the Gordon Valuation Model. Journal of Finance, 26, 1115–1121.

BRIGHAM, C.F., GORDON, M.J. (1968). Leverage, Dividend Policy and the Cost of Capital. Journal of Finance 1968.

BRITTAIN, J.A. (1966). Corporate Dividend Policy. Washington 1966.

BROOKS, R.M. (1996). Changes in Asymmetric Information at Earnings and Dividend Announcements. Journal of Business Finance & Accounting, Vol 23, No3, April, 359–370.

BURKART, M., GROMB, D., PANUNZI, F. (2000). Agency Conflicts in Public and Negoatiated Transfers of Corporate Control. Journal of Finance. Forthcoming February 2000.

CAMPBELL, J., SCHILLER, R. (1988). Stock Prices, Earnings, and Expected Dividends. The Journal of Finance, Vol XLIII, Nro 3, 661–676.

CHARITOU, A., VAFEAS, N. (1998) The Association Between Operation Cash Flows and Dividend Cganges: An Empirical Investigation. Journal of Business Finance and Accounting, Vol 25, No 1–2 (January–March), 225–249.

CHO, M-H. (1998). Ownership structure, investment, and the corporate value: an empirical analysis. Journal of Financial Analysis, Vol 47, 103–121.

CHOI, J. (1989) An Empirical Examination of the Effect of Regulation on Corporate Dividend Policy. Ph.D. Wilkinson-Madison University.

CHRISTIE, W.G. (1990). Dividend Yield and Expected returns; The zero-dividend puzzle. Journal of Financial Economics 28 (1990), 95–125.

COOLEY, P.L., HECK, J.L. (1981). Significant Contributions to Finance Literature. Financial Management , Tenth anniversary issue, 1981.

COPELAND, T.E., WESTON, J. F. (1988). Financial Theory and Corporate Policy. Reading, Ma:Addison-Wesley.

CROSSLAND, M., DEMPSEY, M., MOIZER, P. (1991). The Effect of Cum- to Ex-Dividend Changes on UK Share Prices. Accounting and Business research, Vol 22, Nro 85, 47–50.

CRUTCHLEY, C., E., HANSEN, R. (1989). A Test of Agency Theory of Managerial Ownership, Corporate Leverage, and Corporate Dividends. Financial Management, Vol 18, Nro 4, Winter 1989.

DANN, L. (1981). Common Stock Repurchases: An Analysis of Returns to Bondholders and Stockholders. Journal of Financial Economics, 9, (June 1981).

DAVIDSON, I. (1989). Ex-Effects: Ex-Dividend – Ex-Rights Corroboration and the Inplications for Valuation. Accounting and Business Research, Vol 19, Nro 74. pp. 135–141.

DAVIDSON, I., MALLIN, C. (1989). Ex-Effects: An Empirical Reassessment of the Clientete Effect Using UK Data. Accounting and Business research, Vol 19, Nro 75, 227–236.

DeANGELO, H., DeANGELO, L. (1990). Dividend Policy and Financial Distress: An Empirical Investication of Troubled NYSE Firms. The Journal of Finance. Vol XLV, Nro 5, 1415–1431.

DeANGELO, H., DeANGELO, L., SKINNER, D. (1994) Accounting Choice in Troubled Companies. Journal of Accounting and Economics 17, 113–143.

DeANGELO, H., DeANGELO, L., SKINNER, D.J. (1996). Reversal of fortune. Dividend signaling and the disappearance of sustained earnings growth. Journal of Financial Economics, Vol 40, 341–371.

DEMPSEY, M. (1996). The Cost of Equity Capital at the Corporate and Investor Levels Allowing a Rational Expectations Model with Personal Taxations. Journal of Business Finance and Accounting, Vol 23 Nos 9–10, December, 1319–1331.

DEMPSEY, S.J., LABER, J. (1992). Effects of acency costs and transaction costs on dividend payout policy: Further Evidence of the acency-transaction cost hypothesis. The Journal of Financial research, Vol XV, No 4, Winter 1992, 317–321.

DENIS, D.J., DENIS, D.K., SARIN, A. (1997). Agency Problems, Equity Ownership, and Corporate Diversification. The Journal of Finance, Vol LII, No 1, March, 135–160.

DEWENTER, K.L., WARTHER, V.A. (1998). Dividend, Asymmetric Information, and Agency Conflicts: Evidence from a Comparison of the Dividend Policies of Japanese and U.S. Firms. The Journal of Finance, Vol LIII, No 3, June, 879–904.

EADES, K. (1982). Empirical Evidence on Dividends as a Signal of Firm Value. Journal of Financial and Quantitative Analysis, Vol XVII, Nro 4, 471–502.

EADES, K., HESS, P., KIM, E.H. (1984). Market rationality and dividend announcements. Journal of Financial Economi.

EASTERBROOK, F.H. (1984). Two Acency-Cost Explanaitions of Dividends. American Economic Review 74, 650–659.

ELTON, E.J., GRUBER, M.J. (1970). Marginal stockholders' tax rates and the clientete effect. Rewiew of Economics and Statistics (February), 68–74.

ELTON, E.J., GRUBER, M.J., RENTZLER, J. (1983). A simple examination of the empirical relationship between dividend yields and deviation from the CAPM. Journal of Banking and Finance 7, 135–146.

FAMA, E.F. (1974). The Empirical Relationships Between the Dividend and Investment Decisions of Firms. The American Economic Review. June 1974, Vol LXIV, No3.

FAMA, E.F. (1981). Stock returns, real activity, inflation and money. American Economic Rewiew, 545–564.

FAMA, E., FISHER, M., JENSEN, M., ROLL, R. (1969). The Adjustment of Stock Prices ti New Information. International Economic Review, Vol 10, No 1, February, pp.1–21.

FRANKFURTER, G.M., LANE, R.W. (1992). The Rationality of Dividends. International Review of Financial Analysis, Vol 1, Nro 2, 115–129.

FRANKFURTER, G.M., PHILIPPATOS, G.C. (1992). Financial Theory and the Growth of Scientific Knowlidge: From Modigliani and Miller to "an Organizational Theory of Capital Structure. International Review of Financial Analysis, Vol 1, Nro 1, 1–15.

FRIEND, I., PUCKETT, M. (1964). Dividends and Stock Prices. The American Economic Review, Vol LIV, Nro 5, 656–681.

GAGNON, J-M, SURET J-M. (1991). Ex-dividend day price changes and implied tax rates: an evaluation. The Journal of Financial Research. Vol XIV, Nro 3, 255–262.

GOETZMANN, W.N., JORION P. (1995). A Longer Look at Dividend Yields. Journal of Business, Vol 68 No 4, 483–508.

GORDON, M.J. (1959). Earnings and Stock Prices. Rewiew of Economics and Statistics. February 1959.

CORDON, M.J. (1962). The Savings Investment and Valuation of a Corporation. Rewiew of Economics and statistics. February 1962.

GORDON, M.J. (1964) Postulates, Principles and Research in Accounting. Accounting Rewiew 39, April 1964, pp. 251–263.

GORDON, M.J. (1966). The Investment, Financing and valuation of the Corporation. Homewood, Illinois, 1966.

GORDON, M.J., SHAPIRO, E. (1956). Capital Equipment Analysis: The Required Rate of profit. Management Science. October 1956.

GRAMMATIKOS. T. (1989). Dividend Stripping, Risk Exposure, and the Effect of the 1984 Tax Reform Act on the Ex-Dividend Day Behavior. Journal of Business. Vol 62, Nro 2, 157–173.

GRINBLATT, M., MASULIS, R., TITMAN, S. (1984). The Valuation effects of stock splits and stock dividends. Journal of Financial Economics 13, 461–490.

HAGEN, K. (1973). Optimal Dividend Policies and Corporate Growth. Swedish Journal of Economics 1973.

HAKANSSON, N. (1982). To Pay or Not To Pay Dividends, Journal of Finance 37, 415–428.

HAN, K.C. (1994). The effect of the 1886 tax reform act on ex-dividend day return behavior. The Journal of Financial Research. Vol XVII, Nro 2, 175–186.

HANDJIINICOLAOU, G., KALAY, A. (1984). Wealth Reditributions or Chances in Firm Value: An Analysis of Returns to Bondholders and Stockholders Around Dividend Announcements. Journal of Financial Economics 13. 35–64.

HEIKKILÄ, T. (1997). Information content of cash dividend and concurrent earnings announcement; Evidence from the Finnish stock market. Turku School of Economics and Business Administration, D-1.

HEIKKILÄ, T., IKÄHEIMO, S. (1997). Financial Management and Stock markets in Finland. The Finnish Journal of Business Aconomics 4/1997, 399–418.

HESS, P. (1982). The Ex-Dividend Day Behavior of Stock Returns: Further Evidence on Tax Effects. The Journal of Finance. Vol XXXVII, Nro 2, 445–456.

HICKMAN, K., PETRY, G.H. (1990). A comparison of stock price predictions using court accepted formulas, dividend discount, and P/E models. Financial Management 19:2 (Summer), 76–87.

HIETALA, P. (1987). Essays on financial economics. The Helsinki School of Economics A 51.

HIETALA, P. (1990). Equity markets and personal taxation. The ex-dividend day behaviour of Finnish stock prices. Journal of Banking and Finance. Vol 14, 327–350.

HIETALA, P., KELOHARJU, M. (1995). The Ex-dividend Day behaviour of Finnish restricted and Unrestricted Shares. Applied Economics Letters, Vol 2, pp. 467–468.

HINES, J.R. (1996). Dividend and Profits: Some Unsubtle Foreign Influences. The Journal of Finance. Vol LI, No 2, June, 661–689.

HOLDERNESS,C., KROSZNER, R., SHEEHAN, D. (1999). Were the Good Old Days That Good? Changes in Managerial Stock Ownership Since the Great Depression. The Journal of Finance. Vol LIV, No 2, April, 435–469.

HÖGHOLM, K., LILJEBLOM E. (1997). Dividend Policy, Corporate Financing, and Mergers and Acquisitions in Finland; A Survey. The Finnish Journal of Business Economics 4/1997.

IHAMUOTILA, M. (1994). Corporate ownership, capital structure and investment; A theory and evidence. Helsinki School of Economics and Business Administration, A-97.

IKÄHEIMO, S., HEIKKILÄ, T. (1996). The information content of rights issues and stock dividends: theoretical propositions and empirical evidence from a thin security market. In Ikäheimo S. Communication in the share markets, Turku School of Economics and business Administration, A-9, 37–82.

IKÄHEIMO, S., LUMIJÄRVI O-P. (1990). Investointien vaikutus osakkeen tuottoon. The Finnish Journal of Business Economics 4:1990, 332–345.

JAHERA, J., LLOYD, J., MODANI, N. (1986). Growth, Beta, and Agency Costs as Determinants of Dividend. Akron Business and Economic Review, Winter, pp. 55–61.

JENSEN, M., MECKLING, W. (1976). Theory of the firm: Managerial Behavior, Agency Costs, and Capital Structure. Journal of Financial Economics, October, 3, pp. 305–360.

JOHN, K., LANG, L. (1991). Insider Trading around Dividend Announcement: Theory and Evidence. The Journal of Finance, Vol XLVI, Nro 4, 1361–1389.

KALAY, A. (1982). The Ex-Dividend Day Behavior of Stock Prices: A Re-Examination of the Clientete Effect. The Journal of Finance. Vol XXXVII, Nro 4, 1059–1070.

KALLUNKI, J-P., MARTIKAINEN, M., MARTIKAINEN, T., YLI-OLLI, P. (1997). The Finnish Stock Market: A Survey of Some Empirical Evidence and its Practical Relevance. The Finnish Journal of Business Economics, 4/1997.

KANE, A., LEE, Y., MARCUS, A. (1984). Earnings and dividend announcement: Is there a collaboration effect?. Journal of Finance 39, 1091–1099.

KANNIAINEN, V. (1990). Dividends, Growth and Management Preferences. The research Institute of the Finnish Economy. Discussion Papers, nro 322.

KAPLAN, S., MINTON, B. (1994). Appointments of Outsiders to Japanese Boards: Determinants and Implications for Managers. Journal of Financial Economics 28 (November/December 1994).

KAPLANIS, C. (1986). Options, Taxes, and Ex-Dividend Day Behavior. The Journal of Finance, Vol XLI, Nro 2, 411–424.

KARANJIA, R. (1990). Stock Repurchases and Cash Dividends: An Analysis of Stock Price Responses in a Signaling Framework. Ph. D. The University of North Carolina.

KASANEN, E. (1988). Comment on Sorjonen: The relative Valuation of Dividends and Capital Gains in Finland, Finnish Economic Papers, Vol 1, Nro 1, Spring 1988.

KASANEN, E., KINNUNEN, J., NISKANEN, J. (1992). Dividend-based earnings management: Empirical evidence from Finland. Helsinki School of Economics and Business Administration. Working papers. W:13.

KASANEN, E., NISKANEN, J. (1992). Sensitivity of dividend decisions to corporate tax reform. Helsinki School of Economics and Business Administration. Working papers. W:14.

KIM, K. (1985). Dividend Policy of U.S. Owned foreign Subsiriadies. Ph.D. University of Massachusetts.

KINKKI, S. (1998). Dividend Theories and the Agency Theory Based Control Benefits Model on Factors Affecting Cash Dividend Decisions in a Corporation. Helsinki School of Business and Administration. Licentiate Thesis.

KJELLMAN, A., HANSEN, S. (1993). Financing Decisions and Dividend Policy Under Asymmetric Information: The Importance of Long-term Planning. Finnish Journal of Business 3:1993, 195–201.

KOLB, R. (1981). Predicting Dividend Changes. Journal of Economics and Business, Vol 33, Nro 3. 218–227.

KORHONEN, A. (1977). Stock prices, information and the efficiency of the Finnish stock market. Empirical tests. Proceeding of the helsinki School of Economics A 23.

KOSE, J., LANG, L. (1991). Insider Trading around Dividend Announcement: Theory and Evidence. The Journal of Finance. Vol XLVI, Nro 4, September 1991.

KOSKELA, M. (1984). Osakkeen kassaperusteinen arvonmääritys. The Helsinki School of Economics. A 43.

LAHTI, A., PYLKKÖNEN, P. (1989). News and Stock prices. The Finnish Journal of Business Economics 3:1989, 184–193.

LAITINEN, E. (1991) relationship between stock return and financial factors. The Finnish Journal of Business economics. 3:1991, 216–231.

LAKONISHOK, J., VERMAELEN, T. (1986). Tax-induced trading around ex-dividend days. Journal of Financial Economics 15, 287–320.

LAMBERT, R., LANEN, W., LARCKER, D. (1989). Executive Stock Option Plans and Corporate Dividend Policy. Journal of Financial and Quantitative Analysis, Vol 24, Nro 4, 409–425.

LaPORTA, R., LOPEZ-DE-SILANEZ, F., SCHLEIFER, A. (1999). Corporate Ownership Around the World. Journal of Finance, Vol LIV, No2, April, 471–516.

La PORTA, R., LOPEZ-DE-SILANEZ, F., SHLEIFER, A., VISHNY, R.W. (2000). Agency Problems and Dividend Policies Around the World. Journal of Finance. Vol LV, No1, February, 1–33.

LEASE, R., LEWELLEN, W., SCHLARBAUM, G. (1976). Market Segmentation: Evidenceon the Individual Investor, Financial Analysts Journal 32, pp. 53–60.

LILJEBLOM, E. (1989). Stock Price Reactions to Financial Desicions; Some Results on Data for the Stockholm Stock Exchange. Publications of the Swedish School of Economics and Business Administration. Nro 43.

LILLEN, S., MELLMAN, M., PASTENA V. (1988). Accounting Changes: Succesfull Versus Unsuccesfull Firms. The Accounting Review. Vol LXII, No 4, October 1988.

LINTNER, J. (1956). Distribution of Incomes of Corporations among Dividends, Retained Earnings, and Taxes. American Economic Review 61. No 2. May 1956. 97–113.

LINTNER, J. (1962). Dividends, Earnings, Leverage, Stock Prices and the supply of Capital to Corporations. The Review of Economics and Statistics. Vol XLIV, August 1962, 37:1,13–67.

LITZENBERGER, R., RAMASWAMY, K. (1980). Dividends, Short Selling Restrictions, Tax-Induced Investor Clientetes and Market Equiliprium. The Journal of Finance, Vol XXXV, Nro 2, 469–485.

LITZENBERGER, R., RAMASWAMY, K. (1982). The Effects of Dividends on Common Stock Prices: Tax Effects or Information Effects? The Journal of Finance, Vol XXXVII, Nro 2, 429–443.

LLOYD, P., JAHERA, J., PAGE, D. (1985). Acency Costs and Dividend Payout Ratios. Quarterly Journal of Business and Economics, Summer, pp. 19–29.

LÖYTTYNIEMI, T. (1991) Chances in dividends: Dividends per share versus share issues. Helsinki School of Economics and Business Administration. Working papers F-272.

MALKIEL, B.G., CRAGG, J.G. (1970). Expectations and the structure of share prices. American Econimic Review 60:4 (September), 601–617.

MANTRIPRAGADA, K. G. (1976). An Empirical Tset of the Stable Dividend Hypothesis. Journal of Business Research, Vol 4 Nro 4, 325–335.

MARSH, T., MERTON, R.C. (1987). Dividend Behavior for the Aggregate Stock Market. Journal of Business, vol 60, no 1, 1–40.

MARTIKAINEN, T. (1989). Stock price behaviour and economic operations of he firm. Business Administration 45 Accounting and Finance. University of Vaasa.

MARTIKAINEN, T. (1990). The individual and incremental significance of the economic determinants of stock returns and systematic risk. Universitas Wasaensis. No 24.

MARTIKAINEN, T., ANKELO, T. (1989). On the association between stock returns and corporate earnings adjusted for four alternative depreciation methods. Empirical evidence on Finnish data. School of Business. Studies, University of Vaasa. Discussion papers 98:1989.

MARTIKAINEN, T., PUTTONEN, V. (1991) The relationship in time between stock returns, cash flow and accrual earnings in the Finnsih stock market. Proceedings of the University of Vaasa. Discussion Papers 129.

MARTIKAINEN, T,. YLI-OLLI, P. (1991). Macroeconomic Factors and Stock returns: The Case of the Helsinki Stock Exchange. The Finnish Journal of Business Economics, 3:1991, 232–252.

MARTIKAINEN, T., YLI-OLLI, P., GUNASERAKAN A. (1991). The Finnish stock market: An investigation for empirical research and future research directions. The Finnish Journal of Business Economics, 3:1991, 253–284.

MARTIKAINEN, T., ROTHOVIUS, T., YLI-OLLI, P. (1991). On the informational characteristics of earnings and cash dividends in the Finnish stock market. Universitas Wasaensis. No 27.

MAUG, E. (1998). Large Shareholders as Monitors: Is there a Trade-off between Liquidity and Control?. The Journal of Finance, Vol LIII, No 1, February.

MCINISH, T., PUGLISI D. (1980). The Ex-Dividend Behavior of Preferred Stocks. Review of Business & Economic Research, Vol XVI, Nro 1, 81–90.

MEGGINSON, W.L. (1997). Corporate Finance Theory.

MICHAELY, R. (1991). Ex-Dividend Day Stock Price Behavior: The case of The 1986 Tax Reform Act. The Journal of Finance. VOL XLVI, No 3, July 1991, 845–859.

MILLER, M.H., MODIGLIANI, F. (1961). Dividend Policy, Growth and the Valuation of Shares. Journal of Business. October 1961.

MILLER, M., SCHOLES M. (1982). Dividend and Taxes: some empirical evidence. Journal of Political Economy 90, 1118–1141.

MODIGLIANI, F., MILLER, M. (1958). The cost of capital, corporation finance and the theory of investment. American Economic Review 48, 261–297.

MODIGLIANI, F., MILLER, M. (1966). Some Estimates of the Cost of Capital to the Electric Utility Industry. American Economic Rewiew. June 1966.

MORGAN, I.G. (1982). Dividends and capital asset prices. Journal of Finance 37, 1071–1086.

NISKANEN, J. (1990). On the information content of accrual-based and cash-based accounting income numbers. Their ability to predict investment risk. The Helsinki School of Economics and Business Administration A:69.

OFER, A., THAKOR, A. (1987). A Theory of Stock Price Responses to Alternative Corporate Cash Disbursement Methods: Stock Repurchases and Dividends. The Journal of Finance. Vol XLII, Nro 2, 365–394.

OHLSON, JAMES A. (1990). A Synthesis of security valuation theory and the role of dividends, cash flows, and earnings. Contemporary Accounting Research, Vol 6, No 2, 648–676.

OHLSON, JAMES A. (1992). The theory of value and earnings, and an introduction to the Ball-Brown analysis. Contemporary Accounting Research, Vol 8, No 1, 1–19.

PATELL, J., WOLFSON M. (1984). The Intraday Speed of Adjustment of Stock Prices to Earnings and Dividend Announcements. Journal of Financial Economics 13, 223–252.

PETTIT, R.R. (1972). Dividend announcements, security performance, and capital market efficiency. Journal of Finance 27, 993–1007.

PILOTTE, E.A. (1986). The Impact of Stockholder Wealht of External Financing by Non-Dividend-Paying firms, an Empirical Examination. Ph.D. Indiana University.

PINEGAR, J.M., WILBRICHT, L. (1989). What Managers Think of Capital Structure Theory: A Survey. Financial Management, Vol 18, Nro 4, Winter 1989.

PORTERFIELD, J. (1967). Dividend Policy and Shareholders' Wealth. In Robichek: Financial Research and Management Decisions. New York. pp. 54–71.

REES, W.P. (1997). The Impact of Dividends, Debt and Investment on Valuation Models. Journal of Business Finance and Accounting. Vol 24, Nos 7–8 September, 1112–1141.

ROZEFF, M. (1982). Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios. Journal of Financial Research, 5:1982), pp. 249–259.

ROSS, S.A. (1977). The Determination of Financial Structure: The Incentive Signaling Approach. Bell Journal of Economics, 8, 23–40.

RUBINSTEIN, M. (1976). The Irrelevance of Dividend Policy in an Arrow-Debreu Economy. Journal of Finance, 31, 1129–1230.

SALIN, R. (1995). The Effect of Corporate Cross-Ownership on Total Market Capitalization, Capital Structure and return on Market Portfolio. The Finnish Journal of Business Economics, 4, 415–433.

SCHATZBERG, J.D., DATTA, P. (1992). The Weekend Effect and Corporate Dividend Announcements. The Journal of Financial Research, Vol XV, No 1, Spring 1992.

SCHOOLEY, D.K., BARNEY, L.D. Jr. (1994). Using dividend policy and managerial ownership to reduce agency costs. The Journal of Financial Research, Vol XVII, Nro 3, 363–373.

SHEFRIN, H., STATMAN, M. (1984). Explaining Investor Preferences for Cash Dividends. Journal of Financial Economics 13, 253–282.

SIMONS, K. (1994) The Relationship Between Dividend Changes and Cash Flow: An Empirical Analysis. Journal of Business, Finance and Accounting, Vol. 21, No 4 (June), 225–249.

SLOVIN, M., SUSHKA, M. (1993). Ownership Concentration, Corpo-rate Control Activity, and Firm Value: Evidence from the Death of Inside Blockholders. The Journal of Finance, Vol XLVIII, Nro 4, 1293–1321.

SOLOMON, E. The Theory of Financial Management, New York 1963.

SORJONEN, P. (1988). The Relative Valuation of Dividends and Capital Gains in Finland. Finnish Economic Papers, Vol 1, Nro 1, 105–116.

SORJONEN, P. (1995). Ex-Dividend Day Behaviour of Stock Prices around the Finnish 1990 Capital Income Tax reform. Helsinki School of Economics and Busines Administration.

SORJONEN, P. (2000). Essays on Dividends and Taxes. Helsinki School of Economics and Business Administration.

STEWART, S.S. (1973). Share Price Maximation: A Tool for Management Decision Making. California Management Rewiew. Summer 1973.

SUVAS, A. (1994). Essays on valuation of the firm. Universitas Wasaensis. No 39.

TAYLOR, P. (1979). The Information Content of Dividend Hypothesis: Back to the Drawing Board?. Journal of Business Finance & Accounting, Vol 6, Nro 4, 495–526.

THEOBALD, M. (1978). Intertemporal Dividend Models – An Empirical Analysis Using Recent UK Data. Journal of Business Finance and Accounting, Vol 5, Nro 1, 123–135.

TORKKO, P. (1974). Rahan kustannukset erityisesti osakkeenomistajan tuottovaatimuksen kannalta tarkasteltuna. Liiketaloustiede, laskentatoimen lisensiaattitutkielma. Helsingin kauppakorkeakoulu.

WAHLROOS, B. (1979). Some tests on the Information Content of Dividends Hypothesis. Liiketaloudellinen Aikakauskirja, Vol 28, 3.1979, 226–237.

WALTER, J.E. (1956). Dividend Policies and and Common Stock Prices. Journal of Finance. March 1956.

WATTS, R. (1973). The information content of dividends. Journal of Business. April, 191–211.

WATTS, ROSS L., ZIMMERMAN, JEROLD L. (1986) Positive Accounting Theory.

VERMAELEN, T. (1981), Common Stock Repurchases and Market Signaling, Journal of Financial Economics 9, 139–183.

WESTON, J.F. (1981). Developments in Finance Theory. Financial Management, Tenth Anniversary Issue

WHITBECK, V.S., KISORS, M jr. (1963) A New Tool in Decision-Making. Financial Analysts' Journal. May–June 1963.

WILLIAMS, J.B. (1938). The Theory of Investment Value. Cambridge, Mass.

VIRTANEN, I., YLI-OLLI, P. (1987). Forecasting stock market prices in a thin security market. Omega International Journal of Mnagement Science 15:2, 145–155.

VISKARI, J. (1992). News and Stock Prices: Some Further Results. The Finnish Journal of Business Economics 4:1992, 371–376.

YLI-OLLI, P. (1979) Yrityksen markkina-arvo, velkaisuus ja pääoman kustannukset. Vaasa 1979.

YLI-OLLI, P. (1980). On the Dividend Policy of Finnish firms. Vaasan kauppakorkeakoulun julkaisuja. Tutkimuksia 74

YLI-OLLI, P. (1982) Dividend Policy and the Information Content of Dividends. Empirical Evidence on Japanese, Swedish, and Finnish Industrial Firms. The Finnish Journal of Business Economics 3:1982, 223–237.

YLI-OLLI, P. (1988) Osakemarkkinoiden pelisäännöt ja tehokkuus. Finnish Journal of Economics 1, 2–9.