CHAPTER 2

LITERATURE REVIEW

Initial forays into explaining corporate dividend policy are divided as to their prediction of dividend payment’s effects on share prices. Three streams of thinking seem to be offered: One is explaining dividends as attractive and a positive influence on stock price, the second argues that stock prices are negatively correlated with dividend payout levels, and a third avenue of empiricists maintain that the firm’s dividend policy is irrelevant in stock price valuation. In this chapter a brief overview of various theoretical modeling and empirical investigations by financial economists is given.  

2.1 MODIGLIANI & MILLER APPROACH (DIVIDEND IRRELEVANCE PROPOSITION) (1961)

Dividend policy has been extensively studied within the financial literature. In 1961, two noble laureates, Merton Miller and Franco Modigliani (M&M) showed that under certain simplifying assumptions, a firm’s dividend policy does not affect its value. The basic premise of their argument is that firm value is determined by choosing optimal investments. The net payout is the difference between earnings and investments, and simply a residual. Because the net payout comprises dividends and share repurchases, a firm can adjust its dividends to any level with an offsetting change in share outstanding. From the perspective of investors, dividends policy is irrelevant, because any desired stream of payments can be replicated by appropriate purchases and sales of equity.[8],[9] Thus, investors will not pay a premium for any particular dividend policy. The proposition rests on several assumptions-

1) Information is costless and available to everyone equally.

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16 This chapter draws heavily from the thorough review provided by Lease, C., Ronald, John Kose, Kalay Avner, Loewenstein Uri, Sariq H. Oded, in their book titled “Dividend Policy: Its Impact on Firm Value”,
2) No distorting taxes exist

3) Flotation and transportation costs are non-existent

4) Non contracting or agency cost exists

5) No investor or firm individually exert enough power in the market to influence the price of a security.

To illustrate the argument behind, the theorem, it is suppose that there are perfect and complete capital markets (with no taxes). At date t, the value of the firm is $V_t$, which is present value of payouts. Payouts include dividends and repurchases. For exposition, initially consider the case with two periods, t and t+1. At date t, a firm has earnings, $E_t$ (earned previously) on hand. It must also decide on

✓ The level of investment ($I_t$)
✓ The level of dividends ($D_t$)
✓ The amount of shares to be issued, $\Delta S_t$ (or repurchased if $\Delta S_t$ is negative)

The level of earnings at t+1, denotes $E_{t+1}(I_t, \theta_{t+1})$ depends on the level of investments $I_t$ and a random variable $\theta_{t+1}$. Since t+1 is the final date, all earnings are paid out at t+1, Given complete markets, let,

$P_t(\theta_{t+1}) = \text{Time t price of consumption in state } \theta_{t+1}$

It follows that

$$V_t = D_t \cdot \Delta S_{t+1} \int P_t(\theta_{t+1})E_{t+1}(I_t, \theta_{t+1}) \, d\theta_{t+1}$$ (2.1)

The sources and uses of funds identity says that in current period t

$$E_t + \Delta S_t = I_t + D_t$$ (2.2)

Using this to substitute for current payouts, $D_t \cdot \Delta S_t$, gives

$$V_t = E_t - I_t + \int P_t(\theta_{t+1})E_{t+1}(I_t, \theta_{t+1}) \, d\theta_{t+1}$$ (2.3)
Since $E_t$ is given, the only determinant of value of the firm is current investment $I_t$.

The analysis can be extended to two periods. Now,

$$V_t = E_t - I_t + V_{t+1}$$  \hspace{1cm} (2.4)

Where,

$$V_{t+1} = E_{t+1} (I_{t+1}, \theta_{t+1}) - I_{t+1} + V_{t+2}$$  \hspace{1cm} (2.5)

And so on recursively. It follows from the extension that it is only the sequence of investments $I_t, I_{t+1}, \ldots$ that is important in determining firm value. Making an appropriate choice of investment policy maximizes firm value.

The second insight from M&M analysis concerns the firm’s dividend policy, which involves setting the value $D_t$ each period. Given that investment is chosen to maximize firm value, the firm’s payout in period $t$, $D_t - \Delta S_t$, must be equal to the difference between earnings and investments, $E_t - I_t$. However, the level of dividends, $D_t$, can take any value, since the level of share issuance, $\Delta S_t$, can always be set to offset this. It follows that dividend policy does not affect firm value at all and it is only investment policy that matters.

2.1.1. CONCLUSION

M&M concluded that given firms optimal investment policy, the firm’s choice of dividend policy has no impact on shareholders wealth. In other words, all dividend policies are equivalent. The analysis above implicitly assumes 100% equity financing. It can be extended to include debt financing. In this case, management can finance dividends by using both debt and equity issues. This added degree of freedom, does not affect the result. As with equity-financed dividends, no addition value is created by debt –financed, since capital markets are perfect and complete so the amount of debt does not affect total value of the firm. The most important insight of Miller and Modigliani’s analysis is that it identifies the situations in which dividend policy can affect the firm value. It could matter, not because dividends are “safer” than capital gains, as was traditionally argued, but because one of the assumptions underlying the result is violated. [9]
2.2 DIVIDEND POLICY AND AGENCY PROBLEMS

2.2.1. OVERVIEW

A key assumption in the Miller and Modigliani (1961) and other “Dividend Irrelevance” literature is that all non-dividend decisions – the firm’s operating, investment, and other financial decisions- are independent of the firm’s dividend policy. While it is admittedly a simplifying assumption, the effects of the dividend policy decision on the share valuation can be understood more easily without commingling the influences of the major management decisions that may affect share price. This assumption implies that when dividends are paid, the equity of the firm is maintained at its target level by issuance of additional shares of common stock.

In practice, however, firms rarely sell equity to offset dividend payments and maintain a constant capital structure. Therefore, in contrast to the dividend irrelevance assumption, dividend policy can affect asset composition, capital structure, investment plans, and therefore the value of the firm.

Agency Relationships

The various suppliers of the capital to the firm (shareholders, bondholders, holders of convertible securities etc.) and the firm’s suppliers of labor (management and other employees) all share in the results of the firm’s activities. The various classes of parties with relationships to the firm’s activities are referred to as claim holders. Yet, since shareholders are the owners of the firm, their interests dominate (or should dominate) manager’s action. The other claim holders typically have much less influence over the firm’s decisions. This disparity of influence is referred to as agency relationship.

2.2.2. SHAREHOLDERS VERSUS DEBT HOLDERS

Shareholders and debt holders share the value of the cashflows generated by the firm’s operations. Debt holders are entitled to receive interest payments periodically and to receive the face value of their claim, or principal upon the debt’s maturity. Shareholders, as residual claimants, are entitled to all remaining value once the obligations to bond holders have been satisfied.
If the value of the firm exceeds the value of the contractual obligations due to the debt holders managers in the interest of the shareholders, pay off the debt claim. To do so, they use either the firm’s cash balance or cash received for securities issued to finance the payment so that shareholders can keep the residual value. However, when the value of the firm falls below the value of the debt service obligations when they come due, the debt holders can be paid off only if the shareholders are willing to make up the gap between firm’s value and debt service obligations. Clearly, the shareholders can do better, they can forfeit ownership of the firm to the bondholders rather that payoff debt obligations that exceed the firm’s total worth, the shareholders let the bondholders take over the remaining value of the firm and walk away.

The option of shareholders to default on their debt service obligation means that shareholders and debt holders unevenly share the results of the firm’s operations. In other words,

- Shareholders, who exclusively receive all value remaining after debt holders have been fully paid, are the sole beneficiaries of their firm’s upside potential; and

- Debt holders, who will not be fully paid should the firm encounter bad times and its value drop below the promise of payments, bear the downside risk.

- This uneven sharing of the value of the firm is the reason that an agency relationship between shareholders and debt holders, the asymmetric dividend of firm value entails differing objectives for these two classes of claim holders.

- Debt holders who would like to increase the likelihood that they will be paid in full, try to minimize the downside risk of the firm, which increases the safety of their claim.

- Shareholders would like to

  ➢ Maximize the upside potential of the firm, possibly even when such an increase means an increase in the downside risk; and
Appreciate as much value of the firm as possible prior to the debt’s maturity so that they will receive some value even if the firm later defaults on its debt obligation.

The second shareholders objective, appropriation, has an immediate implication for the optimal dividend policy from the shareholders perspective.

Dividends are means to transfer a firm’s assets from the common pool shared by all the security holders of the firm to exclusive ownership of the shareholders. Obviously, due to this reason, debt holders dislike dividends. Dividend payments increase the chance the remaining value of the firm will not satisfy debt service obligations. Dividend payments make the cash flows of the debt holders more risky by increasing the chance of default and by reducing the value of the assets that can be used to repay the debt holders partially in case of delinquency.

2.2.3. THE DIFFERENTIAL IMPACT OF DIVIDENDS ON VARIOUS CLAIMHOLDERS

The divergent interest of the shareholders and the bondholders are affected by the decision to pay dividends. Upon, the payment of the dividend (in the perfect world of M&M), the firm’s value declines exactly by the value of the dividend paid. The value of the firm is reduced by the amount of the dividend, both values fall. In particular, the value of the debt falls because, upon the payment of the dividend, the debt claim becomes more risky. Hence the shareholders and the debt holders wholly share the decline in the value of the firm.

Clearly, the debt holders are worse off. They do not receive the dividend, and the value of their claim falls upon the payment of the dividend, less obvious, but equally true, is the fact that the equity holders are better off. They receive the full dividend payment, yet the value of their equity claim falls by less than full dividend as the bondholders share some of the dividend’s effect on the value of the firm.
The result is that shareholders’ gain is the bondholders’ loss! By paying dividends, the shareholders transfer funds from common pool to their pockets, making the bondholders claim more risky and less valuable.

The above result holds not just for the debt holders; a dividend that is paid exclusively to the shareholders reduces the value of the common pool of assets that are supposed to serve all the claim holders: shareholders, debt holders, preferred stock holders, warrant holders, etc. Dividend therefore reduce the value of all claims but are received exclusively by shareholders because of both shareholders and bondholders share the reduction in the value of the firm resulting from a dividend payment while only the shareholders receive the dividends, all else being equal, in contrast, would like to keep hold of as much of the value of the firm as possible. Debt holders, in contrast, would like to retain as much of the value of the firm as possible until their debt is fully paid, which means that they prefer to minimize dividend payments.

2.2.4. SIMILAR CONFLICTS

The conflict of interest between shareholders and debt holders with respect to dividend payment are not unique to shareholders–debt holder relations. Similar conflicts of interest exist between shareholders and any other senior-security holder. An example is the conflict of interest between shareholders and holders of convertible bonds.

Convertible debt is effectively straight debt and an option to convert to stock packaged together. Consequently, dividend payment affects both the value of the debt and the value of the conversion option.

- The payment of dividends reduces the asset pool used to pay interest and principal therefore the debt portion becomes more risky and less valuable when dividends are paid.

- The payment of dividends reduces the value of the remaining assets, which also makes the option to convert the bonds to stock less valuable.

- Both effects make dividend payments a way for shareholders to expropriate value from the holders of the convertible bonds.
2.2.4.1 Shareholders versus Managers

One conflict of interest is between the different suppliers of the capital to the firm. The other conflict can be between the interests of all suppliers of capital as a group. It relates to separation of ownership and control in large corporations.

2.2.4.2 Ownership versus Control

The shareholders own the corporation but the management controls its daily operations. Such separation is often a by-product of the requirement for economies of scale. To be able to provide a product or service efficiently, organizations need to operate on a large scale, a size that cannot be financed by a few owners—managers. Consequently, most big corporations are financed by a large and diffuse group of investors who delegate decision making to professional managers. These managers often do not contribute capital to the firm beyond their human capital.

In theory, managers are appointed by boards of directors to serve as agents of the shareholders. Boards are supposed to monitor the performance of managers to ensure that management decisions are aligned with the interest of the shareholders. In practice, however, monitoring top management is difficult. Managers are privy to more information than are board and investors'. Inferior information inhibits an accurate assessment of the desirability of managerial decisions. Sometimes even verifying decisions is impossible.

2.2.5 THE EASTERBROOK ANALYSIS (1984)

Easter Brook suggested that dividends may help reduce the agency cost associated with the separation of ownership and control. The starting point of his argument is the observation that, when ownership of the firm is dispersed, individual investors have little incentive to monitor managers. He argued that dividend payments force the managers to raise funds in the financial markets more frequently than they would without paying the dividends. Thus, dividends are subject managers to frequent scrutiny by outside professionals, such as investment bankers, lawyers, and public accountants. Management is professionally scrutinized more frequently when dividends are paid, and dividend-paying managers have fewer chances to behave in their own self interest as opposed to shareholders' interest. [19]
He suggested that dividends may also serve shareholders in forcing managers to take an action that managers would otherwise avoid, such as increasing the leverage of the firm. Managers as the agent of the shareholders are supposed to choose the maximum allowable leverage. However, the value of the human capital of the managers is tied to survival of the firm. Accordingly, managers are less diversified than the investors, and they disproportionately bear the unique risk of the firm, which shareholders can easily diversify away. Consequently, risk-averse managers would like to minimize their firm’s risk to minimize personal risk exposure. Easterbrook suggested that dividends can reduce the ability of managers to maintain leverage at too low a level. By continuously reducing the value of equity that is retained in the firm, dividends restrict managers’ ability to reduce firms’ leverage. Thus, dividends prevent managers from self-serving actions that are costly to the shareholders.

If the cash controlled by management is minimized, then the harder it is for them to invest in negative NPV projects. A dividend increase is one way to reduce the cash in the hands of managers, thus reducing the conflicts between shareholders and managers.

Based on agency costs, the two explanations for dividends suggested by Easterbrook imply three relationships between dividend policies and characteristics of firms.

- Firms that have large shareholders, especially when these shareholders are involved in the management of their firms, have less need for monitoring by outside professionals; large shareholders have strong incentives to monitor managers tightly themselves. Accordingly, closely held firms can be expected to have lower dividend payouts than otherwise identical firms that are more prone to owner-management conflicts.

- Firm with low level of debt will suffer little if managers reduce leverage—leverage is low to begin with, so the added safety to debt holders from further lowering leverage is minimal. Therefore shareholders of firms with low leverage have little demand for dividends as a way of maintaining leverage. Accordingly, low-leverage firms, such as high growth firms, are expected to pay low dividends.

- Firms with high leverage also are those where value shifting is potentially costly. Such firms are expected to pay large dividends. In other words, Easter Brook’s analysis suggested a positive relationship between leverage and dividend payout.
Berle and Means (1932) were the first to recognize the inefficient use of funds by management in excess of profitable investment opportunities. Berle and Means’ work served as the intellectual basis for Jensen and Meckling(1976) agency paradigm. Jensen’s (1986) free cash flow hypothesis updated this assertion, combining market information asymmetries with agency theory.

Jensen suggested other argument based on agency costs for the desirability of dividends that is similar in spirit to Easterbrook’s analysis. The starting point of Jensen’s argument is again that managers cannot be perfectly monitored, which means that managers can choose actions that best serve their interest rather than the shareholders’ interest. Jensen further argue that cash is the asset that managers can misuse most easily. Managers with large balances of excess cash, or money not needed for positive NPV investment (free cash flow) may use this cash in ways not in shareholders’ best interest- for example unwise acquisitions. Under these conditions, shareholders’ best interest may be served if cash balances not needed for investments are minimized. These problems are likely to be more severe in stable, cash-rich companies in mature industries without the growth opportunities. Thus, one of the mechanisms according to Jensen of reducing expropriation of outside shareholders by agents is high payout. High payout will result in reduction of free cash flows available to managers and this restricts the empire building effort of managers. Increasing leverage, which entails an increase in routine interest payment, is another way to reduce the amount of cash under management control. [20], [21]

In an empirical examination Rozeff (1952) found three common trends in corporate dividend policy [22], [23].

- Lower dividend payments levels are found in high growth firms—investment requirements reduce the funds available for dividend payments

- Corporations with higher firm specific risks or leverage ratios pay smaller dividends
Higher payouts are found in firms with little insider ownership and a large number of outside shareholders

These results imply that dividend policy mitigates agency costs because of the partial monitoring activity provided by dividend payments. A late study by Johnson (1995) supported these findings; increased dividend payments require regular capital market visits and the simultaneous increases in monitoring. In 1994 Rozeff also models payout ratio as function of three factors: floatation costs of external funding, agency cost of outside ownership and financing constraints as a result of higher operating and financial leverage. [22]

2.2.7 OTHER EMPIRICAL STUDIES ON AGENCY CONFLICTS:

Several empirical studies have examined the agency relationship between managers and shareholders (or other suppliers of capital) as they relate to dividends. Lang and Linzenberger (1989) compared investor reaction to dividend changes by managers suspected of over investing. Managers, who optimally invest, generate a market–to-book ratio (called Tobin’s Q ratio) that exceeds 1 because the market value reflects the investment (the book value) plus the net present value of the investment. Using the same logic, a Q ratio of less than 1 indicates overinvestment. An increase in the dividend payout by a firm with Q ratio of less than 1 is good news because it means lesser money spent on sub-optimal investment. For a firm with a Q ratio exceeding 1, however, such a dividend increase merely reflects optimal investment decisions. A mirror argument applies to dividend decreases. Lang and Litzenberger found that the reaction to dividend changes by firms having a low Q ratio. This evidence supports the argument that dividends may constrain management’s ability to invest beyond the levels that shareholders desire.[24]

Yoon and Starks (1995) repeated the Lang and Litzenberger experiment over a longer time period. They found that the reaction to dividend decreases was the same for high and low Tobin’s Q firms[25]. The fact the market reacts negatively to dividend decrease announcements by value – maximizing (high Q) firms is not consistent with free cash flow hypothesis. Like Lang and Litzenberger (1989), Yoon and Starks found a differential reaction to announcements of dividend increases. However, when they controlled other factors, such as the level of dividend yield, firm size, and the
magnitude of the change in the dividend yield (through regression analysis), Yoon and Starks found a symmetric reaction to dividend changes (both increases and decreases) between high and low Tobin’s Q firms. Again, this evidence is not consistent with free cash flow hypotheses.

Agrawal and Jayaraman (1994) took another approach to examining the hypothesis that dividends reduce the opportunity for managers to use free cash flows in a self-serving manner. Since both interest payments and dividends reduce the pool of excess cash that managers can misuse. Agrawal and Jayaram examined the free cash flow motive for dividend payments. They compared the dividend policies of debt free firms to those of comparable firms that were leveraged. If dividend policy is influenced by concerns that managers may over invest excess cash, unleveraged firms should distribute more of their profits as dividends than leveraged firms, which distribute some operating profits as interest. Inline with this expectation, Agrawal and Jayaram reported that the dividend payout ratios of all equity firms were significantly higher than the dividend payout ratios of leveraged firms. They also compared firms within the group of all equity firms where managers have significant shareholdings to firms in which managers have little equity stake. They reported that firms with high managerial shareholdings - presumably firms where the interests of managers and shareholders are more aligned – have lower payout ratios than firms with low shareholdings. Overall, these results suggest that dividends do serve as a means to reduce the conflicts of interest between managers and shareholders regarding the use of free cash flows. [26]

Finally, Lambert, Lanen, and Larcker (1989) examined changes in the dividend polices of firms that adopted executive stock option plans. They found that for firms dividends are reduced relative to the dividend levels of a control sample of firms that hadn’t introduced such plans. Again, these results are consistent with self-serving management behavior since option-owning managers avoid diluting the value of their options by paying large dividends. Their findings indicated that dividend policies are set, at least partially, according to management preferences rather than purely to maximize shareholders wealth. Further, their results implied that managers might choose other self-serving actions when their actions are difficult to monitor or govern.
by contracts. This conclusion is basic tenant of theories of dividends based on agency relationships.

Jensen, Solberg and Zorn (1992) examined the joint determination of dividends, insider ownership of stock and leverage. They provided empirical evidence that dividends serve as means of reducing the conflict of interest between managers and shareholders. After controlling for differential profitability, growth prospects and investment opportunities, they found that dividends are negatively related to leverage and to other insider holdings. These results are consistent with Jensen’s free cash flow explanation of dividend policy. [27]

Dempsey and Laber (1992) reported that the dividend yield is negatively related to the proportion of stock held by insiders and positively related to the number of common shareholders within the firm. Noronha, Shome, and Morgan (1996) examined the relationship between agency cost variables and dividend payout ratios, segmented by the level of the firm’s growth opportunities. For firms with low growth opportunities, they report a positive relation among the dividend payout ratio, the presence of outside block holders, and the level of executive incentive compensation.

Grullon, Michaeley and Swaminathan’s (2002) findings of declining return on assets, cash levels, and capital expenditures in the years after large dividend increases suggested that firms that anticipate a declining investment opportunity set are the ones that are likely to increase dividends. This is consistent with the free cash flow hypothesis. Lie (2000) thoroughly investigated the relationship between excess funds and firms’ payout policies and found that investigated the relationship between excess funds and firm’s payout policies and found that dividend – increasing (or repurchases) firms had cash in excess of peer firms in their industry. He also showed that the market reaction to the announcement of special dividends (and repurchases) was positively related to the firm’s amount of excess cash and negatively related to the firm’s investment opportunity set as measured by Tobin’s Q. These results are consistent with the idea that limiting potential over investment through cash distribution, especially for firms that have limited investment opportunities enhances shareholder wealth.
The ability to monitor and the rights of outside shareholders differ across countries, and by implication the potential severity of conflicts of interests will also differ. La Porta, Lopez- de – Silannes , Shleifer , and Vishny (2000) examined the relation between investors’ protection and dividend policy across 33 countries. They tested two hypotheses. The first was that when investors were better able to monitor and enforce their objectives on management (countries with higher investors’ protection), they would also put pressure on management to disgorge more cash. The second hypothesis was that because of market forces (e.g., management wants to maintain the ability to raise more cash in the capital markets or wants to maintain a high stock price for other reasons), management would actually pay higher dividends in those countries where investors’ protection was not high.[28]

La Porta et. al. (2000) found that firms in countries with better investor protection made higher dividend payouts than did firms in countries with lower investors protection. Moreover, in countries with more legal protection, high growth firms had lower payout ratios. This finding supports the idea that investors use their legal power to force dividends when growth prospects are low. That is, an effective legal system provides investors with opportunity to reduce agency costs by forcing managers to pay out cash. There is no support for the notion that managers have incentive to “do it on their own”. The results of La Porta et. al. (2000) indicates that without enforcement, management does not have a strong incentive to “convey its quality” through payout policy. There is also no evidence that in countries with low investor protection, management will voluntarily commit itself to pay out higher dividends and to be monitored more frequently by the market.

Faccio et al. (2001), building on LLSV’s(La Porta, Lopez-de-Silanes, Shleifer and Vishny ) research, argued that dividend rates depend on the vulnerability to expropriation of minority shareholders, measured by the discrepancy between the controlling shareholder’s ownership rights (O) and its control rights (C)[29].A low O/C ratio implies that the controlling shareholders exercise their control via a long chain of intermediate corporations where the controlled firm represents the base of a pyramid that offers many opportunities for expropriating minority shareholders by means of intra-group transactions. Consequently, a lower level of dividends is expected. However, a counterbalancing reasoning leads to the opposite conclusion: a
rational investor who perceives a high probability of potential expropriation may be less willing to supply funds to firms that pursue a low level dividend policy. They find that firms with tight control linkages exhibit a negative relationship between dividends and the O/C ratio; investors perceive the risk of expropriation implied by these corporate structures and pretend higher dividends when the ratio O/C is low. Expropriation assumes different features in Western European and Asian countries: in the former, investors seem to anticipate more effectively the risk of expropriation in groups, so that firms pay higher level of dividends (with the exception of Italy). One explanation for this finding is that many European corporations have multiple large owners with at least 10% of the shares, which can exercise a monitoring role and, therefore, limit expropriation by the controlling shareholder. By contrast, in Asia the other large owners seem to collude with the controlling shareholder in expropriating minority shareholders.

Lippert, Nixon, and Pillotte (2000) examined the relationship between pay performance sensitivity and the stock price reaction to dividend increase announcements. They reported that high pay performance sensitivity is inversely related to price response to dividend increases. Their findings are consistent with agency theory is that high pay performance sensitivity decreases agency cost so that dividends become less important.

Heaton (2002) proposed that managers are overtly optimistic about projects they control and to which they are highly committed. Because of this optimism, managers believe that the external financial markets under value these projects, making external funds too expensive. Therefore, these managers prefer to use internal funds as much as possible and preserve internal cash flows for that purpose. This approach implies that dividends will only be increased when managers believe sufficient internal cash flows will be available to fund all projects. However, if managers are overly optimistic about cashflows these projects will generate, the resulting dividend increase will also be too high to maintain. Therefore, the presence of efficient monitors who can prevent management from setting the dividend optimistically high will be met with a more favourable reaction than dividend increases set by an unrestrained and potentially over optimistic management. These implications are consistent with expectations under agency theory.
Khan Tehimina in his study “Company Dividends and ownership structure: Evidence from UK panel data” for a sample period 1985-97 found that there is a significant negative but nonlinear relationship between dividends and ownership concentration. A positive relationship was observed between the level of insurance company shareholding and dividends, while a negative relationship was found for shareholding by individual investors. Moreover, these results are found to hold after controlling for the degree of ownership concentration: an increase in the level of equity holding by insurance companies (individuals) leads to a rise (fall) in dividends irrespective of the underlying degree of concentration of equity. Similar relationships are observed for large block holdings in the hands of these investors after controlling for concentration. Nevertheless, whether the results indicate improved corporate governance or non-value-maximizing behavior by powerful shareholders is open to interpretation.

Other related evidence on the UK includes Faccio and Lasfer (2000), who analysed the monitoring role of pension funds in 289 firms in 1996 and found that firms with high levels of pension fund ownership are not likely to be more efficient or to pay higher dividends than industry counterparts. Finally Crespi-Cladera and Renneboog (2003) analysed 204 firms over the period 1988–93 and found evidence that there is an increase in director turnover when firms cut or omit dividends.

2.2.8 CONCLUSIONS

Dividend payments are an example of classic agency situation. The level of dividend payments is in part determined by shareholders preference as implemented by their management representatives. However, the impact of dividend payments is borne by a variety of claim holders, including debt holders, managers, and supplier. The agency relationship exists between

- The shareholders versus debt holders conflict, and
- The shareholder versus management conflict

Shareholders are the sole receipts of dividends, prefer to have large dividend payments, all else being equal; conversely, creditors prefer to restrict dividend payments to maximize the firm’s resources that are available to repay their claims. The empirical evidence discussed is consistent with the view that dividends transfer
assets from the corporate pool to the exclusive ownership of the shareholders, which negatively affects the safety of claims of debt holders.

In terms of shareholder-manager relationships, all else being equal, managers, whose compensation (pecuniary and otherwise) is tied to firm profitability and size, are interested in low dividend payout levels. A low dividend payout maximizes the size of the assets under management control, maximizes management flexibility in choosing investments, and reduces the need to turn to capital markets to finance investments. Shareholders, desiring managerial efficiency in investment decisions, prefer to leave little discretionary cash in management’s hands and to force managers to turn to capital markets to fund investments. These markets provide monitoring services that discipline managers. Accordingly, shareholders can use dividend policy to encourage managers to look after their owners’ best interests; higher payouts provide more monitoring by the capital markets and more managerial discipline.

2.3 DIVIDEND POLICY AND ASYMMETRIC INFORMATION

In a symmetrically informed market, all interested participants have the same information about a firm, including managers, bankers, shareholders, and others. However, if one group has superior information about the firm’s current situation and future prospects, an informational asymmetry exists. Most academicians and financial practitioners believe that managers possess superior information about their firms relative to other interested parties.

Dividend changes (increases and decreases), dividend initiations (first time dividends or resumption of dividends after lengthy hiatus), and elimination of dividend payments are announced regularly in the financial media. In response to such announcements, share prices usually increase following dividend increases and dividend initiations, and share prices usually decline following dividend cuts and dividend eliminations. The idea that dividend payouts can signal a firm’s prospects seems to be well accepted among the chief financial officers (CFOs) of large US corporations. In a survey of these executives conducted by Abrutyn and Turner
(1990), 63% of the respondents ranked a signaling explanation as the first or second reason for dividend payouts.

2.3.1. SIGNALING MODELS

Akerlof’s (1970) model of the used car industry as a pooling equilibrium in the absence of signaling activities serves as a primer to signaling models in the financial economics considering the costs of informational asymmetries [30]. The generalization of Akerlof’s model by Spence (1974) became the prototype for all financial models of signaling. The model defines a unique and specific signaling equilibrium in that market participants seeking employment in a world of uncertainty and asymmetric information rely on signals of their quality rather than reputation acquisition to find positions. Although formulated in the job market, Spence believes that findings can be extended to a limited number of other settings (admission procedures, promotions, and credit applications). A necessary condition for signaling to be successful is an inverse relationship between a signal’s costs and true productivity because costs are relatively higher for inferior workers to signal. The signaling mechanisms must be controlled, must be able to be modified by the signaler, and must be costly. Because managers cannot determine a worker’s quality through observation, a high-quality worker signals his value through additional education, resulting in higher pay. A similar model is formulated for the insurance market (Rothschild and Stiglitz, 1976). The general sufficient conditions for signaling equilibrium to exist are formalized by Riley (1979).

The basic thrust of all these models is that managers have private information about future prospects and choose dividend levels to signal that private information. The signal is credible if other firms, whose future prospects are not as good, cannot deceptively mimic the dividend actions of the firms with good future prospects. These theories provide a rationale for dividends –especially dividend changes- and generate hypotheses about the announcement effects of dividends that have been observed in the empirical literature. Corporate insiders they know more than the investors about the future prospects of the firm. (i.e. the quality of its investment opportunities and future cash flows). While some of the information can be conveyed to the market fairly easily through the audited earnings reports and financial statements, other crucial information may be more difficult to communicate.
Investors tend to applaud dividend increases and frown dividend cuts. On the other hand, managers tend to appease the shareholders by maintaining dividends even when the performance declines. Under these conditions, a dividend increase implies two commitments from the management- First that the higher dividend will be maintained over long term and second, that earnings will grow to sustain dividends. Thus, investors perceive a dividend increase as signal that management confidently predicts earnings will deteriorate to the point that dividends cannot be sustained, sending the share prices downward. In this way, dividend changes serve as a signal of predicted earnings, thereby impacting share prices.

Investors also respond to share repurchase announcement as signals due to information asymmetries, investors predict that shares are currently undervalued, while issuance of new shares means that shares are overvalued. Thus, when a share repurchase is announced, it signals to the investors that the share is currently valued below fair value, causing the share prices to rise.

2.3.2. JOHN AND WILLIAMS MODEL (1985)

He came out with three important results

- In the signaling equilibrium, firms expecting higher future operating cash flows optimally pay larger dividends
- The optimal dividend policy involves dividend smoothing relative to future operating cash flows so that dividend variability is lower than operating cash flow variability
- The optimal dividend is higher for smaller tax disadvantage of dividends relative to capital gains

The John and Williams (1985) model provide a compelling explanation for the generous dividend payout policies pursued by firms even when cash dividends have adverse tax consequences. It explains why firms pay cash dividends even when alternative methods of distributing cash exists, such as share repurchase, which do not have adverse tax consequences [31]. The J&W model also explains why a firm may find it optimal to pay cash dividends and raise new equity financing or repurchase
stock in the same planning period. The argument for simultaneously paying dividends and obtaining new financing is that dividends are paid to reduce the underpricing of the securities issued to raise new outside financing. When cash from operations is sufficient to meet the investment needs of the firm – and partially satisfy the liquidity needs faced by current shareholders- the firm may repurchase shares and pay dividends in the same planning period.

2.3.3. BHATTACHARYA MODEL (1979)

He developed a model in which managers signal the quality of an investment project by “committing” to a dividend policy. The project quality, measured, as the expected profitability of the project is the private information known only to managers. A crucial assumption of the model is that, if the payoffs from the project are not sufficient to cover the committed dividends, the firm will route to outside financing to cover the shortfall. However, outside financing involves transaction costs. A firm with genuinely high quality project would have lower expected transaction costs to meet the same level of precommitted dividends than would a firm with low quality project. Accordingly, it would be unprofitable for the latter firm to mimic the dividend policy of the firm, having high – quality project [32],[33],34).

This model is also subject to criticisms. For example, Bhattacharya did not clarify what he meant by firms committing to a certain level of dividends. Because an announced dividend is not a contractual obligation, but only a payment to the residual claimants, the firm is not obliged to maintain the dividend by issuing costly external financing if cash shortfalls occur.

Makhija and Thompson (1986) defined the least profitable firm differently than Bhattacharya (1979). If all firms have non zero earnings, the dividend/earnings relation will be non linear. To ensure equilibrium existence, the dividend policy of the most profitable firms must be constrained and additional limiting conditions likely, have to be imposed.

A signaling equilibrium will exist only if firm quality dispersion is limited in the extension of the Bhattacharya (1979) model developed by Rodriguez(1992)[35]. If a cash flow range is specified for each firm, an upper bound on firm quality distribution exists. Then, equilibrium is not feasible beyond this upper bound. If the lowest quality
firms have zero cash flows, dividends in equilibrium will increase linearly with firm quality. If some firms pay excess dividends because of the wide distribution in firm quality, equilibrium is not likely. Dividend- signaling levels in equilibrium are an increasing function of the firms’ differences in quality, a contention that is consistent with Ofer and Thakor (1987).[36]

2.3.4. MILLER AND ROCK MODEL (1985)

He modelled a net dividend concept – the unexpected net dividend is determined by subtracting external financing from the total dividend paid- to signal the expected earnings information that implies future earnings level. The model combines dividends and external financing that are stylized as different sides of the same coin. The announcement effects of dividend increases are positive and the announcement effects of increases in external financing are negative.[9]

2.3.5 OTHER THEORITICAL MODELS

2.3.5.1 Dividend Smoothing

John and Nachman (1986) have addressed the problem of dividend smoothing in their theoretical model. The firms dividend policy may not change over a period of time, even though earnings may change substantially& used a dynamic version of John and Williams (1985) Model. J& N model provided rationale for firms paying a smooth series of cash dividends even though such dividends have some tax disadvantage over alternative methods of distributing cash. A corporation’s prospects can only be partially revealed using dividend policy because managers routinely smooth the payment stream; changes in dividend policy are only a rough signal of future expected earnings.

Constantinides and Grundy (1989) focused on interaction between investment decisions and repurchase and financing decisions in signaling equilibrium. With fixed investment, a straight bond issue cannot act as a signal, but a convertible bond issue can. When investment is chosen optimally rather than being fixed, this is no longer true; a straight bond issue can act as a signal.
Bernheim (1991) also provided a theory of dividends in which signaling occurs because dividends are taxed more heavily than repurchases. In his model, the firm control the amount of taxes paid by varying the proportion of the total payout that is in the form of dividends, rather than repurchases. A good firm can choose the optimal amount of taxes to provide a good explanation of dividend smoothing [56].

Allen, Bernado, and Welch (2000) took a different approach to dividend signaling. As in the previous models, dividends are a signal of good news (i.e., under valuation). However, in their model firms pay dividends because they are interested in attracting a better-informed clientele. Untaxed institutions such as pension funds and mutual funds are the primary holders of dividend-paying stocks because they are a tax-disadvantaged payout method for other potential stockholders. Another reason for institutions to hold dividend-paying stocks is the restriction in institutional charters, such as the “prudent man” rules that make it more difficult for many institutions to purchase stocks that pay either no dividends or low dividends.

According to Allen, Bernardo and Welch (2000), the reason good firms like institutions to hold their stock is that these stockholders are better informed and have relative advantage in detecting high firm quality. Low-quality firms do not have the incentive to mimic, since they do not wish their true worth to be revealed. Thus, taxable dividends are desirable because they allow firms’ management to signal the good quality of their firms. Paying dividends increases the chance that institutions will detect the firm’s quality. Another interesting feature of the Allen, Bernardo, and Welsh model is that it does accommodate dividend smoothing. Firms that pay dividends are unlikely to reduce the amount of the dividends, because their clientele (institutions) are precisely the kind of investors that will punish them for it. Thus, they keep dividends relatively smooth.

As in the John and Williams model, Allen, Bernardo, and Welch model involves a different role for dividends and repurchases. They are not substitutes. In fact, firms with more asymmetric information and firms with more severe agency problems will use dividends rather than repurchases.

Kumar (1988) modeled a rational expectations signaling equilibrium in that dividends convey only broad information of changes in a firm’s prospects. The model implies
that although dividend increases (decreases) signal important positive (negative) information about the firm’s prospects, dividends are a poor predictor of corporate earnings because of the smoothing process applied by managers.[37]

In a two-period model developed by Kale and Noe (1990), dividend increases signal increased future cash flows stability and decreased riskiness of the cash flows. In this model, dividends are positively correlated with share price returns and are inversely related to expected cash flows variance and underwriting costs.

2.3.5.2. Dividend versus Share Repurchases

The J&W model provided rationale for using cash dividends rather than share repurchases. Firms do not repurchase shares to avoid taxes because it is precisely the tax costs that drive the signaling role of cash dividends. Ambarish, John and Williams (1987) developed a model whereby firms may use dividends or stock repurchases as signals. It indicated when firms would use cash dividends and when firms would use share repurchases for signaling.

Other work, such as reported by Ofer and Thakor (1987), Barclay and Smith (1988), and Brennan and Thakor (1990), also addressed a firm’s choice between cash dividends and share repurchases[27],[38]

2.3.5.3 Choice of Signals

The role of dividends as a signal of a firm's prospects when corporate insiders have more information than the market does is well accepted. Even though dividends have adverse tax costs, they can play an important role in communicating private information to the market. When it is argued that costly dividends can be a signal, the question naturally arises of whether less costly alternative signals exist that can convey the private information to the market. In other words, are dividends the most efficient way of communicating inside information? Corporate leverage, share repurchases, insider buying, and the level of corporate capital expenditures are some of the alternative signals that have been proposed.

Recent studies, such as those by Ambarish, John, and Williams (1987) and John and Lang (1991), did not designate dividends as the only mechanism for conveying
private information to the market. They found that firms choose from a variety of signals to convey their private information in a cost-effective manner. The nature of the firm's investment opportunities determines the optimal blend of signals used in equilibrium. Mature firms use large payouts as their primary signal; growth firms deemphasize dividends and use investments as their main signal. The announcement effects of dividend changes and seasoned equity offerings also reflect this difference. These models predict that announcement of dividend increases will cause larger price increases for the shares of mature firms relative to those for growth firms. For seasoned equity offerings, the model predicts larger decreases of share prices for mature firms than for growth firms.

These theories suggest that dividend changes by firms will be interpreted by the market in the context of the investment opportunities of the firms. Dividend announcements by mature firms will be interpreted differently by the market from those by growth firms.

John and Mishra (1990) suggested that insider trading could be an important signal by a firm. They argued that the trading activity of corporate insiders would be influenced by the private information they have. The announcement effects for capital expenditure announcements are positive for growth firms and negative for mature firms. Also the announcement effects are positive for insider buying and negative for selling.

John and Lang (1991), examined insider trading around announcements of dividend changes. Their model implies that the announcement effect of dividends will be influenced by the nature of a firm's investment opportunities and the productivity of its current capital expenditures. One of the model's predictions is that the market should not interpret all dividend increases as good news. In some cases, dividend increases may signal the end of outstanding investment opportunities. In general, the interpretation of the informational content of a dividend increase has to be based on insider trading activity immediately prior to the dividend announcement. In cases of heavy insider selling, a dividend increase will elicit a negative share-price response. In cases of negligible insider selling or heavy buying, the announcement's effect will be positive. The evidence presented by John and Lang on insider trading around announcements of initiation of dividends largely supports the model's predictions.
The ability of dividends to convey information to the market has been empirically tested to answer three questions:

- Do unanticipated changes in dividends, when announced, cause share prices to change in the same direction?
- Are unanticipated announcements of changes in dividends accompanied by revisions in the market's expectations of future earnings in the same direction as the dividend change?
- Do dividend changes predict future earnings beyond those predicted by past earnings?

2.3.6. ANNOUNCEMENT EFFECTS

Pettit (1972) documented that announcements of dividend increases are followed by significant price increases and that announcements of dividend decreases are followed by significant price drops.[40] [41] The market is efficient in incorporating information into share prices. Aharony and Swary (1980) showed that these relationships hold even after controlling for contemporaneous earnings announcements. Most studies found an average excess return of about 0.4 percent for a dividend increase and -1.3 percent for a dividend decrease[42]. Three studies of large changes in dividend policy—Asquith and Mullins (1983) (dividend initiations), Healy and Palepu (1988), and Michaely, Thaler, and Womack (1995) (dividend omissions)—showed that the market reacts dramatically to such announcements.[43],[44],[87],[88]. The average excess return is about 3 percent for initiation and -7 percent for dividend omissions. Kalay and Loewenstein (1986), documented that the timing of dividend announcements contains information. They found that early dividend announcements, on average, connote good news and that late dividend announcements connote bad news. [12],[13]

Balachandaran Balasingham, Krishnamurti Chandra and Vindanapathirana Berty (2007) examined the stock price reaction to dividends of Australian firms during the period 1995-2006. They found dividend reduction are associated with negative stock price reaction. The reaction is stronger for omissions as compared to dividend cuts. This is because firm cut dividends in response to moderate declines in profitability as
opposed to omissions, which are motivated by significant, declines in future prospects. Interim reductions produce stronger negative abnormal returns as compared to final dividend reductions. The firms cut or omit interim dividend only when they are in dire needs. The immediacy of dividend reductions is probably responsible for stronger market reaction. Their study reinforced that interim dividend reductions contain a strong signalling element. They found that the size of the dividend reductions depends on the riskiness of the firm (idiosyncratic risk), size of the firm prior year profitability and changes in profitability. They also found that reduced dividend at interim level rather than delay to final stage depends on the prior year profitability and size of the firm.

Empirical studies however showed mixed evidence, using the data from US, Japan and Singapore markets. A number of studies found that stock price has a significant positive relationship with dividend payments. To mention few (Gordon (1959), Oggden (1994), Stevents and Jose(1989), Kato and Loewenstein (1995), Ariff and Finn (1986), and Lee (1985)), while others found a negative relationship like Loughlin (1989) and Easton and Sinclair (1989) [45], [46], [47]


A number of studies have also tested the dividend announcement effects and informational efficiency of the markets. Fama et al. (1969) have conducted the seminal study on semi-strong form of market efficiency with a view to determine the effect of stock splits on share prices. The study has a special importance in the area of finance because it was the first to develop a research methodology for testing market efficiency, which is still widely used by the researchers. [50]
Peterson (1971) studied the reaction of share prices following the bonus announcement. Grossman (1976) observed that under certain conditions, prices could reveal all private information to uninformed traders. However, Grossman and Stiglitz (1980) stipulate that prices incorporate new information immediately only if transaction costs are zero.

Grinblatt et al. (1984) provided evidence of significantly positive announcement returns for both stock splits and large stock dividend announcements for the American share market. If the firm has constraints, such as legal restrictions, stock exchange rules, or bond covenants, the bonus shares can inhibit firm’s ability to pay cash dividends. Firms expecting positive future performance will not expect these constraints to be binding, so they do not mind reducing retained earnings. Firms that do not expect to do well would find these constraints binding and hence would choose not to issue more shares. [52]

Patell and Wolfson (1984) examined market reaction around dividend and earning announcements. They documented evidence that showed that abnormal return lasts no longer than 10 minutes following the time of the announcement. Despite this general finding of rapidly adjusting stock prices, some puzzling results remain. Most notable among these is the stylized fact that stock prices do not adjust instantaneously to profit announcements. Instead, on an average a firm’s share price continues to rise (fall) for substantial period after the announcement of an unexpectedly high (low) profit. This anomaly appears to be quite robust to changes in the sample period and research methodology (Ball and Brown, 1968; Chan et al., 1996; and Fama, 1998). Agarwal (1991) studied market efficiency to analyze the behavior of dividends and stock prices of selected automobile companies in India. In this study, it has been observed that the current dividend behavior is explained by current level of net profits and past two years dividends. Three years and four years lagged dividends were also tried to explain current stock prices but were found to be statistically insignificant.[53] Joshi (1991) concluded that in efficient market conditions, takeover bid acts as a good disciplinary device to punish the inefficient management. The inefficiency of stock market distorts the functioning of this device and takeover bids were not observed to be always made for rational reasons. Dhillon and Johnson (1994) studied 131 announcements, 61 dividend increases, and 70 dividend decreases
and concluded that markets were efficient[54]. Sahadevan and Thiripalraju (1995) studied the price behavior with the help of monthly observations of money supply and stock price variables. The study observed that M3 and Sensex does not show any relationship among stock returns and broad money, except for the period May 1980-March 1987. It found no evidence across various sample periods on the direction of causal relationship between money supply and stock prices. Rao (1999) studied market efficiency to examine the response of stock prices to fiscal and monetary policy pronouncements, changes in industrial policy, changes in administered price policy, and changes in exchange rate policies of a particular industry or a group of firms, such as export-oriented firms and FERA companies. Concerned with the fiscal and monetary policy pronouncements, it has been found that Union budgets were associated with increases in volatility, whereas half-yearly credit policy announcements had no impact on the market movements. Changes in administered prices seem to have the maximum impact on the market.[55]

Chaturvedi (2000) worked on the share price behavior in relation to P/E ratios in the pre- and post-announcement period of 90 stocks listed on the Bombay Stock Exchange (BSE). It has also been observed that two-third of the post-announcement. Cumulative abnormal returns were observed to occur in the control period +21 days to 40 days, implying that stock prices do not adjust rapidly to the P/E information. [56]

Gupta (2001) studied the market efficiency to examine the semi-strong form of efficient market hypothesis with the help of selected accounting variables and macroeconomic variables. It was observed that the dividend per share was positively and significantly related to the share prices. However, the return on equity did not show a significant influence but the growth in price-earning ratio showed little evidence. Likewise, the growth in earning per share and leverage had negligible influence in explaining the share prices. [57]

In summary, and addressing the first question, stated above, most studies document that dividend increases and dividend initiations result in significant positive share-price reactions and that dividend decreases and dividend omissions invoke significant negative share-price responses.
2.3.7. CHANGES IN MARKET EXPECTATIONS

Ofer and Siegel (1987) demonstrated that the market revises its expectations based on announced changes in dividends. They documented that financial analysts revise their earnings forecasts by an amount that is positively related to the size of the announced dividend change. They also provided evidence that analysts' revisions are positively correlated with the market reaction to the announced dividend change. [58]

Dyl and Weigand (1998) hypothesized that initiation of cash dividends coincides with a reduction in the risk of a firm's earnings and cash flows. Based on a sample of 240 firms listed on the NYSE or the American Stock Exchange (AMEX) that initiated dividend payments during the period January 1972 through December 1993, they showed that the variance of daily returns drops from an average value of 0.001329 to 0.001138 and that the average beta falls from 1.397 to 1.2118.

2.3.8. PREDICTIONS OF FUTURE EARNINGS

Dividends are meant convey private information to the market, predictions about the future earnings of a firm based on dividend information should be superior to forecasts made without dividend information.

A number of studies test these implications of the information content of dividends. Watts (1973) examined the proposition that knowledge of current dividends improves the predictions of future earnings over and above those based on information contained in current and past earnings. Based on a sample of 310 firms with complete dividend and earnings information for the years 1946–1967, and annual definitions of dividends and earnings, Watts tested whether earnings in the coming year \((t + 1)\) can be explained by current \((t)\) and past \((t - 1)\) levels of dividends and earnings. For each firm in the sample, Watts estimated the current and past dividend coefficients (while controlling for earnings). Although the average dividend coefficients for the firms were positive, the average significance level was low. In fact, only the top 10 percent of the coefficients were marginally significant. Using changes in earnings and dividend levels yielded similar results [59], [60]. Gonedes (1978) also obtained only weak evidence that current dividends improve the predictability of future earnings. Charest (1978) found an abnormal performance of around 4% in the year prior to the dividend increase month and a negative 12% for the
dividend decreasing firms [48]. Benartzi, Michaely, and Thaler (1997) also concluded that dividend changes seem to respond to earnings changes in the immediate past and not to signal future unexpected earnings changes. [49]

Gruillon, Michaely and Swaminathan (2002) reported a three – year abnormal return of 8.3% for dividend increases, which is significant. They did not detect any abnormal performance for dividend-decreasing firms. Not surprisingly, the post–dividend abnormal performance was even more pronounced for initiations and omissions. Michaely, Thaler and Womack (1995) reported a market adjusted return of almost 25% in the three years after initiations and a negative abnormal return of 15% in the three years after omissions.

Healy and Palepu (1988) showed that earnings changes following dividend initiations and omissions are at least partially anticipated at the time of dividend announcement.[61]

Lipson, Maquieira, and Megginson (1998) examined the performance of newly public firms and compared those firms that initiated dividends with those that did not. Earnings increases following the dividend initiation and earnings surprises for initiating firms are more favorable than those for no initiating firms. Their results suggest that dividends signal differences in performance between otherwise comparable firms. [62]

Brook, Charlton, and Hendershott (1998) found that firms poised to experience large, permanent cash flow increases after four years of stable cash flows tended to increase their dividends before their cash flows increase. They also found that these firms had a high frequency of relatively large dividend increases prior to the influx of cash and concluded that investors appear to interpret the dividend changes as signals of future profitability. [62]

Nissim and Ziv (2001) offered yet another look at this problem. They attempted to explain future innovation in earnings by change in dividend, like Benartzi, Michaely, and Thaler (1997). They argued that a good control for mean reversion is the ratio of earnings to the book value of equity (ROE) and add it as an additional explanatory variable. They advocated the inclusion of ROE to improve the model of expected earnings, and fix what they call an “omitted correlated variable”. Rather than adopting
the natural convention of assigning a dividend change to the year in which it actually takes place. Nissim and Ziv change this convention by assigning dividend changes that occur in the first quarter of year t+1 to year t. Since dividends are very good predictor of past and current earnings, this change is bound to strengthen the association between dividend changes and earnings growth in year 1. Indeed using this methodology, the dividends coefficient is significant in about 50% of the cases when next year’s earnings is the dependent variable. When using the more conventional methodology, it is significant in only 25% of the years.

The evidence on the relationship of future earnings to dividend changes—the third question posed—appears weaker with respect to the information content of dividends than the results concerning announcement effects and changes in market expectations. These models also emphasize that the market may interpret the dividend signal differently for different firms based on knowledge of the investment opportunities for the firm in question. In other words, the same dividend signal from a growth firm might be interpreted less favorably than from a mature firm. This explanation provides one possible reason why the predictability of future earnings based on dividends is weak. If the market bases its interpretation of dividends on other information about the firm, studies that do not properly control for other factors will provide unreliable results.

**2.3.9 DIVIDEND SIGNALING CONSIDERING INVESTMENT OPPORTUNITIES AND INSIDER TRADING**

Two studies found evidence suggesting that the information content of dividends may depend on the observable features of its investment opportunities and insider trading activity. They are discussed as follows-

**2.3.9.1. Lang and Litzenberger Study**

Lang and Litzenberger (1989) tested the agency theory of dividends and contrast it with information signaling theory. According to the theory, an increase in dividends should have a larger price impact for firms that over invest then for firms that do not.
They categorized the over investing firms as those with Tobin’s $Q^{18}$ less than 1. When they examined only dividend changes that were greater than 10% (in absolute value), they found that for dividend increase announcements, firms with $Q<1$ experienced a larger price appreciation than firms with $Q>1$. For dividend decrease announcements, firms with $Q<1$ showed more dramatic price drops.

These results are consistent with the predictions of the Ambarish, John, and Williams (1987) model wherein the nature of investment opportunities affects the dividend and investment strategies of firms when corporate insiders have private information. Ambarish, John, and Williams make differential predictions for announcement effects of dividend changes for firms with different classes of investment opportunities. For mature firms (with a firm average $Q$ ratio of less than 1.0), the predicted announcement effect is larger than that for growth firms (with an average $Q$ ratio exceeding 1.0). Consistent with these predictions, the evidence shows an inverse relationship between the $Q$ ratio and the dividend change announcement effect. The evidence indicates that the dividend change is differentially interpreted by the market based on firms' investment opportunities. [24].

2.3.9.2. John and Lang Study

John and Lang (1991) constructed a theoretical model of insider trading around dividend announcements and tested the model’s prediction empirically.[39]

One of the novel features of the John and Lang (J&L) model is the implication that all increases in dividends (or initiations of dividends) do not connote "good news." Interpretation of the dividend increase is conditional on the current state of the firm's investment opportunities, which are revealed through the other signal used (i.e., trading of corporate insiders). Therefore, in some firms, higher than expected dividend announcements would generate a positive share price response when accompanied by significant insider buying. Alternatively, for other firms, higher than expected increases in dividends

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18 Tobin's $Q$ is a measure of the marginal efficiency of capital, computed for any asset or investment project as the ratio of the market value of the asset to its replacement cost. Value-maximizing firms, which invest optimally, will choose all projects with $Q$ ratios of at least 1.0. Firms that choose projects with $Q$ ratios of less than 1.0 are overinvesting (i.e., they are investing in projects with a negative net present value), decreasing the wealth of the shareholders.
dividend announcements would result in a negative stock price response when accompanied by unusually intense insider selling.

2.3.10 CONCLUSIONS

Information about the prospects of a firm may include the firm's current projects and its future investment opportunities. The firm's dividend policy, either exclusively or in combination with other signals, such as capital expenditure announcements or trading by insiders, may communicate this information to a less informed market.

2.4. MODELS OF SYMMETRIC INFORMATION AND EMPIRICAL RESEARCH

The more advanced generation of academic models following “the –bird-in-the-hand” models and Miller and Modigliani (1961) is conveniently categorized into two model groups: those that assume symmetric information and those that presuppose asymmetric information. At the core of these models are the notion of market imperfections and the tax impetus.

A large body of theoretical models and empirical research analyses the effect of the market imperfections of taxes on corporate dividend policy. An early examination of the effect shows that depreciation allowances and individual tax rates substantially influenced dividend payout rates in United States between 1920 and 1960. The Majority of writers do not question the significance of the effect of the tax code on the determination and implementation of corporate dividend policy. The models developed thus far are therefore not separated into paradigms supporting the debate that taxes do not affect corporate dividend decisions and those modeling the effect of taxes on corporate dividend decisions and those modeling the effect of taxes on corporate policy. Rather, the standards can be better classified as tax-adjusted or tax-avoidance dividend models.

2.4.1. DIVIDENDS AND TAXES

As is known market value is determined by discounted expected after-tax cash flows. Consequently, any differential tax treatment of capital gains relative to dividends
might influence investors' after-tax returns and, in turn, affect their demand for dividends. Accordingly, taxes may affect the dividend payment decisions by managers who desire to maximize market value, thereby influencing the supply of dividends. As a result, financial economists have hypothesized that taxes might have important effects on both personal investment decisions and corporate dividend decisions. But in Indian context this may not hold good as dividend income is free in the hands of shareholders.

Here the potential effects of the U.S. tax code has been considered. However, the discussion of the international aspects of taxation has been deferred. Even after several decades of research, many questions about how taxes influence the demand for and supply of dividends remain unanswered.

2.4.2. THE TAX ENVIRONMENT IN USA

Current Internal Revenue Service (IRS) regulations tax dividends at a higher rate than long-term capital gains for individual investors. While historically this differential tax advantage of capital gain versus dividend income has existed, capital gains still had a tax advantage even during periods when the tax rate on realized capital gains equaled the tax rate on dividends. Because unrealized capital gains were not taxed until the asset was sold, investors could affect the timing and amount of their tax payments by choosing when and what securities to trade.

In the presence of a preferential tax treatment of capital gains, rational investors should have a tax-related dividend aversion. Other things being equal, investors should prefer low dividend-yield stocks. When stock prices are in equilibrium (i.e., supply and demand are in balance and no pressures exist for prices to change), dividend aversion requires larger pre-tax risk-adjusted returns for stocks with larger dividend yields. Tests of this hypothesis—a tax-induced positive relationship (correlation) between dividend yield and risk-adjusted returns—can be divided into two categories: (1) tests used to examine the relationship between dividend yield and risk-adjusted return; and (2) tests used to examine the behavior of share prices around the ex-dividend period.
2.4.3 DIVIDEND YIELDS AND RISK-ADJUSTED RETURNS

2.4.3.1. The Theory

The model developed by Farar and Selwyn (1967) assumes that investors maximize after tax income. In a partial equilibrium framework investors are presented with two choices. Individuals choose the amount of personal and corporate leverage and also choose whether to receive corporate income distributions either as dividends or as capital gains. The preferred payment is the one with the least tax liability [65]. The model contends that no dividends should be paid. Rather, share repurchase should be used to distribute corporate earnings.2

The tests that examine the relationship between dividend yield and risk-adjusted returns were motivated by a model developed by Brennan (1970)[63],[64]. He extended the Farrar and Selwyn (1967) model into general equilibrium framework. Brennan's version of the capital asset pricing model (CAPM) states that a security's pre-tax excess return is linearly and positively related to its systematic risk and to its dividend yield. A higher pre-tax return compensates investors for the tax disadvantage of dividends. The model implies that higher dividend yield stocks will have lower prices, all else being equal. The Brennan model can be written as

\[ E(r_{it} - r_{ft}) = a_1 + a_2 \beta_{it} + a_3(d_{it} - r_{ft}), \]  

(2.6)

where \( r_{it} \) is the rate of return on stock \( i \) during period \( t \), \( \beta_{it} \) is its systematic risk for period \( t \), \( d_{it} \) is the dividend yield on stock \( i \), and \( r_{ft} \) is the riskless rate of interest during period \( t \). If \( a_3 \) is significantly positive, the results are interpreted as evidence of a tax disadvantage of dividends. In other words, investors demand higher pre-tax risk-adjusted returns on stocks yielding higher dividends to compensate for the tax disadvantages of these returns.

2.4.3.2. The Evidence of the Brennan Model

The two most influential empirical tests of the Brennan model—those of Black and Scholes (1974) and Litzenberger and Ramaswamy (1979)—present seemingly conflicting results. Black and Scholes (B&S) found no evidence of a tax effect;

2 Such results in Indian context should be interpreted with caution as capital gain is taxable and cash dividends do not attract any income tax liability.
Litzenberger and Ramaswamy (L&R) concluded that returns are positively related to dividend yield. [66], [67].

Auerbach (1979a) developed a discrete time, infinite horizon model in that shareholders maximize their wealth. If a capital gain / dividends tax differential exists, wealth maximization no longer implies firm market value maximization. Subsequently, Auerbach (1979b) posited that dividends are distributed because of the consistent, long-term undervaluation of corporate capital. Undervaluation is the result of dynamic process encompassing multiple periods of total reinvestment of all profits followed by firm returns less than the returns expected by investors. If firms are unable to make distributions to investors except in the form of dividends, shareholders must include the expected tax liabilities of future dividend payments to determine market prices accurately. These liabilities decrease the share price investors are willing to pay so as to increase the expected return from their investment. Stocks with dividend yields higher than the risk less rate are likely to generate positive abnormal returns from the increased risk of these cash flows [68].

Christie (1990) found a negative coefficient for a dummy variable representing zero dividend firms. These zero dividend firms earn abnormal negative returns [69]. Naranjo et. al. (1998) stated that the dividend yield effect is independent of tax effects.

Among other studies that tested the Brennan model are Blume (1980), Gordon and Bradford (1980), Morgan (1982), Poterba and Summers (1984, 1985), and Rosenberg and Marathe (1979).

2.4.3.3 The Black-Scholes Experiment

Black and Scholes constructed portfolios of stocks and examined the effect of dividend yield on their risk-adjusted expected returns. They used a "long-run" estimate of dividend yield—the preceding year's dividends divided by the end-of-year share price. They classified a stock with a large estimated dividend yield as having a high yield throughout the next year. Using sophisticated methodology, B&S found no difference between the pre-tax risk-adjusted return of high-yield and low-yield stocks. They also found no difference in the after-tax risk-adjusted returns of those stocks.
Based on this evidence, they advised investors to ignore dividends when forming their portfolios. [70]

2.4.3.4. The Litzenberger and Ramaswamy Experiment

The L&R test involves three steps. First, the systematic risk of each stock, or its beta, is estimated for each of the test months, using the market model regression. For the same months, L&R provided an estimate of the expected dividend yield for each stock in the sample. The second step contains a cross-sectional regression of excess stock return on the estimates of the corresponding beta and short-run (that month) expected dividend yield for each month between 1936 and 1977. The third step computes the statistical significance of the regression's coefficients. The L&R test documented a significantly positive dividend yield coefficient. Litzenberger and Ramaswamy interpreted their finding as support for Brennan's pre-tax CAPM; that is, they interpreted the positive dividend yield coefficient as evidence of a dividend tax effect.

2.4.3.5. The Miller and Scholes Critique

Miller and Scholes (1982) raised objections to L&R's interpretation of their results. Miller and Scholes argued that the L&R results can reflect only information effects. They pointed out a possible information induced bias in the L&R test of Brennan's model. The L&R method ignored announcements of dividend omissions, since omissions are not reported on the Center for Research in Security Prices (CRSP) tapes from which they obtained their data. An omission following a positive expected dividend is an announcement of a dividend reduction, which the market perceives as bad news. Ignoring omissions, L&R's method relates the resulting negative excess return (by assuming that it is not an ex-dividend month) to a zero expected dividend. This technical association can create a positive cross-sectional relationship between L&R's estimate of expected dividend yield and measured stock returns. [71]

More recently, Kalay and Michaely (1993) (K&M) performed a modified L&R experiment, using weekly returns. They limited the sample to cases in which the

20 The market model regression is estimated as

\[ R_{ij} = \alpha_i + \beta_i(R_{mj} - R_{mf}) + \epsilon_{ij}, \quad j = t - 60, \ldots, t - 1, \]

where \( R_{mj} \) is the return on the market portfolio during period \( j \), \( R_{mf} \) is the rate of return on stock \( i \) during period \( j \), \( \beta_i \) is the estimated beta for stock \( i \) for period \( j \), \( R_{mf} \) is the riskless rate of interest during period \( t \), and \( \epsilon_{ij} \) is the error term.
dividend is announced during the week preceding the ex-dividend week (96.6 percent of the sample), excluding weeks containing dividend omissions. They still found a significantly positive dividend yield coefficient. Interestingly, this coefficient is almost identical to the one reported by L&R (obtained using monthly returns). [14]

2.4.4 THE EX-DIVIDEND DAY STUDIES

2.4.4.1 The Theory

Three important dates exist in every dividend period: the announcement day, the ex-dividend day, and the payment day.

The ex-dividend day is about two weeks after the announcement day and about two weeks before the payment day. Thus a stock purchased on the day before the ex-dividend day, the last cum-dividend day, includes a claim to the dividend declared (to be paid two weeks later). If the stock is purchased on the ex-dividend day, the buyer will not receive the dividend on the payment day. The ex-dividend price therefore should be lower than the cum-dividend price to reflect the lost dividend.

The theoretical analysis of share price behavior around the ex-dividend day compares the expected price drop to the dividend per share. Earlier works on this issue were Campbell and Breanek (1955) and Barker (1959). In perfect markets, assuming certainty, the share-price drop should equal the dividend per share. Any other share-price behavior provides arbitrage opportunities. A smaller (larger) price drop provides arbitrage profits for buying (selling short) on the cum-dividend day and selling (covering) on the ex-dividend day. A similar conclusion can be drawn under uncertainty making an assumption that any excessive ex-dividend period risk is not reflected in the share price (i.e., the risk is not priced). This occurs if the risk is diversifiable and/or investors are indifferent to risk.

Assume that the required rate of return for the ex-dividend period is no different from that for any other day. Since investors are interested in after-tax returns, differential taxation of realized capital gains and dividend income should affect the analysis. Elton and Gruber (1970) specified the conditions for "no profit" opportunities around the ex-dividend day in the presence of tax differentials.
Equating the after-tax returns from capital gains to the after-tax returns from dividends results in

\[ (1 - t_g)[E(P_a) - P_b] = (1 - t_d)D \]  \hspace{1cm} (2.7)

and

\[ \frac{E(P_a) - P_b}{D} = \frac{1 - t_d}{1 - t_g}. \]  \hspace{1cm} (2.8)

Where \( t_g \) is the realized capital gains tax; \( t_d \) is the tax on ordinary income, or dividends; \( D \) is the dividend per share; \( P_b \) is the last cum-dividend share price (before); and \( E(P_a) \) is the expected ex-dividend share price (after) for \( t_g > t_d \). A larger tax on dividend income (i.e., \( t_d > t_g \)) results in an ex-dividend price drop smaller than the dividend per share. In such an economy the investors' marginal tax rates can be inferred from the relative price drop on the ex-dividend day.

Elton and Gruber presented empirical evidence showing that the ex-dividend price drop is smaller than the dividend per share. Taken at face value, this evidence is consistent with the hypothesis that investors have a tax-induced preference for capital gains. The story, however, is not that simple. Short-term capital gains are taxed as ordinary income. Thus, as Kalay (1982a) pointed out, an ex-dividend day share price drop smaller than the dividend per share provides profit opportunities for the short-term trader. He argued that without transaction costs, elimination of profit opportunities implies an expected ex-dividend price drop equal to the dividend per share. He found lower ex-dividend day drop than dividend per share and higher relative drop for high-yield stocks.

The early studies of the ex-dividend day behavior of share prices document a price drop significantly smaller than the dividend per share. These studies include Campbell and Breaneck (1955), Durand and May (1960), and Elton and Gruber (1970). Some subsequent empirical results like Kalay (1982a), Lakonishock and Vermaelen (1983), and Eades, Hess, and Kim (1984) support these findings. [72]

Eades, Hess, and Kim (1984), for example, found positive excess returns before and including the ex-dividend day and abnormally negative returns following the ex-
dividend day. In fact, the abnormal returns on the ex-dividend day were smaller than the excess return on the last cum-dividend day.[72]

Gagnon and Suret (1991) showed that the return variance in most empirical study samples precludes tax rate inference and the consequent clientele estimation. Although the full impact of short term traders on ex-dividend day returns and transaction costs have decreased following the initiation of a negotiated commission structure (Finnerty, 1981; Eades et. al., 1984; Lakonishok and Vermaelen, 1983). Karpoff and walking (1988) were unable to demonstrate any correlation between transaction costs and ex-dividend day returns.

Michaely (1991) provided additional evidence by investigating the ex-dividend day behavior of share prices before and after the passage of the 1986 Tax Reform Act. He found no evidence of excess returns around the ex-dividend day before and after tax reform. The evidence indicated that during the latter part of the 1980s the ex-dividend day price drop was equal to the dividend per share. The change occurred before tax reform, however, thus providing no evidence of tax effects.

Some studies found evidence of ex-dividend day behavior that seems consistent with an unspecified complicated version of the tax hypothesis. Barclay (1987) found different ex-dividend day share-price behavior before federal income taxes were introduced in the United States. His sample period was from 1900-1910. He found that prior to 1910 ex dividend price drop equalled dividend per share. The results of his study are consistent with the traditional explanation of the ex-dividend day behavior of share prices. [38]

Grammatikos (1989) reported that abnormal returns in high yield stocks have increased following the 1984 Tax reform Act (1984 TRA). Robin (1991) and Wu and Hsu (1992) found support for the tax clientele hypothesis in the period preceding and following the 1986 TRA. An increase in dividend capture trading activity was documented by Koski (1996) following the 1984 and 1986 TRAs. Conversely, Michaely (1991) and Hearth and Rimbey (1992) found few changes in market activity following the 1986 TRA and little support for tax clientele theory.

Following a sequence of tax reform acts in Canada, Khoury and Smith (1977), Morgan (1980), Amoako-Adu (1983), Booth and Johnston (1984), and McKenzie and
Thompson (1995) found support for the tax adjusted model using Canadian stock market data from the period preceding and following the changes in the tax law. Similarly, Bond et.al (1996) found the same pattern in United Kingdom dividend streams. These findings notwithstanding, Lakonishok and Vermaelen’s(1983) findings support the short term trading hypothesis. The tax-adjusted model is also supported in studies using British data by Feldstein (1970).

In summary, the ex-dividend day evidence is inconclusive. Some results seem consistent with the tax hypothesis, and some suggest that other economic forces must explain at least part of the ex-dividend day share-price behavior.

2.4.5 EX-DIVIDEND DAY AND CROSS-SECTIONAL STUDIES

2.4.5.1 Kalay And Michaely (1993)

The sample undertaken for study was 1936-1988. They examined risk-adjusted rate of returns of high—yield stocks compared to risk—adjusted returns of low yield stocks. They found that risk-adjusted rates of return of high yield stocks are not different from risk-adjusted returns of low-yield stocks. The data exhibited only time series return variation and as much as such is inconsistent with tax effect hypothesis. [14]

During the ex-dividend period, risk-adjusted returns on stocks are unusually high but are unrelated to the dividend yield. Thus L&R, who examined whether stocks experience higher risk-adjusted returns during the ex-dividend period, found an effect. In contrast, B&S, who examined whether returns on stocks that yield high dividends are higher throughout the year, found no dividend effect. It is important to note that the results of the two studies are not conflicting.

2.4.5.2. Tax-Induced Clientele-Empirical Evidence

One of the consequences of tax-adjusted model is the division of investors into dividend tax clienteles. The clientele argument was first proposed in the seminal work of MM (1961). In later work , Modigliani (1982) found that the clientele effect is responsible for only nominal alterations in the portfolio composition rather than the major differences predicted by Miller (1977) Mausulis and Trueman (1988) modeled cash dividend cash dividend payments as products of deferred dividends costs. Their
model predicts that investors with differing tax liabilities will have diverging preferences as to optimal firm investment/dividend policy. As the tax liability on dividends increases (decreases), the dividend payment decreases (increases) while earnings reinvestment increases (decreases). Differences can be minimized by segregation of investors into clienteles.

Litzenberger and Ramaswamy (1980) presented evidence that seems consistent with a tax-induced clientele effect [67]. A clientele effect exists in the economy when investors in higher (lower) tax brackets buy stocks with low (high) dividend yield. L&R assumed that a larger dividend yield coefficient implies higher investors' marginal tax rates. They divided the stocks into five sub samples based on expected dividend yield. Group I contains the lowest yield stocks and group V the highest yield stocks. They found a smaller dividend yield coefficient for the higher yield groups and interpreted it as evidence of a tax-induced clientele effect. However, direct tests uncovered no relationships between investors' marginal tax rates and their portfolios' dividend yields. The studies in this area include Peterson, Peterson, and Ang (1985) and Lewellen, Stanley, Lease, and Schlarbaum (1978). Chaplinski and Seyhun (1990) found that about half the dividends paid by corporations during 1979 were received by tax-deferred and tax-exempt recipients. [73]

Peterson, and Ang (1985) tried to examine whether investors shield dividends from taxes by creating offsetting interest payments. He found that investors are paying taxes on dividend income, with an estimated mean marginal tax rate on dividend income of 40 percent. Thus; investors have tax-based aversion to cash dividend payments.

A further group of studies attempted to determine if shareholders pay taxes on dividends. The tax-adjusted model predicts that tax payments will be made because pretax returns are grossed up as a result of potential investor awareness of the tax liability; the tax avoidance model predicts that no taxes will be paid because non-tax exempt investors will shelter the income. Feenberg (1981) found that only 2.5% of dividends are paid to individuals eligible to take the interest deduction proposed by Miller and Scholes (1978).
The underlying tax structure significantly affects corporate dividend policy. Empirical analysis of these effects better support the tax-adjusted model than the alternative tax–avoidance model. Under the tax-adjusted model, high dividend yield stocks with high tax liabilities are priced to increase the pretax expected returns. The theory that rational shareholders require a higher return from dividend-paying shares is logically consistent.

Haugen and Senbet (1986) showed evidence supportive of the dividend clientele hypothesis, documenting the differences in the ex-dividend day return performance of high yield and low-yield stocks. However, the proportion of non-dividend–paying stocks is much smaller than expected if the majority of investors are subject to the tax liabilities associated with dividends.

2.4.6 CONCLUSIONS

Long-term capital gains are taxed at a lower rate than dividend income for many investors. In addition, capital gains are not taxed until the gains are realized. This postponement option of the incidence of the tax lowers the effective tax rate even further. Accordingly, theory suggests that long-term investors should require a pre-tax rate of return premium to induce them to hold stocks paying dividends; theory also implies that stocks yielding higher dividends should earn larger pretax risk-adjusted returns throughout the year.

The documented empirical evidence, however, is inconsistent with this implication. The most recent evidence in the U.S. market indicates no difference between pre-tax risk-adjusted returns on stocks that yield high and low dividends. This evidence is inconsistent with Brennan's (1970) model. The evidence does indicate that stocks exhibit higher pre-tax risk-adjusted returns during ex-dividend periods (i.e., time series return variations). Existing theories do not link time series return variations to taxes. In our opinion, theorists will find it difficult to develop this link in an economy that exhibits no cross-sectional return variations.

The question remains: Why do stocks experience higher pre-tax risk-adjusted returns during ex-dividend periods? So far we theories have failed to explain the returns by risk shifts within a simple CAPM framework. Therefore, there is good reason to believe that the time series return variation is linked to taxes.
2.5 CORPORATE DIVIDEND POLICY DECISIONS

Black (1976) in his study concluded with the following question: “What should the corporation do about dividend policy? We don’t know”. A numbers of factors have been identified in previous empirical studies to influence the dividend policy decisions of the firm. Profits have long been regarded as the primary indicator of the firm’s capacity to pay dividends. In the following section empirical studies and survey researches on Corporate dividend policy determinants are discussed at length.

2.5.1. THE LINTNER SURVEY

Lintner (1956) conducted a classic study on how U.S. managers go about making dividend decisions. He carefully reviewed the academic and popular finance literature that dealt with dividend policy and listed fifteen variables that were identified as having a bearing on dividend decisions. Among these variables were firm size, plant and equipment expenditures, and willingness to use external financing, use of stock dividends, earnings stability, and ownership by control groups. Next, he chose a sample of more than 600 listed, well-established industrial companies. From this sample, he chose 28 firms for intensive follow-up interviews. Although these firms were not statistically representative, they provided the diversity in terms of the fifteen variables that Linter sought.

Lintner then conducted interviews with several of the managers responsible for the dividend decisions in each of these 28 firms, usually presidents, financial vice-presidents, treasurers, or directors. These interviews focused on the concrete, tangible elements that affected dividend decisions, especially when dividends were changed.

For the majority of firms the first question asked during consideration of a dividend decision was: Should the existing dividend be changed? Managers did not consider how much the dividend should be without referring to the existing dividend level.

Once convinced that a dividend change was desirable, managers asked a second question: What should be the magnitude of the dividend change? Again, the existing dividend level served as the benchmark. The real decision variable therefore was the change in the dividend, not the new dividend level itself. Lintner observed that an
inherent resistance to changing the dividend (inertia) and a concern for increasing the dividend too much (conservatism) were prominent in dividend change decisions.

Managers had a consensus view that shareholders prefer a stable rate and that the market puts a premium on stability and gradual growth. Accordingly, managers considered having to reverse dividend changes as undesirable. A dividend increase was made only when management believed that it could be sustained in the future. Accordingly, a forecast of future earnings played an important role in a given period's dividend decision. A dividend decrease was made only if adverse circumstances were not expected to be overcome quickly; managers had a strong aversion to dividend cuts.

Lintner found that managers believed that they needed a tangible financial indicator to justify a dividend change. He found that earnings dominated all other factors, including investment requirements, as a basis for dividend decisions.

As another by-product of the interview process, Lintner discovered that managers believed that, as part of their fiduciary responsibility to shareholders, they should design a dividend policy that distributed a portion of any substantial change in earnings, either an increase or decrease, as a dividend change. They had a notion of "fair share" with respect to their shareholders' claims to dividends relative to earnings. The majority of firms had an ideal or "target" payout rate, or dividends per share divided by earnings per share. However, this target level was just that, a target toward which to move and not a restrictive year-by-year constraint. In his sample, Lintner found payout targets that varied from 20 to 80 percent of earnings; a 50 percent target was most common.

In addition, most of the firms had a standard with respect to the speed at which they would move toward their payout targets; these adjustments ranged from one-sixth to one-half. For example, let's assume that a target payout was 50 percent and that the speed of adjustment factor was 25 percent. Using these parameters, if EPS increased from Rs 2.00 to Rs.3.00, the first-year dividend increase would be (Rs.1.00)(0.50)(0.25), or Rs.0.1250. This calculation represents the earnings increase times the target payout ratio times the adjustment factor. The full Rs.0.50 dividend
increase (EPS change times target payout ratio) might take several years to achieve, assuming that the new EPS level remains constant.

Managers developed their target payout levels and adjustment factors over time. Among other factors, these parameters were determined by growth prospects for the firm, cyclical movement of investment opportunities, working capital needs, and internal cash flows. Once these parameters had been established, managers maintained the target payouts and adjustment factors over extended periods of time. Current capital expenditure or working capital needs did not tend to affect the current dividend decision. If current internal cash flows were insufficient to cover both dividend and investment requirements, Lintner concluded that managers would scrutinize the necessity of the proposed investments. Managers would raise outside capital to fund the investments or cancel or postpone them. Lintner concluded that dividends represented the primary and active decision variable relative to investments and were not the by-product of investments.

Therefore, in deciding on a dividend change, managers looked at current earnings and applied their internal target level of payout to those earnings. Current earnings times the target payout level less last period's dividend determined the potential dividend change. This potential change was then multiplied by the speed of adjustment factor to determine the actual dividend change. In addition, firms preferred to keep dividend changes in multiples of $0.05. An example will clarify this decision-making process. [74], [75], [11]

Using the information that Lintner obtained from managers in his survey, let's follow a step-by-step example of the decision process. Assume that X Corporation paid a Rs.2.50 dividend in the prior year on earnings of Rs.6.25 per share. X has a target payout rate of 40 percent and a speed of adjustment factor of 30 percent. Then X's earnings increase from Rs.6.25 to Rs.8.00. Rupees eight times the target payout rate of 40 percent suggests a target dividend of Rs.3.20 versus last year's dividend of $2.50. X Corporation will not increase its dividend by Rs.0.70, or Rs.3.20 – Rs.2.50. X nominally would increase the dividend by the target change of Rs.0.70 times the adjustment factor of 30 percent, or by Rs.0.21. Given a preference for changes in Rs.0.05 increments, X would announce a change in dividend of Rs.0.20 per share, resulting in a total dividend of Rs.2.70 per share.
THE LINTNER MODEL

Lintner developed a mathematical model to represent the verbal descriptions of the dividend decision process he had heard. But did managers' actual behavior follow this reported process? His regression model was

\[ \Delta D_{it} = A_i + C_i (r_i E_{it} - D_{i(t-1)}) + U_{it}, \]  

(2.9)

Where

- \( \Delta D_{it} \) = the change in dividends per share observed from period \( t - 1 \) to \( t \) for firm \( i \);
- \( A_i \) = the intercept term for firm \( i \);
- \( C_i \) = the speed of adjustment coefficient for firm \( i \);
- \( r_i \) = the target payout ratio for firm \( i \);
- \( E_{it} \) = the earnings after taxes per share in period \( t \) for firm \( i \);
- \( D_{i(t-1)} \) = the dividends per share paid out last period for firm \( i \); and
- \( U_{it} \) = the error term for firm \( i \) in period \( t \).

Lintner tested his regression model with actual corporate dividend data and found an \( r^2 \), or explained variance, of 85 percent. In other words, 85 percent of the variations in dividend changes year to year were explained by this compact mathematical model. Notably, the intercept term, \( A_i \), was significant and positive. This evidence indicated that managers deliberately do avoid dividend cuts even when earnings decline, consistent with Lintner's impression from his interviews.

Thus Lintner's results show us that managers do try to do what they described verbally; or, that is, they

- Stabilize dividends with gradual, sustainable increases whenever possible,
- Establish an appropriate target payout ratio, and
- Avoid dividend cuts, if at all possible.

Bauer and Bhattacharyya (2006) established that empirical modeling of dividends has been dominated by Lintner (1956). The study establishes that Lintner’s model is also poorly specified when earnings are serially correlated. In time series testing, model fits the empirical reality at least 75% of the time. Moreover, for firms with longer data
series of 35 years or more, it described the empirical data succinctly in 96% of the cases.

2.5.2 STUDIES ON LINTNER MODEL ACROSS DIFFERENT COUNTRIES

Leithner and Zimmermann (1993) analyzed dividend streams for four major European markets: West Germany, the United Kingdom, France, and Switzerland. In Switzerland, individual firms often explicitly formulated a policy of stable dividends per share. Variance ratio tests supported the hypothesis that management attempts to smooth the time path of dividends in all four countries. To test for long-term target payout ratios in these countries, Leithner and Zimmermann used a market portfolio value as a proxy for permanent earnings. They found that dividends and market portfolio values showed a long-term relationship in the United Kingdom but not in any of the other countries under investigation. [85]

Two other studies tested the Lintner hypothesis directly in two European countries. McDonald, Jacquillat, and Nussenbaum (1975) examined the French market and documented results consistent with Lintner. The variation in current dividends was explained by current earnings and past dividends, not by investment or external financing levels. Behm and Zimmermann (1993) examined the empirical relationship between dividends and earnings in Germany. They followed Lintner and the subsequent literature and tested models relating dividends to different earnings measures of firms. Behm and Zimmermann reported results that generally were consistent with Lintner. Firms smooth dividends relative to earnings, but dividend changes are related positively to current earnings and negatively to lagged dividends. However, Behm and Zimmermann also reported that dividend decisions may not be based on a long-term target payout ratio, as suggested by the Lintner model. Apparently, long-term payout ratio averages deviate substantially from implied target ratios [76].

Dividend smoothing policies also are common in Pacific Rim countries. For example, Kato and Loewenstein (1995) reported a relatively stable payout ratio during the 1980s for the median firm in Japan [45], [46]. Gn (1994) studied corporate dividend policy dynamics in Singapore. He claimed that zero dividend changes were more common in Singapore than they were in the United States, and that the majority of
Singapore firms tended to keep dividend payouts unchanged for at least three years. Gn developed a variation of the Lintner model that incorporated frequent zero changes. The empirical results were consistent with the model.[121]

Nevertheless, in a recent study Dewenter and Warther (1998) directly compared dividend policies in Japan and the United States. They observed that Japanese firms (especially firms belonging to business groups, or keiretsus) adjust their dividends to earnings changes more quickly than do U.S. firms (i.e., the Japanese firms make larger dividend changes, in response to earnings changes, resulting in a more volatile dividend pattern). Moreover, Japanese firms are less reluctant to omit or cut dividends than their U.S. counterparts. Interestingly, the share-price reaction to dividend omissions and initiations is smaller in Japan than in the United States, which is consistent with the conjecture that Japanese firms face less information asymmetry and/or agency conflicts than do U.S. firms. [77]

Other studies that did not test the Lintner hypothesis directly still examined the time series of dividend payments. Loderer (1989) documented that in Switzerland firms issue equity frequently through rights offerings at low prices (for example, 43 percent of the traded firms did so in 1986). He was puzzled that, at the same time, almost all (98 percent) of the equity-issuing firms also paid dividends. This evidence suggested that Swiss firms follow their payout target ratios closely.

Procianoy and Snider (1994) examined the time series of payout ratios for Brazilian firms. Before Brazil's unique tax reform in 1989, investors were taxed on dividend income but not on capital gains. Since 1990, capital gains have been taxed but dividend income has been tax free. The Procianoy and Snider study benefited from a complete reversal in the Brazilian tax code regarding dividends, making it an exceptionally clean experiment.

2.5.3. THE IMPACT OF DIVIDEND POLICY ON INVESTMENT

Fama (1974) examined the extent to which dividend decisions and investment decisions are related. Fama concluded that investments are not a function of the level of dividends paid. Rather, firms appeared to take on desirable investments while maintaining their dividend payout policies. Flexibility in external financing could account for this independence; that is, if good investments projects required outlays
that exceeded free cash flow less the desired dividend, firms would secure external financing. [78], [79], [80]

2.5.4. SUBSEQUENT DIVIDEND MODEL RESEARCH: SURVEY RESEARCHES

Other researchers have conducted subsequent surveys of management views on dividend policy and have formally retested Lintner's model and have developed more sophisticated models to describe dividend behavior.

Baker, Farrelly, and Edelman (1985) conducted a survey of corporate financial managers to identify the factors they considered most important in determining their firms' dividend policies. One of the survey objectives was to compare contemporary determinants of dividend policy using a much larger sample of firms (318 usable responses and a 57 percent response rate) with Linter's survey results [81]. Baker, Farrelly, and Edelman concluded that the results show that the major determinants of dividend payments appeared to be strikingly similar to Lintner's behavioral model developed during the mid-1950's. In particular, respondents were highly concerned with dividend continuity. Second, the respondents seem to believe that dividend policy affects share value, as evidenced by the importance attached to dividend policy in maintaining or increasing share price. Although the survey does not uncover the exact reasons for their belief in dividend relevance, it does provide evidence that the respondents are generally aware of signaling and clientele effects.

Brittain (1964, 1966) and Fama and Babiak (1968) reevaluated Lintner's model. These authors concluded that Lintner's basic model continues to perform well relative to alternative specifications using both economy wide earnings and dividend data and data for individual firms. Specifically, Fama and Babiak concluded: The regressions on the firm data, the simulations, and the prediction tests provide consistent evidence on dividend models for individual firms. The two-variable Lintner model, including a constant term, $D_{t-1}$, and $E_t$, performs well relative to other models; in general, however, deleting the constant and adding the lagged profits variable $E_{t-1}$ leads to slight improvement in the predictive power of the model [82].

Pruitt and Gitman (1991) asked financial managers of the 1000 largest U.S. and reported that, current and past year’ profits are important factors influencing dividend
payments and found that risk (year to year variability of earnings) also determine the firms’ dividend policy. [89]

In other studies, Rozef (1982), Lloyd et al. (1985), and Collins et al. (1996) used beta value of a firm as an indicator of its market risk. They found statistically significant and negative relationship between beta and dividend payout. D’Souza (1999) also found statistically significant and negative relationship between beta and dividend payout. D’Souza (1999) however showed a positive but insignificant relationship in the case of growth and negative but insignificant relationship in case of market to book value[90]. Alli et al (1993) revealed that dividend payments depend more on cash flows, which reflect the company’s ability to pay dividends, than on current earnings, which are less heavily influenced by accounting practices. Green et al. (1993) questioned the irrelevance argument and investigated the relationship between the dividends and investment and financing decisions. Their study showed that Dividend decision is taken along with investment and financing decisions[91]. The results however do not support the views of Miller and Modigliani (1961). Dhrymes and Kurz (1967) and McCabe (1979) found that the firm’s investment decision is linked to its financing decision. Higgins (1972), Fama (1974), and Smirlock and Marshall (1983) documented no interdependence between investments and dividends.[92]

Higgins (1981) indicated a direct link between growth and financing needs: rapidly growing firms have external financing needs because working capital needs normally exceed the incremental cash flows from new sales [93]. Rozeff (1982), Lloyd et al. (1985) and Collins et al. (1996) all show significantly negative relationship between historical sales growth and dividend payout[23][86]. In a comprehensive study, Benartzi, Michaely, and Thaler (1997) provided additional evidence that relates to Lintner’s model.

Arnott and Asness (2003) based their study on American stock markets (S&P500) and found that higher aggregate dividend payout ratios were associated with higher future earnings growth. Both Zhou and Ruland(2006) and Gwilym et al. (2006) supported the findings of Arnott and Asness. Zhou and Ruland examined the possible impact of dividend payouts on future earning growth. Their study used a sample of active and inactive stocks listed on NYSE and NASDAQ with positive, non- zero payout ratio
companies covering the period from 1950-2003. Their regression results showed a strong positive relation between payout ratio and future earnings growth. Mancinelli and Ozkan (2006) undertook an empirical investigation of the relationship between the ownership structure of companies and dividend policy using 139 firms listed in Italian exchange. Their results suggested that the dividend payout ratio is negatively associated with the voting rights of the largest shareholders. Mohammed Amidu and Joshua Abor (2006) examined the factors affecting dividend payout ratios of listed companies in Ghana. The results of their study showed that payout ratios were positively related to profitability, cash flow and tax but are negatively related risk and growth [94].

Chen R. Carl, Steiner L. Thomas in their study titled “Managerial ownership and agency conflicts: A nonlinear simultaneous equation analysis of Managerial Ownership, risk taking, debt policy, and dividend policy” developed a simultaneous equation model in the dividend equation (LDIV), they found managerial ownership to have strong negative impact on dividend policy. They also found debt policy to have negative impact on dividend policy. Furthermore, they found risk to negatively cause dividend policy. Of the exogenous variables included in the dividend equation; the growth variable is negative and highly significant yet neither profitability (ROA) nor investments (INV) are significant.

Wolmaran H.P. (2003) conducted a study for companies listed on Johannesburg securities Exchange. He found unsophisticated percentage model to be a better model that explains variability in dividend payment than Lintner model.[95]

Samy Ben Naceur, Mohamed Goaied and Amel Belanes (2007) found Tunisian firms rely more on current earnings than past dividends to fix their dividend payments. Any variability in the earnings of the corporation is directly reflected in the level of the dividends. They reported low target payout ratio of 14% and high adjustment factor of 96%, which indicates low smoothing, and instability of dividend policy in Tunisia.[96]

Lintner's model of dividends remains the best description of the dividend setting process available. Thus, after four decades, Linter's research remains the definitive study of management dividend behavior—finance "classic."
Survey research on payout policy has been conducted in various countries. Baker and Powell (1999) investigated the views of corporate managers about the relationship between dividend policy and value, explanations of dividend relevance and the determination of dividends. They also investigated whether the responses differ among the three industry groups (manufacturing, wholesale/retail trade and utilities). They examined 603 firms (responding firms were 198) listed on the New York Stock Exchange. The results indicated that most respondents believe that dividend policy affects firm value. The respondents show the highest agreement with statements about signaling. The results also show that they are concerned about continuity of dividends when setting dividend payments and there is little difference in response between the three industry groups [97]. Baker et al. (2001) studied payout policy based on the results of a 1999 survey of Nasdaq-listed firms and field interviews. Respondents provided information about the importance of 22 different factors that influence their dividend policy. The study indicated that many managers of Nasdaq firms make dividend decisions consistent with Lintner’s (1956) survey results and model. It also showed significant differences between the manager responses of financial and non-financial firms on nine of the 22 factors. This finding implied the presence of industry effects on dividend policy decisions. Brav et al. (2005) surveyed 384 financial executives and conducted in-depth interviews with an additional 23 to determine the factors that drive dividend and share repurchase decisions [84]. Their findings suggested that maintaining the dividend level is on a par with investment decisions, while repurchases are made out of the residual cash flow after investment spending. They argued that perceived stability of future earnings still affects dividend policy as in Lintner (1956). However, 50 years later, they found that the link between dividends and earnings has weakened. They maintained that many managers now favour repurchases because they are viewed as being more flexible than dividends and can be used in an attempt to time the equity market or to increase earnings per share. They also maintained that financial executives believe that institutions are indifferent between dividends and repurchases and those payout policies have little impact on their investor clientele.
In Japan, Mizuno (1995) surveyed payout and earnings distribution of 1224 firms listed on the TSE. On the basis of the responding 226 firms, he suggested that firms have a tendency to issue stable dividends per share in the short term, while they appear not to decrease the dividend payout ratio in the long term. Serita and Hanaeda (2007) conducted survey research in 2003 covering 3632 firms listed on stock exchanges including TSE and emerging markets. A total of 795 firms responded to the survey. Although the survey did not specifically focus on payout policy, it included a questionnaire on the criteria of dividends and share repurchases. The findings are summarized as follows. First, there is a strong tendency for firms to maintain stable dividends and not adjust dividends in relation to the financial need for investment. Second, firms employ share repurchases primarily to absorb excess shares stemming from the dissolution of cross-shareholdings and to improve the demand and supply of shares. They do not necessarily regard share repurchases as a flexible means to return profits to shareholders.

2.5.6 EMPIRICAL STUDIES IN INDIA

There are not many econometric studies in India on dividend behaviour. However, very few cross section studies and micro time studies of firms have been carried out in course of time, mostly in the framework of Lintner’s partial adjustment model. This section outlines briefly some of these studies.

One of the earliest studies in the area of business savings in India is by Mazumdar (1959). The study attempts to explain corporate savings for the period 1946-55 on the basis of data available in the Taxation Enquiry Committee Report for the period 1950-55. The study tried to explain corporate savings in terms of profitability for the aggregate and for some individual industries as well. In the study net worth is considered to capture the effect of past corporate surplus on current dividends. Attempts to include lagged dividend has not been successful.

Punanandam and Hanumantha Rao (1966) did a micro time series analysis of fifty companies belonging cotton textile industry for the period 1946-63. The Lintner model was tested for each company with and without intercept term and analysis of the size distribution of the estimates of the short and long run dividend payout ratios
and reaction coefficients was made. The Lintner model adequately explained the dividend behaviour.

Sastry (1966) did a comprehensive study on dividends. He tested several alternative hypotheses of dividend behaviour. It is a cross section study of firms across industries for the period 1955-60 for the public limited companies. Both annual cross section and yearly averages were used. He tested a simple relationship between retained earnings and profit after tax, Lintner’s model, modification on the basis of Lintner’s model in terms of alternative definitions of profit variable and the introduction of investment expenditure etc. His study revealed that, current profit is significant factor-affecting disposition of profits between dividend and savings. The basic Lintner’s hypothesis provides a fairly good explanation of the dividend behaviour. It has been found that investment expenditure do have, by and large, a negative impact on dividend.

Krishnamurty and Sastry (1971) have analysed the dividend behaviour for the chemical industry for the period 1962-67 using Lintner model as the base along with cash flow variable. It is an annual cross section study of 40 public limited companies. The Lintner’s model offered explanation of the dividend behaviour. The study revealed that investment activity seems to influence dividend policy of firms, implying higher savings when investment climate is favourable. However, the magnitude of the impact was very small. Also External finance activity does not effect dividend disbursals.

Rao and Sarma (1971) on corporate dividend is a time series study based on the Reserve Bank of India data for the period 1955-56 to 1965-66. They attempted to test three variations of Lintner’s model, one with net profit, another with cash flow and third with net profit and depreciation separately. The study was done at three levels of aggregation: for all public and private limited companies separately, for four major industry groups and for ten important public limited companies. The study concluded that, the basic Lintner’s model with profit variable is quite appropriate for explaining the corporate dividend behaviour at the aggregate level and in case of five individual industries, whereas the cash flow variant turned out to be more appropriate in case of four-individual industries. The study further revealed that, the payout propensities differ considerably between the industries.
Gupta’s (1973) studied 496 bonus issues during 1948-71. It was found that bonus shares were issued by companies not necessarily with a view to increasing total dividend distribution. The corporate practice in India showed an extreme degree of diversity in this respect. It was observed that as many one third of the companies issuing shares did not increase the total quantum of dividend on the enlarged capital, a significant number of them even reducing the total dividend distribution. Bonus issues occurred at irregular intervals and on widely varying ratios. The higher bonus ratios have been found more often among companies paying high dividend rates. The study revealed that great majority of the bonus issues in India were in relatively ratio of 20 per cent and above, which is significant in contrast the American practice of generally paying 2-5 per cent stock dividend. Gupta also tested the impact of bonus issue on the share price. It was found that speculative price rise which occurs immediately after bonus announcements was based not so much on a realistic appraisal of the fundamental factors governing profit and dividend as a rumours and psychology. The author concluded that the dramatic price adjustment that took place from the level immediately after bonus announcement suggested that immediate price rise was haphazard and not sufficiently discriminating, being carried out too far in some cases and too little in others.

Johar (1973) reported a study of corporate investment and financing behaviour in India. His findings suggested interdependence between the investment and external finance equations.

Swamy and Rao (1975) analysed corporate manufacturing sector for the period 1954 to 1970. They have tried Lintner’s model along with Brittain’s cash flow model and Darling’s dividend model. Additional explanatory variables like investment expenditure and the flow of external finance were introduced. Investment expenditure has a positive and significant coefficient, while external finance has a negative and significant coefficient in preferred equation. However, the results showed that the magnitude of the impact of these two variables is very small.

Krishamurty and Sastry (1975) in their study on dividend decision examined, whether firms in India follow a stable dividend policy in the long run or whether they alter dividend policies to suit their investment plans and external financing situation. Their results were in support of Lintner’s model. Dividend decisions were found largely
autonomous of investment and external financing decisions and therefore retained earnings are residual in character. It was also observed that short run and long run marginal dividend payout ratios for agriculture-based industries are generally low as compared to non-agriculture based industries. The marginal coefficients were found lower for the traditional industry. Their results revealed interdependence of decisions of investment, dividend and external financing. There was one-way influence of dividends through retained earnings of investment and external financing.

Dhameja (1978) in his study tested the dividend behaviour of Indian companies by classifying them into size group, industry group, growth group and control group. The study found there was no statistically significant relationship between dividend payout, on the one hand and industry and size on the other. Growth was inversely related to dividend payout and was found to be significant. The main conclusion were that dividend decisions are better explained by Lintner’s model with current profit and lagged dividend as explanatory variable.

Kumar (1976) examined the influence of some of the major determinants of dividend payout, particularly the target payout ratios, in the corporate sector of India. The study focussed on four industries: general Engineering, Chemicals, Electricals and Cotton Textiles covering a period of three years: 1969, 1970 and 1971. The well-known Lintner’s model and Brittain’s cash flow model have been tried. The study disclosed that both in chemicals and general engineering industries, the earnings and cash flow variable along with lagged dividend variable seemed to explain a large part of the variation in the dividend payout ratio. However, in electrical and cotton textiles, the earnings hypothesis explains the dividend variation better. Lagged dividend was found to be statistically significant, for all the industries under study.

Dhameja (1978) in his study tested the dividend behaviour of Indian companies by classifying them into size group, industry group, growth group and control group. His sample included 158 non-government public limited manufacturing companies listed on various Indian Stock Exchanges. The study found that there was no statistically significant relationship between dividend payout, on the one hand and industry and size on the other. Growth was inversely related to dividend payout and was found to be significant. As regards dividends rates adjusted for bonus and right issues etc., it was significantly directly related to industry growth and mildly to size. Dhameja also
applied Lintner’s model to the pooled data for the year 1962-72. His main conclusion was that dividend decisions are better explained by Lintner’s model with current profit and lagged dividend as explanatory variables.

Ojha (1978) did a time series study based on the pioneering work of Lintner. In his study he analysed the dividend behaviour for the cotton textile industry for the period 1960-67. His work is mainly concerned with studying the impact of earnings, retained earnings and dividend on shares prices. The impact of explanatory variables like liquidity, investment expenditure etc., on dividend policy was analysed. The study revealed that, dividend has the most powerful impact on share prices. Its impact is almost two times the basic Lintner’s hypothesis provides a fairly good explanation of the dividend behaviour in cotton textile industry.

Dakshinamurthy and Narasimha Rao (1978) has conducted empirical research and tested speed of Adjustment (Dividend) model in Indian Chemical Industry for the period of 1960-1973 and he found that the Cash Flow Model explained better the corporate dividend behaviour in the Indian Chemical Industry as against the basic Linter’s model.[98], [99]

Bhole (1980) specified model for the empirical testing of the determinants of corporate savings, dividends and share prices respectively. The study is based on Reserve Bank of India’s data on the data relating to share prices have been collected from Bombay Stock Exchange Official Directory. Both the cross section and time series analysis have been conducted for carrying out the work. The profit allocation model and Lintner’s model were tested on the time series data by using simple, multiple and stepwise regressions. The study revealed that, Lintner’s model of stable and active dividend policy performed well in Indian context for the period under study.

Gupta and Sharma (1981) have made an attempt to study the dividend behaviour of 112 tea companies of India and they concluded that Lintner’s model is applicable to the tea industry.

Khurana (1985) based his study on a judgement sample of 58 companies belonging to chemical, electrical goods, sugar, cotton and general engineering industries for the study period 1962-63 to 1976-77. Khurana estimated a few known dividend models
namely Lintner’s model, Brittain’s model, Darling’s model and Dobrovolsky’s model to identify and determine their respective significance in the Indian context. Khurana has also introduced some other determinants like share prices, liquidity, investment demand, flow of net debt etc., which have a direct bearing on the dividend decision of the sample companies. The analysis revealed that Lintner’s model offers better explanation of corporate dividend behaviour compared to other models. The result further disclosed that, among the other determinants, the flow of net debt and behaviour of share prices have some impact on the dividend decision of the sample companies.

Sharma (1986) attempted to develop a theoretical framework to approach the problem of primacy of dividend decision. She identified the concept of dividend decision primacy and tested empirically the relationship of the primacy notion with objective of the shareholders and the management. The basis of her modelling framework was that, each of the decision makers can have a short run and/or long run objective and the dividend decision may be primary to the management of the firm and/or the shareholders. In the study, the short run objective was taken to be the maximization of share prices and the maximization of net worth is taken as the long run objective. The short run and the long run models have been estimated at the level of the individual firms on the basis of the time series data for a selected sample of 71 firms. The firms included in the sample belong to general engineering, electrical equipments, and chemical, cotton, paper and sugar industry groups. The study remarked that both the shareholder and the management have a short run objective (maximization of share price) and/or long-term objective (maximization of net worth).

Agarwal (1987) focussed on automobile industry and evaluated the effect of profit and investment decisions on the dividend payout policy of non-car sector. It is found that in non-car sector firms seems to be reluctant to reduce the rate of dividend immediately as the profit level drops. Current profit is an important determinant of dividend policy. Firms appear to follow a target payout ratio. This is revealed by the statistically significant and positive co-efficient of lagged dividend variable. Several other variables, such as, the flow of external funds investment expenditure, working capital and requirements and the liquidity position of firms do not seem to influence
the dividend policy. He concluded that Lintner’s specification is apt for the automobile manufacturing industry in India.

Chawala and Srinivasan (1987) did a cross-sectional study covering 19 chemical and 13 sugar companies for the year 1969 and 1973. This study is in the spirit of the pioneering work of Friend and Puckett (1964), wherein they have estimated a model to explain share price, dividend and retained earning relationships. The results of the study indicate that in case of chemical industry both dividend and retained earnings significantly explain the variations in share prices. However, the impact of dividend was found to be more pronounced than that of the retained earnings.

Mahapatra (1992) tested the validity of dividend models, namely Lintner’s model, Brittain’s cash flow model, Explicit depreciation model and Darling’s model and examined their relative significance in explaining the corporate dividend behaviour in the Indian scenario using the data of selected 90 public limited companies representing both the traditional and non-traditional sectors for the period 1977-78 to 1988-89. A comparative review of the various regression models brought out the Brittain’s cash flow model as a model of good fit both at macro level and industry level. Based on this model the study further tried to examine the impact of a few more determinants of dividend behaviour like the investment demand, flow of net debt, liquidity, interest, behaviour of share price and changes in sales. Although the last three factors were not found to have any significant impact on the dividend decision of the sample companies, the impact of investment demand, flow of net debt and liquidity were found to be significant in the case of some sample industries.

Mahapatra and Sahu (1993) analyzed the determinants of dividend policy using the models developed by Lintner (1956), Darling (1957) and Brittain (1966) for a sample of 90 companies for the period 1977-78 – 1988-89. They found that cash flow is a major determinant of dividend followed by net earnings. Further, their analysis showed that past dividend and not past earnings is a significant factor in influencing the dividend decision of firms.[102]

Kevin (1992) analysed the dividend distribution pattern of 650 non-financial companies which closed their accounts between September 1983 and August 1984 and net sales income of one crore rupees or more. He finds evidence for a sticky
dividend policy and concludes that a change in profitability is of minor importance.[100]

Obaidullah (1993) in his study examined the dividend behaviour of Sensex 30 Companies. The study focused on the dividend behaviour of these blue chip companies for fifteen-year period, 1976-90. It was observed that firms tend to follow a stable dividend policy. They appear to have a target long-term dividend pay out ratio and only partially adjust their actual dividends to achieve the target pay out ratio. Current dividends observed to depend on current as well as past earnings. The findings of the study further disclosed that the Lintner’s model of dividend behaviour fit reasonably well in Indian context. The evidence for a lagged relationship between earnings and dividends also existed. [101]

Bhat and Pandey (1994) in their study conducted a survey to ascertain the perceptions of Indian managers about dividend decisions. According to their study the top five determinants of dividend policy are:

- Current earnings,
- Pattern of past dividends,
- Expected future earnings,
- Increasing equity base, and
- Liquidity.

They consider industry practices as a least important factor. Bhat and Pandey study is based on the pioneering work of Baker et. al, (1958). The study disclosed that dividend policy influences the share price, although the rationale for paying dividend for increasing share price. In their opinion, investors are not indifferent to dividends and capital gains. The study further discloses, managers in India strongly believe that a company should strive to maintain an uninterrupted record of dividend payment and follow a stable pattern of dividend payment. The companies have target pay out ratios and do not change their dividend policies. Current dividend depends, in part, on current earnings and in part on dividend paid in the previous year. In the view of
managers, it was found results that; shareholders in low tax bracket prefer more dividends than low or no dividends.

Mahapatra and Panda (1995) in their study explained the dividend behaviour in the Indian context with reference to three selected industries namely, cotton, paper, and sugar. The result disclosed that dividend decision is primarily governed by cash flow and the dividend paid in the previous year. The impact of flow of net debt on dividend decision is found to be significant only in paper industry. Liquidity factor has turned out to be a significant determinant in cotton industry only. However interest payout was significantly positively related to dividend payments in case of sugar and paper industry. However, investment demand and behaviour of are price have no significant impact on the dividend policy decision of the sample companies. The target payout ratio and speed of adjustment coefficients of the sample industries showed wide fluctuations. The low target payout ratio indicated that the paper and cotton industries emphasise more on internal financing. The high speed of adjustment coefficient in case of paper industry indicated the companies belonging to this industry strive to maintain stable dividend.

Mishra and Narender (1996) analyzed the dividend policies of 39 state-owned enterprises (SoE) in India for the period 1984-85 to 1993-94. They found that earnings per share (EPS) are a major factor in determining the dividend payout of SoEs. [103]

Narsimhan and Asha(1997) observed that a the uniform tax rate of 10 % on dividend as proposed by Union Budget 1997-98 , alters the demand of investors in favor of high payouts. Mohanty (1999) found that firms, which issued bonus shares, have either maintained the payout at the pre bonus level or only decreased it marginally thereby increasing the payout to shareholders.[104]

Mohanty (1999) analyzed the dividend behaviour of more than 200 firms for a period of over 15 years. He found that in most bonus issue cases firms have either maintained the pre-bonus level or only decreased it marginally there by increasing the payout to shareholders. The study also finds that firms that declared bonus during 1982-1991 showed higher returns to their shareholders compared to firms which did not issue bonus shares but maintained a steady dividend growth. He found evidence
for a reversal of this trend in the 1992-96 periods. He attributed such a reversal in trend to the changed strategy of multi-national corporations (MNCs) and their reluctance to issue bonus shares.[104]

Narsimhan and VijayLakshmi (2002) analysed the influence of ownership structure on dividend payout of 186 manufacturing firms. Regression analysis shows that promoters holding as of September 2001 has no influence on average dividend payout for the period 1997-2000.[94]

Anand Manoj (2002) analyzed the results of 2001 survey of 81 CFOs of Business today-500 companies in India to find out the determinants of the dividend policy decisions of the corporate India. He used factor analytic framework on the CFOs' responses to capture the determinants of the dividend policy of corporate India. The findings revealed that most of the firms have target dividend payout ratio and were in agreement with Lintner's study on dividend policy. CFO's use dividend policy as a signaling mechanism to convey information on the present and future prospects of the firm and thus affects its market value. The managers design dividend policy after taking into consideration the investors' preference for dividends and clientele effect. [105] [106]

Oza (2004) studied thirty non-financial Indian companies dividend behaviour and found that current earnings is the most influencing factor while deciding on dividend policy followed by pattern of past dividends [107]. Reddy (2004) examined the dividend behaviour of Indian corporate firms over the period 1990-2001 of companies listed on NSE and BSE. He concluded that dividend changes are impacted more by contemporaneous and lagged earnings performance rather than by future earning performance. Sur (2005) studied the dividend payout trends of Colgate Palmolive Ltd and concluded there was a significant deviation between actual DPR and estimated DPR [83]. George and Kumudha (2005) tested Lintner Model in Hindustan Construction Co. Ltd. and found that current year’s dividend per share is positively related to current year’s earning per share and previous year’s dividend per share. [108]

Reddy Y.Subba and Rath Subhrendu (2005) examined Dividend trends for large sample of stocks traded on Indian markets indicated that the percentage of companies
paying dividend declined from over 57% in 1991 to 32% in 2001, and that only a few firms paid regular dividends. Dividend – paying companies were less likely to be larger and more profitable than non-paying companies, though growth opportunities do not seem to have significantly influenced the dividend policies of Indian firms. The rise of the number of firms not paying dividends is not supported by the requirements of cash for investments [15]

Sharma Dhiraj (2007) empirically examined the dividend behavior of select Indian firms listed on BSE from 1990 to 2005. The study analyzed whether or not the dividends are still in vogue in India and tried to judge the applicability of one of the two extremely opposite schools of thoughts- relevance and irrelevance of dividend decision. The study also analyzed the applicability of tax theory in the Indian context. The findings offered mixed and inconclusive results about tax theory indicating that the change in the tax structure does not have a substantial effect on dividend behavior of firms.[7]

Singhania (2007) studied Dividend Policy of Indian Companies in the 590 listed Manufacturing firms of India over the period of 1992-2004. The study highlighted that average dividend per share increased significantly during the study period [18]. Bhayani (2008) has conducted a study on the dividend policy behaviour of BSE 30 companies of India for the period of 1996-97 to 2004-05. The results showed that the firms under study follow Lintner model of dividend. [102]

A number of conflicting theoretical models, all lacking strong empirical support, define recent attempts by researchers in finance to explain the dividend phenomenon. But to come with concrete conclusions an intensive study of all theoretical models together with empirical proof is needed. The extensive literature on dividend policy in the last five decades have been unable to reach a consensus on research on a general dividend theory that can either explain the process of dividend decision making or predict an optimal dividend policy. Therefore it becomes important to study dividend behavior of Indian companies using the framework of empirical models.