IMPACT OF DIVIDEND POLICY ON SHAREHOLDERS' VALUE: A STUDY OF INDIAN FIRMS

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TABLE OF CONTENTS

S. no.	Contents	Page no.
1.	Introduction	4-9
2.	Review of the literature	9-14
3.	Research objectives	14-15
4.	Research Methodology	15-23
5.	Lintner Model: Analysis and findings	23-24
6.	Factor Analysis and Regression results on Extracted Factors	24-28
7.	Quadratic Polynomial Regression Analysis & Findings	28-30
8.	Event study: Analysis & Findings	30-32
9.	Conclusion	32-35
10.	Chapter plan	35-36
11.	Selected References	36-38
12.	Annexure	(III-XX)

KEY TERMS

DIVIDEND PAYOUT RATIO: The percentage of earnings paid to shareholders in dividends.

Calculated as:

$$= \frac{\text{Yearly Dividend per Share}}{\text{Earnings per Share}}$$

or equivalently:

$$= \frac{\text{Dividends}}{\text{Net Income}}$$

DIVIDEND POLICY: The policy a company uses to decide how much it will pay out to shareholders in dividends.

SHAREHOLDERS' VALUE: The value delivered to shareholders because of management's ability to grow earnings, dividends and share price. In other words, shareholder value is the sum of all strategic decisions that affect the firm's ability to efficiently increase the amount of free cash flow over time.

LINTNER MODEL: A model stating that dividend policy has two parameters: (1) the target payout ratio and (2) the speed at which current dividends adjust to the target.

AGENCY COST: A type of internal cost that arises from, or must be paid to, an agent acting on behalf of a principal. Agency costs arise because of core problems such as conflicts of interest between shareholders and management. Shareholders wish for management to run the company in a way that increases shareholder value. But management may wish to grow the company in ways that maximize their personal power and wealth that may not be in the best interests of shareholders.

DIVIDEND SMOOTHING: A concept that has its genesis in the dividend model proposed by John Lintner (1956).It states that the firms strive towards dividend stability and consistency. The dividend paid during current year is governed by dividend paid during previous year and variations in the earnings should not be reflected in the dividend payout.

INFORMATION ASSYMETRY: A situation in which one party in a transaction has more or superior information compared to another. This often happens in transactions where the seller knows more than the buyer, although the reverse can happen as well. Potentially, this could be a harmful situation because one party can take advantage of the other party's lack of knowledge.

EVENT STUDY: An empirical study performed on a security that has experienced a significant catalyst occurrence, and has subsequently changed dramatically in value as a result of that catalyst. The event can have either a positive or negative effect on the value of the security. Event studies can reveal important information about how a security is likely to react to a given event, and can help predict how other securities are likely to react to different events.

PECKING ORDER HYPOTHESIS: This hypothesis states that a company which prefers retention of profits for financing the capital expenditure from internal resources distributes fewer dividends compared to a firm which finances the investment expenditure from external sources. Thus, a negative relationship exists between CAPEX and dividend payout.

ENTRENCHMENT HYPOTHESIS: The hypothesis suggests a inverted U shaped relationship between dividends and level of insider ownership. Dividend may act as a substitute for Corporate governance below the entrenchment level insider ownership leading to a negative relationship between these two variables.

After such critical entrenchment level, however, when insider ownership increases are associated with additional entrenchment related agency costs, dividend policy may become a compensating monitoring force and accordingly a positive relationship with insider ownership would be observed.

DIVIDEND SIGNALING: A theory that suggests company announcements of an increase in dividend payouts act as an indicator of the firm possessing strong future prospects. The rationale behind dividend signaling models stems from game theory. A manager who has good investment opportunities is more likely to "signal" than one who doesn't because it is in his or her best interest to do so.

ABNORMAL RETURNS: A term used to describe the returns generated by a given security or portfolio over a period of time that is different from the expected rate of return. The expected rate of return is the estimated return based on an asset pricing model, using a long run historical average or multiple valuations.

FACTOR ANALYSIS: Factor analysis is a statistical procedure used to uncover relationships among many variables. This allows numerous intercorrelated variables to be condensed into fewer dimensions, called factors.

PANEL DATA: Panel data is data from a (usually small) number of observations over time on a (usually large) number of cross-sectional units like individuals, households, firms, or governments.

MULTIPLE REGRESSION ANALYSIS: Statistical procedure that attempts to assess the relationship between a dependent variable and *two* or more independent variables. Example: Sales of a popular soft drink (the dependent variable) is a function of various factors, such as its price, advertising, taste, and the prices of its major competitors (the independent variables)

IMPACT OF DIVIDEND POLICY ON SHAREHOLDERS' VALUE: A STUDY OF INDIAN FIRMS

1. INTRODUCTION

Dividend policy has been an issue of interest in financial literature since Joint Stock Companies came into existence. Dividends are commonly defined as the distribution of earnings (past or present) in real assets among the shareholders of the firm in proportion to their ownership. [15] Dividend policy connotes to the payout policy, which managers pursue in deciding the size and pattern of cash distribution to shareholders over time. Managements' primary goal is shareholders' wealth maximization, which translates into maximizing the value of the company as measured by the price of the company's common stock. This goal can be achieved by giving the shareholders a "fair" payment on their investments. However, the impact of firm's dividend policy on shareholders wealth is still unresolved

The area of corporate dividend policy has attracted attention of management scholars and economists culminating into theoretical modelling and empirical examination. Thus, dividend policy is one of the most complex aspects in finance. Three decades ago, Black (1976) in his study on dividend wrote, *"The harder we look at the dividend picture the more it seems like a puzzle, with pieces that just don't fit together"*.[10].Why shareholders like dividends and why they reward managers who pay regular increasing dividends is still unanswered.

According to Brealey and Myers (2002) dividend policy has been kept as the top ten puzzles in finance. [34].The most pertinent question to be answered here is that how much cash should firms give back to their shareholders? Should corporations pay their shareholders through dividends or by repurchasing their shares, which is the least costly form of payout from tax perspective? Firms must take these important decisions period after period (some must be repeated and some need to be revaluated each period on regular basis.)

Dividend policy can be of two types: managed and residual. In residual dividend policy the amount of dividend is simply the cash left after the firm makes desirable investments using NPV rule. In this case the amount of dividend is going to be highly variable and often zero. If the manager believes dividend policy is important to their investors and it positively influences share price valuation, they will adopt managed dividend policy. The optimal dividend policy is the one that maximizes the company's stock price, which leads to maximization of shareholders' wealth. Whether or not dividend decisions can contribute to the value of firm is a debatable issue.

Firms generally adopt dividend policies that suit the stage of life cycle they are in. For instance, high- growth firms with larger cash flows and fewer projects tend to pay more of their earnings out as dividends. The dividend policies of firms may follow several interesting patterns adding further to the complexity of such decisions. First, dividends tend to lag behind earnings, that is, increases in earnings are followed by increases in

dividends and decreases in earnings sometimes by dividend cuts. Second, dividends are "sticky" because firms are typically reluctant to change dividends; in particular, firms avoid cutting dividends even when earnings drop. Third, dividends tend to follow a much smoother path than do earnings. Finally, there are distinct differences in dividend policy over the life cycle of a firm, resulting from changes in growth rates, cash flows, and project investments in hand. Especially the companies that are vulnerable to macroeconomic vicissitudes, such as those in cyclical industries, are less likely to be tempted to set a relatively low maintainable regular dividend so as to avoid the dreaded consequences of a reduced dividend in a particularly bad year.

Shareholders wealth is represented in the market price of the company's common stock, which, in turn, is the function of the company's investment, financing and dividend decisions. Among the most crucial decisions to be taken for efficient performance and attainment of objectives in any organization are the decisions relating to dividend. Dividend decisions are recognised as centrally important because of increasingly significant role of the finances in the firm's overall growth strategy. The objective of the finance manager should be to find out an optimal dividend policy that will enhance value of the firm. It is often argued that the share prices of a firm tend to be reduced whenever there is a reduction in the dividend payments. Announcements of dividend increases generate abnormal positive security returns, and announcements of dividend decreases generate abnormal negative security returns.A drop in share prices occur because dividends have a signalling effect. According to the signalling effect mangers have private and superior information about future prospects and choose a dividend level to signal that private information. Such a calculation, on the part of the management of the firm may lead to a stable dividend payout ratio.

Dividend policy[1] of a firm has implication for investors, mangers and lenders and other stakeholders (more specifically the claimholders). For investors, dividends – whether declared today or accumulated and provided at a later date are not only a means of regular income[2], but also an important input in valuation of a firm[3]. Similarly, managers' flexibility to invest in projects is also dependent on the amount of dividend that they can offer to shareholders as more dividends may mean fewer funds available for investment. Lenders may also have interest in the amount of dividend a firm declares, as more the dividend paid less would be the amount available for servicing and redemption of their claims. The dividend payments present an example of the classic agency situation as its impact is borne by various claimholders. Accordingly dividend policy can be used as a mechanism to reduce agency costs.The payment of dividends reduces the discretionary funds available to managers for perquisite consumption and investment opportunities and require managers to seek financing in capital markets. This monitoring by the external

[1] Brealey (1992) poses that dividend policy decisions as "what is the effect of a change in cash dividends, given the firm's capital budgeting and borrowing decisions?" In other words, he looks at the dividend policy in isolation and not as by products of other corporate financial decisions.
[2] Linter (1956) finds that firms pay regular and predictable dividends to investors where as the earnings of corporate firms could be erratic. This implies that shareholders prefer smoothened dividend income.
[3] Bernstein (1976) observes that given the 'concocted' earnings estimate provides by firms, the low dividend payout induces reinvestment risk and earnings risk for the investors.

capital markets may encourage the mangers to be more disciplined and act in owners' best interest.

Companies generally prefer a stable dividend payout ratio because the shareholders expect it and reveal a preference for it. Shareholders may want a stable rate of dividend payment for a variety of reasons. Risk averse shareholders would be willing to invest only in those companies which pay high current returns on shares. The class of investors, which includes pensioners and other small savers, are partly or fully dependent on dividend to meet their day-to-day needs. Similarly, educational institutions and charity firms prefer stable dividends, because they will not be able to carry on their current operations otherwise. Such investors would therefore, prefer companies, which pay a regular dividend every year. This clustering of stockholders in companies with dividend policies that match their preference is called clientele effect.

1.2 RELEVANCE OF THE STUDY

Previous empirical studies have focused mainly on developed economies The study undertaken looks at the issue from emerging markets perspective by focusing exclusively on Indian Information Technology, FMCG and Service sector respectively. The major objective of this research is to empirically examine rationale for stable dividend payments by finding the applicability of Lintner Model in Indian scenario. The present research work also seeks to examine and identify the relative importance of some of known determinants of dividend policy in Indian context. The research work also has made an endeavor to bring to light the influence of ownership groups of a company on dividend payout behavior of a firm. This research tries to unfold the relationship between the shareholders wealth and the dividend payout and analyse whether the dividend payout announcements affects the wealth of the shareholders.

Given the diversity in corporate objectives and environments, it is conceivable to have divergent dividend policies that are specific to firms, Industries, markets or regions. Through the research an attempt has been made to suggest how dividend policy can be set at micro level. Finance mangers would be able to examine how the various market frictions such as asymmetric information, agency costs, taxes, and transaction costs affect their firms, as well as their current claimholders, to arrive at reasonable dividend policies. Previous research studies have focused on dividend payment pattern and policies of developed markets, which may not hold true for emerging markets like India. In Indian Context, few studies have analysed the dividend behavior of corporate firms and focused on Indian cotton textile Industry and Manufacturing sector. However, it is still not apparent what the dividend payment pattern of firms in India is. Very few studies have analyzed the dividend behavior of corporate firms in the Indian context. To date, most studies have paid attention on influence of cash flows or earnings on the dividend payment of a firm.

Further, for the dividend policy makers of the Indian IT, FMCG & Service Industry, the study may prove to be useful for re-sketching their dividend policy keeping in view the analysis, results and discussions presented. Through the research one can have better

understanding of the factors that should systematically affect firms' payout decisions. It also gives insight into what kind of ownership structure is beneficial for the shareholders.

1.3 SHAREHOLDERS' VALUE CREATION AND ITS LINKAGE WITH DIVIDEND POLICY DECISIONS

It has been recognized by various research studies that a dividend policy could make significant impact on corporate future value when established and carefully followed. The goal of wealth maximisation is widely accepted goal of the business as it reconciles the varied,often conflicting ,interest of the stakeholders.

The interest in shareholders value is gaining momentum as a result of several recent developments:

- The threat of corporate takeovers by those seeking undervalued, under managed assets
- Impressive endorsements by corporate leaders who have adopted the approach
- The growing recognition that traditional accounting measures such as EPS and ROI are not reliably linked to the value of the company's shares
- Reporting of returns to shareholders along with other measures of performance in business press.
- A growing recognition that executives' longterm compensation needs to be more closely tied to returns to shareholders.

The "shareholders value approach" estimates the economic value of an investment (e.g shares of a company, strategies, mergers and acquisitions, capital expenditure) by discounting forecasted cash flows by the cost of capital. These cash flows, in turn, serve as the foundation for shareholder returns from dividends and share price appreciation.

A going concern must strive to enhance its cash generating ability. The ability of a company to distribute cash to its various constituencies depends on its ability to generate cash from operating its business and on its ability to obtain any additional funds needed from external sources. Debt and equity financing are two basic external sources. Borrowing power and the market value of the shares both depend on a company's cash generating ability. The market value of the shares directly impacts the second source of financing, that is, equity financing. For a given level of funds required, the higher the share price, the less dilution will be borne by current shareholders. Therefore, management's financial power to deal effectively with corporate claimants also comes from increasing the value of the shares. This increase in value of shares can be brought about by rewarding shareholder with returns from dividends and capital gains.

The most famous statement about the relationship between dividend policy and corporate value claimed that, in the presence of perfect markets, "given a firm's investment policy, the dividend payout policy it chooses to follow will affect neither the current price of its shares nor the total return to its shareholders" However, "market imperfections as differential tax rates, information asymmetries between insiders and outsiders, conflicts of

interest between managers and shareholders, transaction costs, flotation costs, and irrational investor behavior might make the dividend decision relevant"

The relevance of dividend policy to corporate value is due to market imperfections. Shareholders can receive the return on their investment either in the form of dividends or in the form of capital gains. Dividends constitute an almost immediate cash payment without requiring any selling of shares. On the contrary, capital gains or losses are defined as the difference between the sell and buy price of shares. Friction costs are one of the market imperfections and are further distinguished in transaction costs, floatation costs and taxes. Another market imperfection is that of information asymmetries between the insiders (e.g. managers) and the outsiders (e.g. investors). Agency conflicts, stemming from the different objectives of company's stakeholders, form the third market imperfection. Finally, there are some other issues that are related to dividend policy and cannot be placed among the previously mentioned imperfections.

2. REVIEW OF THE LITERATURE

The research aims at analysing information asymmetry, agent conflicts, signalling effect and corporate dividend policy determinants. This section on literature review is focussed on various models and theories that are relevant to our study.
The review of the literature is organised into various schools of thoughts on dividend policy which are discussed as follows:

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

In 1961, two noble laureates, Merton Miller and Franco Modigiliani (M&M) showed that under certain simplifying assumptions, a firms' 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. Thus, investors will not pay a premium for any particular dividend policy. [2]

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 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. The propositions rest on the following four assumptions:

1. Information is costless and available to everyone equally.
2. No distorting taxes exist
3. Flotation and transportation costs are non- existent

4. Non contracting or agency cost exists

2.2 DIVIDEND POLICY AND AGENCY PROBLEMS

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- manger 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 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 mangers 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.

La Porta, Lopez- de – Silannes , Shleifer , and Vishny (2000) [20], have argued that a legal environment provides strong protection to shareholders enables them to force companies to disgorge cash. The implication is that effective monitoring by shareholders in UK, where legal protection is strong, should be associated with higher dividend payments. Studies for the UK where empirical evidence on the relationship between dividends and ownership structures is rather limited show that there is a negative relationship between 'inside' ownership and dividends (Short ,Zhang and Keasey,2002, Renneboog and Trojanowski,2005, Farinha, 2003).However , evidence regarding financial institutions is not only limited but also contradictory: Short ,Zhang and Keasey report a positive relationship between dividends and shareholding by financial institutions while Renneboog and Trojanowski find a negative.

Some of the important Research studies on agency conflicts are Berle and Means (1932), Easterbrook analysis (1984), the Jensen & Meckling (1986) [18], Lang and Linzenberger (1989), Jensen, Solberg and Zorn (1992) Agrawal and Jayaraman (1994) [1], Yoon and Starks (1995), Denis, Denis, and Sarin (1997) Heaton (2002)

2.3 DIVIDEND POLICY AND ASYMMETRIC INFORMATION

In a symmetrically informed market, all interested participants have the same information about a firm, including mangers, 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 academics 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 signaling explanation as the first reason for dividend payouts.

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. Empirical studies in this area include Akerlof's (1970) Bhattacharya model (1979), John and Williams model (1985) Miller and Rock model (1985) Constantinides and Grundy (1989) John and Nachman (1986) Kale and Noe (1990), Allen . Bernado , and Welch (2000)

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. 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[6]. Other research studies which tested the dividend announcement effects include Aharony and Swary (1980) Ofer and Siegel (1987) [25] , Dyl and Weigand (1998)

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 (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))

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 have tested these implications of the information content of dividends which includes studies by Watts (1973) Gonedes (1978) . Charest (1978) Michaely , Thaler and Womack (1995) Benartzi, Michaely, and Thaler (1997) Grullon, Michaely and Swaminathan (2002Lipson, Maquieira, and Megginson (1998) Brook, Charlton, and Hendershott (1998) Nissim and Ziv (2001)

2.4 RESEARCH ON CORPORATE DIVIDEND POLICY DETERMINANTS

Black (1976) in his study concluded with the following question: " What should the corporation do about dividend policy? We don't know" .A number 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. Lintner (1956) conducted a classic study on how U.S. managers make dividend decisions. He developed a compact mathematical model based on survey of 28 well-established industrial U.S. firms which is considered to be a finance classic. According to him the current year earnings and previous year dividends influence the dividend payment pattern of a firm[22]. Fama and Babiak (1968) studied the determinants of dividend payments by individual firms during 1946-64 . The study concluded that net income seems to provide a better measure of dividend than either cash flows or net income and depreciation included as separate variables in the model. Baker, Farrelly and Edelman (1986) surveyed 318 New York stock exchange firms and concluded that the major determinants of dividend payments are anticipated level of future earnings and pattern of past dividends. 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 [28] .Baker and Powell (2000) concluded from their survey of NYSE-listed firms that dividend determinants are industry specific and anticipated level of future earnings is the major determinant. [9]

In other studies, Rozeff (1982), Lloyd *et. al.* (1985), and Colins *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[30]. 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[12]. Alli *et.al* (1993) reveal 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. The results however do not support the views of Miller and Modigliani (1961) [23]. 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.

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[16]. Rozeff (1982), Lloyd *et al.*(1985) and Collins *et al* .(1996) all show significantly negative relationship between historical sales growth and dividend payout.

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 Arnot 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. [5]

2.5 INDIAN SCENARIO

In Indian Context, a few studies have analyzed the dividend behavior of corporate firms. Krishnamurty and Sastry (1971) analyzed dividend behaviour of Indian chemical industry for the period 1962-67 and undertook crossectional data of 40 Public Limited companies. The results revealed that Lintner model provides good explanation of dividend behavior.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. Mahapatra and Sahu (1993) found cash flows as a major determinant of dividend followed by net earnings[35]. Bhat and Pandey (1994) undertook a survey of managers' perceptions of dividend decisions and found that mangers perceive current earnings as the most significant factor. 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[32]. 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[36].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[26][33].

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. [41]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 [40] 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 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.[42]

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.

3. RESEARCH OBJECTIVES:

The study is focussed on achievement of following four objectives:

1. To empirically examine the determinants of dividend smoothing by firms and find out its linkage with information content of dividends.

2. To analyze the influence of firms' characteristics like profitability, growth, risk, cash flows, agency cost and on dividend payment pattern. i.e. to identify various determinants of dividend payout.

3. To investigate the association between various ownership groups and dividend payout policies of Indian corporate firms.

4. To find the impact of dividend announcement on shareholders' wealth

4. RESEARCH METHODOLOGY

In this section a brief overview of various dimensions of the research, tools and techniques and methods used to achieve various research objectives has been discussed.

4.1 THE DATA AND SAMPLE

The study is focused on three sectors IT, FMCG and Service sector.

IT sector

IT sector has been chosen for study because it is a sunshine sector of India. It currently accounts for almost 4.8% of India's GDP. It will account for 7% of India's GDP by 2010.The dividend payment pattern of IT companies have changed leaps and bounds over past few years. They were at the bottom of the charts in terms of dividend payout in 2000 and but after 2004 there was a sudden spurt in their dividend payout. To the best of our knowledge, so far no study has been undertaken in India to empirically test the above stated four research objectives in the Indian IT sector. Therefore, this sector has been chosen for study.

FMCG

FMCGs (Fast Moving Consumer Goods) are those goods and products, which are non-durable, mass consumption products, available off the shelf. FMCG industry has been chosen for study because it has played a major role in the Indian economy during the last few years and it is registering an uptrend in growth. FMCG stocks are known as "dividend yield" stocks. FMCG companies are consistent dividend payers. So it would be an interesting exercise to study the dividend payment pattern of FMCG companies.

SERVICE SECTOR

Indian service sector comprises of trade hotels, transport, communication, IT and software, banking and insurance etc. Till 2002 service sector was ignored in India and the main emphasis was on manufacturing and agricultural sector. It was only after 2002 that service sector started growing at a healthy rate of 8-10%. Today it is the highest contributor to the GDP of our economy.

THE DATA

The research is analytical and empirical in nature and makes use of secondary data. The data has been sourced from Prowess database of Centre for Monitoring Indian Economy (CMIE). The sample period undertaken for study of each objective is from the year 2000 to 2008 except for the third objective, which is from the year 2001 to 2008 due to nonavailability of data for the year 2000. The data has been taken after 2000 because of definitional change in the shareholding pattern.

The data used for achieving each objective was made suitable for analysis as per the methodology. Thus, the data collected from Prowess database has been complied and used with due care and caution as per the requirement of the study. The analysis has been carried out on both panel and pooled data depending on the requirements of the techniques used for analysis.

The analysis of first and third research objective has been carried out on panel data as panel data overcomes the various shortcomings of purely cross sectional or time series data.

THE SAMPLE

The sectoral analysis has been done by taking sample of companies, which are the constituents of CNX IT, CNX FMCG and CNX Service Sector respectively.

In order to have a good benchmark of the Indian IT sector, IISL (India Index services and Product Ltd.) has developed the CNX IT sector index. IISL is a joint venture between NSE and credit rating agency CRISIL Ltd. The sample selected for study consists of all the companies, which are constituents of CNX IT index of NSE.

Akin to CNX IT index, IISL (Indian Index Services and Products Ltd.) has developed the CNX FMCG sector index. The CNX FMCG Index is a 15 stock Index from the FMCG sector that trade on the National Stock Exchange.

In the similar manner to do analysis of research objectives in service sector, all the companies, which are constituent of CNX service sector Index, have been undertaken. CNX service sector index is a 29 stock index developed by IISL.

The list of the sample companies for each of the sector has been appended to the annexure (Annexure I)

4.2 MODELS AND TECHNIQUES

For the conduct of the study various models have been developed and used. This section discusses these models and various tools and techniques used to carry out the research.

4.2.1 LINTNER MODEL

Lintner (1956) developed a model to study the determinants of the dividend behavior of American corporations assuming that the dividend payout is a function of net current earnings after tax (PAT) and dividend paid during the previous year i.e. lagged dividend (Div_{t-1}). Companies decide to payout a fixed proportion of their net profits as dividend to common stockholders; but in view of their well known preference for stable dividends may try to achieve the target level only by a fraction of the amount indicated by the target payout ratio whenever profit changes. The above theoretical formulation of Lintner has been used as an estimating equation for corporate dividend in the present study, which is as follows-

$D^*_{it} = \alpha_i E_{it}$ ……(1)

$D_{it} - D_{i(t-1)} = a_i + C_i\{D^*_{it} - D_{i(t-1)}\} + u_{it}$……(2)
Where,
D^*_{it}= desired dividend payment during period't'
D_{it}= Actual dividend payment during period't'
α_i= Target payout ratio
E_{it} = Earnings of firm during period't'
a_i= a constant related to dividend growth
C_i= partial adjustment factor
u_{it}= error term

$D_{it} - D_{i(t-1)} = a_i + C_i\{\alpha_i E_{it} - D_{i(t-1)}\} + u_{it}$ ……(3)
$D_{it} = a + \alpha_i C_i E_{it} + (1-C_i) D_{i(t-1)} + u_{it}$ ……...(4)

This model can further be simplified in the form of a multiple regression equation
$D_t = a + \alpha_i E_{it} + C_i D_{(t-1)} + u_{it}$ .....(5)

To understand the relationship between dividend and earnings (PAT) a Multiple linear regression analysis was carried out in respect of companies which are constituent of CNX IT index, CNX FMCG Index and CNX Service sector Index respectively, for panel data of 9 years i.e. from 2000 to 2008.Fixed effect (one way) static panel data analysis has been carried.

LINTNER MODEL USED:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + u_{it} + \varepsilon_{it}$ …… ……(6)
Where,
Y= dependent variable (equity dividend in Rs. crore during period t)
X_1= independent variable (PAT) in Rs. Crore
α = Constant
β_1= regression coefficient of PAT (target payout ratio)
X_2= Equity dividend during period t-1
β_2= regression coefficient of dividend during period t-1 i.e. (1-c) and c is the adjustment factor.
u_{it} = firm specific components
ε_{it} = disturbance term

Therefore,
Target payout ratio* adjustment factor = $\boldsymbol{\beta_1}$
$\alpha i * Ci = \boldsymbol{\beta_1}$
$\alpha i*(1-\boldsymbol{\beta_2}) = \boldsymbol{\beta_1}$
This implies α_I = target payout ratio = $\boldsymbol{\beta_1/(1-\beta_2)}$
Speed of adjustment factor=$\boldsymbol{(1-\beta_2)}$

Thus ,the regression results forms the basis of testing the applicability of Lintner model which is a finance classic in each of the sectors.

4.2.2. FACTOR ANALYSIS

To know the key determinants of corporate dividend payout ratios for Indian Information Technology, FMCG and Service sectors factor analysis is used. On the basis of literature review, the following key variables have been identified that influence the dividend payout ratio of the firm.

Y= Equity dividend (in crores),X_1=PAT (in Rs crore),X_2=Lagged dividend (Rs. crore),X_3=Current ratio of firm 'i' during period't', X_4=Debt equity ratio of firm 'i' during period't',X_5= Quick ratio of firm 'i' during period't',X_6= Annual sales growth of firm 'i' during period't',X_7= Natural log National Stock Exchange adjusted average closing stock prices of the firm 'i' during period 't', X_8= Cashflows of firm 'i' during period 't',X_9= Retained profits of the firm 'i' during period't',X_{10}= Capital expenditure or Gross fixed assets (t-(t-1)),X_{11}= Nifty beta of firm 'i' during period't',X_{12}=Market capitalisation of firm 'i' during period 't',X_{13}=Price earning ratio of firm 'i' during period 't',X_{14}=Price to book value ratio of firm 'i' during period't',X_{15}= Promoter holding of firm 'i' during period't',X_{16}= Natural Log of Total assets of firm 'i' during period't',X_{17}= Interest coverage ratio of firm 'i' during period't',X_{18}= RONW of the firm 'i' during period 't', X_{19}= ROE of firm 'i' during period 't',X_{20}=Lagged PAT (in Rs crore), X_{21}= Standard deviation of earnings per share

The statistical techniques of Principal Component Factor analysis and regression analysis were used to explore the relationship between these variables. Since the variables identified as per the available literature were not on same scale. Therefore all the variables were standardised and converted to same scale. The final analysis was carried by reckoning the following key variables.

Y= dividend payout ratio
X_1=PAT to assets ratio[4]
X_2=Lagged dividend ratio
X_3=Current ratio of firm 'i' during period't'
X_4=Debt equity ratio of firm 'i' during period't'
X_5= Quick ratio of firm 'i' during period't'
X_6= Annual sales growth of firm 'i' during period't'[5]
X_7= Natural log National Stock Exchange adjusted average closing stock prices of the firm 'i' during period 't'
X_8= Cashflows ratio of firm 'i' during period 't' [6]

[4] In FMCG and Service sector respectively PAT has been expressed as % of total assets. At the same time to obtain better results total assets was substituted by gross fixed assets in IT sector
[5] In case of constituent companies of CNX Service sector the annual sales growth was replaced with growth in revenue as majority of the constituents of this Index are banks where sales growth figure is not available
[6] In case IT and FMCG sector cashflows have been expressed as a percentage of Netsales.However, in case of Service sector cashflows ratio has been computed by expressing cashflow as a% of PBIT

X_9= Retained ratio of the firm 'i' during period't'
X_{10}= Capital expenditure or Gross fixed assets (t-(t-1)) to fixed asset ratio
X_{11}= Nifty beta of firm 'i' during period't'
X_{12}=Natural log of Market capitalisation of firm 'i' during period 't'
X_{13}=Price earning ratio of firm 'i' during period 't'
X_{14}=Price to book value ratio of firm 'i' during period 't'
X_{15}= Promoter holding of firm 'i' during period 't'
X_{16}= Log of Total assets of firm 'i' during period 't'
X_{17}= Interest coverage ratio of firm 'i' during period 't'
X_{18}= RONW of the firm 'i' during period 't'
X_{19}= ROE of firm 'i' during period 't'
X_{20}=Lagged PAT to lagged assets ratio (in Rs crore)[7]
X_{21}= Standard deviation of earning per share

A two step multivariate procedure is employed where the data are first subjected to a factor analysis and then multiple regression is performed on extracted factors. [8] In the first step, a set of dimensions (unobservable attributes) were measured by relating them to observable proxy variables using factor analysis.[13] In the second step, the relationship between equity dividend and dimensions obtained from first step was estimated using regression analysis. The equity dividend payout ratio (Y) is the dependent variable and other variables

$(X_1,X_2,X_3,X_4,X_5,X_6,X_7,X_8,X_9,X_{10},X_{11},X_{12},X_{13},X_{14},X_{15},X_{16},X_{17},X_{18},X_{19},X_{20},X_{21},X_{22})$ are taken as independent variables.

The first model can be expressed as

$$X=BT+E \quad \ldots\ldots(7)$$

Where X is a matrix of independent variables, T is a vector of unobservable factors; B is the vector of error terms.
The regression model for second step is shown in equation (8)

$$DPR = \alpha_0 + \sum_{i=1 \text{ to } n} \alpha_i \gamma i + \mu \quad \ldots\ldots(8)$$

Where,
γi represents factor i , α_i its regression coefficient ,α_0 is the intercept , and μ is the error term.
The Scree plot method has also been used.

4.2.3 QUADRATIC POLYNOMIAL REGRESSION ANALYSIS USING PANEL DATA

[7] The results in IT sector are reported by expressing lagged PAT as a% of gross fixed assets.
[8] Dillion and Golstein ,1984) Alli L. Kasin, Khan Qayyum,Ramirez G. Gabriel , Determinants of Corporate Dividend Policy : A factorial Analysis, The Financial Review , Vol.28No.4 , November 1993

Apart from the above determinants of corporate dividend policy, influence of ownership groups on dividend payout has also been reported by the previous studies. The key ownership variables that can affect Dividend Payout (DP ratio) are as follows:

- Promoter holding (Percentage of equity shares held by promoters i.e. persons in overall control of the company)
- Institutional holding (Aggregate percentage of equity shares held by Insurance companies, Mutual funds, Financial Institutions, banks, Venture capital funds).
- Foreign institutional investment (Percentage of equity shares held by companies registered in country other than the country in which they are currently investing)
- Corporate holding(Percentage of equity shares held by corporate bodies.)
- Debt equity ratio (Ratio of total debt to equity capital, measure of leverage. It is used to address debt holders and shareholders conflicts)

The basic reason of using a quadratic polynomial regression is that the relationship is supposed to have only one knot i.e. increasing effect up to the threshold and decreasing thereafter or vice versa. Previous studies have hypothesised that the ownership control would have non-linear relationship i.e. positive up to a threshold level and negative thereafter due to shift in priorities and benefits to owners.

For the analysis the square of the variables namely, $(\text{promoters})^2$; $(\text{institutional})^2$, $(\text{foreign})^2$ and $(\text{corporate})^2$ to examine the presence of non-linearity in ownership effect after a certain threshold has been included. The squared percentages have been taken in the model to test for the hypothesized parabolic relation between dividend payout and ownership groups. A negative coefficient for ownership variables and a positive coefficient for squared ownership variables support the postulated relation. Equation 9 and 10 shows the model developed for analysing the third research objective. The technique of quadratic polynomial regression analysis has been used for data analysis.

LINEAR MODEL:

$$\text{Dividend payout}_{it}=\alpha i+\beta_1 X_{1it}+\beta_2 X_{2it}+\beta_3 X_{3it}+\beta_4 X_{4it}+\beta_5 X_{5it}+u_{it}+\lambda_{it}+\varepsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots (9)$$

Y= Dividend payout ratio of firm 'i'during time period 't'
X_{1it}= Promoter holding of firm 'i'during time period 't'
X_{2it}= Institutional holding of the firm 'i'during time period 't'
X_{3it}= Corporate holding of the firm 'i'during time period 't'
X_{4it}= Foreign institutional holding of the firm 'i'during time period 't'
X_{5it}= Debt Equity ratio of firm 'i'during time period 't'

QUADRATIC POLYNOMIAL MODEL

$$\text{Dividend payout}_{it} = \alpha i + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_{6it} X_{6it} + \beta_7 X_{7it} + \beta_8 X_{8it} + \beta_9 X_{9it} + u_{it} + \lambda_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots (10)$$

Where ,
u_{it} = firm specific components, λ_{it} = time specific components , ε_{it} = disturbance term

Y= dividend payout ratio of firm 'i'during time period 't'
X_{1it}= Promoter holding of firm 'i'during time period 't'
X_{2it}= Institutional holding of the firm 'i'during time period 't'
X_{3it}= Corporate holding of the firm 'i'during time period 't'
X_{4it}= Foreign institutional holding of the firm 'i'during time period 't'
X_{5it}= Debt Equity ratio of firm 'i'during time period 't'
X_{6it} =Square of promoter holding of firm 'i'during time period 't'
X_{7it} = Square of Institutional holding of the firm 'i'during time period 't'
X_{8it} = Square of Corporate holding of the firm 'i'during time period 't'
X_{9it} = Square of foreign institutional holding of the firm 'i'during time period 't'

If the coefficients are assumed to be fixed then the coefficients are estimated by dummy variable models. This estimation approach is known as fixed effect approach which yields consistent estimates regardless of correlation between firm specific error component and regressors. If the dummy variables are taken for the firms only then the model is called one way fixed effect model, and if taken both for firm and time then the model is known as Two way fixed effect model [37]

The results were obtained by estimating the above –mentioned static panel models, F –test (Moulto and Randolph, 1989), Langrange Multiplier (LM) test (Breusch and Pagan ,1980) ,and Hausman specification test (Hausman ,1978).It was necessary to carry out these tests to know the significance of the firm and time effects in the data sets, and to find out a appropriate panel data method for estimation of the model.

The Lagrange Multiplier (LM) test shows the acceptability of panel data models over classical regression models. Langrange Multiplier test statistics indicate that either the fixed effect firm and firm and models or the random effect firm and firm and time models are to preferred to Classical Linear Regression model. [36]High values of Hausman statistics indicate the use of fixed effect models over Random Effect models and the low value of Hausman statistics induces to use the Random effect models. The F test and Likelihood Ratio(LR)test results show that both the firm and time effects are present in the data.

4.2.4. EVENT STUDY

To analyse the impact of dividend announcements on shareholders' wealth in the selected sectors in India Event study[9] approach has been used. The following steps were followed to perform event study.

- The first step was to find out the dividend announcement dates in each of the sector respectively from 2001 to 2008.Consequently 168 dividend announcements dates were obtained in IT sector and 199 and 202 dates in the FMCG and service sector respectively.
- Estimation window of 150 days was chosen based on literature survey.

[9] This section has been taken from 'A beginner's guide to event studies'by William H. Wells

- The event window of 20 days before the event and 20 days after the event i.e. 41 days has been taken
- For calculating expected returns as per Market model daily adjusted closing prices were taken
- Cumulative abnormal returns were calculated with the help of average abnormal returns to see the reaction over a period of time
- Finally, t statistics were calculated to cross –sectionally by using standard deviation of abnormal returns.
-

To estimate the stock price response to dividend announcements, Returns (R_{it}) which is the time t return on security 'i' were calculated as $(P_{it} - P_{it-1})/P_{it-1}$ where P_{it} is the adjusted closing price of the stock 'i'on day t .P_{it-1} is the adjusted closing price of stock i on day t-1

$R_{it} = (P_{it} - P_{it-1})/P_{it-1}$ ……(11)

Similarly returns on Market Index were calculated using the following formulae:

$R_{mt} = (I_t - I_{t-1})/I_{t-1}$ ……(12)

Then, abnormal returns were calculated for each of the days in the event window according to the equation:

$AR_{it} = R_{it} - E(R_{i,t})$, t=(-20,-19……20),……..(13)

The expected return is estimated by employing the market model[11]. The market model parameters were estimated prior to the event window. In the present study an estimation window of 150days have been used.
$E(R_{it}) = a + bi\ R_{m,t} + e_{i,t}$……...(14)

Where, $R_{m,t}$ is the return on the market portfolio on day 't' proxied by specific sector indices[10] , $e_{i,t}$ is the random error term and a_i and b_i are the market model parameters.

The abnormal returns may be positive or negative as per the response of investors to the occurrence of event (In this case dividend announcement). For this one has to apply as many regressions as the numbers of dividend announcement dates are.

The ARs are then averaged across the sample of firms according to the formula:
$AARs = Avg(AR_t) = (1/N)\ AR_{it}$ …….(15)
Where,
N is the number of sample observations.

[10] Note that CNX IT index has been taken as proxy for market index in IT sector while in FMC G and Service sector, the proxies used are BSE FMCG and NIFTY 50 repectively.BSE FMCG and NIFTY 50 Index have been taken because the values of CNX FMCG and CNX Service sector are not reported by NSE.

Thus, the abnormal returns were averaged by dividing it by the number of days to find out daily average abnormal returns. The process was repeated for all the dates and finally average cumulative abnormal returns were obtained. This is the second measure (CAR), it measures the investors' total return over a period starting from before the announcement of dividend to after the dividend announcement day. The cumulative abnormal returns from day t_1 through t_2 ,CAR_t , are :[39]

$CAAR_t = \sum$ Avg (ARt) where $t = t_1$ to t_2 ……..(16)

CAAR may be positive or negative. If CAAR is negative in periods after dividend announcements, this suggests dividend announcements do not carry information about future earnings and cash flows of the companies. A positive CAR indicates distribution of dividend adds to shareholders' value by conveying good news to the market. We use a 41 day event window period starting from –20 to +20 day relative to the dividend announcement day (0 day) .For the purpose of analysis both interim and final dividend announcements has been taken.

To compute the *t*-statistic, first, all abnormal returns are standardized as:

$SAR_{it} = AR_{it} / Si\ (AR)$……(17)

where ,Si (AR) is the standard deviation of the abnormal returns of stock '*i*' in the estimation period. The *t*-statistic for the sample of *N* observations for each day '*t*' in the event window is calculated as:

$t(SAR) = (\sum_{i=1 \text{ to } N} SAR_{it}) .1/\sqrt{N}$ ……(18)

5 ANALYSIS AND FINDINGS[11]

5.1. LINTNER MODEL IN IT SECTOR

The regression results (refer to Annexure 2) of one way Fixed effect model shows that divided paid during previous year is significant at 5% level of significance. The Adjusted R square is 80%.F statistics is significant at 5% level of significance showing overall validity of the model.The results highlight that there is Low dividend smoothing in this sector as it is characterized by high target payout ratio and high speed of adjustment coefficient.

5.2. LINTNER MODEL IN FMCG SECTOR

The regression results (refer to Annexure 2) show that PAT and dividend paid during previous year are significant at 5% level of significance. The value of Adjusted R square is 95%. The F statistics are also significant at 95% confidence interval showing the overall validity of the model in the FMCG sector. Target payout is high but speed of adjustment factor is between the range suggested by Lintner(1956).Therefore, it can be said that in this sector dividend signaling and smoothing effects are present.

[11] It may be noted that LM test results show that Classical linear regression model could also be used

5.3 LINTNER MODEL IN SERVICE SECTOR

Dividend paid during the previous year and PAT both (refer to Annexure 2) are found to be significant at 5% level of significance. The value of adjusted R Square is 76.18% The overall validity of the model has been found out with the help of F statistics.
The findings show very high target payout ratio of 315% combined with high adjustment coefficient of .5278265 indicates absence of dividend signaling and smoothing effects.

6. FACTOR ANALYSIS AND REGRESSION RESULTS ON EXTRACTED FACTORS

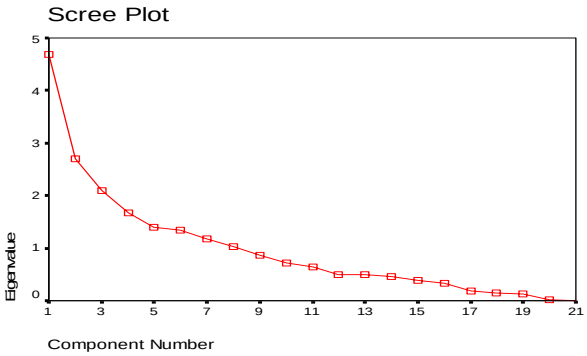
6.1. ANALYSIS OF IT SECTOR

Table 2.1. (refer to Annexure 3) shows Kaiser-Meyer-Olkin Measure of Sampling Adequacy values .It is measure that judges the sampling adequacy. The value obtained is .560 which ensures the sample size is adequate to apply Factor Analysis.

6.1.1 FACTOR EXTRACTION

Principal Component Analysis method was used to extract the factors. The Table 2.2 (refer to annexure 3) shows the factor pattern matrix, which highlights variance exhibited by extracted factors Generally, the identification of the factors is determined by the factor loadings, and the relationship of the factor with the variable is based on the signs of factor loadings. A factor loading is simply the correlation of an original variable with factor. As suggested by Dillion and Goldstein, variables with factor loadings greater than absolute value of 0.30 or more are considered significant and, thus, used in labelling of factors. As shown in the factor pattern matrix a set of 8 factors have been been extracted. These factors have been labelled as Factor of dividend signaling and promoter holding, Factor of liquidity ratios, Factor of longterm solvency, Factor of financial and systematic risk, Factor of firm size, Factor of retained earnings and dividend stability, Factor of growth and expansion and Factor of valuation and capital market ratios.

FIGURE 1: SCREE PLOT



An elbow in the scree plot indicates the point at which the inclusion of additional factors does not contribute significantly in explaining the variance in data set. Factors above the elbow of the plot are retained. The Scree plot shown above has an elbow at Factor 8.Therefore a set of 8 Factors were chosen which accounts for about 77% of the variations in the data.

6.1.2 REGRESSION RESULTS ON EXTRACTED FACTORS

The Table 2.3(refer annexure 3) shows the regression results on extracted factors. Factors 3, 4,5,6 and 8 have expected signs. Out of these factors only two factors i.e. Factor 6 and 8 have regression coefficients, which are statistically significant at 5% level of significance. Both factor 1 and 2 have exactly opposite signs of regression coefficients compared to what was expected based on previous research studies. The value of Adjusted R^2 is 0.757 The F values are also significant at 5% level of significance.

6.1.3. FINDINGS

A set of 8 factors has been extracted through the technique of Principal Component analysis. The regression results show that Factor of dividend signaling and ownership, liquidity ratios are significantly negatively related with DP ratio. Also a positive significant relationship exists between RE earnings and DP ratio. This shows that in IT sector capital gains are preferred are cash dividends. The information environment is highly symmetrical. Therefore, cash dividends are not used to signal their profitability to shareholders'.

6.2 ANALYSIS OF FMCG SECTOR

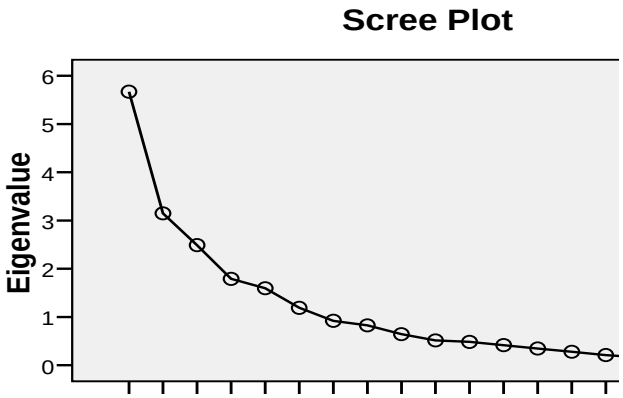
The first step was to calculate KMO. The value obtained is .690 which ensures the sample size is ample to apply Factor Analysis (refer to Table 2.4 in annexure 3 for test values)

6.2.1 FACTOR EXTRACTION

The Table 2.5 in annexure 3 shows the factor pattern matrix, which highlights variance exhibited by extracted factors. It also depicts the loadings of each variable on a given factor. The extracted factors has been labelled as Factor of Dividend signalling and

smoothing, Factor of cash flow quality and firm size, Factor of future expansion and growth, Factor of ownership and liquidity, Factor of earning variability and systematic risk, Factor of longterm solvency and financial leverage.

FIGURE 2: SCREE PLOT



As discussed, Factors above the elbow of the plot are retained. The Scree plot shown above has an elbow at Factor 6.Therefore a set of 6 Factors were chosen which accounts for about 76% of the variations in the data.

6.2.2 REGRESSION RESULTS OF EXTRACTED FACTORS

Table 2.6 (refer to annexure 3) shows Factors 1,2,3 and 6 have expected signs. Out of these factors only one factor i.e. Factor 2 has regression coefficient, which is statistically insignificant at 5% level of significance. Factor 4 and 5 have exactly opposite signs of regression coefficients compared to what was expected based on previous research studies. The value of Adjusted R^2 is 0.632. F statistics are significant at 5% level of significance.

6.2.3 FINDINGS

Out of six extracted factors 5 were found to be significantly related to DP ratio.A Positive and significant relationship between factor of systematic risk, Dividend signaling and smoothing,Longterm solvency and financial leverage. Negative and significant relationship has been found between Factor of liquidity and ownership and Factor of growth and expansion. This implies that if the systematic risk increases these firms increase their dividend payout. The agency conflicts are not so grave since FMCG firms operate with low levels of debt. Higher the growth opportunities available to a firm lower will be the dividend payout ratio in the FMCG sector.

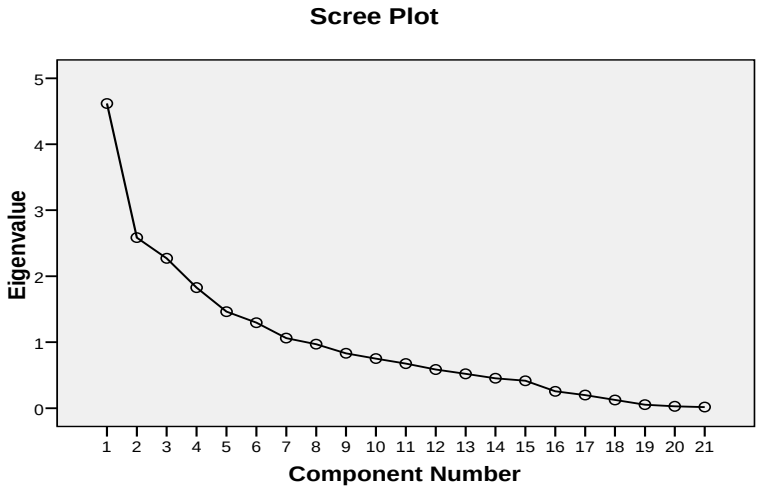
6.3. ANALYSIS OF SERVICE SECTOR

As done in the other sectors the first step was to calculate KMO. It is a measure that judges the sampling adequacy. The value obtained is .506 which ensures the sample size is sufficient to apply Factor Analysis.(refer to table 2.7 in annexure 3) Bartlett test of spherecity is the statistical test for overall significance of all correlations with in a correlation matrix. It also judges the appropriateness of factor analysis.

6.3.1 FACTOR EXTRACTION

The table 2.8(refer to annexure 3) shows the variance exhibited by extracted factors. It shows that the first factor accounts for highest amount of variance, the second factor accounts for second highest and so on.The principal components analysis using 'varimax rotation method' of correlation matrix of the 22 variables have led to the extraction of seven broad components of dividend policy of the corporate India. These factors accounted for 20%,12%,10%,10%,7%,7% and 5% of the total variance explained, respectively. Accordingly, these factors have been labeled as Factor of dividend signaling and profitability, Factor of liquidity ratios and systematic risk, Factor of firm size, Factor of agency conflicts and ownership, Factor of cash flow quality and dividend stability, Factor of growth and expansion and Factor of longterm solvency.

FIGURE 3: SCREE PLOT



An elbow in the scree plot indicates the point at which the inclusion of additional factors does not contribute significantly in explaining the variance in data set. Factors above the elbow of the plot are taken. The procedure involves certain amount of subjectivity, if no clear elbow appears in the curve. The Scree plot shown below shows a clear elbow at Factor 7. These seven factors account for about 72% of the variations in the data. Consequently these seven Factors are retained in the analysis

6.3.2 REGRESSION RESULTS OF EXTRACTED FACTORS

The regression results are highlighted in the Table 2.9(refer to the annexure 3). Out of 7 factors 6 factors have statistically significant regression coefficients. Only one Factor i.e.Factor of dividend signaling and profitability has statistically insignificant regression coefficient at 5% significance level. Factor 3 and 5 have exactly opposite signs as established by previous research studies. The value of Adjusted R^2 is .657 which indicates that these factor combined together explain 66% of the dividend payout pattern of Indian Service sector. The F values are also found to be significant at 5% level of significance.

6.3.3 FINDINGS

A set of 6 factors out of 7 are found to be significantly related to DP ratio. This shows that capital gains are preferred to cash dividends. The regression results have indicated a negative and significant relationship between DP ratio and Factor of liquidity, firm size, growth & expansion. However, the Factor of long-term solvency is significantly positively related. Thus It can be said, Smaller firms tend to pay more dividends in order to allure shareholders' and compensate them for risk involved [24]. Firms in Service sector prefer to retain funds whenever any future investment opportunity is foreseen for further growth and expansion.

7. QUADRATIC POLYNOMIAL REGRESSION ANALYSIS AND FINDINGS

7.1 ANALYSIS OF IT SECTOR

Tables 3.1 and 3.2(refer to annexure 4) show the hypothesis testing results of the different models. Table3.1 show that the null hypothesis $H_0 1$; $\sigma_\mu 2 = 0$ and $H_0 2$; $\sigma_\mu 2 = \sigma_\lambda 2 = 0$ are rejected. The F- test results show that both firm and time effects are present in the data.Langrange Multiplier test statistics presented in the Table 3.2 indicate that either the fixed effect firm and firm and time models or the random effects firm and firm and time models are to be preferred to Classical Linear regression model.Hausman specification test results presented in this Table3.2 conclude to prefer random effect model to fixed effect model. But we restrict our interpretation to fixed effect firm and time models (two way).

Table 3.3(refer to annexure 4) depicts the results from Fixed effect firm Model estimation assuming non-monotonic relationship between regressors and regressand. Table 3.4(refer to annexure 4) shows regression results of Fixed effect two way model. Model represented in Table 3.4 assumes linear relationship between DP ratio and ownership variables. and Table 3.5(refer to annexure 4) depicts the Fixed Effect firm and time effects results of quadratic polynomial model.

In Model I none of the variable is found to be significant at 5% and 10% respectively. F statistics also show that this model does not fit well in IT sector in India. In Model II only debt equity and time effects are found to be significant. The regression coefficient of debt equity ratio is positive at 10% level of significance. This implies that conflicts of interest do not exist between debt holders and shareholders and they do not consider dividend payment a way to expropriate their value.

A panel data quadratic polynomial regression analysis increased the value of Adjusted R square to 31% from 18% in Model III. However none of the regression coefficient is significant at 5% level of significance. The regression coefficients of Institutional holding are –81.30 in level and 2.434747 in square. These coefficients are significant for confidence interval of 90%.This implies a non monotonic (inverted U shaped) relationship between Institutional holding and dividend payout of IT firms in India. For 10% level of significance the regression coefficient of debt equity ratio is also found to be positive and significant. The F values are also significant at 5% level of significance (refer to annexure 4)

Thus the results show that relationship between institutional ownership and dividends is non-linear. When institutional ownership is low, an increase in ownership percentage tends to reduce agency costs. At the margin, as agency costs falls, cash dividends become less desirable as a tool for further reducing agency costs, and thus dividends tend to decrease. At, high levels of institutional ownership agency costs tend to rise with further increases in ownership percentage and the increased scrutiny placed on the firm by higher dividends become necessary .Thus ,dividends are expected to decrease over range of Institutional ownership, and increase after the point of entrenchment indicating a parabolic relation.

7.2 ANALYSIS OF FMCG SECTOR

The technique of panel fixed effect firm and time model has been applied for analysis. F Test results indicate the presence of firm and time effects. Table 3.9(refer to annexure 4) depicts the results from Fixed effect firm Model estimation assuming an inverted U shaped relationship between regressors and regressand. Table 3.9 shows regression results of FE firm and time estimations assuming linear relationship between DP ratio and ownership variables and Table 3.10 depicts the Fixed Effect firm and time effects results of quadratic polynomial model.Hausman Test shows random effect model should be preferred to fixed effect firm and time model. Therefore Table 3.11 reports One-way random group effect model using Generalised Least square Model.

The FGLS estimates show that corporate holding is only the significant ownership determinant of DP ratio. A significant negative relationship has been observed between corporate holding and dividend payout ratio. The results of Model I shows promoter holding have a positive relationship with dividend payout in level and negative in square. This implies at lower level of promoter holding, Dividend payments are high but gradually as their holding increases they prefer lesser dividend distribution. Finally according to the results of Model III corporate holding has negative significant relationship with DP ratio in level and promoter holding has negative statistically significant relationship with Dividend

payout in square. However we do not consider the results of Model III in data interpretation as Hausman test suggests use of Random effect Model over this model. Thus, it can be stated there is no significant influence of ownership pattern on dividend payout ratio in the FMCG sector.

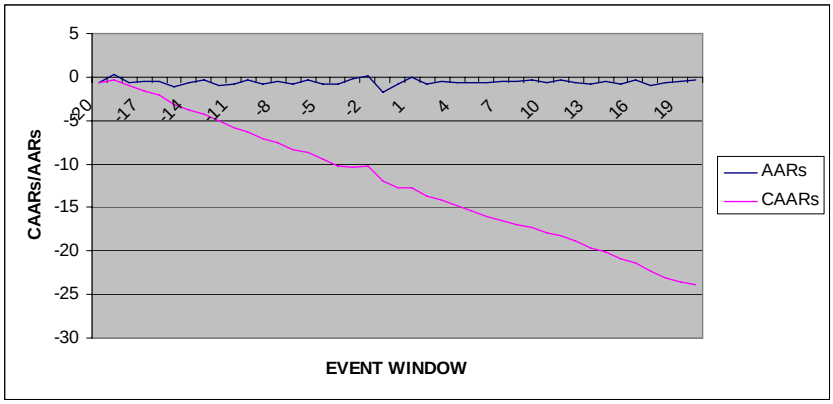
7.3 ANALYSIS OF SERVICE SECTOR

Table3.14 (refer to annexure 4) depicts the results from Fixed effect firm Model estimation assuming non-monotonic relationship between regressors and regressand. Table3.15 potrays regression results of Fixed effect two-way model assuming linear relationship between dependent and independent variables. Table 3.16 depicts the FE firm and time effects results of quadratic polynomial regression model.
Hausman test results show that Fixed effect firm and time model is preferred to random effect model. Model I (Table 3.14) and II (Table 3.15) do not fit well as F values are not significant. Also the results presented in these two models are corroborated by the results of Fixed effect firm and time model estimations. The results of Model III (Table 3.1) show FII negative relationship in level. None of the other ownership variable is significant at 5% and 10% level of significance.
Thus , it can be said that in Service sector Linear relationship holds well.FII holding , corporate holding and promoter holding are inversely related to DP ratio

8. EVENT STUDY: ANALYSIS AND FINDINGS

8.1 IT SECTOR

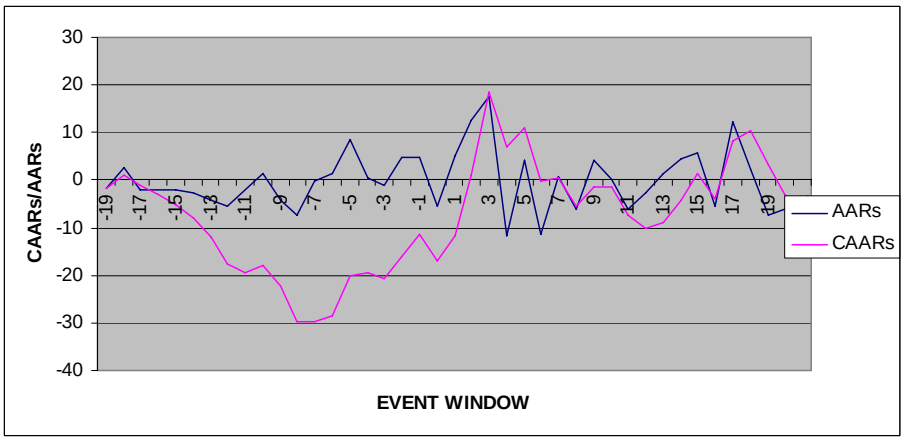
FIGURE 4.:Average abnormal and CAARs of 20 IT companies over a window period starting from day –20 to day +20 relative to dividend announcement day (0- day)



The results show that abnormal returns are negative during the entire window period except for the dividend announcement day. Though small positive abnormal returns are generated on dividend announcement but they are not statistically significant at 10 %. This shows that dividend announcements do not contain signaling effect in this sector. Other reason may be that investors prefer other modes of dividend distribution to cash dividends.

8.2. EVENT STUDY OF FMCG SECTOR

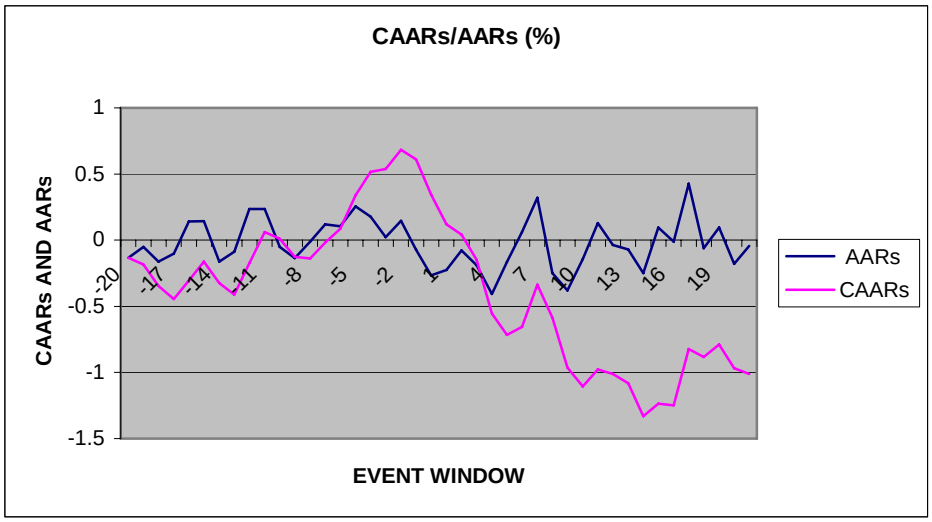
FIGURE 5 : AARs and CAARs of 15 FMCG companies over a window period starting from day –20 to day +20 relative to dividend announcement day (0- day)



Huge abnormal returns are created 3 days post dividend announcement and sustained till 18th day(refer annexure 5) in the event window with minor fluctuations. Positive Abnormal returns are also witnessed 3 days before dividend announcements.

8.3 EVENT STUDY OF SERVICE SECTOR

FIGURE 6 :AARs and CAARs of Service companies over a window period starting from day –20 to day +20 relative to dividend announcement day (0- day)



Abnormal returns are generated prior to dividend announcements but are not sustained as CAARs start falling. Positive abnormal returns occur from 7th till 2nd day pre dividend announcement as shown in Table4.3(results appended to Annexure5)

9. CONCLUSION

This study has tested empirically the agency cost theory, Lintner model, dividend signaling and smoothing effects using a framework of various econometric models.

Out of the chosen sectors Lintner model fits well in the FMCG sector signifying dividend signaling and smoothing effects are present in this sector. Thus these firms follow stable dividend payments year on year basis, even though earnings might change dramatically. The findings in the FMCG sector are in alignment with Brave et.al that mangers are very reluctant to cut dividends once they are initiated. This reluctance leads to dividends that are sticky, smoothed from year to year and tied to long run profitability of the firm However IT sector and service sector demonstrate a pattern, which is seen in emerging economies like Tunisia, Zimbabwe and Turkey. These sectors are characterized by high target payouts coupled with high speed of adjustment coefficient.

Through the analysis of second objective it was found that there are sectoral differences in corporate dividend policy determinants. The results are consistent with conclusion of Baker, Farrelly, and Edelman (1985) and Ho Horace (2002) that firm's industry type influence dividend policy. A factor which may be relevant for one industry becomes irrelevant for another depending upon the Industry characteristics like growth phase, ownership pattern, size, systematic risk and earnings variability.

FMCG companies score high on dividend stability and consistency as Lagged dividend and PAT are important factors governing dividend distribution. The quality of cash flows, which is measure of liquidity of the firm and firm size are found be inconsequential in determining the dividend payout. The opportunities for future growth and expansion are found to be negatively related to dividend payout ratio. Larger is the growth and investment opportunities available to the firm, lesser is the incentive to pay dividends by retaining larger proportion of profits. The regression results also disclose negative and significant relationship with Retained earnings and Capital Expenditure during the current year which is in conformity with the existing literature. A company which prefers retention of profits for financing the capital expenditure from internal resources distributes fewer dividends compared to a firm which finances the investment expenditure from external sources. Also larger the retention of profits by a company lesser is the dividend distributed. (Pecking order hypothesis) Thus, the extent to which the company decides to finance CAPEX from retained earnings; both retained earnings and CAPEX would be negatively related to dividend payments. The results establish a negative relationship between liquidity and Dividend payout ratio and promoter holding. Though systematic risk and earning variability obstruct the stable dividend payout but the results report that Dividend Payout ratio is positively related to risk. Dividend Payout ratio is found to be significantly positively related to longterm solvency of the firm. The firms in FMCG sector operate with very low level of debt. These firms are highly liquid firms, any increase in debt proportion in capital structure do not put pressure on firm's capacity to pay dividend. A positive and significant relation has been obtained between Debt Equity ratio and Dividend Payout ratio through the results, which is consistent with Easterbrook

analysis. This positive relation can also be attributed to the fact that Firms in FMCG sector use dividends as a source to allay conflicts that may arise between bondholders and shareholders with increase in Debt equity ratio

It has been noted that IT sector score high on the dividend stability. The dividend paid during previous year is an important governing factor. Firms in IT sector do not use dividends as a medium to signal their prosperity to the shareholders. This also reflects that there is lesser information asymmetry in this sector. IT sector is a human intensive sector and do not require huge capital asset base like manufacturing companies for their operations. The major asset of this sector is manpower. The funds required for recruitment and retention of manpower is comparatively less than funds required for purchasing capital assets. So these firms can easily release funds for payment of dividends. Also a negative relationship between profitability can be attributed to the fact that agency problems are not very relevant and thus Dividend payout as a monitoring mechanism may be less needed. The results demonstrate that Promoters holding in this sector also negatively influence the Dividend Payout ratio.

A negative regression coefficient of Factor of liquidity ratio and Dividend Payout ratio can be attributed to the fact that in IT sector capital gains are preferred to cash dividends. Higher debts equity ratio and changeability in the earnings per share may negatively influence the dividend payout of company. But in case of IT firms which are very low debt or zero debt companies eg. Infosys is a zero debt company, these variables may not be an important determinant of dividend payout. Therefore, Factor of financial and systematic risk has not emerged as an imperative factor affecting the dividend payout ratios of firms in IT sector.

The results signify that Service companies do not score high on dividend stability. Profitability is not a primary determinant of dividend payout though it is positively associated with Dividend payout ratio. Firms in service sector do not use cash dividends to signal their prosperity to the shareholders. The results are in contrast to the previous studies on banking industry, which state that banks use their dividend history to set their dividend. These results were established by Dickens N.Ross and Newman.A.Joseph in their study "Bank Dividend policy: explanatory factors" and Pal Karam and Goyal Puja "Leading determinants of Dividend policy: A case study of the Indian Banking Industry". Their study displayed that stable dividend policy is followed by Indian banking industry as lagged dividend emerged as the most significant determinant of dividend payout.

A negative relationship between systematic risk and earnings variability potray that higher the earnings variability lower will be dividend paid by the companies in Service sector. The results also highlight that promoter holding is positively related to dividend payout. The results also show that there is a negative relationship between growth and investment opportunities and dividend payout ratio. This result is in alignment with pecking order hypothesis.

Firms with high leverage are those whose value shifting is potentially costly. Such firms are expected to pay large dividends. Also low leverage firms are high growth firms.

Therefore they pay low dividends. This positive relationship between debt equity and dividend payout in Service sector can be considered consistent with Easterbrook Analysis

A finding in the Service sector that refutes the existing literature is a negative relationship between firm's size and the dividend payout ratio. This finding is not in agreement with Pecking order hypothesis and stands in sharp contrast with results of Smith and Watts (1992). Larger companies despite having the opportunity to tap easily the financial markets by issuing stocks or bonds prefer to retain dividends so as to avoid the costly external financing. Moreover, small firms, which are more risky, need to have a high payout ratio, in order to attract investors to but their stocks.

The analysis of third objective demonstrates that the influence of ownership pattern on the dividend payout is heterogeneous. It has been observed that there are sectoral differences in impact and influence of ownership groups on dividend payout. India is a common Law country characterized by strong investor protection and dispersed ownership (the role of the insider is played by the manager), hence the agency conflicts are not so severe and cash dividends may not be essential to mitigate the agency conflicts. According to Laporta et.al greater the investor protection in a country dividend payouts tend to be higher. In the IT sector results are consistent with Manager Entrenchment hypothesis depicting that institutional holding regression coefficient is positive in level and negative in square. This implies that upto a certain threshold[12], dividends act as substitute for corporate governance. After the threshold the direct monitoring efforts of institutional holders are insufficient or become too costly. Therefore, dividend payments are increased so that managers are forced to raise finance from external capital markets and acts as an external monitoring device. These results are in agreement with the findings of Short, Zhang and Keasey 2002, and Farinha, 2003). A non-monotonic and parabolic relationship has been established by the research in IT sector for the period under study. However in the FMCG sector none of the ownership groups were found to have considerable influence on dividend payout. As regards Service sector, the relationship between dividend payout and various ownership groups i.e. FII, Corporate holding and Institutional holding has been found to be linear .These ownership groups negatively impact dividend payout of the companies supporting the hypothesis that dividend payments are the means to alleviate the agency conflicts. These ownership groups act as monitoring device reducing the need of high dividend payments.

Through the analysis of the fourth objective it has been found that cash dividends may not always create abnormal returns for the shareholders. In the modern scenario a gradual drift to other modes of payment of dividends has been observed. Small abnormal returns on dividend announcement can also be attributed to the fact that the dividend announced is below the investors' expectations. More so, dividend income, being a marginal constituent in investment return, may not inspire much to the over enthused investors in rising capital markets. The findings of the research highlight that in FMCG sector investors respond positively to cash dividends announcements whether increasing or decreasing. Thus, Cash dividends are welcomed by the investors in this sector. This implies that signaling

[12] Jayesh Kumar in his study on association between corporate Governance and dividend payout identified this threshold level to be 25 %

hypothesis holds. However abnormal returns are created in service sector but they are not sustained over the event window and gradually CAARs (Cumulative average abnormal returns) become negative. Finally it can be stated that dividend announcements create shareholders' wealth in the FMCG and Service sector. Thus, the investors tend to applaud the dividend announcements.

However, inspite of the fact that managers view dividend decisions as important it cannot be concluded that market rewards a carefully managed dividend policy with higher share price.In India financial managers typically view dividend decisions as an important part of their job. The typical firm does not follow a residual policy nor leave its dividend payout to chance. Rather, firms manage their dividends as proposed by Lintner's model and partially follow stable dividend policy.

10. CHAPTER PLAN

The study is organized in following nine chapters:

Chapter 1: Introduction

This chapter introduces the dividend puzzle. It throws light on the theoretical background, genesis, concept and meaning of dividends. The primacy and importance of dividend decision has also been discussed in this chapter.

Chapter 2: Literature Review

Chapter two reviews the literature in detail and discusses the various research studies on the topic under study.

Chapter 3: Research Methodology

Chapter three traces the research methodology and discusses in detail the various models developed, tools and techniques used for analyzing the research objectives.

Chapter 4: Overview of the industry

This chapter gives brief overview of the financial performance, growth prospects, characteristics of the various sectors under study.

Chapter 5: Data analysis: Lintner dividend model

This chapter covers the empirical analysis of the Lintner model proposed by John Lintner (1956) in the three sectors under study. The chapter highlights the target payout ratios and speed of adjustment coefficients of each sector respectively using panel data analysis.

Chapter 6: Data analysis: Corporate divided policy determinants

Chapter six contains the analysis and findings of factor analysis, which is used to develop model of corporate dividend policy determinants in each of the sector respectively.

Chapter 7: Data analysis: Impact of various ownership groups on dividend payout ratios

Chapter seven discusses in detail the data analysis and findings of quadratic polynomial regression analysis. This model has been developed to find the impact of various

ownership groups on the dividend payout ratios in all the three sectors undertaken for study.

Chapter 8: Data analysis: Event study

This Chapter unfolds the impact of dividend announcement on shareholder's wealth as reflected by the shareprices through the use of most sophisticated technique in Corporate Finance i.e. Event study.

Chapter 9: Conclusion

This chapter summarizes and concludes the research. Areas for future research are also discussed in this chapter

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