Dividend Policy of Indian Corporate Firms: An Analysis of Trends and Determinants

Dr. Y. Subba Reddy[1]

The present study examines the dividend behavior of Indian corporate firms over the period 1990 – 2001 and attempts to explain the observed behavior with the help of trade-off theory, and signaling hypothesis. Analysis of dividend trends for a large sample of stocks traded on the NSE and BSE indicate that the percentage of companies paying dividends has declined from 60.5 percent in 1990 to 32.1 percent in 2001 and that only a few firms have consistently paid the same levels of dividends. Further, dividend-paying companies are more profitable, large in size and growth doesn't seem to deter Indian firms from paying higher dividends. Analysis of influence of changes in tax regime on dividend behavior shows that the tradeoff or tax-preference theory does not appear to hold true in the Indian context. Test of signaling hypothesis reinforces the earlier findings that dividend omissions have information content about future earnings. However, analysis of other non-extreme dividend events such as dividend reductions and non-reductions shows that current losses are an important determinant of dividend reductions for firms with established track record and that the incidence of dividend reduction is much more severe in the case of Indian firms compared to that of firms traded on the NYSE. Further, dividend changes appear to signal contemporaneous and lagged earnings performance rather than the future earnings performance.

[1] Asst. Professor, Institute for Financial Management and Research (IFMR), Chennai. The views expressed and the approach suggested are of the authors and not necessarily of NSE.

1. Introduction

From the practitioners' viewpoint, dividend policy[1] of a firm has implications for investors, managers and lenders and other stakeholders. 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.

However, in a perfect world as Modigliani and Miller (1961) have shown, investors may be indifferent about the amount of dividend as it has no influence on the value of a firm. Any investor can create a 'home made dividend' if required or can invest the proceeds of a dividend payment in additional shares as and when a company makes dividend payment. Similarly, managers may be indifferent as funds would be available or could be raised with out any flotation costs for all positive net present value projects.

But in reality, dividends may matter, particularly in the context of differential tax treatment of dividends and capital gains. Very often dividends are taxed at a higher rate compared to capital gains. This implies that dividends may have negative consequences for investors[4]. Similarly, cost of raising funds is not insignificant and may well lead to lower payout, particularly when positive net present value projects are available. Apart from flotation costs, information asymmetry between managers and outside investors may also have implications for dividend policy. According to Myers and Majluf (1984), in the presence of information asymmetry and flotation costs, investment decisions made by managers are subject to the pecking order of financing choices available. Managers prefer retained earnings to debt and debt to equity flotation to finance the available projects.

Information asymmetry between agents (managers) and principals (outside shareholders) may also lead to agency cost (Jensen and Meckling, 1976). One of the mechanisms of reducing expropriation of outside shareholders by agents is high payout. High payout will result in reduction of free cash flow available to managers and this restricts the empire building efforts of managers.

The presence of information asymmetry may also mean that managers need to signal their ability to generate higher earnings in future with the help of high dividend payouts (Bhattacharya, 1979, John and Williams 1985, and Miller and Rock, 1985). However, the credibility of signals depends on the cost of signaling – the cost being loss of financial flexibility. High payout results in reduction of free cash flow when in fact the firm needs more funds to pursue high growth opportunities. Rozeff (1994) models payout ratios as a function of three factors: flotation costs of external funding, agency cost of outside ownership and financing constraints as a result of higher operating and financial leverage[5].

To summarize, several theories have been proposed in explaining why companies pay dividends[6]. While many earlier studies point out the tax-preference theory, more recent studies emphasize signaling and agency cost rationale of dividend payments. However, the dividend puzzle is yet unresolved and the words of

[1] Brealey (1992) poses the dividend policy decision 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 dividend policy in isolation and not as a by-product of other corporate financial decisions.
[2] Lintner (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 (1998) observes that given the 'concocted' earnings estimates provided by firms, the low dividend payout induces reinvestment risk and earnings risk for the investors.
[4] Black (1976) notes that in the presence of taxes, investors "prefer smaller dividends or no dividends at all".
[5] According to Kalay (1982), in the absence of restraining covenants, shareholders can transfer wealth from bondholders by paying off dividend to themselves either by selling existing assets or by reducing investment or by using proceeds of a senior debt.
[6] Baker, Powell and Veit (2002) survey different streams of research work on dividends.

Fischer Black (Black 1976) may well apply in today's context: "The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together".

One of the striking aspects that have been noticed in recent periods is the lower dividend paid by corporate firms in the US. Fama and French (2001) analyze the issue of lower dividends paid by corporate firms over the period 1973-1999 and the factors responsible for such a decline. They attribute the decline to changing firm characteristics of size, earnings and growth.

However, it is to be seen whether the change towards lower dividends is a permanent feature or will there be reversal. A decline in dividends, according to Fama and French, could be due to lower transaction costs, improved corporate governance mechanisms, and the increasing preference towards capital gains.

1.1 Indian Scenario

In the Indian context, a few studies have analyzed the dividend behavior of corporate firms. Mahapatra and Sahu (1993) find cash flow as a major determinant of dividend followed by net earnings. Bhat and Pandey (1994) undertake a survey of managers' perceptions of dividend decision and find that managers perceive current earnings as the most significant factor. Narasimhan and Asha (1997) observe that the uniform tax rate of 10 percent on dividend as proposed by the Indian union budget 1997-98, alters the demand of investors in favor of high payouts. Mohanty (1999) finds that firms, which issued bonus shares, have either maintained the pre-bonus level or only decreased it marginally there by increasing the payout to shareholders. Narasimhan and Vijayalakshmi (2002) analyze the influence of ownership structure on dividend payout and find no influence of insider ownership on dividend behavior of firms.

However, it is still not clear as to what is the dividend payment pattern of firms in India and why do they initiate and omit dividend payments or reduce or increase dividend payments. Hence it is proposed to analyze the dividend payout of firms in India and analyze the dividend initiations and omissions and other changes in dividends and the signals that these events convey.

Following Fama and French (2001), the present study also attempts to analyze the impact of profitability, size and growth on the dividend payout of firms. Similarly, following Healy and Palepu (1988) an attempt is made to analyze the signaling hypothesis, i.e. earnings information conveyed by dividend initiations and omissions. Since, initiations and omissions construe extreme dividend events, changes in dividends i.e., increases and decreases and the information that they convey is also examined following DeAngelo, DeAngelo and Skinner (1992).

There have been several changes in the tax regime in the last few years. The union budget 1997-98 made dividends taxable at the hands of company paying them and not in the hands of investors receiving them. Similarly there have been changes in the capital gains tax and exemption of dividend income under Section 80 L of the Income Tax Act 1961. All these changes have implications for the dividend policy of corporate firms. According to tax-preference or trade-off theory, favorable dividends tax should lead to higher payouts. Hence it is proposed to analyze the impact of tax regimes on dividend policies of corporate firms.

1.2 Objectives

1. To study the trends in the dividend payment pattern of Indian corporate firms;
2. To analyze the impact of changes in dividend tax on the propensity to pay dividends;
3. To analyze the influence of firm characteristics such as profitability, growth and size on the dividend payment pattern;
4. To analyze the signaling hypothesis, specifically earnings information conveyed by dividend initiations and omissions; and
5. To analyze the influence of loss on dividend reductions.

In other words, the present study focuses on an analysis of dividend trends and attempts to analyze the determinants of these trends with the help of trade-off or tax-preference theory and signaling hypothesis. There are other important determinants of dividend behavior such as transactions costs, which we will not analyze, in the present study.

In the next Section, we review the relevant literature, followed by a description of the database employed and methodology adopted in Section 3. Dividend trends are discussed in Section 4, and the analysis of characteristics of dividend payers is presented in Section 5. Sections 6 and 7 deal with the signaling hypothesis: first the case of dividend initiations and omissions and second dividend reductions. Section 8 summarizes the finding of study, points out limitations and concludes with directions for further research.

2. Review of Relevant Literature

DeAngelo, DeAngelo and Skinner (1992) analyses the relationship between dividends and losses and the information conveyed by dividend changes about the earnings performance. They examine the dividend behaviour of 167 NYSE firms with at least one annual loss during 1980-95 and those of 440 firms with no losses during the same period, where all the firms had a consistent track record of ten or more years of positive earnings and dividends. They find that 50.9% of 167 firms with at least one loss during 1980-95 reduced dividends, compared to 1% of 440 firms without losses. Their findings support signaling hypothesis in that dividend changes improve the ability to predict future earnings performance.

Glen et al. (1995) study the dividend policy of firms in emerging markets. They find that firms in these markets have a target dividend payout rate, but less concerned with volatility in dividends over time. They also find that shareholders and governments exert a great deal of influence on dividend policy and observe that dividends have little signaling content in these markets.

Benartzi, Michaely, Thaler (1997) analyzes the issue of whether dividend changes signal the future or the past. For a sample of 7186 dividend announcements made by NYSE or AMEX firms during the period 1979-91, they find a lagged and contemporaneous relation between dividend changes and earnings. Their analysis also shows that in the two years following dividend increases, earnings changes are unrelated to the sign and magnitude of dividend changes.

Bernsterin (1998) expresses concern over the decline in payout over a period of time in the US market. He observes that given the 'concocted' earnings estimates provided by firms, the low dividend payout induces reinvestment risk and earnings risk for the investors. He asserts that "… try calculating the historical correlation between payout ratios in year t and earnings growth over t + 5. The correlation coefficient is positive and statistically significant"[7].

Fama and French (2001) analyze the issue of lower dividends paid by corporate firms over the period 1973-1999 and the factors responsible for the decline. In particular they analyze whether the lower dividends were the effect of changing firm characteristics or lower propensity to pay on the part of firms. They observe that proportion of companies paying dividend has dropped from a peak of 66.5 percent in 1978 to 20.8 percent in 1999. They attribute this decline to the changing characteristics of firms: "The decline in the incidence of dividend payers is in part due to an increasing tilt of publicly traded firms toward the characteristics – small size, low earnings, and high growth – of firms that typically have never paid dividends"[8].

Baker, Veit and Powell (2001) study the factors that have a bearing on dividend policy decisions of corporate firms traded on the Nasdaq. The study, based on a sample survey (1999) response of 188 firms out of a total of 630 firms that paid dividends in each quarter of calendar years 1996 and 1997, finds that the following four factors have a significant impact on the dividend decision: pattern of past dividends, stability

[7] Bernstein (1998), pp. 1.
[8] Fama and French (2001), p. 79

of earnings, and the level of current and future expected earnings. The study also finds statistically significant differences in the importance that managers attach to dividend policy in different industries such as financial versus non-financial firms.

Ramacharran (2001) analyzes the variation in dividend yield for 21 emerging markets (including India) for the period 1992-99. His macroeconomic approach using country risk data finds evidence for pecking order hypothesis – lower dividends are paid when higher growth is expected. The study also finds that political risk factors have no significant impact on dividend payments of firms in emerging markets.

Lee and Ryan (2002) analyze the dividend signaling-hypothesis and the issue of direction of causality between earnings and dividends - whether earnings cause dividends or vice versa. For a sample of 133 dividend initiations and 165 dividend omissions, they find that dividend payment is influenced by recent performance of earnings, and free cash flows. They also find evidence of positive (negative) earnings growth preceding dividend initiations (omissions).

2.1 Previous Indian Studies

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

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

Bhat and Pandey (1994) study the managers' perceptions of dividend decision for a sample of 425 Indian companies for the period 1986-87 to 1990-91. They find that on an average profit-making Indian companies have distributed about one-third of their net earnings and that the average dividend payout ratio is 43.6 percent. They also find that the average dividend payout ratio is 54 percent for the sample of both profit-making and loss-making companies and the average dividend rate is in the range of 14.3 percent to 19.2 percent. They also observe variation in dividend policy of different industries. Further, a survey of these 425 companies has been attempted. However, only 31 questionnaires have been received and of these they find 28 amenable for further analysis. Their analysis of the respondents shows that managers perceive current earnings as the most significant factor influencing their dividend decision followed by patterns of past dividends. They also find two other variables increasing equity base and expected future earnings to have significant influence. However, they find industry to have the least influence on the dividend, which has been contrary to the expectations.

Mishra and Narender (1996) analyze the dividend policies of 39 state-owned enterprises (SoE) in India for the period 1984-85 to 1993-94. The find that earnings per share (EPS) is a major factor in determining the dividend payout of SoEs.

Narasimhan and Asha (1997) discuss the impact of dividend tax on dividend policy of firms. They observe that the uniform tax rate of 10 percent on dividend as proposed by the Indian union budget 1997-98, alters the demand of investors in favor of high payouts rather than low payouts as the capital gains are taxed at 20 percent in the said period.

Mohanty (1999) analyzes the dividend behavior of more than 200 firms for a period of over 15 years. He finds that in most bonus issue cases firms have either maintained the pre-bonus level or only decreased it marginally there by increasing the payout to shareholders. The study also finds that firms that declared bonus during 1982-1991 showed higher returns to their shareholders compared to firms which did not issue bonus shares but maintained a steady dividend growth. He finds evidence for a reversal of this trend in the 1992-

1996 period. He attributes such a reversal in trend to the changed strategy of multi-national corporations (MNCs) and their reluctance to issue bonus shares.

Narasimhan and Vijayalakshmi (2002) analyze 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 1997-2001.

3. Database and Methodology

3.1 Database

Dividend payment pattern of all companies that are listed for trading on one of the two major exchanges namely National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) during the period 1989-1990 to 2000-2001 (we refer each year henceforth with the end year i.e., for 2000-2001 to 2001) are employed for analysis. The data has been sourced from *Prowess* database of the Centre for Monitoring Indian Economy (CMIE).

For the purpose of this study, only final cash dividends are considered and stock repurchases and stock dividends are not considered. Unlike the firms in developed countries that pay quarterly dividends, Indian companies typically pay only one dividend during a year. A few firms do pay interim dividends, however, data regarding these are not readily accessible and it is extremely difficult to get such data for a reasonable number of years. Further, stock repurchases have been permitted only recently and only about a hundred companies have bought back their stocks so far. Hence, in the present study stock repurchases are not considered for analysis.

Stock price data for the prior year of dividend announcement are also taken from the *Prowess* database.

3.2 Methodology for Analysis of Trends

To analyze the trends in dividend payment pattern, number of companies paying dividend as percentage of total firms, average dividend paid, dividend per share, payout ratio, and dividend yield are computed for the period 1990 to 2001. Dividend per share (DPS) is calculated as

$$DPS_{j,t} = \frac{Dividend_{j,t}}{EQCap_{j,t}}$$

Where, $DPS_{j,t}$ refers to dividend per share for company j in year t; $Dividend_{j,t}$ refers to amount of dividend paid by company j in year t; and $EQCap_{j,t}$ refers to paid-up equity capital for firm j in year t.

Equity capital is employed instead of the usual number of outstanding shares in the denominator as it facilitates comparison of rupee dividend paid per share by removing the impact of different face or par values.

Dividend payout ratio (PR) is computed as

$$PR_{jt} = \frac{Dividend_{j,t}}{PAT_{j,t}}$$

Where, $PR_{j,t}$ is dividend payout ratio, $Dividend_{j,t}$ refers to amount of dividend paid by company j in year t; and $PAT_{j,t}$ refers to net profit or profit after tax for firm $_j$ in year $_t$.

Dividend Yield (DY) is computed as

$$DY_{jt} = \frac{DPS_{j,t}}{Price_{j,t-1}}$$

Where, DY_{jt} refers to dividend yield for firm j in year t, DPS_{jt} refers to dividend per share for firm j in year t, and $Price_{j,t-1}$ is closing price of previous year for firm j.

Further, the entire sample is categorized into payers and non-payers to examine the trends in dividends across different subgroups. Payers are those firms that have paid dividend in the current year, where as non-payers have not paid dividend in the current year.

Payers are further classified into regular payers, initiators and current payers. Regular payers are those firms that have paid dividend regularly without ever skipping the payments. Initiators on the other hand refers to those firms with a maiden dividend, where as current payers are those firms who are neither regular payers nor initiators.

Non-payers are further categorized into never paid, former payers and current non-payers. Never paid firms are those that have never paid even a single dividend, where as former payers are those firms which at some previous point had paid dividends. Current non-payers are those firms which are recently listed and that they are neither former-payers nor are in the never paid category in any of the previous years.

3.3 Influence of Tax Regime Change: Test of Trade-off Theory

Paired samples t-test has been employed to analyze the influence of changes in dividend tax during 1997-98 on the dividend propensity of Indian corporate firms. According to the tradeoff theory, corporate firms pay more dividends when the dividend tax is low compared to that of capital gains tax. The tax regime ushered in during 1997-98, whereby dividends are taxed at source at a uniform rate of 10%, has tilted the balance in favor of dividends.

Changes in dividends are captured with the help of two measures – dividend per share and dividend payout percentage. For this purpose total dividend per share and average dividend payout percentage during the previous tax regime, i.e., the incidence of dividend tax is on the investors are compared with that of changed tax regime where dividend taxes are payable by corporate firms at a flat rate of 10%. The period 1994-95 to 1996-97 constitutes the first sub-period and the period 1998-99 to 2000-01 constitutes the second period.

The following hypotheses are tested using paired samples t-test: (i) Null hypothesis of no differences between the total dividend per share between the two periods; and (ii) Null hypothesis of no difference between the average percentage payout between the two periods.

Further, changes in the propensity of regular payers and changes in the payment pattern between 1996-97 and 1998-99 as a result of change in tax regime are also tested.

3.4 Characteristics of Payers and Non-Payers

Consistent with Fama and French, logit regression coefficients are estimated to analyze the influence of firm characteristics on the dividend payment pattern, for each year t during 1990-2001.

The dependent variable assumes a value of 0 when the firm pays no dividend and assumes a value of 1 when pays a dividend. The explanatory variables are: Et/At is profitability measured as the ratio of aggregate earnings before interest to aggregate assets; dAt/At, is growth rate of assets; Vt/At is market-to-book ratio i.e., the ratio of the aggregate market value to the aggregate book value of assets; and the NSEPt is the percent of firms with the same or lower market capitalization. Coefficients are computed for each of the year

and the aggregate coefficients and associated t-values are analyzed to infer the influence of profitability, growth and size.

3.5 Test of Signalling Hypothesis: Case of Dividend Initiations and Omissions

For this part of the analysis, a firm is classified as initiator if it has paid dividend in the current year but has not paid dividends for the preceding 3 years. Similarly a firm is categorized as omission firm, if the firm has not currently paid dividend but has paid dividend in the preceding three years.

To analyze signaling hypothesis, consistent with Healey and Palepu, earnings patterns of firms initiating and omitting dividend for 3 years before the year of event and 3 years after event are examined. To aggregate results across firms, earnings changes in these years are expressed as a percentage of the previous year's closing stock price, P_J. The standardized change in earnings for firm j in year t, is defines as

$$\Delta E_{j,t} = \frac{E_{j,t} - E_{j,t-1}}{P_j}$$

Where $E_{j,t}$ are earnings per share before extraordinary items and discontinued operations[9] for firm j in year t. The null hypotheses of average earnings changes are zero is tested with the help of Dunnett's C (Post Hoc) test.

Analysis pertaining to initiations and omissions only cover a particular sample of extreme events and excludes firms not having a dividend track record of less than 3 years. In order to cover other dividend events like dividend reductions and increases in the following we arrive at yet another sample.

3.6 Test of Signaling Hypothesis: Case of Dividend Reductions

To analyze the relationship between dividends and losses a sample is drawn with firms having consistent profitability and dividend track records during 1990 – 1995 and who have earnings and dividend information for the period 1996 – 2001. The importance of annual losses on dividend reductions and annual dividend omissions has been analyzed with the help of logit analysis.

The dependent variable equals zero if a firm has maintained or increased its dividend per share and is equal to one if the firm announced a reduction in dividend per share. The loss dummy assumes a value of one if the firm reports a loss for the year under study and zero otherwise. The level of net income and changes in net income are standardized with the previous year's net worth for each firm. For firms in loss sample, the initial loss year constitutes the event year where as for non-loss firms, the initial year of earnings decline constitutes the event year.

Similarly to examine the influence of past and future levels of earnings logit analysis has been employed on the subset for event years 1997 and 1998. The dependent variable equals zero if a firm has maintained or increased its dividend per share and is equal to one if the firm announced a reduction in dividend per share. The explanatory variables are earnings in 1 year before the event (t-1), 2 years preceding the event (t-2), current earnings (t), earnings in the year following the event year (t+1), earnings in 2 years following the event (t+2). Similarly, mean difference in earnings over t-2 through t+2 years is also examined with the help of Dunnett's C test. This analysis would be useful in determining whether dividend changes are impacted by contemporaneous or lagged or expected earnings performance.

[9] In the Indian context an approximate value for this is derived from 'other income'.

4. Trends in Dividends and Influence of Changes in Tax Regime

Average profit after tax (PAT) has increased from Rs. 4.68 crore in 1990 to Rs. 6.11 crore in 2000 and Rs. 9.36 crore in 2001 (Table 4.1). However, there have been several fluctuations in average PAT reflecting the changes in Indian economy. In the early phases of economic reform, many firms had to restructure as the economy was opened up and structural adjustments were undertaken resulting in a reduction in PAT. The subsequent pick up in the mid-90s has seen an increase in average PAT. The late 1990s, which marked a significant decline in economic activity, have had their impact on PAT of firms.

4.1 Average Dividend Paid

Despite fluctuations in PAT, the average aggregate dividend payments have steadily increased from Rs. 0.99 crore in 1990 to Rs. 2.93 crore in 2000 and Rs. 4.19 crore in 2001. Further, compared to PAT the dividend payments have exhibited a smooth trend implying that dividend smoothening is occurring in the Indian context (Figure 4.1).

Table 4.1
Trend in Dividends and PAT During 1990-2001

Year	Number of Firms	Average Dividend Rs. Crore	SD of Dividend Rs. Crore	Average PAT Rs. Crore	SD of PAT Rs. Crore
1990	1707	0.99	3.92	4.68	48.45
1991	2184	0.98	3.79	4.05	37.88
1992	2505	1.11	4.54	4.19	40.45
1993	3097	1.11	4.85	3.06	46.76
1994	4020	1.27	6.19	4.15	51.41
1995	5115	1.56	8.42	6.96	57.55
1996	5600	1.85	10.80	7.19	62.92
1997	5855	2.05	13.91	6.38	65.65
1998	5980	2.26	17.18	5.69	103.52
1999	6248	2.39	22.14	5.09	88.19
2000	6225	2.93	26.46	6.11	103.54
2001	4766	4.19	44.71	9.36	134.39
Common Firms	**871**				

Number of firms paid dividend during the study period have shown an up trend till 1995 and have fallen subsequently (Appendix Figure 4.1), where as the percentage of companies paying dividends has declined from 60.5 percent in 1990 to 32.1 percent in 2001 (Table 4.2 and Figure 4.2). This is consistent with the trend observed in the US market (Fama and French 2001).

The fact that percentage of companies paying dividends have declined whereas the average dividend paid has increased implies that companies which have been paying dividend have paid higher amounts in recent years.

Total non-payers have steadily increased from 1990 to 2000 before declining slightly in 2001 (Appendix Table A4.1 and Figures A4.2 and A4.3). Firms, which have never paid dividend, constituted a significant proportion through out the sample period – constituting more than 50% from 1991 to 2001 continuously. The number of firms, which at some previous time paid dividend, have increased overtime and reached almost 50% of non-payers in 2001.

Figure 4.1

Trend in Average Dividends, and PAT During 1990-2001

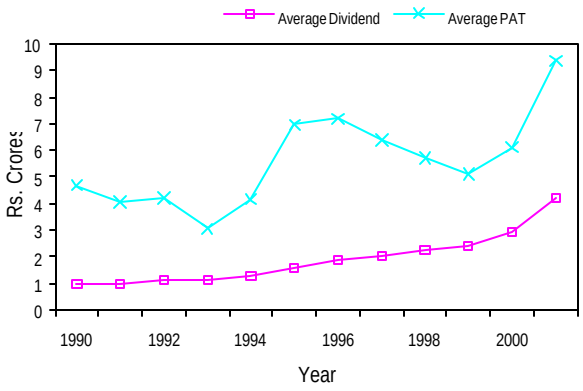


Table 4.2

Trend in Dividend Payments During 1990-2001

Year	Paid Dividend		Not Paid Dividend		Total Number of Firms
	No.	%	No.	%	
1990	1033	60.50	674	39.50	1707
1991	1272	58.20	912	41.80	2184
1992	1533	61.20	972	38.80	2505
1993	1823	58.90	1274	41.10	3097
1994	2333	58.00	1687	42.00	4020
1995	2775	54.30	2340	45.70	5115
1996	2723	48.60	2877	51.40	5600
1997	2386	40.80	3469	59.20	5855
1998	2101	35.10	3879	64.90	5980
1999	2007	32.10	4241	67.90	6248
2000	1988	31.90	4237	68.10	6225
2001	1531	32.10	3235	67.90	4766

Total number of firms paying dividend has increased up to 1995 and has registered sustained decline there after (Table 4.2, Appendix Figures A4.4 and A4.5). Mirroring these trends firms, which have paid dividends regularly, peaked in 1995 and recorded declines thereafter. Initiators have shown a steady decline from 1991 and have fallen to 5% in 2001.

Average dividend paid by payers has increased steadily from Rs. 1.69 crore in 1991 to Rs. 9.16 crore in 2000 and Rs. 13.05 crore in 2001 (Figure 4.3, Appendix Table A4.2). Regular payers are more in number and have paid higher average dividend compared to that of current payers and initiators (Appendix Figures A4.6 and A4.7). Current payers have paid higher dividend compared to initiators except in the year 2001. The number of initiators have increased up to the year 1995 and have shown a decline thereafter, where as current payers have steadily increased in number up to 2000.

Figure 4.2

Dividend Behaviour of Indian Corporate Firms During 1990 - 2001 (in %)

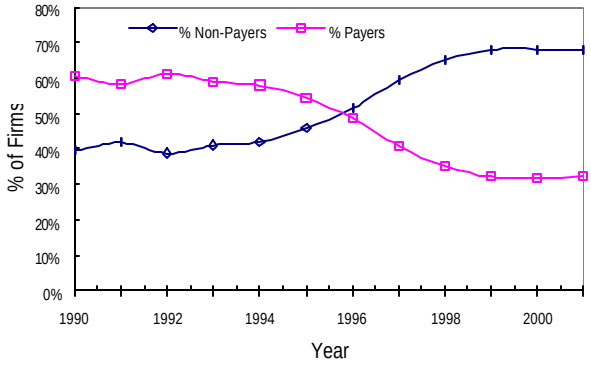
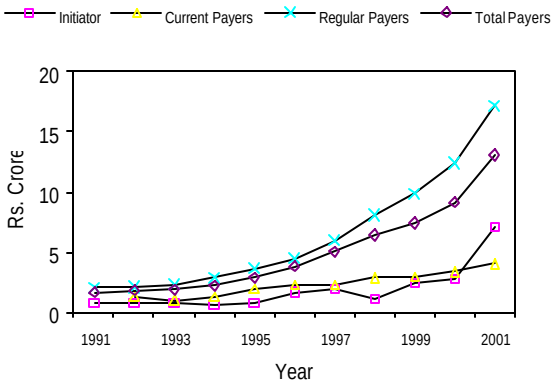


Figure 4.3

Comparision of Average Dividend Paid During 1991 - 2001 by Payer Group



A comparison of index and non-index firms shows that the former group of companies on average has paid more dividend than the latter group (Table A4.3 and A4.4). Similarly, it is observed that companies, which constitute popular market indices such as Sensex and Nifty paid more dividends compared to companies in the broad market indices such as BSE 100, CNX Mid-Cap, BSE 200, CNX 500, and BSE 500. These observations are on the expected lines as higher dividend payment is one of the important criteria for inclusion of stocks into indices.

A study of number of companies paying dividend also reveals that a significantly larger proportion of index firms have paid dividend compared to non-index firms. 29 out of 30 Sensex firms and 49 out of 50 Nifty firms have paid dividend in 2001, the exception being Tata Engineering and Locomotive Company Ltd. (TELCO).

Analysis of industry-wise average dividend paid shows that in the early 1990s, firms in the diversified industry have paid more dividends followed by mining firms and electricity firms (Table 4.3). However, by the end of 2000 and 2001 firms in the electricity industry have paid more dividend followed by mining and diversified companies. It has also been observed that textile companies have continued to pay low amounts on an average throughout the sample period where as firms in the financial services industry have improved their average dividend payments over the sample period. The recent high growth firms in the computer

hardware and software segments, which are part of the machinery industry, have generally shown lower dividend payments.

In sum, the number of firms paying dividend during the study period have shown an up trend till 1995 and have fallen subsequently. Further, compared to PAT the dividend payments have exhibited a smooth trend implying that dividend smoothening is occurring in the Indian context. Regular payers are more in number and have paid higher average dividend compared to that of current payers and initiators. Of the non-payers, former payers are growing in numbers. Index firms appear to pay higher dividends compared to that of non-index firms. Further, smaller indices appear to have higher average dividend compared to that of larger indices. Industry trends indicate that firms in the electricity, mining and diversified industries have paid more dividend where as textile companies have paid less dividends. Firms in the machinery industry which includes computer hardware and software segments have shown lower dividends.

Table 4.3

Average Dividend Paid During 1990-2001 – Industry-wise (in Rs. Crore)

INDUSTRY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Firms
Chemicals and Plastics	1.09	.96	1.05	.97	1.08	1.38	1.57	1.69	1.92	1.68	2.41	2.46	1138
Diversified	3.56	3.88	4.24	5.11	6.14	7.72	10.13	10.99	12.86	17.17	22.76	29.55	184
Electricity	1.28	1.14	1.19	2.26	5.85	9.54	13.08	18.31	17.37	26.33	27.24	48.67	58
Financial Services	.67	1.39	1.47	1.38	1.49	2.10	2.46	2.72	3.16	3.20	4.25	5.29	1097
Food and Beverages	.88	.97	.98	.89	.94	1.02	.80	.90	1.12	1.13	1.34	1.89	745
Machinery	.70	.65	.72	.73	.83	.99	1.11	1.13	1.20	1.34	1.58	2.11	1065
Metals and Metal Product	.80	.90	1.37	1.36	1.72	2.20	2.39	2.14	1.80	1.40	1.72	3.08	555
Mining	2.57	2.79	2.97	3.57	2.87	2.94	8.87	17.44	22.23	21.99	26.31	35.36	81
Misc. Manufacturing	.39	.51	.72	.62	.73	.70	.75	.57	.35	.56	.58	1.05	324
Non-Metallic Mineral Pro	.50	.62	.70	.64	.63	.85	1.18	1.00	.86	.90	1.12	1.51	296
Other Services	1.02	.76	.86	.92	1.01	1.07	1.18	1.23	1.34	1.34	1.42	4.07	1264
Textiles	.48	.47	.47	.53	.72	.86	.82	.58	.51	.48	.56	.56	750
Transport Equipment	1.25	1.17	1.20	1.06	1.39	2.02	2.83	3.58	3.18	2.95	3.44	3.03	225

4.2 Dividend Per Share

Average dividend per share (DPS) has increased from 14 paisa in 1990 to 26 paisa in 2000 and 15 paisa in 2001 (Table 4.4, Figure 4.4). An analysis of distribution of firms shows that 39 percent have paid nil DPS in 1990 and the percentage has increased to 67.7 in 2001 (Table 4.5). Percentage of firms in the average class i.e., DPS in the range of Rs. 0 to Rs. 0.25 have declined from a high of 45.9 in 1990 to 18.5 in 2001. This implies that the increased average DPS over the latter period has mainly been due to a few firms paying larger DPS.

Firms in chemicals and plastics industry have steadily improved their DPS from 14 paisa in 1990 to 27 paisa in 2000 and 25 paisa in 2001 (Table 4.6). Where as textiles firms have shown a decline in DPS from 13 paisa in 1990 to 6 paisa in 2001. Machinery firms have paid a steady 12 to 14 paisa except for the years 1996 and 1997 when they paid marginally more. An analysis of index and non-index firms DPS shows that index firms on an average paid more DPS than non-index firms (Table A4.14). Similarly, narrow indices have high average DPS than broad indices.

Table 4.4

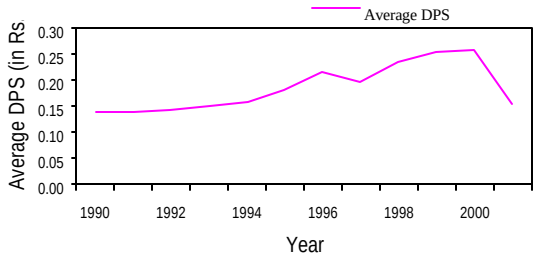
Average Dividend Per Share (DPS) During 1990-2001
(in Rs.)

Year	Number of Firms	Minimum DPS	Maximum DPS	Average DPS	Std. Deviation
1990	1694	0	12.71	0.1406	0.3455
1991	2153	0	10.58	0.1385	0.3009
1992	2468	0	15.58	0.1427	0.3568
1993	3028	0	51.2	0.1514	1.0025
1994	3953	0	57.5	0.1582	1.2983
1995	5032	0	135.33	0.1803	2.3543
1996	5536	0	174.67	0.2158	3.3243
1997	5801	0	222	0.198	3.4834
1998	5911	0	350.33	0.2337	5.8833
1999	6176	0	249.75	0.2544	4.8938
2000	6167	0	266.38	0.2571	4.4156
2001	4734	0	61.5	0.1538	1.2899
Common Firms[10]	866				

Average DPS (1% trimmed) by all payers have increased from 21 paisa in 1991 to 31 paisa in 2000 and 29 paisa in 2001 (Figure 4.5). Of the payers, regular payers have consistently paid more dividend per share compared to other payers. Similarly initiators have always paid lower dividend per share compared to current payers.

Figure 4.4

Average Dividend Per Share (DPS) During 1990-2001



An analysis of recurrence of dividend per share group shows that two firms have consistently paid dividend in the range of 25 to 50 paisa per share for all the 12 years, where as 18 firms have paid up to 25 paisa (Appendix Table A4.6 and A4.7).

An analysis of dividend reductions by firms shows that only five companies namely Mahindra Sintered Products Ltd, Otis Elevator Co. (India), Bharat Electronics, Amritlal Chemaux, and Carborundum Universal have consistently paid higher dividend per share out of a 330 firms that paid dividends in all years of the sample period (Appendix Table A4.5). 43 firms registered a single instance of dividend per share reduction, where as 68 firms lowered twice, 82 firms lowered thrice etc.

On the whole average DPS has shown a steady growth except in the year 2001. Regular payers have consistently paid more dividend per share compared to other payers, where as initiators have always paid

[10] 5 common firms are lost on account of missing information on number of outstanding stocks and hence there is difference in the number of common firms from that of Table 4.1.

lower dividend per share. Analysis also shows that only a few firms have consistently paid same levels of dividend.

Index firms on an average paid more DPS than non-index firms. Similarly, narrow indices have high average DPS than broad indices (Appendix table A4.8). Firms in chemicals and plastics industry have steadily improved their DPS, where as textiles firms have shown a decline in the study period. Machinery firms have paid a steady DPS.

Figure 4.5

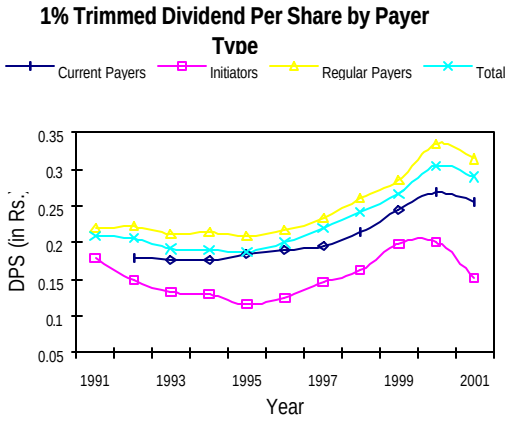


Table 4.5

Distribution of Firms in terms of Dividend Per Share During 1990 – 2001

DPS	Percentage of Companies in Year											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Rs. 0	39	41	37.9	39.9	41.1	44.9	50.8	58.9	64.5	67.5	67.8	67.7
Rs. 0 – 0.25	45.9	43.1	46.2	46.9	45	42.3	35.8	27.5	22.2	19.5	18.6	18.5
Rs. 0.25 – 0.50	13.5	13.7	13.7	11.2	12.1	10.6	10.4	9.8	8.7	7.6	7.4	7.8
Rs. 0.50 – 0.75	0.9	1.3	1.4	0.9	0.7	1.1	1.5	2.3	2.8	2.5	2.6	2.7
Rs. 0.75 – 1	0.4	0.5	0.4	0.7	0.8	0.4	0.6	0.6	0.6	1.1	1.2	1.3
Rs. 1 – 2	0.2	0.3	0.3	0.2	0.2	0.3	0.4	0.6	1	1.1	1.4	1.4
Rs. 2 – 5	0.1	0.1	0	0.1	0.1	0.2	0.2	0.1	0.2	0.3	0.6	0.4
> Rs. 5	0.1	0	0	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.3

Table 4.6

Industry-wise Dividend Per Share (DPS) During 1990-2001 (in Rs.)

INDUSTRY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	FIRMS
Chemicals and Plastics	.14	.15	.14	.12	.17	.15	.12	.17	.17	.18	.27	.25	1138
Diversified	.19	.21	.26	.20	.20	.19	.21	.22	.21	.22	.27	.21	184
Electricity	.13	.10	.11	.11	.11	.10	.12	.09	.10	.10	.13	.10	58
Financial Services	.08	.11	.13	.34	.24	.21	.28	.12	.15	.14	.19	.18	1097
Food and Beverages	.20	.20	.18	.23	.31	.47	.49	.58	.85	.21	.16	.13	745
Machineray	.12	.13	.14	.14	.13	.13	.17	.19	.12	.14	.14	.14	1065
Metals and Metal Product	.13	.11	.11	.09	.10	.10	.12	.09	.07	.06	.07	.07	555
Mining	.05	.07	.06	.07	.09	.06	.07	.08	.13	.10	.11	.09	81
Misc. Manufacturing	.12	.12	.14	.10	.11	.10	.10	.15	.06	.16	.21	.30	324
Non-Metallic Mineral Pro	.10	.11	.11	.09	.09	.09	.10	.08	.08	.07	.09	.09	296
Other Services	.17	.15	.17	.15	.13	.24	.38	.28	.42	.88	.73	.12	1264
Textiles	.13	.14	.13	.11	.12	.09	.08	.06	.06	.05	.07	.06	750
Transport Equipment	.12	.12	.12	.12	.13	.13	.15	.18	.16	.15	.21	.17	225

4.3 Dividend Payout Ratio

An analysis of average percentage dividend payout (PR) during 1990 – 2001 shows a volatile trend (Table 4.7 and Figure 4.6). Percentage PR increased from 27.39 in 1990 to 32.95 in 1997 and then showed a declining trend till 2000 before reaching the peak average percentage PR of 40.53 in 2001. However, 1% trimmed average percentage PR showed a more stable pattern of around 24 percent PR up to 1997 and then has shown a declining trend before finally reaching 16.81 percent in 2001 (Appendix Table A4.9).

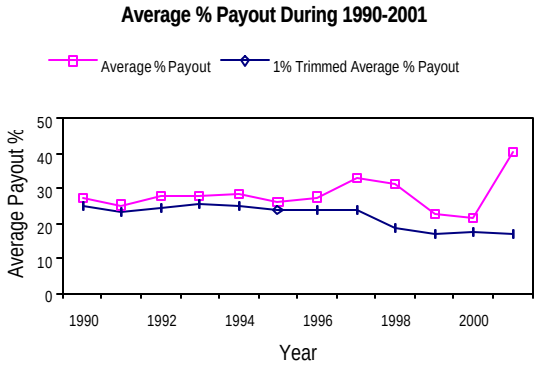
Table 4.7
Average Percentage Payout During 1990 – 2001

Year	No. of Firms	Average % Payout	Std. Deviation	1% Trimmed Average % Payout	1% Trimmed No. of Firms
1990	1382	27.39	37.77	24.98	1369
1991	1714	25.19	41.04	23.11	1697
1992	2022	27.54	48.31	24.25	2002
1993	2533	27.98	37.83	25.72	2508
1994	3156	28.19	61.96	24.92	3125
1995	3770	25.88	38.06	23.84	3733
1996	4042	27.44	88.12	23.99	4002
1997	4258	32.95	139.85	23.91	4216
1998	4335	31.39	453.37	18.64	4292
1999	4503	22.82	120.19	16.98	4458
2000	4383	21.6	67.49	17.47	4340
2001	3387	40.53	1196.96	16.81	3354

An analysis of distribution of firms by dividend payout percentage shows that as high as 26 percent of firms in 1990 and 56.6 percent in 2001 have paid out nothing (Table 4.8 and Appendix, Figure A4.6). However, more than 10 percent firms have paid dividend in excess of 75 percent of their net profits.

An analysis of dividend payout recurrence shows that very few firms have maintained the same payout for a longer period of time (Appendix Table A4.10 and A4.11). For instance, only one firm – Hindustan Lever Limited – has paid out a dividend in the range of 50 to 75% of its net profit for entire sample period. Similarly another firm – Maharashtra Scooters Limited - maintained a dividend payout in the range of 10 to 20% for 11 of the 12-year sample period. Similarly, Kinetic Engineering Ltd., Lakshmi Machine Works Ltd., and Dalmia Cement (Bharat) Ltd. have paid out in the range of 10 – 20% for 10 of the 12-year sample period.

Figure 4.6



An analysis of industry-wise DPO shows a declining trend across all industries during the sample period (Table 4.9). Diversified firms, which have a DPO in excess of 25 percent in 1990, have less than 14 percent in 2001. Firms in metals and metal products industry have registered a high degree fall in DPO from 22.84 percent in 1990 to 8.74 percent in 2001.

Table 4.8
Distribution of Firms' Payout Percentage During 1990 - 2001

Dividend Payout %	% of Firms											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
0	26	26.5	25.3	28.9	26.6	26.7	33.3	45.4	52.8	57	55.8	56.6
0 - 10	6.9	9.3	9.2	7.2	8	6.6	5.5	3.1	3.4	3.4	3.8	3.8
10 - 20	14.5	14.1	13.9	11.9	14.3	15.6	13.6	7.9	7.6	6.7	6.6	7.6
20 - 30	16.5	17.2	16.1	13.5	15	16.7	13.7	10.9	9.8	8.2	8.9	7.9
30 - 40	12.6	12.6	13.3	12.3	12.4	12.5	10.8	8.5	7.5	6.9	6.7	6.9
40 - 50	8.2	7.1	8.8	9.5	7.7	8.7	7.3	6.4	5.4	5.2	5.4	4.8
50 - 75	10.1	9	8.9	10.5	10.2	8.6	8.6	9.1	7.8	6.7	6.5	7.1
75 - 100	3.5	2.9	2.7	4.6	4.5	3.4	5.4	5.2	3.2	3.9	4.2	3.2
100 - 200	1.2	0.9	1.4	1.3	0.9	0.9	1.4	2.1	1.6	1.3	1.5	1.5
> 200	0.4	0.2	0.4	0.4	0.3	0.3	0.4	1.3	1	0.7	0.7	0.7
Firms	1382	1714	2022	2533	3156	3770	4042	4258	4335	4503	4383	3387

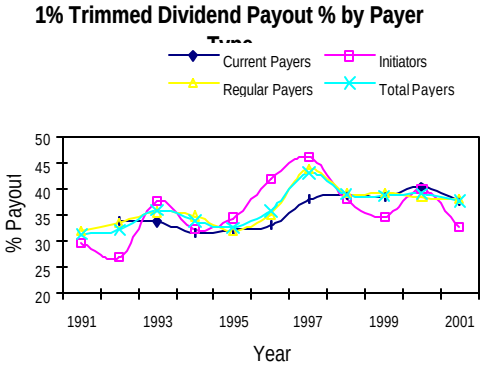
Table 4.9
Industry-wise Dividend Payout During 1990 – 2001 (in %)

INDUSTRY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Chemicals and Plastics	23.92	20.38	21.51	23.38	20.14	21.88	20.53	18.37	14.76	13.84	14.18	13.71
Diversified	25.28	20.95	22.78	25.48	22.74	23.23	21.61	23.27	19.34	17.41	17.52	13.59
Electricity	17.98	16.21	14.15	13.37	12.48	16.98	12.70	16.32	10.42	9.35	12.68	13.08
Financial Services	23.28	27.01	28.50	32.11	29.87	27.25	31.74	29.19	16.12	14.82	16.21	14.30
Food and Beverages	24.47	23.15	24.19	22.14	20.40	17.01	17.23	16.14	12.73	12.67	12.80	10.22
Machineray	23.93	20.36	22.87	23.42	23.67	22.07	20.83	19.45	16.28	15.36	15.24	15.15
Metals and Metal Product	22.84	21.47	19.86	20.65	20.92	19.76	18.82	16.78	12.56	9.37	9.16	8.74
Mining	10.28	7.29	12.28	9.56	14.04	12.10	16.58	14.65	11.50	9.87	11.98	11.76
Misc. Manufacturing	18.10	18.08	15.69	17.18	17.87	18.91	17.81	15.55	9.84	12.18	12.59	15.09
Non-Metallic Mineral Pro	19.71	17.75	16.95	16.27	14.78	14.92	13.87	13.62	10.78	9.66	8.93	11.29
Other Services	20.01	21.15	19.25	19.84	21.15	19.60	19.34	17.43	14.00	12.27	12.85	12.54
Textiles	16.83	15.98	17.26	20.98	20.54	19.20	17.30	13.84	11.29	7.99	9.04	8.02
Transport Equipment	19.31	19.96	21.61	21.29	23.26	20.99	19.69	22.46	20.96	18.74	20.18	17.29

Total payers have registered an increase in payout from 31.25% in 1991 to a peak of 43.02% in 1997 and finally paid out 37.64% in 2001 (Figure 4.7 and Appendix Table 4.12). Of the payers, regular payers have consistently paid higher payout compared to that of current payers. Further, initiators have shown higher fluctuations in their payout compared to that of regular payers.

In sum, average percentage PR showed a more stable pattern up to 1997 and then has shown a declining trend. Analysis of dividend payout recurrence shows that very few firms have maintained the same payout for a longer period of time. Industry-wise DPO shows a declining trend across all industries during the sample period. Of the payers, regular payers have consistently paid higher payout compared to that of current payers. Further, initiators have shown higher fluctuations in their payout compared to that of regular payers.

Figure 4.7



4.4 Dividend Yield

Average dividend yield for all companies during the period 1991 to 2001 has declined from 1.73% in 1991 to .55 in 1993 before finally recovering to 1.61 in 1998 and again falling marginally to 1.24% in 2001 (Table 4.10 and Figure 4.8). On the whole the dividend yield is range bound in the region of 0.5% to 1.73%. The reason for the fall in 1993 could be due to high increases in market capitalizations of a number of stocks in the face or irregularities in the stock market in 1992.

Analysis of dividend yield by type of payer shows that initiators have always paid higher levels of dividend yield compared to that of current payers and regular payers (Figure 4.9, and Appendix Table A4.23). Similarly current payers have paid higher dividend yield compared to that of regular payers.

Dividend yields of initiators have declined from 6% in 1991 to 1.51% in 1993 before recovering and reaching an all time high of 10% in 1998. Compared to this current payers yielded about 5% in 1992 before falling to 1.81 in 1993 and have subsequently recovered and reached all time high of 8.12% in 2000. On the other hand regular payers started with a yield of close to 5% but have fallen to a low of 1.5 in 1993 before reaching an all time high of 7.76% in 2000.

Table 4.10

1% Upper Trimmed Dividend Yield (%)During 1991 - 2001

Year	Mean	Median	SD	Firms
1991	1.73	.0	2.74	1452
1992	1.66	.0	2.57	1603
1993	0.55	.0	0.94	1989
1994	1.68	.0	3.02	2559
1995	1.44	.0	2.85	3481
1996	1.01	.0	1.88	4214
1997	1.46	.0	2.99	4864
1998	1.61	.0	3.80	5049
1999	1.44	.0	3.86	5235
2000	1.43	.0	3.96	5182
2001	1.24	.0	3.15	4097

Note: Median values are considered only up to 1 decimal. However, there are non-zero values.

On the whole dividend yield of aggregate payers shows a significant increase from 1991 to 2001.

Average dividend yield has differed from industry to industry (Table 4.11). Diversified firms, followed by firms in electricity, food and beverages and textiles industries paid higher dividend yields in 1991 while financial services and mining firms paid the lowest. By 2001 diversified firms and electricity continue to pay higher dividend yields where firms in transport industry have improved their dividend yields by 2001. However, food and beverages and textile firms recorded lowered their dividend yield by 2001, where as firms in financial services, and mining have improved their dividend yields.

Figure 4.8

1% Upper Trimmed Dividend Yield During 1991 - 2001

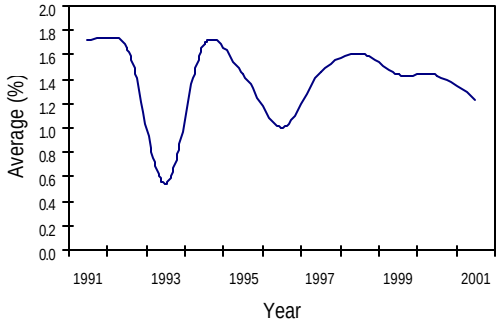
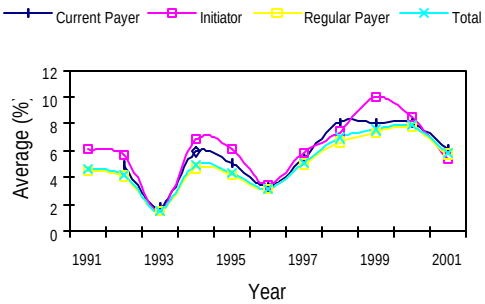


Figure 4.9

1% Upper Trimmed Dividend Yield by Payer Type



On the whole the dividend yield is range bound during the study period. Analysis of dividend yield by type of payer shows that initiators have always paid higher levels of dividend yield compared to that of current payers and regular payers. Diversified firms and firms in the electricity industry have paid higher dividend yields during the study period.

4.5 Summary of Analysis of Dividend Trends

The number of firms paying dividend during the study period has shown an up trend till 1995 and has fallen subsequently. Average DPS on the other hand has shown a steady growth except for year 2001. Average percentage PR showed a more stable pattern up to 1997 and then has shown a declining trend. Dividend yield measure is range bound.

Analysis also shows that only a few firms have consistently paid same levels of dividend. Analysis of dividend payout recurrence shows that very few firms have maintained the same payout for a longer period of time. Of the payers, regular payers have consistently paid higher payout as well as higher average dividend compared to that of current payers. Iinitiators have always paid higher levels of dividend yield compared to that of current payers and regular payers.

Further, narrower indices appear to have higher dividends compared to that of broader indices. Industry trends indicate that firms in the electricity, mining and diversified industries have paid higher dividends where as textile companies have paid less dividends. Firms in the machinery industry which includes computer hardware and software segments have shown lower dividends.

Table 4.11

Average Dividend Yield (%) Industry-Wise During 1991 - 2001

Industry	Average 1% Upper Trimmed Dividend Yield in Year										
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Chemicals and Plastics	1.79	1.92	0.55	1.68	1.39	0.99	1.55	1.91	1.82	1.66	1.35
Diversified	2.97	2.49	0.8	2.64	1.56	1.3	2.16	2.44	2.12	2.99	2.11
Electricity	2.27	1.31	0.69	1.49	1.04	1.14	1.07	0.93	0.85	1.47	1.99
Financial Services	0.2	0.9	0.41	2.28	1.98	1.45	1.87	1.29	1.05	1.33	1.03
Food and Beverages	2.18	2.06	0.58	1.4	0.92	0.7	1.21	1.63	1.38	1.12	1.06
Machinery	1.66	1.55	0.61	1.8	1.57	1.07	1.54	1.87	1.7	1.32	1.01
Metals and Metal Product	1.76	1.81	0.53	1.62	1.71	1.15	1.43	1.33	1.22	1.29	1.2
Mining	0.11	0.05	0.01	0.02	0.21	0.52	0.45	0.56	1.12	0.58	0.81
Misc. Manufacturing	1.41	0.98	0.33	1.51	1.32	0.89	1.18	1.35	1.74	1.34	1.29
Non-Metallic Mineral Products	1.74	1.55	0.49	1.15	1.02	0.86	1.08	1.36	1.46	1.66	1.43
Other Services	1.18	1.37	0.5	1.33	1.3	0.81	1.23	1.33	0.97	1.05	0.98
Textiles	2.06	1.8	0.62	2.08	1.72	1	1.41	1.74	1.48	1.65	1.6
Transport Equipment	1.53	1.48	0.55	1.61	1.36	1.22	1.97	2.42	2.24	2.76	2.04

4.6 Changes in Tax Regime and Dividend Propensity

Analysis of influence of change in tax regime on dividend propensity shows that total dividend per share has come down from an average of Rs. 0.84 to Rs. 0.71, where as average payout percentage has increased from 33.33% to 51.05% (Table 4.12). Mimicking the trends for total firms, regular payers have registered lower DPS and higher payout percentage. As opposed to these changes over sub-periods of 3 years before and after the change in tax regime, one year changes show that DPS has more or less remained at the same level, where as payout percentage has come down from 1997 to 1999.

However, paired samples t-test shows that these differences are not statistically significant, except in the case of payout percentage from 1997 to 1999 (Table 4.13).

In sum, it can be inferred from the present study that tax regime changes have not really influenced the dividend behavior of Indian corporate firms and that the tradeoff theory does not hold true in the Indian context.

Table 4.12
Average Dividends Before and After the Tax Regime Change

Sample	Variable		Mean	N	SE	Correlation	Sig.
Total Firms	Total DPS (in Rs)	After	.71	2597	.17	.519	.000
		Before	.84	2597	.24		
Regular Payers	Total DPS (in Rs.)	After	1.55	765	.27	.241	.000
		Before	1.72	765	.71		
Immediate Years	DPS (in Rs.)	1999	.22	4848	.06	.426	.000
		1997	.22	4848	.05		
Total Firms	Average Payout %	After	51.05	1217	19.19	.015	.610
		Before	33.33	1217	1.43		
Regular Payers	Average Payout %	After	60.53	1000	23.35	.008	.795
		Before	38.07	1000	1.68		
Immediate Years	Payout %	1999	27.78	2987	2.65	.072	.000
		1997	35.87	2987	2.87		

Table 4.13
Influence of Change in Tax Regime on Dividend Propensity: Paired Samples T-test

		Difference After - Before	SE	t	df	Sig.
Total DPS (in Rs.)	Total Firms	-.13	.21	-.62	2596	.536
	Regular Payers	-.17	.70	-.24	764	.810
	Immediate Years	.01	.06	.11	4847	.909
Average Payout %	Total Firms	17.72	19.23	.92	1216	.357
	Regular Payers	22.46	23.39	.96	999	.337
	Immediate Years	-8.09	3.76	-2.15	2986	.032

5. Characteristics of Dividend Payers and Non-Payers

5.1 Profitability

Payers on an average have more than twice the payoff on assets compared to that of non-payers (Table 5.1). This finding is consistent with Fama and French (2001). Of the payers Initiators appear to have on an average higher payoff on assets compared to current payers and regular payers, though their payoffs on assets have shown considerable fluctuations. Current payers and regular payers have similar levels of payoff on assets.

Of the non-payers, former payers appear to have higher payoff on assets compared to firms, which never paid dividends. Never paid in turn appears to higher payoff on assets compared to current non-payers.

An analysis of EPS of payers and non-payers shows that the former have on an average higher EPS compared to the latter. The difference in magnitude is also quite substantial compared to that of payoff on assets.

Of the payers, regular payers have consistently higher EPS compared to that of the other two groups of payers. EPS of current payers and initiators has shown considerable fluctuations over the sample period. Initiators have higher average EPS in the early part of 1990s and last few years of 1990s, where as in the intervening years their EPS has shown a decline. Current payers on the other hand shown an opposite trend compared to that of initiators.

All the non-payer groups have shown considerable fluctuations in EPS during the sample period and on average registered a decline in EPS from 1990 to 2001. An analysis of common stock earnings to book equity

shows that on an average payers have dominated non-payers as the former firms registered 24% in 1991 and 15% in 2001 to 4% and –6% by the latter in the corresponding years.

Of the payers, initiators have higher common stock earnings to book equity compared to that of regular payers and current payers. Regular payers and current payers have similar equity earnings to book equity. However there is a gradual decline in earnings to book equity from 1991 to 2001.

Of the non-payer firms, never paid firms appear to have higher equity earnings to book equity compared to current non-payers and former payers. The difference between payers and non-payers is larger in terms of stock earnings to book equity compared to payoff on firm's assets. These findings are consistent with Fama and French.

To sum up it can be concluded that profitability has positive influence on the dividend payment of a corporate firm. Dividend payers are more profitable compared to non-payers. Further, corporate firms in general and non-dividend payers in particular have become less profitable.

5.2 Growth or Investment Opportunities

An analysis of growth of assets shows that payers on an average have higher growth compared to that of non-payers. Payers have grown at percentages of 29.03 in 1991, 23.69 in 2000 and 10.82 in 2001 compared to 18.65, 4.12 and 1.86 in the corresponding years for non-payers.

Of the payers initiators appear to have higher growth percentage compared to that of regular payers. Initiators have grown at percentages of 29.87 in 1991, 49.13 in 2000 and 57.54 in 2001 compared to 28.92, 23.59 and 6.78 in the corresponding years for regular payers. Regular payers in turn appear to have higher growth compared to that of current payers.

Of the non-payers, never paid have on an average lower growth in assets compared to former payers and current payers. These findings are not consistent with Fama and French where they find never paid firms to have higher growth in assets compared to that of other non-payer and payer groups. Similar trends are observed with regard to growth opportunities as measured by R&D investment to total assets. Payers appear to have higher growth opportunities compared to non-payers.

Of the payers, regular payers have higher growth opportunities compared to initiators and current payers. Of the non-payers, never paid appears to have lower growth opportunities compared to current non-payers. However the percentage growth opportunities for payers as well as for non-payers are considerably low as the payers on an average have 0.02% in 1991 and 0.27% in 2001 compared to 0.003% and 0.0447% in the corresponding years for non-payers.

An analysis of aggregate market value to book value of assets shows that payers and non-payers do not differ significantly. However, there are differences with in the payer and non-payer groups. For instance, initiators appear to have higher market value to book value compared to regular and current payers, where as in non-payer group, former payers appear to be dominated by both never paid and current non-payers.

On the whole in the Indian context higher growth and growth opportunities have not resulted in lower dividend payments by corporate firms. This finding contradicts the findings of Fama and French, whereby they contend that growth opportunities are an important reason for reduced dividend payments by firms.

5.3 Size

Dividend payers appear to be much larger in size compared to that of non-payers. This observation is consistent with Fama and French (2001). Average size as measured by assets of payers averaged Rs. 104.4 crore in 1991 and Rs. 1413.43 in 2001 compared to that of Rs. 56.92 and Rs. 181.20 in the corresponding years for non-payers.

Of the payers, regular payers have higher assets compared to that of current payers. Current payers in turn have higher assets compared to initiators. Similarly, regular payers have grown an average asset base of Rs. 112 crore in 1991 to Rs. 1711 crore in 2001 compared to Rs. 54.71 crore and Rs. 581.48 core for initiators and Rs. 47.11 crore in 1992 and Rs. 654.9 crore for current payers.

Of the non-payers, former payers appear to have higher assets compared to current never paid who in turn have higher asset base compared to current non-payers. Asset base of former payers has grown from Rs. 90.14 crore in 1991 to Rs. 239.2 crore in 2001 while in the corresponding period never paid have grown from Rs. 51.69 crore to Rs. 80.57 crore. However, current non-payers have registered a decline in their asset base from Rs. 43.5 crore to Rs. 18.73 crore during the same period.

An analysis of indebtedness of firms shows that non-payers appear to have higher levels of long-term borrowings to assets compared to that of payers. Of the non-payers, never paid appears to have higher long-term borrowings to assets compared to former payers, who in turn appear to have higher levels compared to current non-payers. Of the payers, regular payers appear to have higher long-term borrowings to assets compared to current payers. Current payers in turn have higher levels compared to initiators.

On the whole, the size of assets of firms have gone up during the period 1990 – 2001 and that increased assets seems to have been financed through long-term borrowing implying pecking order of preference for funds.

Table 5.1
Characteristics of Dividend Payers and Non-Payers

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Average % Payoff on Assets											
Current Payers		11.20	12.23	12.67	13.99	12.27	11.38	11.44	9.98	10.02	10.39
Initiators	9.79	15.15	12.57	15.19	13.66	11.25	10.86	2.56	17.02	14.95	14.20
Regular Payers	11.69	12.03	12.00	12.24	12.21	12.02	11.82	11.38	11.31	11.17	11.56
Total Payers	11.44	12.32	12.07	12.58	12.56	11.99	11.71	11.16	11.18	11.02	11.38
Current Non-Payers	6.58	5.16	3.69	3.16	1.99	3.67	2.36	1.71	6.30	-5.81	-3.63
Former Payers	10.24	7.41	6.23	5.37	5.94	9.06	4.81	1.89	0.05	-1.52	-0.04
Never Paid	4.44	6.71	5.29	4.91	5.73	3.89	3.19	2.51	0.63	-0.17	2.65
Total Non-Payers	5.49	6.68	5.29	4.79	5.41	5.61	3.88	2.18	0.31	-0.97	0.94
Average 1% Trimmed EPS											
Current Payers		3.20	4.83	7.30	6.95	6.81	5.15	4.98	6.17	6.99	7.04
Initiators	7.05	7.47	5.49	4.53	3.98	4.01	3.88	7.10	6.19	4.76	4.07
Regular Payers	14.11	12.79	9.07	9.37	8.90	8.58	8.52	9.15	9.57	11.69	11.78
Total Payers	13.20	11.97	8.46	8.67	8.15	8.02	7.82	8.29	8.78	10.30	10.33
Current Non-Payers	-1.61	-1.18	-0.49	-0.35	0.28	0.19	0.36	1.32	0.83	-3.42	-0.22
Former Payers	0.71	-2.72	-3.45	-1.64	0.51	1.57	-0.73	-2.58	-4.34	-4.38	-4.31
Never Paid	0.07	1.41	-0.88	-0.62	0.59	0.12	-0.41	-0.92	-1.10	-1.08	-0.42
Total Non-Payers	0.04	0.49	-1.41	-0.81	0.54	0.60	-0.54	-1.77	-2.99	-3.02	-2.87
Average Common Stock Earnings to Book Equity %											
Current Payers		21	18	23	20	20	15	14	14	15	15
Initiators	29	39	27	32	26	25	22	25	25	21	23
Regular Payers	22	20	19	21	22	19	16	16	15	17	14
Total Payers	24	24	21	24	23	20	16	16	16	17	15
Current Non-Payers	-15	-7	-41	13	4	-6	-4	50	16	15	50
Former Payers	8	-27	58	72	-65	-26	-36	-8	31	-46	-17
Never Paid	14	23	47	14	10	-7	-6	2	4	-2	5
Total Non-Payers	4	13	23	21	-3	-11	-15	1	16	-20	-6
Average % Growth (Assets)											
Current Payers		46.25	27.29	27.95	55.23	39.16	38.62	16.95	15.75	20.92	17.47
Initiators	29.87	92.24	66.77	50.41	93.31	2908.81	51.10	41.09	57.68	49.13	57.54
Regular Payers	28.92	62.44	32.20	36.31	61.54	19.70	54.26	21.24	26.15	23.59	6.78
Total Payers	29.03	63.66	33.40	36.17	62.42	145.56	51.63	20.89	24.70	23.69	10.82
Current Non-Payers	16.13	2.34	26.55	46.48	0.00						

Table 5.1
Characteristics of Dividend Payers and Non-Payers

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Former Payers	29.50	36.26	6.65	12.65	26.38	11.89	32.97	5.30	0.52	0.55	1.01
Never Paid	16.37	39.77	9.59	14.74	32.09	20.13	281.29	10.98	5.06	9.80	3.47
Total Non-Payers	18.65	38.05	9.01	14.46	30.35	16.91	164.07	7.95	2.33	4.12	1.86
Average % Aggregate Market Value to Book Value of Assets											
Current Payers		151.43	74.39	113.22	122.15	82.86	56.38	58.75	95.41	198.87	61.78
Initiators	113.22	301.63	101.57	227.90	193.18	200.89	79.02	125.80	323.85	688.46	212.80
Regular Payers	117.01	219.69	111.52	153.81	147.09	118.01	78.10	81.34	148.16	165.82	87.37
Total Payers	116.51	226.08	108.24	157.58	149.38	119.84	74.68	78.12	141.18	191.89	86.00
Current Non-Payers	119.83	280.04	125.33	113.40	138.36	171.23	74.53	63.71		171.59	27.76
Former Payers	68.11	121.58	65.79	78.82	84.93	68.29	45.55	41.31	49.49	64.09	47.27
Never Paid	146.19	247.66	105.09	130.99	134.11	271.69	79.16	60.47	68.57	105.56	664.76
Total Non-Payers	132.19	230.35	98.84	116.90	123.39	202.44	64.61	50.55	57.12	81.14	272.24
Average % Growth Opportunities (R&D to Assets)											
Current Payers		0.01	0.17	0.09	0.16	0.18	0.13	0.14	0.11	0.08	0.22
Initiators	0	0.00	0.01	0.03	0.05	0.03	0.07	0.01	0.00	0.05	0.10
Regular Payers	0.03	0.05	0.13	0.16	0.19	0.22	0.22	0.22	0.27	0.18	0.29
Total Payers	0.02	0.04	0.11	0.12	0.16	0.19	0.19	0.19	0.20	0.14	0.27
Current Non-Payers	0.00320	0.00020	0.00010	0.00000	0.00290	0.00000	0.00030	0.00000	0.00000	0.00020	0.00000
Former Payers	0.01020	0.05210	0.06370	0.06920	0.06860	0.16400	0.07520	0.09040	0.07580	0.05700	0.07510
Never Paid	0.00240	0.00610	0.01540	0.02910	0.02920	0.04740	0.03270	0.04830	0.02200	0.02320	0.01600
Total Non-Payers	0.0031	0.0089	0.0172	0.0243	0.0259	0.0685	0.0434	0.0615	0.0422	0.0363	0.0447
Average Long-Term Borrowings to Assets											
Current Payers		24	24	21	20	23	20	21	18	17	18
Initiators	33	25	23	15	14	18	15	32	5	5	13
Regular Payers	31	25	24	24	23	28	22	20	18	16	17
Total Payers	32	25	24	22	21	26	21	21	17	16	17
Current Non-Payers	22	21	18	13	6	5	2	1	0	1	1
Former Payers	33	28	26	24	21	22	21	23	25	25	25
Never Paid	57	49	45	41	34	113	27	25	23	26	44
Total Non-Payers	48	41	35	31	25	78	24	23	23	25	33
Average Assets											
Current Payers		47.41	70.66	82.36	167.45	166.17	390.66	503.89	599.65	590.23	654.90
Initiators	54.71	47.88	1314.34	45.60	47.06	33.98	75.89	65.06	435.68	107.72	581.48
Regular Payers	112.00	156.35	233.57	391.44	377.02	397.83	630.04	942.39	1233.47	1550.57	1711.13
Total Payers	104.40	142.09	326.28	326.38	318.96	341.94	571.88	835.89	1083.68	1265.88	1413.43
Current Non-Payers	43.50	77.72	34.30	38.05	13.35	24.37	13.02	7.55	24.26	65.09	18.73
Former Payers	90.14	106.20	98.56	106.24	81.26	55.59	70.47	122.97	172.29	166.22	239.20
Never Paid	51.69	52.68	60.66	53.63	47.08	42.87	48.50	64.99	82.18	85.62	80.57
Total Non-Payers	56.92	63.53	65.74	63.50	51.47	46.85	57.60	94.89	134.95	133.16	181.20

5.4 Logit Analysis of Size, Profitability and Investment opportunities

An analysis of the effects of size, profitability and investment opportunities on the likelihood that a firm pays dividend shows that larger firms are more likely to pay dividends compared to small firms as measured by market capitalization percentile, and profitable firms are more likely to pay higher dividends compared to less profitable firms or loss making firms (Table 5.2). These results are consistent with Fama and French (2001). However, the likelihood that firms with more investment opportunities pay less or more dividend is not statistically significant, though the results show that firms with more asset growth are more likely to pay dividends than firms with less asset growth. This result contradicts the findings of Fama and French where their study finds that firms with more investment opportunities pay lower dividends.

Table 5.2

Logit Analysis: Characteristics of Dividend Payers and Non-Payers

						Pseudo R2		
	Intercept	Market Cap Percentile	Market Value to Book Value of Assets	Growth Rate of Assets	Payoff on Firms Assets	Cox & Snell	Nagelkerke	Firms
1991	-1.368	0.024	-0.001	0.004	0.143	18%	26%	728
	0.266	0.004	0.002	0.003	0.020			
1992	-0.828	0.021	-0.002	0.003	0.118	13%	20%	824
	0.244	0.004	0.001	0.001	0.017			
1993	-1.872	0.028	-0.003	0.020	0.135	26%	38%	1033
	0.218	0.003	0.001	0.003	0.015			
1994	-1.984	0.032	-0.002	0.007	0.133	27%	38%	1259
	0.189	0.003	0.001	0.002	0.013			
1995	-1.836	0.035	-0.002	0.004	0.084	25%	35%	1712
	0.155	0.002	0.001	0.001	0.010			
1996	-3.006	0.046	0.000	0.001	0.083	33%	45%	2478
	0.143	0.002	0.001	0.000	0.008			
1997	-3.647	0.052	-0.004	0.000	0.100	38%	51%	3186
	0.134	0.002	0.001	0.000	0.008			
1998	-3.912	0.053	-0.001	0.003	0.061	35%	47%	3116
	0.143	0.002	0.001	0.001	0.006			
1999	-5.012	0.057	-0.001	0.011	0.157	43%	58%	2789
	0.197	0.003	0.000	0.002	0.010			
2000	-3.912	0.047	0.000	0.001	0.096	35%	48%	2697
	0.159	0.002	0.000	0.001	0.007			
2001	-4.356	0.057	-0.002	0.002	0.073	37%	51%	2332
	0.188	0.003	0.000	0.001	0.007			
Avg	-2.885*	0.041*	-0.002	0.005*	0.108*			
	0.185	0.003	0.001	0.001	0.011			
T	-15.586	15.067	-2.000	3.733	9.777			

*Significant at .05 level

6. Signaling Hypothesis: Case of Dividend Initiations and Omissions

On an average slightly more than 50 companies initiated dividends in each year during the sample period, while omissions have increased from 29 in 1994 to a maximum of 299 in 1998 before dropping to 138 in 2001 (Table 6.1, and Figure 6.1). Industry-wise analysis of dividend initiations show that chemicals and plastics industry firms have registered the highest number of initiations followed by firms in machinery industry (Table 6.2 and Figure 6.2 and 6.3). Electricity firms registered the lowest initiations. Similar industry trends were observed in the case of dividend omissions by firms.

Table 6.1
Dividend Initiations and Omissions During 1993-2001

	Number of Firms and Dividend				
Year	Initiations	Omissions	Paid	Not Paid	Total
1993	34	47	1823	1274	3097
1994	70	29	2333	1687	4020
1995	54	48	2775	2340	5115
1996	62	141	2723	2877	5600
1997	55	227	2386	3469	5855
1998	50	299	2101	3879	5980
1999	60	218	2007	4241	6248
2000	81	133	1988	4237	6225
2001	53	138	1531	3235	4766

Table 6.2

Industry-wise Dividend Initiations and Omissions During 1993-2001

	Dividend Initiations										Dividend Omissions									
Industry	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**Total**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**Total**
Chemicals and Plastics	7	15	9	12	7	7	9	13	11	90	5	9	5	22	31	48	34	20	23	197
Diversified		2	3	1	2	2	2	1	2	15	2	3	6	3	4	9	5	3	9	44
Electricity		2			2		2			6					2	1	1		1	5
Financial Services	2	4	3	7	2	6	13	23	6	66	1		1	10	44	65	33	14	16	184
Food and Beverages	3	8	7	2	4	2	5	7	3	41	3	1	2	21	11	14	15	16	12	95
Machinery	6	9	7	7	9	10	12	18	8	86	5	7	5	14	26	36	31	22	26	172
Metals and Metal Product	3	4	6	7	3	1	1	5	3	33	11	2	4	16	27	31	20	10	6	127
Mining	1			4	2	1	1		4	13				1	2	3		1	2	9
Misc. Manufacturing	3	6	3	2	2	3	1	1	5	26	3		1	3	13	12	9	4	3	48
Non-Metallic Mineral Pro	.	3	2	3	2	2	1	3	1	17	4	2	3	1	11	11	4	7	2	45
Other Services	5	5	6	8	9	5	7	7	10	62	3	3	7	13	22	28	26	23	19	144
Textiles	2	7	2	4	4	8	4	2		33	7	2	13	36	29	28	30	6	10	161
Transport Equipment	2	5	6	5	7	3	2	1		31	3		1	1	5	13	10	7	9	49

Figure 6.1

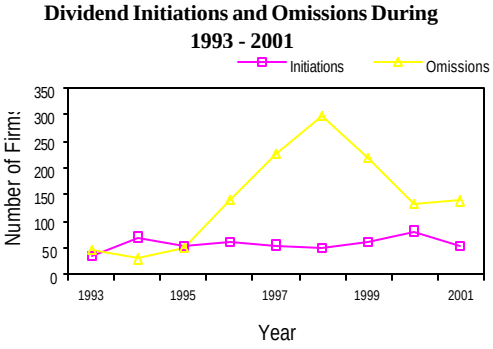


Figure 6.2

Industry-wise Dividend Initiations During 1993-2001

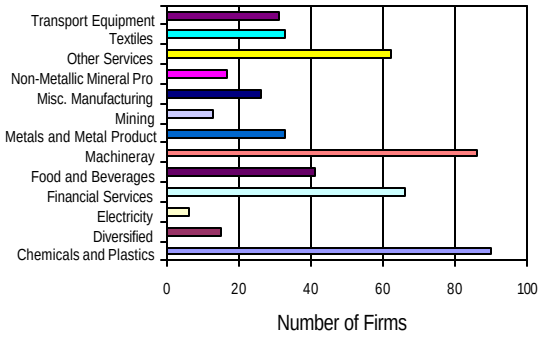
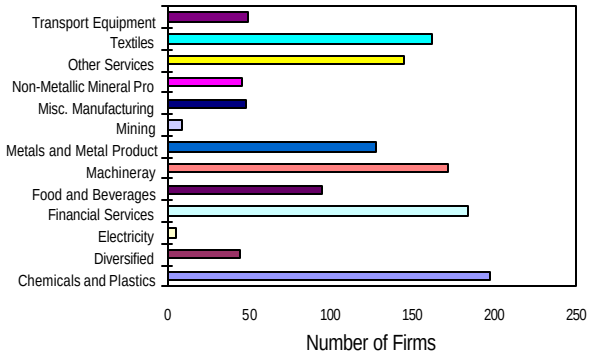


Figure 6.3

Industry-Wise Dividend Omissions 1993-2001



An analysis of past and future levels of standardized earnings of dividend omitting and initiating firms show that the former have lower and negative average earnings compared to that of latter (Table 6.3). Firms, which omitted dividends in the current year, have average negative earnings in the current and all 3 future years. This implies that the decision to omit dividends is based on the current earnings and expected future earnings. Firms, which initiate dividends on the other hand, have positive and increasing past earnings and the current earnings have reached the highest level. Initiators have positive future earnings for the next period but on average have negative earnings 2 years after the dividend initiation.

Average earnings of dividend omitting firms have shown significant difference over the past 3 and next 3 years, where as initiating firms have exhibited a contrasting trend (Table 6.4). This implies that Firms omitting dividends have experienced a change in their earnings pattern, where as the initiating firms have similar past, current and future earnings.

Table 6.3
Past and Future Levels of Standardized Earnings for Initiating and Omitting Firms

	Omissions			Initiations		
Year	Mean	SD	Firms	Mean	SD	Firms
-3	6.08	16.60	730	-5.24	42.72	246
-2	4.64	14.89	851	1.79	30.00	263
-1	1.80	7.85	918	2.28	38.70	270
0	-7.63	26.35	921	7.22	40.80	285
1	-7.34	20.76	719	4.47	9.14	253
2	-7.96	28.85	606	-7.75	163.55	206
3	-7.82	33.67	460	1.20	15.55	181
Total	-2.05	22.37	5205	.94	64.78	1704

Dunnett's C (Post Hoc) test – a pair-wise comparison test based on Studentized range when the variances are unequal – also shows similar results (Table 6.5). Current earnings are statistically significant from t-3 year, t-2, and t-1 year earnings, where as they are not significantly different from next 1, 2 and 3 year earnings. This reinforces the finding that dividend omission decision is based on the perception that earnings trend has reversed.

Dunnett's C test shows that current earnings for initiating firms are not significantly different from that of past 1 and 2 year earnings and next 1, 2 and 3 year earnings, where as they are significantly different from that of t-3 years.

To sum up, firms omit dividend at the sign of first trouble where as firms take a while before they initiate dividend payments.

Table 6.4
One-Way ANOVA of Past and Future Earnings and Dividend Initiations and Omissions

	Omissions					Initiations				
	Sum of Squares	df	Mean Square	F	Sig.	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	185090	6	30848.4	66.3	.000	40040	6	6673.4	1.594	.145
Within Groups	2418420	5198	465.3			7106691	1697	4187.8		
Total	2603510	5204				7146732	1703			

Table 6.5
Dunnett's C Post Hoc Test for Analysis of Influence of Past and Future Earnings on Omissions

		Omissions		Initiations	
Year	Associated Year	Mean Difference	SE	Mean Difference	SE
-3	-2	1.4	.8	-7.0	3.3
	-1	4.3*	.7	-7.5	3.6
	0	13.7*	1.1	-12.5*	3.6
	1	13.4*	1.0	-9.7*	2.8
	2	14.0*	1.3	2.5	11.7
	3	13.9*	1.7	-6.4	3.0
-2	-3	-1.4	.8	7.0	3.3
	-1	2.8*	.6	-.5	3.0
	0	12.3*	1.0	-5.4	3.0
	1	12.0*	.9	-2.7	1.9
	2	12.6*	1.3	9.5	11.5
	3	12.5*	1.7	.6	2.2
-1	-3	-4.3*	.7	7.5	3.6
	-2	-2.8*	.6	.5	3.0
	0	9.4*	.9	-4.9	3.4
	1	9.1*	.8	-2.2	2.4
	2	9.8*	1.2	10.0	11.6
	3	9.6*	1.6	1.1	2.6
0	-3	-13.7*	1.1	12.5*	3.6
	-2	-12.3*	1.0	5.4	3.0
	-1	-9.4*	.9	4.9	3.4
	1	-.3	1.2	2.8	2.5
	2	.3	1.5	15.0	11.6
	3	.2	1.8	6.0	2.7
1	-3	-13.4*	1.0	9.7*	2.8
	-2	-12.0*	.9	2.7	1.9
	-1	-9.1*	.8	2.2	2.4
	0	.3	1.2	-2.8	2.5
	2	.6	1.4	12.2	11.4
	3	.5	1.8	3.3	1.3
2	-3	-14.0*	1.3	-2.5	11.7
	-2	-12.6*	1.3	-9.5	11.5
	-1	-9.8*	1.2	-10.0	11.6
	0	-.3	1.5	-15.0	11.6
	1	-.6	1.4	-12.2	11.4
	3	-.1	2.0	-8.9	11.5
3	-3	-13.9*	1.7	6.4	3.0
	-2	-12.5*	1.7	-.6	2.2
	-1	-9.6*	1.6	-1.1	2.6
	0	-.2	1.8	-6.0	2.7
	1	-.5	1.8	-3.3	1.3
	2	.1	2.0	8.9	11.5

* The mean difference is significant at the .05 level.

7. Signaling Hypothesis: Case of Dividend Reductions

To analyze the relationship between dividends and losses a sample is drawn with firms having consistent profitability and dividend track records during 1990 – 1995 and who have earnings and dividend information for the period 1996 – 2001. This process yielded a sample of 599 firms out of which 363 have no losses during the period of 1996 – 2001, where as the remaining 236 firms had at least one negative earnings (Table 7.1). Among the loss sample, one-fourth of them have a single year loss where as 45 firms have 2 loss years, while 5 firms have losses during all 6 years. However, there is an increasing trend in the proportion of firms

reported loss in the sample over the period 1996 – 2001. Percentage of loss firms has increased from 2.7% in 1996 to 27.2% in 2001.

Table 7.1
Distribution of Firms In Terms of Earnings Performance During 1996 - 2001

No. of Loss Years	No. of Firms with		
	Loss	No Loss	Total
None		363	363
1	99		99
2	45		45
3	40		40
4	30		30
5	17		17
All	5		5
Total	236	363	599

Earnings Performance During 1996 - 2001						
	1996	1997	1998	1999	2000	2001
No Loss	583	556	520	485	470	436
%	97.3	92.8	86.8	81.0	78.5	72.8
Loss	16	43	79	114	129	163
%	2.7	7.2	13.2	19.0	21.5	27.2

Out of 599 firms in the sample, only 15 firms have recorded consistent dividend payment record where as the remaining firms have reduced dividend at least for one year (Table 7.2). Out of the total 584 dividend reducing firms, 11% have reduced dividend per share once, 19.9% of firms twice, 22% of firms thrice where as 11.4% of firms in the sample reduced dividend per share in all the 6 years of sample period.

The incidence of annual dividend omission is not so severe compared to reductions during the sample period, as 61.3% of firms in the sample have not skipped even once their dividends, where as 8.7% skipped once, 5.2% skipped twice, where as around 25% of firms have skipped three or more years.

Table 7.2
Distribution of Firms In Terms of Dividend Reductions and Omissions During 1996 - 2001

No. of Years	Reduced Firms	%	Skipped Firms	%
None	15	2.5	367	61.3
1	66	11.0	52	8.7
2	119	19.9	31	5.2
3	132	22.0	41	6.8
4	115	19.2	43	7.2
5	84	14.0	32	5.3
6	68	11.4	33	5.5
Total	599	100	599	100

	Year					
	1996	1997	1998	1999	2000	2001
Reduction	249	258	365	339	339	438
%	41.6	43.1	60.9	56.6	56.6	73.1
No Reduction	350	341	234	260	260	161
%	58.4	56.9	39.1	43.4	43.4	26.9
Skipped	48	77	114	151	170	207
%	8.0	12.9	19.0	25.2	28.4	34.6
Not Skipped	551	522	485	448	429	392
%	92.0	87.1	81.0	74.8	71.6	65.4

A preliminary analysis of the impact of losses on dividend reduction shows that firms with no losses for the entire sample period have also reported dividend reductions albeit to a low extent compared to that of firms with more recurring losses (Table 7.3). The 15 firms, which have shown no reduction in dividend per share in all years of the sample period, have also recorded no negative earnings performance during the sample period. Out of a total of 363 firms which recorded positive earnings during the entire sample period 17.6% firms have reduced dividends for 1 year, 28.9%, 25.6%, 15.2%, 6.1% and 2.5% firms have reduced for 2, 3, 4, 5 and in all years respectively. Compared to this firms with more recurring losses have shown more frequent reductions as all the 99 firms with 1 loss year have reduced dividend for at least one year, where as 45 firms with 2 loss years, 40 firms with 3 loss years have reduced dividend at least for two years. Five firms who have recorded losses in all the 6 years have also reduced divided through out the sample period.

Further, null hypothesis of no association between losses and dividend reductions is rejected at the 5% significance level indicating the significance of losses for dividend reductions. The Kendall's tau-b value of 0.538 indicates that the association is positive and degree of association is significant.

Table 7.3
Earnings Performance and Dividend Reductions

No. of Loss Years		No. of Years Reduced							
		None	1	2	3	4	5	All	Total
None	Firms	15	64	105	93	55	22	9	363
	Row %	4.1	17.6	28.9	25.6	15.2	6.1	2.5	100
	Column %	100	97.0	88.2	70.5	47.8	26.2	13.2	60.6
1	Firms		2	12	26	34	18	7	99
	Row %		2.0	12.1	26.3	34.3	18.2	7.1	100
	Column %		3.0	10.1	19.7	29.6	21.4	10.3	16.5
2	Firms			1	12	11	13	8	45
	Row %			2.2	26.7	24.4	28.9	17.8	100
	Column %			.8	9.1	9.6	15.5	11.8	7.5
3	Firms			1	1	10	13	15	40
	Row %			2.5	2.5	25.0	32.5	37.5	100
	Column %			.8	.8	8.7	15.5	22.1	6.7
4	Firms					5	12	13	30
	Row %					16.7	40.0	43.3	100
	Column %					4.3	14.3	19.1	5.0
5	Firms						6	11	17
	Row %						35.3	64.7	100
	Column %						7.1	16.2	2.8
All	Firms							5	5
	Row %							100	100
	Column %							7.4	.8
Total	Firms	15	66	119	132	115	84	68	599
	Row %	2.5	11.0	19.9	22.0	19.2	14.0	11.4	100
	Column %	100	100	100	100	100	100	100	100

Kendall's tau-b				
Value	**Asymp. Std. Error**	**Approx. T**	**Approx. Sig.**	**Firms**
.538	.022	19.579	.000	599

An analysis of the association between earnings performance and annual dividend omission shows that the incidence of annual omission is severe in the case of firms with more recurring losses (Table 7.4). Out of

a total of 363 firms with positive earnings through out the sample period, 90% of the firms have not skipped dividends even for a single year. Compared to this only 33.3% of firms with 1 year loss, 13.3 % with 2 year losses, 2.5% with 3 year losses have not skipped dividend during the entire sample period, where as none of the firms with 4 or more years of losses have paid regular dividends during the sample period. Further, the null hypothesis of no association between earnings performance as measured by no of loss years and dividend omissions as measured by number of years dividend skipped is rejected at the 5% significance level. The Kendall's tau-b value of 0.703 indicates that the association between losses and dividend omissions is positive and degree of influence is considerable.

Table 7.4
Earnings Performance and Annual Dividend Omissions

No. of Loss Years		No. of Years Skipped							
		None	1	2	3	4	5	All	Total
None	Firms	327	8	4	5	8	4	7	363
	Row %	90.1	2.2	1.1	1.4	2.2	1.1	1.9	100
	Column %	89.1	15.4	12.9	12.2	18.6	12.5	21.2	60.6
1	Firms	33	39	11	7	3	2	4	99
	Row %	33.3	39.4	11.1	7.1	3.0	2.0	4.0	100
	Column %	9.0	75.0	35.5	17.1	7.0	6.3	12.1	16.5
2	Firms	6	5	10	9	9	5	1	45
	Row %	13.3	11.1	22.2	20.0	20.0	11.1	2.2	100
	Column %	1.6	9.6	32.3	22.0	20.9	15.6	3.0	7.5
3	Firms	1		3	12	13	2	9	40
	Row %	2.5		7.5	30.0	32.5	5.0	22.5	100
	Column %	.3		9.7	29.3	30.2	6.3	27.3	6.7
4	Firms			1	7	10	8	4	30
	Row %			3.3	23.3	33.3	26.7	13.3	100
	Column %			3.2	17.1	23.3	25.0	12.1	5.0
5	Firms			2	1		11	3	17
	Row %			11.8	5.9		64.7	17.6	100
	Column %			6.5	2.4		34.4	9.1	2.8
All	Firms							5	5
	Row %							100	100
	Column %							15.2	.8
Total	Firms	367	52	31	41	43	32	33	599
	Row %	61.3	8.7	5.2	6.8	7.2	5.3	5.5	100
	Column %	100	100	100	100	100	100	100	100

Kendall's tau-b				
Value	Asymp. Std. Error	Approx. T	Approx. Sig.	Firms
.703	.025	20.579	.000	599

The importance of annual losses on dividend reductions and annual dividend omissions has been analyzed with the help of logit analysis (Table 7.6). For this analysis a pooled sample of 576 firms is used with 236 loss firms and 340 no loss firms but with an earnings decline in the event year.

The dependent variable equals zero if a firm has maintained or increased its dividend per share and is equal to one if the firm announced a reduction in dividend per share. The loss dummy assumes a value of one if the firm reports a loss for the year under study and zero otherwise. The level of net income and changes in net income are standardized with the previous year's net worth for each firm. For firms in loss sample, the initial loss year constitutes the event year where as for non-loss firms, the initial year of earnings decline constitutes the event year. This process has resulted in a loss of 23 firms from the 599 firms as these 23 firms have not reported any earnings decline during the 1996 – 2001 period. The deletion of 23 firms and

focus on declining income years for non-loss sample is justified because firms seem unlikely to cut dividends when earnings are positive and increasing. This is consistent with DeAngelo, DeAngelo and Skinner (1992).

Table 7.5
Distribution of Firms by Change in Net Income

% Change	1996		1997		1998		1999		2000		2001	
	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%
< -100			2	.3	5	.8	6	1	5	.8	10	1.7
-100 - -50	4	.7	2	.3	5	.8	3	.5	14	2.3	12	2
-50 - 0	206	34.4	307	51.3	274	45.7	319	53.3	242	40.4	298	49.7
No Change	1	.2	2	.3			4	.7	2	.3	2	.3
0 - 50	382	63.8	282	47.1	311	51.9	261	43.6	324	54.1	260	43.4
50 - 100	4	.7	1	.2	3	.5	2	.3	3	.5	9	1.5
> 100	2	.3	3	.5	1	.2	4	.7	9	1.5	8	1.3
Total	599	100	599	100	599	100	599	100	599	100	599	100
-ve Change	211	35.2	313	52.3	284	47.4	332	55.4	263	43.9	322	53.8
+ve Change	388	64.8	286	47.7	315	52.6	267	44.6	336	56.1	277	46.2
Total	599	100	599	100	599	100	599	100	599	100	599	100

The loss dummy is positive and significant in all the models where individually and collectively it explains a reduction in dividend. The positive sign of the coefficient indicates that in firms that report losses there is a higher probability of dividend reduction. This is consistent with DeAngelo, DeAngelo and Skinner who find negative influence of losses on dividends[11].

Level of net income has significantly negative impact on dividend reduction implying that firms with higher levels of net income have lower dividend reductions and vice versa. Further, change in net income has also negatively impacted dividend reductions implying that positive (negative) changes in net income have resulted in lower (higher) dividend reductions.

When compared with other simple models of dividend reductions, loss dummy alone has greater explanatory power compared to level of net income and change in net income individually. Addition of level of net income or change in net income to the model improves the explanatory power marginally. However, a model with both level of and change in net income has comparatively less explanatory power compared to loss dummy alone.

Table 7.6
Logit Regression: Dividend Reductions and Earnings Performance

Parameters	1	2	3	4	5	6	7
Constant	0.094	0.493*	0.219	-0.128	1.053*	1.471*	-0.089
	(0.75)	(5.11)	(0.731)	(.814)	(25.37)	(111.83)	(0.38)
Loss Dummy	3.256*	2.51*	2.37*	2.856*			
	(75.08)	(25.22)	(22.96)	(50.95)			
Level of Net Income		-0.026*	-0.021		-0.07*	-0.08*	
		(4.46)	(2.61)		(51.39)	(84.65)	
Change in Net Income			-0.028*	-0.032*	-0.038*		-0.098*
			(4.09)	(5.65)	(6.44)		(48.23)
Pseudo R^2							
Cox & Snell	24%	25%	25%	25%	22%	21%	13%
Nagelkerke	34%	35%	36%	36%	31%	29%	19%

Note: * significant at .05 level
Figures in the parentheses are wald statistic values

[11] The difference in the sign is due to the difference in the assignment of codes to the dependent variable. In the present study the dependent variable assumes a value of 1 if there is a reduction in dividend per share where as DeAngelo, DeAngelo and Skinner assume a value of 0 for a dividend reduction.

Logit regression analysis of the determinants of annual dividend omissions shows that loss dummy is significant and has positive impact on dividend omissions (Table 7.7). However, the level of net income has more impact on dividend omissions compared to loss dummy and change in net income as it had more explanatory power compared to others on an individual basis. Further, level of net income is inversely related to dividend omissions implying that firms with higher net income have lower dividend omissions and vice versa.

From the previous logit analysis it is clear that current losses are an important determinant of dividend reductions for firms with established track record. However, there are 8 firms out of a total of 236 firms with losses that did not reduce dividends (Table 7.8). The incidence of dividend reduction is much more severe in the case of Indian firms compared to that of NYSE as analyzed by DeAngelo, DeAngelo and Skinner.

Table 7.7
Logit Regression: Annual Dividend Omissions and Earnings Performance

Parameters	1	2	3	4	5	6	7
Constant	-3.225*	-1.496*	-0.859*	-3.61*	-0.466*	-0.982*	-2.144*
	(130.04)	(1744)	(3.86)	(134.02)	(4.30)	(42.76)	(156.13)
Loss Dummy	4.171*	0.862	0.564	3.69*			
	(172.24)	(2.669)	(1.12)	(125.59)			
Level of Net Income		-0.151*	-0.191*		-0.217*	-0.184*	
		(37.76)	(37.46)		(103.69)	(134.41)	
Change in Net Income			0.043*	-0.044*	-0.049*		-0.10*
			(6.59)	(15.04)	(8.59)		(95.47)
Pseudo R^2							
Cox & Snell	44%	50%	50%	46%	50%	50%	24%
Nagelkerke	61%	70%	70%	64%	70%	70%	33%

Note: * significant at .05 level
Figures in the parentheses are wald statistic values

Table 7.8
Association between Loss and Dividend Reduction

	Dividend		Total
	No Reduction	Reduction	
No Loss	162	178	340
Loss	8	228	236
Total	170	406	576

An analysis of mean differences in earnings – past and future – for dividend reducing and non-reducing firms shows statistically different earnings over different periods for dividend reducing firms, where as for non-reducing firms no difference in earnings levels are observed (Table 7.9).

Further, Dunnett's C test of mean differences in earnings performance shows that for dividend reducing firms earnings in t-1, t, t+1, and t+2 are statistically different from each other and that the earnings are declining from t-1 through t+2 (Table 7.10). However, earnings of firms that have not reduced dividends appear to be at the same level from the period t-2 through t+2. On the whole from the analysis of mean differences in earnings, it can be inferred that consistent earning levels have resulted in stable or positive dividend payments, where as consistent and significant reduction in past or expected earnings have negatively impacted the dividends.

Table 7.9
Test of Mean Difference in Earnings between Lagged and Future Years

	Sum of Squares	df	Mean Square	F	Sig.
Reductions					
Between Groups	73082.0	4	18270.5	11.5	.000
Within Groups	4390586.9	2757	1592.5		
Total	4463668.9	2761			
Non-Reductions					
Between Groups	4720.7	4	1180.2	.777	.540
Within Groups	3075645.2	2026	1518.1		
Total	3080365.9	2030			

Logit analysis of the impact of lagged, current and future earnings performance on annual dividend changes shows that current earnings explain a relatively higher 9% change in Dividends compared to that of past (5%) and future earnings (6.8% for t+1 and 6.2% for t+2) (Table 7.11). Earnings in t-1, t+1, and t+2 years have statistically significant negative influence on the likelihood of dividend reductions when considered individually. Addition of t-1 earnings to current earnings, improves the explanatory ability of the model to 16.2%. Addition of earnings in t+1 and t+2 only improve the explanatory ability of the models marginally. Removal of t-1 earnings and inclusion of t+1 earnings improve the models explanatory ability only to 9%.

From the above analysis it may be concluded that dividend changes are impacted more by contemporaneous and lagged earnings performance rather than future earnings performance. These results are consistent with the findings of Benartzi, Michaely, and Thaler (1997).

Table 7.10
Dunnett's C Test of Mean Differences in Earnings Performance for Dividend Reductions and Increases

Earnings In		Dividend			
		Reducing Firms		Non-reducing Firms	
Year i	Year j	Earnings i - j	SE	Earnings i - j	SE
t-2	t-1	2.8	3.0	3.7	3.1
	t	11.1*	2.6	.6	3.2
	t+1	11.7*	2.7	2.3	3.2
	t+2	12.4*	2.7	3.6	3.2
t-1	t-2	-2.8	3.0	-3.7	3.1
	t	8.3*	2.3	-3.1	2.4
	t+1	8.9*	2.4	-1.5	2.3
	t+2	9.5*	2.4	-.1	2.4
t	t-2	-11.1*	2.6	-.6	3.2
	t-1	-8.3*	2.3	3.1	2.4
	t+1	.6	1.9	1.7	2.5
	t+2	1.3	1.9	3.0	2.5
t+1	t-2	-11.7*	2.7	-2.3	3.2
	t-1	-8.9*	2.4	1.5	2.3
	t	-.6	1.9	-1.7	2.5
	t+2	.7	2.0	1.4	2.4
t+2	t-2	-12.4*	2.7	-3.6	3.2
	t-1	-9.5*	2.4	.1	2.4
	t	-1.3	1.9	-3.0	2.5
	t+1	-.7	2.0	-1.4	2.4

*Significant at 0.5 significance level

Table 7.11
Logit Regression: Annual Dividend Reductions and Earnings Performance

	Model									
Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Constant	.658* (51.8)	.376* (28.2)	.538* (50.5)	.37* (27.8)	.52* (48.2)	.58* (47.0)	.648* (62.5)	.588* (46.5)	.58 (43.3)	.599* (48.0)
Earnings (t-2)				-.002 (3.0)				-.003 (.74)		-.005 (3.11)
Earnings (t-1)		-.004* (3.94)				.055* (45.6)		.061* (42.5)	.056* (40.9)	.067* (46.9)
Earnings (t)	-.035* (65.1)					-.091* (81.5)	-.028* (21.4)	-.095* (82.9)	-.081* (46.7)	-.08* (44.2)
Earnings (t+1)			-.025* (39.5)				-.008 (3.6)		-.015* (5.4)	-.013 (3.7)
Earnings (t+2)					-.024* (37.9)					-.011 (2.42)
Pseudo R^2										
Cox & Snell	9%	5%	6.8%	4%	6.2%	16.2%	9.3%	16.7%	17.3%	18.3%
Nagelkerke	12%	6%	9.1%	5%	8.4%	21.8%	12.5%	22.5%	23.3%	24.5%

Note: * significant at .05 level
Figures in the parentheses are wald statistic values

8. Summary and Conclusion

The present study examines the dividend behavior of Indian corporate firms over the period 1990 – 2001 and attempts to explain the observed behavior with the help of trade-off theory, and signaling hypothesis.

Trends indicate that the number of firms paying dividend during the study period has shown an up trend till 1995 and has fallen subsequently. Average DPS on the other hand has shown a steady growth except for year 2001. Average percentage PR showed a more stable pattern up to 1997 and then has shown a declining trend.

Analysis also shows that only a few firms have consistently paid same levels of dividend. Of the payers, regular payers have consistently paid higher payout as well as higher average dividend compared to that of current payers. Initiators have always paid higher levels of dividend yield compared to that of other payers.

Further, smaller indices appear to have higher dividends compared to that of larger indices. Industry trends indicate that firms in the electricity, mining and diversified industries have paid higher dividends where as textile companies have paid less dividends.

Analysis of influence of tax regime changes shows that the tradeoff theory does not hold true in the Indian context, as Indian corporate firms on average do not appear to have increased dividend payments despite a tilt in tax regime in favor of more dividends.

Analysis of characteristics of payers and non-payers shows that dividend-paying companies are more profitable and large in size. However, growth doesn't seem to deter Indian firms from paying higher dividends. Further, firms appear to prefer the pecking order of funds in building their larger asset base.

An analysis of signaling hypothesis shows that average earnings of dividend omitting firms have shown significant difference over the past 3 and next 3 years, where as initiating firms have exhibited a contrasting trend. This reinforces the finding of Benartzi, Michaley and Thaler that dividend omission decision is based on the perception that earnings trend has reversed. This analysis implies that dividend omissions have

information content in that these firms expect lower earnings for the future. However, this is not the case with regard to dividend initiations.

An analysis of other non-extreme dividend events such as dividend reductions and non-reductions shows that current losses are an important determinant of dividend reductions for firms with established track record. The incidence of dividend reduction is much more severe in the case of Indian firms compared to that of NYSE as analyzed by DeAngelo, DeAngelo and Skinner.

Further analysis also shows that dividend changes are impacted more by contemporaneous and lagged earnings performance rather than by future earnings performance.

The present study has considered only cash dividends and not share repurchases. Share repurchases or buyback has been permitted in the Indian context only recently and this may well have influenced the dividend behavior of Indian companies, as some firms would have substituted share repurchases for cash dividends. Similarly, in the present study only final cash dividends are considered and the stock dividends by firms are not considered which may limit generalizations of the findings. Further, the present study has not considered the stock market reactions to dividend events and has not examined at great depth the interrelations between dividend and other corporate finance decisions.

Future studies may examine the market reaction to dividend announcements, other possible determinants of dividend behavior such as flotation costs, and the relationships between dividend decision and financing and investment decisions.

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Appendix

Table A4.1
Distribution of Dividend Payers and Non-Payers: Number of Firms and Percentages

	Year											
Payers / Non-Payers	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Non-Payer Group												
Non-Payer	674	912	972	1274	1687	2340	2877	3469	3879	4241	4237	3235
%	40	42	39	41	42	46	51	59	65	68	68	68
Current Non-Payers		324	201	369	563	763	417	354	276	379	232	21
%		35.5	20.7	29	33.4	32.6	14.5	10.2	7.1	8.9	5.5	0.6
Never Paid		535	686	737	904	1250	1776	1979	2107	2123	2205	1640
%		58.7	70.6	57.8	53.6	53.4	61.7	57	54.3	50.1	52	50.7
Former Payers		53	85	168	220	327	684	1136	1496	1739	1800	1574
%		5.8	8.7	13.2	13	14	23.8	32.7	38.6	41	42.5	48.7
Payers-Group												
Payer	1033	1272	1533	1823	2333	2775	2723	2386	2101	2007	1988	1531
%	61	58	61	59	58	54	49	41	35	32	32	32
Current Payer			35	94	188	276	339	383	424	454	527	422
%			2.3	5.2	8.1	9.9	12.4	16.1	20.2	22.6	26.5	27.6
Initiators		331	322	419	569	594	398	220	181	225	177	74
%		26	21	23	24.4	21.4	14.6	9.2	8.6	11.2	8.9	4.8
Regular Payer		941	1176	1310	1576	1905	1986	1783	1496	1328	1284	1035
%		74	76.7	71.9	67.6	68.6	72.9	74.7	71.2	66.2	64.6	67.6

Figure A4.1

Dividend Behaviour of Indian Corporate Firms During 1990 - 2001

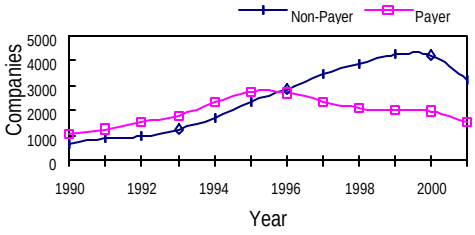

Table A4.2
Average Dividend Paid by Payers (in Rs. Crore)

Year	Initiator	Current Payers	Regular Payers	Total Payers
1991	0.75		2.01	1.69
1992	0.77	1.30	2.11	1.81
1993	0.72	1.01	2.32	1.89
1994	0.64	1.26	2.85	2.19
1995	0.78	1.94	3.66	2.87
1996	1.69	2.32	4.48	3.80
1997	1.97	2.33	5.98	5.02
1998	1.13	2.85	8.08	6.43
1999	2.45	2.87	9.87	7.46
2000	2.71	3.34	12.44	9.16
2001	7.03	4.03	17.17	13.05

Figure A4.2

Behaviour of Non-Payers During 1990 - 2001
(% of Firms)

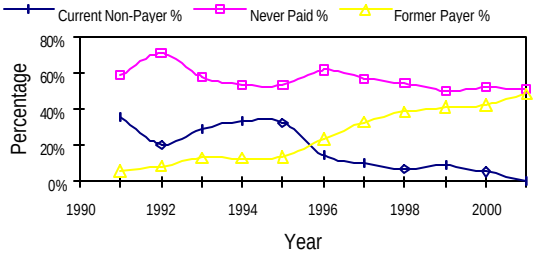

Figure A4.3

Behaviour of Non-payers During 1990 - 2001
(No. of Firms)

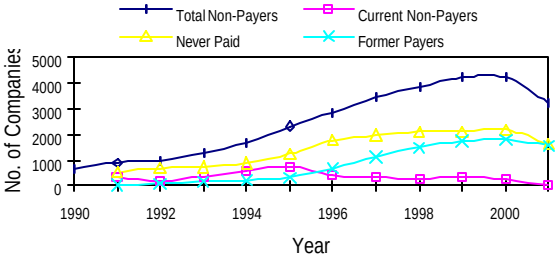

Figure A4.4

Behaviour of Payers During 1990 - 2001

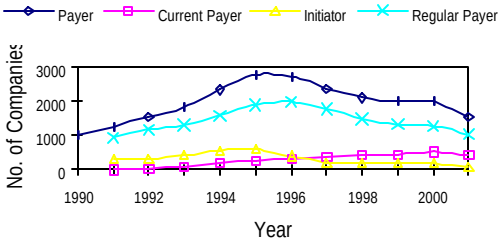

Figure A4.5

Behaviour of Payers During 1990 - 2001 (in %)

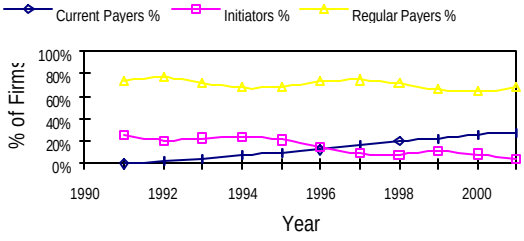

Table A4.3

Comparison of Index and Non-index Firms - Average Dividend Paid (Rs. Crore)

CATEGORY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Firms
CNXMcap	3.07	3.50	4.06	4.54	6.31	9.27	10.81	12.71	14.02	13.03	15.21	15.68	200
Non-CNXMCap	.81	.79	.89	.90	1.03	1.26	1.53	1.69	1.87	2.05	2.52	3.71	7582
CNX500	3.37	3.64	4.35	5.05	7.06	10.48	13.04	15.13	16.57	17.57	21.47	26.97	500
Non-CNX500	.39	.40	.45	.44	.52	.63	.79	.88	.99	1.11	1.33	1.65	7282
Nifty Junior	4.07	4.65	5.74	5.71	8.37	12.88	15.44	19.07	21.64	24.95	29.61	59.70	51
Non-Nifty Junior	.93	.91	1.02	1.04	1.18	1.45	1.73	1.91	2.09	2.21	2.71	3.61	7731
Nifty	13.09	14.33	16.68	20.30	27.75	38.35	52.76	64.63	75.42	84.24	110.11	124.27	50
Non-Nifty	.72	.73	.83	.82	.96	1.19	1.39	1.51	1.64	1.73	2.06	2.92	7732
Sensex	17.89	19.77	22.31	27.33	37.47	52.62	71.75	87.25	102.17	118.44	146.40	171.07	30
Non-Sensex	.76	.77	.88	.87	1.01	1.27	1.49	1.62	1.77	1.85	2.23	3.14	7752
BSE100	8.96	9.39	12.34	14.79	20.72	31.35	41.84	50.36	58.08	68.10	84.79	111.67	100
Non-BSE100	.64	.65	.71	.71	.82	.99	1.15	1.24	1.33	1.35	1.60	1.89	7682
BSE200	6.65	6.89	8.79	10.21	13.93	20.73	27.22	32.66	38.01	46.06	55.10	73.17	200
Non-BSE200	.53	.55	.59	.58	.69	.83	.97	1.03	1.09	1.01	1.21	1.20	7582
BSE 500	4.03	4.20	4.97	5.73	7.58	10.92	13.81	16.49	18.34	21.04	25.45	32.70	500
Non-BSE500	.36	.38	.44	.43	.53	.65	.77	.82	.89	.84	.99	.96	7282

Note: Index compositions as of March 31, 2002

Table A4.4

Number of Index Firms Paying Dividend During 1990 - 2001

CATEGORY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
Nifty	35	39	41	41	42	46	47	49	49	49	49	49	50
Non-Nifty	998	1233	1492	1782	2291	2729	2676	2337	2052	1958	1939	1482	7732
Sensex	22	24	25	26	26	28	28	28	28	28	29	29	30
Non-Sensex	1011	1248	1508	1797	2307	2747	2695	2358	2073	1979	1959	1502	7752
Nifty Junior	30	35	39	40	44	46	48	47	48	49	50	49	51
Non-Nifty Junior	1003	1237	1494	1783	2289	2729	2675	2339	2053	1958	1938	1482	7731
BSE100	62	72	77	79	83	90	92	94	95	95	96	98	100
Non-BSE100	971	1200	1456	1744	2250	2685	2631	2292	2006	1912	1892	1433	7682
CNXMcap	117	130	147	155	159	169	173	174	164	168	176	166	200
Non-CNXMCap	916	1142	1386	1668	2174	2606	2550	2212	1937	1839	1812	1365	7582
BSE200	107	122	136	144	146	168	170	174	171	178	182	185	200
Non-BSE200	926	1150	1397	1679	2187	2607	2553	2212	1930	1829	1806	1346	7582
CNX500	282	313	346	379	399	430	439	436	416	407	404	378	500
Non-CNX500	751	959	1187	1444	1934	2345	2284	1950	1685	1600	1584	1153	7282
BSE 500	237	272	301	329	349	385	393	395	386	394	410	396	500
Non-BSE500	796	1000	1232	1494	1984	2390	2330	1991	1715	1613	1578	1135	7282

Note: Index compositions as of March 31, 2002

Table A4.5

DPS Reductions by Firms Paid Dividend Continuously from 1990 - 2001

No. of Reductions	Firms	%
0	5	1.5
1	43	13.0
2	68	20.6
3	82	24.8
4	74	22.4
5	41	12.4
6	10	3.0
7	7	2.1
Total	330	100.0

Table A4.6

Recurring Dividend Per Share of Firms During 1990 - 2001

DPS	No. of Firms with Recurrences of												
	0	1	2	3	4	5	6	7	8	9	10	11	12
Nil	1421	630	1035	909	874	798	702	521	307	213	159	128	85
Rs. 0 - Rs. 0.25	3580	812	802	597	503	439	372	261	160	108	76	54	18
Rs. 0.25 - Rs. 0.50	6221	442	297	232	153	158	124	57	37	33	14	12	2
Rs. 0.50 - Rs. 0.75	7271	252	126	72	33	13	13		2				
Rs. 0.75 - Rs. 1	7549	140	48	23	13	6	1	2					
Rs. 1 - Rs. 2	7565	123	57	20	9	5	3						
Rs. 2 - Rs. 5	7710	42	17	7	3	2	1						
> Rs. 5	7740	16	13	3	3	1	3	1	1	1			

Table A4.7

Transition Probabilities for DPS Groups Based on Changes from 1990 to 2001

DPS (in Rs.)	2001							
1990	0	0 - 0.25	0.25 - 0.50	0.50 - 0.75	0.75 - 1	1 - 2	2 - 5	> 5
0	0.70	0.18	0.07	0.02	0.01	0.01	0.01	
0 - 0.25	0.46	0.23	0.20	0.06	0.02	0.02	0.01	
0.25 - 0.50	0.32	0.21	0.21	0.08	0.08	0.07	0.01	0.01
0.50 - 0.75	0.15	0.23		0.23	0.23	0.15		
0.75 - 1	0.60		0.40					
1 - 2	0.50				0.50			
> 5							1.00	

Table A4.8

Average Dividend Per Share for Index and Non-Index Firms During 1990-2001 (in Rs.)

CATEGORY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	FIRMS
non-nifty	.14	.14	.14	.15	.16	.18	.21	.20	.23	.25	.25	.15	7732
nifty	.28	.32	.30	.41	.34	.38	.45	.51	.56	.62	.82	.80	50
Non-sensex	.14	.14	.14	.15	.16	.18	.21	.20	.23	.25	.25	.15	7752
Sensex	.28	.33	.29	.32	.35	.39	.51	.54	.58	.65	.73	.85	30
Non-cnxmcap	.13	.13	.14	.15	.15	.18	.21	.19	.23	.25	.25	.14	7582
cnxmcap	.22	.23	.23	.21	.25	.28	.31	.33	.37	.39	.49	.46	200
Non-BSE100	.14	.13	.14	.15	.16	.18	.21	.19	.23	.25	.25	.14	7682
BSE100	.24	.26	.25	.30	.29	.34	.39	.44	.50	.58	.77	.78	100
Non-BSE200	.13	.13	.14	.15	.15	.18	.21	.19	.23	.25	.25	.13	7582
BSE200	.22	.22	.23	.25	.26	.29	.33	.36	.41	.48	.60	.60	200
Non-cnx500	.12	.12	.13	.14	.15	.17	.21	.19	.23	.25	.24	.13	7282
cnx500	.20	.21	.21	.22	.24	.26	.29	.30	.32	.34	.41	.39	500
Non-BSE500	.13	.12	.13	.14	.15	.17	.21	.19	.23	.25	.24	.13	7282
BSE500	.21	.21	.21	.22	.24	.25	.27	.30	.32	.35	.43	.41	500

Table A4.9

Comparison of 1% Trimmed Dividend Per Share (in Rs.) by Payer Type During 1991 - 2001

Year	Current Payers				Initiators				Regular Payers				Total Payers			
	Mean	Median	SD	Firms	Mean	Median	SD	Firms	Mean	Median	SD	Firms	Mean	Median	SD	Firms
1991					0.18	0.15	0.11	325	0.22	0.20	0.11	924	0.21	0.20	0.11	1249
1992	0.18	0.17	0.09	35	0.15	0.12	0.09	318	0.22	0.20	0.11	1155	0.21	0.20	0.11	1508
1993	0.18	0.15	0.11	93	0.13	0.12	0.09	406	0.21	0.20	0.11	1292	0.19	0.17	0.11	1791
1994	0.18	0.15	0.10	186	0.13	0.11	0.09	566	0.21	0.20	0.12	1539	0.19	0.17	0.11	2291
1995	0.18	0.15	0.11	274	0.12	0.10	0.10	579	0.21	0.19	0.12	1869	0.19	0.15	0.12	2722
1996	0.19	0.16	0.12	332	0.12	0.10	0.12	379	0.22	0.20	0.14	1948	0.20	0.17	0.14	2659
1997	0.20	0.16	0.14	376	0.15	0.11	0.14	212	0.23	0.20	0.16	1737	0.22	0.18	0.16	2325
1998	0.21	0.16	0.18	413	0.16	0.11	0.17	170	0.26	0.22	0.20	1458	0.24	0.19	0.19	2041
1999	0.25	0.17	0.24	439	0.20	0.12	0.23	214	0.28	0.22	0.23	1292	0.27	0.20	0.23	1945
2000	0.27	0.17	0.30	512	0.20	0.12	0.23	172	0.33	0.23	0.31	1243	0.31	0.22	0.30	1927
2001	0.26	0.16	0.25	409	0.15	0.11	0.15	74	0.31	0.22	0.26	1001	0.29	0.22	0.26	1484

Figure A4.6

Distribution of Firms' Payout % During 1990 - 2001

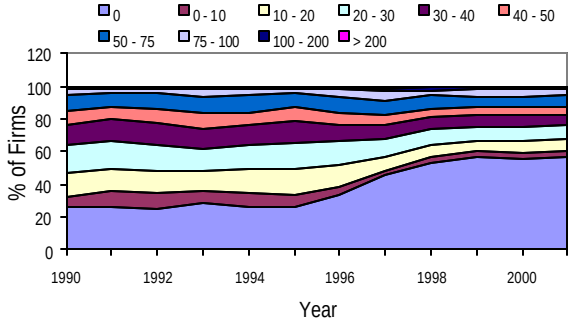

Table A4.10

Payout Recurrence of Firms During 1990 - 2001

Payout %	No. of Firms Paid out Dividend for Years												Total
	1	2	3	4	5	6	7	8	9	10	11	12	
0	1336	1167	829	688	440	318	181	82	67	39	29	12	5188
0-10	635	231	95	50	24	18	15	11	4	2	2		1087
10-20	967	482	226	120	75	45	24	17	5	3	1		1965
20-30	1079	538	282	168	95	55	25	7	6				2255
30-40	1154	514	235	116	38	24	13	2					2096
40-50	1032	374	148	59	18	11	3	2					1647
50-75	1102	451	167	98	39	24	5	1				1*	1888
75-100	740	219	62	32	10	5	1	1					1070
100-200	409	57	6	1									473
> 200	206	19	3										228
Total	8660	4052	2053	1332	739	500	267	123	82	44	32	13	17897

* Hindustan Lever Limited paid out 50-75% for all the 12 years

Table A4.11
Transition Probabilities for Pay Out Groups Based on Changes from 1990 to 2001

Pay out	2001									
1990	Up to 0	0 - 10	20-Oct	20 - 30	30 - 40	40 - 50	50 - 75	75 - 100	100 - 200	> 200
Up to 0	0.71	0.01	0.03	0.09	0.06	0.02	0.05	0.02	0.01	0.01
0 - 10	0.27	0.07	0.15	0.20	0.14	0.02	0.07	0.02	0.03	0.03
20-Oct	0.35	0.04	0.17	0.11	0.11	0.10	0.07	0.04	0.01	0.01
20 - 30	0.41	0.03	0.07	0.15	0.08	0.10	0.12	0.03	0.03	0.01
30 - 40	0.40	0.02	0.08	0.09	0.09	0.09	0.13	0.07	0.02	0.01
40 - 50	0.32	0.02	0.04	0.14	0.16	0.07	0.14	0.05	0.04	0.02
50 - 75	0.47	0.02	0.06	0.10	0.04	0.09	0.14	0.04	0.03	
75 - 100	0.44	0.06	0.09	0.09	0.15	0.09	0.06			0.03
100 - 200	0.67			0.11		0.22				
> 200	0.40		0.40				0.20			

Table A4.12
Comparison of Average 1% Trimmed Dividend Payout by Payer Type During 1991 - 2001 (in %)

Year	Current Payers				Initiators				Regular Payers				Total Payers			
	Mean	Median	SD	Firms	Mean	Median	SD	Firms	Mean	Median	SD	Firms	Mean	Median	SD	Firms
1991					29.51	24.82	22.69	329	31.87	27.89	20.02	926	31.25	27.08	20.77	1255
1992	33.77	32.87	20.98	33	26.77	22.56	21.58	318	33.49	29.20	22.45	1162	32.08	27.84	22.39	1513
1993	33.62	32.32	22.98	93	37.59	32.00	26.27	411	35.50	31.25	22.86	1294	35.88	31.50	23.70	1798
1994	31.49	29.00	20.69	185	32.19	25.93	25.38	563	34.70	30.07	21.70	1554	33.83	29.25	22.60	2302
1995	32.05	28.34	20.29	274	34.39	30.00	23.72	587	31.99	27.66	19.44	1877	32.51	28.02	20.53	2738
1996	32.90	28.11	23.18	334	41.75	34.34	28.04	393	35.08	29.63	23.14	1956	35.79	29.85	24.05	2683
1997	37.86	29.81	27.99	377	46.13	34.85	40.40	218	43.74	35.45	33.96	1749	43.02	34.70	33.81	2344
1998	38.86	29.69	32.23	407	37.83	30.99	30.52	179	39.01	33.03	28.06	1472	38.88	31.96	29.14	2058
1999	38.42	31.55	28.74	447	34.54	27.65	28.14	221	39.33	33.15	27.02	1294	38.58	32.51	27.57	1962
2000	40.37	34.45	28.47	512	39.93	36.36	29.60	171	38.29	31.58	26.74	1262	38.98	32.41	27.47	1945
2001	37.71	32.42	28.18	410	32.56	27.87	25.33	74	37.98	31.03	28.08	1014	37.64	31.26	27.98	1498

Table A4.13
1% Upper Trimmed Dividend Yield (%) by Payer During 1991 - 2001

Year	Current Payer				Initiator				Regular Payer				Total			
	Mean	Median	SD	Firms	Mean	Median	SD	Firms	Mean	Median	SD	Firms	Mean	Median	SD	Firms
1991					6.06	6.21	2.95	61	4.45	4.00	2.47	480	4.63	4.09	2.57	541
1992	4.91	4.13	2.03	17	5.69	5.48	2.97	36	4.11	3.50	2.38	578	4.22	3.67	2.44	631
1993	1.81	1.60	1.17	43	1.51	1.31	1.00	30	1.50	1.23	0.98	642	1.52	1.24	1.00	715
1994	5.91	5.35	3.51	94	6.82	6.93	3.08	45	4.70	3.91	3.19	733	4.94	4.17	3.27	872
1995	5.09	3.85	3.79	147	6.14	5.78	3.75	54	4.18	3.15	3.31	941	4.39	3.33	3.43	1142
1996	3.34	2.79	2.13	187	3.45	3.17	1.91	54	3.12	2.68	2.06	1100	3.16	2.71	2.07	1341
1997	5.40	4.55	3.42	225	5.88	5.48	3.92	38	5.00	3.99	3.59	1132	5.09	4.22	3.58	1395
1998	8.11	6.77	5.41	227	7.38	5.08	5.47	21	6.64	5.45	4.87	924	6.94	5.73	5.02	1172
1999	8.07	6.43	6.12	199	10.01	8.82	7.31	20	7.35	6.09	5.51	777	7.55	6.11	5.69	996
2000	8.12	6.34	6.29	219	8.51	6.50	7.72	24	7.76	6.74	5.77	703	7.86	6.57	5.94	946
2001	6.17	5.02	4.76	210	5.44	3.66	5.09	19	5.77	4.83	4.37	635	5.86	4.85	4.48	864

Figure A5.1

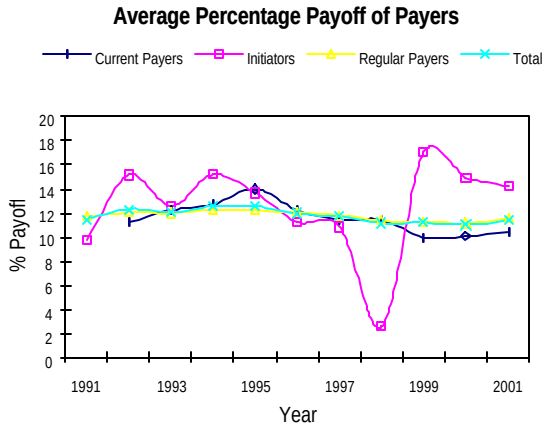

Figure A5.2

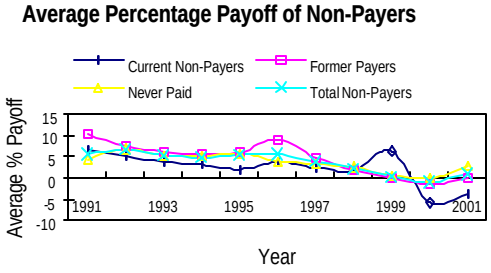

Figure A5.3

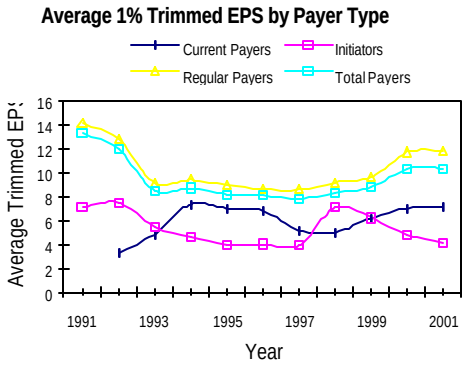

Figure A5.4

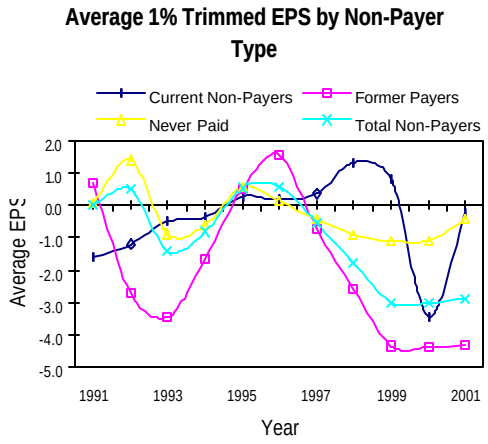

Figure A5.5

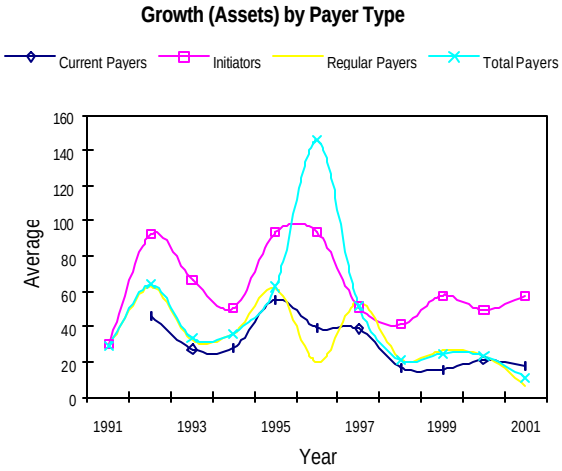

Figure A5.6

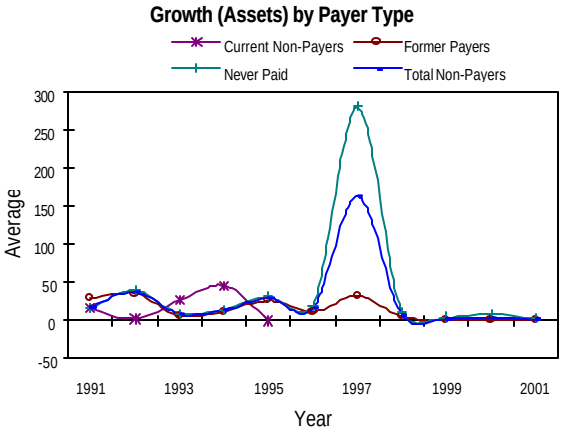

Figure A5.7

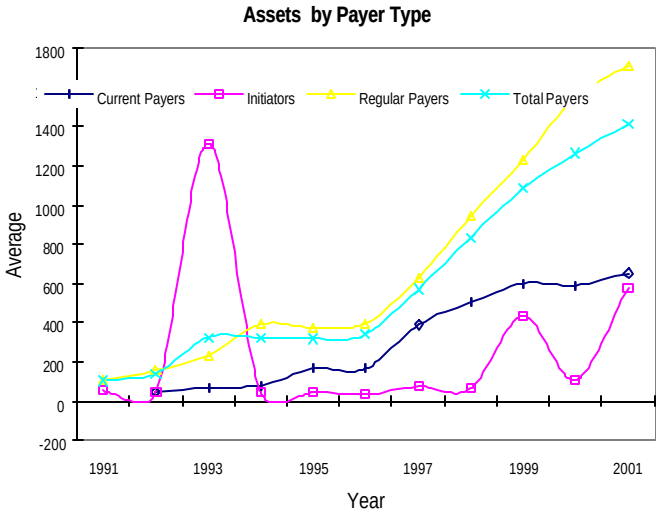

Figure A5.8