What Kind of Indian Firms Omit Dividend?

An Enquiry into Firm Characteristics and Propensity to Pay

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Abstract

Through a temporal-spatial analysis over a 1971 through 2007 for India, we attempt to study what kind of firms omit cash dividend, and how the cash dividend payers and non-payers over the size and sign of earnings heterogeneity differ in respect of their different financial characteristics and propensity to pay? It is examined whether changing firm characteristics and / or changing propensity to pay determine corporate dividend decisions and influence them to pay or omit cash dividends. In line with the global trends we uncover evidence in favor of decreasing cash dividend payment behavior among Firms in the post-reform periods compared to the former. A significant decrease in the number of firms paying equity cash dividends is documented across small, medium, and large firms and also across firms reporting profits and losses in the further-reform periods. Very importantly we identify and attribute the reason to omit dividend to increase in general likelihood (propensity) by firms to pay, despite their characteristics.

Keywords: Dividend Omissions, Dividend Payers and Non-Payers, Characteristics, Propensity to Pay, Size, Earnings, India.

JEL Classification: G32, G35

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What Kinds of Indian Firms Omit Dividends?

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Introduction

The declining proportion of dividend paying firms in the global context reported in the emerging literature by Fama & French (2001), Aivazian *et. al.,* (2002), Ferris *et. al.,* (2003), Denis and Osobov (2007) among others, in the recent past leads us to ask some questions; whether corporate India is a part of the global trend? what kinds of firms pay / don't recompense annual corporate cash dividends across time and space? whether firm characteristics determine annual corporate cash payment / omission decision? and how such decisions respond to the relatively changing characteristics and changing propensity to pay among of cash dividend paying / non-paying firms {hereafter referred to as payers and non-payers respectively}in this developing market. Neither of previous empirical studies mentioned above specifically documents the dynamics of size and earnings heterogeneity on dividend omission decisions. Moreover, they relate to the developed markets only. Though the study by Reddy (2002) analyzes the influence of firm characteristics such as profitability, growth, size and investment pattern on dividends in India, don't attempt to measure the charging propensity to pay and considers the data relating to post-reform period alone. We are unaware of any similar study in context of emerging markets, and specifically in the Indian context. The payout propensity of Indian firms and its related behavior over a longer time across size and earning heterogeneity is examined covering the pre-liberalization and post-liberalization and further-liberalization periods (controlling the advent of share repurchase activity) separately

The test over a longer period of 36 years, 1971 through 2007 in a developing market like India using firm level data would represent a strong substantiation of the findings of previous researchers. It is of interest to check whether the characteristics and propensity to cash dividend differ significantly from the fact that quite a few firms reporting losses also find it difficult to resist cash dividends. It is investigated whether cash dividend paying firms reporting losses significantly differ in characteristics and propensity to pay from payers reporting profits in a given period. Thus the study dividend payment / omission

decisions and changing characteristics across the earnings and size heterogeneity of the firms in the India controlling the change in policy regime frame adds a new dimension to the quality of findings both, at an aggregate and disaggregate levels.

Edwards and Mayer (1986) through a survey of the 'Hundred Group' (an association of the largest UK companies) report, the managers reduce their annual cash dividend only when they face a persistent decline in earnings. Six years later, Marsh (1992) documents a similar reluctance in dividend payments for firms in the same country. For US, DeAngelo and DeAngelo (1990, 1992, and 1996) confirm the managerial aversion to cut and omit annual cash dividends in view of losses and conclude that a loss is a necessary condition but not a sufficient condition for an annual cash dividend reduction. Bernatzi *et. al.,* (1997) relate the experience of annual cash dividend cut with a decline in earnings in the year of the decrease and also in the previous year. Dyl and Weig (1998) on the other hand prove that the initiations of cash annual cash dividend coincide with a reduction in the risk of a firm's earnings and cash flows. Fama and French (2001) show that controlling for characteristics; US firms have become less likely to pay dividends. This lower propensity to pay is at least as important as changing characteristics in the declining incidence of dividend payers. Using the methodology similar to that of F&F, Benito and Young (2001, 2002) take an additional step of considering the differences between firms that cut annual cash dividends and firms that omit them. Baker and Wurgler (2002, 2003) document a close link between fluctuations in the propensity to pay annual cash dividends and catering incentives using methodology consistent with that of F&F (2001) they investigate the changes in the propensity to pay. Banerjee *et. al.,* (2003) also estimate the probability of a firm to pay as a function of the firm characteristics discussed by F&F (2001). Gwilym *et. al.,* (2004) for the period 1996-2000, find that the loss making firms are more likely to reduce annual cash dividends compared to profitable firms. The magnitude of loss is found to be relevant to the annual cash dividend decision consistent with the findings of Benito and Young (2001) and find that higher indebtedness raises prospects of an annual cash dividend cut. Also consistent with F&F methodology, DeAngello *et. al.,* (2004) observe a consistently highly significant relation between the decision to pay annual cash dividends and the ratio of earned equity to total equity (and to total assets), controlling for firm size, current and recent profitability, growth, leverage, cash balances, and annual cash dividend history.

Our results from the for Indian data are consistent with the above findings that the lower propensity to pay annual cash dividend is most prominent in firms that are more able to pay, *i.e*. among larger firms and firms with higher earnings power and the striking finding

they document, that the improved liquidity is negatively related to the proportion of firms paying annual cash dividends. The remainder of the paper flows as follows: The data and methods are discussed in section 2, explanatory variables and the hypothesis in section 3 and the trends and characteristics of dividend payers and non-payers are elaborated in subsequent section (4). The results of estimates from the logit regressions are presented in section 5, the effect of changing characteristics and propensity to pay in section 6, while the last section (7) concludes.

2. Data and Methods

The use of data requested from Reserve Bank of India emerges from the Unpublished Corporate Firm Level Database for the period 1971-2007. This data compendium is compiled by the Company Finances Department of the RBI and is sourced from the various annual studies based on the annual accounts of selected companies from among the non-government non-financial public and private limited companies and non-government financial and investment companies. The study of time-trend analysis of cash dividend behavior in India at the firm level in the past has been earlier conducted for smaller panels and for limited periods. We make an effort to provide a fairly large coverage of firms using a rich dataset relating to an overall period 1970-71 to 2006-2007. The average number of firms for which equity cash dividend data is available in the full period is over 1800 per year. All the firms from the data set are selected to avoid the problems arising due to selection bias. To overcome the problem of outliers wherever possible, trimmed means are calculated after 1 percent cases have been negated from tails of the distribution. Such means are robust to outliers and the resulting methods for estimating standard errors and confidence intervals are relatively robust to violations of normality and variance homogeneity.

On the basis of the size; the firms are classify into small, medium and large by slitting the entire sample each year into a trinity based on an increasing order of their nominal rupee value of sales (the firms in the first half with the lowest value of sales are treated as small firms, and so on). And on the basis of size and earnings jointly, the firms are splinted into firms into; profit reporting small firms, loss reporting small firms, profit reporting medium firms, loss reporting medium firms, profit reporting large firms, and loss reporting large firms on the basis of their positive and negative earnings or zero earnings in the current year *t*. Further Thus the entire sample is now divided into 9 sub-panels classified on the basis of size and size and sign of earnings jointly; on the basis of size (small, medium

and large firms, and on the basis of size and sign of earnings as, profit reporting small firms, loss reporting small firms, profit reporting medium firms, loss reporting medium firms, profit reporting large firms, and loss reporting large firms.

The time-trend behavior for a longer time frame is analyzed to account for any differences on the pattern of corporate annual cash dividends due to the reforms initiated in the economy; we split the entire period into pre-reform (1971-1992) and post-reform (1993-2007) period. The eleven years in the post-reform period is further splinted into further reform post-buyback regulation period (1998-2007) to account for the advent of the buyback regime and the changes in dividend tax policies.

In spirit of F&F (2001) we attempt to quantify how the changing financial characteristics; factors affecting the probability that a firms across size and earnings heterogeneity, pay cash equity annual cash dividend (interim plus final) and their changing propensities to pay combine to produce the change in the percent of payers over time. Secondly, an examination whether the presence / absence or a change in the fundamental characteristics like profitability, leverage, liquidity, size, and growth opportunities of firms influence them to pay or not to pay annual cash dividends is confirmed by estimating a LOGIT model and thirdly, we measure and analyze the effect of propensity to pay on the percent of firms paying annual cash dividends among such panel firms for the 1971-2007 periods. Rather than estimating regression coefficients by estimating one overall regression including the given explanatory variables and dummies, the regression coefficients are computed for each year for all RBI firms with the required data items and the aggregate coefficients and associated *t* values are analyzed to infer the influence of given characteristics by averaging across over time. The year by year estimation helps to study the time series properties of the coefficients.

In the logit model, the dependent variable assumes value 0 when the firm omits cash dividend and the value 1 when the firm pays. The P_i, probability of paying out in the year *t* in this case can be represented by the P_i. Now $P_i / (1 - P_i)$ is simply the odds ratio in favor of annual cash dividend; the ratio of the probability that a firm will pay cash dividend to the probability that it will not. The natural log of L_i (logit) or the log of the odds ratio is linear in *X* (independent variables) and also linear in the parameter.

This can be given as follows:

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = Z_i \quad \text{where } Z_i = \beta_1 + \beta_2 X_i + \mu_i \qquad \mathbf{1}$$

Z_i denotes the decision to pay or not to pay, taking value 1 if the firm pays cash equity cash dividends or otherwise. Logit analysis can test the hypothesis that a coefficient is different from zero by using the Wald Statistic which is similar to the *F* statistic of multiple linear regression, Wald=F_2= $(b_i / Sb_i)^2$.

For the purpose of estimation, we specify X_i as

$$X_i = \alpha + \beta_1 ERNG + \beta_2 LQTY + \beta_3 FSLK + \beta_4 INVR + \beta_5 SIZE + \mu_i \quad \textbf{2}$$

To capture the effect of sign of earning and size separately and earnings and sze jointly, equations *4, 6* and *8* are estimated respectively, with the following dummy dependent variables.

Equation *4* captures the effect of earnings heterogeneity. Where, PDUM equals 1 representing the firm reporting profit in the given year, while the loss reporting firms belong to the control group, with the assigned dummy value of 0. The dependent variable is 1 when the firm payout and 0 otherwise, the independent variables ERNG = profitability, LQTY = liquidity, FSLK = leverage, INVR = investment intensity rate, SIZE = size of the firm, and u_i is the error term.

$$Z_i = \alpha + \beta_1 ERNG + \beta_2 LQTY + \beta_3 FSLK + \beta_4 INVR + \beta_5 SIZE + \beta_6 PDUM + \mu_i \quad \textbf{4}$$

It is expected that $\beta_1 > 0$, $\beta_2 > 0$, β_3 =?, $\beta_4 > 0$, $\beta_5 > 0$, and $\beta_6 > 0$ **5**

The differences due to size heterogeneity are captured by introducing two dummies in equation *6* for small (SDUM) and large firms (LDUM) assuming value 1 if the given firm is small or large sized respectively, and 0 otherwise. In this case the medium sized firms (MDUM) are the reference group.

$$X_i = \alpha + \beta_1 ERNG + \beta_2 LQTY + \beta_3 FSLK + \beta_4 INVR + \beta_5 SIZE + \beta_6 SDUM + \beta_7 LDUM + \mu_i \quad \textbf{6}$$

and it is expected that $\beta_1>0$, $\beta_2>0$, β_3=?, $\beta_4>0$, $\beta_5>0$, $\beta_6<0$ and $\beta_7>0$ **7**

In order to demonstrate the interaction effect between two qualitative variables across size and sign of earnings jointly, the following equation *8* is specified. SPDUM,

MPDUM and LPDUM denote the fact that the firms are profit reporting (P); small (S), medium (M) or large (L) respectively. The variables MLDUM and LLDUM represent the medium firms reporting losses and large firms reporting losses respectively. The small firms reporting losses (SLDUM) in this case is the reference group.

The equation is specified as:

$$Z_i = \alpha + \beta_1 ERNG + \beta_2 LQTY + \beta_3 FSLK + \beta_4 INVR + \beta_5 SIZE + \beta_6 SPDUM + \beta_7 MLDUM + \beta_8 MPDUM + \beta_9 LLDUM + \beta_{10} LPDUM + \mu_i \quad \textbf{8}$$

It is expected that $\beta_1>0$, $\beta_2>0$, $\beta_3=?$, $\beta_4>0$, $\beta_5>0$, $\beta_6>0$, $\beta_7<0$, $\beta_8>0$, $\beta_9<0$, and $\beta_{10}>0$ **9**

Rather than estimating regression coefficients by estimating one overall regression including the given explanatory variables and dummies, the regression coefficients are computed for each year for all RBI firms with the required data items and the aggregate coefficients and associated *t* values are analyzed to infer the influence of given characteristics by averaging across over time. The year by year estimation helps to study the time series properties of the coefficients.

3. Explanatory Variables and Hypothesis

Based on the literature we probe the effect explanatory variables; Earnings, Liquidity, Financial Slack, Investment Rate and Size and build our hypothesis to test them in Indian context over a longer period of time. The following discussions motivate the choice of the variables and the resultant hypothesis:

3.1 Earnings (ERNG)

Earnings of the firm are undoubtedly expected to have the largest and positive influence on cash dividend decision. Loss making and low profit margin firms are more likely to omit cash dividends. Poor quality firms cannot afford to match cash dividend payments because they face high transaction costs when the cash flows don't materialize. Large firms are mature, have sufficient internal funds to finance profitable investment opportunities and can obtain funds for investments through retention of earnings without issuing any additional equity. Owing to their magnitude of size and profits, large firms are in a better position to distribute residual funds as cash dividends even if tax system

discriminates against cash dividends. Firms reporting losses also demonstrate their liking for cash dividends, however the tendency to pay is more pronounced in profit making firms. Thus, the cash dividends irrespective of the losses incurred would mean that managers are reluctant to cut cash dividends and view losses as a temporary phenomenon contrary to acting decisively by omitting cash dividends.

The variables commonly used to proxy profitability are Return on Assets (RoA) and Return on Equity (RoE). We elect to use the RoA, defined as profits after taxes net preference cash dividends as measure of earnings rather than market-based measures since it captures the accounting profits available for distribution to the firm's shareholders and hence more likely to be relevant while setting the level of equity cash dividends. In this regard we hypothesize: '*There exists a direct and statistically significant association between earnings measures and cash dividend payment decisions signifying the incremental importance of earnings and losses. It is expected that loss-making firms are more likely to omit cash dividends compared to firms that remain profitable*'.

3.2 Liquidity (LQTY)

Liquidity is a short term measure of debt.. Cash dividend in presence of poor liquidity leads to exhaustion of internal finances, deterioration of capital, an enhanced external borrowing to partially finance cash dividends, increased financing costs leading to a transfer of shareholder wealth to lenders and ultimately increases the firms' risk. Dwindling liquidity results in funds being raised through external sources. Since cash dividends must be paid in cash, firms reporting insufficient cash may be forced to reduce cash dividends. Specifically, firms with liquidity deficiencies are more likely to omit cash dividends because of the need to repay debt obligations and to raise cash for the firms' normal operations. Illiquid firms pay low cash dividends because there is no informational asymmetry about them and they have relatively low free cash to disgorge whereas, liquid firms cash dividend to distinguish themselves from the identical bad firms and reduce severity of Free Cash Flow (FCF) problem rather than to signal. Firm with high liquidity and cash flows may tend to have higher agency problems if misused. Thus a cash dividend reduces FCF and in turn agency problems

The proxy used to measure liquidity is the current ratio, and hypothesized that: '*There exists a positive relation between liquidity and profitability and a negative association with cash dividend omissions. The later relation is expected to be more*

pronounced in case of small firms compared to large firms, firms that report losses and in firms that report positive but relatively lower earnings.'

3.3 Financial Slack (FSLK)

The leverage ratio surrogates the Financial Slack variable. FSLK is found to have a role in the cash dividend payment decision however the relation it assume in the literature remains inconclusive. On one hand higher levels of debt are consistent with a greater likelihood of cash dividend omission and reductions; whilst increasing the probability of financial distress in future years as Benito and Young (2001) state empirically. Firstly, this tendency is associated with the fear of assets seizure in case of default posted as collateral, psychological costs associated with bankruptcy and loss of control over the firm. Secondly debt proxy financing costs with high levels of debt results in higher financing costs, companies with high leverage choose a lower cash dividend policy to lower its costs of external financing. Thirdly, debt alternates cash dividend as a signaling device. Adding more debt to firms serves as a credible signal of high future cash flows. By committing the firm to make future interest payments to creditors, managers communicate their confidence that the firm will have sufficient cash flows to meet these obligations. Esteban and Perez (2001) for Spanish Banks find that high debt restricts the discretionality in the behavior of its managers in use of FCF and debt serves as an alternative mechanism to reduce agency problems through cash dividends and thus they pay lower cash dividends. Firm trades off cash dividend payments with fixed financial charges. A highly leveraged firm would tend to lower its cash dividend ratio because of high fixed financial commitments.

On the other hand, it is argued that the increased indebtedness leads to increased contacts with external financial sources resulting in closer monitoring and increased cash dividend initiations. Large firms have better access to debt and are likely to be less liquid as compared to small firms, as shareholders of highly levered companies expect more cash dividends and the debt holders expect more interest and principal. It is normally observed that larger companies have more liabilities owing to more confidence creditors have in them. In this way, more cash is disgorged and cash dividends increase with indebtedness.

The ratio of total debt to assets is considered to be the proxy for financial slack. The evidence we review lead us towards the following null hypothesis: *'Though leverage as a variable may improve the ability to explain cash dividend omissions amongst profitable and loss making firms across size and earnings heterogeneity, given the mixed results in the*

literature it appears appropriate to let the data describe the sign and behavior of leverage coefficients.'

3.4 Investment Rate (INVR)

Growth opportunities of the firm surrogate the INVR. When operating profits are generated, firms invest in projects that have positive net present values and return the portion of their residual profits as cash dividends. High growth companies prefer to capitalize on their favorable investment prospects and have clear disincentives in paying the operating cash flows and profits as cash dividends. Firms experiencing or anticipating higher revenue growth have higher investment opportunities and would tend to retain funds by omitting cash dividends to avoid external financing. Due to the higher cost of external finance, firms prefer to retain a higher proportion of earnings to finance future investment needs and hence reduce or omit cash dividend in anticipation of future growth. The pecking order theory shows a direct link between growth and financing needs. Rapidly growing firms have a high external financing need because their working capital needs normally exceed the incremental cash flows from new sales. Consequently, profitable and slow growth companies are cash rich while rapidly growing companies are cash poor. Companies with major investment opportunities are likely to pay few cash dividends because they have profitable uses of capital. According to signaling theory high growth firms face greater information asymmetry and expected to have higher debt levels to signal higher quality. The signaling model therefore predicts a positive association between growth opportunities and debt. We use investment intensity rate, defined as a sum of quoted and unquoted investments, inventories plus net fixed assets and R&D expenditures to total capitalization, to alternate the funds required financing new project. Based on the literature we expect the following: *'A Growth opportunity has a positive and statistically significant relation with the cash dividend omission decision and a negative association with leverage and size, consistent with the predictions of the pecking order and the dividend signaling theories'.*

3.5 Size of the Firm (SIZE)

Large firms have larger information asymmetry surrounding a firm's prospects, stronger cash flows and lower financing costs. Larger asymmetric information problems and higher costs while issuing securities explain why smaller firms are more likely to omit cash dividends. Secondly, small firms tend to be immature due to their early stage of development, have small market access, greater uncertainty regarding their future prospects,

lower capacity to raise external equity financing, lower asset base, low profitability and extraordinary investment opportunities. As the size of a firm increases, shareholders are not able to monitor the firm effectively and there is a higher tendency of agency problems. Thus the shareholders demand higher cash dividend, which acts as an indirect monitoring tool. Firms in current or potential need of external finance use their funds more prudently as they are monitored by the existing and potential creditors. Small firms tend to save more out of their income than do large companies and the rate of savings is mostly determined by the level of profits and the cash dividends paid in the preceding years. Small firms also rely heavily (than large firms) on savings as a source of finance. Larger firms have better access to markets owing to its reputation and can afford paying out higher. High cash dividend leads to the increased need of external financing which in turn leads to increased monitoring of these firms by both existing and potential creditor according to Mozes and Rapaccioli (1995). Thus, cash dividend cash dividend acts as an indirect monitoring tool for large firms in spirit of La Porta *et. al*., (2000).

The nominal Rupee value of firm's Sales is used as a proxy for size and it is hypothesized that: '*Small companies are expected to be illiquid then large firms and indeed the ones those are more likely to omit cash dividends. It is also expected that the size will have a positive influence on leverage and profitability.'*

4. Trends and Characteristics of Cash Dividend Payers and Non-payers

Table 1. Percentage of Indian Firms Not Paying Cash dividends during 1971-2007 periods

Sample	71-81	82-92	93-97	98-07	71-92	93-07	71-07
Small firms	60.57	65.09	56.87	76.37	62.83	65.73	63.8
Medium firms	43.72	45.65	38.33	62.2	44.68	49.18	46.18
Large firms	24.62	22.54	17.29	35.76	23.58	25.68	24.28
Profit reporting Small firms	41.08	43.74	38.78	57.17	42.41	47.14	43.99
Loss reporting Small firms	96.39	96.36	93.62	96.82	96.37	95.08	95.94
Profit reporting Medium firms	30.18	28.01	25.13	44.73	29.09	34.04	30.74
Loss reporting Medium firms	93.74	92.63	87.11	95.94	93.18	91.13	92.5
Profit reporting Large firms	14.58	10.15	9.88	19.85	12.36	14.41	13.05
Loss reporting Large firms	85.35	79.81	80.68	91.02	82.58	85.38	83.52
Full Sample	**42.97**	**44.42**	**37.5**	**58.1**	**43.7**	**46.86**	**44.75**

Source: Unpublished firm level data requested from RBI, Mumbai

Table 1 depicts as to which type of RBI firms hesitate to pay cash dividends across the size and earnings heterogeneity during varying time periods under study. The series

representing different kinds of RBI firms, register a decreasing trend over the recent years suggesting that cash dividends become less likely among all type of firms. Further it is evident that the percent of payers across all sub-panels disappear at a higher rate since 1997 suggesting the "Post-buyback effect". Though 45% of the total RBI firms do not pay cash dividends during the 1971-2007 periods and the tendency of non-payment have significantly increased during the post Buy-back regulations regime in 1999. Within the post-reform periods 1993-2007, there has been a significant decline in the number of firms paying-out across all sub-panels, as a greater willingness in sample to omit rupee value cash equity cash dividends is witnessed in the post-1999 sub-periods.

During the 1998-07 periods 58% of the total firms did not pay out dividends compared to 37.5 percent that did not in the 1993-97 periods. Overall there is 21% increase in firms not paying dividends in the post 1999 periods compared to 1993-1998 period. Similarly, there is an increase by 20% of the profit reporting medium firms and 18% of profit reporting small firms, in the firms that don't pay possibly indicating either a drastic change in their financial characteristics, propensity to pay, just that an increasing number of firms find cash dividends irrelevant, or prefer to choose other mode(s) of cash dividend rather than cash mode alone. In the further reform-periods (1999-2007) period in relation to the preceding 1993-1998 years; the percent of equity dividend paying firms reporting losses shrink by 55 percent while the profit reporting payers only by 31 percent.

During the full periods 1971-07, the small firms have greater tendency to omit dividends (around 64%) compared to the mid-sized firms (46%) and their large sized counterparts (24.28). The data suggests the possible "Size-effect" (tendency of dividend payment increases with size) and "Positive Earnings-effect" (tendency of dividend payment increases with positive earnings) for India. Data further indicates the reluctance of profit reporting small and medium firms in paying-out. The large size firms are less reluctant to omit cash dividends compared to their small and medium counterparts. The profit reporting large sized firms have a significant composition of dividend cash dividend paying population. In the full period 71 percent firms reporting profits comprising 95 percent of total payer's pay equity cash dividend

Given the data about the non-payment behavior among different kinds of RBI firms, we consider how the dividend payer and non-payers across the size and sign of earnings heterogeneity by considering the aggregate earnings, liquidity, financial slack and investment intensity rate.

Table 2 Annual Sub-Period Averages of Aggregate Earnings, Liquidity, Leverage & Investment Opportunities, for different Dividend Paying & Non-Paying RBI firms

Firms	71-81	82-92	93-97	98-07	71-92	93-07	71-07
Earnings (Return On Assets)							
Small sized Payers	0.16	0.10	0.12	0.07	0.12	0.13	0.12
Small sized Non-payers	-0.03	-0.06	-0.04	-0.08	-0.05	-0.06	-0.05
Medium sized Payers	0.12	0.09	0.10	0.09	0.10	0.10	0.10
Medium sized Non-payers	-0.01	-0.04	-0.01	-0.05	-0.03	-0.03	-0.03
Large sized Payers	0.10	0.08	0.10	0.08	0.09	0.09	0.09
Large sized Non-payers	-0.01	-0.04	-0.02	-0.03	0.06	-0.06	-0.03
Liquidity (Current Ratio)							
Small sized Payers	3.85	2.77	3.25	6.08	-0.20	2.82	2.75
Small sized Non-payers	2.83	2.57	2.61	3.29	3.26	4.79	3.81
Medium sized Payers	2.70	2.46	3.00	3.44	2.58	3.15	2.77
Medium sized Non-payers	3.00	2.18	2.65	3.11	2.56	2.92	2.69
Large sized Payers	2.59	2.08	3.12	3.86	2.32	3.42	2.69
Large sized Non-payers	2.93	2.04	2.81	2.05	2.43	2.41	2.42
Financial Slack (Long Term Borrowings To Assets)							
Small sized Payers	0.46	0.51	0.56	0.47	0.24	0.24	0.24
Small sized Non-payers	0.22	0.25	0.26	0.21	0.49	0.51	0.50
Medium sized Payers	0.37	0.36	0.35	0.27	0.36	0.32	0.35
Medium sized Non-payers	0.49	0.56	0.52	0.48	0.53	0.50	0.52
Large sized Payers	0.35	0.35	0.37	0.32	0.35	0.35	0.35
Large sized Non-payers	0.45	0.51	0.52	0.50	0.48	0.50	0.49
Investment Intensity Rate (Growth Opportunity)							
Small sized Payers	1.12	0.56	1.25	2.04	0.98	1.01	1.01
Small sized Non-payers	1.01	1.02	1.11	0.81	0.81	1.68	1.12
Medium sized Payers	1.05	1.02	0.93	0.87	1.04	0.91	1.00
Medium sized Non-payers	1.39	0.99	1.36	1.71	1.17	1.56	1.32
Large sized Payers	1.06	1.07	0.93	0.87	1.07	0.90	1.01
Large sized Non-payers	1.29	0.98	1.16	1.03	1.30	1.04	1.11

Source: Same as in table 1.

Table 2 details the characteristics of cash dividend paying and non-paying firms across the size and sign of earnings heterogeneity for the 1971-2007 sub-periods. Across all sub-groups, the cash dividend payers have higher measured profitability than non-payers for all periods understudy. Large firms are 6 and 1.5 times more profitable than small and medium ones respectively. The payers reporting profits earn 1.57 times more ROA than the profit earning non-payers, while the loss making payers report lower losses compared to the loss reporting non-payers which stands at 13%. Profitability is inversely related to the size of dividend paying firms. It is found that the small, medium and large firms paying-out in an order, report maximum profits to the tune of 12, 10 and 9% of their assets respectively. The gap between the profitability of payers and non-payers is constant during the post-reform periods compared to the former period in case of payers, the loss reporting payers, and also amongst the medium payers compared to their non-paying counterparts respectively except for the payers reporting profits and the small payers.

Profit reporting cash dividend payers in the later sub-periods earn around 4% less whilst the small payers report higher profitability to the extent of 17% during the post-liberalization era, compared to the former. Profitability however, drops significantly across all sub-panels in the 1999-2007 periods compared to 1993-1998 periods. Contrary to the expectations, cash dividend payers are found to be less liquid compared to the non-payers. Average liquidity ratios mark an increase across all category of cash dividend payer in the post-1993 as well as in the 1999-2007 compared to 1971-1992 and the 1993-1998 periods respectively. The rise is more prominent for non-payers in the full sample. The behavior of the medium and large cash dividend paying firms however is contrary to the above observation. For the full period 1971-2007, the current asset to current liability ratio in case of total non-payers, profit making non-payers, loss reporting non-payers and small non-payers are 1.16, 1.09, 2.10 and 1.39 times larger than their cash dividend paying counterparts respectively. The medium and the large sized cash dividend payer measure 1.03 and 1.11 times higher than the non-paying firms in their category similarly, the loss making non-payers have higher liquidity ratio compared to the profit making non-payers. Over the same period and across size heterogeneity; the small, medium and large firms paying-out in an order, report maximum current assets to the extent of 3.81, 2.69 and 2.42 times each, in relation to their current liabilities respectively.

Consistently across all sub-panels and sub-periods, the non-payers are highly indebted than the dividend payers; however across all sub-panels, during the 1999-2007 periods compared to 1993-1998, the average financial slack ratio record a decrease. For the 1971-2007 periods, the long term borrowing of cash dividend payers times total assets average across all sub-periods is in the range of 0.24 to 0.35 compared to the average range of 0.46 to 0 .54 for non-payers. During the same periods, the leverage ratio of non-payers is 1.52 times larger than that of the payers. The loss reporting non-payers measure higher leverage ratio compared to the profit reporting non-payers. Across the size heterogeneity, small, medium, and large firm's non-paying-out in an order account 2.08, 1.49, and 1.40 times larger leverage ratio then their paying counterparts.

Measured across all sub-panels, non-payers report higher investment opportunities (proxying growth opportunities) than their paying-out counterparts implying that the RBI firms that skip cash dividends have the best growth opportunities. The investment intensity to capitalization ratio in case of non-payers for the 1971-2007 periods is 1.18 times than that of the payers whereas in case of non-payers reporting losses is to the extent of 1.42 times. For the full period 1971-2007 and also for 1993-2007 sub-periods across the size

heterogeneity; the medium, small and large non-payers in an order account the largest investment intensity ratios compared to that of their payers. Though the non-paying-out firms are less profitable (loss reporting) compared to the paying-out firms, seem to have better opportunities for growth. The investment opportunities of payers during the recent sub-period 1999-2007 compared to the 1993-1998 periods are lessening across all sub-groups. The growth opportunities of all payers in the sample and the profit reporting payers lessen by 13 %, that for loss making payers by 10%, the small payers by 37% and the medium and large payers by 7% respectively.

5. Estimates from LOGIT Regressions

The approach of LOGIT regressions in this section quantifies how financial characteristics (earnings, financial slack, liquidity, investment rate, and controlled for size (sales), and in the subsequent section, as to how its resulting effect on propensity to pay combine to produce the decline in the percent of payers over the time-series across the sub-sample.

Table 4 Summary Statistics of Financial Characteristics for Cash Dividend Payers and Non-Payers, 1971-2007

Stats.	Size			Cash Dividend Payments		Earnings		Full
	Small	Medium	Large	Non-payers	Payers	Negative	Positive	Sample
Earnings								
Mean	0.01	0.04	0.06	-0.04	0.1	-0.12	0.1	**0.04**
Medn	0.01	0.04	0.05	-0.01	0.07	-0.07	0.06	**0.03**
Skew	107.8	32.39	35.43	-10.37	151.66	-15.9	168.04	**158.5**
Liquidity								
Mean	3.43	2.73	2.62	3.17	2.73	3.16	2.84	**2.93**
Medn	2.03	2.18	2.23	2.06	2.22	2.01	2.2	**2.16**
Skew	-3.62	-23.76	-23.19	-5.16	-24.49	6.59	-27.16	**-13.78**
Financial Slack								
Mean	0.40	0.43	0.39	0.50	0.33	0.52	0.36	**0.41**
Medn	0.34	0.42	0.39	0.46	0.34	0.47	0.36	**0.39**
Skew	64.73	5.02	-2.49	68.99	1.2	6.56	112.84	**79.7**
Investment Intensity Rate								
Mean	1.08	1.15	1.03	1.19	1.01	1.39	0.98	**1.09**
Medn.	0.97	0.97	0.97	1.01	0.94	1.03	0.95	**0.97**
Skew.	-40.68	55.1	-117.64	-25.68	114.55	33.42	-139.22	**-37.86**

Note: Medn. and Skew. represent the Median and the Skewness for the data **Source:** Same as in Table 1

The summary statistics presented in the table 4 above provide details on the nature the full sample, the sample divided as per the size of the firms, and the reported sign of their

earnings. Non-payers are more liquid, are more levered and have stronger investment opportunities. Based on their size, larger firms earn six times higher profits then the small, however are less liquid, less levered and have fewer growth opportunities than those of the former. Firms reporting negative earnings also report the similar pattern in respect of liquidity, leverage and growth opportunities compared to their profit reporting counterparts.

Table 5 Pair-wise Spearman's Correlation Matrix amongst Variables

Variables	Earnings	Liquidity	Financial Slack	Investments
Liquidity	-.032**			
Financial Slack	-.247**	.107**		
Investment Rate	-.121**	-.327**	.042**	
Size of Firm	.146**	.043*	.045**	-.048**

Note:* and ** represent significance at the 0.05 level and at 0.01 level (2-tailed) respectively. **Source:** Same as in Table 1

The Spearman's correlation coefficients are reported in table 5. The coefficients among all the independent variables are statistically significant. The coefficients are not too large, and thus the possibility of multicolinearity among regressors is minimal. The correlation coefficients of firm size are significantly positive with profits, liquidity and leverage. However firms' growth opportunities bear a significantly inverse relation with size, liquidity, profitability, and leverage. Profits are found to be positively related to size as expected, but are negatively correlated to liquidity, leverage and growth opportunities. Leverage on the other hand bears a statistically direct relation with liquidity during the study period.

Table 6 through 8 summarizes annual logit regressions estimated separately using dummy variables for firms classified as profit reporting and loss reporting firms, for small, medium and large firms, and thirdly, for firms classified on the basis of their size and sign of earnings jointly. The regressions for the three cash dividend groups are estimated and allow us to examine how the effects of changing characteristics and propensity to pay differ across the groups. The results shows means (across years) and the regression intercepts and slope coefficients along with the *t*-statistics for the means, defined as the mean divided by its standard error (the times-series standard deviation of the regression coefficient divided by the square root of the number of years in the period).

The results summarized in table 6 are based on equation 4 and enables us to find whether the sign of earnings of the firm (profit and loss reporting firms respectively) significantly differ in payment decision, assuming all other independent variables are held constant.

Table 6 Estimates of LOGIT Regressions to Explain which Firms Cash dividend across Sign of Earnings Heterogeneity

Sub-periods	Intercept	ERNG	LQTY	FSLK	INVR	SIZE	PDUM
Average Coefficients							
1971-81	-6.07	5.57	0.00	-3.90	-0.25	0.54	2.87
1982-92	-7.27	6.09	0.02	-4.72	-0.07	0.64	2.69
1993-97	-7.25	3.31	0.03	-4.06	-0.07	0.57	2.71
1998-07	-8.11	3.97	0.00	-3.19	-0.03	0.53	2.63
1971-92	-6.67	5.83	0.01	-4.31	-0.16	0.59	2.78
1993-07	-7.64	3.61	0.02	-3.66	-0.05	0.55	2.67
1971-07	-6.99	5.09	0.01	-4.09	-0.12	0.58	2.74
***t* Statistics**							
1971-81	-26.53	7.71	0.37	-12.54	-6.02	37.04	14.90
1982-92	-28.48	7.97	1.91	-43.16	-2.94	31.86	15.64
1993-97	-25.14	7.83	1.18	-15.17	-3.87	36.86	14.25
1998-07	-67.81	5.90	-1.76	-6.12	-2.04	35.51	27.49
1971-92	-31.33	11.28	1.53	-23.43	-5.24	37.50	21.78
1993-07	-36.56	9.59	1.12	-12.39	-3.83	44.85	24.76
1971-07	-39.74	12.49	1.93	-24.98	-5.49	49.87	29.88

Source: Same as in table 1

The intercept term gives the mean values for the loss reporting firms (control group with the assigned dummy value of 0). The slope coefficient for the profit variable (PDUM assuming a dummy value of 1) tells by how much the mean coefficient of such profit reporting firms differ from the mean coefficient of their loss making counterparts; where the intercept reflect the mean coefficient of loss making firms and the sum values of intercept and the variable PDUM represents the average values for firms with positive earnings across the time-series. Geometrically, it is assumed the intercept >0 which means that the profit reporting and the loss reporting firms paying-out function in relation to the given determinants have the same slope but different intercepts. Thus it is assumed that the coefficients of profit reporting firms are different from that of the loss reporting firms (by variable profit) but the rate of change in the mean values of coefficients of regressors is the same for both kinds of firms. If this assumption of a common slope is valid, a test of regressions that the two regressions (for profit and loss reporting firms respectively) have the same intercept (*i.e.* there is no sign of earning discrimination effect) can be made by running the above model with the dummy variable PDUM, and noting the statistical significance of the estimated dummy variables on the basis of traditional *t* test. If the *t* test shows that the dummy variable is statistically significant, we reject the null hypothesis that

the coefficients for profit and the loss reporting firms are the same. Following the "2-*t*" rule of thumb, since degrees of freedom in all the cases is greater then 2 and assuming 0.05 levels of alpha the null hypothesis of no difference (β_2 =0) in coefficients can be rejected if the computed *t* value [$(= \hat{\beta}_2 / \text{se}(\hat{\beta}_2) > t_{\alpha/2})$, computed from $t = \hat{\beta}_2 - \beta_2 / \text{se}(\hat{\beta}_2)$] exceeds 2 in absolute value.

The average intercept coefficients relating loss reporting payers for the full period are strongly negative (-6.99, *t* = -39.74) and the computed average intercept for profit reporting payers (PDUM) is nearly half (-4.25) then that in the former case. The regression slopes confirm that that there is inertia in cash dividend decisions. Skipping the details, positive sign of the explanatory variables for earnings and size and the negative signs for leverage and growth opportunities respectively, are confirmed across the Sign of Earnings sub-panel. For given significantly positive values of the explanatory variables (earnings and size) and the non-significant negative values for financial slack and investment intensity rate, the probability that a profit reporting payers continues to pay is higher than the probability that a loss reporting payer with the same characteristics starts paying. The profit dummy in this case is significantly different from that for the intercept representing loss reporting firms.

Table 7 Estimates of LOGIT Regressions to Explain which Firms Pay Cash Dividend across Size Heterogeneity of Firms

Sub-periods	Intcpt.	ERNG	LQTY	FSLK	INVR	SIZE	SDUM	LDUM
Average Coefficients								
1971-81	-3.62	12.77	0.01	-3.96	-0.25	0.51	-0.08	0.04
1982-92	-4.97	14.73	0.02	-4.62	-0.07	0.59	0.01	0.06
1993-97	-5.16	9.71	0.03	-4.02	-0.08	0.55	0.07	0.21
1999-03	-5.55	9.71	0.00	-3.52	-0.03	0.48	0.09	0.39
1971-92	-4.3	13.75	0.01	-4.29	-0.16	0.55	-0.03	0.05
1993-07	-5.34	9.71	0.02	-3.79	-0.06	0.52	0.08	0.29
1971-07	-4.65	12.4	0.01	-4.13	-0.13	0.54	0.00	0.13
***t* Statistic**								
1971-81	-14.46	10.02	0.61	-14.25	-6.67	21.04	-1.76	0.64
1982-92	-18.12	20.82	1.86	-41.57	-3.16	19.94	0.18	0.81
1993-97	-14.48	18.07	1.39	-14.05	-4.43	16.15	0.71	2.8
1998-07	-14.99	5.48	-1.92	-5.88	-3.25	20.54	2.11	4.64
1971-92	-18.36	18.49	1.72	-26.33	-5.61	26.57	-0.86	1.05
1993-07	-21.21	12.04	1.3	-12.39	-4.33	21.97	1.5	4.84
1971-07	-23.76	19.05	2.18	-27.08	-5.96	33.86	0.11	3.1

Note: Intcpt. is the Intercept term **Source:** Same as in table 1

Table 7 (based on equation 6) testifies possibility that the large firms paying-out continue to pay is higher than the medium and small firms paying cash dividends whereas the variable LDUM representing large firms assumes statistical significance only in the post-1999 time period. This table is based on the results of equation 6, the control variable is the medium firms (with assigned dummy value of zero) and the variables SDUM and LDUM firms take the value of unity if the firm is small and large respectively, and zero otherwise.

Table 8 Estimates of LOGIT Regressions to Explain Which Firms Pay Cash Dividend Jointly across Size and Sign of Earnings

Period	Intcpt.	ERNG	LQTY	FSLK	INVR	SIZE	SP	ML	MP	LL	LP
Average Coefficients											
1971-81	-5.88	5.60	0.00	-3.89	-0.25	0.53	2.78	-0.18	2.77	-0.07	2.84
1982-92	-6.96	6.10	0.02	-4.67	-0.07	0.62	2.49	-0.19	2.44	-0.29	2.65
1993-97	-6.79	3.34	0.03	-4.05	-0.07	0.56	2.41	-0.33	2.33	-0.65	2.65
1998-07	-7.21	3.96	0.00	-3.19	-0.02	0.48	2.28	-0.47	2.09	-0.46	2.61
1971-92	-6.42	5.85	0.01	-4.28	-0.16	0.58	2.64	-0.18	2.61	-0.18	2.75
1993-07	-6.98	3.62	0.01	-3.66	-0.05	0.52	2.35	-0.39	2.22	-0.56	2.63
1971-07	-6.61	5.11	0.01	-4.07	-0.12	0.56	2.54	-0.25	2.48	-0.31	2.71
***t* Statistics**											
1971-81	-19.72	7.71	0.37	-12.41	-6.00	25.14	16.06	-1.38	16.02	-0.68	17.37
1982-92	-17.54	7.99	1.90	-42.40	-2.93	18.89	11.39	-1.43	12.19	-1.77	14.92
1993-97	-25.85	8.15	1.20	-14.12	-4.08	15.56	13.63	-0.89	10.99	-1.83	11.41
1998-07	-22.19	5.82	-2.01	-6.04	-1.85	16.41	13.38	-1.62	9.39	-2.40	10.97
1971-92	-23.84	11.30	1.52	-23.34	-5.24	26.63	18.85	-2.04	19.41	-1.84	22.92
1993-07	-33.88	9.70	1.12	-12.10	-3.85	20.69	19.70	-1.71	14.74	-2.75	16.64
1971-07	-33.72	12.51	1.92	-24.80	-5.43	32.66	24.68	-2.61	23.32	-3.14	28.55

Note: a. Intcpt. is the Intercept term **b.** The Dummy variables SP, MP and LP denote Profit (P) reporting Small (S), and Medium (M) Payers, whereas ML and LL are dummies for Loss reporting Medium (M) and Large (L) payers respectively **b.** The Loss reporting small firms are the reference group. **Source:** Same as in table 1

The results presented in above table 8 accounts that the likelihood that the large payers reporting profits and those reporting losses continue to pay is greater than the medium and small firms, and those reporting profits and posses. The dummies coefficients representing the interaction of size and profits (SP, MP and LP) are significant in all three cases, whereas the dummies representing small, medium and large firms reporting losses respectively are not significant at 0.05 percent levels of significance. The effect of the regressors on the cash dividend decision across the size and earnings of firms is demonstrated with the help of interactive dummies. Earlier, two separate equations (4 and 6)

are used assuming that the differential effect of the sign of earnings is constant across the firms irrespective of the fact that they are small, medium or large. Further, the effect of size differentials is also assumed to be constant across the two different signs of earning. Through regression equation 8 the interaction effect between two qualitative variables across size and sign of earnings is documented by assuming their effect on the cash dividend decision may not be simply additive, but multiplicative as well. The dummy variables are denoted as SP, ML, MP, LL and LP respectively, where S (small), M (medium) and L (large) denote the size of firms and the later alphabets L and P denote the fact that they report losses / profits respectively. In this sense the variable SP denotes small firms reporting profits, ML denotes medium sized firms reporting losses *and so on*. The intercept term gives the mean values for small firms reporting losses (control group with the assigned dummy value of 0) and the slope coefficient for the variables SP, ML, MP, LL and LP denotes the difference in the magnitude of the mean coefficient from the mean coefficient of the reference group SL.

It is evident that the firms reporting losses demonstrate their liking for paying-out; however the tendency to pay is more pronounced in profit making firms. Cash dividend in spite of negative earnings would mean that managers are disinclined to reduce cash dividends and view losses as a momentary occurrence. Firms reporting losses will reduce or omit cash dividends firstly to avoid violation of debt covenants and second because losses reveal deterioration in the firm's quality. Reduced cash dividends can provide the funds required for the firm's normal operations and to meet their legal obligations in absence of sound earnings. This managerial aversion to cut cash dividends in spite of losses or decline in earnings and regards is in conformance with Edwards and Mayer (1986), DeAngelo and DeAngelo (1990), DeAngelo *et. al.,* (1992, 1996), and Marsh (1992).

6. Changing Characteristics and Propensity to Cash Dividend

This section measure the effects of changing characteristics on the incidence of the propensity (likelihood) to pay for the cash dividend payers in the full sample, across size and for the firms reporting profits and losses separately, presuming that the proxies for ERNG, FSLK, LQTY, INVR and SIZE have constant meaning through time.

If the annual cash dividend pattern depends on the characteristics of the firms, the firms with particular characteristics should be as likely to pay annual cash dividends now as in the past or else due to changing propensity of the firms to cash dividend. The term

'Propensity' used in the spirit of F&F (2001) indicates the willingness / tendency / inclination or the likeliness to cash dividend by the firm. If the decision to cash dividend or not to pay depend on the financial characteristics of the firm, the firms with particular characteristics should be as likely to cash dividend now as in the past. Considering that increasing number of payers decide to omit cash dividends now, it could be *interalia* due to changing characteristics of firms, else due to the declining propensity to pay, or both.

The computation of propensity proceeds as follows. Firstly, the summary statistics for the Payers and non-payers across different defined sub-panels illustrate if the firms differ in terms of given financial characteristics. Secondly, the evidence from the summary statistics is confirmed empirically with logit regressions. Consistent with their methodology the annual logit regressions that document the effects of the four explanatory variables (ERNG, FSLK, LQTY, and INVR) are summarized on the likelihood that a firm pays out for each firm *i* in the year *t*. Rather than estimating regression coefficients by estimating one overall regression including the given explanatory variables and dummies, the regression coefficients are computed for each year for all RBI firms with the required data items. Subsequently, the year by year estimation helps to study time series properties of the coefficients. The aggregate coefficients and associated *t* values are analyzed to infer influence of given characteristics by averaging across over time. Thirdly, the second set of logit regressions are formulated to analyze effect of changing characteristics and changing propensity to pay on the percent of firms paying out. The probabilities that firms with given characteristics cash dividend during 10-year period (1971-80) in the percent of payers are estimated and applied to the panels of firm characteristics observed in subsequent years. This gives the estimate of expected percent of payers for each year after 1981. Since the probabilities associated with characteristics are fixed at their base period values, variation in the expected percent of payers after 1981 is due to the changing characteristics of sample firms. The difference between the expected percent of payers for a year (calculated using the base period probabilities) and the actual percent is used to measure the change in the propensity to cash dividends. The positive difference between expected and actual percent of cash dividend payers illustrates a decline in the propensity to pay. F&F (2001) document that the percent of U.S firms paying cash dividends fall from 67% in 1978 to 21% in the year 1999. They argue that two effects might account for this pattern. The first is that the character of exchange new lists has tilted towards firms with lower profitability and stronger growth opportunities. These are precisely the characteristics of firms that do not pay cash dividend. Secondly, they find that even after controlling for such characteristics, firms

appear to cash dividend less over time. They refer to this behavior as a declining propensity to pay. Using the same framework, Denis and Osobov (2007), and Ferris *et. al.,* (2004) examine the characteristics and the propensity to pay and test whether there is evidence of a declining propensity to cash dividend among Japanese and British firms for 1990-2001 periods. They determine that cash dividends tend to decline only marginally in Japan while those in the U.K. appear to be increasing slightly. Their evidence thus, is not consistent with the international presence of a declining propensity to cash dividend.

The actual percent of payers for a given year of the 1971-07 period is also the expected percent that would be produced by logit regression estimated on that year's sample of firms. Thus, by comparing the actual percent of payers for a year and the expected percent produced with the regression function for the base period, we can infer the effect of changes in the regression function, or equivalently, changes in the propensity to cash dividend. The increasing difference between the expected and actual percents approximates the shortfall in the percent of payers due to reduced propensity to pay whereas; the evolution of expected payer's measures the effects of changing characteristics on the percent of payers.

Table 9 shows the expected percents of cash dividend payers obtained by applying the average coefficients from their respective year-by-year logit regressions for 1971-80 to the samples of firm characteristics for subsequent years explain the probability that a firm pays-out for the year. In the pre-reform periods the actual percent of payers is higher than the expected percent in case of the profit reporting firms. Clearly over this full decade (1981-92), the propensity to cash dividend among the profit reporting firms has been larger. This trend indicates that greater willingness of number of profit reporting payers to pay in spite of the dip in financial characteristics specifically during 1984-1988 periods. This tendency reversed during the post-reform periods as around additional 9% profit reporting firms choose not to pay dividends in the post-reform periods compared to the former. It is revealed that the average expected percent of payers during the 1993-2007 period increases by 11 compared to the pre-reform periods owing to significant improvement in the financial characteristics (in relation to the base periods) after the advent of economic reforms. Thus in the overall period and also in the post-reform period compared to the former, the propensity to pay has been severely affected in case of profit reporting payers. Meaning, the positive earning reporting firms displayed lesser tendencies to pay whatever their characteristics.

Table 9 Estimates of the Effect of Propensity to Pay on the Percent of Firms Paying Cash Dividends across Earnings Heterogeneity

Year	Profit Reporting Payers			Loss Reporting Payers		
	Act. % (a)	Exp. % (b)	Exp.-Act. (b)-(a)	Act. % (a)	Exp. % (b)	Exp.-Act. (b)-(a)
1981	74.85	66.40	**-8.45**	3.89	18.70	**14.81**
1982	75.57	62.41	**-13.16**	5.96	17.12	**11.16**
1983	76.90	60.18	**-16.72**	4.97	17.12	**12.15**
1984	75.67	53.47	**-22.21**	7.69	15.00	**7.31**
1985	74.26	54.88	**-19.38**	8.06	15.96	**7.90**
1986	72.49	58.55	**-13.95**	6.36	16.45	**10.09**
1987	73.50	53.69	**-19.81**	10.09	15.84	**5.75**
1988	74.42	55.29	**-19.14**	8.97	17.62	**8.65**
1989	74.25	60.44	**-13.81**	8.72	19.74	**11.01**
1990	73.17	61.77	**-11.40**	8.55	18.11	**9.56**
1991	72.42	66.90	**-5.52**	9.34	20.19	**10.85**
1992	77.03	69.56	**-7.47**	12.25	21.59	**9.34**
1993	79.56	68.80	**-10.75**	10.29	22.19	**11.90**
1994	78.51	79.33	**0.82**	10.14	28.76	**18.63**
1995	79.26	82.94	**3.67**	12.37	33.37	**21.01**
1996	76.68	83.33	**6.66**	13.42	35.52	**22.10**
1997	76.33	79.10	**2.77**	12.15	33.59	**21.44**
1998	70.51	78.57	**8.06**	4.95	33.02	**28.07**
1999	67.54	71.59	**4.05**	5.08	28.37	**23.30**
2000	64.56	70.69	**6.13**	3.87	28.34	**24.47**
2001	62.60	69.11	**6.51**	4.63	28.73	**24.11**
2002	58.43	68.00	**9.56**	4.05	26.10	**22.04**
2003	56.31	64.64	**8.33**	6.04	25.88	**19.84**
2004	55.35	63.38	**8.03**	6.25	23.46	**17.21**
2005	55.1	63.24	**8.14**	5.43	22.04	**16.61**
2006	53.71	60.84	**7.13**	5.98	21.74	**15.76**
2007	52.5	58.72	**6.22**	4.17	19.87	**15.17**

Notes: a. Act. % and Exp. % are the Actual percent of Payers and Expected percent of payers (based on average regression function) **b.** The increasing (decreasing) difference between the Expected and Actual percents approximates the shortfall in the percent of cash dividend payers due to decreasing (increasing) Propensity to Pay. **Source:** Same as in table 1.

The post-reform period however, reveals intra-period shifts. For the 1998-07 period compared to the former (1993-1998), the significant deterioration in expected percent of payers (19%) is owing to decrease in financial characteristics is to the extent of 13%, and merely 5% due to reduced propensity to pay. During the post-reform period compared to the preceding, additional 0.65% of the payers reporting losses are unwilling to pay despite

improvements in financial characteristics. This improvement in financial characteristics which otherwise could have prompted additional 10% firms to pay; clearly indicating that general propensity to dividends in such firms has significantly decreased. In the post-1998 periods however in relation to the 1993-99 periods, the dip in financial characteristics largely explains decreasing payers in such panel.

Table 10 Estimates for the Effect of Propensity to Pay on the Percent of Firms Paying-out as per Size Heterogeneity

Year	Small Sized Payers			Medium Sized Payers			Large Sized Payers		
	Act. % (a)	Exp. % (b)	Exp.-Act. (b)-(a)	Act. % (a)	Exp. % (b)	Exp.-Act. (b)-(a)	Act. % (a)	Exp. % (b)	Exp.-Act. (b)-(a)
1981	37.70	68.64	**30.95**	63.76	74.50	**10.74**	78.53	76.23	**-2.30**
1982	36.91	56.32	**19.41**	60.44	63.25	**2.82**	80.55	65.39	**-15.15**
1983	36.73	55.13	**18.41**	58.98	62.13	**3.14**	77.09	64.29	**-12.80**
1984	36.70	48.33	**11.63**	51.31	55.53	**4.22**	75.53	57.82	**-17.71**
1985	36.05	51.29	**15.23**	47.22	58.43	**11.20**	76.51	60.67	**-15.83**
1986	34.93	51.83	**16.90**	50.00	58.95	**8.95**	77.90	61.19	**-16.71**
1987	31.53	47.94	**16.41**	49.07	55.14	**6.06**	76.82	57.43	**-19.38**
1988	27.91	49.65	**21.74**	49.84	56.83	**6.99**	75.80	59.10	**-16.70**
1989	27.87	55.24	**27.37**	54.68	62.22	**7.55**	75.72	64.38	**-11.34**
1990	35.97	55.28	**19.32**	55.48	62.27	**6.79**	75.92	64.43	**-11.48**
1991	38.79	61.20	**22.41**	56.88	67.80	**10.91**	76.90	69.80	**-7.10**
1992	40.60	59.32	**18.72**	64.00	66.06	**2.06**	83.36	68.12	**-15.24**
1993	41.26	59.61	**18.35**	63.50	66.33	**2.83**	82.36	68.38	**-13.98**
1994	48.34	71.29	**22.95**	67.07	76.82	**9.75**	84.82	78.44	**-6.38**
1995	50.61	78.87	**28.26**	66.55	83.28	**16.73**	87.61	84.54	**-3.07**
1996	44.32	76.27	**31.94**	65.22	81.10	**15.88**	84.60	82.48	**-2.12**
1997	39.35	72.02	**32.67**	58.23	77.46	**19.23**	81.34	79.04	**-2.29**
1998	34.90	68.79	**33.89**	49.43	74.63	**25.20**	75.53	76.36	**0.84**
1999	28.41	60.28	**31.87**	44.39	66.95	**22.56**	69.85	68.99	**-0.87**
2000	24.18	61.19	**37.01**	41.93	67.79	**25.86**	66.51	69.79	**3.28**
2001	22.15	61.96	**39.81**	37.11	68.50	**31.39**	64.17	70.48	**6.30**
2002	23.49	55.76	**32.27**	33.53	62.72	**29.19**	62.78	64.87	**2.10**
2003	19.94	55.47	**35.53**	32.05	62.44	**30.39**	64.61	64.61	**6.7**
2004	18.36	54.28	**35.92**	31.54	61.35	**29.81**	65.03	65.03	**4.15**
2005	17.92	54.26	**36.34**	30.82	60.88	**30.06**	65.8	65.8	**5.77**
2006	16.5	52.58	**36.08**	32.49	58.64	**26.15**	68.83	68.83	**6.42**
2007	15.49	50.77	**35.28**	31.06	50.02	**18.96**	68.47	68.47	**5.21**

Notes and Source: Same as in table 9

The changing characteristics and lower propensity to pay have larger effects on cash dividend decisions of payers distributing cash dividend classified as per the size heterogeneity of payers (table 10). When the average coefficients of the 1971-80 regressions for former payers are applied to small, medium and large firms paying-out for 1981-92 years, the expected percent of payers fall due to decrease in propensity to pay. The tendency to omit cash dividends irrespective of financial characteristics is significantly large for medium firms and large firms, then the small firms paying-out cash dividends. In case of small and medium firms that pay dividends, the overall decrease in the number of firms paying-out in the in the post-reform period, and also in the post further-reform period (post 1998) is more owing to its decreased propensity to pay. On a whole for the full period, the payers in the small and medium sub-sample demonstrate a larger tendency to omit dividends owing to decreased propensity to pay) cash, whatever the characteristics. The behavior of large firms with respect to cash dividends shows considerable variations contrary to their small and medium counterparts. Except from 1998 periods, the actual percent of payers have been consistently higher than the expected percent of dividend paying large firms indicating higher tendencies to pay dividends. Clearly over such period (1981-92), the propensity to pay-out among the profit reporting firms, given the financial characteristics is around 13% higher. However when the pre-reform period is compared to the later, the actual number of same firms paying out decreases by 8% despite improvement in their financial characteristics. This indicates that the propensity to pay have shirked significantly in such periods. Later, during the further-reform periods (1998-2007) only 62% large firms pay compared to 84% which did so during the 1993-1997 years much owing to the disruptments in the nature of changing characteristics of such firms'.

Changing characteristics and lower propensity to pay has the strongest and similar effects on the cash dividend decisions of firms sub-divided over size and positive earnings heterogeneity considered jointly. Table 11 summarizes the results for profit reporting firms reporting positive earnings. The difference between expected and actual percents of payers is negative for all the periods and across all sub-panels (type) of firms indicating that the willingness to cash dividend is high irrespective of characteristics for all the years and all such panels. However all such firms become more unwilling to pay now, unlike the past, despite their characteristics. Over the full period under consideration and consistently across small, medium and large firms reporting profits, a decrease in propensity to cash dividend is evident. The decrease in propensity to pay is larger for medium and for small firms

reporting profits compared to the profit reporting large firms respectively in the full period, and the post-reform period compared to the former.

Table 11 Estimates for the Effect of Propensity to Pay Cash Dividend Jointly across Positive Earnings and Size Heterogeneity

Year	Profit reporting Small			Profit reporting Medium			Profit reporting Large		
	Act. % (a)	Exp. % (b)	Exp.- Act. (b)-(a)	Act. % (a)	Exp. % (b)	Exp.- Act. (b)-(a)	Act. % (a)	Exp. % (b)	Exp.- Act. (b)-(a)
1981	58.45	25.30	**-33.15**	74.59	30.08	**-44.51**	86.60	32.99	**-53.62**
1982	55.77	23.06	**-32.72**	74.83	26.25	**-48.58**	90.99	29.38	**-61.61**
1983	56.98	22.64	**-34.33**	79.10	25.12	**-53.98**	89.83	28.67	**-61.15**
1984	59.39	19.66	**-39.74**	71.93	21.80	**-50.13**	91.25	24.63	**-66.62**
1985	58.45	20.66	**-37.79**	68.08	22.29	**-45.79**	90.87	26.26	**-64.61**
1986	56.92	21.04	**-35.88**	65.35	24.17	**-41.18**	89.85	27.33	**-62.52**
1987	54.55	19.76	**-34.78**	69.34	22.10	**-47.24**	90.96	24.98	**-65.98**
1988	54.02	20.63	**-33.39**	72.13	23.67	**-48.46**	89.11	27.54	**-61.57**
1989	51.25	23.00	**-28.25**	73.94	27.19	**-46.75**	89.34	30.17	**-59.16**
1990	55.76	22.40	**-33.36**	70.64	25.75	**-44.89**	88.60	28.14	**-60.46**
1991	56.74	25.25	**-31.49**	69.91	28.75	**-41.17**	86.73	31.47	**-55.26**
1992	58.99	26.39	**-32.60**	76.68	29.74	**-46.94**	90.77	33.38	**-57.39**
1993	62.23	26.36	**-35.88**	79.74	29.57	**-50.17**	91.81	33.73	**-58.07**
1994	62.44	35.35	**-27.09**	78.26	38.86	**-39.40**	91.59	42.49	**-49.09**
1995	67.15	39.97	**-27.18**	75.88	43.86	**-32.02**	91.64	48.19	**-43.44**
1996	60.13	41.39	**-18.74**	76.16	44.65	**-31.52**	89.75	49.67	**-40.08**
1997	61.48	37.24	**-24.24**	72.54	41.06	**-31.47**	89.98	46.00	**-43.98**
1998	53.89	36.90	**-16.99**	66.67	40.10	**-26.57**	85.96	44.92	**-41.04**
1999	47.22	31.14	**-16.09**	64.59	33.27	**-31.32**	84.68	38.32	**-46.36**
2000	45.15	29.88	**-15.27**	59.23	34.18	**-25.06**	81.85	38.00	**-43.85**
2001	42.62	29.34	**-13.28**	56.28	33.60	**-22.69**	79.68	38.23	**-41.45**
2002	40.33	28.06	**-12.27**	49.11	31.08	**-18.03**	79.05	35.04	**-44.01**
2003	38.83	26.37	**-12.47**	47.14	30.54	**-16.60**	75.51	33.61	**-41.90**
2004	38. 31	26.22	**-12.09**	46.51	28.4	**-18.11**	75.13	32.54	**-42.59**
2005	36.62	24.75	**-11.87**	45. 76	28.13	**-17.63**	73.32	31.01	**-42.31**
2006	34.86	24.03	**-10.83**	45.02	27.11	**-17.91**	73.14	32.23	**-40.91**
2007	33.30	22.76	**-10.54**	42.60	27.82	**-14.78**	71.92	32.46	**-39.46**

Notes and Source: Same as in table 9

It is found that the influence of all dwindling financial determinants (characteristics) of dividends along with decreasing propensity considered jointly, lead firms to omit cash dividends. This variation in characteristics is mostly evident in case of the large firms and medium compared to small firms reporting profits in the pre-reform periods. In the post-

1998 periods compared to 1993-1997 the decreasing number of payers in such periods is attributable to changing (decreasing) propensity to pay among medium and small firms reporting profits, respectively in that order while in case of large firms reporting profits, it is disturbing financial characteristics having major influence along with decreased propensity to pay that prompt dividend omissions.

Table 12 Estimates for the Effect of Propensity to Pay Cash dividend jointly across Negative Earnings and Size Heterogeneity

Year	Loss reporting Small Firms			Loss reporting Medium Firms			Loss reporting Large Firms		
	Act. % (a)	Exp. % (b)	Exp.-Act. (b)-(a)	Act. % (a)	Exp. % (b)	Exp.-Act. (b)-(a)	Act. % (a)	Exp. % (b)	Exp.-Act. (b)-(a)
1981	2.36	16.29	**13.93**	5.56	16.32	**10.77**	6.90	16.46	**9.57**
1982	2.56	14.52	**11.96**	7.63	14.56	**6.94**	12.33	14.73	**2.40**
1983	2.91	14.45	**11.53**	4.70	14.50	**9.80**	10.23	14.70	**4.47**
1984	3.98	12.70	**8.71**	4.79	12.75	**7.97**	18.80	13.01	**-5.79**
1985	3.97	13.42	**9.45**	7.58	13.49	**5.91**	17.50	13.71	**-3.79**
1986	3.03	13.67	**10.64**	5.42	13.72	**8.30**	16.19	13.91	**-2.28**
1987	2.11	13.07	**10.96**	7.11	13.13	**6.02**	29.53	13.41	**-16.12**
1988	2.22	14.39	**12.18**	8.60	14.47	**5.87**	25.76	14.72	**-11.03**
1989	3.57	16.02	**12.45**	7.14	16.09	**8.95**	23.26	16.38	**-6.88**
1990	4.73	14.43	**9.70**	5.99	14.48	**8.49**	19.85	14.72	**-5.13**
1991	5.62	16.04	**10.42**	6.80	16.08	**9.28**	21.50	16.30	**-5.20**
1992	5.34	16.73	**11.39**	15.32	16.78	**1.46**	27.14	16.94	**-10.20**
1993	6.22	17.10	**10.88**	13.01	17.16	**4.15**	17.11	17.33	**0.23**
1994	10.32	22.35	**12.03**	7.69	22.40	**14.71**	14.00	22.55	**8.55**
1995	7.55	26.08	**18.53**	15.73	26.13	**10.40**	25.71	26.22	**0.51**
1996	6.35	27.51	**21.16**	21.09	27.58	**6.48**	20.83	27.70	**6.87**
1997	4.78	25.76	**20.98**	17.37	25.85	**8.48**	23.81	26.08	**2.27**
1998	3.04	25.20	**22.15**	2.42	25.28	**22.86**	14.44	25.55	**11.10**
1999	1.95	21.28	**19.33**	6.54	21.38	**14.84**	9.09	21.70	**12.61**
2000	1.93	21.33	**19.40**	3.50	21.42	**17.92**	8.89	21.78	**12.89**
2001	4.37	21.63	**17.26**	2.61	21.73	**19.12**	8.57	22.10	**13.53**
2002	3.55	19.49	**15.94**	3.06	19.58	**16.52**	6.58	19.94	**13.36**
2003	4.08	19.33	**15.26**	4.58	19.42	**14.84**	11.76	19.88	**8.12**
2004	4.45	18.93	**14.48**	4.06	18.88	**14.82**	10.02	19.23	**9.21**
2005	4.00	17.48	**13.48**	3.63	17.27	**13.64**	9.41	17.64	**8.23**
2006	3.98	17.01	**13.03**	4.29	17.8	**13.51**	8.82	16.57	**7.75**
2007	3.21	14.52	**11.31**	3.52	16.6	**13.08**	6.6	14.03	**7.43**

Notes and Source: Same as in table 10

Table 12 presented above depicts that marginally more number of small and medium firms reporting losses pay-out in the post-reform periods in the relation to the former. This increase in the number of small and medium firms reporting profits is a primarily a result of improvement in their financial characteristics, than that in the propensity to pay that govern their payment decision. During the further-reform periods however, the medium, large and small disappear by 11, 10 and 4% respectively. In the same periods *approx.* 21% percent of the loss reporting large, medium and small firms respectively are expected to pay, but only (half, one-fifth, and one-sixth of the expected numbers actually do so, demonstrating strong evidence of declining propensity to pay-out in case of medium and large firms and the effect of changing characteristics for small firms reporting losses.

7. Summary and Findings

Through a tempo-spatial analysis over a longer time-frame, it is considered how the payer and non-payers over the size and sign of earnings heterogeneity differ in respect of their different financial characteristics and propensity to pay. It is examined, which firm characteristics determine corporate cash dividend payment and non-payment decisions, how such decisions respond to the relatively changing characteristics of payers and non-payers over time, and whether the presence/absence or the changes in fundamental financial characteristics influences them to pay or omit cash dividends

In line with the global trends we uncover evidence in favor of decreasing cash dividend payment behavior among Indian Firms. Firstly, we note a significant decrease in the number of firms paying equity cash dividends across small, medium, and large firms and also across firms reporting profits and losses, as well. The number of firms paying cash value of equity cash dividends registers a significant decrease in the post-1999 period (after the advent of buyback (repurchase) regulation) compared to the 1993-1998 periods. Secondly we find huge variations in cash dividend payout / omission behavior of RBI firms across sub-panels. Large Firms are reluctant to omit cash dividend payments then the small and medium sized firms. The payers belonging to large size sub-panel pay relatively smaller and a decreasing proportion of their earnings as cash dividends over the years. The increasing tendency to omit cash dividend payments in the 1971-2007 periods occurs predominantly among the small and medium firms that earlier pay cash dividends and largely due to firms reporting positive earnings and yet choosing not to pay. Thirdly in terms of firm characteristics it is found that; across all sub-groups the cash dividend payers

have higher measured profitability than non-payers. Large firms are 6 and 1.5 times more profitable than small and medium ones respectively in spirit of Renneboog and Trojanowski (2007) for German firms who find that profitability is a crucial determinant of payout decisions. The loss reporting payers report lower losses compared to the payers reporting losses, although a loss is far from a guarantee that the cash dividend payment will be reduced. Consistently across all sub-panels and sub-periods the non-payers are highly indebted than the payers consistent with the finding of DeAngelo and DeAngelo (1990), F&F (2001), Benito and Young (2001), Bebczuk (2003), and Gwilymn *et. al.,* (2004a and 2004b). Further the firms that skip cash dividends have the best growth opportunities and are lessening in the recent years across all sub-groups. Non-payers reporting profits are more liquid then payers reporting profits whereas, loss reporting non-payers are more liquid then payers reporting losses. The logit estimations of variables of financial characteristics on the decision to pay confirm that the signs for profitability, liquidity and size proxies are positive and that of leverage and growth opportunities are negative for the full sample across all sub-periods. Fourthly, the effects of changing characteristics on the incidence of the propensity (likelihood) to pay cash dividends are measured for the cash dividend payers across size, across sign of earnings and both jointly are measured presuming that the proxies for characteristics have constant meaning through time. Dividend payers across all sub-panels, irrespective of the heterogeneity of size, sign of earnings, and the size and earnings considered jointly demonstrate a reduced propensity to pay cash dividends in the post-reform periods compared to the former. The significant reduction in the further-reform periods (1998-2007) compared to the former (1993-1997) is however owing to deterioration in fundamental financial characteristics across all kinds of firms rather than decreased propensity.

The support for decreasing cash dividend we offer is in tune with the corporate philosophy that the best reward to the shareholders is to invest back the earnings into the company and fuel its internal growth through R&D, diversifications or through strategic acquisitions instead of distributing cash to its investors. The accumulated evidence indicates that the changes in cash dividend policies are not motivated by firms' desire to signal their true worth to the market and that cash dividends can no longer be treated as a signal of value of desirability and future prospects. This calls for stringent disclosure norms in tune with the new corporate legislation and corporate governance requirements in India. Firms do not omit cash dividends in India nor because they have no capacity to pay, but probably they don't want to disadvantage their share holders *visa vie* cash dividend taxes and would like

them to benefit from capital gain associated with the investment. Dividend omitting firms also tend demonstrate confidence that attractive investment opportunities may be missed if it paid cash dividends and if such firms make these investments they may increase the value of the shares by more than the amount of the lost cash dividends.

The present paper throws substantial light on what type of Indian firms omit dividends. We present the facts that substantial number of firms across all categories doesn't pay cash dividend in the recent years in India corroborating the global findings that cash dividend payments have become less likely among all type of firms. Very importantly we identify and attribute the reason to omit dividend to increase in general likelihood (propensity) by firms to pay, despite their characteristics. Our evidence is consistent with F&F (2001) and Ferris *et. al.,* (2003), that changes in the proportion of payers are not the fully explained by changing firm characteristics, indicating an overall decline in the propensity of firms to pay cash dividend. However, still many other issues lie unaddressed. The fact that the decline in the propensity to pay is observed in India and studies from other countries it suggests that they are likely to have a common cause. Thus the explanation as to what explains this reduced propensity (why firms cut dividends), and why do some firms India having similar characteristics cut dividend and other firms do not, remains to be studied. The explanation of such phenomenon in India should meet the requirement of cross-country robustness. Testing them would also yield whether the results are consistent, or otherwise with the candid theoretical explanations for omissions; like that of equilibrium clientele theories, signaling theories, the catering theory, substitution of dividends with share repurchases, agency and the slow learning about taxes hypothesis. Another significant limitation of the present study is that it ignores the possible impact of past (lagged) dividend payment /omission decisions on current payment / omission decisions. The present attempt preludes the same.

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