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WHAT TYPE OF INDIAN FIRMS PAY DIVIDENDS? EVIDENCE ACROSS SIZE AND SIGN OF EARNINGS HETEROGENEITY

Manoj Subhash Kamat*

Abstract: *This study aims to find what type of firms pay cash dividend and how the cash dividend payers and non-payers over the size and sign of earnings heterogeneity differ in respect of their financial characteristics and propensity likelihood to pay dividends? It is also examined whether changing firm characteristics and propensity (likelihood) to pay, influences to pay in spirit of the technique used by Fama & French (2001). The study uses the temporal-spatial analysis over a period 1971 through 2011 controlling for economic reforms for an emerging market. It is found that the cash dividend payments have become less likely among all type of firms and more significantly after reforms. Very importantly we identify and attribute the reason to omit dividend to decrease in general propensity by firms to pay, despite their characteristics. The documentation of size and earning heterogeneity effects on propensity to pay dividends suggest a role for financial slack, growth opportunities and firm maturity hypothesis in dividend payment decisions.*

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

Paper type- *Research*

JEL Classification- *G32, G35*

INTRODUCTION

The declining proportion of dividend paying firms is well documented in the literature by Fama & French (2001), Aivazian *et. al.,* (2002), Ferris *et. al.,* (2003) Denis and Osobov (2007), and Vieira and Raposo (2007) among others, for developed markets. This leads us to ask further interesting questions; what type of firms pay annual cash dividends across time and space? whether dividend payers / non-payers share similar characteristics? and how dividend payment 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 emerging market. Recently for India, Kamat and Kamat (2009) suggest dividends substitute for less opportunity for internal growth and increased general likening to relatively retain their earnings and finance their growth after economic reforms unlike the past. Though the study by Reddy (2002) analyzes the influence of firm's characteristics such as profitability, growth, size and investment pattern on dividends in India, it relates to post-reform period alone and does not measure the propensity to pay. We are unaware of any

* PhD. Finance (IIT Bombay) & Post-Doctoral fellow (Economic Policy). Works as an Advisor at Goa Industrial Development Corporation-Goa, *E-mail: mskamat@gmail.com*

previous empirical studies specifically documenting the dynamics of size and earnings heterogeneity on dividend payment decisions in the context of emerging markets.

This study tries to bridge the gap in literature in many ways. A comprehensive probe in an emerging market like India using firm level data would represent a strong substantiation of the findings of previous researches by separating firms into payers and non-payers based on their prior cash dividend payment status, on the basis of their size and their sign of reported earnings. The dividend paying propensity of firms and its related behavior over a longer time across size and earning heterogeneity is examined covering a longer time frame 1971-2011 helping us to control for the post-reform (1993-2011) and further-reform periods (1997-2011) after the advent of share repurchase regulations. It is of interest to check whether the characteristics and propensity to pay cash dividend differ significantly from the fact that quite a few firms reporting losses also find it difficult to resist payment of dividends. It is investigated whether dividend paying firms reporting losses and distinguished as per their size significantly differ in characteristics and propensity to pay from payers reporting profits in a given period. We check whether large number of Indian firms pay / omit dividends on account of investment opportunities and to restore financial flexibility, and whether firm's propensity to pay dividends is a function of which stage a firm is in its life cycle. 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.

Many studies attempt to find what type of firms pay dividends in developed markets. In relatively earlier years Edwards and Mayer (1986) through a survey of the 'Hundred Group' (an association of the largest UK companies) find that managers reduce their annual cash dividend only when they face a persistent decline in earnings. For US, DeAngelo and DeAngelo (1990, 1992, and 1996) confirm the managerial aversion to cut and omit dividends in view of losses and conclude that a loss is necessary 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) and investigate the changes in the propensity to pay. Banerjee *et. al.,* (2003) too estimates 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 using 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 characteristics.

In the recent years research on various dimensions of propensity to pay has been investigated developed markets. Gwilym *et al.,* (2004b) for instance models dividend cuts and financial characteristics in UK using F&F technique whereas Bulan and Subramanian (2008) find poor operating performance, poor financial flexibility, high investment and increased risk are factors that affect the likelihood of a dividend omission. Stepanyan (2009) estimates logit models on firm characteristics and dividend cuts. Zhou and Zhou (2009) test dividend initiation decisions of financially distressed firms and Twu (2009) document the decline in propensity to pay among firms when dividend stickiness is taken into account. Bulan (2010) relate poor firm performance as a reason to cut dividends while Al-Kuwari (2010) identifies financial factors influencing payment/ non-payment decisions using Probit model for firms listed on Gulf Cooperation Council.

Our results from the Indian data are consistent with the findings that the lower propensity to pay dividend is most prominent in firms that are more able to pay, *i.e*. among firms with higher earnings power and larger firms, and that the improved liquidity has not contributed to more proportion of firms paying dividends suggesting liquidity is a insignificant variable in dividend payment decision in India. Cash dividend payers are found highly indebted than the dividend payers and the RBI firms skipping cash dividends have best growth opportunities. We find that large number of Indian firms prefer to omit dividends on account of larger investment opportunities and to restore financial flexibility to prevent reliance on excessive risky debt. Our results support the theory that firm's propensity to pay dividends is a function of which stage a firm is in (its life cycle) and though not conclusively, we indicate a role of financial slack in dividend omission decisions for the post-reform periods.

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. The subsequent section (7) checks for the role of financial slack in dividend payment decisions, section (8) track the life cycle of small firms in terms of the change in their size in the future over two decades to confirm their dividend paying / non-paying behavior and the last section (9) concludes.

2. DATA AND METHODS

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 this rich dataset relating to an overall period 1970-71 to 2010-2011, the latest period for which data was made available.

Data for this purpose was requested from Reserve Bank of India (RBI) and emerges from unpublished corporate firm level from data compendium compiled by the Company Finances

Department of RBI. This data is sourced from various annual studies based on the annual accounts of selected companies from among the non-government non-financial public limited companies. The average number of firms for which equity cash dividend data is available in the full period is over 1800 firms' 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.

We classify the firms in the sample into payers and non payers, based on the fact whether the firm has paid cash dividend in the give year or otherwise. The sample is divided into 11 sub-panels based on three classifications; size, earnings and size and earnings considered jointly. On the basis of the size; the firms are classified 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). On the basis of earnings the firms are classified into profit reporting and loss reporting based on the non-zero (profit) / zero or negative value (loss) of their earnings in the current year *t*. 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. 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 (1993-2011) period. The post-reform period is further splinted into further reform, the post-buyback regulation period (1998-2011) to account for the advent of the buyback regime in 1997, changes in dividend tax policies for introduction of corporate governance mechanisms.

3. VARIABLE DEFINITIONS AND HYPOTHESIS

Based on the literature we probe the effect of five explanatory variables; earnings, liquidity, financial slack, investment intensity rate and size respectively, to build four hypotheses to test them in Indian context. The following discussions motivate the choice of the variables and the resultant null hypotheses:

Hypothesis 1: There exists a direct and statistically significant association between earnings and dividend payment decisions

Earnings of the firm are undoubtedly expected to have the largest and positive influence on dividend payment decision. The above hypothesis also signifies the incremental importance of earnings and losses in dividend payment decision. It is also expected that loss-making firms are more likely to omit cash dividends compared to firms that remain profitable. The variables commonly used to proxy earnings (ERNG) are Return on Assets (RoA) and Return on Equity (RoE). We elect to use the RoA defined as profits after taxes net preference dividends as measure of earnings rather than market-based measures since the later capture accounting profits available

for distribution to the firm's shareholders and hence more likely to be relevant while setting the level of cash dividends. Loss making and low profit margin firms are more likely to omit cash dividends as poor quality firms cannot afford to match dividend payments as 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 the 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 may also demonstrate their liking for cash dividends however the tendency to pay is more pronounced in profit making firms thus the dividend payments irrespective of the losses incurred would mean that managers are reluctant to omit dividends and view losses as a temporary phenomenon contrary to acting decisively by omitting cash dividends.

Hypothesis 2: There exists a positive association between liquidity and profitability and a direct relation with dividend payment decisions

The proxy used to measure liquidity (LQTY) is the current ratio, a short term measure of debt. Cash dividend payments in presence of poor liquidity leads to exhaustion of internal finances, deterioration of capital, 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 liquidity 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. Non-liquid firms omit cash dividends also because there is no informational asymmetry about them and they have relatively low free cash to disgorge, whereas liquid firms pay 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 payment in presence of high liquidity reduces FCF and in turn agency problems.

Hypothesis 3: Given the mixed results in the literature it appears appropriate to let the data describe the sign and behavior of leverage coefficients on dividend payment decision

It is expected that inclusion of leverage as a variable may worsen the ability to explain cash dividend payment decision amongst profitable and loss making firms across size and earnings heterogeneity. The leverage ratio surrogates the financial slack variable (FSLK) calculated as a ratio of total debt to assets and is found to have a significant role in the cash dividend payment decision, however type of relation it assumes 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 and 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 dividends and thus they pay lower dividends. Firm trades off dividend payments with fixed financial charges. A highly leveraged firm would tend to lower its 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.

Hypothesis 4: A Growth opportunity has a negative and statistically significant relation with the dividend payment decision

It is predicted that growth opportunity has a negative association with leverage and size. The above hypothesis is consistent with the predictions of the Pecking Order and the Dividend Signaling theories. The investment intensity rate (INVR), defined as a sum of quoted and unquoted investments, inventories plus net fixed assets and R&D expenditures to total capitalization alternates the funds required for financing new project and proxies growth opportunities. When operating profits are generated the firms invest in projects that have positive net present values and return the portion of their residual profits as 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 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.

Hypothesis 5: The relation between size and dividend payment decisions is assumed to be positive. It is also expected that the size will have a positive influence on leverage and profitability

The above hypothesis follows the view that small firms are illiquid, are less profitable and have higher growth opportunities than large firms and the ones more likely to omit dividends. The nominal rupee value of firm's sales is used as a proxy for size (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 dividends. Secondly firm's life cycle maturity theory suggests that 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, there is a higher tendency of agency problems and the shareholders demand higher dividend acting as an indirect monitoring tool. Small firms on the other hand are in current or potential need of external finance and therefore would like use their funds more prudently and as they are monitored by the existing and potential creditors; do not resort to dividend payments. 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 omission / reduction decisions in the preceding years. Small firms also rely heavily (than large firms) on savings as a source of finance and need to pay out less. Larger firms have better access to markets owing to its reputation and can afford paying out higher**.** High 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 large firms pay out cash dividend that acts as an indirect monitoring tool in spirit of La Porta *et al.*, (2000).

4. TRENDS AND CHARACTERISTICS OF CASH DIVIDEND PAYERS AND NON-PAYERS

Table 1
Percentage of Indian Firms Paying Cash Dividends during 1971-2011 periods

Sample	*71-81*	*82-92*	*93-97*	*98-11*	*71-92*	*93-11*	*71-11*
Profit reporting firms	72.57	74.52	76.81	61.89	73.54	70.03	72.37
Loss reporting firms	6.59	8.27	10.55	4.73	7.43	7.91	7.59
Small firms	39.43	34.91	43.13	23.63	37.17	34.27	36.2
Medium firms	56.28	54.35	61.67	37.8	55.32	50.82	53.82
Large firms	75.38	77.46	82.71	64.24	76.42	74.32	75.72
Profit reporting Small firms	58.92	56.26	61.22	42.83	57.59	52.86	56.01
Loss reporting Small firms	3.61	3.64	6.38	3.18	3.63	4.92	4.06
Profit reporting Medium firms	69.82	71.99	74.87	55.27	70.91	65.96	69.26
Loss reporting Medium firms	6.26	7.37	12.89	4.06	6.82	8.87	7.50
Profit reporting Large firms	85.42	89.85	90.12	80.15	87.64	85.59	86.95
Loss reporting Large firms	14.65	20.19	19.32	8.98	17.42	14.62	16.48
Full Sample	57.03	55.58	62.5	41.9	56.3	53.14	55.25

Source: Unpublished firm level data requested from RBI, Mumbai

Table 1 depicts as to which type of RBI firms pay dividends across the size and earnings heterogeneity during varying time periods under study. The series representing all types of RBI firms (full sample) paying dividends register a decreasing trend over the recent years suggesting that cash dividends become less likely among all type of firms. The economic reform and the further-reform periods mark a significant impact with increasing number of firms omitting dividends across all sub-samples. Around 43 percent of the total RBI firms not paying cash dividends during the pre-reform periods increase their tendency of non-payment during later sub-periods, with 37.5 percent firms choosing not to pay. Within the post-reform periods 1993-2011 there has been a significant decline in the number of firms paying-out across all sub-panels as a greater willingness to omit dividends is witnessed in the post-1998 sub-periods. The percent of payers across all sub-panels disappear at a higher rate since 1997 suggesting the "further-reform effect" after the emergence of substitutes to cash dividends in form of repurchases, change in dividend tax regime and initiations of corporate governance practices. Overall there is 21 percent increase in firms not paying dividends in the post 1998 periods compared to 1993-1997 period. In the further reform-periods (1999-2011) period in relation to the preceding 1993-1997 years; the percent of equity dividend paying firms reporting losses shrink by 55 percent while the profit reporting payers only by 31 percent. The further-reform periods have negatively impacted medium and small firms relatively more than the large payers in their decision to pay dividends.

During the full periods 1971-2011 small firms have greater tendency to omit dividends (around 64%) compared to the mid-sized firms (46%) and their large sized counterparts (24.28%) similarly around 26 percent of the profit reporting firms avoids cash dividend payments in the same periods. The data suggests the possible "size-effect" (tendency of dividend payment increases with size) and "earnings-effect" (tendency of dividend payment increases with positive earnings) for India. In the context of a firm's life cycle, we find that asymmetric information problems might be more severe among younger and growing firms compared to firms that have reached maturity and hence as the theory predict that small and young firms do not pay following the pecking order as Bulan and Yan (2009) point out. 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 72 percent firms reporting profits comprising 95 percent of total payer's pay equity cash dividend.

Given the findings about the non-payment behavior among different kinds of RBI firms we further 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 details the characteristics of dividend paying and non-paying firms across the size and sign of earnings heterogeneity. Across all sub-groups the cash dividend payers have higher measured profitability than non-payers for all periods and are in tune with our expectations. 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 percent. 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 percent 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 dividend payers in the later sub-periods earn around 4 percent less whilst the small payers report higher profitability to the extent of 17 percent during the post-liberalization era, compared to the former. Profitability however drops significantly across all sub-panels in the 1999-2011 periods compared to 1993-1998 periods.

Table 2
Annual Sub-Period Averages of Aggregate Earnings, Liquidity, Leverage & Investment Opportunities for different Dividend Paying & Non-Paying RBI Firms, 1971-2011 Periods

Firms	*71-81*	*82-92*	*93-97*	*98-11*	*71-92*	*93-11*	*71-11*
			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.

Contrary to our 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 1999-2011 compared to 1971-1992 and the 1993-1998

periods respectively. The rise is more significant for non-payers in the full sample and specifically in the further-reform periods. For the full period 1971-2011 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 similarly the loss making non-payers have higher liquidity compared to the profit making non-payers. Overall results suggest that despite improvements in liquidity there is a significant decrease in number of firms making cash dividend payments indicating liquidity is not a major influencing factor in dividend payment / omission decisions.

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 further reform periods (1998-2011) periods compared to 1993-1997, the average financial slack ratio record a decrease. For the whole period 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) 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 1971-2011 periods is 1.18 times than that of the payers

Table 4
Summary Statistics of Financial Characteristics for Cash Dividend Payers and Non-Payers, 1971-2011 Periods

Stats.	*Size of Firms*			*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. Represents Median and the Skewness for the data Source: Same as in Table 1

whereas in case of non-payers reporting losses is to the extent of 1.42 times. For the full period 1971-2011 and also for 1993-2011 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 1999-2011 compared to the 1993-1997 periods dwindle across all sub-groups. The growth opportunities of all payers in the sample and the profit reporting payers lessen by 13 percent, that for loss making payers by 10 percent, the small payers by 37% and the medium and large payers by 7 percent respectively.

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.

5. MODEL SPECIFICATION AND FINDINGS

The approach of Logit regressions in this section quantifies how financial characteristics (earnings, financial slack, liquidity, investment rate, and controlled for size) 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.

In spirit of F&F (2001) we attempt to quantify how the changing financial characteristics; the factors affecting probability that a firms across size and earnings heterogeneity pay dividend

and their changing propensities to pay combine to produce the change in the percent of payers over time. 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 is confirmed by estimating a logit model and lastly we measure and analyze the effect of propensity to pay on the percent of firms paying annual cash dividends among sub-panel firms for the 1971-2011 periods.

In the logit model, the dependent variable assumes value 1 when the firm pays dividend and the value 0 when the firm omits cash dividend. 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:

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

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

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

Where alpha is the intercept term and 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.

To capture the effect of sign of earning and size separately and earnings and size jointly, equations 4, 6 and 8 are estimated respectively with the dummy dependent variables. Equation 4 captures the effect of earnings heterogeneity. Where, PDUM equals 1 representing the firm reporting profit (P) 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 pays out and 0 otherwise.

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

$$\text{It is expected that } \beta_1 > 0,\ \beta_2 > 0,\ \beta_3 = ?\ \beta_4 > 0,\ \beta_5 > 0, \text{ and } \beta_6 > 0 \tag{5}$$

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.

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

It is expected that $\beta_1>0$, $\beta_2>0$, $\beta_3=?$ $\beta_4>0$, $\beta_5>0$, $\beta_6<0$ and $\beta_7>0$ (7)

In order to demonstrate the interaction effect between two qualitative variables across size and sign of earnings jointly equation 8 is specified. SPDUM, MPDUM and LPDUM denote the fact that the firms are small (S), medium (M) or large (L) and profit reporting (P); respectively. The variables MLDUM and LLDUM represent the medium firms reporting losses and large firms reporting losses respectively and the small firms reporting losses (SLDUM) in this case is the reference group.

The equation is specified as:

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

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. 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.

The regressions are separately 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.

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 reporting firm 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.

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.

Table 6
Estimates of LOGIT Regressions to Explain which Firms Pay Cash Dividend across Sign of Earnings Heterogeneity, 1971-2011 Periods

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
1998-11	-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
1993-11	-7.64	3.61	0.02	-3.66	-0.05	0.55	2.67
1971-11	-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
1998-11	-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
1993-11	-36.56	9.59	1.12	-12.39	-3.83	44.85	24.76
1971-11	-39.74	12.49	1.93	-24.98	-5.49	49.87	29.88

Note: a. Intcpt. is the Intercept term b. The Dummy variables PDUM represent Profit (P) reporting firms c. The Loss (L) reporting firms are the reference group Source: Same as in table 1

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, 1971-2011 Periods

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
1998-11	-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
1993-11	-5.34	9.71	0.02	-3.79	-0.06	0.52	0.08	0.29
1971-11	-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
1998-11	-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
1993-11	-21.21	12.04	1.3	-12.39	-4.33	21.97	1.5	4.84
1971-11	-23.76	19.05	2.18	-27.08	-5.96	33.86	0.11	3.1

Note: a. Intcpt. is the Intercept term b. The Dummy variables SDUM and LDUM denote Small (S), and Large (L) firms respectively c. The Medium (M) firms are the reference group. Source: Same as in table 1

In Table 7 it is found that the possibility of 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 with lower asymmetric information assumes statistical significance only in the post-1999 time period consistent with Booth and Xu (2008) that firms with higher levels of asymmetric information are associated with lower dividend payments and also have a higher propensity to smooth their dividends. This table is based on the results of equation 6 and 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.

The results presented in table 8 accounts the likelihood that the large payers reporting profits and those reporting losses yet continue to pay is greater than the medium and small firms, and those reporting profits and losses. The dummy coefficients representing the interaction of size and profits (SPDUM, MPDUM and LPDUM) 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 dividend payment 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 SPDUM, MLDUM, MPDUM, LLDUM and LPDUM 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 SPDUM denotes small firms reporting profits, MLDUM 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 SPDUM, MLDUM, MPDUM, LLDUM and LPDUM denotes the difference in the magnitude of the mean coefficient from the mean coefficient of the reference group SLDUM.

Table 8
Estimates of LOGIT Regressions to Explain Which Firms Pay Cash Dividend Jointly across Size and Sign of Earnings, 1971-2011 Periods

Period	*Intcpt.*	*ERNG*	*LQTY*	*FSLK*	*INVR*	*SIZE*	*SPDUM*	*MLDUM*	*MPDUM*	*LLDUM*	*LPDUM*
					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
1998-11	-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
1993-11	-6.98	3.62	0.01	-3.66	-0.05	0.52	2.35	-0.39	2.22	-0.56	2.63
1971-11	-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
1998-11	-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
1993-11	-33.88	9.70	1.12	-12.10	-3.85	20.69	19.70	-1.71	14.74	-2.75	16.64
1971-11	-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 SPDUM, MPDUM and LPDUM denote Small (S), and Medium (M) sized Payers reporting, Profit (P) whereas MLDUM and LLDUM are dummies for Medium (M) and Large (L) payers reporting Losses (L) respectively c. The Loss reporting Small firms are the reference group.

Source: Same as in table 1

It is evident that the firms reporting losses demonstrate their liking for paying dividends 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 omit dividends and view losses as a momentary occurrence. They may do so firstly to avoid violation of debt covenants and second because losses reveal deterioration in the firm's quality. Reduced cash

dividends 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 omit dividends in spite of losses or decline in earnings and regards is in conformance with Edwards and Mayer (1986), DeAngelo and DeAngelo (1990), Marsh (1992) and DeAngelo *et. al.,* (1992, 1996).

Generally, RBI firms have become less likely to pay in the recent years and the reform process has impacted negatively significant number of firms paying dividends. The sign for earnings, size (both significant) and liquidity (statistically insignificant) are found to be positive in explaining payouts and we fail to reject the null hypothesis 1, 3 and 5 as enumerated in section 3. Leverage and growth opportunities have significant negative impact on the decision to pay dividends by India firms and in case of the later, as expected in hypothesis no 4. All the tests for hypothesis are robust with respect to the magnitudes and behavior of independent variables across all types of sub-panels and for all sub-periods under study.

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 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, those with particular characteristics should be as likely to pay dividends now as in the past or else due to changing propensity of the firms to pay dividend. The term 'Propensity' used in the spirit of F&F (2001) and indicates the willingness / tendency / inclination / likeliness to pay dividend by the firm. If the decision to dividend or not to pay depend on the financial characteristics of the firm, the firms with particular characteristics should be as likely to pay now as in the past. Considering that increasing number of payers decide to omit 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 defined sub-panels illustrate if the firms differ in terms of their financial characteristics. Secondly the evidence from the summary statistics is confirmed empirically with logit regressions. Consistent with F&F 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 dividends. The probabilities that firms with given characteristics pay 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 percent in 1978 to 21 percent in the year 1999. They argue that two effects might account for

Table 9
Estimates of the Effect of Propensity to Pay on the Percent of Firms Paying Cash Dividends across Earnings Heterogeneity, 1971-2011 Periods

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
2008	52.6	55.76	3.16	5.04	19.56	14.52
2009	53.41	56.45	3.04	3.99	18.44	14.45
2010	50.54	53.55	3.01	4.72	18.02	13.30
2011	53.01	55.03	2.02	4.32	17.05	12.73

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.

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.

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 pay 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 percent 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 1993-2011 period increases by 10 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. 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. The post-reform period reveals intra-period shifts. For the 1998-11 period compared to the former (1993-1998) the significant deterioration in expected percent of payers (around 18%) is due to decrease in financial characteristics (12%) and merely 5% due to reduced propensity to pay. This means that in the post-1998 periods in relation to the 1993-99 the dip in financial characteristics largely explain decreasing payers.

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 for post-1998 periods, the actual percent of payers have been consistently higher than the expected percent of dividend paying large firms. This indicates higher tendencies to pay dividends. Clearly over such period (1981-92) the propensity to pay-out among the profit reporting firms,

Table 10
Estimates for the Effect of Propensity to Pay on the Percent of Firms Paying-out as per Size Heterogeneity for 1981-2011 Periods

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	64.11	64.68	0.57
2004	18.36	54.28	35.92	31.54	61.35	29.81	66.03	65.03	-1.00
2005	17.92	54.26	36.34	30.82	60.88	30.06	67.11	65.82	-1.29
2006	16.5	52.58	36.08	32.49	58.64	26.15	65.01	66.83	1.82
2007	15.49	50.77	35.28	31.06	50.02	18.96	68.56	68.47	-0.09
2008	15.13	51.62	36.49	30.66	50.32	19.66	69.54	67.32	-2.22
2009	14.38	48.2	33.82	28.33	49.44	21.11	69.21	66.92	-2.29
2010	15.12	49.54	34.42	29.65	40	10.35	68	65.04	-2.96
2011	14.29	49.02	34.73	27.52	40.21	12.69	68.34	65.7	-2.64

Notes and Source: Same as in table 9

given the financial characteristics is around 12 percent higher however when the pre-reform period is compared to the later, the actual number of same firms paying dividends decrease by 8 percent despite improvement in their financial characteristics. This indicates that the propensity to pay have shrinked significantly in such periods. Later, during the further-reform periods (1998-2011) only 62 percent large firms pay compared to 84 percent 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

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	-12.46	47.14	30.54	-16.6	75.51	33.61	-41.9
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	33.3	22.76	-10.54	42.6	27.82	-14.78	71.92	32.46	-39.46
2008	34.45	23.51	-10.94	44.86	28.21	-16.65	70.32	30.43	-39.89
2009	34.72	24.93	-9.79	41.43	29.43	-12.00	70.48	32.24	-38.24
2010	33.31	22.65	-10.66	40.48	27.01	-13.47	66.3	30.56	-35.74
2011	32.44	22.1	-10.34	40.98	27.65	-16.6	69.64	30.11	-39.53

Notes and Source: Same as in table 9

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 12
Estimates for the Effect of Propensity to Pay Cash Dividend jointly across Negative Earnings and Size Heterogeneity, 1981-2011

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	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	17.81	13.52	8.82	16.57	7.75
2007	3.21	14.52	11.31	3.52	16.6	13.08	6.67	14.03	7.36
2008	3.45	14.3	10.85	3.51	16.22	12.71	6.54	14.77	8.23
2009	3.72	14.58	10.86	3.97	15.32	11.35	5.76	13.54	7.78
2010	2.99	12.43	9.44	4.04	15.24	11.2	6.32	12.89	6.57
2011	3.43	12.78	9.35	3.53	13.45	9.92	5.21	12.41	7.2

Notes and Source: Same as in table 10

It is found that the influence of all dwindling financial determinants (characteristics) of dividends along with decreasing propensity considered jointly lead firms to omit 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 prompting dividend non payments.

Table 12 presented above depicts that marginally more number of small and medium firms reporting losses pay dividends in the post-reform periods then 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 percent respectively. In the same periods *approx.* 21 percent 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. ROLE OF FINANCIAL SLACK IN DIVIDEND DECISIONS

Bulan and Subramanian (2008) suggest that firms use the dividend omission strategically to improve their financial flexibility, allowing them to pursue valuable investment opportunities. We find that the levels of indebtedness (financial slack) have the largest negative impact on dividend payment decisions and managers omit dividends to restore financial flexibility and prevent reliance on risky debt or equity finance. The negative association between financial slack and the likelihood of a dividend reduction is for firms facing higher costs of external finance on account of larger interest payments to outsiders consistent with the agency theory, that external monitoring by the creditors reduce role of dividends as a monitoring tool. Indian firms not paying dividends are highly indebted than the payers (table 4). Specifically the medium and large sized firms that do not pay tend to have larger leverage ratios (table 2). The negative correlation of financial slack with profitability and liquidity (table 5) also show that the constraints on free cash flows prompt firms with larger debts is associated with depletion of financial strengths.

Though not conclusive we find a role of financial slack in dividend omission decisions in the post-reform periods. Stepanyan (2010) notes that tor dividend paying firm that has exhausted its internal cash reserves and the capacity to access default-risk-free debt financing has to rely on either risky debt or equity financing to cover additional fund requirements and, therefore might be willing to incur the cost of reducing dividends by trading it off against the cost of external finance. In other words managers might omit dividends to prevent "excessive" reliance on external finance and to restore their firms' financial flexibility. Our results hint that the depletion of financial slack significantly increases the probability of a dividend omit consistent with Stepanyan's (2010) argument.

Table 1 show that the external borrowings of Indian firms were at maximum during the second decade under study 1982-92 and that the picture significantly changes after reforms.

Specifically the medium and large sized payers in light of a drop in investment opportunities made efforts to restore the financial flexibility reduce external borrowing cost and reliance on external debt by using their FCF and retained earnings to repay their debts by omitting dividends. Thus leverage ratio demonstrate a negative but diminishing impact on dividend payment decisions during the 1993-2011 and 1998-2011 compared to the 1971-92 and 1993-97 periods across all firms in the sub-panels (see tables 6, 7 and 8).

8. DO STARTING POINTS MATTER?

The important finding that emerges from the present study is that small firms are more likely not pay unlike their large sized counterparts. The increasing tendency to omit cash dividend payments in the 1971-2011 periods occurs predominantly among the small and medium firms that earlier pay cash dividends and largely due to these firms reporting positive earnings yet choosing not to pay. The issue which we further robustly investigate is whether the starting point for size matters? *i.e.* whether a firm that was small and was paying (not paying) dividends resume paying (non paying) regards anything else. To check this we track the life cycle of small firms in terms of the change in their size in the future over two decades to confirm their dividend paying / non-paying behavior.

Table 13
Evolution of Matched Small Firms in the Sub-panel

Evolution of Matched Small Firms since 1985	*1995*		*2011*	
	No. (%) of matched Firms in the Small sized Panel	*% of which Paying Dividends*	*No. (%) of matched Firms in the Small sized Panel*	*% of which Paying Dividends*
New Firms appearing in Small size panel	375	13.65	519	11.09
Firms that continue to remain Small Size	138 (22)	46.35	101 (20)	15.38
Firms that turn to be Medium Sized	222 (36)	63.39	164 (32)	32.24
Firms that turn out to be Large Sized	151 (24)	89.55	186 (36)	61.79
Firms that go out of Matched Sample	-111 (18)	-	-70 (14)	-
Total No. of Small Firms	553	68.26	610	30.12

Our sample in the small size panel comprised of 622 firms in the year 1985. Out of which merely 36.5 percent firms paid dividends. We match the identification codes of these firms in the year 1995 the period after economic reforms and another 15 years later in 2011, the further-reforms period toexamine whether originally small firms also change their dividend policy and present the results in table 13. Out of 622 firms that comprised the small sized panel in 1985 around 222 (164) and 151 (186) firms transform themselves in to medium and large size in the year 1995 (2011) while significant number 67 percent (85%) of new firms enter the small sized panel in the year 1995 (2011). The new firms entering the small sample sub-panel are smaller with lower profitability and stronger growth opportunity. These characteristics are typical for firms that never paid cash dividends. The above table indicates that there is a change

in the proportion between dividend payers and non-payers because of the change in the composition of hitherto small firms. The reduced tendency to pay dividends in the recent years is due to this significant number of firms entering the sample and as the firms mature and turn out to be larger in size they demonstrate higher tendency to pay when they toward a more mature stage of life cycle as characterized by lower growth opportunity. The new firms entering in the sample also demonstrate a lower tendency to pay with only 11 percent of firms paying out in the year 2011 compared to 13.65 percent in 1995. The further shift in dividend policy during 2011 could be due to the changing propensity of listed stocks to pay dividends.

Equation 8 is estimated for the matched small firms in the sub-panel to confirm their dividend payout behavior over the firm lifecycle for the 1995 and 2011 years (table 14). Life cycle theory suggests that a firm's dividend policy may depend on the stage of the firm's life and younger firms with higher growth opportunities but lower profitability may distribute less cash dividends and in contrast mature firms with higher profitability but lower growth opportunities distribute more dividends.

The results from the logit regressions confirm that the sign of all variables and the dummies used in the study are in agreement with our results presented in the earlier section. Consistent with the prediction of the life cycle hypothesis our results indicate that the matched small firms during their emerging years omit dividends later turn out to be payers, and are associated with higher profitability, higher asset investment rate, and higher size than non-payers. The behaviour financial slack coefficient also partly explains the dividend omission behaviour for such firms as discussed in the previous section. For these small firms retention dominates distribution because savings from lower flotation costs outweigh the benefit of lower agency costs from free cash flow, and for the large size firm distribution dominates retention decision since the benefits of distribution in terms of lower agency costs derived from free cash flow far exceed the savings due to retention.

Table 14
Estimates of LOGIT Regressions to Explain Which Firms Pay Cash Dividend among Matched Small Firms across Periods 1985-2011

Period	*Intcpt.*	*ERNG*	*LQTY*	*FSLK*	*INVR*	*SIZE*	*SPDUM*	*MLDUM*	*MPDUM*	*LLDUM*	*LPDUM*
						Average Coefficients					
1985	-6.45	9.75	0.02	-4.03	-0.06	0.41	2.22	-0.11	2.36	-0.2	2.74
1995	-3.45	11.35	0.02	-4.67	-0.04	0.46	2.16	-0.28	2.21	-0.7	2.91
2005	-9.13	7.54	0.01	-3.63	-0.09	0.32	2.10	-0.26	2.01	-0.47	2.11
2011	-8.64	6.50	0.02	-3.27	-0.07	0.28	2.00	-1.97	1.85	-0.34	2.31
						t Statistic					
1985	15.54	11.96	1.2	14.26	-4.89	15.45	9.83	-1.15	10.15	-1.09	13.64
1995	-13.32	14.31	1.43	12.57	-3.45	17.5	10.04	-0.61	9.82	-1.16	10.37
2005	18.37	9.46	1.10	10.43	-4.01	13.27	18.01	-1.42	13.15	-2.04	15.02
2011	17.50	8.33	1.42	8.56	-3.76	12.28	16.57	-1.35	12.65	-2.43	13.00

Note: **a.** Intcpt. is the Intercept term **b.** The Dummy variables SPDUM, MPDUM and LPDUM denote Small (S), and Medium (M) sized Payers reporting, Profit (P) whereas MLDUM and LLDUM are dummies for Medium (M) and Large (L) payers reporting Losses (L) respectively **c.** The Loss reporting Small firms are the reference group. **Source:** Same as in table 1

We examine the propensity of originally small firms to pay cash dividends in the post-reform and further reform period. Table 15 allows us to examine whether dividend decisions of originally small firms could be differentiated on account of their changing characteristics and, or propensity to pay.

Table 15
Estimates for the Effect of Propensity to Pay Cash Dividend among Matched Small Firms across Periods 1985-2011

Period	*Actual % of Dividend paying firms*	*Expected % of Dividend Paying Firms*	*Expected - Actual*
1985	36.5	Base period	
1995	66.26	61	-5.26
2005	31.4	57	25.6
2011	29.21	52	22.79

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.

Owing to improvements in financial characteristics of the matched firms in the small size sub-panel an increasing number of formerly small firms which have now matured demonstrate their likeliness to pay dividends. In the year 1995, 61% of these firms were expected to pay based on our estimates based on the base year 1985 values. In the 2011 period compared to former the decreasing number of payers is attributable to changing (increasing) propensity to pay among small types of firms and even after controlling for firm characteristics, hither to firms have become less likely to pay cash dividends. We find robust evidence that firms that pay dividends are mature firms and originally small firms not paying dividends do so when they grow in size. This observation supports the theory that firm's propensity to pay dividends is a function of which stage a firm is in its life cycle consistent with Grullon *et al.,* (2002), DeAngelo *et al.,* (2005), Bulan *et al.,* (2007) and Fargher and Weigand (2009).

9. SUMMARY AND FINDINGS

Through a tempo-spatial analysis over a longer time-frame it is considered how the dividend 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 dividend 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 dividends.

In line with the global trends we uncover evidence in favor of decreasing dividend payment behavior among Indian firms. Firstly we note a significant decrease in the number of firms paying 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-reform periods and significantly in the post-1999 period {after

the advent of buyback (repurchase) regulation} compared to the 1993-1998. Secondly we find huge variations in cash dividend payment behavior of RBI firms across sub-panels. Large firms are reluctant to omit cash dividend payments then the small and medium sized firms. The increasing tendency to omit cash dividend payments in the 1971-2011 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 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 shrinking 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, suggesting liquidity is of least significance in dividend payment / omission decision. We also find robust support for the recent findings of Wang *et al.,* (2010) that when firms become more mature as characterized by lower growth potential but higher profitability tend to distribute more cash dividends.

The logit estimations of variables of financial characteristics on the decision to pay confirms that the sign for profitability, liquidity (but insignificant) 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 (1998-2011) compared to the former (1993-1997) is owing to deterioration in fundamental financial characteristics across all kinds of firms rather than decreased propensity. The explanation for dividend omission by small and medium firms 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, through diversifications or strategic acquisitions instead of distributing cash to its investors. The accumulated evidence indicates that the changes in dividend policies are not motivated by firms' desire to signal their true worth to the market and that 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. Generally firms omit dividends in India not because they have no capacity to pay but probably they don't want to disadvantage their share holders *visa vie* 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 dividends.

Our work throws substantial light on what type of Indian firms pay dividends. We present the facts that substantial number of firms across all categories omit 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 decrease 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. We find that large number of Indian firms prefer to omit dividends on account of larger investment opportunities and to restore financial flexibility to prevent reliance on excessive risky debt. Our results supports the theory that firm's propensity to pay dividends is a function of which stage a firm is in its life cycle and though not conclusive we find a role of financial slack in dividend omission decisions in the post-reform periods.

Many other issues still lie unaddressed. The fact that decline in propensity to pay dividends is observed in India and from studies in other countries suggests that there is likely to be a common reason. Thus the explanation as to how do firms decide whether to pay the same / increase / reduce dividends, and why do some firms India having similar characteristics reduce dividend while others do not remains to be studied. The explanation of such phenomenon in India should meet the requirement of cross-country robustness 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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