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Corporate Payout Omissions and Financial

Distress in India:

Estimations Using Multivariate LOGIT

Approach

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Section 1 Introduction

1.1 Statement of the Research Problem

The worldwide evidence on the tendency of payout omissions in recent years is well documented though; relatively very few studies expound at length the possibilities of payout decline based on the changing financial characteristics of annual payout payers and payout non-payers (hereafter, payers and non-payers respectively). The declining proportion of payers reported in the literature over the recent years lead us to ask the questions; Over the period 1971-2003, which firms pay / don't recompense annual corporate payouts? Which firm characteristics determine annual corporate payouts and non-payment decision? and how such decisions respond to the relatively changing characteristics of payers and non-payers. In tune with the payout signaling theory, payers possess certain superior financial characteristics unique from that of the non-payers. Since annual payouts patterns depend on the financial characteristics of the firms, the changing

financial characteristics also reflect in annual payout decisions and ultimately prompt firms with fragile characteristics not to payout now, as in the past.

In this sense, omission of annual payout can be an indicator of financial distress and an analysis of the payers and non-payers reporting profits / losses together alone can reason the tendency to omit annual payouts. If it is not so, the changes in payment patterns could be the result of changing propensity of the firms to payout as Fama & French (2001) {hereafter, F&F (2001)} empirically testify. By analyzing the effect of changing characteristics and declining propensity to pay on the percent of firms recompensing annual payouts, an attempt is made to trace the time series fluctuations and subsequently the evolution of corporate annual payout policy in the emerging economy, India.

1.2 Review of Literature

The candidate explanations of the declining propensity to pay considered in this paper are equilibrium clientele theories, signaling theories, the catering theory, the substitution hypothesis, and agency theories. We review the available financial literature specific to this chapter, which elaborate on two important issues: The studies that explain possible reasons for reduction or omission of annual payouts and those that review the characteristics of the payers and non-payers.

Edwards and Mayer (1986) through a survey of the ‘Hundred Group’ (an association of the largest UK companies) report, the managers reduce their annual payout only when they face a persistent decline in earnings. Six years later, Marsh (1992) documents a similar reluctance for firms in the same country. For US, DeAngelo and DeAngelo (1990, 1992, and 1996) confirm the managerial aversion to cut and omit annual

payouts in view of losses and conclude that a loss is a necessary condition but not a sufficient condition for an annual payout reduction. Bernatzi, Michael and Thaler (1997) relate the experience of annual payout cut with a decline in earnings in the year of the decrease and also in the previous year. Forbes and Hatern (1998) find that small and new companies are arch typical non-payers and the most firms who do not recompense annual payouts are the low-share priced companies. Their industry classification also suggests that more industries are non-paying and as market capitalization increase, more number of firms paying no annual payouts decrease. Dyl and Weig (1998) on the other hand prove that the initiations of cash annual payout coincide with a reduction in the risk of a firm's earnings and cash flows.

Studies like that of Smith and Watts (1992), Gaver and Gaver (1993), Barclay, Smith and Watts (1995) and F&F (2001) argue that annual payout policy is linked to characteristics like profitability, size and its investment opportunities of the firm. Of the above mentioned studies, the most celebrated piece on disappearing annual payouts and propensity to pay is by F&F (2001). They detail the prevailing tendency of disappearing annual payouts in U.S. from 1963-1998 and identify size, growth and profitability as three important factors affecting the decision to pay. The former payers are found to have low earnings and few investment opportunities. Larger and more profitable firms have higher payout ratios and lower for firms with higher growth. They document that the changing characteristics and lower propensity to pay have strong effects on the annual payout decision of the former payers and on those who never paid annual payouts to confirm that the firms become less likely to pay, whatever their characteristics. They characterize the decline in the likelihood that a firm pays annual payouts, given its characteristics, as lower

propensity to pay. What they mean is that the perceived benefits of annual payouts (whatever they are) decline through time.

Aivazian, Booth and Cleary (2001) confirm the importance of fundamental firm characteristics in determining whether or not a firm is likely to pay, and find that the same characteristics affects the probability of the firm accessing the public debt markets. Gugler (2001) finds that the firms with low investment opportunities (no R&D spending) have large payout ratios. The findings are consistent with that of La Porta *et al.* (2000) that shareholders are willing to delay annual payouts in firms with good growth prospects but demand payouts in firms with worse prospects. 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 payouts and firms that omit them. They report an increase in the proportion of quoted UK companies that omit annual payouts from 1995 and discover that the low levels of cash flow, high levels of income gearing, leverage and greater opportunities for investments are all associated with an increased propensity to omit them. The factors like cash flow and leverage are found to be closely related with the propensity to cut annual payout. Baker and Wurgler (2002, 2003) document a close link between fluctuations in the propensity to pay annual payouts and catering incentives. Using methodology consistent with that of F&F (2001) they investigate the changes in the propensity to pay. They observe that the annual payouts are inversely related to the future relative stock returns of payers and non-payers, consistent with the catering explanation. They also present support that the annual payouts control legislations and growth options for the firm affect propensity to pay in specific periods.

Banerjee, Gatchev and Spindt (2003) estimate the probability of a firm to pay as a function of the firm characteristics discussed by F&F (2001). The results from the logistic regression are consistent with their findings that the lower propensity to pay annual payout is most prominent in firms that are more able to pay, *i.e.* among larger firms and firms with higher earnings power. A striking finding they document is that, the improved market liquidity is negatively related to the proportion of firms paying annual payouts. Arnott and Asness, (2003b) investigate whether annual payout policy as observed in the payout ratio of the U.S. equity market portfolio, forecast future aggregate earnings growth and find that low payout ratios historically precede low earnings growth. Ferris, Sen and Yui (2003) analyze corporate annual payout decisions in the U.S., Canada, U.K., Germany, France and Japan using F&F (2001) methodology and report a declining proportion of payers in all countries in the last decade. In all countries the changes in the proportion of payers are not the fully explained by changing firm characteristics indicating a decline in the propensity of firms to pay annual payouts. They observe a strong pattern in data indicating that the reduced propensity to pay is more significant among firms in common law countries than those operating in a civil law environment. Further, the declining propensity to pay does not appear limited to any one year, but is consistent throughout the sample period. Gwilym, Seaton and Thomas (2004) further extend this comparison by examining the annual payout decisions of companies that have a considerable history of both profitability and annual payouts, but that then incur a downturn in earnings or a loss. Over the period 1996-2000, find that the loss making firms are more likely to reduce annual payouts compared to profitable firms. The magnitude of loss is found to be relevant to the annual payout decision consistent with the findings of Benito and Young (2001) and find that higher indebtedness raises prospects of a annual payout cut. In terms of annual payout policy, profit margins on turnover are significant factors both prior to the loss year,

and in the loss year itself, with lower margins being associated with more annual payout reductions.

Also consistent with F&F, DeAngello, DeAngello and Stulz (2004) find payers are more profitable and larger than the non-payers. The non-payers typically exhibit greater sales growth and higher market-to-book ratios. Contrary to expectations, a bit higher asset growth rate of payers is found than that of non-payers. They also observe a consistently highly significant relation between the decision to pay annual payouts 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 payout history. Their findings reveal a strong monotonic and positive relation between the proportions of firms that pays annual payouts and earned equity but no such cross-sectional relation for total common equity.

Neither of these studies specifically documents the dynamics of size and earnings heterogeneity. Moreover, they relate to the developed markets only. Though Reddy (2003) analyzes the influence of firm characteristics such as profitability; growth and size on investment pattern in India, don't attempt to measure the propensity to pay annual payouts 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.

1.3 Significance of the Research

Our study examines the annual payout paying propensity of firms and its related behavior over a longer time across size and earning heterogeneity, covering the pre-liberalization and post liberalization periods separately for India.

LaPorta, Lopez de Silanes, Shleifer and Vishny (2000) suggest that the country legal regimes and the evolution of national corporate law impact the usefulness of annual payouts to investors. Our analysis could provide a further insight into the perspective nature of developing country's capital markets. If the increasing incidence of annual payout omission is not merely a phenomenon in the global markets, but rather part of a general pattern then it suggests an evolution of financial markets that have reduced the perceived benefits of annual payouts. The results could provide further insights about the evolution of corporate annual payout policy.

In the light of candid explanations for the declining propensity to pay as explained by F&F (2001) and the underlying theories like that of the Equilibrium Clientele theory, Signaling theory, the Catering theory, the Substitution hypothesis, and Agency theory, the research focus of this chapter is different from others. Neither of previous empirical studies specifically documents the dynamics of size and earnings heterogeneity. 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 cash payouts in India, his study don't attempt to measure the propensity to pay out. Moreover, 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. This chapter examines the payoyut propensity of Indian firms and its related behavior over a longer time across size and earning heterogeneity covering the pre-liberalization and post-liberalization and further-liberalization periods separately. It is attempted herein to fill the related gap.

The test over a longer period of 33 years in a developing country like India using firm level data would represent a strong substantiation of the findings of previous researchers on issues raised. It is of interest to check whether the characteristics and propensity to payout differ significantly from the fact that quite a few firms reporting losses also find it difficult to resist payouts. We check whether dividend paying firms reporting losses significantly differ in characteristics and propensity to pay from payers reporting profits in a given period. Thus the study of the payout decisions and changing characteristics of the firms in the India over a longer time frame adds a new dimension to the quality of findings both, at an aggregate and disaggregate levels.

Finally, it will help to establish whether the market for public equity has changed. To the extent that the increased rate of annual payout omission is due to the listing of firms that have never paid annual payouts rather than the elimination of annual payouts by former payers suggests that the firms might be going public earlier than previously or that their profile has changed. Our study examines whether this is true in Indian markets. Such findings have implications for the risk profile of international equities and the ability of portfolio managers to obtain adequate diversification through more global investing.

1.4 Objectives of the Study

In this study we propose to present a brief analytical review on the related literature and attempt to offer a new perspective on the behavior of equity annual payout policy in India. Across the time series cross sectional data for 1971-2003 periods relating public limited firms we examine:

1. Which firms pays / don't pay annual payouts?

2. Whether the presence / absence or changes in the fundamental financial characteristics influence them to pay or omit cash annual payouts?

3. Do these fundamental financial characteristics differ across time and space?

4. How annual payout decisions respond to the relatively changing characteristics of payers and non-payers over time? and

5. Confirm whether the decrease in annual payout payers due to changing characteristics of firms or due to decrease in propensity to pay.

More formally, we document the marginal effects of profitability, leverage, liquidity and growth opportunities on the likelihood that a firm pays annual payouts across the heterogeneity of firms reporting profit and losses, across size of firms and time.

1.5 Data Source and Research Technique

We attempt to quantify how the changing characteristics; factors affecting the probability that a firm pays cash equity annual payout (interim plus final) and the changing propensity 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 five fundamental characteristics like profitability, leverage, liquidity, size, and growth opportunities of firms influence them to pay or not to pay annual payouts 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 payouts in spirit of F&F (2001).

The study is conducted by resorting to data sources: From the Reserve Bank of India (RBI). The use of data from RBI emerges from the Unpublished Corporate Firm Level Data for the period 1971-2003. 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. Banking, insurance and other financial companies as also companies limited by guarantee and associations, organizations functioning not-for-profit or in formative stage and those not operative for more than six months during the year are excluded in both the datasets. Financial and investment companies cover selected firms whose principal business is the acquisition of shares, stocks, debentures or other securities, companies which are engaged mainly in financing industries, *etc.*, by advancing loans, as well as companies engaged mainly in such activities as financing of lease, hire purchase and trading in shares and securities. The list of selected companies is revised constantly with a view to improving the paid-up capital coverage and the representative character of the selected companies. This is subject to certain limitations *viz.*, profit and loss account and balance sheet, show only the combined position, and not the consolidated position for the group of companies for which the data are presented. In other words, inter-corporate transactions are not eliminated while combining the data. The industry averages also hide a substantial variation across firms within an industry. As the individual accounts for any study year do not always relate to the same period, the combined figures do not depict the position for the year ended June or March, or the working for the year July-June or April-March as the case may be.

The time-trend analysis of payout behavior in India at the firm level in the past has been earlier conducted for smaller samples 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 2002-2003. This is the largest possible span for which firm level data is currently available for Indian firms. The Unpublished Corporate Firm Level database maintained by RBI for its Annual Studies on Company Finances is requested as it considered to be the most reliable and extensive data for the Indian Private Corporate Sector. This annual firm level data is based on uniform method of analysis based on the audited and published annual accounts of non-financial, non-government, Public Limited firms. The number of firms used in the aggregation of RBI company finances study differs from year to year. The average number of public limited companies for which equity and preference payout data is available in the full period is 1,815 and 497 respectively, and the number of related observations on firms is 59,990. The sub-period equity payout sample firm is as low as 1,682 in the second sub-period 1971-1981 and a high of 1,953 firms during 1999-2003 periods. Annual sub-period averages are computed for the select variables in ratio form to some extent overcome this limitation. 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.

Though we advantage from the reliability and longer frame of aggregate and disaggregate (firm) level data available from the RBI database, our choice of this database rather trunks out from compulsion. Unlike developed markets India don't have quite a few

independent agencies which maintain firm level data for such a long period. The Unpublished Firm level data across industries and sourced from the RBI on request. RBI has been regularly publishing studies on the financial performance of corporate business sector for the past five decades with a view to capture the trends in financial characteristics of the corporate sector. For the purpose of our analysis we consider all the Listed Private Sector and Public Sector firms in the database maintained by the RBI for 32 years.

We classify the Payers and Non-payers each year depending on the fact whether they have paid cash payouts in the current year t or not. We maintain such categorization across time, earnings, across and the size heterogeneity. On the basis of the size; the firms are classify into small, medium and large sub-panels 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 sign of earnings the firms are splinted into firms reporting profits and those reporting losses, as the firms reporting positive earnings and those reporting negative or zero earnings in the current year t . All the firms in each sub-panel are classified into annual payout paying firms and annual payout non-paying firms in each year on the basis of the fact that they pay any nominal rupee value of cash annual payouts in the current year t , or don't. Thus the entire sample is now divided into 7 sub-panels namely; payers and non-payers representing the full sample, on the basis of earnings into; payers and non-payers reporting profits and those reporting losses. And on the basis of size, classify into small payers and non-payers, medium payers and non-payers and large payers and non-payers respectively. Finally on the basis of size, the firms are classified into small payers and small non-payers, medium payers and medium non-payers, large payers and large non-payers, respectively.

Since we analyze the time-trend behavior for a longer time frame to account for any differences on the pattern of corporate annual payouts due to the reforms initiated in the financial markets and the economy in general, we split the entire period into pre-reform (pre-1993) and post-reform (post-1993) period. The eleven years in the post-reform period is further splinted into further reform (post-1999) period to account for the advent of the buyback regime and the changes in annual payout tax policies. We compute appropriate ratios that proxies the financial potency of firms or otherwise. The ratios are computed for year t and are aggregated for the firms in a heterogeneity group and averaged over the years in each sub-period. We compute summary statistics for the payers and non-payers across different defined sub-panels to illustrate if the firms differ in terms given financial characteristics. Secondly, the evidence from the summary statistics is then confirmed with LOGIT regressions. Consistent with F&F (2001) regression coefficients are estimated to explain which firms pay annual payouts.

We summarize Annual Multivariate LOGISTIC regressions that document the effects of the four explanatory variables (profitability, leverage liquidity and growth opportunities) unlike the earlier studies, on the likelihood that a firm pays annual payouts for each firm i in the year t . The dependent variable assumes value 0 when the firm doesn't pay annual payout and the value 1 when the firm pays an annual payout.

The size and earning dummies classifies firms into small, medium, large, profit reporting and loss reporting respectively. 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.

1.6 Organization of the Report

The report is organized in Seven Sections. Section 2 specifies the model, explanatory variables and formulates the hypothesis. Section 3 de-trends the corporate payout behavior, Section 4 empirically analyses financial characteristics of payers and non-payers. Section 5 expounds the estimates from LOGIT regressions. Section 6 brings out the effect of changing firm characteristics and propensity to pay on corporate payout decisions while the final section 7 summarizes and concludes.

Section 2

Model Specifications, Explanatory Variables and Hypothesis

2.1 Model Specifications

In the LOGIT Model, the dependent variable assumes value 0 when the firm doesn't payout 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 payout; the ratio of the probability that a firm will payout 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:

$$L_i = \ln\left(\frac{P_i}{1 - P_i}\right) = Z_i \quad \text{where } Z_i = \beta_1 + \beta_2 X_i + \mu_i \quad 2.1$$

Z_i denotes the decision to pay or not to pay, taking value 1 if the firm pays cash equity payouts 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, $\text{Wald} = F_2 = (b_i / S_{b_i})^2$.

For the purpose of estimation, we specify Z_i as

$$Z_i = \alpha + \beta_1 ERNG + \beta_2 LQTY + \beta_3 FSLK + \beta_4 INVR + \beta_5 SIZE + \mu_i \quad 2.2$$

Where the dependent variable is 1 when the firm paysout and 0 otherwise, the independent variables **ERNG = Profitability**, **LQTY = Liquidity**, **FSLK = Leverage**, **INVR = Investment Intensity rate**, **SIZE = Size of the Firm**, and μ_i is the error term.

And it is expected that $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 = ?$, $\beta_4 > 0$, and $\beta_5 > 0$ 2.3

To capture the Earning and Size effect separately, equations 2.4 and 2.6, and 2.8 are estimated with the following dummy dependent variables.

$$Z_i = \alpha + \beta_1 ERNG + \beta_2 LQTY + \beta_3 FSLK + \beta_4 INVR + \beta_5 SIZE + \beta_6 PDUM + \mu_i \quad 2.4$$

The above equation 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.

It is expected that $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 = ?$, $\beta_4 > 0$, $\beta_5 > 0$, and $\beta_6 > 0$ 2.5

The differences due to size heterogeneity are captured by introducing two dummies in equation 2.4 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.

$$Z_i = \alpha + \beta_1 ERNG + \beta_2 LQTY + \beta_3 FSLK + \beta_4 INVR + \beta_5 SIZE + \beta_6 SDUM + \beta_7 LDUM + \mu_i \quad 2.6$$

It is expected that $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 = ?$, $\beta_4 > 0$, $\beta_5 > 0$, $\beta_6 < 0$ and $\beta_7 > 0$ 2.7

In order to demonstrate the interaction effect between two qualitative variables across Size and Sign of Earnings the following equation 2.8 is specified. Where **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:

$$Z_i = \alpha + \beta_1 ERNG + \beta_2 LQTY + \beta_3 FSLK + \beta_4 INVR + \beta_5 SIZE + \beta_6 SPDUM + \beta_7 MLDUM + \beta_8 MPDUM + \beta_9 LLDUM + \beta_{10} LPDUM + \mu_i \quad 2.8$$

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 $\beta_{10} > 0$ 2.9

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.

2.2 Measurement of Propensity to Payout

If the annual payout pattern depends on the characteristics of the firms, the firms with particular characteristics should be as likely to pay annual payouts now as in the past or else due to changing propensity of the firms to payout. The term ‘Propensity’ used in the spirit of F&F (2001) indicates the willingness / tendency / inclination or the likeliness to payout by the firm. If the decision to payout or not to pay depend on the financial characteristics of the firm, the firms with particular characteristics should be as likely to payout now as in the past. Considering that increasing number of payers decide to omit payouts 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 payout during 10-year period (1971-80) in the percent of payers are estimated and applied to the samples 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 payouts. The positive difference between expected and actual percent of payout payers illustrates a decline in the propensity to pay.

In the abovementioned paper the authors document that the percent of U.S firms paying cash payouts 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 payout. Secondly, they find that even after controlling for such characteristics, firms appear to payout less over time. They refer to this behavior as a declining propensity to pay. Using the same framework, Ferris *et. al.*, (2004) examine the characteristics and the propensity to pay and test whether there is evidence of a declining propensity to payout among Japanese and British firms for 1990-2001 periods. They determine that payouts 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 payout.

2.3 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 market over a longer period of time. The following discussions motivate the choice of the variables and the hypothesis:

2.3.1 Earnings (ERNNG)

Earnings of the firm are undoubtedly expected to have the largest and positive influence on payout decision. Loss making and low profit margin firms are more likely to omit payouts. Poor quality firms cannot afford to match payout 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 payouts even if tax system discriminates against payouts, Aurebach and Hasset (2002). Firms reporting losses also demonstrate their liking for payouts, however the tendency to pay is more pronounced in profit making firms. Thus, the payouts irrespective of the losses incurred would mean that managers are reluctant to cut payouts and view losses as a temporary phenomenon contrary to acting decisively by omitting payouts.

The variables commonly used to proxy profitability are Return on Assets (RoA) and Return on Equity (RoE). The former proxies profitability consistent with Wang *et. al.*, (1993), Esteban and Perez (2001), Baker and Wurgler (2002), Banerjee *et. al.*, (2002), Lu and Shen (2003), Ferris *et. al.*, (2003) and Osobov (2004) whereas the later, in spirit of Aivazian *et. al.*, (2001) respectively. We elect to use the RoA, defined as profits after taxes net preference payouts 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 payouts.

In this regard we hypothesize: *'There exists a direct and statistically significant association between earnings measures and payout payment decisions signifying the incremental importance of earnings and losses. It is expected that loss-making firms are more likely to omit payouts compared to firms that remain profitable'*.

2.3.2 Liquidity (LQTY)

Liquidity is a short term measure of debt. Darling (1957), Whittington and Meeks (1976), Lawson and Stark (1981), Elston (1999), Brigham and Daves (2002), Gwilymn, *et. al.*, (2004a and 2004b) *and others* prove empirically that the deterioration of a firm's liquidity leads to payout depletion, as firms do not distribute cash payouts without having the means to do so. Payout in presence of poor liquidity leads to exhaustion of internal finances, deterioration of capital, an enhanced external borrowing to partially finance payouts, 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 payouts must be paid in cash, firms reporting insufficient cash may be forced to reduce payouts. Firms that persistently generate more operating

cash flow than earnings are likely to initiate payouts and follow higher payouts as per Ingram and Lee (1997) moreover; Jensen and Johnson (1995) find that a payout reduction is the result of deterioration in both, profitability and liquidity of a firm. Specifically, firms with liquidity deficiencies are more likely to omit payouts because of the need to repay debt obligations and to raise cash for the firms' normal operations.

Since payouts carry information that the firm is strong and healthy, they reveal liquidity and provide signal to investors regarding future earnings and future cash flows of a company, Simons (1994), and Charitou and Vafeas (1998). Illiquid firms pay low payouts because there is no informational asymmetry about them and they have relatively low free cash to disgorge whereas, liquid firms payout 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 payout reduces FCF and in turn agency problems. According to Jensen's (1986) FCF Hypothesis, management has an incentive to maximize the FCF at his discretion by distributing minimum payouts. The shareholders of higher FCF firms will therefore require a higher payout in order to reduce this agency problem.

Proxies that commonly measure liquidity are Current Ratio in spirit of Aivazian *et. al.*, (2001), Gupta (2002), and Gwilymn *et. al.*, (2004) and secondly, the Interest Coverage Ratio. We use the former.

It is hypothesized that: *'There exists a positive relation between liquidity and profitability and a negative association with payout 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.'

2.3.3 Financial Slack (FSLK)

The leverage ratio surrogates the Financial Slack variable. FSLK is found to have a role in the payout 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 payout 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 as Rozeff (1982) and Kahle (2002) argue debt proxy financing costs with high levels of debt results in higher financing costs, companies with high leverage choose a lower payout policy to lower its costs of external financing. Thirdly, debt alternates payout 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. Jensen (1986) argues that leverage and payout may serve similar purpose in alleviating the FCF problem.

Moreover, some debt contracts include protective covenants limiting the payout (in order to prevent the expropriation of bondholders by shareholders). Esteban and Perez (2001) for Spanish Banks find, high debt restricts the discretionality in the behaviour of its managers in use of FCF and debt serves as an alternative mechanism to reduce agency problems through payouts and thus they pay lower payouts. Firm trades off payout

payments with fixed financial charges. A highly leveraged firm would tend to lower its payout 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 payout initiations. Studies like that of Baskin (1989), Marsh (1992), Charitou and Vafeas (1998) *and others* document that the payout behavior is likely to be positive for highly levered and large firms. 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 payouts 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. Barclay, Smith and Watts (1995) document that large firms have higher leverage and higher payout because they have lower direct bankruptcy costs. Greater external monitoring compels managers away from the consumption of perquisites to use corporate assets more efficiently. In this way, more cash is disgorged and payouts increase with indebtedness.

In spirit of Han *et. al.*, (1999), Sawicki (2001), Gugler and Yurtoglou (2003), Esteban and Perez (2001), Ferris *et. al.*, (2003), and Bebczuk (2003) we consider Total Debt to Assets as a proxy of Financial Slack, unlike the use of Debt to Equity ratio by Aivazian *et. al.*, (2001).

The evidence we review lead us towards the following null hypothesis: *'Though leverage as a variable may improve the ability to explain payout 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.'*

2.3.4 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 payouts. High growth companies prefer to capitalize on their favorable investment prospects and have clear disincentives in paying the Operating Cash Flows and profits as payouts. Firms experiencing or anticipating higher revenue growth have higher investment opportunities and would tend to retain funds by omitting payouts 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 payout 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 payouts because they have profitable uses of capital. Firms with better investments pay less, consistent with the propositions of Easterbrook (1984) and Jensen (1986) about the role of payouts in controlling the agency costs of FCF. Slow growth companies use higher payouts to address potential overinvestment problem. 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.

Barclay *et. al.*, (1995) use the value of Depreciation to Assets as a proxy for investment opportunity with a view that firms with higher depreciation have more assets in

place, have fewer growth opportunities and optimally delay payouts. They find greater the depreciation to asset value, less the growth opportunities, lower the leverage and higher the payouts. Booth *and* Cleary (2002) use Capital Expenditure to Net Fixed Assets as proxy for investment opportunity. This variable gauges the influence of capital expenditure as a variable representing demand for required finance. Rozeff (1982), Gaver and Gaver (1993), Barclay *et. al.*, (1995), Charitou and Vafeas (1998) and Kanwer (2003) find that the investment opportunities / capital intensity and payout payouts are negatively related. Gwilymn (2004a and 2004b) argue, if firms with high growth opportunities and low value from existing operations have low payout payments the converse should then also follow; that firms with high current earnings and low growth opportunities, so called “cash cows” should have high payouts. Ferris *et. al.*, (2003) find that the relationship between growth opportunities and the probability of payout payments is primarily negative in the common law countries but mixed in the civil law countries. Reddy (2002) on the other hand, using R&D to assets ratio as a proxy for growth opportunity reports that higher growth opportunities don’t result in lower payouts for Indian firms.

Proxies like total Investment Intensity to Total Capitalization, and Depreciation to Book Value of Assets can surrogate investment opportunities. 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 payout omission decision and a*

negative association with leverage and size, consistent with the predictions of the Pecking Order and the Payout Signaling theories'.

2.3.5 Size of the Firm (SIZE)

Size surrogates information asymmetry as per Kenneth (1996), Financing Costs as per Kahle (2002), and Firm Maturity consistent with Grullon *et. al.*, (2002). 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 payouts. This is consistent with the evidence of F&F (2001) and also the Pecking Order model in which firms are reluctant to issue risky securities because of asymmetric information problems as Myers and Majluf (1984) and Myers (1984) show, or simply due to high transactions costs. 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. Thirdly, in their model, Allen *et. al.*, (2000) links agency arguments and tax clientele theories with signaling explanation of payouts. According to them, firms pay high payouts in order to attract lower-taxed investors (*i.e.* financial institutions) that have an advantage in detecting firm quality and ensuring that firms are well managed. This finding assumes significance given the fact that large firms have more proportion of institutional investments. A similar point can be traced back to Shleifer and Vishny (1986) who argue that small shareholders (rather than management) seek a high level of payout to attract and compensate large shareholders for performing role of monitoring the management. 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 payout, 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. Fourthly, 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 payouts 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. In the life-cycle models such as those of Stiglitz (1973, 1990) and Sinn (1991), firms distribute assets upon reaching an efficient size. Large companies are invested by large payout loving investors who are attracted by the superior market depth and because it lowers their transaction costs. Badrinath *et. al.*, (1989), Jensen *et. al.*, (1992), Reeding (1997) and others find that institutional investors tend to hold large corporations and since these institutions prefer payouts and therefore the large firms choose to payout while the small ones owned by individuals do not. As the size of a firm increases, information asymmetry may increase due to increased complexity of the firm and increased dispersion of ownership, Kenneth (1996). As such, shareholders are not able to monitor the large firms closely and this results in weak control of the management. High payout leads to the increased need of external financing which in turn leads to increased monitoring of these firms by both existing and potential creditor, Mozes and Rapaccioli (1995). Thus, payout acts as an indirect monitoring tool for large firms, La Porta *et. al.*, (2000). The study of Dobrovolsky (1951), Bates and Henderson (1967), Gwilymn *et. al.*, (2004a and 2004b) also show that large companies are less reluctant to omit payouts. Their results indicate, but not as strongly, that large companies and liquid companies are likely to pay a large amount of payouts.

The nominal Rupee value of firm's Sales is used as a proxy for size in accordance with Rozeff (1982, 1992), Barclay *et. al.*, (1995), Holder *et. al.*, (1998), Sawicki (2001), Aivazian *et. al.*, (2003), and Bebczuk (2004).

It is hypothesized that: *'Small companies are expected to be illiquid then large firms and indeed the ones those are more likely to omit payouts. It is also expected that the size will have a positive influence on leverage and profitability.'*

Section 3

Time-trends in Corporate Payout Behavior

3.1 Introduction

The study of time-trend analysis of corporate payout behavior is important for many reasons. If the data on Indian markets supports decreasing payouts it implies an evolution of financial markets that reduce the perceived benefits of payout (whatever they are) overtime. The increasing presence of the institutional investors in emerging markets generally demand a greater payout distribution if companies cannot articulate the need for their cash positions and return on their capital investments. With the current aftermath of high-profile stock market scandals and corporate governance requirements, payout companies are increasingly regarded as a hallmark of transparency and greater accountability. This is in swing of the shareholders realization that while it is relatively easy for companies to manipulate operating earnings, cash payouts cannot be faked. Barlett (2002) on this issue argues; the non-payouts offer much more flexibility in presenting company's financial position increasing the opportunity for shady accounting. Secondly, it is often believed that payouts have predictive (signaling) qualities and to some extent provide reliable forecasts of future earning trends. Investment professionals place a higher value on paying-out companies' *vis-à-vis* non-paying companies or the companies that repurchase shares from the market as a payout proxy, Coffin (2003) and that, investment analysts use payouts as a signal to revise their earnings forecasts following unexpected payouts, Offer and Siegel (1987). Hence, the tendency of dissipating payouts are expected to have repercussions on the quality of earnings forecasts, in identification of investment opportunities and casts shadows on the payout signaling

hypothesis. Thirdly, since the payout and earnings growth rates serve as an important input for Discounted Cash Flow (DCF) analysis of the cost of equity capital and in calculations of the equity risk premium. Since payout policies of the firm have implications for the investors, managers, lenders and stockholders, the investors seek payouts as means of regular streams of income and prefer them smoothed over corporate earnings. Fourthly, the tendency of decreasing payouts point the need to rectify the existing taxation anomaly as payout is taxed at a higher rate than capital gain. The common presumption is that payouts are less valuable than capital gains. According to this view the firms that pay payouts are at a competitive disadvantage as they have a higher cost of equity than firms that do not pay. Similarly double taxation on corporate profits encourages retention of cash rather than distribution in the form of payout torts the equity return and capital investment decisions, influencing lower cash payouts. Conversely the demand for payouts by shareholders increases with the lowering of tax rates significantly improving the after-tax yields on payout-paying stocks, especially for individuals in high tax brackets. Fifthly, a consistent track of payouts helps management as a device to prop up share prices because the history of more stable returns makes dividend-paying stocks increasingly attractive. Uses of payout policy for communicating target cash levels are becoming important for evaluating quality of the firm. The benchmarks of quality are the level of free cash flow (FCF), growth potential of the firm and the amount of that cash returned to the shareholders in the form of dividends, Hahn (2003) and studies suggest that the investors are likely to place a higher value on paying out companies or companies that repurchase shares from the market as a cash payout proxy.

3.2 Trends in Equity & Preference Payouts

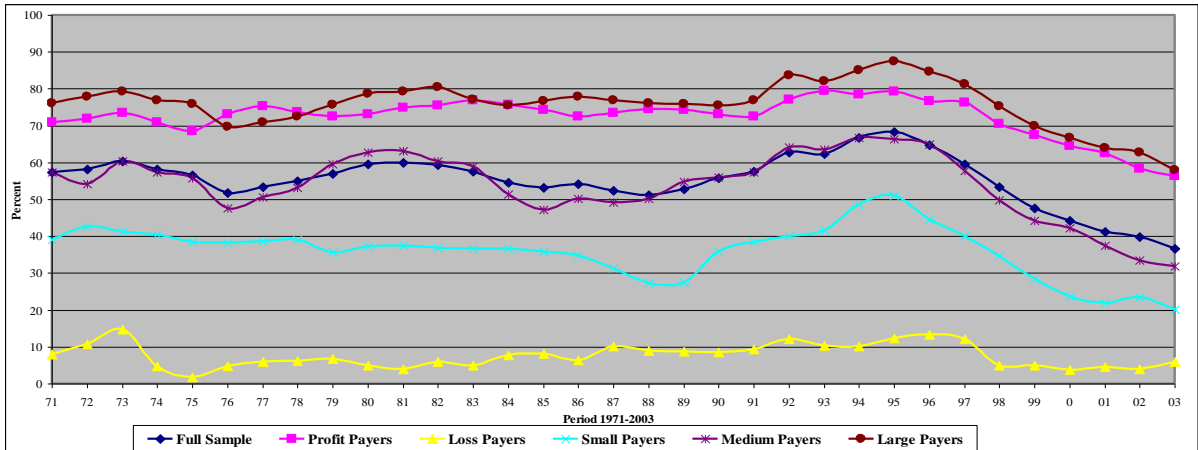


Figure 3.1 Percent of Paying-out Firms, 1971-2003

Figure 3.1 depicts that the number of RBI firms paying equity payouts 1971 through 2003. The former series presents the graphical account of the firms in the full sample, across earnings heterogeneity (profit reporting and loss reporting Payers) and size (small, medium and large payers) respectively. While the later Figure 3.2, picturizes the same trend jointly among the small, medium and large payers reporting positive and negative earnings respectively (profit reporting small firms, loss reporting small firms, *and so on*).

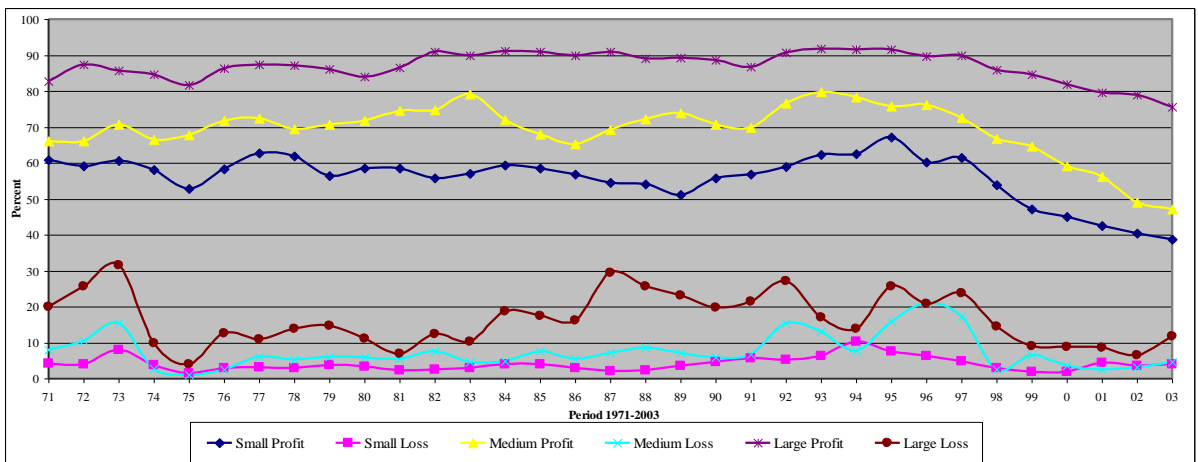


Figure 3.2 Percent of Firms Paying-out Jointly across Size and Earning Heterogeneity, 1971-2003

The series representing different types of firms, register a decreasing trend over the recent years suggesting that payouts 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 1995.

3.3 Trends in Payouts across Sub-periods

The data on payout omitting (non-paying) sample is further de-trended in Table 3.1 This table reports that from the first sub-period commencing year-end 1971-1981 compared to the latest 1999-2003, the magnitude of decrease in payout payers for the full sample is from 57 to 42 percent and the percent of payout paying firms fall by approx. 4 percent in the post-liberalization period compared to the former periods. Within the post-reform periods 1993-2003, there has been a significant decline in the number of firms paying-out across all sub-samples as a greater willingness in sample to omit rupee value cash equity payouts is witnessed in the post-1999 sub-periods. During the 1999-03 periods, merely 42 % of the total firms paying out compared to 63 percent that paid in the 1993-98 periods. The number of firms in the full sample paying cash value of equity payouts registers a drastic fall by 33 percent in the post-1999 period, compared to 1993-1998 period possibly indicating either a drastic change in their financial characteristics, propensity to pay, just that an increasing number of firms find cash payouts irrelevant, or prefer to choose other mode(s) of payout rather than cash mode alone. The profit reporting payers have a significant composition of large payers. The large sized and profit reporting firms constitute major a fraction of the payout paying population. In the full period 71 percent firms reporting profits comprising 95 percent of total payer's pay equity payout. The practice to payout is not restricted to profit making firms alone as on an average 7.6 percent firms not reporting profits payout in the full period. In the further reform-periods

(1999-2003) 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 by 31 percent.

Table 3.1 Percentage of Indian Public Limited Firms Showing Reluctance to Pay Equity Payouts, 1971-2003

Sample	71-81	82-92	93-98	99-03	71-92	93-03	71-03
Profit reporting firms	27.43	25.48	23.19	38.11	26.46	29.97	27.63
Loss reporting firms	93.41	91.73	89.45	95.27	92.57	92.09	92.41
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, 2004

The above table also suggests the reluctance of profit reporting small and medium firms in paying-out. The large size firms are less reluctant to omit payouts compared to their small and medium counterparts. Profit reporting firms are more reluctant to reduce payouts and the high reluctance to omit payout payments by these firms is not only owing to increasing number of firms in such samples turning unprofitable. During the period 1999-2003 merely 43 and 3 percent of the small firms with a positive and negative size of earnings respectively choose to payout compared to 81 and 9 percent of the large firms respectively, which report positive and negative earnings and pay in the same period. During the 1971-1981 periods, merely 56 and 70 percent of the small firms and medium firms respectively prefer not to pay compared to 87 percent large firms which do so.

Section 4

Financial Characteristics of Payers and Non-payers

4.1 Introduction

We consider how the payer and non-payers over the size, sign of earnings heterogeneity differ in respect of their different financial characteristics. Primarily we compare the sub-period averages by considering the aggregate earnings, liquidity, financial slack and investment intensity rate. Further to testify our primary results and for the purpose of candid comparisons, consider additional characteristics, we consider variables like that of total cost of equity (net worth), gross savings, retained earnings, total assets, total liabilities, cash flow, earnings and sales over different sub-periods.

4.2 Characteristics of the Payers and Non-payers

The appended Table 4.1 and 4.2 detail the characteristics and the descriptive statistics of payout paying and non-paying firms across the Size and Sign of Earnings heterogeneity for the 1971-2003 sub-periods.

Across all sub-groups, the payout payers have higher measured profitability than non-payers. Large firms are 6 and 1.5 times more profitable than small and medium ones respectively. For the full period 1971-2003, the earnings measured in terms of ROA averages 10% per year for payers, compared to average 4% losses for non-payers. 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%. Over the same period and across size heterogeneity, 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 payout 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-samples in the 1999-2003 periods compared to 1993-1998 periods.

Contrary to the expectations, payout payers are found to be less liquid compared to the non-payers. Average liquidity ratios mark an increase across all category of payout payer in the post-1993 as well as in the 1999-2003 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 payout paying firms however is contrary to the above observation. For the full period 1971-2003, 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 payout paying counterparts respectively. The medium and the large sized payout 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-samples and sub-periods, the non-payers are highly indebted than the payers; however across all sub-samples, during the 1999-2003 periods compared to 1993-1998, the average FSLK ratio record a decrease. For the 1971-2003 periods, the long term borrowing of payout 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 than their paying counterparts.

Measured across all sub-panels, non-payers report higher investment opportunities (which proxies growth) than their paying-out counterparts. Firms that skip payouts have the best growth opportunities. The investment intensity to capitalization ratio in case of non-payers for the 1971-2003 periods is 1.18 times then that of the payers whereas in case of non-payers reporting losses is to the extent of 1.42 times. For the full period 1971-2003 and also for 1993-2003 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 1999-2003 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.

Table 4.1 Annual Sub-Period Averages of Aggregate Earnings, Liquidity, Leverage and Investment Opportunities, for Different Payout Paying and Non-Paying Groups

Firms	71-81	82-92	93-98	99-03	71-92	93-03	71-03
Earnings (Return On Assets)							
Payers	0.12	0.09	0.10	0.08	0.10	0.10	0.10
Non-payers	-0.02	-0.05	-0.03	-0.06	-0.04	-0.04	-0.04
Payers reporting Profits	0.12	0.09	0.11	0.09	0.14	0.10	0.11
Non-payers reporting Profits	0.07	0.06	0.08	0.06	0.07	0.07	0.07
Payers reporting Losses	0.01	-0.03	-0.03	-0.04	-0.04	-0.02	-0.02
Non-payers reporting Losses	-0.11	-0.13	-0.13	-0.14	-0.14	-0.12	-0.13
Small Payers	-0.03	-0.06	-0.04	-0.08	-0.04	0.13	0.12
Small Non-payers	0.16	0.10	0.12	0.07	-0.05	-0.06	-0.05
Medium Non-payers	0.12	0.09	0.10	0.09	0.10	0.10	0.10
Medium Non-payers	-0.01	-0.04	-0.01	-0.05	-0.03	-0.03	-0.03
Large Payers	0.10	0.08	0.10	0.08	0.09	0.09	0.09
Large Non-payers	-0.01	-0.04	-0.02	-0.03	0.06	-0.06	-0.03
Liquidity (Current Ratio)							
Payers	2.68	2.31	2.96	3.63	2.49	3.21	2.73
Non-payers	3.38	2.45	2.98	4.19	2.88	3.68	3.17
Payers reporting Profits	2.64	2.49	2.95	3.58	2.82	2.76	2.77
Non-payers reporting Profits	3.43	2.19	3.41	3.40	3.15	2.99	3.03
Payers reporting Losses	4.19	-1.83	3.23	4.67	-0.20	1.88	1.56
Non-payers reporting Losses	3.34	2.62	2.57	4.77	3.34	3.26	3.28
Small Payers	3.85	2.77	3.25	6.08	-0.20	2.82	2.75
Small Non-payers	2.83	2.57	2.61	3.29	3.26	4.79	3.81
Medium Non-payers	2.70	2.46	3.00	3.44	2.58	3.15	2.77
Medium Non-payers	3.00	2.18	2.65	3.11	2.56	2.92	2.69
Large Payers	2.59	2.08	3.12	3.86	2.32	3.42	2.69
Large Non-payers	2.93	2.04	2.81	2.05	2.43	2.41	2.42
Financial Slack (Long Term Borrowings To Assets)							
Payers	0.33	0.33	0.34	0.29	0.33	0.32	0.33
Non-payers	0.47	0.53	0.54	0.48	0.50	0.51	0.50
Payers reporting Profits	0.33	0.33	0.34	0.29	0.23	0.34	0.33
Non-payers reporting Profits	0.47	0.49	0.48	0.38	0.45	0.46	0.46
Payers reporting Losses	0.32	0.33	0.32	0.32	0.24	0.34	0.33
Non-payers reporting Losses	0.47	0.56	0.60	0.56	0.52	0.55	0.54
Small Payers	0.46	0.51	0.56	0.47	0.24	0.24	0.24
Small Non-payers	0.22	0.25	0.26	0.21	0.49	0.51	0.50
Medium Non-payers	0.37	0.36	0.35	0.27	0.36	0.32	0.35
Medium Non-payers	0.49	0.56	0.52	0.48	0.53	0.50	0.52
Large Payers	0.35	0.35	0.37	0.32	0.35	0.35	0.35
Large Non-payers	0.45	0.51	0.52	0.50	0.48	0.50	0.49
Investment Intensity Rate (Growth Opportunity)							
Payers	1.05	1.04	0.97	0.86	1.04	0.93	1.01
Non-payers	1.24	0.78	1.27	1.71	0.99	1.53	1.19
Payers reporting Profits	1.05	1.04	0.97	0.86	1.01	1.01	1.01
Non-payers reporting Profits	1.18	0.50	1.19	0.85	0.25	1.16	0.90
Payers reporting Losses	1.00	1.07	0.95	0.86	0.98	1.00	1.00
Non-payers reporting Losses	1.30	0.97	1.35	2.35	1.22	1.52	1.42
Small Payers	1.12	0.56	1.25	2.04	0.98	1.01	1.01
Small Non-payers	1.01	1.02	1.11	0.81	0.81	1.68	1.12
Medium Non-payers	1.05	1.02	0.93	0.87	1.04	0.91	1.00
Medium Non-payers	1.39	0.99	1.36	1.71	1.17	1.56	1.32
Large Payers	1.06	1.07	0.93	0.87	1.07	0.90	1.01
Large Non-payers	1.29	0.98	1.16	1.03	1.30	1.04	1.11

Source: Same as in Table 3.1

4.3 Further Characteristics of the Payers and Non-payers

Table 4.2 Percent of Aggregate Values Accounted by Payout Paying Firms across 1971-2003

Sub-Panels	71-81	82-92	93-98	99-03	71-92	93-03	71-03
Total Cost of Equity							
Payers to Total Firms	76.93	88.32	83.22	83.20	86.03	80.49	80.02
Profit Payers to total Profit firms	78.34	89.94	81.39	83.25	87.76	80.39	80.02
Loss Payers to total Loss firms	72.13	92.97	83.50	77.30	91.91	76.48	79.91
Small Payers to total Small firms	61.86	87.51	76.87	67.85	79.30	67.38	68.06
Medium Payer to total Medium firms	57.75	79.29	64.64	64.98	73.70	61.33	60.81
Large Payer to total Large firms	65.40	75.51	67.42	69.88	74.11	65.42	64.85
Sales							
Payers to Total Firms	74.07	78.56	77.90	79.14	77.43	76.42	75.53
Profit Payers to total Profit firms	73.60	78.86	77.78	81.87	78.24	78.69	77.49
Loss Payers to total Loss firms	68.09	82.58	73.41	67.44	82.22	67.20	71.52
Small Payers to total Small firms	54.07	55.40	54.46	55.55	53.83	54.56	53.04
Medium Payer to total Medium firms	52.44	52.76	51.91	52.83	52.12	51.36	49.70
Large Payer to total Large firms	61.49	64.76	63.01	64.87	64.84	61.34	60.70
Earnings Before Interests and Taxes							
Payers to Total Firms	88.97	92.09	90.68	95.13	91.38	93.07	92.30
Profit Payers to total Profit firms	79.10	81.62	81.43	85.31	81.55	82.56	81.35
Loss Payers to total Loss firms	108.55	102.53	107.67	135.00	102.64	124.02	115.32
Small Payers to total Small firms	87.55	100.17	83.89	126.40	97.07	102.89	101.30
Medium Payer to total Medium firms	76.49	80.19	76.62	92.33	79.06	85.34	82.65
Large Payer to total Large firms	81.54	83.62	81.23	88.47	83.65	85.14	84.05
Gross Savings							
Payers to Total Firms	92.66	101.98	99.66	107.15	100.44	106.07	105.48
Profit Payers to total Profit firms	73.18	78.58	79.69	83.78	78.10	80.59	79.01
Loss Payers to total Loss firms	-67.76	156.79	-1637.99	21.59	158.46	-19.30	-101.04
Small Payers to total Small firms	144.96	421.16	148.84	-752.70	373.15	485.71	566.22
Medium Payer to total Medium firms	93.09	111.23	103.34	166.50	107.94	140.19	134.83
Large Payer to total Large firms	82.54	96.42	95.67	110.12	93.86	107.75	105.63
Retained Earnings							
Payers to Total Firms	127.09	190.18	129.83	177.15	178.46	176.39	187.48
Profit Payers to total Profit firms	70.78	79.00	80.39	84.77	77.91	81.74	80.00
Loss Payers to total Loss firms	53.25	55.28	41.99	45.59	56.85	39.98	42.45
Small Payers to total Small firms	-66.60	-64.55	-295.59	-34.78	-66.19	-65.22	-59.76
Medium Payer to total Medium firms	276.22	-258.57	592.54	-145.56	-348.00	-217.53	-181.15
Large Payer to total Large firms	132.49	408.96	170.37	529.14	276.56	531.11	643.73
Total Assets							
Payers to Total Firms	66.91	72.28	71.89	69.88	71.07	67.00	66.09
Profit Payers to total Profit firms	69.10	76.61	72.92	76.29	75.86	72.73	71.74
Loss Payers to total Loss firms	63.43	80.48	68.63	60.70	80.44	59.33	64.00
Small Payers to total Small firms	40.73	40.39	41.66	43.38	39.14	40.20	38.53
Medium Payer to total Medium firms	42.79	43.05	44.87	43.64	42.39	41.70	39.74
Large Payer to total Large firms	55.04	57.82	54.57	52.61	58.27	49.22	48.84
Total Liabilities							
Payers to Total Firms	64.46	67.23	67.28	62.96	66.38	60.77	60.13
Profit Payers to total Profit firms	66.72	72.35	69.74	72.63	72.08	69.26	68.24
Loss Payers to total Loss firms	60.14	73.93	60.57	54.08	74.40	51.78	56.48
Small Payers to total Small firms	32.88	30.71	31.76	33.01	29.79	30.75	29.30
Medium Payer to total Medium firms	40.04	35.92	38.45	32.90	35.96	33.75	32.45
Large Payer to total Large firms	53.13	52.98	49.94	45.11	53.94	42.85	42.92
Cash Flow							
Payers to Total Firms	76.85	80.66	81.27	82.35	79.68	79.55	78.50
Profit Payers to total Profit firms	75.04	78.91	78.80	82.89	78.58	79.53	78.21
Loss Payers to total Loss firms	73.09	88.09	81.81	72.46	87.70	73.50	77.77
Small Payers to total Small firms	59.29	64.61	58.54	61.20	62.29	58.22	57.78
Medium Payer to total Medium firms	57.28	57.62	56.75	57.29	56.98	54.93	53.34
Large Payer to total Large firms	64.30	66.52	67.87	69.73	66.80	65.80	64.60

Source: Same as in Table 3.1

Further analysis of the characteristics of payers and non-payers across various sub-samples are indicated in Table 4.2 presented above. The results lead us to dwell on interesting facts. It is indicated that the payers account for 80.02% of the Total Cost of Equity (TCEQ) during 1971-2003, when 55.25% of firms in the sample pay-out. Payers are more profitable and since non-payers derive more of their market value from expected growth, so the share of payers in aggregate earnings (EBIT) is higher than their share of Total Assets (TA). The table confirms, greater the magnitude of Earnings (RoA) and Gross Savings (GSAV), greater is possibility of payouts.

Total Liabilities (TL) measured across the Size heterogeneity large reveal that the small, medium and large firms that do not pay are heavily indebted in a decreasing order. The same table also reports that the small, medium and large non-payers report 71, 68 and 57 % of the TL during the full period 1971-2003 respectively. In the post-1993 years compared to 1971-1992 periods, the percent of aggregate values accounted for by paying-out firms for variables like that of TCEQ and Cash Flows (CF), TA and TL, including Sales (SAL) deteriorate across all sub-samples, all sub-samples except the small firm sample, and all sub-samples except for small firm and profit reporting sample, respectively. The degree of deterioration however, varies considerably.

The overall results suggest that payers have higher measured profitability and are less liquid than non-payers. The firms that skip payouts are highly indebted in relation to their equity and also report larger growth opportunities than the payers. Moreover, the size of loss among the loss making non-payers is larger than that of the loss making payers. Firms that don't pay are smaller and seem to be less profitable than payers, but have larger investment opportunities. Non-payers are highly levered and are more liquid than payers.

The payers reporting profits and non-payers reporting losses have more growth opportunities than non-payers reporting profits and the non-payers reporting losses, respectively. In the recent periods, profitability, leverage and growth opportunities shrink across all groups of payers. The average liquidity ratio however, registers a marginal increase across all categories of payer across all sub-samples. Non-payers reporting profits are more liquid than payers reporting profits whereas, losses reporting non-payers are more liquid than payers reporting losses.

4.4 Summary Statistics of Explanatory Variables

Table 4.3 Summary Statistics of Financial Characteristics for Payers and Non-Payers, 1971-2003

Stats.	Size			Payouts		Earnings		Full Sample
	Small	Medium	Large	Non-payers	Payers	Negative	Positive	
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
Varn	0.66	0.04	0.03	0.07	0.38	0.09	0.29	0.25
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
Varn	1060.06	22.75	797.15	728.32	543.15	827.31	552.79	626.52
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
Varn	0.47	0.07	0.05	0.37	0.04	0.2	0.19	0.2
Skew	64.73	5.02	-2.49	68.99	1.2	6.56	112.84	79.7
Kurt	6767.29	103.97	184.13	8136.54	268.3	139.26	18926.15	12826.96
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
Varn.	366.43	103.86	18.95	360.18	1.7	295.6	114.32	163.04
Skew.	-40.68	55.1	-117.64	-25.68	114.55	33.42	-139.22	-37.86

Note: Medn., Varn., and Skew. represent the Median, Variance and the Skewness for the data **Source:** Same as in Table 3.1

The summary statistics presented in the above Table 4.3 provide details on the nature of payers and non-payers, 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 than 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.

4.5 Correlation Coefficients among Variables

Table 4.4 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 3.1

The Spearman's correlation coefficients are reported in Table 4.4. The coefficients among all the independent variables are statistically significant. The coefficients are not too large, and thus the possibility of multicollinearity among regressors is minimal. The rest results are as per expectations. 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.

Section 5

Estimates from LOGIT Regressions

5.1 Introduction

The approach of LOGIT regressions in this section quantifies how financial characteristics (Earnings, Financial Slack, Liquidity, Investment Rate, and 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.

5.2 Overall Results from LOGIT Estimates

**Table 5.1 Estimates of LOGIT Regressions to Explain Which Firms Payout,
1971-2003**

Sub-periods	Intercept	ERNG	LQTY	FSLK	INVR	SIZE
Average Coefficients						
1971-81	-3.91	12.73	0.01	-3.96	-0.25	0.54
1982-92	-5.06	14.74	0.02	-4.64	-0.07	0.6
1993-98	-5.41	9.74	0.03	-4.05	-0.08	0.58
1999-03	-6.23	9.69	0.00	-3.53	-0.03	0.54
1971-92	-4.49	13.74	0.01	-4.3	-0.16	0.57
1993-03	-5.78	9.72	0.02	-3.81	-0.06	0.56
1971-03	-4.92	12.4	0.01	-4.14	-0.13	0.57
t Statistic						
1971-81	-29.11	10.07*	0.63	-14.7	-6.57	41.98
1982-92	-31.53	20.8*	1.85	-40.81	-3.15	36.26
1993-98	-23.77	18.81*	1.39	-14.49	-4.39	38.92
1999-03	-68.64	5.47*	-1.82	-5.96	-3.33	40.22
1971-92	-27.8	18.54	1.73	-26.7	-5.57	46.81
1993-03	-32.2	12.11	1.3	-12.59	-4.32	50.18
1971-03	-30.23	19.12	2.2	-27.52	-5.93	64.04

Source: Same as in Table 3.1

The LOGIT estimations in above table 5.1 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 (equation 2.2) across all sub-periods.

The above table 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).

Amongst the others, the variables that proxy Earnings (ROA) and Size (lnSales) significantly influence the decision to pay. The size of earnings is the most influential variable that prompts the payment / non-payment decision of dividends. Though firms with positive earnings also are willing to omit, the results demonstrate that the quality of earnings and size of sales are prime movers, then sign of earnings alone. Profitable firms and large firms are more likely to pay, whereas the firms with more debt component in their assets and more growth opportunities are more likely to omit payouts. ERNG variable has the statistically significance and has the largest influence on decision to pay out with average slope of 19.12, standard errors from zero. Larger firms are more likely to payout; the average slope on size is 64.04 standard errors from zero. Firms with better growth opportunities and high leverage are less likely to pay with average slopes -5.93 and -27.52 standard errors from zero whereas, the average slope on LQTY is 2.20 standard errors from zero.

The findings that large and profitable firms are more willing to pay then the small and less profitable ones are in tune with that of Forbes and Hatern (1998), Aurebach and

Hasset (2002) and DeAngello *et. al.*, (2004) that report payers are more profitable and larger than the non-payers and small companies are reluctant to pay while higher magnitude of size and profits lead large firms in a better position to pay then the rest, respectively.

The coefficients of the LQTY variable are also of the smaller magnitude in the regression suggesting its secondary importance in the decision to pay. Yet another significant observation deserves attention. In the post-reform periods compared to the former, the relative importance of all the variables except LQTY in the regression shrink as their magnitudes dwindle.

During the same periods the number of paying-out omitting firms increase from 37.5 to 58.1%, although the financial bearing on the firms has reduced due to decrease in the leverage relating obligations and decreasing growth opportunities. Decrease in ROA and Sales has offset the advantage from the reduction of debt and growth opportunities against the favor of paying-out.

The coefficients on FSLK and INVR drop by 0.52 and 0.05 points each in the same periods. The average coefficients on ERNG and INVR drops by 4.02 and 0.10 points respectively in the post-reform periods compared to the former. Strong negative average slopes for FSLK and INVR (more than 13 and 3 standard errors from 0.0) and strong positive slopes for ERNG and SIZE (more than 10 and 36 standard errors from 0.0 respectively) are also observed in every eleven year sub-periods beginning 1971 through 2003. Larger the payer, lower is its debt while larger the non-payer higher is the debt, signifying that larger debt is consistent with higher omissions. The above findings are in

tune with that of DeAngelo and DeAngelo (1990), Benito and Young (2001), Kahle (2002), Bebczuk (2003), Gwilymn *et. al.*, (2004a and 2004b) *and others*. The result that the firms that skip payouts have the best growth opportunities is also in tandem with La Porta *et. al.*, (2000) and Gugler (2003) who show that low investment firms have large payout ratios to solve the moral hazard problems

5.3 Results from LOGIT Estimates across Sub-panels

Table 5.2 through 5.5 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 payout groups are estimated and allow us to examine how the effects of changing characteristics and propensity to pay differ across the groups.

5.3.1 Estimations Across Sign of Earnings Heterogeneity of Firms

The results summarized in Table 5.2 are based on equation 2.4 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 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 types 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 than 2 and assuming 0.05 levels of alpha the null hypothesis of no difference ($\beta_2=0$) in coefficients can be rejected if the computed t value [$(= \hat{\beta}_2 / se(\hat{\beta}_2) > t_{\alpha/2})$], computed from $t = \hat{\beta}_2 - \beta_2 / se(\hat{\beta}_2)$] 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 there is inertia in payout 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 5.2 Estimates of LOGIT Regressions to Explain which Firms Payout 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
1993-98	-7.25	3.31	0.03	-4.06	-0.07	0.57	2.71
1999-03	-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
1993-03	-7.64	3.61	0.02	-3.66	-0.05	0.55	2.67
1971-03	-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
1993-98	-25.14	7.83	1.18	-15.17	-3.87	36.86	14.25
1999-03	-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
1993-03	-36.56	9.59	1.12	-12.39	-3.83	44.85	24.76
1971-03	-39.74	12.49	1.93	-24.98	-5.49	49.87	29.88

Source: Same as in Table 3.1

5.3.2 Estimations Across Size Heterogeneity of Firms

Table 5.3 testifies possibility that the large firms paying-out continue to pay is higher than the medium and small firms paying cash payouts 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 2.6 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.

**Table 5.3 Estimates of LOGIT Regressions to Explain which Firms Payout 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
1993-98	-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
1993-03	-5.34	9.71	0.02	-3.79	-0.06	0.52	0.08	0.29
1971-03	-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
1993-98	-14.48	18.07	1.39	-14.05	-4.43	16.15	0.71	2.8
1999-03	-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
1993-03	-21.21	12.04	1.3	-12.39	-4.33	21.97	1.5	4.84
1971-03	-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 3.1

The effect of the regressors on the payout decision across the size and earnings of firms is demonstrated with the help of interactive dummies. Earlier, two separate equations (2.6 and 2.8) 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 6.8 the interaction effect between two qualitative variables across size and sign of earnings is documented by assuming their effect on the payout 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.

5.3.4 Estimations Jointly Across Size and Sign Heterogeneity of Firms

Table 5.4 Estimates of LOGIT Regressions to Explain Which Firms Payout 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
1993-98	-6.79	3.34	0.03	-4.05	-0.07	0.56	2.41	-0.33	2.33	-0.65	2.65
1999-03	-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
1993-03	-6.98	3.62	0.01	-3.66	-0.05	0.52	2.35	-0.39	2.22	-0.56	2.63
1971-03	-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
1993-98	-25.85	8.15	1.20	-14.12	-4.08	15.56	13.63	-0.89	10.99	-1.83	11.41
1999-03	-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
1993-03	-33.88	9.70	1.12	-12.10	-3.85	20.69	19.70	-1.71	14.74	-2.75	16.64
1971-03	-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 3.1

Table 5.4 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 losses. The dummy 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.

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. Payout in spite of negative earnings would mean that managers are disinclined to reduce payouts and view losses as a momentary occurrence. Firms reporting losses will reduce or omit payouts firstly to avoid violation of debt covenants and second because losses reveal deterioration in the firm's quality. Reduced payouts 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 payouts inspite 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).

Section 6

Changing Characteristics and Propensity to Payout

6.1 Introduction

This section measure the effects of changing characteristics on the incidence of the propensity (likelihood) to pay for the payout 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.

6.2 Effect of Changing Characteristics & Propensity to Payout on Payers

Table 6.1 shows the expected percents of payout 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. Since the base year average regression function are used to estimate the Expected percent of payers in each of the following years {Columns 3, 7 and 10 in Table 6.1 denoted by (b)}, changes in the expected percent after 1981 are due to changing characteristics of sample firms. When the average regression function for 1971-80 is applied to the sample of firm characteristics for the year 1981, the expected percent of payers is 78.30 against the actual of 56.74 during the 1971-1980 periods. Thus, roughly speaking, the characteristics of firms in 1981 differ to those of the base period 1971-80. The average expected percent of payers diminish during the period, 1993-1998 from 83.05 reaching 73.10 during 1999-2003. The year to year fluctuations can be better explained after summarizing them for sub-periods. The average expected percent of payers during the 1993-2003 period increases to 79.80 from 65.92 percent during 1982-1992, indicating

improvements in the financial characteristics which would have otherwise increased payers (in relation to the base periods) to the extent of 13.89% after the advent of economic reforms. While in the 1999-03 period prior to the former (1993-1998), the expected percent of payers decreases by 9% from 84.88 to 75.91 percents denoting effect of changing characteristics and a larger effect of reduced willingness to pay on the percent of firms paying-out during the same periods.

Table 6.1 Estimates of the Effect of Propensity to Pay on the Percent of Firms Paying Payouts for the Full Sample and Earnings Heterogeneity

Year	Full Sample			Profit Reporting Payers			Loss Reporting 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	60.00	78.30	18.30	74.85	66.40	-8.45	3.89	18.70	14.81
1982	59.30	68.41	9.12	75.57	62.41	-13.16	5.96	17.12	11.16
1983	57.60	67.53	9.93	76.90	60.18	-16.72	4.97	17.12	12.15
1984	54.52	59.86	5.34	75.67	53.47	-22.21	7.69	15.00	7.31
1985	53.26	62.90	9.63	74.26	54.88	-19.38	8.06	15.96	7.90
1986	54.27	64.48	10.21	72.49	58.55	-13.95	6.36	16.45	10.09
1987	52.47	61.03	8.56	73.50	53.69	-19.81	10.09	15.84	5.75
1988	51.19	59.19	7.99	74.42	55.29	-19.14	8.97	17.62	8.65
1989	52.73	64.81	12.08	74.25	60.44	-13.81	8.72	19.74	11.01
1990	55.80	69.13	13.34	73.17	61.77	-11.40	8.55	18.11	9.56
1991	57.53	74.28	16.74	72.42	66.90	-5.52	9.34	20.19	10.85
1992	62.65	73.47	10.82	77.03	69.56	-7.47	12.25	21.59	9.34
1993	62.38	73.91	11.54	79.56	68.80	-10.75	10.29	22.19	11.90
1994	66.74	83.06	16.31	78.51	79.33	0.82	10.14	28.76	18.63
1995	68.26	88.19	19.94	79.26	82.94	3.67	12.37	33.37	21.01
1996	64.72	87.00	22.28	76.68	83.33	6.66	13.42	35.52	22.10
1997	59.64	84.33	24.69	76.33	79.10	2.77	12.15	33.59	21.44
1998	53.30	81.82	28.52	70.51	78.57	8.06	4.95	33.02	28.07
1999	47.56	77.04	29.48	67.54	71.59	4.05	5.08	28.37	23.30
2000	44.21	78.13	33.92	64.56	70.69	6.13	3.87	28.34	24.47
2001	41.15	78.73	37.58	62.60	69.11	6.51	4.63	28.73	24.11
2002	39.93	72.95	33.02	58.43	68.00	9.56	4.05	26.10	22.04
2003	36.63	72.69	36.06	56.31	64.64	8.33	6.04	25.88	19.85

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 payout payers due to decreasing (increasing) Propensity to Pay. **Source:** Same as in Table 3.1.

Broadly, the equity payout paying RBI firms in the full sample over the period 1981-2003 have become less likely to pay despite their improving characteristics.

The actual percent of payers for a given year of the 1971-03 period is also the expected percent that would be produced by a 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 payout. 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. It is observed that, the difference between the actual and expected percent of payers doubles up from 18.30 in 1981 to 36.06 in 2003 and precisely increases by 15.66 points in the post-reform with reference to the pre-reform periods. The annual differences (the effect of reduced propensity to pay) average 18.3 % for 1981, and ranges from the minimum value of 5.34 to the maximum of 37.58 %. This large decline in the propensity to pay (by 17.76%) in the year 2003 compared to that of 1981 has a crucial impact on the payer population as 23% payers in the full sample are lost due to decreasing propensity to pay during the same period. By comparing the actual percent of payers for a year and the expected percent produced with the regression function for the base period, we infer the effect of changes in the regression function, and equivalently, changes in the propensity to payout. Thus, consistent with the results of F&F (2001), the evidence suggests that firms become less likely to payout (propensity to pay has decreased), whatever their characteristics. Further, Indian firms display more unwillingness to payout in the post-reform periods compared to the pre-reform periods,

and further-reform periods compared to their former, despite of registering an enhancement in their financial characteristics.

6.3 The Effect of Changing Characteristics as per Earnings Heterogeneity

The effect of changing financial characteristics on payout decisions is also evident for the profit reporting firms through the Table 6.1. Consistently for 1981-1993 periods, the actual percent of payers is higher than the expected percent in case of the same (profit reporting) firms. Clearly over a full decade (1981-93), the propensity to payout among the profit reporting firms is around 15% larger. This trend indicates that greater willingness of number of profit reporting payers to pay in spite of the slip in financial characteristics specifically during 1984-1988 periods. This tendency reversed during the post-reform periods. It is revealed that the average expected percent of payers during the 1993-2003 period increases by *approx* 14%, compared to the pre-reform periods, indicating significant improvements in the financial characteristics (in relation to the base periods) after the advent of economic reforms. Thus in the later period compared to the first, the propensity to pay has been severely affected. While in the 1999-03 period prior to the former (1993-1998), the deterioration in expected percent of payers owing to decrease in financial characteristics is to the extent of 12%, and merely 3% due to reduced propensity to pay. During the same periods 13% of the payers which paid out earlier, omit payments in the subsequent (1999-03) periods. During the full period 1981-2003, 72.38% firms reporting profits payout, compared to 69.94% payers which were expected to do so. On a whole, for the full period it is indicated that the payers reporting positive earnings are more likely to omit owing to changing (shrinking) financial characteristics of firms,

however in case of firms reporting losses, the propensity to payouts has decreased over the years.

During the post-reform period compared to the preceding, 0.4% of the loss reporting payers is unwilling to pay despite improvements in financial characteristics which could have prompted additional 12% firms to pay; clearly indicating that general propensity to dividends in such firms has significantly decreased. In the post-1999 periods however in relation to the 1993-99 periods, the dip in financial characteristics largely explains decreasing payers in such samples. Strangely, the decrease in propensity for loss reporting firms are significantly lower (merely 2%) compared to their profit reporting counterparts (52%) in the 1999-03 periods compared to 1993-99.

6.4 Effect of Changing Characteristics and Propensity to Pay as Size Heterogeneity

Changing characteristics and lower propensity to pay have larger effects on payout decisions of payers distributing payout, classified as per the Size heterogeneity of payers (Table 6.2). When the average coefficients of the 1971-80 regressions for former payers are applied to small, medium and large firms paying-out for 1981-93 years, the expected percent of payers falls due to decrease in propensity to pay. The tendency to omit payouts irrespective of financial characteristics is significantly large for medium firms and large firms, then the small firms paying-out. Further, in case of small firms, the overall decrease in the number of firms paying-out in the full period and also in the post further-reform period is owing to its characteristics. Though in the pre-reform period compared to the later, the decrease in divided payers of medium firms owes to decrease in propensity to pay, in the further-reform periods in relation to 1993-1997 the change (decrease) in

financial characteristics explain the declining trend of such payers. On a whole for the full period, the payers in the small and medium sub-sample demonstrate a larger tendency to omit (less propensity to pay) payouts, whatever the characteristics.

**Table 6.2 Estimates for the Effect of Propensity to Pay on the Percent of Firms
Paying-out as per Size Heterogeneity**

Year	Small Payers			Medium Payers			Large 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	57.90	64.61	6.70

Notes: a. Act. %, Exp. % 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 dividend payers due to decreasing (increasing) Propensity to Pay.
Source: Same as in Table 3.1

The behavior of large firms with respect to payouts shows considerable variations, contrary to their both (small and medium) counterparts. Except for the further-reform periods, the actual percent of payers is consistently higher than the expected percent

paying-out large firms. Clearly over such period (1981-97), the propensity to pay-out among the profit reporting firms, given the financial characteristics is around 11% larger. However when the pre-reform period is compared to the later, the actual number of same firms paying out decreases by 3% in spite improvement in their financial characteristics. This indicates that the propensity to pay have shirked significantly in such periods. Later, during the further-reform periods (1997-2003) only 66% large firms pay compared to 80% which do so during the 1993-1997 years much owing to the disruptions in the nature of firms' changing characteristics.

6.5 Effect of Changing Characteristics & Propensity Across Positive Earnings & Size Heterogeneity

Changing characteristics and lower propensity to pay has the strongest and similar effects on the payout decisions of firms sub-divided over size and earnings heterogeneity considered jointly. Table 6.3 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. Such negative sign indicates that the willingness to payout was high irrespective of characteristics for all the years. However all such firms become more unwilling to pay now, unlike the past. Over the full period under consideration and consistently across small, medium and large firms reporting profits, a decrease in propensity to payout 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 its preceding period.

Table 6.3 Estimates for the Effect of Propensity to Payout 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

Notes: a. Act. %, Exp. % 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 dividend payers due to decreasing (increasing) Propensity to Pay. **Source:** Same as in Table 3.1.

It is found that the influence of all dwindling determinants of payouts considered jointly, lead firms to omit payouts. 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, it is found that the decreasing number of payers in such periods is attributable to changing (decreasing)

financial characteristics of small medium and large firms reporting profits while, in case of medium firms reporting profits it is the decreasing propensity to pay that causes non-payment.

6.6 Effect of Changing Characteristics & Propensity across Negative Earnings & Size Heterogeneity

**Table 6.4 Estimates from LOGIT Regressions of the Effect of Propensity to Payout
Jointly across Negative Earnings and Size Heterogeneity**

Year	Loss reporting Small			Loss reporting Medium			Loss 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	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

Notes: a. Act. %, Exp. % 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 dividend payers due to decreasing (increasing) Propensity to Pay. **Source:** Same as in Table 3.1.

Table 6.4 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 result of improvement in their financial characteristics that govern their payment decision. During the further-reform periods however, the large, medium and small disappear by 11, 9 and 3% 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 large firms and the effect of changing characteristics for small and medium firms reporting losses.

Section 7

Summary and Findings

7.1 Introduction

Through a tempo-spatial analysis 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, propensity to pay, or both. It is examined, which firm characteristics determine corporate payout 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 changes in the fundamental financial characteristics influences them to pay or omit cash payouts. Similarly, it is checked whether paying-out firms reporting losses significantly differ in characteristics and propensity to pay from payers reporting profits in a given period and whether the characteristics and propensity to payout differ significantly among firms. The facts that substantial number of firms across all categories doesn't payout in the recent years corroborate the global findings that payouts have become less likely among all type of firms. Further they have become less likely to payout beyond what could be expected given the changes in their characteristics.

It is examined whether the presence/absence or changes in the fundamental financial characteristics influences the firms to pay/omit cash payouts in a given year. More formally the marginal effects of profitability, leverage, liquidity and growth opportunities on the likelihood that a firm pays-out across the heterogeneity of firms are documented.

7.2 Major Findings of the Study

Following are the prime findings of the study

1. Although fewer firms payout and the payout ratios shrink in the recent years, Indian Public Limited firms a pay large and an increasing nominal rupee value of equity and preference payouts. This observation matches across the size and earnings heterogeneity during 1971-2003 periods. Equity paying-out firms pay three times larger portion of their nominal rupee earnings compared to that of preference payout paying firms, with an average of 51 percent payout percentage in the entire period. While the preference payout firms pay an average of one-sixth of their earning and witness larger variations in respect of the magnitude of its payout ratios and the payout return they yield across all sub-panels over time. Significant differences in equity and preference payout behavior is observed over time. Preference payouts remain less effected by sub-period trends unlike equity payout.

2. In line with the global trends we uncover evidence in favor of decreasing payout behavior among Indian public limited firms. Firstly, we note a significant decrease in the number of firms paying equity and those paying preference payouts across small, medium, and large firms and also across firms reporting profits and losses, as well. Secondly, the equity payout ratios increasingly shrink and the preference payout ratios relatively contract in the post-reform periods compared to the pre-reform and the full period averages. Thirdly, the small and medium sized companies relatively pay relatively smaller rupee values of equity and preference payouts to total payout paid by all payers over time and fourthly, the nominal rupee value of equity payout payments grow at a lower rate in the post-reform periods compared to that of the pre-reform period.

3. The number of firms paying cash value of equity payouts registers a significant decrease in the post-1999 period compared to the 1993-1998 periods. Preference payout payers fall at a higher and an increasing rate than the equity paying firms. The tendency of decrease in equity payouts measured in relation to total earnings attributable to equity holders is also observed across all sub-panels across Size and Earning heterogeneity. The payout behavior of RBI firms witness significant changes across sub-panels. When measured in respect of size heterogeneity; the small and medium sized paying firms decrease their equity and preference payouts in the full period. Large firms pay 90 and 89 percent of total equity and preference payout respectively paid by the entire paying firms put together. However, they pay relatively smaller values of nominal payouts in the post-reform periods and the decrease is more significant in the post-1999 periods.

4. Although fewer firms pay payouts and the payout ratios shrink in the recent years, Indian Public Limited firms pay large and an increasing nominal rupee value of equity and preference payouts. This observation matches across the size and earnings heterogeneity during 1971-2003 periods. Equity paying firms pay three times larger portion of their earnings compared to that of preference payout paying firms, with an average of 51 percent payout percentage in the entire period.

5. Though large public limited firms are reluctant to omit payout payments then the small and medium sized firms, it is evident that the small Indian public limited companies pay relatively more proportion of their earnings as equity and preference payouts. Also the value of equity return attributable from firms belonging small, medium are higher then that from paying firms that are large signifying unimpressive applicability of the size effect in India. The payers belonging to large size sub-panel pay relatively smaller and a

decreasing proportion of their earnings as payouts over the years. The increasing tendency to omit payout payments in the 1971-2003 periods occurs predominantly among the small and medium firms that earlier pay payouts and largely due to firms reporting positive earnings and yet choosing not to pay.

6. Across all sub-groups, the payout payers have higher measured profitability than non-payers. The loss making payers report lower losses compared to the payers reporting losses, although a loss is far from a guarantee that the payout payment will be reduced. Large firms are 6 and 1.5 times more profitable than small and medium ones respectively. Consistently across all sub-samples and sub-periods the non-payers are highly indebted than the payers. Further the firms that skip payouts have the best growth opportunities and are lessening in the recent years across all sub-groups. The average liquidity ratio however, registers a marginal increase across all categories of payout payer across all sub-samples. Non-payers reporting profits are more liquid than payers reporting profits whereas, loss reporting non-payers are more liquid than payers reporting losses. The LOGIT estimations of variables of financial characteristics on the decision to pay confirm that 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.

7. The effects of changing characteristics on the incidence of the propensity (likelihood) to pay payouts for the payout payers across the full sample, across size and for the firms reporting profits and losses separately, are measured presuming that the proxies for characteristics have constant meaning through time. The equity payout paying RBI firms have become less likely to pay despite their approving characteristics. Payers reporting positive earnings are more likely to omit owing to changing (shrinking) financial

characteristics of firms, however in case of firms reporting losses, the propensity to pay payouts has decreased over the years. The tendency to omit payout payments irrespective of financial characteristics is significantly large for medium firms and large firms than the small firms paying payouts. Payers in the small and medium sub-sample demonstrate a larger tendency to omit (less propensity to pay), whatever their characteristics. Large firms on the whole have become less willing to pay, despite approval of their characteristics whereas, consistently across small, medium and large firms reporting profits, a decrease in propensity to pay dividends is evident.

8. The large sized, and profit reporting firms constitute major a fraction of the payout paying population. In the full period, 71 percent firms reporting profits comprising 95 percent of total payer's pay equity payout. Similarly, 76 percent of large firms choose to pay equity payouts and constitute 46 percent of total payout paying firms. The payers reporting profits are 1.57 times more profitable than the profit earning non-payers, while the loss making payers report lower losses compared to the payers reporting losses suggesting incurring a loss is far from a guarantee that the payment will be omitted. It is the size (magnitude) of the loss that matters. The average liquidity ratios mark an increase across all category of payout payer over the years. Secondly, the payout payers are found to be less liquid compared to the non-payers. Increase in payout omissions in spite of higher liquidity in non-payers suggests managerial aversion to distribute cash payouts, in spite of having the means to do so. Our null hypothesis in this regard that liquidity is negatively associated with payout omissions, is thus rejected. Consistently across all sub-panels and sub-periods, the non-payers report higher leverage ratios than their payout paying counterparts. The change in the characteristics of firms is though important to explain the declining incidence of payout payers, but given their characteristics firms

become less likely to pay. The equity payout paying RBI firms over the period 1981-2003 have become less likely to pay despite their improving characteristics. This large decline in the propensity to pay in the year 2003 compared to that of 1981 has a crucial impact on the payer population as a significant number of payers in the full sample are lost due to decreasing propensity to pay during the same period. Further, Indian firms display more unwillingness to pay dividends in the post-reform periods compared to the pre-reform periods, and further-reform periods compared to their former, despite of registering an enhancement in their financial characteristics.

9. In case of the payers reporting positive earnings the propensity to pay payouts has significantly reduced, irrespective of their characteristics. During the post-reform period compared to the preceding, loss reporting payers are unwilling to pay despite improvements in financial characteristics clearly indicating that general propensity to payouts in such firms has significantly decreased. When the average coefficients of the 1971-80 regressions for former payers are applied to small, medium and large firms paying payouts for 1981-93 years, the expected percent of payers falls due to decrease in propensity to pay. Further the tendency to omit payout payments irrespective of financial characteristics is significantly large for medium firms and large firms then the small firms paying payouts. In case of Small firms, the overall decrease in the number of firms paying payouts in the full period and also in the post further-reform period is owing to its changing characteristics. Over period 1981-97, the propensity to pay payouts among the profit reporting firms, given the financial characteristics is larger. However, the same payers demonstrate a larger tendency to omit (less propensity to pay) payouts, whatever the characteristics. Marginally more number of small and medium firms reporting losses pay payouts, in the post-reform periods in the relation to the former as a result of

improvement in their financial characteristics that govern their payment decision. This demonstrate a strong evidence of declining propensity to pay payouts in case of large firms and the effect of changing characteristics for small and medium firms reporting losses.

10. The evidence that controlling for characteristics, firms become less likely to pay payouts infer that the perceived benefits of payouts decline through time. Some other possibilities listed by F&F (2001) are due to lower transactions costs for selling stocks for consumption purposes, in part due to an increased tendency to hold stocks *via* open-end mutual funds; larger holdings of stock options by managers who prefer capital gains to payouts; and better corporate control technologies that lower the benefits of payouts in controlling agency problems between stockholders and managers. According to the Substitute Agency Model of Payouts {LaPorta *et. al.*, (2000)}, emergence of alternative corporate governance mechanisms diminishes the role of payouts in mitigating agency problems and result in a lower propensity to pay. 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 payout.

7.3 Policy Implications of the Study

1. The support for decreasing payout 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 payout policies are not motivated by firms' desire to signal

their true worth to the market. Since the tendency of decreasing payout suggest that payouts can no longer be treated as a signal of share, value of desirability and future prospects. This tendency should be coupled with stringent disclosure norms in tune with regards the new corporate legislation and corporate governance requirements in India. Both payouts and repurchases seem to be paid to reduce potential overinvestment problem by managers. It is therefore suggested that the rise in popularity of repurchases would increase overall payout and increases firms' financial flexibility. Policies regard repurchases should therefore ensure enhanced transparency of firm's behavior contemplating a repurchase.

2. Firms that don't pay payouts, do so either because they have no capacity to pay, either they don't want to disadvantage their share holders *visa vie* payout taxes and would like them to benefit from capital gain associated with the investment or either they are demonstrating confidence that attractive investment opportunities may be missed if it paid payouts. If such firms make these investments they may increase the value of the shares by more then the amount of the lost payouts. Shareholders thus, would benefit from greater capital appreciation and will be taxed at lower effective rates of taxes on capital appreciation than on payouts.

3. If various institutions avoid investing in non-payout or low-payout paying stocks because of legal restrictions, management may find that it is optimal to pay payouts despite the tax burden it imposes on individual investors. The difference in taxes between capital gains and taxes makes high yield stocks less attractive to individual investors in high tax brackets. Such investors should try to hold an otherwise identical portfolio in low-yield stocks.

4. To a possible extent, firms having high degree of asymmetric information and large opportunities for growth should avoid paying payouts. The significant costs associated with rising equity capital for these firms could make payment of payout more costly. Payout reduction or non payment could be an alternative when a firm faces good investment opportunities. For a growing firm where investment needs are high and the volatility of operating cash flows may be large, residual cash flows are likely to be low. Such firms are best advised to delay any payout payments until a level of payout can be sustained comfortably. This payout gradually can be increased as growth rates and investment requirements moderates.

5. Payouts in India are paid on yearly basis. Such payments could be more frequently distributed during the financial year. Longer intervals between payments allow investors that are in long-term capital gains to sell the stock before the ex-day, avoid paying taxes on payout. Though the law allows payment of interim payout (6 monthly) there is no reason payouts cannot be spread and paid every quarter, after the quarterly results. Such a policy is being successfully followed in the developed countries and would also allow firms who might be interested in payout income to minimize transaction cost and deviation from optimum asset allocation while capturing the payout.

6. If payouts are taxed more heavily than capital gains and investors cannot use dynamic trading strategies to avoid this higher taxation, then minimizing payouts is optimal. Global experience demonstrates that effective capital gains rate drops dramatically if capital gains are postponed into the future. If low payout firms with high tax-shareholders have an occasional large residual free cash flow, then the managers

should prefer a share repurchase program rather than an increased payout for the benefit of the shareholders. A share repurchase gives investors an opportunity but not the obligation to participate, whereas a cash payout payment is received by all shareholders on a prorata basis.

7. Individual investors with high tax rates, all else being equal, should prefer firms with no or low payout payouts. For tax neutral investors/institutions like trusts, charitable institutions *etc* taxes alone should not dictate a preference for the payout policy of a specific firm. However some tax-neutral investors may be restricted to consume from payouts and not allowed to sell securities to generate income. Institutions under such restrictions may prefer to invest in firms with predictable (smoothened) payout patterns. In addition some institutions are prohibited from investing in stocks that don't have a long history of uninterrupted payouts. Accordingly, these institutions also will be concerned about a firm's payout consistency. Secondly, managers and investors alike should be cautious about large increases in payouts to avoid the possibility of subsequent payout decreases. If increase in free cash flow occur and are expected to persist, payout increases should be made gradually over time. Alternatively, or simultaneously with the increase in payouts, a firm could declare some of the distributions as special payouts or engage in share repurchases, along with smaller payout increases. This approach could avoid reflecting overoptimistic signals that may not be sustained in the long run.

7.4 Limitations of the Study

Our study extends literature by providing a comprehensive analysis from host of sources for a period of 42 years. For major part of the study an unbalanced panel data set for the Indian companies for 33 years. Supplementary analysis is carried by using

aggregate level data based on type of companies and across industry. The analysis based on the available data suffers from six shortcomings.

Since our analysis primarily relied on secondary data all limitations of using the secondary data then the first hand information follow the study. Secondly, our study relies on different data sources and periods for different chapters for respective analysis, as all data variables are not captured in the full dataset for such a longer period. Hence the generalizations of one chapter couldn't be extensively drawn and relied over the next. Thirdly, the panel data we use don't relate to uniform set of companies, and uniform study periods. The composition of firms keeps changing in the sample in each study year as the firms in the sample appear / disappear over time. Our choice of unbalanced panel data enables us cover almost the entire sample from RBI's Annual Studies and to a great extent highlights the dynamics of private corporate sector in India. Fourthly, the selected firms' donot have a uniform closing month for annual accounts, further the name of the firm could not be identified and hence the variables connected with stock markets couldn't be incorporated.

Fifthly, though we classified the liberalization regime as the period covering 1993 onwards and the further-reform period as post-1997 years, the reform process in India has been ongoing. Though we find a significant influence of post-reform and further-reform periods, more definite conclusions may be reached when the data covering a loner period after the implementation of reform measure is available. Finally, though the Indian private corporate sector has a long history, the data is available on annual basis and not on quarterly basis as in the developed markets. Non-availability of data for shorter runs

prohibits us from picking up the short-run effects of payout decisions; as such effects fizzle out if the period of analysis is spread unto a year.

In conclusion, payout policy can have an impact on shareholders wealth because of various market imperfections. Accordingly managers must design payout policies around market imperfections that most significantly affect their firms. Considering the imperfections in isolation is not a simple task. The most challenging task for managers is evaluating the interaction of various imperfections that may affect the firm and the value of shareholders wealth.

7.5 Scope for Further Research

The effect of the change in the fundamental characteristics and declining propensity of firms to pay explain the declining incidence of payers at an aggregate level, and cross-sectional level. Still many other issues lie unaddressed. Broadly, it is possible to relate the decision to pay payouts with the determinants of the size of payout payments. Moreover since this study doesn't consider the effect of previous payouts, lag effect of the financial characteristics along with the influence of industry-related and broad macro-economic variables, such an elaborate study is desirable. Further, since a significant effect of the further-reform period is evident on advent of close substitutes to cash payouts like stock repurchases, inclusion of such information would be more meaningful.

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