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**Studying Earnings Management in Initial  
Public Offerings (IPOS) and Its Impact  
On IPO Pricing in India**

By

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**STUDYING EARNINGS MANAGEMENT IN INITIAL PUBLIC OFFERINGS (IPOS)  
AND ITS IMPACT ON IPO PRICING IN INDIA**

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## **ABSTRACT**

Earnings Management by firms has been recognized by a stream of literature (Teoh et al, 1998) as a major contributory factor to the short run over performance and long run under performance of Initial Public Offerings (IPOs). This paper outlines the methodology and the key research questions to be adopted for studying Earnings Management for Indian IPOs. The study tries to outline how to empirically test the relationship of the accounting concept of Earnings Management with the Finance concept of IPO under pricing. In particular it seeks to find out whether there is evidence in the Indian markets about earnings management during IPOs and if so then the impact of this phenomenon on the first day prices of the shares offered during IPOs in India.

Key words-Earnings Management, IPO, Underpricing

## 1. INTRODUCTION

In recent times, in India, the allotment of shares in Initial Public Offerings (IPOs) of the firms has invited considerable media attention. Securities and Exchange Board of India (SEBI)- the regulator of the market, has imposed penalties on the Depository Participants (DPs) for not being able to detect a scam in allotment of shares in IPOs under fictitious names. This raises an interesting question of why do the investors adopt any means- fair or foul to get allocations in IPOs? It has been well documented in Finance literature that world over the IPOs are underpriced (Welch and Ritter, 2002). Underpricing means that the IPOs on the day of their listing trade at prices which are higher than those at which they are offered. This market inefficiency ensures that investors who are allotted shares in the IPOs can make gains by selling these shares off at higher prices on the day of listing.

Finance literature is however unable to fully explain the valuation of the IPOs. In other words, very little work has been done on how the offer prices in IPOs are determined? Some exceptions are those of Benveniste and Spindt (1989), Kim and Ritter (1999) and Purnanandam and Swaminathan (2002).

The firms, which are going for IPOs, do not have a market for pricing their shares. The most common starting point for setting the price of these shares is by comparable firms approach. In this approach, the under writers take the Price to Earnings ratios (PE ratios) of comparable firms in the industry and then arrive at a multiple for the firm that is going public. Now if the earnings of the firm going public can be inflated, the price at which the shares would be offered to the public would be higher. Since higher prices result in wealth increase for the issuers, they have a motivation for inflating the earnings during IPOs. Looking at the same issue from the side of the investors, it is observed that there is very little financial information about the firm that is going public prior to its IPO (Rao, 1993 as quoted in Teoh,

Wong and Rao 1998). Therefore the firm's offer document at the time of the IPO, which in India, contains financial statements of the last three years, becomes a major source of information for the investors. In this document, if the earnings can be inflated by accounting choices, then the investors can be cajoled to pay higher prices for the shares to be allocated in the IPOs. For the purposes of this paper, Earnings Management is defined as the use of such accounting choices to temporarily increase the earnings unless otherwise stated (see Appendix A for further details). There are of course regulatory provisions under which issuers cannot falsify their earnings. However the Accounting Standards give considerable discretion to the firms on when and how to report accruals. The use of accruals therefore can be used by managers to engage in earnings management.

This study tries to empirically test relationship of the accounting concept of Earnings Management with the Finance concept of IPO under pricing. In particular it seeks to find out whether there is evidence in the Indian markets about earnings management during IPOs and if so how does it affect the first day prices of the shares offered during IPOs in India? The motivation for this question also arises from the regulatory provisions in India regarding the allocation of shares. In India only 50% of the shares in an IPO can be allocated to Qualified Institutional Bidders (QIBs). Thus unlike in USA, the issuer does not have discretion in rewarding those investors who can reveal more information about the firm as per Benveniste and Spindt (1989) model. It is therefore hypothesized that a large percentage of investors in India may not be able to see through the accounting accruals maze of the IPO issuers and can get attracted to the firms showing higher managed earnings than their peers. This high demand may lead the book built offer to be offered on the higher side of the offer price band and may result in consequent under pricing. On the other hand, earnings management and under pricing are competing motives for the issuers of the firm. Thus upwards earnings management through accruals is for increasing the offer price to the investors whereas under

pricing is for attracting the investors to make listing gains. This study therefore would seek to find out whether the firms that engage in upwards earnings management also have under pricing in their first day of listing in the stock exchange.

Rest of the paper is organized as follows-Section 2 carries out the Literature Review and section 3 identifies the research questions. Section 4 deals with the methodology, section 5 with the data and section 6 concludes.

## 2. LITERATURE REVIEW

**2.1- On IPO Under pricing-** The literature on IPO under pricing has tried to explain under pricing by postulating different theories. The most famous of these is Rock's (1986) theory of winner's curse, which showed that those investors who are more informed (than the firm as well as other investors) about high under pricing offers crowd out uninformed investors. On the other hand these more informed investors withdraw in issues, which are over priced leaving the uninformed investors with the winner's curse problem. Thus the uninformed investors would not participate in over priced issues. Hence in order to attract such investors, the firm must underprice its IPOs. The information acquisition hypothesis of Benveniste and Spindt (1989) predicts that under pricing can be reduced if the investors that provide more information to the issuing firm can be awarded with more shares. Loughran and Ritter (2002) propound a prospect theory for under pricing where they state that issuers of IPOs leave a lot of money on the table because they see a prospect of higher trading price in the first few days of listing consequently offsetting their loss of wealth in under pricing the IPOs and in fact resulting in net gains to their wealth levels. More importantly they found that most IPOs leave little money on the table. The minority of IPOs that leave a lot of money on the table result in net increases to the wealth of the issuers due to higher under pricing. Loughran and Ritter (2003) formulated the corruption hypothesis because while trying to investigate why under pricing has increased over time they found that managers were not concerned in leaving large amounts of money on the table or in approaching under writers with a reputation of high under pricing because under writers allot hot IPOs (those with great demand) to the personal accounts of these managers. The signaling hypothesis is based on the assumption that the firm knows about its prospects better than the investors. Allen and Faulhaber (1989), find that in some circumstances good firms want to "signal" to their investors about their good future prospects and therefore underprice their IPOs. This is

consistent with Ibbotson (1975-pg 264) conjecture that IPOs are underpriced so as to leave a good taste in the investors' mouths so that future seasoned equities can be priced higher. Welch (1989) further formalized this in a two period model where high quality firms will underprice but low quality firms will not be able to do so because of high imitation costs. Grinblat and Hwang (1989) add to this body of literature by saying that the issuers signal higher quality in IPOs by under pricing as well as retaining some of the firms' shares in their personal portfolio.

**2.2 On Earnings Management-** Researchers have used specific contexts to estimate earnings management as these provide perfect “settings “ for the managers to manipulate earnings. Besides IPOs, earnings management has been evaluated in several different contexts by the researchers. Jones(1991) found in her study of 23 firms from five industries that these firms resort to decreasing the earnings during the import relief investigation of the International Trade Commission so as to get relief from them. Moyer (1990) in a study of 845 bank years from 1981 to 1986 found that bank managers resort to increasing the earnings so as to bring the capital requirement ratio within acceptable regulatory limits and hence try to reduce the regulatory costs imposed on banks. DeFond and Jiambalvo (1994) found in their sample of 94 firms which had already committed debt covenant violations between 1985 to 1988 that managers do resort to income increasing abnormal total accruals and abnormal working capital accruals in the year prior to the violation. Hand (1989) in a study of 245 debt-equity swaps found that managers resort to earnings management so as to smoothen the Earnings per share, which had taken a hit in the previous year. Liberty and Zimmerman (1986) in their sample of 105 annual contracts did not find any evidence of managers decreasing earnings prior to an upcoming Union negotiation. Susan Pourciau, (1993) in her study of 73 firms which had faced non routine management departure found that in coming managers resort to income decreasing accruals in their year of coming in and to income



increasing accruals in the following year. However contrary to expectations, departing managers resort to income decreasing accruals in their year of departure. McNichols and Wilson (1988) instead of using a portfolio of accruals used a single accrual –provision for bad debts as a measurement for earnings management. They found that firms resort to income decreasing accruals whenever the income is extreme. De Angelo (1986) in her study of 64 firms that went private through Management Buy Outs (MBOs) did not find any evidence of the firms having under stated their earnings before buying out the public shares. However Perry and Williams (1994) in their study of 175 MBOs did find evidence that managers had resorted to increasing the discretionary accruals in the year prior to the year in which the MBO was announced.

The earliest work on earnings management during IPOs was by Aharony, Lin and Loeb (1993). Their study on 229 firms found weak evidence that entrepreneurs resort to income-increasing accruals. There was some evidence that small and highly leveraged firms may resort to earnings management. Friedlan (1994) has focused on the use of accounting information for the valuation of IPOs. In the analysis of 155 US firms that went public between 1981 and 1984, he found evidence that issuers do resort to earnings management. Teoh, Welch and Wong (TWW) (1998) found evidence of earnings management in their sample of 1649 firms. They also found that firms, which aggressively manage their earnings, have poorer performance (returns) than firms, which manage their earnings conservatively. Ball and Shiva Kumar (2006) have contested the results of TWW regarding earnings management. Their main argument is that the firms going for IPO tend to be more conservative than aggressive due to increased disclosure and public scrutiny and therefore they do not indulge in earnings management. They conducted their study on 393 firms going for IPOs in UK and found that firms, which go public, adopt higher quality of financial reporting. They find empirical evidence that increased regulation as well the threat of

shareholder regulation motivates these firms not to engage in earnings management. . Lee and Masulis (2006) conducted their empirical study on 1382 US firms that went to IPOs between 1993 and 2002 and found that reputed under writers restrain earnings management by firms whereas venture companies reputation does not affect earnings management either way. Nagata and Hachiya (2006a) relate earnings management to the IPO offer price. They find evidence amongst 589 Japanese firms that went public from 1989 to 2000 that earnings management leads to a lower offer price by the under writers. This seems to be counter intuitive since the very basis of earnings management during IPOs is to get a higher offer price. However Nagata and Hachiya (2006a) argue that if higher earnings management were to lead to a higher price, then there is a greater probability that the issue might not be fully subscribed and this might damage the under writers reputation. Thus the under writers have incentive to detect earnings management by issuers and give them a lower offer price. However although they do mention about under pricing, they just leave their results by arriving at the offer price and do not look at the first day of trading to measure the degree of under pricing. In another paper, Nagata and Hachiya (2006b) evaluate the competing motives of earnings management-preventing wealth loss and diluting control of the firm. In a sample of 830 firms they find the motive for reducing wealth loss to be dominating over the motive for keeping control of the firm.

### 3. KEY RESEARCH QUESTIONS OF THE PRESENT STUDY

First, this study tries to find whether there exists any evidence of earnings management in India for the firms coming out with IPOs? The studies of earnings management during IPOs have mostly been carried out in the context of the US markets, which have both stronger regulatory mechanisms and faster legal remedies. Some exceptions to these are the studies carried out by Farinos et al and Llorca and Fuentes for Spain and Sun JY for China (SSRN Working papers). However no reputed studies in earnings management are available for the Indian markets. This study would attempt to fill this gap since the Indian capital markets have been greatly transformed after liberalization of the economy in 1992. There has been a sea change in regulation over the years from the times when the IPO prices were decided by the regulator (Controller of Capital Issues, CCI) to the present times when firms are freely allowed to price their offerings. There is a lot more interest in the Indian capital markets now by the foreign investors as India has had one of the fastest growth rates in economy in recent times.

Second, this study tries to find whether earnings management has come down with better regulation? In India, there has been a sharp drop in the companies, which were seeking equity in the 1996-97 versus those going public subsequently. The table below illustrates this-

Table1: Number of firms going public in India in the last ten years

Year	Number of IPOs	Amount mobilized (in crores of Rs)
1995-96	1357	10924
1996-97	717	5959
1997-98	52	1048
1998-99	18	404
1999-2000	51	2719
2000-01	114	2722
2001-02	07	1202
2002-03	06	1039
2003-04	21	3433
2004-05	23	13749

Source- Table 13, Handbook of Statistics, SEBI-2005. Month wise details of issue are available in Table 53 of the Handbook. Figures in column 3 are rounded off to the nearest whole number.

The sharp drop in the number of IPOs in the years 1996-97 and 1997-98 can largely be attributed to stricter entry point norms particularly for green field projects without any track record in seeking public equity<sup>1</sup>. There is a rise in 2000-2001 in the number of IPOs but the total amount mobilized has gone up only marginally. This is because, this period was the time of the IT boom and a large number of small firms particularly in the IT sector were approaching the market. The average amount mobilized by an IPO in this period was only Rs. 40 crores as compared to Rs 84 crores in the previous year.<sup>2</sup> Theoretically small firms approaching the market particularly in times of IT boom have a greater preponderance of resorting to earnings management in accordance with Aharony et al (1993). Hence it is hypothesized in this study that if there is evidence of earnings management in the Indian markets during the times of IPO, then this phenomena should increase in the year 2000-01. In the year 2004-05, a number of bigger firms have approached the market and the average amount mobilized has substantially improved to the tune of about Rs 400 crores per IPO. There have been several mega issues exceeding Rs 1000 crores. These big issues are hypothesized to attract more attention of merchant bankers as well as analysts and hence the incidence of earnings management if any in the Indian markets should go down in the year 2004-05. , Theoretically better regulation as well as development of capital markets resulting in improvement in the quality of auditors and analysts should also bring down incidence of earnings management if any, in the firms going public in consonance with Ball and Shivakumar (2006).

Extant literature on earnings management does not carry out a time series analysis of increase/decrease/no change in the fraction of firms engaging in earnings management over the years presumably because of two reasons-a) most of the countries do not face a transition

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<sup>1</sup> SEBI Annual Report, 1997-98

<sup>2</sup> SEBI Annual Report, 2000-01, pp 71

from a controlled economy to a liberalized economy b) the markets there have reached a stage where there are only marginal changes in regulation rather than path breaking ones as in the context of India. This study attempts to fill this gap in literature.

Third, as discussed earlier, this study tries to find whether earnings management is one of the contributory factors to IPO under pricing? It is clearly established in extant literature that accounting numbers do contribute to IPO valuation as well as under pricing. However the relationship of IPO under pricing with earnings management has not been established. Nagata and Hachiya (2006 a) have not looked at the first day of trading in order to substantiate their predictions about earnings management and under pricing. This study attempts to fill this gap in literature.

## 4. METHODOLOGY

This section describes the hypotheses to be tested, the variables and the estimation model to be used.

### 4.1 Hypotheses

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Following hypotheses would be tested in this study-

a) Ho1- The firms going for Initial Public Offerings (IPOs) in the Indian markets would be resorting to earnings management.

As has been explained earlier the evidence of earnings management from the available literature does not portray a clear picture of earnings management existing as a universal phenomenon across the world. Since the IPO market in India is an important part of the capital markets and invites considerable attention of the investors, it becomes imperative to examine the evidence of earnings management in the Indian context. It is hypothesized that Indian firms are resorting to earnings management because Indian stock markets have been bullish on a secular basis with minor corrections. Most of the IPOs therefore have been over subscribed by investors. Since the firms are likely to get over subscribed even with higher prices, they have incentives to resort to earnings management during the IPO period. Moreover since the legal process in India is time consuming to seek redressal unlike the US markets, firms in India might be resorting to earnings management.

b) Ho2-The firms coming out with IPOs in the Indian markets in the year 2000-01 would have greater incidence of earnings management than the firms coming out with IPOs in 2004-05.

As has been explained earlier the year 2000-01 saw a large number of IT firms approaching the markets. It is hypothesized that these firms would be behaving opportunistically because

of the positive investor sentiment towards IT issues and hence would have a greater propensity for earnings management. By 2004-05, not only had the investor sentiment towards IT issues died down, SEBI had also tightened the norms for firms approaching the markets. More specifically SEBI had laid down that if a firm had changed its name then 50% of the revenue in the last one year should be from the new activity. Besides these SEBI stipulates that a firm approaching the markets for IPO must have net tangible assets of at least Rs 3 crores for 3 years, must have a net worth of at least Rs 1 crore in 3 years and must have distributable profits in at least 3 years.

These regulations are likely to deter firms from approaching the markets opportunistically. Besides, in the year 2004-05 a number of bigger firms, have approached the market and the average amount mobilized has substantially improved to the tune of about Rs 400 crores per IPO. There have been several mega issues exceeding Rs 1000 crores. These big issues are hypothesized to attract more attention of merchant bankers as well as analysts and hence the incidence of earnings management if any in the Indian markets should go down in the year 2004-05. , Theoretically better regulation as well as development of capital markets resulting in improvement in the quality of auditors and analysts should also bring down incidence of earnings management if any, in the firms going public in consonance with Ball and Shivakumar (2006).

c) Ho3-The firms, which engage in earnings management, would face a greater degree of under pricing on the first day of the listing of the firm in the stock markets.

It is hypothesized that those firms which engage in earnings management would be set a lower price by the under writers in accordance with Nagata and Hachiya (2006). Since these firms would have managed earnings and would have low prices as compared to their peers in the industry, investors would be attracted towards their IPOs. Consequently they are likely to

bid on the higher side of the price band as specified in the book built issues. The resulting high demand in the subscription period would result in the offer price being set at the upper limit of the price band. Even after the offer closes, the market perceives that those offers which have been in good demand (as reflected by the offer price being set on the upper side of the price band) are likely to trade at higher prices on the listing day than the offer price. Conversely, investors in those issues whose final offer prices are set at the lower end of the band would have a propensity to sell their shares by perceiving a low demand for the issue. This is likely to drive down the prices of the stock on the listing day and may result in low under pricing or even over pricing. Therefore the degree of under pricing (as reflected by the difference of first day's closing price with respect to the offer price as a percentage of the offer price) is hypothesized to be higher in those firms, which have managed earnings as compared to those firms, which have not managed their earnings.

#### **4.2 Variables and the Estimation Model**

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The main difficulty in estimating earnings management has been in selecting a right proxy for measuring it. This section would review the various methods used in literature and then select the most appropriate out of them keeping the research questions of the study in mind.

Jones (1991) uses total accruals (TA) as a proxy for earnings management. She says that the total accruals are composed of both discretionary accruals (DA) and non-discretionary accruals (NDA). Therefore the change in total accruals can be expressed as the sum of the change in DA and the change in NDA. However she makes the assumption that since the NDA doesn't change over time hence the proxy for Earnings Management is DA. Total accruals TA can be expressed as the difference of change in the non-cash working capital before taxes and the total depreciation expense. Aharony, Lin and Loeb (1993) modify Jones' argument of using total accruals or discretionary accruals as a proxy for earnings



management by assuming constant Non-discretionary accruals (NDA) (this approach has also been used by Healy, 1985 and De Angelo, 1986). They argued that firms going for IPOs experience rapid growth. This may give rise to NDA, which may not be constant over time. Therefore they scale the total accruals in a given period with the average of the total assets in the current and previous period and find its difference with the total accruals of the previous period (scaled as described before). Their logic is that proportion of total accruals to total assets remains unchanged between two consecutive periods. Hence any significant change in this ratio may be due to earnings management. Friedlan (1994) also uses a modification of the De Angelo (1986) model to account for the growth in firms going for the IPO. Thus discretionary accruals are the difference of the ratios of total accruals to sales in period  $t$  vs. period  $t-1$  where  $t$  is the period in which the firm goes for the IPO. The empirical analysis then checks whether these are significantly different from zero.

The method of difference in the accruals from year to year as a measure of Earnings Management as used by De Angelo (1986), Aharony, Lin and Loeb (1993) and Friedlan (1994) might not be suitable for the IPOs because it is very likely that earnings might have started being managed one or two periods before the year of the IPO.

Teoh, Welch and Wong (TWW) (1998) use Discretionary Current Accruals (DCA) as a proxy for earnings management. They calculate DCA as the difference of Current accruals (CA) and the Non-discretionary current accruals (NDCA) where CA and NDCA are themselves estimated using OLS regressions. The DCA is then calculated as a % of the CA. Ball and Shiva Kumar (2006) have contested the results of TWW regarding earnings management. They have given cash flow based models for abnormal accruals and have highlighted the problems of the estimation of discretionary current accruals from the balance sheet data. They mention that discretionary current accruals estimated using balance sheet changes contain substantial noise. However they have not been able to reply to Dechow's

(1994) explanation that around major financing events, earnings provide a better summary major of firm's performance than cash flows, which suffer from severe matching and timing problems. Since IPO is a major financing event and the question that we are interested in investigating is the effect of earnings management if any on under pricing, we adopt the use of balance sheet data rather than cash flows to estimate the discretionary current accruals. The following estimation model as given by Teoh, Welch and Wong (1998) would be used to estimate earnings management-

The Discretionary Current Accruals (DCA) would be used as a proxy for earnings management. In order to estimate DCA for the firm ' i ' going for the IPO in time t which we call  $DCA_{i,t}$  we first estimate total current accruals(CA) and non discretionary current accruals (NDCA) for the firm.

$$CA_{i,t} = \Delta(\text{current assets-cash}) - \Delta(\text{current liabilities-current maturity of long term debt})$$

Where  $\Delta$  represents the change in the variable from the year before the IPO to the year of the IPO.

To estimate NDCA for the firm i going for IPO in time t we first estimate for all the firms in the industry other than the firm i and any other firms which went for IPO in time t the following OLS regression for the expected Current Accruals(CA)-

$$CA_{j,t} / TA_{j,t-1} = a_0 (1/TA_{j,t-1}) + a_1 (\Delta Sales_{j,t} / TA_{j,t-1}) + \epsilon_{j,t}$$

where j is an element of the estimation sample ,  $\Delta Sales$  is the change in sales and  $TA_{j,t-1}$  are the lagged total assets .

Now, having estimated the values of the coefficients  $a_0$  and  $a_1$  which we call  $a_0^{\wedge}$

and  $a_1^{\wedge}$  we now have

$$NDCA_{i,t} = a_0^{\wedge} (1/TA_{i,t-1}) + a_1^{\wedge} (\Delta Sales_{i,t} - \Delta TRI_{i,t} / TA_{i,t-1})$$

where  $\Delta TRI_{i,t}$  is the change in trade receivables in year t for the firm i going for IPO.

The Discretionary Current Accruals (DCA) are then found from the residual,

$$DCA_{i,t} = CA_{j,t} / TA_{j,t-1} - NDCA_{i,t}$$

In Order to estimate the degree of under pricing of a firm which has gone for the IPO, we use-

$$\text{Deg\_Underprice} = (\text{First day closing price} - \text{Offer Price}) * 100 / \text{Offer price}$$

Finally, we estimate the regression equation,

$$\text{Deg\_Underprice}_{i,t} = \alpha + \beta(DCAi, t) + \varepsilon$$

Where  $\varepsilon$  is an error term with zero mean and constant variance and i and t refer to the firm and time respectively. Other variables are as defined previously.

## 5. DATA

This section describes the sources of data and the data analysis plan.

### 5.1 Sources of Data

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The study would be conducted for the period 1st April, 2000 to 31st March, 2005 (five financial years) for all the firms which were listed in the National Stock Exchange (NSE) during this period. This is likely to give 171 firms for the purpose of our study. All the firms would be taken to avoid any selection bias considering that the primary research question is the estimation of earnings management and its association with the first day under pricing. NSE is chosen for the purpose of this study because it is a fully demutualized exchange as compared to the Bombay Stock Exchange (BSE), which is not demutualized. Moreover NSE is the largest exchange in the country in terms of trading volumes. In 2003-04 it reported a turnover of Rs.1099, 535 crores in the equities segment alone, besides the trading in the derivatives segment where the BSE does not have much volumes.<sup>3</sup> The data from NSE would be taken from <http://www/nse-india.com/>. It would give the issue size (in lakhs of shares), price band for the book built offers, the final offer price and the date of listing on the NSE. In order to preserve the reliability of the data, the final offer documents filed by the firms with the Securities and Exchange Board of India (SEBI) would be obtained from the web site of SEBI <http://www/sebi.gov.in/>. The financial statements obtained from these offer documents would provide us with details of sales, total assets, current assets, current liabilities and trade receivables of the firms which are going public. Besides this, the financial information of the other firms in the same industry would be obtained from the annual reports of the firms in the Asian CERC database. The third source of data would be the “bhavcopy”

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<sup>3</sup> <http://www/nse-india.com/>

records of the NSE available at <http://www/nse-india.com/>. This would yield the prices of the firms on the first day of listing and would be useful in estimating the degree of under pricing. The data so obtained would need to be cleaned up. The firms whose financial statements are incomplete would need to be excluded. Similarly those firms who have discontinued a line of business during our period of estimation or have changed their year-end would also need to be excluded. Moreover we will need to exclude firms who do not have listed firms in the same industry because our estimation model is built to compare industry wide accruals with the firm specific accruals.

## 5.2 Data Analysis Plan

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The data analysis can only begin after we classify the firms industry wise. For this purpose, the industry groupings would be done according to the industry-grouping scheme of Asian CERC/PROWESS. This will allow us to run the OLS regressions as specified in our model and estimate Discretionary Current Accruals (DCA) for the IPO as well as the non-IPO years. We will estimate the descriptive statistics for the firms in terms of their market value, book value, total assets, sales, age and listing premium.

Since we are using DCA as a measure of the earnings measurement, we will first find whether the difference of mean value of DCA over the IPO and the non-IPO years and across the firms are significantly different from zero using statistical tests. This would lead to the corroboration or negation of the first null hypothesis. We would then compare the mean DCA in the year 2000-01 with those of 2004-05 to find out whether the two have significantly different means. This would test our second hypothesis. In order to test the third hypothesis, we would first calculate the degree of under pricing of a given firm as:

$\text{Deg\_Underprice} = (\text{First day closing price} - \text{Offer Price}) * 100 / \text{Offer price}$

As per our hypothesis, there should be high correlation between Deg\_Underprice and the DCA. Hence we would first divide all firms into quartiles based on their DCA. Now we shall observe the degree of under pricing for each of the firms with respect to each of the quartiles. As per our hypothesis, the firms in the high quartiles of the DCA should exhibit greater degree of under pricing as compared to firms in the lower quartiles. This would further be exemplified by the regression model described earlier.

## 6. CONCLUSION

The proposal for this study is targeted towards understanding whether the huge investor response to IPO issues in recent times is impacted by the opportunistic behavior of the issuers of the IPOs. It therefore has implications for the investors who might like to appropriately discount the prices that would like to offer for any evidence of earnings management by the issuers. This study proposal is also important from the point of view of contribution to the theories of under pricing of the IPOs. The extant theories of under pricing have not attributed earnings management as one of the factors contributing to under pricing and the results of this study are expected to contribute to this gap in literature. Finally, the research proposal has implications on the measurement of the efficacy of regulation since it hypothesizes that better regulation brings down the incidence of earnings management.

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## Appendix A

### Methods of Earnings Management

Earnings can be manipulated because of the discretion available to managers for alternative treatments of accounting events. Some of these methods (this is not an exhaustive list) are enumerated below-

1. Accounting Method Choice- In order to increase reported income, managers can delay the recognition of expenses and advance the recognition of revenues. As an example, when the input prices are falling, then the Last In First Out (LIFO) method of inventory valuation results in a lower cost of goods sold and higher earnings. Similarly the choice of a Straight Line Method (SLM) of depreciation over the Accelerated Depreciation Method results in lower depreciation expenses and higher earnings.
2. Discretionary Estimates- Managers have discretion in their estimates of various accounting provisions like lives of assets, provision of bad debts, interest rates to be applied for pension accounting besides others. In 1986, this helped General Motors to overstate their earnings by about \$195 million because they estimated a higher expected return from their pension assets and therefore reduced the amount that the firm was expected to contribute to the pension fund in the current and subsequent years.<sup>4</sup>
3. Classification of events- Managers may classify almost a certain liability as “contingent” and thus avoid recognition of this liability in the income statement. Similarly an indirect cost can be classified as a product cost rather than period expense to avoid reporting in the income statement.

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<sup>4</sup> Page 661, Grinblat and Titman- Financial Markets and Corporate Strategy, 2<sup>nd</sup> edition, Tata McGraw-Hill