

Управління доходами: найкраща модель в Індії

Фінансова звітність - це спосіб передачі економічної інформації про корпорацію керівникам різних рівнів, що приймають управлінські рішення. Відповідальність за підготовку та надання цієї бухгалтерської інформації лежить на керівництві фірми. Враховуючи інформаційну асиметрію між менеджерами і зовнішніми користувачами, менеджери можуть використовувати її на свій розсуд і в своїх власних інтересах при підготовці та поданні бухгалтерської інформації. Як емпірично, так і іншими способами було доведено, що менеджери використовують інформаційну асиметрію в бухгалтерських підрахунках на свій розсуд для досягнення заданої мети. Ця практика широко відома як управління доходами. В даній статті здійснено аналіз практики управління доходами в досліджуваних індійських корпораціях і проведено їх поділ на категорії за інтенсивністю свободи дій, що практикується у фінансовій бухгалтерії. Досліджено використання трьох найбільш відомих моделей управління доходами за період з 2007 по 2011 рр. для того, щоб визначити найкращу модель для розвитку компаній в Індії. Справа в тому, що ці моделі спочатку використовувались на заході. Як свідчать результати проведеного автором аналізу, найбільш доречною для досліджуваних індійських компаній є модель Healy.

Ключові слова: управління доходами, дискреційні накопичення, операційні грошові потоки, прибуток після оподаткування, акціонери.

Управления доходами: лучшая модель в Индии

Финансовая отчетность – это способ передачи экономической информации о корпорации различным принимающим решения руководителям. Ответственность за подготовку и предоставление этой бухгалтерской информации лежит на руководстве фирмы. Принимая во внимание информационную асимметрию между менеджерами и внешними пользователями, менеджеры могут использовать ее по своему усмотрению и в своих собственных интересах при подготовке и представлении бухгалтерской информации. Было доказано, как эмпирически, так и другими способами, что менеджеры используют ее в бухгалтерских подсчетах по своему усмотрению для достижения заданной цели. Эта практика широко известна как управление доходами. Данная статья приводит анализ практики управления доходами в выбранных индийских корпорациях и разделение их на категории по интенсивности свободы действий, практикующейся в финансовой бухгалтерии. Три наиболее известные модели управления доходами были использованы в данном процессе за период с 2007 по 2011 гг. для того, чтобы определить наилучшую модель для развития компаний Индии. Дело в том, что эти модели сначала были использованы на западе. Как свидетельствуют результаты проведенного автором анализа, наиболее уместной для изучаемых индийских компаний является модель Healy.

Ключевые слова: управление доходами, дискреционные накопления, операционные денежные потоки, прибыль после уплаты налога, акционеры.

Detection of Earnings Management: The Best Fit Model in India

Financial reporting is the communication of economic information of a corporate to various decision makers. The responsibility for preparing and furnishing this accounting information lies with the firms' managers. On account of information asymmetry between managers and external users, it allows managers to use their discretion in preparing and reporting accounting information for their own advantage. It has been proved both empirically and otherwise that managers use their discretion in accounting numbers for meeting a predetermined target. This practice is commonly known as earnings management. This study analyses the earnings management practices in select corporate enterprises in India and contributes by categorizing them by intensity of discretion exercised in financial accounting. Three major

earnings management models have been used in this process for a period from 2007 to 2011 in order to find out the best fit model in Indian perspective. The reason being is these models have been primarily used in west. After data analysis, Healy model emerges as the most consistent model for these companies.

Keywords: *earnings management, discretionary accruals, earnings management, operating cash flows, profit after tax, shareholders.*

INTRODUCTION

Human greed is universal and in every walk of life. In corporate, it assumes the shape of earnings management. Earnings management is designing of earnings as per the discretion of the management to meet a specific objective. Earnings management may be undertaken by

entities with a view to managing impressions of the entity and achieve basic incentives for managing debt contracts, compensation agreements, equity offerings or/ and insider trading. The summary of studies confirming to various motives for earnings management are presented in table 1 below.

Table 1: Summary of Earnings Management Objectives

Objectives	Contexts	Examples
Minimization of political costs	Inquiries or surveillance by regulatory bodies Environmental regulation Minimizing income tax Negotiation: labor contract	Jones [1991]; Ray burn and Lenway [1992]; US International Trade Commission; Cahan [1992]; Anti-Trust Division of the Ministry of Justice; Key [1997]: cable television industry during periods of Congressional scrutiny; Makar and Pervaiz [1998]: antitrust investigations; Magnan, Nadeau and Cormier [1999]: anti-dumping complaints Cahan, Chavis and Elemendorf [1997]; Labelle and Thibault [1998] Warfield and Linsmeir [1992]; Boynton <i>et al.</i> [1992]; Guenther [1994]; Maydew [1997] Liberty and Zimmerman [1986]
Minimization of the cost of capital	IPO's Renewal of debt contracts and financial distress Violation of debt covenants and restrictions on dividend payments	Aharony <i>et al.</i> [1993]; Friedlan [1994]; Teoh <i>et al.</i> [1994]; Cormier et Magnan [1995]; Magnan et Cormier [1997] DeAngelo <i>et al.</i> [1994]; Sweeney [1994]; DeFond and Jambalvo [1994] McNichols and Wilson [1988]; Press and Weintrop [1990]; Healy and Palepu [1990]; Beneish and Press [1993]; Hall [1994]
Maximization of managers wealth	Maximizing short term total compensation Changing of control Non routine CEO changes	Healy [1985]; Holthausen <i>et al.</i> [1995]; Gaver <i>et al.</i> [1995]; Clinch and Margliolo [1993] DeAngelo [1986]; Perry and Williams [1994]; DeAngelo [1988] Murphy and Zimmerman [1993]; Pourciau [1993]; Dechow and Sloan [1991]

Source: Herve Stolowy, Gaetan Breton (2008), A framework for the classification of accounts manipulations.

The corporate scandals involving Satyam of 2008 and past cases of Enron, WorldCom, Global Crossing have raised a question mark on the integrity of financial statements. After these accounting scandals, public confidence in the accounting profession has been seriously affected. Therefore, it is imperative to detect these frauds and prevent them before they occur.

Earnings management is exercised through managing accruals, being more open to discretion than cash flows. In earnings management research, total accruals are usually divided into two parts, discretionary accruals and nondiscretionary accruals, of which the discretionary accruals is the proxy for earnings management. Discretionary accruals are not closely related to these economic circumstances of the firm relatively to non-discretionary accruals. Discretionary accruals cannot be observed directly from financial statements, they are calculated using a detection model.

Earnings management is an important accounting

issue for academics and practitioners alike. The present study identifies earnings management in Indian corporate enterprises with the help of various techniques for detecting earnings management. There are various models existing in the literature to detect these manipulative corporate practices. But, they all have been used outside India, especially in developed countries. The present paper tries to find out the suitability of these models in the Indian perspective. This has important implications for different participants in the financial markets - investors, regulators, auditors, financial institutions, academia and the business firms themselves.

It contributes to the literature by increasing the understanding about earnings management in Indian context, which has not been explored in real sense in the region. It arguably benefits investors in assessing the reliability of companies' financial statements for investment opportunities. It would also be of great help to regulators in detecting and preventing these practices by

using the most suitable model for Indian enterprises. Though we all are in the era of IFRS now, but still accounting practices in India at a specific level are different from US and Europe and these earnings management models have been mainly used in those countries.

LITERATURE REVIEW

Definition The definition of earnings management agrees on a point that managerial intent is a prerequisite for earnings management. Judgment in financial reporting that fits under the earnings management definition mainly includes estimation of the economic life time of long term assets, losses from bad debts and asset impairments and choices between the accounting methods and others.

Earnings management is the practice of using tricks in order to misrepresent/ reduce transparency of the financial reports, (Schipper, 1989), (Levitt, 1998), (Healey and Wahlen, 1999).

Earnings management occurs when Managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy and Wahlen, 1999).

Earnings management has been considered an integral part of every top manager’s job. But when managers smooth earnings to meet market projections, they’re not creating value for the firm; they’re both lying and making

poor decisions that destroy value (Jensen, 2004).

Accruals management & detection

Detection of earning management is largely done through discretionary accruals. Discretionary accruals are used as a proxy for earnings management. The early studies on the topic tested the connection between managerial incentives and choices of different accounting methods (Watts and Zimmerman, 1978). (Healy, 1985) was the first to test for managerial incentives by using accruals. (Dechow et al., 1995) provides a considerable amount of research on methods to detect accruals management. Identifying earnings management is one of main challenges for both researchers and practitioners (Dechow et al., 2012). One widely used method is to isolate discretionary and non-discretionary accruals as a good earnings management detection model.

There are many studies which have used unexpected accruals as a proxy for earnings management. (Teoh, Wong, and Rao, 1998) examine depreciation estimates and bad debt provisions surrounding initial public offers. They find that, relative to a matched sample of non-IPO firms, sample firms are more likely to have income-increasing depreciation policies and bad debt allowances in the IPO year and for several subsequent years. A summary of measures of discretionary accruals is summarized in the table 2 below.

Table 2: Discretionary accrual measures

Authors	Measure of the discretionary accruals
Healy [1985]	Non discretionary accruals are estimated by a mean value over a certain period
DeAngelo [1986]	Total accruals
Dechow and Sloan [1991]	Non discretionary accruals are measure by the mean of the industry sector
Jones [1991]	Non discretionary accruals take into accounts the growth in revenues and fixed assets by standardizing by total assets at the beginning
Friedlan [1994]	DeAngelo's model standardized by sales
Robb [1998]	Loan loss provision
Francis, Maydew and Sparks [1999]	Average discretionary accruals: difference between total accruals and estimated nondiscretionary accruals
Navissi [1999]	Total accruals

Source: Herve Stolowy, Gaetan Breton (2008), A framework for the classification of accounts manipulations.

A large body of academic research examines earnings management for detection and consequences. A major limitation of this research is that existing techniques for measuring earnings management were mainly devised keeping in view the developed nations. They might be misspecified in a country like India. In India, there have not been many research studies on the said topic except (Goel, 2012). His study evaluates the implications of discretionary accruals for earnings management in the Indian corporate enterprises and indicates that there is presence of accrual management in the units, major on a higher side.

Therefore, the present study attempts to determine the most suitable detection model for earnings management in Indian corporate enterprises out of three widely used models, viz. the Healy model, the DeAngleo

model and the Jones model (Dechow et al., 1995).

OBJECTIVE OF THE STUDY

The main aim of the study is to review and analyze the earnings management practices of corporate enterprises in India. The study specifically aims at the following:

- To examine the magnitude of discretionary accruals in regard to potential earnings management.
- To highlight the major areas of concern in earnings management in these undertakings for their future viability.
- To determine the best suitable model for detecting earnings management in Indian context.

THE RESEARCH DESIGN

Sample

The present study covers the listed companies in India. Keeping in view the differences in the objectives and functions of these companies, the present research would concentrate on only the companies in the private sector.

The enterprises have been chosen on the basis of their performance in terms of Turnover as per Economic Times - Top companies' survey 2011, on select basis. The top thirty corporate enterprises were considered for the sample. Two criteria were used for the selection of the companies in the final sample. First, the enterprises should be in the private sector. Second, its accounting and market data, both were available for the study. Of these companies, fifteen met the sampling requirement. A list of these companies appears in appendix I.

Period of the study

The period covered in the present research study is of five years, ranging from 2007 to 2011. It has been taken as it was reasonably a good period to analyze the expected impact of the market conditions pre and post global recession on increasing firms' incentive to manage earnings.

Data used

For the purpose of the present study, the main data used is secondary in nature, keeping in view the nature of the study. The study employs both accounting and market data, taken from Capitaline database.

Tools / techniques used

As mentioned earlier, discretionary accruals cannot be observed directly from financial statements, they have to be estimated using earnings management model. In the present discussion, earnings management models, developed specifically for detecting earnings management, have been used. They include the Healy model, the DeAngelo model and the Jones model. There are modified variants of these models proposed by different researchers; however we are keeping the basic models for studying the Indian corporate scenario due to their universal nature and suitability for Indian context.

The data analyzed has been well supported by various statistical techniques of descriptive statistics, viz. arithmetic mean, standard deviation and coefficient of variation. Coefficient of variation has been particularly used to find out the degree of persistency of the model.

Discretionary accrual models involve first the computation of total accruals. The cash flow approach has been adopted here; this approach calculates accruals directly from cash flow statement as suggested by Collins and Hribar (1999).

$$Ta = NI - CFO$$

Where,

TA is the total accrual

NI is the net earnings of the business

CFO is the operating cash flows

1. The Healy Model (1985)

It is one of the earliest discretionary accrual models which uses mean of total accruals scaled by lagged total assets from the estimation period as the measure of relevant accruals. This implies the following model for discretionary accruals:

$$DAC_{i,t} = \frac{TA_{i,t}}{A_{i,t-1}}$$

Where,

DAC_{i,t} is discretionary accruals for firm i in period t, TA_{i,t} and A_{i,t-1} is total accruals and total assets for period t and t-1 for firm i.

2. The DeAngelo Model (1986)

The discretionary portion of accruals in the DeAngelo model is the difference between total accruals in the event year t scaled by total assets (A_{t-1}) and nondiscretionary accruals (NDA_t). The measure of nondiscretionary accruals (NDA_t) rests on last period's total accruals (TA_{t-1}). In other words:

$$DAC_{i,t} = \frac{(TA_{i,t} - TA_{i,t-1})}{A_{i,t-1}}$$

Where,

DAC_{i,t} is discretionary accruals for firm i in period t, TA_{i,t} and A_{i,t-1} is total accruals and total assets for period t and t-1 for firm i.

3. The Jones Model (1991)

Jennifer Jones' model attempts to control for the effects of changes in a firm's economic circumstances on non-discretionary accruals. She indicates that changes in total assets, gross revenue, and gross property plant and equipment (PPE) are the determinants of non-discretionary accruals. The idea of the Jones (1991) model is that sales revenue proxies for the economic events that generate current non-discretionary accruals, while gross PPE controls for non-discretionary accruals related to depreciation expense. Thus the Jones (1991) model is based on two key assumptions. Firstly, sales revenue is assumed to be unmanaged. Secondly, changes in current assets and liabilities are assumed to be driven by changes in sales revenue. It is expressed as:

$$DAC_{i,t} = \frac{TA_{i,t}}{A_{i,t-1}} - \left[\hat{\beta}_{0,i} \frac{1}{A_{i,t-1}} + \hat{\beta}_{1,i} \frac{\Delta REV}{A_{i,t-1}} + \hat{\beta}_{2,i} \frac{PPE_{i,t}}{A_{i,t-1}} \right]$$

Where,

REV_{i,t} is change in sales from period t-1 to t for firm i,

PPE_{i,t} is gross property, plant and equipment,

ε_{i,t} is the error term for firm i in year t, and

β is the beta value.

RESULTS AND DISCUSSION

The discretionary accruals for the companies under study, using the specified models, are given in tables 3, 4 and 5.

Table 3: DAC_{i,t} of the Sample Companies - Healy Model

		2007	2008	2009	2010	2011	Average
1.	Reliance Industries Ltd.	1.31	1.23	0.99	1.01	1.16	1.14
2.	Tata Motors Ltd.	3.50	2.01	3.39	2.10	2.59	2.72
3.	Tata Steel Ltd.	1.51	3.18	1.47	1.05	1.52	1.75
4.	Hindalco Industries Ltd.	0.97	1.06	2.51	1.17	1.27	1.40
5.	Bharti Airtel Ltd.	0.71	0.84	0.89	0.75	0.61	0.76
6.	Larsen & Toubro Ltd.	2.26	2.04	1.69	1.15	1.07	1.64
7.	Maruti Suzuki India Ltd.	2.15	2.27	2.11	2.68	2.65	2.37
8.	Tata Consultancy Services Ltd.	2.46	2.03	1.75	1.39	1.65	1.86
9.	Mahindra & Mahindra Ltd.	1.85	1.68	1.23	1.28	1.41	1.49
10.	Sterlite Industries (India) Ltd.	1.53	1.10	0.53	0.56	0.51	0.84
11.	Wipro Ltd.	1.88	1.82	1.40	1.17	1.13	1.48
12.	Infosys Ltd.	1.53	1.18	1.25	0.96	1.04	1.19
13.	ITC Ltd.	1.16	1.12	1.09	1.05	1.22	1.13
14.	Grasim Industries Ltd.	1.27	1.16	0.95	0.84	0.85	1.01
15.	Hindustan Unilever Ltd.	5.14	4.73	12.09	5.74	7.02	6.94

Table 4: DAC_{i,t} of the Sample Companies - DeAngelo Model

		2007	2008	2009	2010	2011	Average
1.	Reliance Industries Ltd.	0.30	0.30	0.07	0.31	0.19	0.23
2.	Tata Motors Ltd.	1.00	-0.21	1.91	0.40	0.61	0.74
3.	Tata Steel Ltd.	0.29	2.66	0.04	-0.42	0.32	0.58
4.	Hindalco Industries Ltd.	0.27	0.29	1.76	0.08	-0.04	0.47
5.	Bharti Airtel Ltd.	0.22	0.27	0.29	0.28	0.06	0.22
6.	Larsen & Toubro Ltd.	0.44	0.66	0.50	0.00	0.20	0.36
7.	Maruti Suzuki India Ltd.	0.32	0.52	0.29	0.72	0.54	0.48
8.	Tata Consultancy Services Ltd.	0.73	0.42	0.25	0.02	0.44	0.37
9.	Mahindra & Mahindra Ltd.	0.50	0.41	-0.05	0.24	0.34	0.29
10.	Sterlite Industries (India) Ltd.	0.63	0.01	-0.08	0.12	0.10	0.16
11.	Wipro Ltd.	0.56	0.56	0.28	-0.01	0.21	0.32
12.	Infosys Ltd.	0.49	0.22	0.29	0.02	0.28	0.26
13.	ITC Ltd.	0.25	0.12	0.12	0.10	0.19	0.15
14.	Grasim Industries Ltd.	0.32	0.23	0.06	0.04	0.12	0.15
15.	Hindustan Unilever Ltd.	0.82	0.40	4.13	-1.83	1.52	1.01

Table 5: DAC_{i,t} of the Sample Companies - Jones Model

		2007	2008	2009	2010	2011	Average
1.	Reliance Industries Ltd.	-0.03	0.15	-0.02	-0.15	0.07	0.00
2.	Tata Motors Ltd.	1.68	1.25	-1.18	0.06	0.27	0.42
3.	Tata Steel Ltd.	0.09	-0.04	0.20	-0.17	-0.04	0.01
4.	Hindalco Industries Ltd.	-0.34	0.08	0.02	0.11	0.15	0.00
5.	Bharti Airtel Ltd.	-0.03	0.04	-0.02	-0.01	0.02	0.00
6.	Larsen & Toubro Ltd.	0.11	-0.01	-0.07	0.08	-0.16	-0.01
7.	Maruti Suzuki India Ltd.	-0.11	-0.13	0.01	-0.07	0.32	0.00
8.	Tata Consultancy Services Ltd.	-0.01	0.22	-0.12	0.09	-0.16	0.01
9.	Mahindra & Mahindra Ltd.	0.00	0.02	0.44	0.14	-0.36	0.05
10.	Sterlite Industries (India) Ltd.	0.03	0.15	0.02	-0.08	-0.23	-0.02
11.	Wipro Ltd.	0.18	-0.22	-0.08	0.19	0.03	0.02
12.	Infosys Ltd.	-0.03	0.02	0.03	-0.04	0.05	0.00
13.	ITC Ltd.	0.00	0.04	-0.01	-0.01	-0.01	0.00
14.	Grasim Industries Ltd.	-0.07	0.11	0.01	0.00	-0.04	0.00
15.	Hindustan Unilever Ltd.	-0.87	-0.13	0.58	0.86	-0.79	-0.07

Discretionary accruals' trend indicates income-accrual management exercised by a company. A negative trend indicates income-decreasing accrual decisions by the management and vice-versa. An examination of above tables shows a definite presence of accrual management in all the sample companies. In the present case, earnings management is visible according to both

Healy and DeAngelo model. Jones model presents a slightly different picture in few cases, like negative accruals in case of Reliance and negligible accruals in case of Infosys, ITC and Grasim but it verifies the accruals management in the units.

The means, standard deviation, and coefficients of variation of these indicators are presented in tables 6, 7 & 8.

Table 6: Mean, Std. Dev. and CV of DAC_{i,t} for Healy Model

S. no.	Company	Healy Model		
		Mean	Std. Dev.	CV
1	Hindustan Unilever Ltd.	6.94	3.01	0.43
2	Tata Motors Ltd.	2.72	0.70	0.26
3	Maruti Suzuki India Ltd.	2.37	0.27	0.11
4	Tata Consultancy Services Ltd.	1.86	0.41	0.22
5	Tata Steel Ltd.	1.75	0.82	0.47
6	Larsen & Toubro Ltd.	1.64	0.53	0.32
7	Mahindra & Mahindra Ltd.	1.49	0.27	0.18
8	Wipro Ltd.	1.48	0.35	0.24
9	Hindalco Industries Ltd.	1.40	0.64	0.45
10	Infosys Ltd.	1.19	0.22	0.18
11	Reliance Industries Ltd.	1.14	0.14	0.12
12	ITC Ltd.	1.13	0.06	0.06
13	Grasim Industries Ltd.	1.01	0.19	0.19
14	Sterlite Industries (India) Ltd.	0.84	0.45	0.54
15	Bharti Airtel Ltd.	0.76	0.11	0.14

Table 7: Mean, Std. Dev. and CV of DAC_{i,t} for DeAngelo Model

S. no.	Company	DE Angelo Model		
		Mean	Std. Dev.	CV
1	Hindustan Unilever Ltd.	1.01	2.15	2.13
2	Tata Motors Ltd.	0.74	0.79	1.06
3	Maruti Suzuki India Ltd.	0.48	0.17	0.37
4	Tata Consultancy Services Ltd.	0.37	0.26	0.71
5	Tata Steel Ltd.	0.58	1.20	2.08
6	Larsen & Toubro Ltd.	0.36	0.26	0.72
7	Mahindra & Mahindra Ltd.	0.29	0.21	0.73
8	Wipro Ltd.	0.32	0.24	0.75
9	Hindalco Industries Ltd.	0.47	0.73	1.55
10	Infosys Ltd.	0.26	0.17	0.65
11	Reliance Industries Ltd.	0.23	0.10	0.45
12	ITC Ltd.	0.15	0.06	0.41
13	Grasim Industries Ltd.	0.15	0.12	0.78
14	Sterlite Industries (India) Ltd.	0.16	0.27	1.75
15	Bharti Airtel Ltd.	0.22	0.10	0.43

Table 8: Mean, Std. Dev. and CV of DAC_{i,t} for Jones Model

S. no.	Company	Jones Model		
		Mean	Std. Dev.	CV
1	Hindustan Unilever Ltd.	-0.069	0.78	-11.25
2	Tata Motors Ltd.	0.416	1.12	2.69
3	Maruti Suzuki India Ltd.	0.005	0.19	37.90
4	Tata Consultancy Services Ltd.	0.005	0.16	30.23
5	Tata Steel Ltd.	0.008	0.14	17.91
6	Larsen & Toubro Ltd.	-0.011	0.11	-10.31
7	Mahindra & Mahindra Ltd.	0.047	0.29	6.13
8	Wipro Ltd.	0.020	0.17	8.66
9	Hindalco Industries Ltd.	0.004	0.20	53.44
10	Infosys Ltd.	0.004	0.04	10.40
11	Reliance Industries Ltd.	0.004	0.11	31.43
12	ITC Ltd.	0.000	0.02	68.61
13	Grasim Industries Ltd.	0.003	0.07	25.72
14	Sterlite Industries (India) Ltd.	-0.019	0.14	-7.36
15	Bharti Airtel Ltd.	0.001	0.03	56.11

The above tables show the distributions of the coefficients of variation of discretionary accruals. They indicate CV values for Healy model are the least; suggesting less variability in the results. For DeAngelo Model, the CV value for each company is more than CV

value for Healy model; suggesting higher degree of dispersion in discretionary accruals.

The degree of variation, i.e. CV is the highest in Jones model; inferring that the Jones model is providing highly inconsistent results across the yearly data of the companies studied.

So, it is clear that for all the companies the Coefficient of Variation (CV) is lowest for the Healy model; indicating lowest variability and highest reliability.

With reference to the Healy model which has emerged as the most consistent model in Indian context, we can categorize the companies on the basis of mean value of DAC_{i,t} into following three categories.

1. Aggressively manipulative companies.
2. Moderately manipulative companies.
3. Consistent companies.

The categorization is given in the tables 9, 10 & 11.

Table 9: Aggressively manipulative companies

Company	Mean
Hindustan Unilever Ltd.	6.94
Tata Motors Ltd.	2.72
Maruti Suzuki India Ltd.	2.37
Tata Consultancy Services Ltd.	1.86
Tata Steel Ltd.	1.75

Table 10: Moderately Manipulative companies

Company	Mean
Larsen & Toubro Ltd.	1.64
Mahindra & Mahindra Ltd.	1.49
Wipro Ltd.	1.48
Hindalco Industries Ltd.	1.40

Table 11: Consistent Companies

Company	Mean
Infosys Ltd.	1.19
Reliance Industries Ltd.	1.14
ITC Ltd.	1.13
Grasim Industries Ltd.	1.01
Sterlite Industries (India) Ltd.	0.84
Bharti Airtel Ltd.	0.76

CONCLUSION

Prior research in the field of earnings management detection has resulted into a number of proposed models; however most of the models are based on the disclosure of accounting data as per US GAAP. Healy, De Angelo and Jones model are used in this study for Indian companies using Indian accounting standards, being most widely referred to models. Healy model and De-Angelo model when applied to accounting data of Indian companies showed the income increasing discretionary accruals from the period of 2007-2011 across all the fifteen companies studied. Jones model showed the presence of income decreasing discretionary accruals in some of the years.

Since the coefficient of variation (as a measure of variability) was highest for Jones model and relatively higher for De-Angelo Model, so both the models can be inferred to be providing inconsistent results. Thus, Healy model with the lowest variation emerges as the most consistent and relevant model in Indian context. The DeAngelo model can be viewed as a special case of the Healy model in which the estimation period for non-discretionary accruals is restricted to previous year observations. Dechow, 1995 suggests that the DeAngelo model is more appropriate to be used when discretionary accruals follow a random walk. This makes the Healy

model all the more appropriate and persistent in the Indian context.

LIMITATIONS OF THE STUDY

The limitations of this study could be categorized as under:

The present study was confined to only top fifteen revenue generation corporate enterprises in the private sector in India, leaving all other enterprises.

Earnings management scope can be further examined, apart from discretionary accruals' behaviour, for other parameters in the light of growing investors' awareness about accrual reported numbers.

The models applied in the present study are undoubtedly widely used but the possibility of their inherent limitations cannot be ruled out.

So, continuing efforts are needed to bring out the adversities about earnings manipulation and its impact on financial information at corporate level.

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