

Investor Protection and Cash Flow Misclassification

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ABSTRACT

Research Question/Issue: We analyze whether cash flow misclassification is likely to be higher in the countries with weak investor protection. We also test whether managers use different strategies to misclassify cash flows.

Research Findings/Insights: We focus on an emerging market, India, which is characterized by weak corporate governance and investor protection, and the United States and present evidence that the magnitude of cash flow misclassification is higher for the firms in India. Further, Indian firms in financial distress are more likely to manipulate operating cash flows as compared to the financially distressed firms in the United States by engaging in such misclassification. Managers manipulate operating cash flows by shifting operating cash outflows to investing and financing cash outflows, and investing and financing cash inflows to operating cash inflows.

Theoretical/Academic Implications: We present first evidence that the magnitude of cash flow manipulation through misclassification is associated with weak investor protection and governance. We also present an improved methodology to capture the strategies for such misclassification.

Practitioner/Policy Implications: Our results indicate that cash flows are as prone to manipulation and misclassification as the earnings. These may be useful to regulators and auditors in India and other countries with weak investor protection, where they need to monitor the cash flow reporting closely.

Keywords: Corporate Governance, Cash Flow Manipulation, Classification Shifting, Operating Cash Flows, Distress

INTRODUCTION

The literature on misclassification of items in the financial statements is growing. Managers inflate core or operating earnings by shifting operating expenses to income-decreasing special items in the income statement (McVay, 2006; Fan et al., 2010; Cain et al., 2012). Capital market incentives like meeting or beating earnings benchmarks motivate managers to indulge in these manipulation tactics (McVay, 2006; Fan et al., 2010; Athanasakou et al., 2011).

Although the biggest accounting frauds we have witnessed primarily involve earnings manipulation, existing evidence also suggests that managers even manipulate operating cash flows. In the United States, several firms (Dynergy, Worldcom, HealthSouth, etc.) have been accused of manipulating cash flows and engaging in the misclassification in the cash flow statement (Mulford and Comiskey, 2005).

The empirical evidence is in agreement with the real life evidence. Zhang (2006) finds that cash flow manipulation is more likely when magnitude of accruals is high; firms are capital intensive, and when firms consider cash dividend target important. Hollie et al. (2011) discuss that firms overstate operating cash flows through classification shifting, and such misclassification is more prevalent in retail and financial sectors.

Using a small sample of cash flow restatement firms, Lee (2012) finds that firms are more likely to upward manage operating cash flows through classification shifting in the cash flow statement when these are in financial distress, have long-term credit rating near the investment/non-investment grade cut-off, have analysts' cash flow forecasts, and there is higher association

between firm's stock returns and its cash flow from operations. Her study shows that managers' incentives drive them to misclassify cash flows. But it is not known whether such misclassification is common in the United States or elsewhere. Further, there is no evidence on which cash flows are misclassified, how these are misclassified, and how much is the misclassification.

In this paper, we extend the literature on classification shifting in the cash flow statement and present large-sample evidence from an emerging market, India. Use of Indian data provides an interesting setting as the country is characterized by weak corporate governance and investor protection (Narayanaswamy et al., 2012) and the presence of family firms and controlling shareholders. Further, unlike the United States it is uncommon to see Indian firms being caught proactively for the accounting wrongdoings. Hence, there haven't been cases where firms have been caught by the regulator and forced to restate cash flows.

We present evidence that the managers of Indian firms manipulate operating cash flows by shifting operating cash outflows to investing and financing cash outflows and by shifting investing and financing cash inflows to operating cash inflows. Our findings suggest that on average an Indian firm inflates approximately Indian National Rupees (INR) 260 million (US\$ 4.33 million)¹ worth of operating cash flows every year. We also examine the use of classification shifting in a specific setting – financial distress, and find that the managers of Indian firms in financial distress are more likely to manipulate operating cash flows through misclassification of cash flows.

We also hypothesize and find that the magnitude of such misclassification in the cash flow statement is higher for the firms in India as compared to those in the United States. This is also true for the financially distressed firms in India, which are more likely to misclassify cash flows. Weaker corporate governance and less regulatory oversight seem to be leading us to these findings.

Overall, this paper contributes to the existing literature on classification shifting in two ways. First, we indirectly relate corporate governance and investor protection with the cash flow manipulation and show that such manipulation is likely to be higher in the countries with weaker investor protection (like India). Second, we present evidence that managers misclassify cash flows using different strategies.

In the next section, we discuss firms' cash flow misclassification strategies. Subsequently, we discuss the motivation for this study and our hypotheses. Section four details the research design. In section five, we discuss sample selection and descriptive statistics. Section six contains results and Section seven concludes the study.

MISCLASSIFICATION OF CASH FLOWS

In order to inflate operating cash flows, managers can shift investing cash inflows to operating cash inflows. Nautica Enterprises Inc. took advantage of flexibility in the Generally Accepted Accounting Principles (GAAP) and classified proceeds from sale of 'available-for-sale' securities as operating cash inflows rather than investing cash inflows (Mulford and Comiskey, 2005). Since proceeds from sale of only 'trading' securities can be classified as operating cash

inflows, the company first changed the classification of securities from ‘available-for-sale’ to ‘trading’.² Enron Corporation once used loan proceeds to purchase treasury securities. Later, it sold these securities, and repaid the loan using sales proceeds. Though, there was no impact on financing and total cash flows, operating (investing) cash flows did increase (decrease) as sale (purchase) of treasury securities was classified as operating cash inflow (investing cash outflow) (Mulford and Comiskey, 2005).

Similarly, managers can also shift financing cash inflows to operating cash inflows. Dynergy, Inc. entered into a complex natural gas purchase contract with its unconsolidated subsidiary – ABG Gas Supply, Inc., where subsidiary borrowed \$300mn from CitiGroup, Inc. enabling it to sell gas at below-market rates to Dynergy. Dynergy sold this gas at market rate for 9 months in 2001, thereby temporarily boosting its operating cash flows (Mulford and Comiskey, 2005). Asbury Automotive Group, Inc. recorded change in notes payable for vehicle inventory as an operating activity rather than financing activity despite the fact that inventory was purchased from a manufacturer unaffiliated with the lender (Hollie et al., 2011).

The discussion above suggests that firms can shift inflows within the cash flow statement categories. However, shifting of outflows is also possible. Specifically, operating cash outflows can be misclassified as either investing or financing cash outflows. HealthSouth Corp., Chambers Development Co., Inc. and Worldcom, Inc. have been accused of reporting operating expenses as capital expenditure to boost operating cash flows. e.g. HealthSouth reported expenses paid for sponsorship and newspaper advertisements as a part of Property, Plant and

Equipment (Mulford and Comiskey, 2005). There is no available example on firms' attempt to shift operating cash outflows to financing cash outflows.

MOTIVATION AND HYPOTHESES

There is a sizeable literature on earnings management (see Dechow et al., 2010). However, research on classification shifting in the income statement is relatively recent. Managers of firms in the United States shift operating expenses to income-decreasing special items (McVay, 2006; Fan et al., 2010; Cain et al., 2012) in order to inflate core earnings. The primary incentives for expense shifting emerge from desire to meet or beat zero and prior-period earnings (Fan et al., 2010), and to meet or beat analysts' forecasts (McVay, 2006; Fan et al., 2010; Athanasakou et al., 2011; Lin et al., 2006). Evidence to this effect also exists for East Asian countries (Haw et al., 2011).

On the other hand, research on cash flow manipulation and classification shifting in the cash flow statement is relatively scarce. As more number of firms and analysts now issue cash flow forecasts (DeFond and Hung, 2003; DeFond and Hung, 2007; Wasley and Wu, 2006; Call, 2008), the probability of manipulation of operating cash flows has increased over the years. Investors have also started paying more attention to the cash flow from operations figure (Schilit and Perler, 2010), perhaps because of accounting scams by firms like Enron Corporation in the United States and Satyam Computer Services Limited in India. Evidence of positive stock price reaction also exists, when cash flow surprise is positive (DeFond and Hung, 2003; Zhang, 2007; Brown et al., 2010).

Operating cash flows are considered sustainable and have valuation related consequences. Besides cash flow based debt covenants, and stock and cash flow based compensation also motivate managers to indulge in creative cash flow reporting (Mulford and Comiskey, 2005; Frankel et al., 2010). Firms manage operating cash flows upwards when magnitude of total accruals is high, and discretionary accruals management is low. Such firms belong to capital intensive industries, and consider cash dividend target as important (Zhang, 2006).

Using a sample of restatement firms, Lee (2012) finds that firms are more likely to manage operating cash flows upwards through classification shifting when these are in financial distress or have long-term credit rating near the investment/non-investment grade cut-off. Also, existence of analysts' cash flow forecasts and higher association between a firm's stock returns and its cash flow from operations provide significant incentives to manipulate cash flows. Hollie et al. (2011) examine 57 cash flow restatement firms and find that restated cash flow from operations is 50% less than the originally reported figure. Also, such manipulation is more prevalent in retail and financial sectors and restatement firms are bigger.

None of these papers present large sample evidence through which we get to know whether such manipulation by the firms in the United States or elsewhere is indeed common. Further, there is no evidence on the magnitude of such manipulation.

Considering the significance of cash flow as a performance metric, existence of strong incentives behind manipulation, and absence of a large-sample study on classification shifting strategies in

the cash flow statement, in this paper, we do a comprehensive analysis of such classification shifting using data from an emerging market, India.

Unlike the United States, reporting of a cash flow statement by the listed firms in India was made mandatory for the accounting periods starting only after 31st March 2001. The accounting standard on cash flow statement also differs from the US GAAP in few aspects. Under Indian GAAP, interest paid should be classified as a financing cash outflow, and interest and dividend received should be classified as investing cash inflows. While US GAAP requires these items to be classified as operating cash flows.

As compared to the United States, India has both weaker corporate governance and investor protection. Class-action lawsuits and lawsuits against the auditors are uncommon here. Further, monetary penalties are miniscule and enforcement of the laws is also weak (Narayanaswamy et al., 2012). In a recent report by the World Bank on ‘Doing Business’, India ranks much lower than the United States on investor protection parameters like extent of director liability and ease of shareholder suits.

Biggest accounting fraud in India involving Satyam Computer Services Limited came to limelight only when it’s Chairman – Ramalinga Raju made a disclosure himself about the accounting malpractices in his company (The Financial Express, 2009). Serious Fraud Investigation Office (SFIO) set up by the Union Government of India, to detect and investigate such frauds failed to uncover this fraud on time. Unlike the Securities and Exchange

Commission (SEC) in the United States, SFIO is not known for catching firms for accounting wrong-doings and issuing enforcement actions.

Empirical evidence suggests that the firms in countries with weak investor protection are likely to exhibit more earnings management (Leuz et al., 2003; Haw et al., 2004). Also, use of earnings management through classification shifting in the income statement intensifies with the presence of controlling shareholders (Haw et al., 2011). There is no existing empirical evidence on the influence of corporate governance on cash flow manipulation. Considering the general belief that cash flows are less prone to manipulation, regulators' scrutiny is likely to be less in this case. Further, classification shifting in the cash flow statement is a low cost cash flow manipulation tool with no implications on the future cash flows, and it may be tough for auditors to detect it.

Given the dominant role of family firms in the Indian economy, presence of controlling shareholders, and weaknesses in corporate governance and investor protection, Indian firms have more opportunities to engage in operating cash flow manipulation as compared to the firms in the United States. Not only that, Indian firms are also likely to have more incentives to manipulate cash flows through misclassification, as analysts do issue cash flow forecasts here that managers may attempt to meet or beat.

DeFond and Hung (2007) report that about 90% of the Indian firms with analysts' earnings forecasts also have analysts' cash flow forecasts. They suggest that the demand for such cash flow information by the investors is due to the poor quality of earnings reported by the firms in the countries with weak investor protection (like India). Due to the increased opportunities and

incentives, we expect that the managers of Indian firms misclassify items in the cash flow statement in order to inflate operating cash flows. We hypothesize:

Hypothesis 1a: Managers of Indian firms shift investing or financing cash inflows to operating cash inflows.

Hypothesis 1b: Managers of Indian firms shift operating cash outflows to investing or financing cash outflows.

Preceding discussion also suggests that the magnitude of such cash flow misclassification in India is likely to be more as compared to that in the United States due to the increased opportunities and incentives to do so. Hence, we predict:

Hypothesis 2a: Managers of Indian firms shift investing or financing cash inflows to operating cash inflows more than the managers of firms in the United States.

Hypothesis 2b: Managers of Indian firms shift operating cash outflows to investing or financing cash outflows more than the managers of firms in the United States.

Since, financial distress has been identified as an important firm characteristic associated with the cash flow manipulation (Lee, 2012), we also examine whether financially distressed firms in India are more likely to manipulate operating cash flows using classification shifting. Managers of distressed firms consider cash flow as an important performance indicator for outsiders

(Graham et al., 2005). Further, cash flows help in predicting bankruptcy (Sharma, 2001; Ohlson, 1980).

Lee (2012) provides evidence to this effect using a small sample of firms in the United States which had to restate their reported operating cash flows. She finds that firms in financial distress engage in classification shifting to inflate operating cash inflows. Hollie et al. (2011) also find that the cash flow restatement firms have higher debt ratio than all firms in the Compustat database. Again, it is not known whether the managers of distressed firms use both financing and investing cash flows for misclassification and the magnitude of such misclassification.

Our third hypothesis thus makes an incremental contribution and probes whether Lee's (2012) findings can be generalized to a much larger sample in a developing country and whether, financially distressed firms are more likely to engage in shifting using all or few of the above-mentioned methods of shifting.

Hypothesis 3a: Managers of financially distressed firms (in India) are more likely to shift investing or financing cash inflows to operating cash inflows.

Hypothesis 3b: Managers of financially distressed firms (in India) are more likely to shift operating cash outflows to investing or financing cash outflows.

As earlier, we also examine whether there is any significant difference in the magnitude of cash flow misclassification by the financially distressed firms in India and the United States.

Bankruptcy costs are comparatively lower in India due to weak firm winding up procedures (Narayanaswamy et al., 2012). Lenders possess less powers and it may take years before they can lawfully take possession of the property of the defaulters. Considering this, financially distressed firms may be less compelled to resort to cash flow misclassification as compared to the distressed firms in the United States. However, on the other hand, magnitude of shifting by the distressed firms in India may be higher than that by the distressed firms in the United States due to the governance issues discussed earlier. Hence, we hypothesize (in null form):

Hypothesis 4: There is an insignificant difference in the magnitude of cash flow misclassification between the financially distressed firms in India and the United States.

RESEARCH DESIGN

Our research design is similar to that used in McVay (2006). If managers either shift operating cash outflows to investing or financing cash outflows or shift investing or financing cash inflows to operating cash inflows, a firm's reported cash flow from operations will be higher than what is expected. If classification shifting exists, we expect to see a positive association between the unexpected operating cash flows and investing or financing cash outflows and a negative association between the unexpected operating cash flows and investing or financing cash inflows.

We estimate unexpected operating cash flows using the model proposed by Dechow et al. (1998), and used in Roychowdhury (2006) and Lee (2012). According to this model (Equation

1), a firm's cash flow from operations (CFO) is a function of sales (S) and change in sales (ΔS). All variables are scaled by lagged total assets.

$$CFO_{i,t}/A_{i,t-1} = \beta_0 + \beta_1 (1/A_{i,t-1}) + \beta_2 (S_{i,t}/A_{i,t-1}) + \beta_3 (\Delta S_{i,t}/A_{i,t-1}) + \varepsilon_{i,t} \quad (1)$$

Specifically, equation one is run for every industry-year with minimum 10 observations. Expected operating cash flows are estimated for each firm-year using estimated coefficients from equation one. Unexpected operating cash flows (UE_CFO) are calculated as the difference between reported operating cash flows and predicted operating cash flows. We test our first and third hypotheses using the following model (Equation 2), which is based on McVay (2006). Regression is run on pooled data using this equation, with industry and time dummies.

$$\begin{aligned} UE_CFO_{i,t} = & \alpha_0 + \alpha_1 IVO_{i,t} + \alpha_2 IVI_{i,t} + \alpha_3 FINO_{i,t} + \alpha_4 FINI_{i,t} + \alpha_5 ZSCORE_{i,t-1} + \\ & \alpha_6 ZSCORE_{i,t-1} * IVO_{i,t} + \alpha_7 ZSCORE_{i,t-1} * IVI_{i,t} + \alpha_8 ZSCORE_{i,t-1} * FINO_{i,t} + \\ & \alpha_9 ZSCORE_{i,t-1} * FINI_{i,t} + \alpha_{10} ROA_{i,t} + \alpha_{11} SIZE_{i,t} + \alpha_{12} MTB_{i,t} + \alpha_{13} DACC_{i,t} + \omega_{i,t} \end{aligned} \quad (2)$$

UE_CFO is unexpected operating cash flows estimated using equation one. Variable IVO represents cash outflows from investing activities, while variable IVI represents cash inflows from investing activities. FINO and FINI are cash outflows and inflows from financing activities, respectively. Positive (negative) and significant coefficients on IVO and FINO (IVI and FINI) will indicate existence of classification shifting.

Approach used in equation two helps in capturing the use of classification shifting by the sample firms on average, which is not possible by examining only the unexpected operating cash flows (UE_CFO) or a sample of restatement firms (as in Lee, 2012). It is also possible that unexpected operating cash flows (UE_CFO) doesn't adequately control for performance. In such a case, relying on the association between the unexpected operating cash flows (UE_CFO) and investing (IVO and IVI) and financing (FINO and FINI) cash flows is more useful than only on the value of unexpected operating cash flows (UE_CFO).

ZSCORE represents firm's financial health and is estimated using emerging market bankruptcy prediction model of Altman (2002). For firms in the United States, we estimate this variable based on Altman (1968, 2000). A firm's probability of being financially distressed increases with a decline in ZSCORE. We multiply ZSCORE with *minus* one and expect coefficients α_6 and α_8 to be positive and α_7 and α_9 to be negative, if probability of cash flow manipulation through classification shifting is increasing with financial distress.

Following Lee (2012), we also include controls for return on assets (ROA), size (SIZE), market-to-book ratio (MTB) and discretionary accruals (DACC). Operating cash flows are also affected when real actions like reduction in discretionary expenditure, price discounts, overproduction, etc. are used. These actions also affects earnings and hence, controlling for return on assets (ROA) provides a stronger test for examining cash flow manipulation using only classification shifting. Managers may use cash flow manipulation to either mask accruals management or as a substitute for accruals management (Zhang, 2006). Thus use of discretionary accruals (DACC), estimated using cross-sectional version of Jones (1991), as an explanatory variable controls for

this association. Size (SIZE) and market-to-book (MTB) ratio have been used to control for any variation in the unexpected cash flow from operations emanating due to firm size and growth opportunities.

In equation two, we measure cash flow variables (IVO, IVI, FINO and FINI) based on the signs of the net cash flows reported. However, in this way, a firm with positive net investing cash flows will be counted in while calculating IVI and not IVO despite the possibility of such firm to have reported an investing cash outflow.³

To overcome this limitation, we use net cash flows from investing activities (CFI) and net cash flows from financing activities (CFF) in place of variables IVO, IVI, FINO and FINI. In this manner, we infer shifting from operating cash flows to investing or financing cash flows and vice versa without making any inference about whether outflows were shifted or inflows.

If managers shift operating cash flows to investing cash flows or vice versa, we expect to see a negative association between the unexpected operating cash flows (UE_CFO) and net investing cash flows (CFI). Similarly, if they shift operating cash flows to financing cash flows or vice versa, we expect to see a negative association between the unexpected operating cash flows (UE_CFO) and net financing cash flows (CFF). We use equation three to test this prediction.

$$\begin{aligned}
 \text{UE_CFO}_{i,t} = & \alpha_0 + \alpha_1 \text{CFF}_{i,t} + \alpha_2 \text{CFI}_{i,t} + \alpha_3 \text{ZSCORE}_{i,t-1} + \alpha_4 \text{ZSCORE}_{i,t-1} * \text{CFF}_{i,t} + \\
 & \alpha_5 \text{ZSCORE}_{i,t-1} * \text{CFI}_{i,t} + \alpha_6 \text{ROA}_{i,t} + \alpha_7 \text{SIZE}_{i,t} + \alpha_8 \text{MTB}_{i,t} + \alpha_9 \text{DACC}_{i,t} + \delta_{i,t}
 \end{aligned} \tag{3}$$

As earlier, we multiply ZSCORE with *minus* one and expect coefficients α_4 and α_5 to be negative, if probability of cash flow manipulation through classification shifting is increasing with financial distress.

We use equations four and five to test our hypotheses two and four, where we examine if the magnitude of cash flow misclassification differs between the firms in India and the United States.

$$\begin{aligned} UE_CFO_{i,t} = & \alpha_0 + \alpha_1 IVO_{i,t} + \alpha_2 IVI_{i,t} + \alpha_3 FINO_{i,t} + \alpha_4 FINI_{i,t} + \alpha_5 ZSCORE_{i,t-1} + \\ & \alpha_6 ZSCORE_{i,t-1} * IVO_{i,t} + \alpha_7 ZSCORE_{i,t-1} * IVI_{i,t} + \alpha_8 ZSCORE_{i,t-1} * FINO_{i,t} + \alpha_9 ZSCORE_{i,t-1} * FINI_{i,t} \\ & + \alpha_{10} IND_{i,t} + \alpha_{11} IND_{i,t} * IVO_{i,t} + \alpha_{12} IND_{i,t} * IVI_{i,t} + \alpha_{13} IND_{i,t} * FINO_{i,t} + \alpha_{14} IND_{i,t} * FINI_{i,t} + \\ & \alpha_{15} IND_{i,t} * ZSCORE_{i,t-1} * IVO_{i,t} + \alpha_{16} IND_{i,t} * ZSCORE_{i,t-1} * IVI_{i,t} + \alpha_{17} IND_{i,t} * ZSCORE_{i,t-1} * FINO_{i,t} + \\ & \alpha_{18} IND_{i,t} * ZSCORE_{i,t-1} * FINI_{i,t} + \alpha_{19} ROA_{i,t} + \alpha_{20} SIZE_{i,t} + \alpha_{21} MTB_{i,t} + \alpha_{22} DACC_{i,t} + \mu_{i,t} \end{aligned} \quad (4)$$

$$\begin{aligned} UE_CFO_{i,t} = & \alpha_0 + \alpha_1 CFF_{i,t} + \alpha_2 CFI_{i,t} + \alpha_3 ZSCORE_{i,t-1} + \alpha_4 ZSCORE_{i,t-1} * CFF_{i,t} + \alpha_5 ZSCORE_{i,t-1} * \\ & CFI_{i,t} + \alpha_6 IND_{i,t} + \alpha_7 IND_{i,t} * CFF_{i,t} + \alpha_8 IND_{i,t} * CFI_{i,t} + \alpha_9 IND_{i,t} * ZSCORE_{i,t-1} * CFF_{i,t} + \alpha_{10} \\ & IND_{i,t} * ZSCORE_{i,t-1} * CFI_{i,t} + \alpha_{11} ROA_{i,t} + \alpha_{12} SIZE_{i,t} + \alpha_{13} MTB_{i,t} + \alpha_{14} DACC_{i,t} + \Omega_{i,t} \end{aligned} \quad (5)$$

Here IND is an indicator variable equal to 1 if a firm is Indian and 0 if it is from the United States sample. Coefficients of interest in equation four are α_{11} to α_{18} . We expect coefficients α_{11} and α_{13} (α_{12} and α_{14}) to be positive (negative) if firms in India are more likely to misclassify cash flows than those in the United States. We do not have any directional expectation with respect to

our hypothesis four, where we test the use of cash flow misclassification by the distressed firms in both the countries. As earlier, we expect coefficients α_7 and α_8 to be negative in equation five.

SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

Data for Indian firms has been obtained from Centre for Monitoring Indian Economy's (CMIE) Prowess database and spans from financial years ending in March 1995 to March 2011, as data on cash flows is not well populated in Prowess prior to financial year ending in March 1995. Our sample comprises of non-financial Indian firms listed in A and B groups on the Bombay Stock Exchange, with data available for all dependent and independent variables. Initial sample consists of 60,038 firm-years (March 1990-March 2011, Table 1). We remove firms which had a change in fiscal-year end to keep the data comparable. We also remove firm-years for which negative sales or assets values are reported. 22,130 firm-years are lost due to unavailability of data for calculating unexpected operating cash flows. We require at least 10 firms in each industry-year for running industry-year regressions in order to estimate unexpected operating cash flows. We classify industries using 2-digit National Industrial Classification codes. Regressions are run on a sample with 13,305 firm-years. All variables are winsorized at 1% and 99% by fiscal year. Data for the firms in the United States comes from Compustat North America (Fundamentals Annual). There are 76,258 firm-years in this sample for the years 1989-2010.

TABLE 1
Sample Selection

	No. of firms	No. of firm-years
Initial Prowess sample with non-missing company code or National Industrial Classification code (March 1990-March 2011)	2,729	60,038
<u>Less:</u> Firm-years of firms with a change in fiscal-year end	760	16,720
	1,969	43,318
<u>Less:</u> Firm-years with negative sales or assets	0	695
	1,969	42,623
<u>Less:</u> Firm-years with missing values of variables used in the model for measuring unexpected operating cash flows	203	22,130
	1,766	20,493
<u>Less:</u> Firm-years with missing values of investing or financing cash flows	31	766
	1,735	19,727
<u>Less:</u> Firm-years with missing values of Altman's (2002) Z-Score	88	2,715
	1,647	17,012
<u>Less:</u> Firm-years with missing values of control variables	29	1,347
	1,618	15,665
<u>Less:</u> Firm-years in industry-years with observations less than 10 (minimum requirement for running industry-year regressions for estimating unexpected operating cash flows)	145	1,896
	1,473	13,769
<u>Less:</u> Firm-years in financial services industries (NIC Codes: 64, 65 and 66)	103	464
Final sample (March 1995-March 2011)	1,370	13,305

Table 2 contains the descriptive statistics for the Indian firms. Median sales (*sale*) and assets (*at*) are INR 974.40 million and INR 1077.30 million, respectively.³ Compared to Prowess population, our sample comprises of large firms. Median sales and assets for the population are INR 518.90 million and INR 641.40 million, respectively. Mean (median) operating cash flows (*cfo*) of sample firms are 7.1% (7.4%) of total assets. Altman's (2002) Z-Score (*zscore*) has a mean of 5.10 and median of 4.47. The correlations are reported in Table 3. As hypothesized, unexpected operating cash flows (*ue_cfo*) are significantly positively associated with investing

(*ivo*) and financing (*fino*) cash outflows, and significantly negatively associated with investing (*ivi*) and financing (*fini*) cash inflows.

TABLE 2
Descriptive Statistics

	N	Mean	p25	Median	p75	Std Dev
sale	13305	6030.256	300.800	974.400	3377.500	22983.750
at	13305	7741.137	334.900	1077.300	3825.500	30976.737
ocf	13305	629.438	4.000	47.300	234.100	3073.784
icf	13305	-634.496	-236.000	-41.200	-4.900	2938.512
fcf	13305	150.554	-58.300	-3.200	58.400	1850.756
cfo	13305	0.071	0.013	0.074	0.138	0.129
def_sale	13305	1.213	0.676	1.028	1.496	0.860
ch_sale	13305	0.184	0.006	0.116	0.288	0.367
ue_cfo	13305	-0.001	-0.067	-0.001	0.068	0.151
ivo	13305	0.109	0.013	0.055	0.136	0.169
ivi	13305	0.005	0.000	0.000	0.000	0.022
fino	13305	0.038	0.000	0.009	0.060	0.054
fini	13305	0.083	0.000	0.000	0.072	0.211
cff	13305	0.045	-0.060	-0.009	0.072	0.232
cfi	13305	-0.104	-0.136	-0.055	-0.013	0.174
roa	13305	0.063	0.015	0.047	0.098	0.088
size	13305	7.138	5.814	6.982	8.249	1.742
mtb	13305	1.118	0.229	0.575	1.258	1.772
dacc	13305	0.002	-0.061	-0.002	0.057	0.127
zscore	13305	5.097	3.332	4.470	5.964	3.134

sale is net sales in year *t*. *at* is total assets in year *t*. *ocf* is net cash flow from operating activities in year *t*. *icf* is net cash flow from investing activities in year *t*. *fcf* is net cash flow from financing activities in year *t*. *cfo* is net cash flow from operating activities in year *t*, scaled by total assets in year *t-1*. *def_sale* is net sales in year *t*, scaled by total assets in year *t-1*. *ch_sale* is growth in sales ((Net sales_{*t*}-Net sales_{*t-1*})/Total assets_{*t-1*}). *ue_cfo* is unexpected operating cash flows estimated using equation 1 or 4. *ivo* = -1*cfi if cfi < 0, 0 otherwise. *ivi* = cfi if cfi > 0, 0 otherwise. *fino* = -1*cff if cff < 0, 0 otherwise. *fini* = cff if cff > 0, 0 otherwise. *cff* is net cash flow from financing activities in year *t*, scaled by total assets in year *t-1*. *cfi* is net cash flow from investing activities in year *t*, scaled by total assets in year *t-1*. *roa* is profit after tax in year *t*, scaled by total assets in year *t-1*. *size* is natural logarithm of total assets in year *t*. *mtb* is market-to-book ratio ((Common shares outstanding_{*t*}*Fiscal year-end closing stock price_{*t*})/Common Equity_{*t*}). *dacc* is discretionary accruals estimated using Jones (1991). *zscore* is Altman's (2002) Z-Score in year *t-1* ((6.56*(Working capital_{*t-1*}/Total assets_{*t-1*}))+(3.26*(Retained earnings_{*t-1*}/Total assets_{*t-1*})) +(6.72*(Profit before interest and tax_{*t-1*}/Total assets_{*t-1*}))+(1.05*(Common equity_{*t-1*}/Total liabilities_{*t-1*}))). All variables are winsorized at 1% and 99% by fiscal year.

TABLE 3
Pearson (Spearman) Correlations above (below) the Diagonal

variable	sale	at	cfo	def_sale	ch_sale	ue_cfo	ivo	ivi
sale	1	0.861***	0.063***	0.100***	0.061***	0.045***	0	0.006
at	0.914***	1	0.040***	-0.037***	-0.009	0.036***	0.022**	0
cfo	0.152***	0.096***	1	-0.005	-0.091***	0.709***	0.093***	-0.197***
def_sale	0.250***	-0.070***	0.098***	1	0.632***	-0.015*	0.106***	-0.056***
ch_sale	0.205***	0.050***	0.039***	0.579***	1	-0.006	0.229***	-0.030***
ue_cfo	0.041***	0.016*	0.767***	0.021**	0.039***	1	0.110***	-0.135***
ivo	0.162***	0.157***	0.286***	0.184***	0.272***	0.207***	1	-0.156***
ivi	-0.088***	-0.035***	-0.227***	-0.161***	-0.142***	-0.160***	-0.593***	1
fino	-0.002	-0.048***	0.487***	-0.042***	-0.163***	0.375***	-0.405***	0.166***
fini	0.049***	0.085***	-0.396***	0.118***	0.246***	-0.310***	0.505***	-0.182***
cff	0.020**	0.070***	-0.488***	0.075***	0.212***	-0.377***	0.485***	-0.181***
cfi	-0.161***	-0.156***	-0.288***	-0.183***	-0.271***	-0.210***	-0.999***	0.598***
roa	0.288***	0.220***	0.303***	0.355***	0.424***	0.215***	0.395***	-0.147***
size	0.914***	1.000***	0.096***	-0.070***	0.050***	0.016*	0.157***	-0.035***
mtb	0.236***	0.242***	0.054***	0.077***	0.167***	0.083***	0.182***	-0.043***
dacc	0.017*	0.041***	-0.523***	0.012	-0.010	-0.602***	-0.018**	0.071***
zscore	0.121***	0.129***	0.007	-0.061***	0.002	-0.023***	-0.030***	-0.047***

sale is net sales in year *t*. *at* is total assets in year *t*. *ocf* is net cash flow from operating activities in year *t*. *icf* is net cash flow from investing activities in year *t*. *fcf* is net cash flow from financing activities in year *t*. *cfo* is net cash flow from operating activities in year *t*, scaled by total assets in year *t-1*. *def_sale* is net sales in year *t*, scaled by total assets in year *t-1*. *ch_sale* is growth in sales ((Net sales_{*t*}-Net sales_{*t-1*})/Total assets_{*t-1*}). *ue_cfo* is unexpected operating cash flows estimated using equation 1 or 4. *ivo* = -1**cfi* if *cfi* < 0, 0 otherwise. *ivi* = *cfi* if *cfi* > 0, 0 otherwise. *fino* = -1*cff if cff < 0, 0 otherwise. *fini* = cff if cff > 0, 0 otherwise. *cff* is net cash flow from financing activities in year *t*, scaled by total assets in year *t-1*. *cfi* is net cash flow from investing activities in year *t*, scaled by total assets in year *t-1*. *roa* is profit after tax in year *t*, scaled by total assets in year *t-1*. *size* is natural logarithm of total assets in year *t*. *mtb* is market-to-book ratio ((Common shares outstanding_{*t*}*Fiscal year-end closing stock price_{*t*})/Common Equity_{*t*}). *dacc* is discretionary accruals estimated using Jones (1991). *zscore* is Altman's (2002) Z-Score in year *t-1* ((6.56*(Working capital_{*t-1*}/Total assets_{*t-1*}))+3.26*(Retained earnings_{*t-1*}/Total assets_{*t-1*})) +(6.72*(Profit before interest and tax_{*t-1*}/Total assets_{*t-1*}))+1.05*(Common equity_{*t-1*}/Total liabilities_{*t-1*})). All variables are winsorized at 1% and 99% by fiscal year. * p<0.10, ** p<0.05, *** p<0.01

TABLE 3 (Contd.)
Pearson (Spearman) Correlations above (below) the Diagonal

variable	fino	fini	cff	cfi	roa	size	mtb	dacc	zscore
sale	-0.007	-0.026***	-0.022**	0.001	0.107***	0.507***	0.160***	-0.019**	0.041***
at	-0.037***	-0.007	0.003	-0.022**	0.080***	0.523***	0.127***	-0.004	0.031***
cfo	0.415***	-0.359***	-0.424***	-0.115***	0.220***	0.085***	0.055***	-0.579***	0.015*
def_sale	-0.011	0.150***	0.139***	-0.110***	0.278***	-0.076***	0.047***	0.025***	0.036***
ch_sale	-0.090***	0.302***	0.296***	-0.227***	0.370***	0.007	0.105***	0.029***	-0.003
ue_cfo	0.298***	-0.212***	-0.262***	-0.125***	0.180***	0.018**	0.085***	-0.601***	-0.018**
ivo	-0.255***	0.757***	0.749***	-0.992***	0.345***	0.098***	0.117***	0.037***	-0.069***
ivi	0.143***	-0.064***	-0.092***	0.278***	0.013	-0.016*	0.022**	0.142***	-0.112***
fino	1	-0.271***	-0.481***	0.266***	0.049***	-0.039***	0.021**	-0.267***	0.059***
fini	-0.852***	1	0.974***	-0.744***	0.260***	0.051***	0.100***	0.288***	-0.056***
cff	-0.952***	0.914***	1	-0.740***	0.226***	0.056***	0.086***	0.325***	-0.065***
cfi	0.406***	-0.505***	-0.485***	1	-0.334***	-0.097***	-0.111***	-0.018**	0.053***
roa	-0.024***	0.133***	0.084***	-0.390***	1	0.185***	0.260***	0.254***	-0.257***
size	-0.048***	0.085***	0.070***	-0.156***	0.220***	1	0.230***	0.022***	0.102***
mtb	-0.073***	0.126***	0.109***	-0.180***	0.318***	0.242***	1	-0.008	0.011
dacc	-0.324***	0.306***	0.348***	0.023***	0.209***	0.041***	-0.004	1	-0.089***
zscore	0.019**	0.009	-0.023***	0.026***	-0.297***	0.129***	-0.006	-0.116***	1

sale is net sales in year t . *at* is total assets in year t . *ocf* is net cash flow from operating activities in year t . *icf* is net cash flow from investing activities in year t . *fcf* is net cash flow from financing activities in year t . *cfo* is net cash flow from operating activities in year t , scaled by total assets in year $t-1$. *def_sale* is net sales in year t , scaled by total assets in year $t-1$. *ch_sale* is growth in sales ((Net sales $_t$ -Net sales $_{t-1}$)/Total assets $_{t-1}$). *ue_cfo* is unexpected operating cash flows estimated using equation 1 or 4. *ivo* = $-1 * cfi$ if $cfi < 0$, 0 otherwise. *ivi* = cfi if $cfi > 0$, 0 otherwise. *fino* = $-1 * cff$ if $cff < 0$, 0 otherwise. *fini* = cff if $cff > 0$, 0 otherwise. *cff* is net cash flow from financing activities in year t , scaled by total assets in year $t-1$. *cfi* is net cash flow from investing activities in year t , scaled by total assets in year $t-1$. *roa* is profit after tax in year t , scaled by total assets in year $t-1$. *size* is natural logarithm of total assets in year t . *mtb* is market-to-book ratio ((Common shares outstanding $_t$ *Fiscal year-end closing stock price $_t$)/Common Equity $_t$). *dacc* is discretionary accruals estimated using Jones (1991). *zscore* is Altman's (2002) Z-Score in year $t-1$ ((6.56*(Working capital $_{t-1}$ /Total assets $_{t-1}$))+3.26*(Retained earnings $_{t-1}$ /Total assets $_{t-1}$)) +(6.72*(Profit before interest and tax $_{t-1}$ /Total assets $_{t-1}$))+1.05*(Common equity $_{t-1}$ /Total liabilities $_{t-1}$)). All variables are winsorized at 1% and 99% by fiscal year.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sample firms from the United States have median sales (assets) of US\$ 8,480 million (US\$ 8166 million). Median operating cash flows (*cfo*) of these firms are 7.3% of total assets, very close to that of Indian firms. Median Altman's (1968, 2000) Z-Score is 3.159 indicating that firms in the United States are less financially distressed on average. These figures are not tabulated in the paper.

RESULTS

Classification Shifting

Results for tests of our first and third hypotheses are given in Tables 4 and 5. In both the tables, panel A doesn't contain industry and year dummies while panel B does. In Table 4, coefficients on *ivo*, *ivi*, *fino* and *fini* are highly significant in both panels. As hypothesized, coefficients on *ivo* and *fino* are positive, which suggests that the managers of Indian firms shift operating cash outflows to investing and financing outflows resulting in a simultaneous increase in the unexpected operating cash flows, and investing and financing outflows.

TABLE 4
Regressions of Unexpected Operating Cash Flows on
Investing Cash Outflows, Investing Cash Inflows,
Financing Cash Outflows, and Financing Cash Inflows

	Predicted Sign	Dependent Variable: <i>ue_cfo</i>	
		Panel A	Panel B
<i>ivo_t</i>	+	0.295*** (19.214)	0.331*** (21.265)
<i>ivi_t</i>	-	-0.408*** (-5.868)	-0.463*** (-6.696)
<i>fino_t</i>	+	0.410*** (11.556)	0.407*** (11.444)
<i>fini_t</i>	-	-0.250*** (-21.501)	-0.273*** (-23.100)
<i>zscore_{t-1}</i>	?	-0.000 (-0.696)	-0.000 (-0.025)
<i>zscore_{t-1}*ivo_t</i>	+	0.004** (2.052)	0.005*** (2.715)
<i>zscore_{t-1}*ivi_t</i>	-	-0.005 (-0.659)	-0.007 (-0.926)
<i>zscore_{t-1}*fino_t</i>	+	0.009 (1.464)	0.008 (1.309)
<i>zscore_{t-1}*fini_t</i>	-	-0.002* (-1.790)	-0.003** (-2.412)
<i>roa_t</i>	+	0.514*** (40.789)	0.550*** (42.913)
<i>size_t</i>	-	-0.003*** (-5.669)	-0.003*** (-4.280)
<i>mtb_t</i>	+	0.001 (0.986)	0.001* (1.931)
<i>dacc_t</i>	-	-0.653*** (-76.284)	-0.656*** (-75.130)
Constant		-0.034*** (-7.252)	-0.045*** (-5.277)
Industry dummies		No	Yes
Year dummies		No	Yes
No. of observations		13305	13305
Adjusted R-Square		53.3%	54.7%
p-value		0.000	0.000

The regression model is $UE_CFO_{i,t} = \alpha_0 + \alpha_1 IVO_{i,t} + \alpha_2 IVI_{i,t} + \alpha_3 FINO_{i,t} + \alpha_4 FINI_{i,t} + \alpha_5 ROA_{i,t} + \alpha_6 SIZE_{i,t} + \alpha_7 MTB_{i,t} + \alpha_8 DACC_{i,t} + \alpha_9 ZSCORE_{i,t-1} +$

$\alpha_{10}ZSCORE_{i,t-1} * IVO_{i,t} + \alpha_{11}ZSCORE_{i,t-1} * IVI_{i,t} + \alpha_{12}ZSCORE_{i,t-1} * FINO_{i,t}$
 $+ \alpha_{13}ZSCORE_{i,t-1} * FINI_{i,t} + \omega_{i,t}$. Amounts reported are coefficients from pooled regressions. t-statistics are given in parentheses. *ue_cfo* is unexpected operating cash flows estimated using equation 1 or 4. *ivo* = -1*cfi if cfi < 0, 0 otherwise. *ivi* = cfi if cfi > 0, 0 otherwise. *fino* = -1*cff if cff < 0, 0 otherwise. *fini* = cff if cff > 0, 0 otherwise. *roa* is profit after tax in year *t*, scaled by total assets in year *t-1*. *size* is natural logarithm of total assets in year *t*. *mtb* is market-to-book ratio ((Common shares outstanding_{*t*}*Fiscal year-end closing stock price_{*t*})/Common Equity_{*t*}). *dacc* is discretionary accruals estimated using Jones (1991). *zscore* is Altman's (2002) Z-Score in year *t-1* ((6.56*(Working capital_{*t-1*}/Total assets_{*t-1*}))+3.26*(Retained earnings_{*t-1*}/Total assets_{*t-1*}))+6.72*(Profit before interest and tax_{*t-1*}/Total assets_{*t-1*}))+1.05*(Common equity_{*t-1*}/Total liabilities_{*t-1*})). All variables are winsorized at 1% and 99% by fiscal year. * p<0.10, ** p<0.05, *** p<0.01

Similarly, as managers shift investing and financing cash inflows to operating cash inflows, a positive shock to operating cash inflows is accompanied by a decline in investing and financing cash inflows. We see this hypothesized association in panels A and B of Table 4. Specifically, coefficients on *ivi* and *fini* are negative and statistically significant.

We get similar results when we use equation three. In Table 5, coefficients on *cff* and *cfi* are negative and statistically significant. Negative coefficient on *cff* (*cfi*) suggests that managers shift cash flows between operating and financing (investing) categories in order to inflate operating cash flows. Thus, operating cash flows increase with a decrease in financing or investing cash flows.

TABLE 5
Regressions of Unexpected Operating Cash Flows on Net Investing and Financing Cash Flows

	Predicted Sign	Dependent Variable: <i>ue_cfo</i>	
		Panel A	Panel B
cff_t	-	-0.275*** (-25.891)	-0.293*** (-26.716)
cfi_t	-	-0.305*** (-21.124)	-0.340*** (-23.047)
$zscore_{t-1}$?	0.000 (0.570)	0.000 (1.008)
$zscore_{t-1} * cff_t$	-	-0.004*** (-2.941)	-0.004*** (-3.372)
$zscore_{t-1} * cfi_t$	-	-0.004** (-2.362)	-0.005*** (-3.031)
roa_t	+	0.527*** (42.757)	0.563*** (45.003)
$size_t$	-	-0.003*** (-6.144)	-0.003*** (-4.495)
mtb_t	+	0.001 (1.041)	0.001** (2.163)
$dacc_t$	-	-0.662*** (-78.092)	-0.665*** (-77.336)
Constant		-0.026*** (-6.048)	-0.039*** (-4.679)
Industry dummies		No	Yes
Year dummies		No	Yes
No. of observations		13305	13305
Adjusted R-Square		53.1%	54.6%
p-value		0.000	0.000

The regression model is $UE_CFO_{i,t} = \alpha_0 + \alpha_1 CFF_{i,t} + \alpha_2 CFI_{i,t} + \alpha_3 ROA_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 MTB_{i,t} + \alpha_6 DACC_{i,t} + \alpha_7 ZSCORE_{i,t-1} + \alpha_8 ZSCORE_{i,t-1}$

* $CFF_{i,t} + \alpha_9 ZSCORE_{i,t-1} * CFI_{i,t} + \delta_{i,t}$. Amounts reported are coefficients from pooled regressions. t-statistics are given in parentheses. *ue_cfo* is unexpected operating cash flows estimated using equation 1 or 4. *cff* is net cash flow from financing activities in year *t*, scaled by total assets in year *t-1*. *cfi* is net cash flow from investing activities in year *t*, scaled by total assets in year *t-1*. *roa* is profit after tax in year *t*, scaled by total assets in year *t-1*. *size* is natural logarithm of total assets in year *t*. *mtb* is market-to-book ratio ((Common shares outstanding_{*t*}*Fiscal year-end closing stock price_{*t*})/Common Equity_{*t*}). *dacc* is discretionary accruals estimated using Jones (1991). *zscore* is Altman's (2002) Z-Score in year *t-1* ((6.56*(Working capital_{*t-1*}/Total assets_{*t-1*}))+3.26*(Retained earnings_{*t-1*}/Total assets_{*t-1*})) +(6.72*(Profit before interest and tax_{*t-1*}/Total assets_{*t-1*}))+1.05*(Common equity_{*t-1*}/Total liabilities_{*t-1*})). All variables are winsorized at 1% and 99% by fiscal year.

* p<0.10, ** p<0.05, *** p<0.01

These results imply a mean shifting per firm-year of approximately INR 44 million⁴ (US\$ 0.73 million) between operating and financing cash flows and approximately INR 216 million⁵ (US\$ 3.60 million) between operating cash flows and investing cash flows. Higher magnitude of shifting between operating cash flows and investing cash flows is likely due to the fact that managers have opportunity to shift both investing cash inflows to operating cash inflows and operating cash outflows to investing cash outflows, while shifting between operating and financing cash flows is likely to be due to opportunity to shift only financing cash inflows to operating cash inflows. On average, an Indian firm inflates approximately INR 260 million (US\$ 4.33 million) worth of operating cash flows every year.

Impact of Financial Distress

Results in panels A and B of Table 4 indicate that the financially distressed firms are more likely to use classification shifting in order to manipulate operating cash flows. Coefficients on *zscore*ivo* and *zscore*fini* have expected signs and are statistically significant. Coefficients on *zscore*ivi* and *zscore*fino* also have expected signs but are not statistically significant.

Positive and significant coefficients on $zscore*ivo$ suggest that the managers of distressed firms are more likely to shift operating cash outflows to financing cash outflows. Similarly, negative and significant coefficients on $zscore*fini$ suggest that managers of financially distressed firms are more likely to shift financing cash inflows to operating cash inflows.

We get similar results when we use equation three. In Table 5, coefficients on $zscore*cff$ and $zscore*cfi$ are negative and significant. Negative coefficients on $zscore*cff$ ($zscore*cfi$) suggest that the managers of financially distressed firms are more likely to shift cash flows between operating and financing (investing) categories in order to inflate operating cash flows. These results imply that as a firm becomes financially distressed, on an average it is likely do an additional shifting of approximately INR 0.60 million⁶ (US\$ 0.01 million) per year between operating and financing cash flows and approximately INR 3.17 million⁷ (US\$ 0.05 million) per year between operating cash flows and investing cash flows.

Impact of Weak Investor Protection

Our second hypothesis predicts that the managers of Indian firms misclassify cash flows more than those in the United States. We observe so in Tables 6 and 7. As expected, coefficients on $ind*ivo$, $ind*ivi$ $ind*fino$ and $ind*fini$ in Table 6 are statistically significant at one percent level and carry expected signs. This finding is also evident in Table 7, where coefficients on $ind*cff$ and $ind*cfi$ are negative and highly significant. Thus, Indian firms are more likely to engage in cash flow misclassification than the firms in the United States. As discussed earlier, this is likely

due to the increased opportunities (weak governance, regulatory oversight and investor protection) and incentives (analysts' cash flow forecasts) in India.

TABLE 6
Regressions of Unexpected Operating Cash Flows on
Investing Cash Outflows, Investing Cash Inflows,
Financing Cash Outflows, and Financing Cash Inflows
(Comparison of Firms in India and the United States)

	Predicted Sign	Dependent Variable: <i>ue_cfo</i>	
		Panel A	Panel B
ivo_t	+	0.302*** (80.083)	0.315*** (83.652)
ivi_t	-	-0.424*** (-44.099)	-0.513*** (-53.917)
fin_t	+	0.614*** (59.373)	0.651*** (64.040)
$fini_t$	-	-0.228*** (-89.824)	-0.240*** (-95.747)
$zscore_{t-1}$?	-0.000 (-1.117)	0.000*** (4.305)
$zscore_{t-1} * ivo_t$	+	-0.002*** (-14.201)	-0.001*** (-12.111)
$zscore_{t-1} * ivi_t$	-	-0.005*** (-10.996)	-0.006*** (-11.870)
$zscore_{t-1} * fino_t$	+	0.007*** (7.444)	0.007*** (7.941)
$zscore_{t-1} * fini_t$	-	0.001*** (14.464)	0.001*** (12.195)
ind_t	?	-0.032*** (-16.278)	-0.022 (-0.000)
$ind_t * ivo_t$	+	0.302*** (16.338)	0.363*** (19.574)
$ind_t * ivi_t$	-	-0.532*** (-5.929)	-0.575*** (-6.530)
$ind_t * fino_t$	+	0.241*** (5.648)	0.291*** (6.873)
$ind_t * fini_t$	-	-0.277*** (-18.803)	-0.316*** (-21.677)
$ind_t * zscore_{t-1} * ivo_t$	+	0.012***	0.016***

		(5.192)	(6.933)
$ind_t * zscore_{t-1} * ivi_t$	-	-0.010	-0.011
		(-0.991)	(-1.139)
$ind_t * zscore_{t-1} * fino_t$	+	0.003	0.011
		(0.427)	(1.487)
$ind_t * zscore_{t-1} * fini_t$	-	-0.010***	-0.012***
		(-5.533)	(-6.920)
roa_t	+	0.191***	0.213***
		(84.812)	(94.556)
$size_t$	-	-0.006***	-0.006***
		(-27.120)	(-26.743)
mtb_t	+	0.002***	0.001***
		(16.028)	(9.941)
$dacc_t$	-	-0.008***	-0.010***
		(-13.715)	(-17.248)
Constant		0.012***	-0.024
		(9.007)	(-1.247)
Industry dummies		No	Yes
Year dummies		No	Yes
No. of observations		89563	89563
Adjusted R-Square		37.6%	40.7%
p-value		0.000	0.000

The regression model is $UE_CFO_{i,t} = \alpha_0 + \alpha_1 IVO_{i,t} + \alpha_2 IVI_{i,t} + \alpha_3 FINO_{i,t} + \alpha_4 FINI_{i,t} + \alpha_5 ZSCORE_{i,t-1} + \alpha_6 ZSCORE_{i,t-1} * IVO_{i,t} + \alpha_7 ZSCORE_{i,t-1} * IVI_{i,t} + \alpha_8 ZSCORE_{i,t-1} * FINO_{i,t} + \alpha_9 ZSCORE_{i,t-1} * FINI_{i,t} + \alpha_{10} IND_{i,t} + \alpha_{11} IND_{i,t} * IVO_{i,t} + \alpha_{12} IND_{i,t} * IVI_{i,t} + \alpha_{13} IND_{i,t} * FINO_{i,t} + \alpha_{14} IND_{i,t} * FINI_{i,t} + \alpha_{15} IND_{i,t} * ZSCORE_{i,t-1} * IVO_{i,t} + \alpha_{16} IND_{i,t} * ZSCORE_{i,t-1} * IVI_{i,t} + \alpha_{17} IND_{i,t} * ZSCORE_{i,t-1} * FINO_{i,t} + \alpha_{18} IND_{i,t} * ZSCORE_{i,t-1} * FINI_{i,t} + \alpha_{19} ROA_{i,t} + \alpha_{20} SIZE_{i,t} + \alpha_{21} MTB_{i,t} + \alpha_{22} DACC_{i,t} + \mu_{i,t}$. Amounts reported are coefficients from pooled regressions. t-statistics are given in parentheses. ue_cfo is unexpected operating cash flows estimated using equation 1 or 4. $ivo = -1 * cfi$ if $cfi < 0$, 0 otherwise. $ivi = cfi$ if $cfi > 0$, 0 otherwise. $fino = -1 * cff$ if $cff < 0$, 0 otherwise. $fini = cff$ if $cff > 0$, 0 otherwise. roa is profit after tax in year t , scaled by total assets in year $t-1$. $size$ is natural logarithm of total assets in year t . mtb is market-to-book ratio ((Common shares outstanding $_t$ *Fiscal year-end closing stock price)/Common Equity $_t$). $dacc$ is discretionary accruals estimated using Jones (1991). $zscore$ is Altman's (2002) Z-Score in year $t-1$ ((6.56*(Working capital $_{t-1}$ /Total assets $_{t-1}$))+ (3.26*(Retained earnings $_{t-1}$ /Total assets $_{t-1}$)) + (6.72*(Profit before interest and tax $_{t-1}$ /Total assets $_{t-1}$)) + (1.05*(Common equity $_{t-1}$ /Total liabilities $_{t-1}$))). ind is an indicator variable equal to 1 if a firm is Indian and 0 if it is from the United States sample. All variables are winsorized at 1% and 99% by fiscal year. * p<0.10, ** p<0.05, *** p<0.01

TABLE 7
Regressions of Unexpected Operating Cash Flows on Net
Investing and Financing Cash Flows
(Comparison of Firms in India and the United States)

	Predicted Sign	Dependent Variable: <i>ue_cfo</i>	
		Panel A	Panel B
cff_t	-	-0.252*** (-104.346)	-0.268*** (-112.067)
cfi_t	-	-0.314*** (-92.131)	-0.339*** (-99.514)
$zscore_{t-1}$?	-0.000 (-1.617)	0.000*** (4.624)
$zscore_{t-1} * cff_t$	-	0.001*** (11.522)	0.000*** (9.184)
$zscore_{t-1} * cfi_t$	-	0.001*** (10.671)	0.001*** (8.089)
ind_t	?	-0.033*** (-20.248)	0.041 (0.000)
$ind_t * cff_t$	-	-0.332*** (-25.401)	-0.369*** (-28.174)
$ind_t * cfi_t$	-	-0.342*** (-19.884)	-0.395*** (-22.585)
$ind_t * zscore_{t-1} * cff_t$	-	-0.013*** (-7.879)	-0.015*** (-9.478)
$ind_t * zscore_{t-1} * cfi_t$	-	-0.013*** (-6.291)	-0.017*** (-8.044)
roa_t	+	0.191*** (84.165)	0.212*** (93.449)
$size_t$	-	-0.006*** (-26.392)	-0.006*** (-25.820)
mtb_t	+	0.002*** (17.616)	0.001*** (11.826)
$dacc_t$	-	-0.008*** (-13.719)	-0.010*** (-17.158)
Constant		0.022*** (16.883)	-0.014 (-0.718)
Industry dummies		No	Yes
Year dummies		No	Yes
No. of observations		89563	89563
Adjusted R-Square		36.4%	39.4%
p-value		0.000	0.000

The regression model is $UE_CFO_{i,t} = \alpha_0 + \alpha_1 CFF_{i,t} + \alpha_2 CFI_{i,t} + \alpha_3 ZSCORE_{i,t-1} + \alpha_4 ZSCORE_{i,t-1} * CFF_{i,t} + \alpha_5 ZSCORE_{i,t-1} * CFI_{i,t} + \alpha_6 IND_{i,t} + \alpha_7 IND_{i,t} * CFF_{i,t} + \alpha_8 IND_{i,t} * CFI_{i,t} + \alpha_9 IND_{i,t} * ZSCORE_{i,t-1} * CFF_{i,t} + \alpha_{10} IND_{i,t} * ZSCORE_{i,t-1} * CFI_{i,t} + \alpha_{11} ROA_{i,t} + \alpha_{12} SIZE_{i,t} + \alpha_{13} MTB_{i,t} + \alpha_{14} DACC_{i,t} + \Omega_{i,t}$. Amounts reported are coefficients from pooled regressions. t-statistics are given in parentheses. *ue_cfo* is unexpected operating cash flows estimated using equation 1 or 4. *cff* is net cash flow from financing activities in year *t*, scaled by total assets in year *t-1*. *cfi* is net cash flow from investing activities in year *t*, scaled by total assets in year *t-1*. *roa* is profit after tax in year *t*, scaled by total assets in year *t-1*. *size* is natural logarithm of total assets in year *t*. *mtb* is market-to-book ratio ((Common shares outstanding_{*t*}*Fiscal year-end closing stock price_{*t*})/Common Equity_{*t*}). *dacc* is discretionary accruals estimated using Jones (1991). *zscore* is Altman's (2002) Z-Score in year *t-1* ((6.56*(Working capital_{*t-1*}/Total assets_{*t-1*}))+3.26*(Retained earnings_{*t-1*}/Total assets_{*t-1*})) + (6.72*(Profit before interest and tax_{*t-1*}/Total assets_{*t-1*}))+1.05*(Common equity_{*t-1*}/Total liabilities_{*t-1*})). *ind* is an indicator variable equal to 1 if a firm is Indian and 0 if it is from the United States sample. All variables are winsorized at 1% and 99% by fiscal year.

* p<0.10, ** p<0.05, *** p<0.01

Results (Tables 6 and 7) with respect to test of our hypothesis four indicate that the financially distressed firms in India are more likely to misclassify cash flows than such firms in the United States. In Table 6, as expected, coefficients on *ind*zscore*ivo* and *ind*zscore*fini* are significantly positive and negative, respectively. This suggests that misclassification of cash flows increases with financial distress more for the Indian firms than the firms in the United States. Remaining two coefficients are statistically insignificant. However, coefficients on *ind*zscore*cff* and *ind*zscore*cfi* are significantly negative in Table 7 and this result supports our hypothesis. Again, weak governance seems to be leading us to this finding.

In Tables 6 and 7, we observe that cash flow classification shifting is also widespread in the United States. Specifically, coefficients on *ivo*, *ivi*, *fino* and *fini* are highly significant and carry expected signs in Table 6. Similarly, coefficients on *cff* and *cfi* are negative and highly significant in Table 7. However, financial distress doesn't seem to have a major impact on the use of this shifting as indicated by the magnitudes of the coefficients on *zscore*cff* and *zscore*cfi*. Overall, our results corroborate the findings of Lee (2012) and Hollie et al. (2011).

To summarize, the results suggest that the cash flow misclassification increases with a decrease in the investor protection. Managers of countries with weak investor protection (like India) are more likely to engage in the misclassification of cash flows in order to inflate operating cash flows. Specifically, cash flow manipulation through misclassification is higher for the firms in India in general and for the financially distressed Indian firms in particular, as compared to the firms in the United States.

Robustness Tests

In order to further ensure that the operating cash flow expectation model (Equation 1) controls adequately for performance, we include firms' previous year's cash flows in the equation and re-estimate unexpected operating cash flows. All our results are qualitatively similar. Alternatively, we estimate performance-matched unexpected cash flows as in Cohen et al. (2013) and get similar results.

Shifting of cash flows to or from financing/investing cash flows results in unexpected shocks to these cash flows also. Hence, we also use industry median-adjusted values of these cash flows in our tests. Our inferences do not change.

Cash flow from operations can also be managed by reduction in the discretionary spending and overproduction (Roychowdhury, 2006), resulting in unexpected shocks to the operating cash flows. Hence, we re-run our tests after controlling for abnormal discretionary expenditure and abnormal production (as estimated in Roychowdhury, 2006). Our results do not change. Results

are also similar when we adjust standard errors using two-way clustering – by firm and year (Petersen, 2009).

CONCLUSION

Firms are more likely to upward manage operating cash flows through classification shifting in the cash flow statement when these are in financial distress, have long-term credit rating near the investment/non-investment grade cut-off, have analysts' cash flow forecasts, and there is higher association between firm's stock returns and its cash flow from operations (Lee, 2012).

However, there is no evidence on how common such manipulation is in the developed (like the United States) or the developing countries (like India), how do firms misclassify cash flows and the magnitude of such misclassification. We test whether such misclassification is likely to be more common in India, a country where the minority investors are inadequately protected as compared to those in the developed countries.

We find that the managers of Indian firms shift operating cash outflows to investing and financing cash outflows, and investing and financing cash inflows to operating cash inflows. The magnitude of such misclassification is higher for the firms in India vis-à-vis the firms in the United States. Further, Indian firms in financial distress are more likely to manipulate operating cash flows as compared to the financially distressed firms in the United States by engaging in the misclassification of cash flows. Thus, we link weak governance and investor protection with the magnitude of cash flow misclassification.

Our findings should be of interest to investors and regulators in India and other emerging markets. Results indicate that cash flows are as prone to manipulation and misclassification as the earnings. So, even cash flows may not indicate the true fundamental performance of a firm. Regulators and auditors in India and other countries with weak investor protection need to monitor cash flow reporting very closely.

NOTES

1. Throughout the paper, we have assumed a currency exchange rate of Indian National Rupees 60 per United States Dollar.
2. These securities were classified as 'available-for-sale' in the balance sheet (year ending February 27, 1999). Proceeds from sale of these securities were classified as cash flows from investing activities in the financial year ending on March 4, 2000, but as cash flows from operating activities in the financial year ending on March 3, 2001.
3. All amounts are in Indian National Rupees. Amounts in US Dollars are about 16 million and 18 million, respectively.
4. Coefficient on cff (0.293) in Panel B of Table 6 multiplied by mean net cash flows from financing activities fcf (150.554).
5. Coefficient on cfi (0.340) in Panel B of Table 6 multiplied by mean net cash flows from investing activities icf (634.496).
6. Coefficient on $zscore*cff$ (0.004) in Panel B of Table 6 multiplied by mean net cash flows from financing activities fcf (150.554).
7. Coefficient on $zscore*cfi$ (0.005) in Panel B of Table 6 multiplied by mean net cash flows from investing activities icf (634.496).

REFERENCES

Altman, E. I. (2002). Corporate distress prediction models in a turbulent economic and Basel II environment. *Working paper, SSRN*.

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*, 23(4), 589-609.

Altman, E. I. (2000). Predicting financial distress of companies: Revisiting the Z-Score and ZETA models. *Working paper, SSRN*.

Athanasakou, V., Strong, N. C., & Walker, M. 2011. The market reward for achieving analyst earnings expectation: Does managing expectation or earnings matter? *Journal of Business Finance & Accounting*, 38(1/2): 58-94.

Brown, L. D., Pinello, A. S., & Huang, K. X. 2010. *To beat or not to beat? The case of analysts' cash flow and earnings forecasts*. Working paper, Georgia State University.

Cain, C. A., Kolev, K., & McVay, S. 2012. *A comprehensive analysis of the use of special items to manage earnings*. Working paper, SSRN.

Call, A. C. 2008. *The implications of cash flow forecasts for investors' pricing and managers' reporting of earnings*. Working paper, University of Washington.

Cohen, D., Pandit, S., Wasley, C., & Zach, T. 2013. *Measuring real activity management*. Working paper, SSRN.

Dechow, P. M., Kothari, S. P., & Watts, R. L. 1998. The relation between earnings and cash flows. *Journal of Accounting and Economics*, 25(2): 133-168.

Dechow, P. M., Ge, W., & Schrand, C. 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, 50(2-3): 344-401.

DeFond, M. L., & Hung, M. 2003. An empirical analysis of analysts' cash flow forecasts. *Journal of Accounting and Economics*, 35(1): 73-100.

DeFond, M. L., & Hung, M. 2007. Investor protection and analysts' cash flow forecasts around the world. *Review of Accounting Studies*, 12(2-3): 377-419.

Fan, Y., Barua, A., Cready, W., & Thomas, W. 2010. Managing earnings using classification shifting: Evidence from quarterly special items. *The Accounting Review*, 85(4): 1303-1323.

Frankel, R., Levy, H., & Shalev R. 2010. *Do firms manage reported cash flow? An examination of temporary fourth quarter working capital decreases*. Working paper, SSRN.

Graham, J. R., Harvey, C. R., & Rajgopal, S. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40(1-3): 3-73.

Haw, I., Ho, S. S. M., & Li, A. Y. 2011. Corporate governance and earnings management by classification shifting. *Contemporary Accounting Research*, 28(2): 517-553.

Haw, I., Hu, B., Hwang, L., & Wu, W. 2004. Ultimate ownership, income management and legal and extra-legal institutions. *Journal of Accounting Research*, 42(2): 423-462.

Hollie, D., Nicholls, C., & Zhao, Q. 2011. Effects of cash flow statement reclassifications pursuant to the SEC's one-time allowance. *Journal of Accounting and Public Policy*, 30(6): 570-588.

Jones, J. J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research*, 29(2): 193-228.

Lee, L. F. 2012. Incentives to inflate reported cash from operations using classification and timing. *The Accounting Review*, 87(1): 1-33.

Leuz, C., Nanda, D., & Wysocki, P. D. 2003. Earnings management and investor protection: An international comparison. *Journal of Financial Economics*, 69(3): 505-527.

Lin, S., Radhakrishnan, S., & Su, L. 2006. *Earnings management and guidance for meeting or beating analysts' earnings forecasts*. Working paper, SSRN.

McVay, S. 2006. Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review*, 81(3): 501-531.

Mulford, C., & Comiskey, E. 2005. *Creative cash flow reporting: Uncovering sustainable financial performance*. New Jersey: Wiley.

Narayanaswamy, R., Raghunandan, K., & Rama, D. V. 2012. Corporate governance in the Indian context. *Accounting Horizons*, 26(3): 583-599.

Ohlson, J. A. 1980. Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research*, 18(1): 109-131.

Petersen, M. A. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *The Review of Financial Studies*, 22(1): 435-480.

Roychowdhury, S. 2006. Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42(3): 335-370.

Schilit, H., & Perler, J. 2010. *Financial shenanigans: How to detect accounting gimmicks and fraud in financial reports*. New Delhi: Tata McGraw Hill Education.

Sharma, D. 2001. The role of cash flow information in predicting corporate failure: The state of the literature. *Managerial Finance*, 27(4): 3-28.

The Financial Express. 2009. Satyam fraud: Full text of Raju's letter to board. January 7.

Wasley, C. E., & Wu, J. S. 2006. Why do managers voluntarily issue cash flow forecasts? *Journal of Accounting Research*, 44(2): 389-429.

Zhang, R. 2006. *Cash flow management, incentives, and market pricing*. Working paper, SSRN.

Zhang, W. 2007. *The effects of meeting or beating analysts' cash flow forecasts on market reaction and analysts' forecast revisions*. (Working paper, National University of Singapore).