



# Gross profit manipulation through classification shifting

Sakina H. Poonawala, Neerav Nagar\*

Indian Institute of Management Ahmedabad, India

## ARTICLE INFO

### Keywords:

Gross profits  
Classification shifting  
Earnings manipulation  
Operating expenses  
R&D  
SG&A

## ABSTRACT

The existing research on classification shifting has examined the manipulation of core earnings through shifting of core expenses to special items keeping the GAAP earnings constant. We examine the manipulation of gross profits through shifting of costs of goods sold to operating expenses keeping core earnings constant. We find that managers, on average, misclassify costs of goods sold as operating expenses in order to just meet prior period's gross margin. We also find that managers shift costs of goods sold to both selling, general and administrative expenses and research and development expenses. However, they are more likely to shift costs of goods sold to the latter.

## 1. Introduction

Classification shifting is the misclassification of items in the income statement. [McVay \(2006\)](#) suggests that managers misclassify core expenses as special items in order to inflate core earnings with one of the intentions being to meet or beat analysts' forecasts. Subsequent literature (e.g., [Fan, Barua, Cready, & Thomas, 2010](#); [Fan & Liu, 2017](#); [Haw, Ho, & Li, 2011](#)) has examined other incentives behind this form of misclassification and the role of firm and country level governance in curbing this behaviour. For example, [Abernathy, Beyer, and Rapley \(2014\)](#) suggest that managers use classification shifting as a substitute for both accruals earnings management and real earnings management. In addition, classification shifting is likely to be more prevalent in the countries with weak investor protection ([Behn, Gotti, Herrmann, & Kang, 2013](#)). We take this literature forward and focus on the manipulation of gross profits rather than core earnings. Specifically, we examine whether managers misclassify cost of goods sold (COGS) as operating expenses in order to inflate gross profits.

The literature ([Giroux, 2004](#); [Weygandt, Kieso, & Kimmel, 2005](#)) suggests that gross margin is an important performance metric signalling the efficiency of core operations of a firm. Gross margin not only gives relevant and distinct information to investors, but it is also perceived as more sustainable than core earnings due to its closer

proximity to sales. Managers can thus have reasonable motivation to manipulate the gross margin figure. Anecdotal examples exist to support this claim. The Securities Exchange Commission has found firms engaging in the manipulation of gross margins. e.g., Fischer Imaging Corporation had allegedly misstated its gross profits in the years 2000 and 2001 in such a manner.<sup>1</sup>

Our tests of misclassification keep both GAAP earnings and core earnings constant. This differentiates our study from that of [Fan and Liu \(2017\)](#). They conclude that COGS is shifted to special items in order to inflate gross profits. However, such a misclassification inflates core earnings as well. By keeping core earnings constant, we examine the manipulation of gross profits independent of the manipulation of core earnings.

We find that managers shift COGS to operating expenses in order to manipulate gross profits upwards. We also examine whether managers prefer to shift COGS to a particular type of operating expenses viz. research and development expenses (R&D) or selling, general and administrative expenses (SG&A). Due to the differences in the nature of industries and accordingly in the nature of R&D, it is difficult for FASB to prescribe in detail costs and activities includable in R&D.<sup>2</sup> Therefore, the level of discretion with management for including a cost in R&D is high ([Skaife, Swenson, & Wangerin, 2013](#)). Further, there is evidence that investors view R&D costs favourably ([Chan, Martin, & Kensinger,](#)

\* Corresponding author.

E-mail addresses: [sakinak@iima.ac.in](mailto:sakinak@iima.ac.in) (S.H. Poonawala), [neeravn@iima.ac.in](mailto:neeravn@iima.ac.in) (N. Nagar).

<sup>1</sup> The SEC states "...Fischer improperly classified labor and overhead expenses associated with its service business as other operating expenses rather than costs of sales. Because of their improper classification, Fischer failed to include these expenses in its calculation of gross profits. As a result, Fischer materially overstated its gross profits in its press releases and filings with the Commission relating to the relevant periods. Fischer knew, or was reckless in not knowing, about its misstatement of gross profits." (<https://www.sec.gov/litigation/admin/33-8503.htm>, AAER No. 2134, November 15, 2004)

<sup>2</sup> Accounting Standards Board (FASB). 1974. Statement of Financial Accounting Standards No. 2:

Accounting for Research and Development Costs. Stamford, Conn.: FASB.

1990; Skaife et al., 2013). Accordingly, we hypothesize that due to a relatively vague nature of R&D, shifting of COGS to R&D will be more as compared to that to SG&A. Our findings indicate the same. We also find that managers are more likely to shift COGS to R&D than to SG&A in order to just meet prior year's gross margin.

Our study contributes to the burgeoning literature on classification shifting. To the best of our knowledge, ours is only the second study (after Fan & Liu, 2017) to have examined the manipulation of gross profits through the misclassification of COGS. However, unlike Fan and Liu (2017), we examine shifting of COGS to operating expenses like R&D and SG&A. Probably auditors may find it tough to verify the correct classification of expenses. Further, they may put fewer efforts to undo managers' actions since there is no change in the bottom-line (McVay, 2006; Nelson, Elliott, & Tarpley, 2002). That is why managers may go ahead and manipulate gross profits through misclassification to give a favourable view of their core profitability.

In the next section, we review the relevant literature and discuss our hypotheses. Next, we explain the methodology and the estimation models adopted. We then move on to explaining the sample and the results. We conclude in the last section.

## 2. Literature review and hypotheses development

Earnings management presents a picture of the economic condition of a firm that is different from the reality. Prior literature has focused on three earnings management mechanisms, Accruals Management (see Healy, 1985; Jones, 1991; McNichols & Wilson, 1988), Real Activities Management (see Bushee, 1998; Dechow & Sloan, 1991; Gunny, 2010; Roychowdhury, 2006) and Classification Shifting (Fan et al., 2010; Haw et al., 2011; McVay, 2006). Accruals management involves inflating current period earnings at the cost of future earnings by either income-acceleration or expense-deceleration. Real activities management involves manipulation of economic activities such as over-production of inventory or reduction of discretionary spending. Classification shifting involves the deliberate misclassification of income statement items in order to inflate the sub-aggregates (gross or core earnings) while maintaining the aggregate (net earnings) constant.

The literature on classification shifting has primarily studied the shifting of core expenses to special items in order to inflate core earnings keeping GAAP earnings constant. McVay (2006) finds that managers shift operating expenses to income-decreasing special items in order to inflate core earnings. However, she finds that investors are unable to understand the impact of such shifting. Alfonso, Cheng, and Pan (2015) support her argument and find that market over-prices core earnings of the firms engaging in shifting. Managers are also likely to shift operating expenses to income-decreasing discontinued operations (Barua, Lin, & Sbaraglia, 2010), and amongst the segments within a firm (Lail, Thomas, & Winterbotham, 2014). Fan et al. (2010) observe that shifting is more likely to happen in the fourth quarter than in the first three quarters. The existing research (Abernathy et al., 2014; Fan et al., 2010) also suggests that managers use classification shifting as a substitute for both accruals earnings management and real earnings management. Further, classification shifting is likely to be more prevalent in the countries with weak investor protection (Behn et al., 2013). This opportunistic behavior of managers is consistent with the evidence that the placement of a line item in the income statement matters to investors and affects stock valuation (Bartov & Mohanram, 2014). However, to the best of our knowledge, no study has examined the manipulation of gross profits by shifting of costs of goods sold (COGS) to operating expenses keeping core earnings constant.

Gross profits are calculated as the difference between sales and COGS. It is the closest line item to sales, which indicates profitability of the firm. Gross profits form a major part of the sustainable or operating income of a business and are unaffected by the frequency and magnitude of the reported non-recurring and unsustainable special or extraordinary items in the income statement. It directly signals out the

efficiency of a firm's operations (Giroux, 2004), and the relation between the input and output prices. Analysts view the decline in the gross margin as unfavourable (Graham & Dodd, 1934). The gross margin also suggests how effective the pricing policies and purchasing function are (Weygandt et al., 2005). Despite its importance as a performance indicator, there is a dearth of research on its manipulation.

A significant issue is that if managers shift COGS to other operating expenses, do investors find the latter figure as less value relevant? McVay (2006) suggests that as per the FASB Accounting Concept No.5, each item in the income statement provides distinct information either individually or as a part of a group of items grouped based on similar characteristics. Importantly, investors tend to recognise the distinction between the line items and accordingly attach different relative importance to the different line items in the income statement (Bradshaw & Sloan, 2002; Davis, 2002; Elliott & Shaw, 1988; Fairfield, Sweeney, & Yohn, 1996; Francis, Maydew, & Sparks, 1999; Lipe, 1986). Ohlson and Penman (1992) support this view for the prediction of returns in the short term. Further, in terms of sustainability of the item, the closer it is to the sales in the income statement higher is its sustainability and permanence (Fairfield et al., 1996; Lipe, 1986). Further, Lev and Thiagarajan (1993) suggest that gross margin has more information content as compared to net earnings with respect to the persistence of earnings and the value of a firm. While Abarbanell and Bushee (1997) and Ou and Penman (1989) find that gross margin and the one-year-ahead earnings are significantly related, the former find that no such relation exists between the selling, general and administration expenses (SG&A) and the one-year-ahead earnings.

Therefore, we can infer that gross profits not only give relevant and distinct information to investors, these are also perceived as more sustainable than core earnings due to its closer proximity to sales. Furthermore, as discussed above, it is considered more informative with respect to the persistence, the prediction of short-term earnings and as a firm value measure. Management can thus be said to have reasonable motivation to manipulate the gross margin figure.

Anecdotal examples exist to support our claim. The first is of Fischer Imaging Corporation, which was alleged by the Securities Exchange Commission to have misstated its gross profits figure in the years 2000 and 2001 in such a manner. Similarly, DHB Industries was alleged to have tampered with its gross profits and net income figures in the earnings releases and filings in the period 2003 to 2005.<sup>3</sup> OCZ Technology Group Inc. was also accused of tampering with the gross margin figures between 2010 and 2012.<sup>4</sup>

Fan and Liu (2017) have empirically established that management takes action to manipulate gross profits. They segregate core expenses into its two components, COGS and SG&A, and study the shifting of each component to special items for meeting distinct objectives. They find that in order to meet the gross margin benchmark of the prior period, only COGS, and not SG&A, is shifted to special items. Accordingly, they establish that managers manipulate gross profits. This shifting of COGS is, however, to special items and thereby core earnings are also manipulated by default. We study the shifting of COGS to R&D and SG&A where only gross profits are manipulated, and core earnings remain constant.

Given the importance attached to gross profits as a distinct line item in the income statement by investors and management, and the lower cost of engaging in shifting as compared to other earnings management techniques, we hypothesize that managers engage in classification shifting in order to inflate gross profits keeping core earnings constant.

**H1.** : Managers misclassify costs of goods sold as operating expenses.

The literature on shifting also establishes that managers have incentives to meet or beat earnings benchmarks (Barua et al., 2010; Fan

<sup>3</sup> <https://www.sec.gov/news/press/2011/2011-52.htm>

<sup>4</sup> <https://www.sec.gov/news/pressrelease/2015-234.html>

et al., 2010; McVay, 2006). Fan et al. (2010) demonstrate that managers are more likely to shift core expenses to special items in order to meet or beat prior period core earnings, zero core earnings and analyst forecasts of core earnings. Consistent with this argument, Zalata and Roberts (2017) show that managers in the UK are more likely to engage in classification shifting in order to report core earnings increases in the post-IFRS era. We examine whether there is a shifting of COGS to operating expenses in order to achieve the benchmark of prior period's gross margin. We hypothesize that:

**H2.** : Managers misclassify costs of goods sold as operating expenses in order to just meet prior period's gross margin.

So far, we have considered the shifting of COGS to operating expenses. These operating expenses are the sum of SG&A and R&D. We now discuss where COGS is more likely to be shifted to, SG&A or R&D.

Due to the differences in the nature of industries and accordingly in the nature of R&D, it is difficult for FASB to prescribe in detail costs and activities includable in research and development. Therefore, the level of discretion with management for including a cost in R&D is high (Chan, Lakonishok, & Sougiannis, 2001; Skaife et al., 2013) also support the view that there is a lack of accounting disclosures on R&D expenditure. Aboody and Lev (2000) find that insider gains are significantly larger in R&D intensive firms as compared to those firms with no R&D and conclude that R&D contributes significantly to information asymmetry. Investors view favourably the firms that spend on research activities, and reward firms that miss meeting earnings benchmarks because of a high research expenditure (Chan et al., 1990; Skaife et al., 2013). Accordingly, we hypothesize that a higher proportion of the shifting of COGS would take place to R&D as compared to SG&A. We also hypothesize that incentives to meet the benchmark of prior-period gross margin will result in more shifting to R&D as compared to that to SG&A.

**H3A.** : Managers are more likely to misclassify costs of goods sold as research and development expenses than as selling, general and administrative expenses.

**H3B.** : Managers are more likely to misclassify costs of goods sold as research and development expenses than as selling, general and administrative expenses in order to just meet prior period's gross margin.

### 3. Research design

We follow McVay (2006) and estimate unexpected gross profits (the difference between reported gross profits and expected gross profits) and unexpected operating expenses (the difference between reported operating expenses and expected operating expenses). We then associate unexpected gross profits with unexpected operating expenses. A positive association between the two is inferred as evidence of shifting from COGS to operating expenses.

Our gross profits expectation model is as follows:

$$GP_{i,t}/AT_{i,t-1} = \beta_0 + \beta_1(1/AT_{i,t-1}) + \beta_2(GP_{i,t-1}/AT_{i,t-1}) + \beta_3(TACC_{i,t-1}/AT_{i,t-1}) + \beta_4(TACC_{i,t}/AT_{i,t-1}) + \beta_5(SALE_{i,t}/AT_{i,t-1}) + \beta_6(CH\_SALE_{i,t}/AT_{i,t-1}) + \beta_7(NEG\_CHG\_SALE_{i,t}/AT_{i,t-1}) + \psi_i \tag{1}$$

Eq. (1) is estimated for each industry-year group in our sample. We remove industry-years with < 15 observations. Industry identification is based on two-digit SIC codes. The residuals from Eq. (1) are termed as unexpected gross profits (UEGP). In this equation, the first explanatory variable is lagged gross profits ( $GP_{t-1}$ ), as core profits tend to be persistent (McVay, 2006). This persistence stems from the recurring nature of the operating revenues and expenses. Unlike non-recurring special or extraordinary items, these reflect the normal operations of the business. The model also includes contemporaneous ( $TACC_t$ ) and lagged

( $TACC_{t-1}$ ) accruals as explanatory variables in order to control for the impact of accruals on gross profits. Contemporaneous accruals are associated with firms' economic performance (DeAngelo, Deangelo, & Skinner, 1994). Sloan (1996) finds that current earnings are less likely to persist in future if it is composed of more accruals than cash. Thus, current earnings are expected to be negatively associated with the lagged level of accruals. We include contemporaneous sales ( $SALE_t$ ) as it would impact COGS and gross profits. The increase in a firm's gross profits with rising sales depends upon the structure of a firm's fixed costs. Any additional sales after a firm has recovered its fixed costs contributes directly to the bottom line, net of the variable costs. Thus, higher sales growth ( $CH\_SALE_t$ ) results in higher earnings growth. Anderson, Banker, and Janakiraman (2003) find that SG&A costs are sticky i.e. for a given increase in sales, costs increase more than they decrease for a corresponding decrease in sales. This is because managers maintain the unutilized resources in the event of a fall in activity instead of downsizing. They do so to avoid incurring adjustment costs like severance pay on employee dismissals and/or hiring and training costs for new employees when sales rebound. Hence,  $NEG\_CHG\_SALE_t$  is included to allow the slope to differ between sales decreases and increases. All variables are scaled by prior period total assets.

Next, we model operating expenses. Operating expenses are an aggregate of SG&A and R&D. We model both separately. Our SG&A expectation model (see Gunny, 2010) is given in Eq. (2):

$$SGA_{i,t}/AT_{i,t-1} = \gamma_0 + \gamma_1(1/AT_{i,t-1}) + \gamma_2(MV_{i,t}) + \gamma_3(Q_{i,t}) + \gamma_4(INT_{i,t}/AT_{i,t-1}) + \gamma_5(CH\_SALE_{i,t}/AT_{i,t-1}) + \gamma_6(NEG\_CHG\_SALE_{i,t}/AT_{i,t-1}) + \epsilon_i \tag{2}$$

The residuals from Eq. (2) are termed as unexpected selling, general and administrative expenses (UESGA). In this equation,  $MV_t$  is the log of market value,  $Q_t$  is Tobin's Q, and  $INT_t$  is the proxy for available internal funds. We use  $MV_t$  to control for size;  $Q_t$  to control for net benefits to new investments, and  $INT_t$  to control for the availability of funds.  $CH\_SALE_t$  and  $NEG\_CHG\_SALE_t$  have been included due to the reasons given earlier. All variables are scaled by prior period total assets.

R&D expectation model (see Gunny, 2010) is given below:

$$RD_{i,t}/AT_{i,t-1} = \theta_0 + \theta_1(1/AT_{i,t-1}) + \theta_2(MV_{i,t}) + \theta_3(Q_{i,t}) + \theta_4(INT_{i,t}/AT_{i,t-1}) + \theta_5(RD_{i,t-1}/AT_{i,t-1}) + \Psi_i \tag{3}$$

The residuals from Eq. (3) are termed as unexpected research and development expenses (UERD). In Eq. (3), we include  $RD_{t-1}$  as several R&D expenses are semi-fixed and hence, likely to be persistent (Skaife et al., 2013).

Our first hypothesis states that managers misclassify COGS as operating expenses in order to manipulate gross profits keeping core earnings constant. In order to test this conjecture, we regress unexpected gross profits (UEGP) on unexpected operating expenses (UEOE), the sum of unexpected R&D and unexpected SG&A, as follows:

**Table 1**  
Sample selection.

Particulars	Number of firms	Number of firm-years
Initial sample with non-missing 'gkey' or 'sic' code (Years 1988 to 2016)	27,135	314,832
Less: Observations from SIC codes 60 to 67	7932	108,552
Less: Observations with sales less than \$1 million	19,203	206,280
	1861	34,026
	17,342	172,254
Less: Industry-years with number of observations < 15	22	169
	17,320	172,085
Less: Number of missing observations for variables in the models for measuring expected R&D, SG&A and GP	899	101,861
Final sample	16,421	70,224

**Table 2**  
Descriptive statistics.

Particulars	Min	p25	Median	Mean	p75	Max	s.d.	N
CH <sub>t</sub> SALE	-0.09	0.00	0.00	0.01	0.00	0.45	0.06	188,916
GP <sub>t</sub> /AT <sub>t-1</sub>	-0.44	0.17	0.34	0.43	0.58	2.18	0.40	188,874
INT <sub>t</sub> /AT <sub>t-1</sub>	-0.86	0.02	0.11	0.09	0.20	0.93	0.27	119,692
MV	0.20	3.34	5.08	5.16	6.89	10.99	2.48	180,746
NEG_CHG_SALE	-0.09	0.00	0.00	-0.00	0.00	0.00	0.01	188,916
Q	0.33	0.81	1.18	1.82	1.99	2.12	1.96	179,984
RD <sub>t</sub> /AT <sub>t-1</sub>	0.00	0.01	0.04	0.07	0.13	0.34	0.08	119,952
SALE <sub>t</sub> /AT <sub>t-1</sub>	0.07	0.58	1.05	1.31	1.68	6.13	1.07	188,916
SGA <sub>t</sub> /AT <sub>t-1</sub>	0.00	0.07	0.20	0.26	0.41	0.91	0.22	188,916
TACC <sub>t</sub> /AT <sub>t-1</sub>	-1.03	-0.12	-0.06	-0.08	0.01	0.46	0.16	171,717
UEGP	-0.51	-0.05	-0.00	0.00	0.05	0.58	0.18	134,414
UEOE	-0.51	-0.11	-0.02	0.00	0.10	0.54	0.14	74,077
UERD	-0.12	-0.01	0.00	0.00	0.01	0.12	0.18	74,294
UESGA	-0.50	-0.11	-0.02	0.00	0.09	0.52	1.09	75,437

$$UEGP_{i,t} = \lambda_0 + \lambda_1 UEOE_{i,t} + \omega_i \tag{4}$$

In Eq. (4), UEGP is unexpected gross profits; UEOE is unexpected operating expenses (UESGA + UERD). If managers shift COGS to operating expenses, the coefficient on UEOE should be positive.

Our second hypothesis states that managers are more likely to shift COGS to operating expenses in order to achieve the benchmark of prior period's gross margin. We use Eq. (5) to test this assertion.

$$UEGP_{i,t} = \nu_0 + \nu_1 UEOE_{i,t} + \nu_2 MEET_{i,t} + \nu_3 MEET_{i,t} * UEOE_{i,t} + \Omega_{i,t} \tag{5}$$

In Eq. (5), the variable MEET is an indicator variable, which is equal to one if a firm just meets the prior period's gross margin by 1% or less, zero otherwise. We expect the interaction term (MEET \* UEOE) to be positive, which would indicate that managers are more likely to engage in the misclassification of COGS in order to deliver a positive gross profits surprise.

Our third hypothesis states that COGS is more likely to be shifted to R&D than to SG&A. We use Eqs. (6) and (7) to test this premise.

$$UEGP_{i,t} = \tau_0 + \tau_1 UESGA_{i,t} + \tau_2 UERD_{i,t} + \phi_{i,t} \tag{6}$$

$$UEGP_{i,t} = \kappa_0 + \kappa_1 UESGA_{i,t} + \kappa_2 UERD_{i,t} + \kappa_3 MEET_{i,t} + \kappa_4 MEET_{i,t} * UESGA_{i,t} + \kappa_5 MEET_{i,t} * UERD_{i,t} + o_i \tag{7}$$

In Eq. (6), we expect the coefficient on UERD to be higher than that on UESGA. In Eq. (7), we expect  $\kappa_2 + \kappa_5$  to be greater than  $\kappa_1 + \kappa_4$ .

#### 4. Data and sample

The data are obtained from Compustat. Our sample period is 1988 to 2016. The initial sample is 314,832 firm-years (27,135 firms). The following observations are removed from the sample (see Table 1 for details): firm-years in finance and utilities sectors (SIC codes 60 to 67), firm-years with sales less than \$1 million, firm-years with missing values of variables required in the expectation models (1), (2) and (3), and firm-years in industry-years with observations < 15 (the minimum requirement for running our expectation models). Our final sample comprises of 70,224 observations (16,421 firms).

The descriptive statistics are given in Table 2. To account for potential outliers, all continuous variables have been winsorized at 1% and 99% levels of their distributions. For our sample firms, gross profits, R&D and SG&A are about 43%, 7% and 26% of assets, respectively. Mean unexpected gross profits, R&D and SG&A are zero as these are residuals from the regressions.

Appendix II presents the results from our first stage regressions i.e. the expectation models given in Eqs. (1), (2) and (3) for gross profits, SG&A and R&D estimation, respectively. In these models, the

**Table 3**  
Misclassification of COGS as operating expenses.

	Predicted sign	Dependent variable: UEGP <sub>i,t</sub>
Constant		0.008*** (10.70)
UEOE <sub>i,t</sub>	+	0.107*** (13.17)
Adjusted R <sup>2</sup> (%)		1.8
p-Value		0.000
F-value		723.82
No. of firm-years		70,224

The regression model is  $UEGP_{i,t} = \lambda_0 + \lambda_1 UEOE_{i,t} + \omega_i$ . t-statistics are given in parentheses. Standard errors are two-way clustered (firm and year). Variable definitions are given in Appendix I.

\*\*\* p < 0.01

coefficients are the mean coefficients from regressions for all industry-years. The mean adjusted R-Square for every model is consistent with the previous literature. In the gross profits expectation model (Eq. (1)), as expected, one-year lagged gross profits (GP<sub>t-1</sub>) are positively associated with current gross profits. Also, as expected, the accruals of prior (TACC<sub>t-1</sub>) and current (TACC<sub>t</sub>) periods are negatively and positively associated with current gross profits, respectively. Further, sales (SALE<sub>t</sub>), change in sales (CH<sub>t</sub>SALE<sub>t</sub>) and negative change in sales (NEG\_CHG\_SALE<sub>t</sub>) are positively associated with current gross profits. In the SG&A expectation model, market value (MV<sub>t</sub>), Tobin's Q (Q<sub>t</sub>) and internal funds (INT<sub>t</sub>) are associated with SG&A, as expected (negative, positive and positive, respectively). However, the coefficients on change in sales (CH<sub>t</sub>SALE<sub>t</sub>) and negative change in sales (NEG\_CHG\_SALE<sub>t</sub>) are unexpectedly negative. In the R&D expectation model, as expected, the lagged R&D (RD<sub>t-1</sub>), Tobin's Q (Q<sub>t</sub>) and internal funds (INT<sub>t</sub>) are positively associated with the contemporaneous R&D. However, the coefficient on market value (MV<sub>t</sub>) is unexpectedly negative.

#### 5. Results and discussion

Our first hypothesis predicts a positive association between unexpected gross profits (UEGP) and unexpected operating expenses (UEOE) in Eq. (4). As can be seen in Table 3, the coefficient on UEOE (Coeff: 0.107, t-stat: 13.17) is positive and statistically significant at the 1% level of significance. Specifically, one standard deviation change in UEOE in our sample implies a change of 1.5% (0.107 \* 0.14)<sup>5</sup> in UEGP, which is

<sup>5</sup> The coefficient on UEOE (0.107) multiplied by the standard deviation of UEOE (0.14).

**Table 4**  
Misclassification of COGS as operating expenses in order to just meet prior period gross profits benchmark.

	Predicted sign	Dependent variable: $UEGP_{i,t}$
Constant		0.007*** (9.44)
$UEOE_{i,t}$	+	0.106*** (12.95)
$MEET_{i,t}$	?	0.016*** (9.04)
$MEET_{i,t} * UEOE_{i,t}$	+	-0.003 (-0.21)
Adjusted R <sup>2</sup> (%)		1.9
p-Value		0.000
F-value		282.52
No. of firm-years		70,224

The regression model is  $UEGP_{i,t} = \nu_0 + \nu_1(UEOE_{i,t}) + \nu_2(MEET_{i,t}) + \nu_3(MEET_{i,t} * UEOE_{i,t}) + \Omega_{i,t}$ . t-statistics are given in parentheses. Standard errors are two-way clustered (firm and year). Variable definitions are given in Appendix I.

\*\*\* p < 0.01.

**Table 5**  
Misclassification of COGS as R&D and SG&A.

	Predicted sign	Dependent variable: $UEGP_{i,t}$
Constant		0.009*** (11.59)
$UESGA_{i,t}$	+	0.098*** (11.54)
$UERD_{i,t}$	+	0.368*** (11.31)
Adjusted R <sup>2</sup> (%)		2.1
p-Value		0.000
F-value		410.21
No. of firm-years		70,224

The regression model is  $UEGP_{i,t} = \tau_0 + \tau_1(UESGA_{i,t}) + \tau_2(UERD_{i,t}) + \phi_{i,t}$ . t-Statistics are given in parentheses. Standard errors are two-way clustered (firm and year). Variable definitions are given in Appendix I.

\*\*\* p < 0.01.

economically meaningful. We infer that managers do seem to shift COGS to operating expenses in order to manipulate gross profits upwards.

Table 4 presents the results for hypothesis two. As seen earlier,  $UEOE$  is positive and statistically significant. However, when interacted with the variable  $MEET$ , the interaction term ( $MEET * UEOE$ ) is statistically insignificant. Hence, we do not find any evidence of managers misclassifying COGS to operating expenses in order to just meet past gross margin.

The third hypothesis tests whether COGS is more likely to be shifted to R&D than to SG&A. We predict that managers are more likely to shift COGS to R&D because of its relatively vague nature, which gives more discretion to managers. The results in Table 5 indicate that while there is a positive and statistically significant association between  $UEGP$  and both  $UERD$  and  $UESGA$ , R&D is more likely to be used for misclassifying COGS. Specifically, the coefficient on  $UERD$  (Coeff: 0.368, t-stat: 11.31) is higher than that on  $UESGA$  (Coeff: 0.098, t-stat: 11.54). The difference between these two coefficients is statistically significant at the 1% level of significance (F-stat: 49.52). Economically, one standard deviation change in  $UESGA$  in our sample implies a change of 10.7% ( $0.098 * 1.09$ ) in  $UEGP$ , and one standard deviation change in  $UERD$  implies a change of 6.6% ( $0.368 * 0.18$ ) in  $UEGP$ .

In Table 6, we interact the incentive to meet the prior period's gross margin benchmark ( $MEET$ ) with both  $UERD$  and  $UESGA$ . While the interaction term,  $MEET * UERD$  is positive and statistically significant, the interaction term,  $MEET * UESGA$  is statistically insignificant. As expected,  $\kappa_2 + \kappa_5$  ( $0.352 + 0.375 = 0.727$ ) is greater than  $\kappa_1 + \kappa_4$  ( $0.097 - 0.014 = 0.083$ ). This difference is statistically significant at the

**Table 6**  
Misclassification of COGS as R&D and SG&A in order to meet prior period gross profits benchmark.

	Predicted sign	Dependent variable: $UEGP_{i,t}$
Constant		0.007*** (10.28)
$UESGA_{i,t}$	+	0.097*** (11.36)
$UERD_{i,t}$	+	0.352*** (10.70)
$MEET_{i,t}$	?	0.017*** (10.19)
$MEET_{i,t} * UESGA_{i,t}$	+	-0.014 (-0.87)
$MEET_{i,t} * UERD_{i,t}$	+	0.375*** (3.01)
Adjusted R <sup>2</sup> (%)		2.2
p-Value		0.000
F-value		192.68
No. of firm-years		70,224

The regression model is  $UEGP_{i,t} = \kappa_0 + \kappa_1(UESGA_{i,t}) + \kappa_2(UERD_{i,t}) + \kappa_3(MEET_{i,t}) + \kappa_4(MEET_{i,t} * UESGA_{i,t}) + \kappa_5(MEET_{i,t} * UERD_{i,t}) + \sigma_{i,t}$ . t-Statistics are given in parentheses. Standard errors are two-way clustered (firm and year). Variable definitions are given in Appendix I.

\*\*\* p < 0.01.

1% level (F-stat: 24.22). Accordingly, we infer that managers are more likely to shift COGS to R&D than to SG&A in order to just meet prior-period's gross margin. As discussed, opaqueness/vagueness in reporting of R&D accords higher discretion to managers.

Our findings suggest that gross profit manipulation is rampant, and not limited to only a few firms in the US. Managers misclassify COGS as R&D and SG&A in order to meet or beat prior period's gross margin. However, they seem to prefer R&D to SG&A for this purpose. Even though misclassification of COGS is a violation of GAAP, it is not possible for the SEC to detect all such manipulations. Hence, the role of auditors is very important especially given the evidence that auditors may have limited incentives to report classification shifting (Desai & Nagar, 2016).

## 6. Robustness tests

In our main tests, we find a positive association between  $UEGP$  and  $UERD/UESGA$ , and infer that COGS is being shifted to R&D and SG&A. An alternate explanation for our finding is that a firm's discretionary spending, especially R&D, may be positively associated with the firm performance. In other words, firms are likely to cut R&D when there is a decline in gross profits, and they are likely to spend more on R&D when there is an increase in gross profits. In these situations, we are likely to find a positive association between  $UEGP$  and  $UERD$ , and may end-up inferring shifting wrongly. Though the results in Table 6 do indicate that firms in the  $MEET$  bin are more likely to engage in shifting as compared to other earnings bins, we re-run our regressions for three bins ( $MISS$ ,  $MEET$  and  $BEAT$ ).  $MEET$  refers to the sub-sample of firms, which have just met prior period's gross margin by 1% or less.  $BEAT$  refers to the sub-sample of firms, which have met prior period's gross margin by > 1%.  $MISS$  refers to the sub-sample of firms, which could not meet this benchmark. If our findings are robust, the shifting to R&D will be more in  $MEET$  than that in  $BEAT$ . If the alternate explanation is true, the shifting to R&D will be lower in  $MEET$  than that in  $BEAT$ . The results are given in Table 7. We find that while the association between  $UEGP$  and  $UERD$  is positive and significant in all sub-samples, the coefficient on  $UERD$  in  $MEET$  bin is the highest (Coeff: 0.727, t-stat: 5.85). The differences amongst the coefficients on  $UERD$  in columns  $MEET$ ,  $MISS$  and  $BEAT$  are statistically significant at 1% level of significance. Although the evidence suggests the association between a firm's discretionary spending and its performance, our results strongly support the hypothesis of misclassification of COGS to R&D. The lower

**Table 7**  
Misclassification of COGS as R&D and SG&A (regressions by three bins: *MISS*, *MEET* and *BEAT*).

	Predicted sign	Dependent variable: $UEGP_{i,t}$		
		<i>MISS</i>	<i>MEET</i>	<i>BEAT</i>
Constant		−0.025*** (−19.12)	0.025*** (13.34)	0.046*** (22.88)
$UESGA_{i,t}$	+	0.069*** (7.33)	0.083*** (4.85)	0.124*** (13.88)
$UERD_{i,t}$	+	0.318*** (7.19)	0.727*** (5.85)	0.400*** (12.51)
Adjusted R <sup>2</sup> (%)		1.2	4.1	3.4
p-Value		0.000	0.000	0.000
F-value		115.03	43.38	299.90
No. of firm-years		35,487	4574	30,163

The regression model is  $UEGP_{i,t} = \tau_0 + \tau_1(UESGA_{i,t}) + \tau_2(UERD_{i,t}) + \phi_{i,t}$ . t-Statistics are given in parentheses. Standard errors are two-way clustered (firm and year). Variable definitions are given in [Appendix I](#).

\*\*\*  $p < 0.01$ .

bound of such association between  $UEGP$  and  $UERD$  is likely to be approximately 0.327 (0.727–0.400), the difference in coefficients on  $UERD$  between *MEET* and *BEAT* sub-samples.<sup>6</sup>

In our main analysis, we have focused on firms from all industries. As a robustness test, the sample was restricted to include only the firms from the manufacturing industry (SIC codes 2000 to 3999). We do this because ‘gross profits’ and ‘cost of goods sold’ are most relevant for these type of firms. Accordingly, we estimate unexpected gross profits, R&D and SG&A for only manufacturing firm-years and re-run all our tests. All our results (untabulated) are consistent with the original findings, and in fact, stronger for this sub-sample.

We also test our hypotheses by focusing only on those firms which have positive unexpected gross profits (33,168 observations), as these are the firms most likely to have manipulated their gross profits

## Appendix I

### Variable definitions

<i>AT</i>	Total assets. Compustat item: AT.
<i>BEAT</i>	An indicator variable equal to one if the difference between current period's gross margin and prior period's gross margin is > 0.01, zero otherwise.
<i>CH_SALE</i>	Change in sales from prior period to current period.
<i>GP</i>	Gross profits. Compustat item: GP.
<i>GPM</i>	Gross profits Margin. Compustat items: GP/SALE.
<i>INT</i>	Internal Funds. Compustat items: IB + XRD + DP.
<i>MISS</i>	An indicator variable equal to one if the difference between current period's gross margin and prior period's gross margin is < 0.00, zero otherwise.
<i>MEET</i>	An indicator variable equal to one if the difference between current period's gross margin and prior period's gross margin is between 0.00 and 0.01, zero otherwise.
<i>MV</i>	Market value. Compustat items: log (PRCC_F * CSHO).
<i>NEG_CHG_SALE</i>	Negative change in sales from prior period to current period, zero otherwise.
<i>Q</i>	Tobin's Q. Compustat items: [(PRCC_F * CSHO) + PSTK + DLTT + DLC]/AT].
<i>RD</i>	Research and development expenses. Compustat item: XRD.
<i>SALE</i>	Net sales. Compustat item: SALE.
<i>SG&amp;A</i>	Selling, General and Administrative Expense. Calculated from Compustat items as XSGA less XRD where XSGA is greater than XRD, and XSGA otherwise.
<i>TACC</i>	Total accruals. Compustat items: IBC-(OANCF-XIDOC).
<i>UEGP</i>	Unexpected gross profits estimated using Eq. (1).
<i>UEOE</i>	Unexpected operating expenses. (UERD + UESGA).
<i>UERD</i>	Unexpected research and development expenses estimated using Eq. (3).
<i>UESGA</i>	Unexpected selling, general and administration expenses estimated using Eq. (2).

<sup>6</sup> We thank one of the reviewers for suggesting this analysis.

upwards. Once again, the results (untabulated) are qualitatively similar.

Consistent with the prior literature (see [Fan & Liu, 2017](#)), the t-statistics reported in the tables are based on firm and year two-way clustered standard errors. However, in additional tests, we control for firm and year fixed effects. In untabulated tests, we find that all our results continue to hold.

## 7. Conclusion

The existing literature on classification shifting has primarily focused on the manipulation of core earnings. We focus on the manipulation of gross profits independent of the manipulation of core earnings. Gross profit is an important performance metric signalling the efficiency of the core operations of a firm. Gross margin not only gives relevant and distinct information to investors, but it is also perceived as more sustainable than core earnings due to its closer proximity to sales.

We find that managers shift COGS to operating expenses in order to manipulate gross profits upwards. We also find that managers are more likely to shift COGS to R&D than to SG&A. Further, managers are more likely to shift COGS to R&D than to SG&A in order to just meet prior year's gross profits.

Our study highlights the widespread use of a technique to manipulate earnings, which violates GAAP. Both firm and country level governance mechanisms need to jointly curb this opportunistic behaviour of managers.

## Acknowledgements

We appreciate the comments from two anonymous referees as well as the suggestions from the associate editor, Kristina Minnick and the editor, Naveen Donthu. We are thankful to the participants of 2017 Financial Markets and Corporate Governance Conference and 2017 ACA Research Symposium (University of St. Gallen) for their constructive comments.

## Appendix II

Estimation model for expected gross profits		
	Predicted sign	Dependent variable $GP_{i,t}/AT_{i,t-1}$
Constant		-0.017*** (-30.93)
$1/AT_{i,t-1}$	?	0.257 (0.77)
$GP_{i,t-1}/AT_{i,t-1}$	+	0.892*** (391.22)
$TACC_{i,t-1}/AT_{i,t-1}$	-	-0.067*** (-26.28)
$TACC_{i,t}/AT_{i,t-1}$	+	0.096*** (9.11)
$SALE_{i,t}/AT_{i,t-1}$	+	0.085*** (142.28)
$CH\_SALE_{i,t}/AT_{i,t-1}$	+	10.212*** (5.99)
$NEG\_CHG\_SALE_{i,t}/AT_{i,t-1}$	+	96.520*** (3.70)
Adjusted R <sup>2</sup> (%)		82.7
p-Value		0.000
No. of firm-years		136,981

The regression model is  $GP_{i,t}/AT_{i,t-1} = \beta_0 + \beta_1(1/AT_{i,t-1}) + \beta_2(GP_{i,t-1}/AT_{i,t-1}) + \beta_3(TACC_{i,t-1}/AT_{i,t-1}) + \beta_4(TACC_{i,t}/AT_{i,t-1}) + \beta_5(SALE_{i,t}/AT_{i,t-1}) + \beta_6(CH\_SALE_{i,t}/AT_{i,t-1}) + \beta_7(NEG\_CHG\_SALE_{i,t}/AT_{i,t-1}) + \psi_{i,t}$ . Amounts reported are means of coefficients from industry-year regressions. t-Statistics are given in parentheses. Variable definitions are given in Appendix I. \*\*\*p < 0.01.

Estimation model for expected selling, general and administrative expenses		
	Predicted sign	Dependent variable: $SGA_{i,t}/AT_{i,t-1}$
Constant		0.331*** (21.64)
$1/AT_{i,t-1}$	?	-20.183** (-2.18)
$MV_{i,t}$	-	-0.019*** (-12.02)
$Q_{i,t}$	+	0.024*** (8.28)
$INT_{i,t}/AT_{i,t-1}$	+	0.075*** (5.19)
$CH\_SALE_{i,t}/AT_{i,t-1}$	+	-0.035*** (-2.50)
$NEG\_CHG\_SALE_{i,t}/AT_{i,t-1}$	+	-0.092*** (-3.34)
Adjusted R <sup>2</sup> (%)		27.0
p-Value		0.000
No. of firm-years		44,592

The regression model is  $SGA_{i,t}/AT_{i,t-1} = \gamma_0 + \gamma_1(1/AT_{i,t-1}) + \gamma_2(MV_{i,t}) + \gamma_3(Q_{i,t}) + \gamma_4(INT_{i,t}/AT_{i,t-1}) + \gamma_5(CH\_SALE_{i,t}/AT_{i,t-1}) + \gamma_6(NEG\_CHG\_SALE_{i,t}/AT_{i,t-1}) + \varepsilon_{i,t}$ . Amounts reported are means of coefficients from industry-year regressions. t-statistics are given in parentheses. Variable definitions are given in Appendix I. \*\*p < 0.05, \*\*\*p < 0.01.

## Estimation model for expected research and development expenses

	Predicted sign	Dependent variable: $RD_{i,t}/AT_{i,t-1}$
Constant		0.012*** (8.72)
$1/AT_{i,t-1}$	?	-1.109** (-2.11)
$MV_{i,t}$	+	-0.001*** (-2.95)
$Q_{i,t}$	+	0.001*** (4.65)
$INT_{i,t}/AT_{i,t-1}$	+	0.014*** (19.15)
$RD_{i,t-1}/AT_{i,t-1}$	+	0.900*** (448.71)
Adjusted R <sup>2</sup> (%)		73.9
p-Value		0.000
No. of firm-years		44,593

The regression model is  $RD_{i,t}/AT_{i,t-1} = \theta_0 + \theta_1(1/AT_{i,t-1}) + \theta_2(MV_{i,t}) + \theta_3(Q_{i,t}) + \theta_4(INT_{i,t}/AT_{i,t-1}) + \theta_5(RD_{i,t-1}) + \Psi_{i,t}$ . Amounts reported are means of coefficients from industry-year regressions. t-Statistics are given in parentheses. Variable definitions are given in Appendix I. \*\*p < 0.05, \*\*\*p < 0.01.

## References

- Abarbanell, J. S., & Bushee, B. J. (1997). Fundamental analysis, future earnings, and stock prices. *Journal of Accounting Research*, 35(1), 1–24.
- Abernathy, J. L., Beyer, B., & Rapley, E. T. (2014). Earnings management constraints and classification shifting. *Journal of Business Finance & Accounting*, 41(5–6), 600–626.
- Aboody, D., & Lev, B. (2000). Information asymmetry, R&D, and insider gains. *The Journal of Finance*, 55(6), 2747–2766.
- Alfonso, E., Cheng, C. S. A., & Pan, S. (2015). Income classification shifting and mispricing of core earnings. *Journal of Accounting, Auditing and Finance*, 1–32.
- Anderson, M. C., Banker, R. D., & Janakiraman, S. N. (2003). Are selling, general, and administrative costs sticky? *Journal of Accounting Research*, 41(1), 47–63.
- Bartov, E., & Mohanram, P. S. (2014). Does income statement placement matter to investors? The case of gains/losses from early debt extinguishment. *The Accounting Review*, 89(6), 2021–2055.
- Barua, A., Lin, S., & Sbaraglia, A. M. (2010). Earnings management using discontinued operations. *The Accounting Review*, 85(5), 1485–1509.
- Behn, B. K., Gotti, G., Herrmann, D., & Kang, T. (2013). Classification shifting in an international setting: Investor protection and financial analysts monitoring. *Journal of International Accounting Research*, 12(2), 27–50.
- Bradshaw, M. T., & Sloan, R. G. (2002). GAAP versus the street: An empirical assessment of two alternative definitions of earnings. *Journal of Accounting Research*, 40(1), 41–66.
- Bushee, B. J. (1998). The influence of institutional investors on myopic R&D investment behavior. *Accounting Review*, 73(3), 305–333.
- Chan, L. K., Lakonishok, J., & Sougiannis, T. (2001). The stock market valuation of research and development expenditures. *The Journal of Finance*, 56(6), 2431–2456.
- Chan, S. H., Martin, J. D., & Kensinger, J. W. (1990). Corporate research and development expenditures and share value. *Journal of Financial Economics*, 26(2), 255–276.
- Davis, A. K. (2002). The value relevance of revenue for internet firms: Does reporting grossed-up or barter revenue make a difference? *Journal of Accounting Research*, 40(2), 445–477.
- DeAngelo, H., Deangelo, L., & Skinner, D. J. (1994). Accounting choice in troubled companies. *Journal of Accounting and Economics*, 17(1–2), 113–143.
- Dechow, P. M., & Sloan, R. G. (1991). Executive incentives and the horizon problem: An empirical investigation. *Journal of Accounting and Economics*, 14(1), 51–89.
- Desai, N., & Nagar, N. (2016). A research note: Are auditors unable to detect classification shifting or merely not willing to report it? Evidence from India. *Journal of Contemporary Accounting and Economics*, 12(2), 111–120.
- Elliott, J. A., & Shaw, W. H. (1988). Write-offs as accounting procedures to manage perceptions. *Journal of Accounting Research*, 26(Supplement), 91–119.
- Fairfield, P. M., Sweeney, R. J., & Yohn, T. L. (1996). Accounting classification and the predictive content of earnings. *Accounting Review*, 71(3), 337–355.
- Fan, Y., Barua, A., Cready, W. M., & Thomas, W. B. (2010). Managing earnings using classification shifting: Evidence from quarterly special items. *The Accounting Review*, 85(4), 1303–1323.
- Fan, Y., & Liu, X. K. (2017). Misclassifying core expenses as special items: Cost of goods sold or selling, general, and administrative expenses? *Contemporary Accounting Research*, 34(1), 400–426.
- Francis, J. R., Maydew, E. L., & Sparks, H. C. (1999). The role of big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & Theory*, 18(2), 17–34.
- Giroux, G. (2004). *Detecting earnings management*. John Wiley & Sons Incorporated.
- Graham, B., & Dodd, D. L. (1934). *Security analysis: Principles and technique*. McGraw-Hill.
- Gunny, K. A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks.

- Contemporary Accounting Research*, 27(3), 855–888.
- Haw, I.-M., Ho, S. S., & Li, A. Y. (2011). Corporate governance and earnings management by classification shifting. *Contemporary Accounting Research*, 28(2), 517–553.
- Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7(1), 85–107.
- Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29(2), 193–228.
- Lail, B. E., Thomas, W. B., & Winterbotham, G. J. (2014). Classification shifting using the “corporate/other” segment. *Accounting Horizons*, 28(3), 455–477.
- Lev, B., & Thiagarajan, S. R. (1993). Fundamental information analysis. *Journal of Accounting Research*, 31(2), 190–215.
- Lipe, R. C. (1986). The information contained in the components of earnings. *Journal of Accounting Research*, 24(Supplement), 37–64.
- McNichols, M., & Wilson, G. P. (1988). Evidence of earnings management from the provision for bad debts. *Journal of Accounting Research*, 26(Supplement), 1–31.
- McVay, S. E. (2006). Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review*, 81(3), 501–531.
- Nelson, M., Elliott, J., & Tarpley, R. (2002). Evidence from auditors about managers’ and auditors’ earnings management decisions. *The Accounting Review*, 77(Supplement), 175–202.
- Ohlson, J. A., & Penman, S. H. (1992). Disaggregated accounting data as explanatory variables for returns. *Journal of Accounting, Auditing and Finance*, 7(4), 553–573.
- Ou, J. A., & Penman, S. H. (1989). Financial statement analysis and the prediction of stock returns. *Journal of Accounting and Economics*, 11(4), 295–329.
- Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42(3), 335–370.
- Skaife, H., Swenson, L., & Wangerin, D. (2013). Classification shifting of R&D expense. *Working paper, SSRN*.
- Sloan, R. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings? *The Accounting Review*, 71(3), 289–315.
- Weygant, J. J., Kieso, D. E., & Kimmel, P. D. (2005). *Financial accounting*. John Wiley & Sons Incorporated.
- Zalata, A. M., & Roberts, C. (2017). Managing earnings using classification shifting: UK evidence. *Journal of International Accounting, Auditing and Taxation*, 29, 52–65.

**Sakina H. Poonawala** is a PhD student at the Indian Institute of Management Ahmedabad in the Finance and Accounting Area. She is a Chartered Accountant (With All India Rank 39 and 36 at the Final and Intermediate levels respectively) and has completed her Masters and Bachelors in Commerce from Narsee Monjee College of Commerce and Economics (Mumbai University). She was a visiting faculty for Advanced Accountancy at the Masters level at Nirmala Memorial Foundation College of Commerce and Science (Mumbai) for 4 months before joining the PhD programme. She has 3 years of internship experience in Internal Audit and Consultancy as part of the CA firm CNK & Associates LLP. Her research interests lie in the areas of Accounting, Auditing and Corporate Governance.

**Neerav Nagar** is currently an Assistant Professor with Tenure at Indian Institute of Management Ahmedabad. He holds a PhD from Indian Institute of Management Calcutta. His teaching and research interests lie in the areas of financial accounting, financial statement analysis, corporate governance and earnings management. His research work has been published in leading journals like *Corporate Governance: An International Review*, *Journal of Accounting, Auditing and Finance*, *Journal of Contemporary Accounting and Economics*, *Journal of International Accounting, Auditing and Taxation* and *Accounting Research Journal*.