



Research Article

© 2022 Ahmad et al.  
This is an open access article licensed under the Creative Commons  
Attribution-NonCommercial 4.0 International License  
(<https://creativecommons.org/licenses/by-nc/4.0/>)

Received: 6 December 2021 / Accepted: 23 March 2022 / Published: 5 May 2022

## The Effect of Accounting Fraud on the Reliability of the Published Profit After the Completion of Correction: The Period After the Submission of the Correction Report

Syed Raziuddin Ahmad<sup>1</sup>

Ebrahim Mohammed Al-Matari<sup>2\*</sup>

Ijaz Ali<sup>3</sup>

Asif Baig<sup>4</sup>

Rohit Garg<sup>5</sup>

Imran Ahmad Khan<sup>6\*</sup>

<sup>1</sup>Department of Accounting, Faculty of Business Studies,  
Arab Open University, Saudi Arabia

<sup>2</sup>Department of Accounting, College of Business, Jouf University,  
Kingdom of Saudi Arabia; Department of Accounting,  
Faculty of Commerce and Economics,  
Amran University, Yemen

<sup>3</sup>Assistant Professor, College of Business and Management,  
Fahad Bin Sultan University, Tabuk, Saudi Arabia

<sup>4</sup>Assistant Professor, Jubail University College,  
Jubail Industrial City, Jubail, Saudi Arabia

<sup>5</sup>Professor, iNurture Education Solutions Private Limited,  
Jain University, Jayanagar, Bengaluru, India

<sup>6</sup>Researcher and Consultant,  
Creative Heads Consultants, India

\*Corresponding Author

DOI: <https://doi.org/10.36941/ajis-2022-0082>

### Abstract

The purpose of this paper is to examine the impact of accounting fraud on the reliability of profits after the completion of corrections by focusing on the period after the submission of correction reports of companies that corrected their securities reports after accounting fraud was discovered. We tested the effect of accounting fraud on the reliability of profits after the completion of corrections by examining whether the profits of corrected companies and similar companies without fraud are reflected in stock prices in the same way. The results show that if a company is profitable in both years immediately before and after the completion of the correction, the profit is used for stock price evaluation, but the loss is not evaluated positively, as in the case of similar companies without accounting fraud in the past. The results indicate that the correction report restores the credibility of profits, but if the management's subsequent profit management is questionable, even losses that can be expected to improve the ability to earn cash flow in the future, such as restructuring, will not be evaluated.

**Keywords:** Fraud, Profit, Correction, Stock, Information, Investor

## 1. Introduction

The purpose of financial reporting is to disclose information that can be used as a basis for evaluating corporate value, i.e., corporate results that helps investors predict future cash flows. To achieve this objective, the most fundamental characteristic required of accounting information is decision-usefulness. One of the subordinate characteristics that accounting information should have for this purpose is reliability (Corporate Accounting Standards Committee 2009).

In this paper, we examine the impact of accounting fraud on the stock price. Since most of the frauds involve overstatement of profits, stock prices generally decline. The stock price also responds to follow-up reports because it is usually impossible to know the full extent of the fraud from the first news alone. Therefore, the market price fluctuates wildly until the uncertainty about the fraud is resolved. The correction report required by the Financial Instruments Act is expected to have the effect of fixing the series of confusion in the market after the discovery of such fraud.

When the correction report is submitted, the uncertainty of the correction content is eliminated, and investors can use the historical profit information of the same or higher quality for decision making as if there had been no fraud. Then, even if there was fraud in the past, the subsequent profit information should be used for investment decision-making as if there was no fraud. On the other hand, we cannot deny the possibility that once trust is lost, it cannot be easily regained.

Therefore, in this paper, we examine the impact of accounting fraud on the reliability of profits after the completion of corrections by focusing on the period after the submission of correction reports of companies that corrected their securities reports after accounting fraud was discovered.

We tested the effect of accounting fraud on the reliability of profits after the completion of corrections by examining whether the profits of corrected companies and similar companies without fraud are reflected in stock prices in the same way. We use comparable companies because Chen (2014), Wilson (2008), and Wu et al. (2002) report that corrections by one company do not affect the reliability of profits of comparable companies without corrections.

The results show that if a company is profitable in both years immediately before and after the completion of the correction, the profit is used for stock price evaluation, but the loss is not evaluated positively, as in the case of similar companies without accounting fraud in the past. In addition, it was confirmed that there was a possibility that a big bus triggered by management change associated with accounting fraud occurred when the company suffered a loss in the year immediately after the correction was completed. These results indicate that the correction report restores the credibility of profits, but if the management's subsequent profit management is questionable, even losses that can be expected to improve the ability to earn cash flow in the future, such as restructuring, will not be evaluated.

## 2. Previous Studies

The purpose of this paper is to investigate how accounting fraud affects the reliability of post-correction profits. Studies related to this theme include Chen (2014), Wilson (2008), Anderson and Yohn (2002), and Wu et al. (2002). These studies examine the effect of corrections on the confidence of subsequent profits by examining whether the stock price reaction to profit surprises (ERC) is different before and after the announcement of a correction.

### 2.1 *Research on investors' reaction to profit announcements after corrections are made public*

Chen (2014) conducted a test on profit announcements from the fourth quarter before date 1 to the twelfth quarter after date 1 by U.S. companies that announced corrections between January 1997 and June 2006. She divided the corrections into two categories: corrections resulting from accounting misconduct (serious corrections) and other corrections. The results show that the ERC decline after

serious corrections is long-term (11 quarters), while the impact of other corrections is short-term.

She further examined serious corrections by dividing them into sub-samples based on the following criteria (1) through (5). (1) the sign of the profit surprise, (2) the size of the total accrual (relative to the peer average without correction), (3) whether the CEO and CFO were replaced, (4) whether the auditor was dismissed, and (5) whether the audit committee chair was replaced. The results show that the ERC declines for companies with (1) a large profit surprise and (2) a large total accrual, or in the absence of (3), (4), and (5), are long-lasting (the longest being 12 quarters in the absence of (5)), while the ERC declines in the other cases are short-lived.

Wilson (2008) examined the factors that affect the duration and length of time that profit information is impaired by corrections. The sample consisted of profit announcements for the first four to six quarters of date 1 by U.S. companies that announced corrections between January 1, 1997, and June 30, 2002. She examines the statistical significance of the coefficient of the intersection term between QTR and UE, and the difference between ERC before and after date<sub>1</sub> by regressing the return less market return (CAR) for the three days before and after the profit announcement on the profit surprise (UE), a dummy variable indicating the number of quarters after date<sub>1</sub> (QTR), and the intersection term between QTR and UE. UE is the difference between the ERC and the median analyst forecast published within 60 days before the profit announcement. Here, variables that have been found by previous studies to affect the relationship between stock returns and profit surprises were controlled<sup>1</sup>. The results show that the correction impairs the information content of profit, but the effect is short-lived (three quarters).

She conducts a sensitivity analysis on the sample with the addition of the control companies. This test uses the above regression equation plus a dummy variable (RESTATE) with 1 for the case with correction, a cross term between UE and RESTATE, and a cross term between UE, QTR, and RESTATE. The control companies are those with the same industry and fiscal year-end date as the corrected companies, the closest variance in the absolute value of UE during the two years before the profit announcement date, and no correction during the validation period.

The results show that the ERC of the corrected companies declines over four quarters after date<sub>1</sub>, while the control companies do not show any decline in ERC. This validation also revealed that the ERC of the corrected companies before date<sub>1</sub> was higher than that of the control companies and that there was no difference between the ERC of the corrected companies and that of the control companies after date<sup>1</sup>.

She then examined how (1) the existence of profit correction, (2) the size of market concern (stock price decline on date 1), (3) the dismissal of auditors before profit announcement, and (4) the change of top management (CEO, President, CFO, or Chairman) before profit announcement affect the ERC after date 1. The results of (1) and (2) indicate that investors distrust the quality of information for profit corrections and corrections that raise significant market concerns, but that the impact is short-lived, and that other corrections do not impair the information content of profit. The ERCs between these subgroups were similar for both (1) and (2) before date 1, but the ERCs for (1) with profit correction were smaller for the first quarter after date 1. The results of (3) and (4) indicate that the information content of profit is not impaired if the signal about the improvement of information reliability is sent after date<sub>1</sub> and that it is impaired otherwise, but the effect is short-lived.

Wu (2002) examined the effect of profit revisions on the quality of investors' perceptions of profits. The sample consisted of profit announcements for two quarters before and after date 1 by U.S.-listed companies that announced corrections due to intentional manipulation or errors between 1977 and 2001. The validation is done by regressing quarterly unexpected buy-and-hold returns on the intersection of unexpected profit (UE) and a dummy variable (T), where UE is the difference between

---

<sup>1</sup>The controls were (1) nonlinearity of profit and stock price, (2) predictability of profit, (3) sustainability of profit, (4) growth potential, (5) systematic risk, (6) scale, (7) loss or not, and (8) fourth quarter.

announced profit and the average analyst forecast. The results of the validation indicate that investors consider the quality of post-date<sub>1</sub> profit of the corrected companies to be low. She conducted a similar test for control companies selected based on industry, fiscal year, and total assets. The results showed that there was no decline in ERC for the control companies.

Anderson and Yohn et al. (2002) examined the effect of financial statement corrections on investors' reliance on profits. They examined the profit announcements of companies that filed corrections due to accounting errors between 1997 and 1999 for the year immediately before the date of the initial news release (date<sub>1</sub>) and the year immediately after the date of the filing of the corrections. The validation is done by regressing the return less market return (UR) for the three days before and after the profit announcement on the intersection term of unexpected profit (UE), the intersection term between UE and a dummy variable (REVENUE), where UE is set to 1 if there is a correction in profit, the intersection term between UE and a dummy variable (POST), where UE is set to 1 if the correction occurs after the filing of the correction report and this is done by regressing on the intersection term of UE, REVENUE and POST<sub>3</sub>. UE is the difference between published profit and the mean of analysts' estimates. The results show that investors' reliance on profit information decreases after profit revisions and that the presence of profit revisions does not affect investors' reliance on profit information.

## 2.2 Positioning of this paper in previous research

As described above, previous studies show that the profit response coefficient (ERC) of correcting companies declines after date<sub>1</sub> or after the filing of the correction report, compared to before the date of the first news release about the correction (date<sub>1</sub>). However, these studies seem to have a problem in that they compare profits including misstatements before the publication of misstatements with profits after the existence of misstatements are revealed or profits without misstatements. In other words, the decrease in ERC after date<sub>1</sub> may be the result of the correction of the erroneous response to the benefit including misstatement, as shown in the sensitivity analysis of Wilson (2008). In addition, there seems to be a problem in comparing before and after date<sub>1</sub>. In other words, profit announcements after date<sub>1</sub> may contain both pre-correction and post-correction profit announcements, and the information available to investors may differ depending on which one they fall into. These studies examined the impact of the correction by looking at the ERC, but no study looked at the profit level.

Therefore, in this paper, we use the profit capitalization model, which is theoretically based on the corporate valuation model, to examine whether there is a difference in the reliability of profits between companies with accounting fraud but after the correction is completed and similar companies without fraud. We use similar companies without fraud as a comparison because Chen (2014), Wilson (2008), and Wu et al. (2002) report that corrections by one company do not affect the ERC of similar companies without corrections. If this paper shows that accounting fraud affects the credibility of profits even after the correction is completed and the same information as without the fraud is available, the impact of fraud is a problem that cannot be corrected by correction reports, and the need for further measures to restore credibility will become apparent. On the other hand, if it is shown that there is no influence on the reliability of profit even if there is a fraud in the past if the correction is completed, it can be said that the current system is functioning effectively.

## 3. Hypothesis

The previous section discussed the paper's position in previous studies. Based on the previous studies' findings, we set up a hypothesis about the impact of past accounting fraud on the reliability of profits after the completion of correction.

Once an amendment report is filed, uncertainty about the content of the amendment is resolved and historical information about the profits is available that complies with generally

accepted accounting principles. The quality of the profit (sustainability and accrual quality, Scott 2015) is equal to or better than that of comparable companies, as they have been scrutinized by internal and external investigative committees and audited based on past failures. If there is no difference in the quality of profits between the corrected and similar companies, then the subsequent profits should be similarly used in investment decisions. Consistent with this, the sensitivity analysis of Wilson (2008) shows that the stock price reaction (ERC) to the profit surprise of the corrected companies is higher than that of the control companies before the announcement of the correction, but the difference disappears as the ERC falls after the announcement of the correction. This result implies that there is no difference in the credibility of the profit of the corrected companies in the period after the correction is completed and the profit of the uncorrected companies.

However, the reliability of disclosure is also affected by the incentives of managers, the plausibility of the content, and the history of the reliability of the disclosed information (Mercer 2004). In other words, a slump in business performance and stock prices negatively affects the status and compensation of managers (Kaplan 1994, et al.), so managers have an incentive to disclose good news. Investors who are aware of such incentives consider good news disclosed by companies with stagnant performance and stock prices or by managers with a record of overly optimistic disclosure to be incentive-induced and therefore not plausible. Consistent with this, Frost (1997), for example, found that positive tone disclosures by British companies that received other than unqualified opinions of suitability were negatively associated with stock prices of companies facing financial, performance, and credit problems, but positively associated with stock prices of companies that did not. Koch (2002) shows that analysts' revisions to management forecasts that exceed analysts' forecasts published by companies with high bankruptcy risk are smaller than those for companies without such problems. Williams (1996) shows that analysts' forecast revisions for managers' forecasts that exceed analysts' forecasts (good news) are affected by the use of managers' past forecasts<sup>2</sup>, but not for bad news forecasts.

When we apply the above argument to correcting companies, the incentives of managers to make their performance look good are particularly strong because the performance and stock price of correcting companies are often sluggish and the position of managers is at risk (Karpoff et al. 2008). In addition, the history of credibility of disclosed information has been destroyed by past false statements. Investors who are aware of these situations faced by correction companies may be concerned about profits, especially good news. Consistent with this, Chen et al. (2014) show that the decline in the profit response coefficient is long-lasting when the profit announcement after the correction is a profit surprise. From this, we formulate the following null hypothesis.

Null hypothesis: Past fraud does not affect the reliability of profits after correction is completed.

#### 4. Sample Selection Method

In this section, we describe the selection method of the sample to be verified and then present the descriptive statistics of the sample.

##### 4.1 Selecting a sample

The purpose of this research is to verify the net income of the first securities report submitted after the date of submission of the revised report by a company that has corrected the major management indicators of the securities report in the previous fiscal year among the companies that have been

---

<sup>2</sup>The usefulness of the past forecast of the management is the absolute value of the difference between the analyst forecast and the actual result (analyst forecast error) before the management forecast, and the absolute value of the difference between the management forecast and the actual result (management forecast error), and it can be said that this difference is useful when this difference is positive.

found to have accounting irregularities. These include companies that have failed or delisted after submitting the revised report and have not submitted their securities reports thereafter, corporations that have filed their securities reports on or immediately after the date of submitting the revised report, companies that have changed their financial reporting period, and companies that do not have access to the data required for verification. The securities report's date of submission is the end of the month three months after the closing date.

The control company is used for the verification of this paper. The control companies are the companies other than the correction companies that have the same fiscal year-end, industry, and sign of current and previous period profits as the correction companies, and whose beginning total assets are the closest to the correction companies<sup>3</sup>. We use the sign of current and prior period profits as a selection criterion because the information content of profits and losses is different (Hayn 1995) and because the history of profits affects investors' decision making (Lev et al. 2008). As a result of excluding corrected companies that do not have a control company that satisfies these conditions, the total number of companies and years to be examined is 131 for corrected and control companies, respectively.

The amendment report specified the date of filing. Financial and industry data were obtained from the Sensex Financial Data, and stock price data was collected from the Bloomberg.

#### 4.2 Descriptive statistic

Table 1 shows the statistics of the variables used for verification. SP denotes the share price after three months from the end of the current financial year. Profit and loss per share are denoted by the abbreviations PR and LO. To account for dispersion unevenness, these are deflated at the share price after three months from the ending of the previous financial year and winsorized at 2.5 percent to remove outliers.

**Table 1:** Descriptive statistics of SP, PR and LO for correction and control companies

	variable	size	mean	Std dev	25 <sup>th</sup> percentile	50 <sup>th</sup> percentile	75 <sup>th</sup> percentile
Correction companies	SP	69	0.9884	0.3931	0.7279	0.9884	1.1531
	PR	69	0.0794	0.0686	0.0312	0.0538	0.1038
Control companies	SP	69	1.0365	0.4187	0.8029	1.0096	1.2250
	PR	69	0.0800	0.0625	0.0399	0.0648	0.1025
Correction companies	SP	62	0.6786	0.3558	0.4416	0.6746	0.8864
	LO	62	-0.3798	0.4483	-0.4605	-0.2140	-0.0893
Control companies	SP	62	0.8721	0.4308	0.6833	0.8336	1.0327
	LO	62	-0.2276	0.3343	-0.2521	-0.1143	-0.0362

Table 1 shows that almost half of the companies are LO accounting companies. In addition, the mean and median of PR and SP of the corrected and control companies are not significantly different. On the other hand, the mean and median of LO and SP of the corrected companies are much smaller than those of the control companies, indicating that the performance of the corrected companies with LO is very poor.

### 5. Validation Model and Validation Results

In this section, we examine whether accounting fraud affects the reliability of profits after the correction is completed by examining whether the profits of companies that had fraud in the past but

<sup>3</sup>For the convenience of data collection and processing, control companies have been selected from companies that can obtain securities codes from the 2019 Sensex Financial Data.

completed the correction (correction companies) and control companies are similarly reflected in stock prices. The control companies are the companies other than the corrected companies that have the same fiscal year-end, industry, sign of current and previous year's profits, and the closest proximity in total assets at the beginning of the period.

We use a profit capitalization model for the validation of this paper. This corporate valuation model makes use of accounting data to derive the following equation, which regresses stock price on earnings.

$$\text{Share price}_t = a + b \text{profit}_t + \varepsilon_t \quad (1)$$

To verify the null hypothesis of section 3, we use the following model (2) and model (3). Model (2) divides the profits in regression equation (1) above into PR and LO, because the information content of the two is different (Hayn 1995) and because we consider PR to be good news. The number of correction and control companies in PR (LO) is 69 (62) companies/year, respectively. Model (3) divides the PR in Model (2) into PP\_PR (PR in the previous period/ PR in the current period) and LP\_PR (LO in the previous period/ PR in the current period) based on the sign of the profit in the previous period. The reason for dividing PR into two is that LP\_PR can be regarded as particularly good news among PR. The number of correcting and controlling companies in PP\_PR and LP\_PR is 55 and 14, respectively.

$$P_{Rt} = a_1 + a_2 d_{\text{sample}} + b_1 P_{Rt} + b_2 P_{Rt} * d_{\text{sample}} + c_1 LO_t + c_2 LO_t * d_{\text{sample}} + \varepsilon_t \quad (2)$$

$$P_{Rt} = \alpha_1 + \alpha_2 d_{\text{sample}} + b_3 PP_{P_{Rt}} + b_4 PP_{P_{Rt}} * d_{\text{sample}} + b_5 LP_{P_{Rt}} + b_6 LP_{P_{Rt}} * d_{\text{sample}} + c_1 LO_t + c_2 LO_t * d_{\text{sample}} + \varepsilon_t \quad (3)$$

SP is the stock price after 3 months from the end of the current year. PR (LO) is profit (loss) per share. These are deflated at stock prices after 3 months from the ending of the previous financial year to deal with dispersion unevenness, and winner-treated at 2.5 percent above and below to remove outliers. *d* is a dummy variable that sets the correction company to 1 and the control company to zero. Though the notation is omitted, a dummy year is included to account for the year's fixed effect. We also perform robust estimation to deal with variance heterogeneity.

For model (2), if the difference between the coefficients of PR(LO) of the correcting and control companies  $b_2(c_2)$  is statistically significantly different from zero, the past fraud will affect the reliability of profit (loss) after the completion of correction. Therefore, the null hypothesis can be rejected. The coefficient of PR (LO) of the control company  $b_1(c_1)$  and the corresponding coefficient of the correction company  $b_1+b_2(c_1+c_2)$ , one of which is statistically significantly different from zero and the other is not statistically significantly different from zero. If one of the two is statistically significantly different from zero, and the other is not statistically significantly different from zero, we can say that it affects, and we will test this as well.

The results of the validation of model (2) are summarized in table 2. First, the PR results show that  $b_2$  is negative, but not statistically significantly different from zero. In the LO results,  $b_1$  and  $b_1+b_2$  were statistically significant positive. The LO results showed that  $c_2$  was statistically significant positive. In the LO results,  $c_1$  and  $c_1 + c_2$  were both statistically significant (except for  $c_1 + c_2$ , which was statistically significant at the 10% level). However, the signs were negative and positive. These results indicate that the null hypothesis cannot be rejected in the case of profit, but it can be rejected in the case of loss. In other words, if there is no fraud in the past, such as an impairment loss, it may be regarded as an improvement in the ability to obtain future cash flows due to structural reforms and evaluated positively, whereas if there is a fraud, it is not favored.

As for model (3), if the difference between the coefficients of PP\_PR and LP\_PR(LO) of the correction and control companies  $b_4$  and  $b_6(c_2)$  is statistically significantly different from zero, then the null hypothesis can be rejected. The null hypothesis can be rejected because past fraud can be said to affect the reliability of profits (losses) after the correction is completed. The coefficients of PP\_PR and LP\_PR (LO) for the control company  $b_3$  and  $b_5(c_1)$  and the corresponding coefficients of the correction company  $b_3+b_4$  and  $b_5+b_6(c_1+c_2)$ , one of which is statistically significantly different from zero and the other is not statistically significantly different from zero. In the case where one of

the two is statistically significantly different from zero and the other is not statistically significantly different from zero, it can be said to affect, and this will also be examined.

The results of the validation of model (3) are summarized in table 3. First, the result of LP\_PR shows that  $b_6$  is a statistically significant negative. Also,  $b_5$  is statistically significantly positive, and  $b_5 + b_6$  is not statistically significantly different from zero. These results indicate that good news is reflected in stock prices if there is no fraud in the past, but the good news is not reflected if there is fraud in the past; in other words, past fraud affects the reliability of good news after the correction is completed, and the null hypothesis is rejected. As discussed in section 3, this result can be interpreted as investors' concern that the incentives of managers of corrective companies to post good news are particularly strong. However, it should be noted that the sample size of good news is extremely small. The results of PP\_PR and LO are the same as the PR and LO of the model (2), except that  $c_1 + c_2$  is no longer statistically significantly different from zero and the statistical significance level of  $c_1$  is now 5%.

**Table 2:** Regression results

$$PR_t = a_1 + a_2 d\_sample + b_1 PR_t + b_2 PR_t * d\_sample + c_1 LO_t + c_2 LO_t * d\_sample + \epsilon_t \quad (2)$$

Model (2)						
Variable		coefficient	[t value]	Linear	coefficient	[F value]
Constraint						
$b_1$	PR	2.8056	[5.06]***	$b_1+b_2$	2.1580	[12.08]***
$b_2$	PR*d_sample	-0.6476	[-0.78]	$c_1+c_2$	0.1199	[2.80]*
$c_1$	LO	-0.4647	[-2.61]***			
$c_2$	LO*d_sample	0.5846	[3.01]***			
	d_sample	-0.0172	[-0.26]			
	Constant	0.8578	[5.08]***			
year_dummy		yes		Adj-R-squared		0.3280
				N		262

**Table 3:** Regression results

$$PR_t = \alpha_1 + a_2 d\_sample + b_3 PP\_PR_t + b_4 PP\_PR_t * d\_sample + b_5 LP\_PR_t + b_6 LP\_PR_t * d\_sample \quad (3) + c_1 LO_t + c_2 LO_t * d\_sample + \epsilon_t$$

Model (3)						
Variable		coefficient	[t value]	Linear	coefficient	[F value]
constraint						
$b_3$	PP_PR	2.6959	[4.61]***			
$b_4$	PP_PR*d_sample	0.5198	[0.70]			
$b_5$	LP_PR	2.9825	[3.10]***			
$b_6$	LP_PR*d_sample	-2.4781	[-2.09]**	$b_3+b_4$	3.2157	[38.90]***
$c_1$	LO	-0.4603	[-2.56]**	$b_5+b_6$	0.5044	[0.51]
$c_2$	LO*d_sample	0.5622	[2.88]***	$c_1+c_2$	0.1019	[2.05]
	d_sample	-0.0390	[-0.60]			
	Constant	0.8561	[4.95]***			
year_dummy		yes		Adj-R-squared		0.3498
				N		262

## 6. Additional Validation

While the verification in the previous section showed that past accounting fraud affects the reliability of subsequent profits and losses if the loss in the year immediately before the completion of the correction turns into a profit in the immediately following year (LP\_PR) and in the case of loss in the year immediately after the completion of correction (LO), since Chen et al. (2014) shows that the profit response coefficient is low when the total accrual in the post-correction period is large, in this section, we examine whether this result can be attributed to subsequent profit management. In addition, since the results in the previous section do not clarify the effects of past accounting fraud in the case of profit (PP\_PR) immediately before and after the completion of correction, we will verify in this section whether or not there is any effect.

### 6.1 Impact of profit management

In this section, we examine whether there is a statistically significant difference in the degree of subsequent profit management between LP\_PR and LO correcting and control companies. The difference in the degree of profit management is the difference in the absolute value (ab\_daa) of the discretionary accounting accrual amount (daa). The verification is performed by the paired t-test and Wilcoxon signed rank-sum test. The following cross-section modified Jones's (1991) model (De Fond and Jiambalvo 1994) is used to estimate daa.

$$ACCR_t / TAt - 1 = a_1 (1/TAt - 1) + a_2 (\Delta SALES_t / TAt - 1 - \Delta RECEIVABLES_t / TAt - 1) + a_3 (PPE_t / TAt - 1) + \epsilon_t \quad (4)$$

ACCR is accruals, which is the difference between net income and cash flows from operating activities; TA is total assets; SALES is net sales; RECEIVABLES is trade receivables; and PPE is property, plant, and equipment before accumulated depreciation and accumulated impairment losses.

The estimation of daa is carried out in steps (1) through (3). (1) Estimate the regression equation (4) above using the data of companies other than the correction and control companies that have the same industry and calendar year at the end of the fiscal year, (2) Calculate non-discretionary accounting accruals (non-daa) by adding the data of the correction and control companies to the estimated regression equation, and (3) Subtract the non-daa estimated in (2) from the ACCR of the correction and control companies, and the difference is defined as daa.

The results of the validation are summarized in table 4. Table 4 shows that for LO, the difference in ab\_daa between the correcting and control companies is statistically significant, and the degree of profit management in the correcting companies is larger. This result indicates that there is a possibility of a big bus triggered by management changes associated with accounting fraud in the corrected companies. This result can be interpreted that investors do not uniformly regard the losses of corrected companies as accounting manipulations that take advantage of the series of confusions caused by the discovery of fraud and do not evaluate them positively. In the case of LP\_PR, the difference in ab\_daa between the corrected and control companies is not statistically significantly different from zero, so it is not clear whether there is a difference in the degree of profit management.

**Table 4:** Verification results of the difference in absolute value of discretionary accounting accrual between the correction company and the control company

Group	Variable	Obs	Mean	S.E.	t value	z value
PP_PR Correction companies	ab_daa	55	0.0438	0.0067		
	ab_daa	55	0.0519	0.0071		
	diff	55	-0.0081	0.0082	-0.99	-1.33
LP_PR Correction companies	ab_daa	14	0.3909	0.3406		
	ab_daa	14	0.0288	0.0067		
	diff	14	0.3621	0.3395	1.07	1.16

Group	Variable	Obs	Mean	S.E.	t value	z value
LO Correction companies	ab_daa	62	0.1594	0.0240		
Control companies	ab_daa	62	0.0795	0.0119		
	diff	62	0.0799	0.0248	3.23***	3.14***

## 6.2 Verification of equivalence

In this section, we examine whether there is a statistically significant difference between the coefficients of PP\_PR of the corrected and control companies. The verification is performed by a two one-sided test (TOST) to determine whether  $b_4$  in the model (3) used in the previous section is statistically significantly equal to zero. In this paper, the case of equality is when  $b_4$  is not statistically significantly different from zero and the t-value of  $b_4$  is within the range of  $+/-2$ .

As a result of the verification,  $b_4$  is not statistically significantly different from zero, and the probability that the t-value of  $b_4$  is greater than or equal to  $+2$  (less than or equal to  $-2$ ) is 0.0977% (0.0037%). This result indicates that  $b_4$  is statistically (at the 10% level) significantly equal to zero, i.e., past accounting fraud does not affect the reliability of subsequent profits in the case of profits in any year immediately before the completion of the correction.

## 7. Discussion and Conclusion

In this paper, we examined how past accounting fraud affects the reliability of subsequent profits for the period after the filing of the correction report. The results showed that, if the company was profitable in both years immediately before and after the completion of the correction, the profit was used for stock price evaluation, but the loss was not evaluated positively, as in the case of similar companies without accounting fraud in the past. Through additional verification, it was confirmed that if the fiscal year immediately after the completion of the correction is a loss, there is a possibility that a big bus may have occurred due to a change of management due to accounting fraud. These results indicate that the correction report restores the credibility of profits, but if the management's subsequent management of profits is questionable, even losses that are expected to improve the ability to earn cash flow in the future, such as restructuring, will not be evaluated, and additional signaling to restore credibility (Chen 2014, Wilson et al. 2008) may be effective in some cases.

In this paper, we examined the difference in the profit capitalization coefficient between companies that had accounting fraud in the past but completed the correction and similar companies that did not have accounting fraud. Similar companies were identified based on their fiscal year-end, industry, a sign of current and previous year's profits, and total assets at the beginning of the period, but this does not mean that they have complete control over all factors affecting the relationship between stock prices and profits, other than the presence or absence of past accounting fraud. In addition, similar companies are those that have not been involved in accounting fraud but may include companies with undiscovered fraud. In addition, this paper assumes that corrections by one company do not affect the reliability of profits of similar companies that have not been corrected (Chen 2014, Wilson 2008, and Wu et al. 2002). However, there is no empirical research on whether this assumption holds in India and whether it holds for corrections caused by accounting fraud. Therefore, it is a future task to verify the results using different assumptions, control companies, or control variables from those in this paper.

The previous studies (Chen 2014, Wilson 2008, Anderson and Yohn 2002, and Wu et al. 2002) examined the impact of the correction by looking at the ERC, but this study looked at the profit level. This study unlike the previous studies (Chen 2014, Wilson 2008, Anderson and Yohn 2002, and Wu et al. 2002) used the profit capitalization model, which is theoretically based on the corporate valuation model, to examine whether there was a difference in the reliability of profits between companies with accounting fraud but after the correction was completed and similar companies without fraud. In this work, we used similar companies without fraud as a comparison because Chen (2014), Wilson (2008),

and Wu et al. (2002) reported that corrections by one company did not affect the ERC of similar companies without corrections. It is the contribution of this paper to point out the problems in the verification methods in the previous studies (Chen 2014, Wilson 2008, Anderson and Yohn 2002, and Wu et al. 2002), to conduct the verification using a different method from the previous studies (Chen 2014, Wilson 2008, Anderson and Yohn 2002, and Wu et al. 2002), and to use the two one-sided test (TOST), which has not been used in the previous studies (Chen 2014, Wilson 2008, Anderson and Yohn 2002, and Wu et al. 2002). Another contribution of this paper is the accumulation of empirical results in India on the effect of accounting fraud on the reliability of profits in the post-correction period.

## 8. Acknowledgement

The author Dr. Syed Raziuddin Ahmad would like to thanks Arab Open University, Saudi Arabia for supporting him for this research paper.

## References

- Ahmad, S. R., Olarewaju, O. M., Ali, I., Baig, A., & Khan, I. A. (2021). Impact of Accounting Fraud on Stock Price Formation before Its Discovery-The period from the Start of Fraud to Its Discovery. *Academy of Entrepreneurship Journal*, 27(5), 1-18.
- Ali, I., Khatoon, A., Imam, A., Baig, A., Olarewaju, O.M., & Khan, I. A. (2022). An analysis of Malaysian SMEs' access to public financial assistance. *Universal Journal of Accounting and Finance*, 10(1), 131-136.
- Ahmad, S. R., Senan, N. A. M., Ali, I., Ali, K., Khan, I. A., & Baig, A. (2021). Investor reaction to the discovery of accounting fraud: The period from the discovery of the fraud to the completion of the correction. *Academic Journal of Interdisciplinary Studies*, 10(6), 171-190. <https://doi.org/10.36941/ajis-2021-0163>
- Ali, I., Khatoon, A., Imam, A., Baig, A., Olarewaju, O.M., & Khan, I. A. (2022). Stock Index Futures Arbitrage: Error Risk Analysis. *Universal Journal of Accounting and Finance*, 10(3).
- Ali, I., Uddin, M., Senan, N., Sami, S., Baig, A., Garg, R., Khatoon, A., Imam, A., & Khan, I. A. (2022). A Study on Management Discretion of Municipal Hospital Managers and Its Hindering Factors. *International Journal of Innovative Research and Scientific Studies*, 5(2).
- Anderson, K. L., & Yohn, T. L. (2002). 'The Effect of 10-K Restatements on Firm Value, Information Asymmetries, and Investors' Reliance on Earnings,' working paper. Georgetown University.
- Ball, R., & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, 6(2), 159-178. doi:10.2307/2490232
- Balsam, S., Bartov, E., & Marquardt, C. (2002). Accruals management, investor sophistication, and equity valuation: Evidence from 10-Q filings. *Journal of Accounting Research*, 40(4), 987-1012. doi:10.1111/1475-679X.00079
- Barth, M. E., Elliott, J. A., & Finn, M. W. (1999). Market rewards associated with patterns of increasing earnings. *Journal of Accounting Research*, 37(2), 387-413. doi:10.2307/2491414
- Bartov, E., Givoly, D., & Hayn, C. (2002). The rewards to meeting or beating earnings expectations. *Journal of Accounting and Economics*, 33(2), 173-204. doi:10.1016/S0165-4101(02)00045-9
- Beasley, M. S., Carcello, J. V., Hermanson, D. R., & Neal, T. L. (1999). 'Fraudulent Financial Reporting: 1987-1997, An Analysis of U. S. Public Companies,' The Committee of Sponsoring Organizations of the Treadway commission.
- Beasley, M. S., Carcello, J. V., Hermanson, D. R., & Neal, T. L. (2010). 'Fraudulent Financial Reporting: 1998-2007, An Analysis of U. S. Public Companies,' The Committee of Sponsoring Organizations of the Treadway commission.
- Chen, X., Cheng, Q., & Lo, A. K. (2014). Is the decline in the information content of 84Earnings following restatements short-lived? *Accounting Review*, 89(1), 177-207. doi:10.2308/accr-50594
- Dang, L., Brown, K. F., & McCullough, B. D. (2011). Apparent audit failures and value relevance of earnings and book value. *Review of Accounting and Finance*, 10(2), 134-154. doi:10.1108/1475770111129616
- DeFond, M. L., & Jiambalvo, J. (1994). Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics*, 17(1-2), 145-176. doi:10.1016/0165-4101(94)90008-6

- Donelson, D. C., Mcinnis, J. M., & Mergenthaler, R. D. (2013). Discontinuities and earnings management: Evidence from restatements related to securities litigation. *Contemporary Accounting Research*, 30(1), 242–268. doi:10.1111/j.1911-3846.2012.01150.x
- Engel, E., Hayes, R. M., & Wang, X. (2007). The Sarbanes–Oxley Act and firms' goingprivate decisions. *Journal of Accounting and Economics*, 44(1–2), 116–145.
- Frost, C. A. (1997). Disclosure policy choices of UK firms receiving modified audit reports. *Journal of Accounting and Economics*, 23(2), 163–187. doi:10.1016/S0165-4101(97)00006-2
- GAO. (2002). Financial statement restatements: Trends, market impacts, regulatory responses, and remaining challenges.
- GAO. (2006). Financial restatements: Update of public company trends, market impacts, and regulatory enforcement activities.
- Giannetti, M., & Wang, T. Y. (2016). Corporate scandals and household stock market participation. *Journal of Finance*, 71(6), 2591–2636. doi:10.1111/jofi.12399
- Gleason, C. A., Jenkins, N. T., & Johnson, W. B. (2008). The contagion effects of 85Accounting restatements. *Accounting Review*, 83(1), 83–110. doi:10.2308/accr.2008.83.1.83
- Griffin, P. A., Grundfest, J. A., & Perino, M. A. (2004). Stock price response to news of securities fraud litigation: An analysis of sequential and conditional information. *Abacus*, 40(1), 21–48. doi:10.1111/j.1467-6281.2004.00149.x
- Hayn, C. (1995). The information content of losses. *Journal of Accounting and Economics*, 20(2), 125–153. doi:10.1016/0165-4101(95)00397-2
- Hribar, P., Jenkins, N. T., & Wang, J. (2009). Institutional investors and accounting restatements. *Asian Journal of Finance & Accounting*, 1(2): E4, 75–105.
- Jain, P. K., Kim, J.-C., & Rezaee, Z. (2008). The Sarbanes-Oxley Act of 2002 and market liquidity. *Financial Review*, 43(3), 361–382. doi:10.1111/j.1540-6288.2008.00198.x
- Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29(2), 193–228. doi:10.2307/2491047
- Kang, Q., Liu, Q., & Qi, R. (2010). The Sarbanes-Oxley Act and corporate investment: A structural assessment☆. *Journal of Financial Economics*, 96(2), 291–305. doi:10.1016/j.jfineco.2010.02.002
- Kaplan, S. N. (1994). Top executive rewards and firm performance: A comparison of Japan and the United States. *Journal of Political Economy*, 102(3), 510–546. doi:10.1086/261944
- Karpoff, J. M., Scott Lee, D. S., & Martin, G. S. (2008). The consequences to managers for financial misrepresentation. *Journal of Financial Economics*, 88(2), 193–215. doi:10.1016/j.jfineco.2007.06.003
- Khan, I. A. (2018). The effect of rating changes on stock returns: An empirical investigation. *International Journal of Research in Management, Economics and Commerce*, 8(3), 9–14.
- Khan, I. A. (2018). Empirical evidence on dividends as a signal of firm value. *VSRD International Journal of Business and Management Research*, 8(1), 23–30.
- Khan, I. A. (2021). Time-driven activity costing and its application in public hospitals. *Management Accountant*, 56(04), 89–93.
- Khan, I. A. (2021). Impact of accounting fraud on stock price formation before its discovery–the period from the start of fraud to its discovery. *Academy of Entrepreneurship Journal*, 27(5), 1–18.
- Kinney, W. R., & McDaniel, L. S. (1989). Characteristics of firms correcting previously reported quarterly earnings. *Journal of Accounting and Economics*, 11(1), 71–93. doi:10.1016/0165-4101(89)90014-1
- Koch, A. S. (2002). "Financial distress and the credibility of management earnings forecasts," GSIA Working Paper no. 2000-10. PA: Carnegie Mellon University.
- Leuz, C., & Wysocki, P. D. (2016). The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. *Journal of Accounting Research*, 54(2), 525–622. doi:10.1111/1475-679X.12115
- Lev, B., Ryan, S. G., & Wu, M. (2008). Rewriting earnings history. *Review of Accounting Studies*, 13(4), 419–451. doi:10.1007/s11142-007-9041-4
- Mercer, M. (2004). How do investors assess the credibility of management disclosures? *Accounting Horizons*, 18(3), 185–196. doi:10.2308/acch.2004.18.3.185
- Mishra, N.K., Ali, I., Imam, A., Khatoon, A., Olarewaju, O.M., Khan, I.A., & Baig, A. (2021). An analysis on accounting disclosure models for modeling the mathematical signals perspective. *Journal of Management Information and Decision Sciences*, 24(S6), 1-31.
- Mishra, N.K., Ali, I., Senan, N.A.M., Uddin, M., Baig, A., Khatoon, A., Imam, A., & Khan, I.A. (2022). The Effect of Departmental Accounting Practices on Organizational Performance: Empirical Evidence from the Hospital Sector in India. *The Journal of Asian Finance, Economics and Business*, 9(4).

- Mishra, N.K., Ali, I., Senan, N.A.M., Uddin, M., Baig, A., Khatoon, A., Imam, A., & Khan, I.A. (2022). Cost Behaviors and Cost Structure of Public Hospitals in India: Analysis from the Perspective of Congestion Costs. *The Journal of Asian Finance, Economics and Business*, 9(4).
- Palmrose, Z.-V. (1999). *Empirical research in auditor litigation: Considerations and data*. Sarasota, FL: American Accounting Association.
- Palmrose, Z.-V., Richardson, V. J., & Scholz, S. (2004). Determinants of market reactions to restatement announcements. *Journal of Accounting and Economics*, 37(1), 59–89. doi:10.1016/j.jacceco.2003.06.003
- Schipper, K. (1989). Commentary on earnings management. *Accounting Horizons*, 3(4), 91–102.
- Scholz, S. (2008). 'The Changing Nature and Consequences of Public Company Financial Restatements 1997–2006,' The Department of the Treasury.
- Scholz, S. (2014). 'Financial Restatement Trends in the United States: 2003–2012,' Center for Audit quality.
- Scott, W. R. (2015). *Financial Accounting Theory* (7th Edition). London: Pearson.
- Williams, P. A. (1996). The relation between a prior earnings forecast by management and analyst response to a current management forecast. *Accounting Review*, 71(1), 103–113.
- Wilson, W. M. (2008). An empirical analysis of the decline in the information content of earnings following restatements. *Accounting Review*, 83(2), 519–548. doi:10.2308/accr.2008.83.2.519
- Wu, M. (2002). "Earnings restatements: A capital market perspective," [PhD Thesis]. MI: University of Michigan
- Xu, T., Najand, M., & Ziegenfuss, D. (2006). Intra-industry effects of earnings restatements due to accounting irregularities. *Journal of Business Finance and Accounting*, 33(5–6), 696–714. doi:10.1111/j.1468-5957.2006.00607.x