
**Corporate Fraud, Ameliorating Actions, and Earnings Quality: Empirical Evidence from
Pakistan Stock Exchange (PSX)**

Syed Asim Shah

Department of Management Sciences, National University of Modern
Languages, Pakistan

Aijaz Mustafa Hashmi

Department of Management Sciences, National University of Modern
Languages, Pakistan

*** Muhammad Adil**

Assistant professor Department of Management Sciences & Commerce,
Bacha Khan University

Adnan Ali Khan

Department of Management Sciences, National University of Modern
Languages, Pakistan

*Email of the corresponding author: adil@bkuc.edu.pk

ABSTRACT

The study aims to investigate the impact of management and governance changes on the earning quality of the fraudulent firms following the fraud revelation. The earnings quality is considered for the investigation because it provides objective information to the market participants. The study uses Enforcement Action Publications in Pakistan to identify the fraud sample for 1997-2021. The regression results offer little support for the increase in ex-post earnings quality of the fraudulent firms. The results are robust to different earnings quality models and alternative estimation methods. Despite some improvements in management and governance quality, the study argues that these mechanisms are not sufficiently strong to counter earnings quality problems in Pakistan. The findings corroborates that the reduction in earnings management benefits stakeholders who depend on the external audit to monitor the accuracy of business financial reporting.

Keywords: Corporate Fraud; Earnings Quality; Ameliorating Actions; Audit Quality; Enforcement Action publications and Stock Markets.

To cite this article: Shah, S, A., Hashmi, A.M., Adil, M & Khan, A.A. (2022). Corporate Fraud, Ameliorating Actions, and Earnings Quality: Empirical Evidence from Pakistan Stock Exchange (PSX). Competitive Social Sciences Research Journal (CSSRJ), 3(1), 448-465.

INTRODUCTION

Corporate fraud revelation proves to be an event of crisis for a fraudulent company because it damages the firm's reputation (Gande & Lewis, 2009; Karpoff, Lee, & Martin, 2008) and put them to operate in a new environment of high market imperfections and information asymmetry (Campello, Graham, & Harvey, 2010). Prior studies on fraud can be broadly

categorized into pre-announcement issues and post-announcement issues. The former probes into the causes and determinants of fraudulent financial reporting (e.g., (Dion, 2016; Dunn, 2004; Ghafoor, Zainudin, & Mahdzan, 2019b; Z. Wang, Chen, Chin, & Zheng, 2017)). Post-announcement issues primarily relate to investigations of financial consequences of fraud. The argument is that fraudulent firms bear heavy costs both from legal and market perspectives. These costs include an increase in the cost of capital (Hribar & Jenkins, 2004), negative market reactions (Ghafoor, Zainudin, & Mahdzan, 2019a), higher frequencies of bankruptcy or delisting (Palmrose, Richardson, & Scholz, 2004), decrease in future earnings (Ahmed & Goodwin, 2007), and decrease in the information content of earnings (Wilson, 2008).

However, research on post-announcement issues has recently turned to how firms work to restore their impaired reputation. When the fraud is publicly revealed, the firm is better advised to take substantive measures to signal its effort to reduce the likelihood of fraud occurring in the future. This study proposes that fraudulent firms should take ameliorating actions to improve earnings quality as a priority in the post-announcement period. Therefore, the earnings quality may send a strong signal to the market about the company's prospects (Costello, 2011; Toms, 2002). Farber (2005) investigates the association between the credibility of the financial reporting system and the quality of corporate governance. He argues that fraud firms should improve corporate governance to restore a damaged reputation. Therefore, the study contends that companies tend to improve the financial reporting quality by taking "cleaning the house" actions at the top management and board level (D'Onza & Rigolini, 2017).

This study, therefore, examines the post-fraud behavior of fraudulent firms in restoring reputational damage. Particularly, the study considers changes in top management and corporate board turnover as ameliorating actions to improve earnings quality. To investigate this, it identifies fraudulent firms from enforcement actions Publications (EAPs) of the Security & Commission of Pakistan . The selected market offers a compelling case because of its institutional and structural environment. The concentrated family ownership system (Nahar Abdullah, 2006), political connections (Faccio, Masulis, & McConnell, 2006; Johnson & Mitton, 2003), weak enforcement, and investor protection (Gunasegaram, 2007) are among the features that make Pakistan unique as a research setting. The Asian Financial Crisis (1997) caused East Asian economies to plunge into financial and economic failures, severely affecting investors' trust (Rahman & Haniffa, 2005). The Pakistani government introduced key corporate governance reforms in response to the crisis and to restore investors' confidence¹. However, the persistent pattern of fraud reported by international surveys questions the effectiveness of these reforms. A survey by KPMG (2013-14) report and transparency international reveal that fraud is still a major problem in Pakistani businesses².

¹ Post-Asian Financial Crisis, the government announced important corporate governance reforms which include, Capital Market Reforms, initiation of the Code of Corporate Governance, the Institute of Corporate Governance, the Minority Shareholders Watchdog Group, and changes in the board composition and role of directors. Related measures covered the disclosure rules, strengthening of whistleblowing and restructuring of the government-linked companies (World Bank, 2005)

² KPMG Country Fraud Report.

This study makes several contributions. First, it contributes to the ongoing debate about the consequences of governance failure and actions undertaken to repair legitimacy (Marcel & Cowen, 2014). Farber (2005) and Cheng and Farber (2008) find that fraudulent firms rebuild their impaired reputation by improving corporate governance or contracts. The study takes the research one step further by linking these ameliorating actions with subsequent earnings quality. Second, the study examines the reporting behavior of fraudulent firms before and after the fraud announcement and depicts the change in discretionary accrual patterns following the fraud. Third, it offers insights from an emerging economy like Pakistan which offers different institutional and governance settings from the western counterparts.

The rest of the paper is organized as follows. Section 1.2 is the study's literature review; Section 1.3 presents the sample selection followed by estimation method and result discussion in Section 1.4; Section 1.5 discusses the alternative techniques for the robustness; and finally, Section 1.6 is the conclusion.

Literature Review

This section presents the literature review of the study. Particularly, it covers the discussion on ameliorating actions of the company and its relationship with the earnings quality. The prior literature has focused on the effect of fraud on management and governance turnover. For example, Farber (2005) examined the impact of fraud on governance turnover in the US. However, this study furthers the discussion by examining the effect of management and governance turnover on earnings quality. The study believes that financial reporting quality offers objective information to the market about the company's prospects. After fraud revelation, enhancing the quality of financial statements should be firms' priority and a more direct way to restore financial statement credibility. Therefore, the study considers the changes in management and governance structure as the actions taken to improve the earnings quality.

Though the direct studies on the effect of management and governance changes on earnings quality are scarce, some studies have examined the impact of management turnover on firm performance. However, the findings of these studies are mixed. For instance, on the one hand, management turnover adversely affects the organizations in various ways, such as changes in policies and structural instability (Files, Sharp, & Thompson, 2014), performance-related pressure and distraction among new managers due to financial and operational problems (Files et al., 2014; Hudaib & Cooke, 2005; Krieger & Ang, 2013), changes in organizational culture for financial reporting (Hayes, Oyer, & Schaefer, 2006; Y.-F. Wang & Chou, 2011), and poor employees' performance due to job security fears (Kesner & Dalton, 1994), therefore, one may argue that management turnover in fraudulent firms may not improve their earnings quality.

On the other hand, management turnover (i.e. CEO and CFO) is also an effective mechanism for firms with financial reporting issues (Arthaud-Day, Certo, Dalton, & Dalton, 2006; Chung & Luo, 2013; Feldmann, Read, & Abdolmohammadi, 2009). Since CFOs and CEOs are directly responsible for the financial reporting process, any change to these positions is considered an adequate strategy to improve the firm's performance, restore organizational reputation and legitimacy, and gain investors' trust in fraudulent

firms. Therefore, our study believes that changing the top management is one of the ameliorating actions of the fraudulent companies to improve the subsequent earnings quality.

The empirical fraud literature has established that fraudulent firms possess several weaknesses in their corporate governance mechanisms (Beasley, 1996; G. Chen, Firth, Gao, & Rui, 2006; Gaviious, Segev, & Yosef, 2012). Economic theory recommends that efforts to repair the financial reporting system should essentially include major improvements in its monitoring mechanisms. Board of directors, in this regard, provide an effective monitoring mechanism in the company to improve the earnings quality (Alves, 2014; X. Chen, Cheng, & Wang, 2015; Hashim & Devi, 2008; Xie, Davidson III, & DaDalt, 2003). While management turnover provides a case of legitimacy and reputation restoration of companies by disassociation, changing the board structure illustrates reputation rebuilding through changes in monitoring mechanisms (Suchman, 1995).

Since fraud is a phenomenon of severe agency costs, the study expects that fraud firms will experience greater changes in the governance structure to improve the earnings quality. Similar to the work of Fabre (2005), this study expects (i) increase in board independence, (ii) increase in audit committee independence, (iii) separation of the dual role of chairman, (iv) presence of financial expert in an audit committee, (v) increase in audit quality, and (vi) increase in board meetings. Since the corporate governance variables are associated with financial reporting quality (Baxter & Cotter, 2009; Dimitropoulos & Asteriou, 2010; Hashim & Devi, 2008; Niu, 2006), the study considers these changes in governance as ameliorating actions to improve the financial reporting quality of the fraudulent firms.

Data and Sample Selection

We define fraud samples as those companies against which regulatory bodies took enforcement actions. Past research carried out in the US [see for example., ((Dyck, Morse, & Zingales, 2010; Fich & Shivdasani, 2007; Khanna, KIM, & Lu, 2015))] use sample of fraudulent companies obtained from the Securities Commission Accounting and Auditing Enforcement Releases. This study also identifies the fraud sample of 155 firms from enforcement action Publications (EAPs) of Securities and Commission Pakistan and Pakistan Stock Exchange from 1997 to 2021. However, after excluding the private firms, financial firms, fraud cases other than financial statements (i.e., manipulation and insider trading), and firms with missing information on the required variables, our final sample consists of 59 firms.

Table 1: Sample Characteristics

Panel A: Industrial Classification of Sample		
Industry	Number of Firms	Percentage
Oil & Gas Sector	8	14%
Consumer Products	11	19%
Industrial Products	15	25%
Sugar & Allied	9	15%
Chemical	9	15%
Pharmaceuticals	7	12%

Panel B : Nature of Offence		
Offence	Number of Firms	Percentage
Improper Revenue Recognition	24	55%
Overstatement of Account Receivable	4	10%
Overstatement of other Assets	6	13%
Overstatement of Inventory	3	6%
Understatement of Allowances/Reserves	3	6%
Understatement of Expenses	4	10%

Source: SECP and PSX 1997-2021

Panel A of Table 1 presents the distribution of fraud in different industries. Industrial products are more involved in fraudulent financial reporting. They account for 25% of all frauds from 1997-2021. Firms in the consumer product industry make up 19 % of the fraud. Sugar & Allied along with Chemical Manufacturer comprise 30% of the total sample size. Oil & Gase constitutes 14% of the total sample. Panel C presents the classification of the sample according to the nature of the offence. Improper recognition of revenue is the most common one and account for 55% of the sample. Overstatement of assets such as account receivable, other assets and inventory account for 29% of the overall offences. Finally, understatement of reserves and expenses make 16% of total offences.

Estimation Method

To examine the effects of fraud announcements and the ameliorating actions have on earnings quality, the study employs a regression model on the entire sample (pre-and post-fraud) using dummy variables. In particular, the study introduces *Postfraud* as a dummy variable that assumes a value of 1 for the two years following the fraud announcement set and 0 for two years before fraud revelation. The model is specified as follows:

$$\begin{aligned}
 Abs(DA_{it}) = & \beta_0 + \beta_1 Postfraud + \beta_2 \Delta CEO_{it} + \beta_3 \Delta CFO_{it} + \beta_4 BI_{it} + \\
 & \beta_5 ACI_{it} + \beta_6 EAC_{it} + \beta_7 \Delta CEOD_{it} + \beta_8 BM_{it} + \beta_9 AUQ_{it} + \\
 & \beta_{10} Size_{it} + \beta_{11} ROA_{it} + \beta_{12} Lev_{it} + \varepsilon_{it}
 \end{aligned} \tag{1}$$

Where $Abs(DA_{it})$ is the discretionary accruals. This study follows Modified Jones Model Larcker and Richardson (2004) to measure earnings quality. Larcker and Richardson (2004)³ note that their model is superior to the modified Jones model in several ways: it has far greater explanatory power, identifies unexpected accruals that are less persistent than other components of earnings, the estimated discretionary accruals detect earnings

³ Larcker and Richardson (2004) reported that by adding the book-to-market ratio (*BM*) and operating cash flows (*OCF*) in the Modified Jones model mitigates the measurement error associated with the discretionary accruals. *BM* controls for expected growth in operations and if left uncontrolled, growth will be picked up as discretionary accruals. *CFO* controls for current operating performance. Controlling for performance is important because P. M. Dechow, Sloan, and Sweeney (1995) find that discretionary accruals are likely to be misspecified for firms with extreme levels of performance.

management identified in SEC enforcement actions, and determines discretionary accruals that are associated with lower future earnings and lower future stock returns.

In independent variables, the study uses management and corporate governance changes as ameliorating actions to improve the earnings quality (i.e., reduced discretionary accruals). For management turnover, this study uses CEO (Δ CEO) and CFO (Δ CFO) turnover following the fraud announcements. Next, for improvements in governance, I use board independence (BI), audit committee independence (ACI), the effectiveness of audit committee (EAC), separation of the dual role of the chairman (Δ CEOD), number of board meetings (BM), and increase in audit quality (AUQ). The study uses these variables based on the data availability and from prior literature suggestions of effective governance.

The study also controls for other variables that may potentially affect earnings quality. Bedard, Chtourou, and Courteau (2004) suggest that the firm's size is negatively related to earnings management. They justify this association by stating that greater supervision is required from the company's stakeholders; on the contrary, Pincus and Rajgopal (2002) notice that larger companies are more willing to match forecasted earnings and are more attracted to earnings management. As a result, firm size is included in the study because of its suggested influence on the level of earnings management. The study controls the firms' financial performance using return on assets (ROA). P. M. Dechow et al. (1995) show that extreme financial performance may be related to a high level of discretionary accruals (DA). Baxter and Cotter (2009) find that the financial performance of the firm has a positive effect on the quality of financial statements. In the study by Gong, Louis, and Sun (2008), managers have greater incentives to reduce firms' earnings when potential benefits from downward earnings management are higher. Peasnell, Pope, and Young (2005) emphasize that firms that are constrained to match specific financial indicators are more likely to manage their earnings. The variable measurements are provided in the Appendix A.

Descriptive Statistics

Table 2 presents some descriptive statistics on the ameliorating action variables examined in this study. Results indicate that, on average, 31.4 per cent of the sampled companies changed CEOs sometime during the measurement period of two years following the fraud announcement. The percentage of firms with changes in CFO is 45.7 per cent, which is slightly higher than changes in CEOs. Overall, the percentage changes in top management do not seem to be increased.

Table 2: Management Turnover

Management Turnover	Mean
% of firms with CEO changes after fraud	0.314
% of firms with CFO changes after fraud	0.457

It could be due to several reasons. For instance, in a family-controlled firm, significant top positions are held by the family members, which may offer some problems in replacing the family member from their positions. Moreover, as Agrawal, Jaffe, and Karpoff (1999) reported, the cost of replacing top managers will be particularly high when there are no close substitutes, for example, if the manager has unique skills especially suited to this firm. Holding other things constant implies that managerial turnover will occur less frequently following frauds in firms that require greater managerial investments in firm-specific human capital. The reputational benefit to changing top managers may be small, particularly if incumbent managers are not directly linked to the fraudulent activities. The benefits to replacing managers following the revelation of fraud can be smaller than the costs. In such cases, the fraud is unlikely to be associated with managerial change.

For the changes in governance, Table 3 reports the pre and post changes in variables. We take two years before the fraud event for pre-announcement and two years after the fraud announcement. The results show that fraudulent firms increase the board (BI) and audit committee (ACI) independence in post fraud period. The mean difference between the pre and post-fraud period of these variables is statistically significant at 1 per cent. The percentage of firms with an effective audit committee (EAC) increased in post fraud period. However, the difference is not statistically significant. Similarly, in post fraud period, we can observe a very negligible decrease in the proportion of firms with the dual role of chairman, but this decrease is not statically significant.

Table 3: Changes in Governance Variables

Variable	Pre-fraud	Post-fraud	Mean diff.
BI	0.487	0.531	-0.044***
ACI	0.447	0.521	-0.074***
% of firms with EAC	0.451	0.581	-0.130
% of firms with Δ CEOD	0.774	0.711	0.033
Board meetings	3.034	5.36	-2.325***
Audit quality	0.000	0.000	-0.000

The superscripts show *** p<0.01, ** p<0.05, * p<0.1

The board meetings indicate that fraudulent firms significantly increase the number of board meetings following the fraud announcement. Finally, the mean difference for audit quality is not significant as well. Overall, the univariate analysis suggests some efforts from the management to improve the management and governance quality.

Regression Results

The regression results of our study are presented in Table 4. Concerning the management turnover, it is observed that changes in CEOs and CFOs have an insignificant negative relation with the absolute value of discretionary accruals. Given the management turnover in univariate analysis, the results indicate that the new management is less focused on resolving operating problems to improve weaknesses in the financial reporting. The results do not support the view that CEO/CFO turnover is an appropriate strategy to improve firm performance, restore organizational legitimacy and regain investor confidence in fraudulent and distressed firms (Daily & Dalton, 1995; Feldmann et al., 2009). The insignificant results suggest that operating problems lead to managers being distracted from

fully addressing weaknesses in financial reporting (Files et al., 2014). The effect of changes in corporate governance on earnings quality shows that improvements in board independence (BI) do not affect absolute discretionary accruals. Audit committee independence (IAC) and its effectiveness (EAC) have a negative effect on discretionary accruals. However, the results are not sufficiently strong and are significant at the 10 per cent level. Moreover, the results also show the negative and insignificant effect of changes in CEO duality (Δ CEOD) and board meeting (BM) on discretionary accruals. Finally, audit quality (AUQ) has a significant and negative effect on discretionary accruals.

Overall, the results for both management and turnover indicate that, despite the improvements in management and governance quality, the financial reporting quality of fraudulent firms is still a credibility concern. The improvements in management and corporate governance do not seem sufficient to rectify financial reporting problems. The findings are inconsistent with the recent literature stating that stronger governance and board oversight is associated with more conservative accounting (Lobo & Zhou, 2006; Ramalingegowda & Yu, 2012). Among control variables, leverage has a positive effect on discretionary accruals. Leveraged firms usually try to increase income and use real-based earnings management to reduce the cost of debt and meet debt covenants (DeFond & Jiambalvo, 1994). In case of default of debt contracts, the firm may have difficulties accessing new loans, and the interest expenses of the existing ones may increase.

Table 4: Regression Results

Variables	Abs (DA)
Postfraud	0.016 (0.013)
Δ CEO	-0.021 (0.016)
Δ CFO	-0.011 (0.014)
BI	-0.283 (0.667)
ACI	-0.270* (0.152)
EAC	-0.031*

	(0.017)
ΔCEOD	-0.018 (0.038)
BM	-0.094 (0.093)
AUQ	-0.427** (0.336)
Size	-0.101 (0.085)
ROA	-0.004** (0.000)
Lev	0.002** (0.001)
Constant	0.072 (0.587)
Year and Industry effects	Yes
Observations	215
R-Square	0.143

Robust standard errors are reported in the parenthesis. The superscripts show *** p<0.01, ** p<0.05, * p<0.1

Therefore discretionary increases with leverage (Alves, 2012). Return on the asset has a negative effect on discretionary accruals. Gill, Biger, Mand, and Mathur (2013) found that earnings management is negatively related to performance. Finally, firms' size has a negative and insignificant effect on discretionary accruals.

Robustness Analyses

The previous section's relatively poor findings on ameliorating corporate actions and earnings quality compel us to investigate the relationship for robustness further. For this purpose, the study analyzes two ways. The study first runs the analysis on different other models of discretionary accruals. In a recent survey on earnings quality, P. Dechow, Ge, and Schrand (2010) argue that there is no superior measure of earnings quality and that alternative measures cannot be treated as substitutes. Therefore, the study uses Jones and original Modified Jones Models to see any difference in the results. Second, the study uses a matched-sample approach to examine any difference in the results from the study model.

Table **Error! No text of specified style in document.** Alternative Measures of Discretionary Accruals

Variables	Jones Model	Modified Jones Model
Postfraud	0.017 (0.013)	0.018 (0.013)
ΔCEO	0.018 (0.016)	0.016 (0.016)
ΔCFO	0.013 (0.016)	-0.014 (0.016)
BI	-0.286 (0.665)	-0.325 (0.656)
ACI	-0.246* (0.137)	-0.285* (0.164)
EAC	0.026	-0.035

	(0.072)	(0.072)
ΔCEOD	-0.018	-0.022
	(0.037)	(0.036)
BM	-0.372**	-0.281*
	(0.163)	(0.148)
AUQ	-0.090	-0.084
	(0.092)	(0.092)
Size	-0.087	-0.099
	(0.084)	(0.082)
ROA	-0.003**	-0.002**
	(0.001)	(0.001)
Lev	0.002**	0.002
	(0.001)	(0.001)
Constant	0.021	-0.026
	(0.584)	(0.578)
Observations	175	175
Year and Firm fixed effect	Yes	Yes
Observations	215	215
R-squ.	0.142	0.150

Robust standard errors are reported in the parenthesis. The superscripts show *** p<0.01, ** p<0.05, * p<0.1

In Table 5, the study reports the results of the Jones and original Modified Jones models. It is observed that all the models show similar results to those obtained through the Larcker and Richardson (2004). The results suggest that our findings do not change with different measures of discretionary accruals.

The previous analysis consists of only fraudulent companies, and the study used the *Postfraud dummy* variable for pre and post period of the fraudulent firms. To provide a benchmark using non-fraudulent firms, I select a control sample for each company in the primary sample of fraudulent firms. The non-fraudulent companies are chosen from public listed companies on Pakistan Stock Exchange. The companies are selected based on their similarity to the fraudulent companies in the study period, industry type and size. Each fraudulent company is matched with the non-fraudulent companies based on the various criteria. First, non-fraudulent companies have the same industry as fraudulent ones. Second, the first year for non-fraudulent companies is determined by the fraudulent companies' first year of fraud. Third, the non-fraudulent companies are selected based on their similarity in size. The study retains companies whose size are within the standard deviation of 30% of fraudulent companies. There are many ways to measure a company's size, such as through total assets, market valuation and market capitalization; this study used total assets and market capitalization for the size measurement. For the non-fraudulent company sample, the whole population is selected by excluding those that do not have any record of being investigated for fraud either by the Securities Commission or any other regulatory bodies. Also, the non-fraudulent companies must not be in financial distress as per published reports. The study estimates the main model by introducing a dummy variable, "Fraud", which takes the value of 1 for fraudulent firms and 0 for control firms. The rest of the model is similar to equation 1 of the main model of the study. Table 6 presents the regression results. Similar to the findings in Table 5, the results for management turnover on earnings quality have an insignificant effect. The study also

documents identical results for the impact of changes in governance on absolute discretionary accruals. Finally, the control variables are also showing consistent results with our study model. Overall, the results indicate that management and corporate governance improvements do not seem sufficient to rectify financial reporting problems. The findings are inconsistent with the recent literature stating that stronger governance and board oversight is associated with more conservative accounting.

Table 6: Regression results with control sample

Variables	Abs (DA)
Fraud	-0.012 (0.011)
ΔCEO	-0.020 (0.020)
ΔCFO	-0.008 (0.016)
BI	-0.100 (0.375)
ACI	-0.179** (0.085)
EAC	-0.071* (0.038)
ΔCEOD	-0.082 (0.180)
BM	-0.016** (0.008)
AUQ	-0.071 (0.048)
Size	-0.031 (0.137)
ROA	-0.006*** (0.002)
Lev	0.003** (0.001)
Constant	0.117 (0.602)
Year and Inudstry effects	Yes
Observations	430
R-Squ.	0.159

Robust standard errors are reported in the parenthesis. The superscripts show *** p<0.01, ** p<0.05, * p<0.1

Conclusion

This study examines the effect of fraud and certain ameliorating corporate actions on the earnings quality of fraudulent firms. In restoring the reputational damages of fraud announcement and signal about the prospects, the study posits that fraudulent take some corrective actions to improve the earnings quality measured by discretionary accrual models. Using enforcement actions publications (EAPs) issued by Security and Commission of Pakistan and Pakistan Stock Exchange as fraud samples, the study takes changes in top management and governance as ameliorating actions. It investigates their impacts on earnings quality. The results indicate that ex-post earnings quality of the fraudulent firms does not increase despite the changes in management and governance turnovers. Although, the univariate analysis of changes in management and governance

supports the improvement of these mechanisms. However, these are not sufficiently strong to decrease discretionary accruals (increase earnings quality).

For robustness, the study also checks if the results are not contaminated by choice of earnings quality measure and statistical methodology. For this purpose, the study uses different other discretionary accruals models and adopts a matched sample approach. The findings also provide weak evidence of the improvement in earnings quality. The improvements in management and corporate governance do not seem sufficient to rectify financial reporting problems. Our findings are inconsistent with the recent literature stating that stronger governance and board oversight is associated with more conservative accounting (Lobo & Zhou, 2006; Ramalingegowda & Yu, 2012). Overall, in the Malaysian context, these results provide weak support for the view that after fraud announcements, companies improve the earnings quality to restore the investors' broken trust and corporate legitimacy. The management turnover and changes in governance are not sufficient mechanisms in improving the financial reporting quality after fraud revelation.

This study offers implications for both firms and investors. The established finance literature apprehends that financial reporting quality affects the cost of firms' equity through two channels, i.e. market liquidity channel and information risk exposure of investors. On the one hand, financial reporting quality increases the stock liquidity by reducing the transaction cost or increasing the demand for the stock (Amihud & Mendelson, 1986). On the other hand, rational investors largely base their decisions on the available information of the firm; they generally incorporate the information risk in their required return that ultimately leads to a higher cost of equity financing (Easley & O'hara, 2004). Companies must realize the importance of improving the earnings quality during the crisis to signal the market participants about their prospects. Further, investors should not only take management and governance turnover into account in their decision making. They should differentiate between true and false signal from the company. For instance, changes in management and governance by companies might be made only in letters, not in spirit.

The study has a few limitations. First, the sample size is relatively small due to the unavailability of the data. It might affect the generalizability of this study. Hasnan, Rahman, and Mahenthiran (2012) also acknowledges this issue and report that in case of selected market, many accused companies do not continue by which 28% of these companies go out of business (largely due to financial difficulties). Few other firms are taken over by larger firms (almost 26%). However, various studies have also been observed using a small sample (Chevers & Chevers, 2014; Ettredge, Johnstone, Stone, & Wang, 2011). Furthermore, as the nature of the data in this study is panel data, the single biggest advantage of panel data is that it "pools" information, thereby shrinking the error. Therefore, despite the sample size constraint, the study believes that interpretation of the results is not significantly affected by small sample size bias. Second, the studies use few variables for management turnover and changes in governance. The variable selection was decided on the availability of data. The study opines that fraudulent firms may also take some other ameliorating actions together with the ones used in this study.

Appendix A: Description of the Study Variables

Variable	Acronym	Measurement
Discretionary Accruals	Abs(DA _{it})	Modified Jones model with Book to Market and operating cash flow
Fraud	Postfraud	A dummy variable equaling 1 for the post-fraud period, and 0 for the pre-fraud period.
CEO turnover	ΔCEO	A dummy variable. For post-event periods, this variable equals 1 if the company changed CEO and 0 otherwise. For pre-event periods this variable equals 0.
CFO turnover	ΔCFO	A dummy variable. For post-event periods, this variable equals 1 if the company changed CFO and 0 otherwise. For pre-event periods this variable equals 0.
Board independence	BI	The percentage of Independent Non-Executive Directors on board.
Audit committee independence	ACI	The percentage of Independent Non-Executive Directors in audit committee.
Change in duality	$\Delta CEO D$	A dummy variable. For post-event periods, this variable equals 1 if the company changed the dual role of chairman and 0 otherwise. For pre-event periods this variable equals 0.
Audit committee effectiveness	EAC	A dichotomous measure of audit committee effectiveness. EAC has a value of one if the audit committee meets at least two times a year and has minimum one financial expert; zero otherwise.
Board meetings	BM	Total number of board meetings in one year.
Audit quality	AUQ	The ratio of audit fees to total assets.
Size of the firm	Size	Log of Assets (Book)
Financial Performance	ROA	The ratio of net income to total assets.
Leverage	Lev	Leverage is calculated as the ratio of long-term and short-term debt to total assets.

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