

The red flags of financial statement fraud: a case study

Financial
statement
fraud

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Abstract

Purpose – According to the Association of Certified Fraud Examiners, financial statement fraud represents the smallest amount of fraud cases but results in the greatest monetary loss. The researcher previously investigated the characteristics of financial statement fraud and determined the presence of 16 fraud indicators. The purpose of this study is to establish whether investors and other stakeholders can detect and identify financial statement fraud using these characteristics in an analysis of a company's annual report.

Design/methodology/approach – This study analyses a financial statement fraud case, using the same techniques that were previously applied, including horizontal, vertical and ratio analysis. These are preferred because stakeholders have relatively easy access to them.

Findings – The findings show several fraud characteristics, with a few additional ones not previously found prevalent. Financial statement fraud thus tends to differ between cases. It is also easier to detect and identify fraud indicators ex post facto.

Originality/value – This study is a practical case showing that financial statement fraud can be detected and identified in the financial statements of companies that commit fraud.

Keywords Financial statement fraud, Management fraud, Red flags, Fraud indicators, Fraud characteristics

Paper type Case study

1. Introduction

The losses from financial statement fraud do not only lie with the company but also with investors who lose share value and employees who lose jobs. A recent financial statement fraud case happened in a company with a primary listing on the Frankfurt Stock Exchange, Germany, and a secondary listing on the Johannesburg Stock Exchange (JSE), South Africa. Apart from regular investors, third-party investors in the form of Government Pension Fund contributors collectively lost millions. However, there is speculation that the irregularities in the company's financial statements were easy to recognise and that those losses could have been prevented if non-financial personnel and laypeople investors understood the basics of financial statements [1].

Even though financial statement fraud represented the smallest amount of fraud cases (10% from a sample of 2,690 occupational fraud cases investigated worldwide between January 2016 and October 2017), it resulted in the greatest aggregate loss of US\$800,000 per case, compared to US\$250,000 and US\$114,000 per case for corruption and asset misappropriation, respectively (ACFE, 2018). This 10% represents only the cases where



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financial statement fraud has been successfully detected and identified, which means many more went undetected (Dechow *et al.*, 2011).

The downfall of the case study company (hereafter referred to as Company X) wiped out the market value equivalent to 8% of South Africa's gross domestic product. However, proper analysis of a company's financial statements and market data could potentially have diminished this effect. Preventing the damage caused by financial statement fraud can lead to more efficient capital markets, ensure better returns for investors, reduce litigation costs for auditors and keep intact the reputation of analysts (Dechow *et al.*, 2011).

Previous research has investigated the characteristics of financial statement fraud. The allegations of financial statement fraud made against Company X present an opportunity to test the characteristics of financial statement fraud from previous findings. The aim of this paper is thus to apply the financial statement fraud characteristics, as previously identified, on the annual reports of Company X to establish whether they are true indicators of financial statement fraud.

Financial statement fraud allegations and the effect on the market value of a firm can have dire consequences for employees, investors (individual and institutional), and analysts. This study sets out to establish whether stakeholders, through a relatively easy analysis and evaluation of a few years' market and financial data from the publicly available financial statements of Company X, would have been able to detect fraudulent activities and thus could have saved their investments. Positive findings in this regard have the potential not only to benefit investors but hopefully also as a deterrent that will prevent companies from engaging in fraudulent actions. Even though there are more sophisticated techniques available to analyse financial statements for financial statement fraud, this paper aims to investigate specifically those techniques that are available to financial statement readers who do not have access to complex and expensive software or techniques and can only access publicly available data.

2. Literature review

Financial statement fraud is generally committed by executive decision-makers on behalf of the company and involves the falsification of the company's financial statements (Wells, 1997) to mislead users (Rezaee, 2005). The most common techniques to commit this fraud include overstatement of revenues, understatement of expenses and inflation of asset values.

Many studies have been conducted to investigate the detection and identification of financial statement fraud. See, for example, Bell and Carcello (2000), Beneish (1999); Herawati (2015), Kamal *et al.* (2016); Kaminski *et al.* (2004); Kanapickienė and Grundienė (2015); Lee *et al.* (1999); and Malgwi and Morgan (2017), to name but a few. However, many of the studies investigate fraud indicators or use methods outside the realm of what the average investor or other stakeholders can observe or measure, such as the more complicated Beneish M-score model or data mining techniques (Beneish, 1999; Beneish *et al.*, 2013; Herawati, 2015; Kamal *et al.*, 2016; Malgwi and Morgan, 2017; Ravisankar *et al.*, 2011). Investors appear to be interested in red flags associated with financial statement fraud but tend to focus on those easier to observe, such as stock exchange investigations, pending legal cases, violations of debt agreements and high management turnover (Brazel *et al.*, 2015).

2.1 Fraud characteristics

In previous studies, the author identified 18 characteristics of financial statement fraud from the literature, which were further investigated and refined, using five South African case study companies with allegations of financial statement fraud against them. The

quantitative analyses used horizontal and vertical financial statement analyses, supplemented with ratio analyses and structural break analyses of the companies' share price over each company's "fraud period". A qualitative content analysis was performed of the narrative reports of the companies, as well as an event study of news reports about the companies. These analyses confirmed 9 of the original 18 characteristics, together with a further 7 that were significant in the case study companies specifically.

Financial statement fraud instances in South Africa appear to share several traits. Firstly, irregular accounting practices frequently result from bad cash flow patterns. Secondly, due to the drive to keep ahead of the competition, younger companies are more likely to experience accounting problems. Thirdly, a company's culture, such as a lack of process documentation or a competitive attitude, may point to a higher risk for accounting irregularities. A larger probability of accounting irregularities is also influenced by high debt levels and financial difficulty. In addition, businesses that have no audit committee and fewer outside directors on the board of directors are more vulnerable. Decentralised businesses that have corporate operations located far from headquarters are likewise more likely to experience accounting errors. Furthermore, businesses with autocratic management staff are more likely to experience accounting irregularities. Finally, businesses that engage in accounting irregularities frequently have unexpected increases in inventories and receivables.

Other traits that are common in financial statement fraud instances in South Africa include a company's size and organisational changes, such as mergers and acquisitions, which have been proven to enhance the chance of accounting problems. Companies with financial statement fraud also exhibit changes in some financial statement line items that are different from those in the industry, as well as a leading or lagging effect when compared to the industry. Research has indicated that price/earnings ratio (P/E) ratios with a falling trend are an indicator of a period in which accounting irregularities occurred, and a lack of dividend payments is frequently an indicator that a company is facing troubles. In addition, it has been discovered that most irregularities are found and identified within two years of their occurrence. And finally, when compared to statistics provided by other businesses in the same industry, organisations who engage in financial statement fraud frequently only report tiny values for tax charges or tax liabilities.

2.2 *The case of Company X*

Company X was established more than 50 years ago as a retailer of a variety of goods and is the world's third-largest integrated household goods retailer as measured by turnover. It holds 40 brands and 12,000 retail stores in more than 30 countries.

The company was investigated by German authorities in 2015 for accounting irregularities. It then faced a dispute with a joint venture partner relating to the September 2016 accounts, which were to be heard in the Amsterdam Court of Appeal in September 2017. The outcome of the hearing was an order for Company X to restate their 2016 accounts. On 5 December 2017, allegations of financial statement fraud in Company X became known. A report by Viceroy Research has published on the same day that the company admitted to wrongdoing and the chief executive officer (CEO) resigned [2]. The report pointed to so-called "financial engineering" to hide losses and increase earnings (e.g. ZAR 13.5bn spent on investments, but failing to improve profitability). Some techniques they used include loans to off-balance-sheet-related party entities; disguising losses; and tax and depreciation manipulation. Another alleged fraud was the sale of a loss-making company to boost the share price, even though it later transpired that the company was never really sold. The fraud shock was further exacerbated when it was made known that not only the 2017 but also the 2016 financials had to be restated because of accounting irregularities.

Later reports indicate that internal emails from 2014 were uncovered, where revenue figures were moved around subsidiaries to boost the balance sheet. This means that the financials had to be restated from 2014.

The signs of irregularities, especially in board oversight, were recognisable and various parties, such as market analysts and investors, claim that they issued warnings that something was amiss. A South African asset manager called on the Company X advisory board to resign months before a case for financial statement fraud could be made.

Even though trading Company X shares was not suspended, as many suspected would be the case, the company did lose more than 84% of its market value in three days before the news officially broke. Even though the share price shows some improvement, it is still far removed from its all-time high of R74.01 on 19 May 2017 (see Figure 1). The demise of Company X also affected other companies of which Company X is a shareholder, as well as those who extensively invested in Company X. In addition to a reduction in market value (see Figure 1), the credit ratings agency Moody's downgraded Company X in Europe from B1 to Baa3 and Company X in South Africa from Aa1.za to Baa3.za.

3. Research method

This research is conducted in the form of a case study to investigate whether the previously identified financial statement fraud red flags apply to Company X. Financial statement data are often used in analyses to detect and identify manipulation or financial statement fraud (Beneish *et al.*, 2013). The study includes quantitative and qualitative analyses of Company X from 2010 to 2016. These methods are chosen mainly for the ease with which any stakeholder, without access to sophisticated techniques or inside information, can perform such analyses. Financial statements of companies are publicly available, and many ratios are presented in the statements and financial magazines or newspapers.

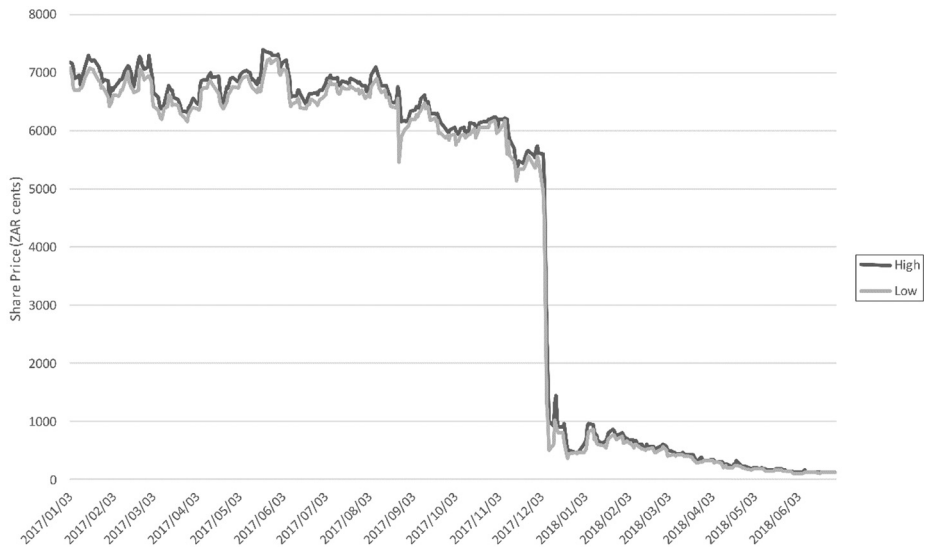


Figure 1.
Share price
movement

Source: Author's own work using publicly available share data

The horizontal analysis investigates how financial statement line items change from one year to the next while vertical analysis is where financial statement line items are expressed as a percentage of total assets in the statement of financial position or as a percentage of turnover in the statement of comprehensive income. For ratio analysis, one investigates exceptional changes from year to year and compares ratios to those of other companies in the industry [3]. The quantitative horizontal, vertical and ratio analyses are complemented with *t*-tests to investigate whether any of the observations made from the horizontal, vertical and ratio analyses are statistically significant:

$$t = \frac{(M - \mu)}{s/\sqrt{n}} \quad (1)$$

Observations of qualitative financial statement fraud characteristics such as company culture and insider trading provide insights into possible risks that could potentially have been identified.

The analyses of the financial statements are supplemented by a structural break analysis of the share prices of the company over the alleged period of financial statement fraud. The Bai-Perron structural break test is a commonly used method to test for structural breaks in time series data. The test statistic is calculated as follows:

$$t_n = n^{(-\frac{1}{2})} \max(1 \leq k \leq K) \left[\sqrt{\left\{ \frac{n}{T_k} \right\}} \times \left| \sum_{\{t=1\}}^{\{T_k\}} X_t - \bar{X}_k \right| - \delta_k \right] \quad (2)$$

where:

n = is the sample size;

K = is the number of possible break points in the data;

T_k = is the number of observations in the k th segment of the data;

X_t = is the value of the time series at time t ;

\bar{X}_k = is the sample mean of the k th segment of the data; and

δ_k = is a bias correction term that depends on the number of breakpoints and the properties of the time series.

The structural break analysis is conducted in conjunction with a qualitative investigation of the news items that could be observed around the time that structural breaks occurred in the share price of the company. This analysis aims to establish whether certain news items or unexpected changes in share prices may be indicators of something more significant.

All analyses are also performed for the three companies in the same Johannesburg stock exchange industry, namely, personal and household goods, which had no allegations of financial statement fraud over the same period. Even though this does not mean no financial statement fraud occurred in those companies, any possible fraud was not detected and identified. However, if all the companies in the analyses show the same trends (e.g. increased inventory levels), it is less likely that the character is a result of fraudulent action but could rather be thought of as an industry-related occurrence.

4. Results

The results of the analyses are discussed in terms of quantitative factors, qualitative factors and structural break analyses. In the interest of space, only those items where significant results were found are discussed in the sections that follow.

4.1 Quantitative factors

Table 1 presents a summary of the most significant quantitative factors that were identified through *t*-tests performed on the horizontal, vertical and ratio analyses. Most of the significance occurred in the horizontal analysis. A brief discussion of each characteristic as identified earlier, as well as added items, follows.

Company X showed a sharp increase in cash and cash equivalents, as opposed to an expected poor cash flow status. An analysis of the cash flow patterns of the control companies shows significant fluctuations, negative and positive, albeit not statistically significant. Financial statement fraud is often disguised through the manipulation of current assets, especially accounts receivable and inventory. The receivables and inventory values of Company X saw significant changes over the period. The changes in current assets did not reflect similarly in the statements of the three control companies. In addition, turnover, cost of sales, gross profit and other profit figures increased significantly, not in line with the increases shown by the other companies. With cases of financial statement fraud, significant increases in turnover, gross profit and other profit figures are often seen in conjunction with unexpected increases in inventory and receivables.

High debt levels and significant fluctuations in the use of debt can be an indication of irregularities. In terms of liabilities, Company X showed significant increases in both long-term and current liabilities in comparison to the other companies. Apart from the increased liabilities that Company X incurred, their financial distress score was also significantly low (a low score indicative of financial distress). The other companies in the industry also

Analysis	Line item or ratio	Mean	SD	t	Sig. (two-tailed)
Horizontal	Cash and cash equivalents	38.365	41.523	2.772	0.024
Ratio	Cash flow dividend cover	-25.053	12.716	-3.413	0.076
Horizontal	Cost of sales	29.341	35.614	2.472	0.039
Horizontal	Current assets	30.417	24.216	3.768	0.005
Horizontal	Earnings before interest and tax	29.432	23.592	3.743	0.006
Horizontal	Earnings before interest, tax, depreciation and amortisation	29.182	24.562	3.564	0.007
Ratio	Earnings/Share	14.007	20.656	2.034	0.076
Horizontal	Financial distress	0.063	0.364	6.952	0.000
Horizontal	Fixed assets	35.010	32.723	3.210	0.012
Horizontal	Goodwill	58.671	63.577	2.769	0.024
Horizontal	Gross profit	31.571	31.340	3.022	0.017
Vertical	Headline earnings per share	-10.354	7.864	-3.950	0.004
Horizontal	Headline earnings per share	15.279	23.767	1.929	0.090
Horizontal	Intangible assets	53.538	53.251	3.016	0.017
Horizontal	Inventory	38.969	38.966	3.000	0.017
Horizontal	Ordinary shareholders interest	39.675	32.128	3.705	0.006
Horizontal	Patents; trademarks	51.992	61.214	2.548	0.034
Horizontal	Profit after interest and tax	29.600	23.941	3.709	0.006
Horizontal	Profit attributable to ordinary shareholders	29.576	28.456	3.118	0.014
Horizontal	Profit before tax	30.573	26.559	3.453	0.009
Horizontal	Total headline earnings	32.752	39.254	2.503	0.037
Horizontal	Trade receivables	24.142	31.193	2.322	0.049
Horizontal	Turnover	30.330	34.899	2.607	0.031

Table 1.

Summary of *t*-test results for Company X

Notes: $n = 9$; $df = 8$

Source: Author's own analyses using publicly available data

experienced distress, which may have been an aftereffect of the financial crisis and is thus not necessarily an indicator of financial statement fraud.

Company X did not pay any dividends from 2007 to 2012. Thereafter, dividend payments increased significantly every year, but were not in line with cash flow, as can be seen by the cash flow dividend cover. Previous research has indicated that the non-payment of dividends may be an indicator of an increased likelihood that irregularities may occur, however, the non-payment of dividends happened a significant period before the alleged irregularities. The P/E ratio did not show significant decreases, as expected and the tax values for the company over the period were not unexpectedly low.

There were significant changes in items that were not previously identified as financial statement fraud characteristics. The analyses showed that intangible assets, with goodwill and patents/trademarks specifically, increased significantly over the period, not in line with the other companies. Company X obtained significant amounts of share capital throughout the period under investigation. The other companies investigated also showed increases in total ordinary shareholders' capital, but this was mostly a result of increases in distributable reserves, whereas the increase in total ordinary shareholders' interest in Company X was the result of significant changes in ordinary share capital. It is also noticeable that the company held significant amounts of fixed assets compared to other companies.

4.2 Qualitative factors

This section considers qualitative characteristics that are indicators of financial statement fraud.

Company X has been operating for more than 50 years. In terms of previous findings, it is more likely for younger companies to engage in fraudulent activities, while trying to establish a foothold in the market. The age of Company X, therefore, did not play a specific role in financial statement fraud activities if younger companies are considered to be more likely candidates to be at risk.

An outside stakeholder cannot gauge the "culture" of a company. However, researchers recommend that one investigates whether the company has policy documents in place that formalises processes (e.g. codes of conduct, ethics policies). A review of Company X's website has shown that the company has detailed policies and documents available. These documents can be considered fairly recent, with the latest being updated in 2015 (observation made on 27 July 2019). It, therefore, does not appear, as far as an outsider can observe, that the company's culture was conducive to an environment that approves of irregular behaviour.

Previous research has found that, even though challenging to observe, directors can have a predisposition towards irregularities. If a company does not comply with the requirements of a stock exchange or other codes in terms of director requirements, it may be that they are intentionally disregarding such stipulations. The Company X board planned to release unaudited financial statements, which were communicated through Stock Exchange News Service (SENS) on 4 December 2017. This shows a concerning lack of corporate governance. South Africa's Public Investment Corporation, which was the second-largest shareholder at 10%, questioned the board's independence and hinted at the chairperson having conflicts of interest. The board dominance of specific families was also brought into question. Apart from the above, one can speculate about the profile of the Company X board, being mostly older white males. This does not necessarily point towards white males being a problem but rather shows a lack of diversity, which creates an environment conducive to unethical behaviour. It is also noticeable that the chairperson of the board was a large shareholder. In the case of Company X, there has also been a significant amount of speculation about the

profile of executive management, especially after the “disappearance” of the CEO. However, it can only ever be speculation. There is also no information available about management shareholding in the firm.

A geographically dispersed company with divisions or subsidiary companies in remote locations is more likely to experience accounting fraud. This is due to the difficulty to provide sufficient board and top management oversight at a distant location. Because the fraud occurrences took place at a high level at the head office of the company, geographic location is unlikely to have increased the likelihood of financial statement fraud in Company X.

Company X has been on an aggressive acquisition streak over the six years before irregularities became known. In 2016 alone, the company acquired four companies. These acquisitions showed poor profitability, despite ZAR 13.5bn spent on these investments. It appears that the company may also have overpaid for certain acquisitions. The acquisitions are public knowledge and can be considered a red flag, but there is no concrete proof regarding overpaying for acquisitions.

Financial statement line items with a tendency to have changes contrary to those of the industry could not be readily confirmed. Because of the financial crisis from 2007 to about 2009 and its aftermath, all the firms showed fluctuations in financial statement line items and ratios. A leading or lagging effect concerning significant changes in the financial statements of the company and the industry could also not be readily confirmed due to various fluctuations in the line items and ratios of the companies, likely due to the effect of the financial crisis and its aftermath.

Previous research has found that irregularities occurred for two or fewer years before the irregularities were detected and identified. Speculation about the occurrence of accounting and tax irregularities in the 2016 financial statements first became known in August 2017, at which time the board first denied, but acknowledged two weeks later. Four months before the news of the accounting irregularities broke, German prosecutors have reportedly been suspecting accounting statement fraud in Company X and started investigations. Their investigation stretched back to 2015. Sources claim that the Company X CEO was in email contact in 2014 with German managers about misrepresenting financial data. It thus appears as if this characteristic held for Company X and that the fraud was detected and identified approximately within two years of its first occurrence.

In the case of Company X, it appears that complex accounting and related-party transactions were one of the company’s major irregular practices. According to Intellidex, the Portsea Asset Management report found a significant number of off-balance-sheet-related party entities and transactions that were never properly disclosed (Theobald *et al.*, 2018). These transactions were mainly used to remove unprofitable entities off the books, give loans to the purchasers of its unprofitable entities, improve sales figures through overstatement of revenue and profit and hide impairment losses.

Significant shareholding by board members is a known red flag for corporate fraud. Even though it was not shown to be significant in the cases originally investigated by the author, significant shareholding appears to have had an impact on Company X. According to reports, the Public Investment Corporation questioned the amount of board member shareholding.

During the conducting of the analyses, a few additional fraud characteristics, not previously mentioned in the literature, were observed. The average life span of Company X’s assets was 24 years, compared to an average life span of 14 years for similar companies (Theobald *et al.*, 2018). This may have been part of an attempt to artificially reduce expenses and inflate income. An announcement was further made that a loss-making company within the Company X group was sold, which boosted the share price. However, the company was

never really sold, meaning that insider trading took place. This is unfortunately a characteristic or red flag that is difficult to detect and identify.

4.3 Structural break analysis

The Bai–Perron tests of $L + 1$ vs L sequentially determined breaks resulted in three dates within the 2010 to 2016 period where significant breaks in the share price pattern occurred. The structural break analysis showed nothing significantly out of the ordinary in terms of share price movements or SENS news items in the period from 2010 to 2016 and no further discussion is thus warranted.

5. Conclusions

Stewardship theory places managers and directors in charge of wealth maximisation for shareholders (Davis *et al.*, 1997; Donaldson and Davis, 1991). However, managers and directors seek wealth maximisation, their own included, as per agency theory (Donaldson and Davis, 1991; Jensen and Meckling, 1976). The financial statement fraud as it occurred in Company X may have had its origin in both these theories.

The study made use of quantitative and qualitative analyses of financial statement information to test the characteristics of financial statement fraud. The aim of an analysis of publicly available financial statement line items and ratios is to establish whether it is possible to use information and measures, which are relatively easy to obtain and use, for fraud detection and identification. If this is possible, it will allow individual shareholders and analysts to benefit from published financial information to protect their interests. Even though several characteristics have been identified in previous research as being more likely to be present in financial statement fraud cases, this study does not focus on those alone but does evaluate all financial statement line items and all ratios. This allows for possible new insights.

From horizontal, vertical and ratio analyses of Company X, it appears that the predictive ability of financial statement fraud in the annual financial statements of a company is limited at best. The following traits were determined to be indicators of financial statement fraud based on the analysis of Company X: sizable acquisitions, complicated accounting and related-party transactions, a dominated board structure, dispersed geographic location, irregularities occurring for two or fewer years before detection, sizable increases in current assets, sizable shareholding by board members and lower tax charges/liabilities compared to the industry average.

The analysis revealed potential indicators of accounting irregularities in addition to the characteristics that had already been confirmed: a lower depreciation rate than the industry average, statistically significant changes in fixed assets with higher values than competitors, a lower gross profit margin than peers, significant increases in intangible assets, statistically significant increases in ordinary share capital and a significant increase in turnover.

An important observation from this study is how fraud characteristics can differ from case to case. The author initially identified from the literature 18 characteristics of financial statement fraud. Thereafter, through the analyses of five case study companies with allegations of financial statement fraud, it was narrowed down to 9 characteristics. The author also found another 7 characteristics that were not previously identified. These 16 characteristics formed the basis of the study conducted here. However, not all 16 were indicators in Company X and some of the 9 that were not found to be characteristics of fraud did feature as risk factors in the case of Company X. There were also a few additional red flags that has not before been formally identified as fraud characteristics. This provides

evidence that each case is different and that the concerned investor or stakeholder should take note of all aspects of a firm. Industries differ in nature, bringing forth extra challenges.

The diversity of items that showed up as suspicious *ex post facto* is a clear indication that the detection and identification of financial statement fraud are not straightforward, or easy. The real value that financial statements offer to the readers thereof is questionable.

As with any study, this one also presents some limitations. In the first instance, it is a challenge to find companies with financial statement fraud allegations against them. There has thus been a significant delay between the previous study and this one. In addition, the analysis of a sole case study is a rather obvious limitation. It is impossible to generalise the results presented here to other companies or financial statement fraud cases. The usual recommendation of a larger sample is not necessarily feasible. This research is thus rather a means to create awareness. The findings, albeit to some extent inconclusive, are of value to investors, employees, managers, credit rating agencies and any other stakeholder with a vested interest in a company. Interested parties need to be vigilant for any transactions or dealings in a company that appears to be out of the ordinary:

As the saying goes, “When something feels wrong, it probably is”. – Anonymous

Notes

1. Note that all sources for such statements had to be omitted to ensure the company in question remains anonymous.
2. Even though Viceroy Research Group was the first to formally reveal the presence of irregularities in the dealings and financial statements of Company X, the report has been plagiarised from an unavailable report by Portsea Asset Management, a London-based hedge fund. Intellidex, a leading South African capital markets and financial services research house, revealed this in June 2018. In the interest of sound research practices, only sections from the Portsea Report, as disclosed with permission by Intellidex, will be used in this article. The Viceroy Report is only mentioned as being the vehicle that first made the irregularities formally known to the public.
3. In the interest of space, the tables containing the horizontal, vertical and ratio analyses are not reproduced in the text, but only discussed.

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