An empirical study of regulatory compliance in South African banks

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Abstract

Event studies are vital analytical tools used to gauge if unusual investment returns result from events within defined time frames. This article explores events marked by the disclosure of administrative penalties imposed on South African publicly traded financial institutions between 2011 to 2021 due to non-compliance with regulations. Results reveal statistically significant abnormal returns occur in at least 70% of cases, with negative events like fines correlating with negative returns. The findings emphasise the impact of regulatory fines on the performance of listed financial institutions. Banks are advised to monitor and manage conduct risk systematically and carefully.

1.   Introduction

There seems to be little agreement about the financial market regulations' ability and central role in maintaining soundness and stability in the financial sector (Buss et al., 2016). Debates range widely between a need to focus on consumer protection and safety (Goodhart et al., 2013) and, inversely, others who advocate self-regulation (Omarova, 2010). The consequences of non-compliance with financial regulations are also a point of disagreement, with some emphasising the importance of fines and penalties, while others believe they have limited effectiveness (Macartney & Calcagno, 2019). The financial crisis has intensified these debates as many believe that financial regulations were not stringent enough to prevent or mitigate it. As a result, there have been calls for greater regulation of the financial system globally, and indeed, financial regulations have been tightened and a multitude of fines have been issued since then (Breznik, 2022).

Given this background, it remains a fact that non-compliance with regulatory requirements exists in the financial sector despite efforts by regulatory bodies (Mills & Haines, 2015). There are various consequences as non-compliance can damage confidence and create uncertainty in the financial system, as the financial sector is built on trust. Furthermore, non-compliance with financial regulations imposes financial costs on the firm (Mohamed, 2020). When non-compliance is investigated and announced, banks can face severe penalties that can result in reduced profits or even losses, and financial turmoil based on reputational effects. These outcomes are not only concerning for shareholders but for all stakeholders of the organisation (Feng & Li, 2016).

Previous studies have focused on the share price reaction to negative and relevant information around topics such as fraud, financial irregularities, conduct issues in different industries, and unsuitable financial products sold to consumers to reach revenue targets (Ryan & Taffler, 2004; Karpoff & Lou, 2010; Neuhierl et al., 2013; Mpiana, 2017; Carberry et al., 2018). Research on commercial banks' share price reaction to non-compliance penalties (fines) is still limited (Tilley et al., 2017), especially for developing markets. Stakeholders are at a point where they need clarity about how to navigate this complex and controversial environment (Svetiev, 2023; Malik, 2024). Therefore, the aim of this article is to answer the question of whether previous and future fines should matter to the relevant stakeholders of banks in a developing country, with an empirical approach focused on shareholders as one of the groups of stakeholders. The case example used for a developing country is South Africa.

The article is organised as follows: first, more facts and evidence are given about the disagreements on financial regulation and how markets react to negative news in general. Second, the chosen research methodology in the form of the event study methodology is described as examining any changes in share prices and how it relates to a given event. Next, the possible abnormal returns for selected commercial banks generated by an announcement of financial penalties are analysed and discussed in the results. Finally, conclusions, contributions, and guidance to various stakeholders are provided.

2. Literature review

2.1 Financial regulation, non-compliance, and consequence management

Financial regulation, non-compliance, and consequence management have been debated expansively since the early days of finance (Mohamed, 2020). Over time, many studies have claimed that stringent regulation is instrumental in stabilising the financial system, protecting consumers, preventing systemic risk, enhancing market confidence, promoting fairness and equity, and encouraging long-term stability and sustainable growth (Diamond & Dybvig, 1983; Llewellyn, 1999). These calls became louder especially after the global financial crisis of 2008/9 (Rajan, 2011; Stiglitz, 2012; Claessens & Kodres, 2014; Breznik, 2022).

At the same time, other perspectives exist. Firstly, stricter regulation may benefit bank stability, but it can affect bank efficiency negatively (Lee & Chih, 2013). Secondly, a more flexible and practical approach to financial regulation might be necessary to foster financial inclusion, literacy, and sustainable growth, especially in developing countries (Jungo et al, 2022). Thirdly, the time might be right for a possibly much simpler, more effective, less costly, and more respectable approach to financial regulation since many abuses of the rule of law have politicised regulation dramatically (Calomiris, 2017; Borio et al., 2020).

2.2   Do fines matter?

Fines and penalties are one of the consequences that regulators around the world regularly use for non-compliance of financial institutions, even though there is controversy around whether the approach is effective (Chaikovska, 2019). The argument that 'fines do not matter' fits in with the fact that many deposit money banks have started considering penalties as operational expenses, and even transferred these costs to customers (Yusuf & Ekundayo, 2018). Banks also have an interest in keeping a positive relationship with the regulator, so they will not appeal a fine, even if they disagree with it (Khan et al., 2020). Lastly, the benefits of illicit financial activity often outweigh the costs (Klimcak et al., 2021).

The argument that 'fines do matter' is supported by the fact that announcements of regulatory fines and penalties will likely create negative reputational effects for the firm in question (Karpoff & Lott, 1993). Because the impact of fines is difficult to measure directly, it makes sense to use a firm's share value as a "proxy" (Sampath et al., 2018). What can then be measured is how the share price (as a measure of the market value) reacts to the fines.

Whether firms are deterred from non-complying with regulation after experiencing reputational losses is unclear (Feng & Li, 2016). What is clear though is that reputational losses affect a firm's management negatively, including increases in the cost of capital (Karpoff, 2012; Li & Malone, 2016).

2.3   Share price reactions to negative news

Extensive academic research has been conducted on the effect of various negative news items on share prices. Generally, reported information events significantly drive share price changes and trading volume (Ryan & Taffler, 2004). Research completed before and during the turmoil of the 2008/9 financial crisis might require interpretation in a different light. Some of those 'older' studies showed negative abnormal returns on the days that financial non-compliance was publicly revealed by the regulator and, in fact, short sellers were able to take advantage of the situation (Karpoff & Lou, 2010).

For those studies completed after the crisis, detailed results have been mostly inconclusive. Looking at market reactions to various European companies' corporate press releases that are categorised according to themes, it turns out that certain types of negative news are

highly value relevant (Clapham et al., 2021). Examining the list of different news items, it is difficult to find a combination of an abnormal return with statistical significance (Neuhierl et al., 2013). Similarly, when investigating the effect of corporate scandals on stock exchange-listed firms' share prices, for some firms the effect was negligible and for others it was negative (Mpiana, 2017). One study found significant negative abnormal returns when the media announced an investigation or a potential settlement with the regulator (Tilley et al., 2017).

2.4   From non-compliance to misconduct: Longer-term effects

Non-compliance with financial regulation could come about for various reasons. It could result from a misunderstanding or procedural mistakes. It could also materialise out of a risk appetite that is too high (Centre for Banking Research, 2020) The reasons are multi-faceted. For example, it can be concluded that gender diversity influences the attitudes of managers towards business ethics by encouraging the stronger consideration of ethical principles in decision-making but also risk-taking, leading to a more cautious approach in diverse teams (Arnaboldi et al., 2021).

When banks are seen to attract fines because of alleged purposeful misconduct, stakes are high. Investors tend to react "negatively when the media presents clear and credible information that misconduct occurred, that the firm was responsible for it, and that the misconduct was the result of deeper organizational problems" (Carberry et al., 2018:1). As such, it seems that the content of media statements negatively influences shareholders' reactions in a case where a corporation is found guilty, as opposed to certain individuals within the corporation. It is also found that investors are willing to rethink their positions to become more positive if information about the restorative capacity of the respective firm is released (Carberry et al., 2018).

2.5   Future thinking: Resolving the dilemma

Even if the share price is not immediately reacting negatively and consistently to an announcement of a penalty, and it is treated as a non-event in the short-term, real problems within the company linked to misconduct will not be ignored by stakeholders. This seems to suggest that banks cannot ignore serious regulatory issues. (Carberry et al., 2018).

Balancing the interests of all stakeholders while creating a sustainable positive financial result should be possible for banks. One of the drivers for this outcome would be for regulation to be protective but cost-effective and simple to implement (Calomiris, 2017). Furthermore, it needs to be recognised that banks in developing markets, where the expectation is that they are part of the solution for financial inclusion, are in a more difficult position (Jungo et al., 2022).

3. Methodology

3.1 Event study methodology

Event study methodology (ESM) is used in finance research to quantify the impact of an event on a firm's share prices (El Ghoul et al., 2023). For this study, ESM was used to measure abnormal returns attributed to an event such as the announcement of fines/penalties for non-compliance with financial regulation. The ESM enables scholars to examine how share prices react to an event relevant to a specific firm (MacKinlay, 1997). The analysis is completed by comparing the return of a single stock to a relevant index or to its own mean return using various time periods.

Existing event studies offer differing approaches to "how to measure what usual returns are for a firm, how to summarize returns during an event-period, how to control for market-wide effects" (Cram, n.d.:1). The significance of the analytical ESM depends on methodological assumptions, which this study prescribes to (Brown & Warner, 1985):

- Markets are efficient.
- The event was unanticipated and not yet factored into the share price.
- There were no confounding effects during the event window.

Table 1 reviews selected questions from the methodological assumptions that need to be tested before embarking on an event study (Schimmer et al., 2015):

Table 1: Selected event study methodology assumptions and questions

Questions	Answers
Is the stock of the analysed firm frequently traded?	Yes, all listed South African banks are frequently traded.
Is the capital market represented by the reference index liquid and shows sufficient trading volume?	Yes, highly liquid index.
Are price time series between stock and reference matching?	Yes, true for the time series.
Has information leakage taken place prior to the event?	Cannot be certain.
Is the chosen reference index the best correlate to the firm's stock price?	Yes.

If these assumptions are violated, the empirical results may be biased and interpreted incorrectly (McWilliams & Siegel, 2017). This study follows a quantitative and explanatory research approach. It is longitudinal in that it looks at various time horizons during the announcement of non-compliance (Goddard & Melville, 2001).

3.2 Data collection

The data comprise share prices of selected listed commercial banks in South Africa from 2011 to 2021. The secondary data regarding fines and penalties were collected from the South African Reserve Bank (SARB) and the Financial Sector Conduct Authority (FSCA). Only those banks with a fine imposed were taken into the sample. In line with the ESM, data for the JSE All Share Index (ALSI) were also collected for comparison purposes, as

this index is representative of the full South African equity market. Using the bank index as opposed to the JSE All Share Index was considered. It was assumed that arbitrage would arise through an investment into a bank versus the whole market, and not an investment into one bank over another, especially given that non-compliance in the banking sector could affect all banks' share prices, not only one.

Table 2 lists the financial service providers that received a penalty from the financial regulators between 2011 to 2021.

Table 2: Commercial bank sampling

SARB analysis		FSCA analysis
SA banks	SA subsidiaries of foreign banks	SA financial services companies
• Absa • FirstRand • Nedbank • Standard Bank • Capitec • Investec • Bidvest • Sasfin	• Deutsche Bank AG • Standard Chartered Johannesburg • Société Générale Johannesburg • China Construction Bank Johannesburg • HSBC Bank Johannesburg • Bank of Baroda, South Africa • Bank of China	• Absa • Absa Asset Management • Absa Investment Management Services • Standard Bank Insurance Brokers

In the financial sector, there were 29 penalties for non-compliance from the SARB and FSCA between 2011 to 2021. The results for the six non-listed companies were not reported since there is no share price that could be used in the analysis. The analysis examined the events of the listed companies. Furthermore, the analysis examined statistically significant cases to imply abnormal returns linked to the announcement of non-compliance.

Event studies employ time as a dependent variable to determine if abnormal returns are generated by an event. It has been empirically proven that a shorter time window captures the effect of an event more significantly, as it is more difficult to control for confounding effects when long windows are used (Ryngaert & Netter, 1990; McWilliams & Siegel, 2017). The time horizons for this event study are shown in Figure 1.
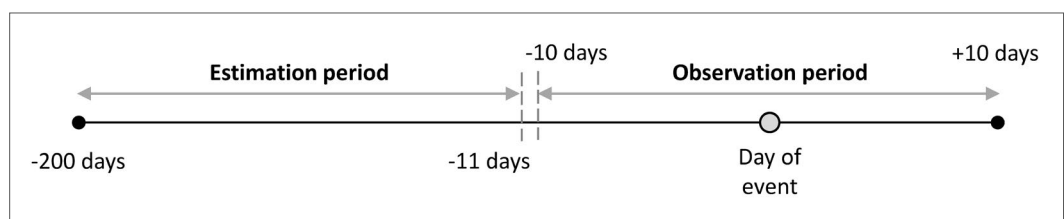

Figure 1: Event study time horizons; days

The data covered the period 1-Jan-11 to 31-May-21 because during this period announcements of non-compliance for listed South African banks started to materialise, and information about those is available in a suitable and reliable format from the regulators.

Existing event studies follow various time horizons. Based on this, the authors considered 21 days to be a reasonable event window and that using data for the 200 previous days would allow for the estimation period to be long enough to make the data reliable.

3.3 Data analysis

Based on the discussion above, the research objective was to test the following hypotheses:

H_0: *Announcements of fines for non-compliance of commercial banks or their subsidiaries issued by the SARB or FSCA have no impact on short-term abnormal returns.*

H_1: *Announcements of fines for non-compliance of commercial banks or their subsidiaries issued by the SARB or FSCA result in short-term abnormal returns.*

To test the hypothesis with statistical significance, a comparison of means test was performed. The test compares the mean return before the event and the mean return after the event for all events. It is assumed that where the means are different, the share price reaction to the event is of statistical significance. The following common event study definitions were used to analyse the data:

$$AR_{it} = R_{it} - E(X_t) \qquad (1)$$

where is the abnormal return for firm on day. The return is and is the expected return with conditional information for the predictive model

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i \cdot R_{mt} \qquad (2)$$

where days' return on market portfolio is and the coefficients/OLS estimates from the regression of the firms' daily returns on market returns over the 200 days prior to the event window are

$$CAR_{it} = \frac{1}{21} \sum_{\tau=t-10}^{t+10} AR_{i\tau} \qquad (3)$$

where the average daily abnormal return is CAR for a media announcement on day and for an observation period 10 days before and 10 days after the announcement.

The abnormal returns calculated by (1)–(3) are assumed to reflect the reaction to an event on share prices. The significance of the abnormal return allows the researcher to imply that the event had an impact on the value of the firm's share prices (McWilliams & Siegel, 2017). The statistically significant events were also measured for abnormal returns by using:

(i) MAR (mean adjusted returns model) – the mean return over the estimation period is deducted from the daily returns;

(ii) MKAR (market adjusted returns model) – the JSE ALSI daily return is deducted from the bank's daily return; and

(iii) RAR (risk-adjusted returns model) – adjusted return calculated using beta and intercept over estimation period is deducted from the bank's daily return.

The study did not examine the magnitude of the abnormal returns in question: when the return was not zero, it was deemed an abnormal return.

3.4   Limitations

The limitations of this study link mainly to the methodological challenges faced by the researchers when categorising regulatory fines in studies involving smaller datasets.

When examining the impact of regulatory fines for this study, the researchers could not categorise the fines based on various factors such as the amount of the fine or the type of non-compliance involved. The small dataset used contained an insufficient number of observations across different categories to conduct meaningful analyses. The situation was approached by opting for more aggregated analyses that consider overall trends rather than detailed categorisation. Alternatively, focus could have been placed on qualitative analysis or case studies to gain deeper insights into the specific impact of fines on individual firms.

4.   Results

The purpose of the article is to provide an empirical analysis and answer whether previous and future fines should matter to relevant stakeholders of banks in a developing country. Event data for fines and penalties were sourced from the two financial regulators: the SARB (resbank.co.za) and the FSCA (fsca.co.za).

Table 3 focuses on the fines imposed on, and abnormal returns achieved by, South African financial institutions since 2011. A variance of means test was completed to test for the significance of the event in the performance.

Table 3: Fines and abnormal returns achieved per date and financial institution

Announced	Bank	Regulator	Fine (ZAR)	Daily average from d to d (%)			Means
				MAR	MKAR	RAR	
29-Sep-11	Absa Investment Management Services	FSCA	170.7k	-0.16	-0.05	-0.16	Same
15-Dec-11	Standard Bank Insurance Brokers	FSCA	50k	-0.12	-0.26	0.00	Diff
23-Mar-12	Absa Investment Management Services	FSCA	100k	-0.09	-0.10	-0.04	Diff
12-Apr-12	Absa Asset Management	FSCA	10k	0.02	0.04	-0.01	Diff
16-Apr-14	Absa	SARB	10m	-0.17	-0.17	-0.12	Diff
16-Apr-14	First Rand Group	SARB	30m	-0.08	-0.17	-0.03	Diff
16-Apr-14	Nedbank	SARB	25m	-0.18	-0.17	-0.08	Diff
16-Apr-14	SBSA	SARB	60m	-0.35	-0.17	-0.29	Diff
20-Feb-15	Capitec Bank	SARB	5m	-0.03	-0.14	0.02	Diff

Announced	Bank	Regulator	Fine (ZAR)	Daily average from d to d (%)			Means
				MAR	MKAR	RAR	
20-Feb-15	Deutsche Bank	SARB	10m	-0.33	-0.16	-0.32	Diff
05-Aug-16	Investec	SARB	20m	-0.05	0.21	-0.05	Diff
05-Aug-16	Standard Chartered Bank – Jhb	SARB	10m	-0.22	0.19	-0.23	Diff
15-Dec-16	Société Générale Jhb	SARB	2m	0.23	0.28	0.21	Diff
15-Dec-16	Absa	SARB	10m	-0.01	0.28	-0.15	Diff
02-Feb-18	China Construction Bank Jhb	SARB	75m	-0.07	-0.16	-0.06	Diff
09-Nov-18	HSBC	SARB	15m	0.59	-0.03	0.61	Diff
15-Mar-19	Bidvest	SARB	5.25m	-0.41	-0.49	-0.18	Diff
30-Jul-19	Sasfin	SARB	500k	0.05	-0.40	0.06	Diff
06-Aug-19	Bank of Baroda, SA	SARB	400k	-0.15	-0.54	-0.04	Diff
20-Dec-19	SBSA	SARB	30m	0.24	0.12	0.21	Same
20-Dec-19	Bank of China	SARB	2m	0.14	0.01	0.14	Diff
04-May-21	Absa	FSCA	100k	-0.35	-0.12	-0.29	Diff

Table 3 lists 22 events of the 29 events between 2011 to 2021 (non-listed companies were excluded). Twenty out of the 22 events showed statistical significance. Two out of the 22 events (29-Sep-11 – ABSA) and (20-Dec-19 – SBSA) were statistically insignificant. Two out of the 22 events showed positive returns: Société Générale Jhb Branch and Bank of China, which were both subsidiaries of foreign banks. The biggest negative return occurred in March 2019 with Bidvest and the biggest fine was issued in February 2018 to China Construction Bank (Jhb Branch).
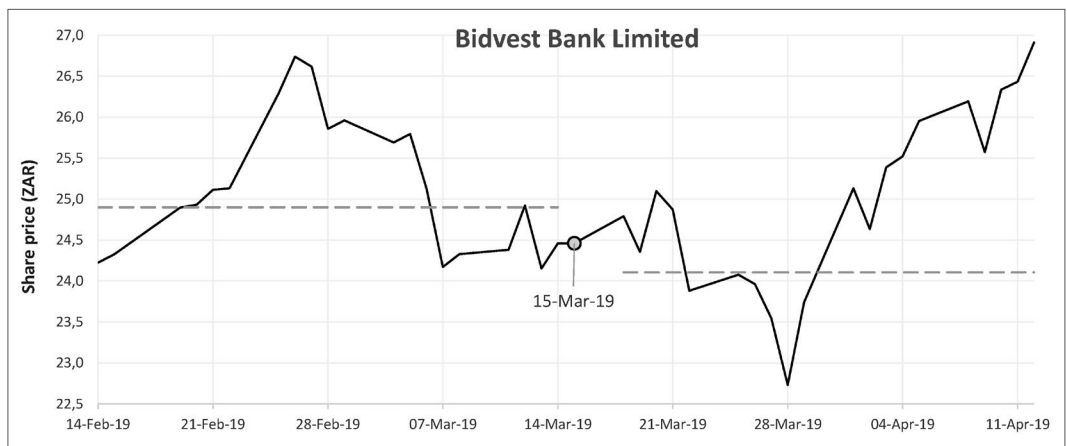

Figure 2: Bidvest Bank Limited share prices during the time window

Figure 2 shows the movement of Bidvest Bank Limited's share prices in the 21-day period, 10 days before the event and 10 days after the event. The comparison of the means test

produced significance of the event during the time window. The event on 15 March 2019 produced negative abnormal returns of -0.41% (MAR), -0.49% (MKAR), and -0.18% (RAR).
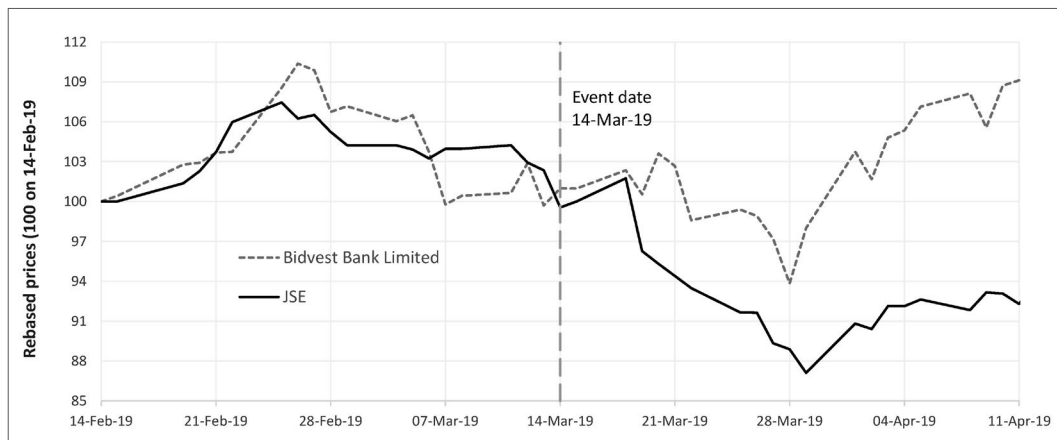

Figure 3: Comparison between JSE ALSI and Bidvest Bank Limited

Figure 3 shows the comparison between the JSE ALSI and Bidvest Bank Limited, with the cumulated abnormal returns earned on the average target company's stock for a 26-day event window. The price rally appears to begin some 16 days before the date of the announcement, earning investors cumulatively 9% (almost 10% if the JSE ALSI – solid line – is used as market proxy) by the time information is made public.

In terms of the number of fines received per bank, ABSA received six fines, while Standard Bank South Africa received two fines during this period. Each subsidiary foreign bank in the dataset received a single fine from the SARB, which alludes to seven out of 22 events. The FSCA issued lower fines during this period, with fines of ZAR100k resulting in negative abnormal returns. Fines issued from the SARB to commercial banks above ZAR25m resulted in negative abnormal returns in all three models. Most of the fines were issued in 2014 (four events) and 2019 (five events), with no events in 2013, 2017, and 2020. The more recent fines from 2014–2019 resulted in greater negative abnormal returns compared to fines before 2014. The biggest fine was observed in 2018 and resulted in a negative abnormal return, which stands in contrast with the lowest fine in 2012. The latter incurred a positive abnormal return in the MAR and MKAR, but a negative RAR.

Absa Investment Management Services received a fine from the FSCA in 2011 and again in 2012, with only the latter resulting in a different mean. ABSA incurred a penalty from SARB in 2014 and 2016 and from the FSCA in 2021, all resulting in different means. The SBSA received fines from SARB in 2014 and 2019: the second had the same mean. This raises the question of how much fines discourage banks from future non-compliance.

The results show eight out of the 20 significant events are inconclusive by illustrating a combination of positive and negative abnormal returns. These events are related to fines below ZAR20m. As illustrated in Table 3, abnormal returns (some negative and some positive) could have been achieved for all events.

Overall, the reaction of share prices to negative news resulted in 15 negative mean adjusted returns (75% of the events), 14 negative market adjusted returns (70% of the events), and 14 negative risk adjusted returns (70% of the events).

These findings emphasise the profound impact of regulatory fines on the performance of listed financial institutions, thereby rejecting H_0 and accepting H_1.

5.   Conclusions

The literature review had revealed that since the impact of fines is difficult to measure directly, it makes sense to use a firm's share value as a "proxy" (Sampath et al., 2018). Based on this, this study used share prices as a proxy to identify the impact of fines on share prices.

Previous studies have found that information events significantly drive share price changes and trading volume (Ryan & Taffler, 2004). Hence, it was decided to use ESM to observe the change in share prices after the announcement of the fines.

Studies completed after the global financial crisis of 2008/9 have been mostly inconclusive (Neuhierl et al., 2013; Mpiana, 2017). There is also a gap in the literature relating to banks' share price reaction in developing countries.

This particular study found that eight out of the 20 significant events for this study are inconclusive, as illustrated by a combination of positive and negative abnormal returns. Statistically significant negative abnormal returns were found for South African banks for a minimum of 70% of the events but this result should be viewed in the following context.

The regulatory environment in South Africa has changed dramatically over the last 20 years or so. It must thus be acknowledged that regulatory enforcement, the severity of regulation, shifts in regulatory priorities, and specific historical or current precedents could influence how firms and investors respond to regulatory fines, especially in this dynamic financial services environment as opposed to other industries. Besides this, market volatility, economic conditions and investor sentiment can also impact stock prices, so a nuanced understanding and analysis of the events is necessary. Longer-term implications of fines should also be taken into consideration, in addition to short-term stock price reactions.

Considering the aforementioned, the article concludes that the debates on financial regulation can be set aside as these abnormal returns confirm that fines matter and banks should take them seriously.

5.1   Contributions, guidance, and limitations

This study set out to answer the question of whether fines matter. A contribution is made by concluding that investors are reacting to media announcements of misconduct with fines, even though not consistently in every case. At the same time, this seems to suggest

that investors care about the conduct of the company they are invested in and are not taking it light-heartedly if misconduct and fines are announced in the media. Therefore, banks are guided to monitor and manage conduct risk systematically and carefully.

Future research could investigate whether fines deter banks from non-complying again. An impact analysis could also be conducted to assess how fines affect banks' financial performance. The effectiveness of existing regulations in preventing non-compliance could also be explored in conjunction with how banks manage compliance risks and the psychological and organisational factors influencing non-compliance. Comparative studies could be conducted in which regulatory approaches across different regions are compared. The role of technology in compliance monitoring could be examined, and the legal and ethical implications of non-compliance could be investigated.

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