

CORPORATE SOCIAL RESPONSIBILITY DISCLOSURES BY SOUTH AFRICAN MINING COMPANIES: THE MARIKANA MASSACRE

*Mosie Constance Molate**, *Marna de Klerk***, *Petri Ferreira****

Abstract

Following the strike at Lonmin Plc. which led to the death of 34 miners and the wounding of 78 others on 16 August 2012, we evaluate whether the extent of corporate social responsibility (CSR) disclosures by South African mining companies, in total and per disclosure category, was affected by this event. Content analysis is used to measure the extent of CSR disclosures before and after the Marikana massacre in the integrated annual and stand-alone CSR reports of companies. CSR disclosure was not affected by the Marikana massacre. Our results suggest that the extent of CSR disclosure may be influenced by other factors than only the need by companies to gain or repair legitimacy in response to a legitimacy-threatening event. The only variable in our analysis that had a positive and significant association with CSR disclosure, in total and for each of the different CSR disclosure categories, is whether a company is a member of the Social Responsibility Index (SRI) or not. We use the Marikana massacre, which, following many prior research using legitimacy theory, should have an effect on disclosure, to consider whether legitimacy theory in isolation can be used to evaluate why companies make certain choices regarding the extent of their CSR disclosures.

Keywords: Corporate Social Responsibility Reporting, Legitimacy Theory, Mining Industry, South Africa, Institutional Theory

* *University of Pretoria*

** *University of Pretoria*

Email: marna.deklerk@up.ac.za

*** *University of Pretoria*

1. Introduction

Since 1886, when gold was discovered in South Africa, rock drillers have received differential treatment, in relation to other miners, as rock drillers play a central production role underground (Rabkin, 2012). Furthermore, rock drilling skills are scarce in the platinum mining industry, and for this reason, Lonmin's management was willing to discuss wage issues with rock drillers outside the wage collective bargaining forum in June 2012. In some instances management was in a position to award discretionary increases to certain categories of employees. However, this offer was not accepted by the miners (Rabkin, 2012). On 10 August 2012 about 3 000 of the 4 100 rock drill operators employed by Lonmin went on strike in the Marikana area near Rustenburg. The strike eventually led to the death of 34 miners and the wounding of 78 others on 16 August 2012 when armed South African police officers opened fire on strikers (Gladdis, 2012).

The Marikana massacre can be seen as a threat to the legitimacy of Lonmin and the mining industry. For example, Marinovich (2012) noted in an article published on the Daily Maverick blog site that the rock drillers' real grievances with Lonmin were

integral to their core working conditions. In line with Marinovich, Coleman (2012) states that the Marikana massacre "raises questions about the brutal role of employers and the mining industry, and in particular the flourishing of rogue employment practices in the platinum sector".

Lonmin states in its 2012 integrated annual report that "it was easy to blame Lonmin, as some have done, for the spread of unrest in the weeks after our agreement. Unrest in the mining sector pre-dated the Marikana dispute and was growing elsewhere during it" (Lonmin Plc., 2012). Social crises, such as the 2012 Marikana massacre, which have considerable consequences with regard to the profitability and sustainability of platinum mines (Derby, 2012), potentially not only affect the legitimacy status of the company involved, but also that of the entire mining industry (Patten, 1992; Deegan and Rankin, 1996; Brown and Deegan, 1998; Deegan et al., 2000; Coetzee and Van Staden, 2011; Summerhays and De Villiers, 2012; Hasbani and Brenton, 2013). If the Marikana massacre did indeed call into question the legitimacy status of Lonmin, companies in the platinum sector, as well as companies in the mining industry as a whole, it is to be expected that the companies will respond by

increasing their CSR disclosures in their integrated annual and stand-alone CSR reports as a means to gain or repair legitimacy (Patten, 1992; Cho and Patten, 2007).

We contribute to the literature by using a legitimacy-threatening event, the Marikana massacre, to evaluate whether disclosure patterns, measured in terms of the extent of disclosure by South African mining companies, can still be explained by legitimacy theory. We evaluate and statistically compare the extent of CSR disclosures before and after the Marikana massacre in total as well as for the following CSR disclosure categories based on the Global Reporting Initiative (GRI) guidelines and prior research (Holder-Webb et al., 2009): disclosure regarding community involvement, disclosure regarding customer health and safety, environmental related disclosure, employee related disclosure, CSR disclosure relating to supply chain management, governance related disclosure and other (any CSR disclosures that do not fall within the mentioned categories). We evaluate all CSR disclosures in order to obtain a more comprehensive view of CSR disclosure responses in reaction to the Marikana massacre. Our sample consists of 18 of the largest South African mining companies. All of our sample companies comply with the King III Code of Corporate Governance applicable to listed South African companies and have issued integrated reports during the sample period where CSR related disclosures are integrated with financial reporting (Institute of Directors in Southern Africa, King III, 2009; Johannesburg Stock Exchange (JSE), 2013). We use content analysis, both sentence count and a proportion of page method, to measure the extent of disclosure in the integrated annual reports and stand-alone CSR reports of our sample companies in the periods before and after the Marikana massacre. Following Hooks and Van Staden (2011) we use content analysis to measure the extent of disclosures since it yields similar results as quality-checklist-type measures.

Our results suggest that the extent of disclosures provided by companies in their integrated annual reports and stand-alone CSR reports can no longer be explained by legitimacy theory only. We provide evidence that CSR disclosure by South African companies, both in the period before and after the Marikana massacre, are focussed on employee related disclosures, followed by environmental disclosures and community-related disclosures. Mining companies did not increase their CSR disclosure (neither in total, nor for any of the different disclosure categories) following the Marikana massacre. In addition, we provide evidence that the extent of a company's CSR reporting is not associated with the size of a company but it is associated with membership to the JSE's SRI index. Our findings may be of interest of proponents of institutional theory who argue that CSR disclosure has become

institutionalised and is no longer a function of company specific characteristics such as size and CSR related intentions and performance (Larrinaga-Gonzalez, 2007). This may also be of interest to regulators and other stakeholder groups such as labour unions, environmental groups and investors. In summary, our findings suggest, as stated in De Villiers and Alexander (2014), that CSR reporting may in fact be "driven by a desire to follow global templates", such as the GRI guidelines, which is the most widely used framework by South African mining companies, and the Broad-based Socio-economic Empowerment Charter for the South African Mining Industry (The Mining Charter, 2010; KPMG, 2011; Carels et al., 2013; KPMG, 2013).

The remainder of this study is presented as follows: section 2 provides an overview of prior literature relating to legitimacy-threatening events and states the hypotheses; section 3 presents a discussion of the data, the sample and the research method; section 4 presents the results and section 5 presents the concluding remarks on legitimacy and institutional theories, and suggestions for future research.

2. Legitimacy-threatening events and CSR disclosure

Our overall objective is to evaluate the effect of a legitimacy-threatening event (the Marikana massacre) on total CSR disclosure and on the different CSR disclosure categories. Following prior research that focussed on a legitimacy-threatening event and a specific CSR disclosure type, we develop four testable hypotheses to evaluate the effect of the Marikana massacre on employee-related disclosures (see hypothesis 1(a), 2(a), 3(a) and 4(a)). In addition, in order to achieve our stated objective, we formulate four additional hypotheses, related to hypothesis 1(a), 2(a), 3(a) and 4(a), but stated in the null form, to test the effect of the Marikana massacre on total CSR disclosure as well as other CSR disclosure categories (see hypothesis 1(b), 2(b), 3(b) and 4(b)). In summary, we test whether Marikana had an effect on the extent of CSR disclosures (in total and per category) provided by all mining companies (see H1(a) and H1(b)), Lonmin (H2(a) and H2(b)) and platinum companies (H3(a) and H3(b)). In addition, we also evaluate whether the Marikana massacre event is associated with the extent of CSR disclosures (in total and per category) provided by companies in the mining industry (see H4(a) and H4(b)).

CSR disclosures, focussing specifically on environmental disclosures, have been the subject of many prior studies, for example, Patten (1992), Brown and Deegan (1998), Deegan et al., (2000), Aerts and Cormier (2009), Summerhays and De Villiers (2012) and Hasbani and Breton (2013). Patten (1992), Deegan et al., (2000), Aerts and Cormier (2009), Cho (2009) and Summerhays and De

Villiers (2012) focus primarily on events relating to environmental issues. In summary, these studies provide evidence of increased environmental disclosure in response to a legitimacy-threatening event. Some studies focus on social disclosures by companies drawing on legitimacy theory as the explaining factor (Patten, 1991; Hasbani and Breton, 2013; Lanis and Richardson, 2013) and provide evidence of an increase in social disclosure by the company directly involved with the event as well as by other companies within the same industry (Coetzee and Van Staden, 2011). In the South African context two prior studies provide evidence of increased disclosure following a legitimacy-threatening event relating to a social issue, namely Coetzee and Van Staden (2011) and Watson (2011). Following prior research, it can be expected that the Marikana massacre resulted in a perceived threat to the legitimacy of mining companies. According to legitimacy theory, such companies may respond with increased disclosures in their integrated annual reports and stand-alone CSR reports following the legitimacy-threatening event (the Marikana massacre in this study). The hypothesis relating to employee-related CSR disclosures is stated as follows:

H1(a). The extent of employee-related CSR disclosures after the Marikana massacre is significantly higher than the extent of employee-related CSR disclosures before the Marikana massacre for all companies in the mining industry.

The hypothesis relating to the impact of the Marikana massacre on total CSR disclosures and other categories of CSR disclosure is not supported by prior research and is stated in the null form:

H1(b). The extent of total CSR disclosures as well as other categories of CSR related disclosure after the Marikana massacre is not significantly higher than the extent of total CSR disclosures and other categories of CSR disclosure before the Marikana massacre for all companies in the mining industry.

The increase in CSR disclosures of the company directly involved in a legitimacy-threatening event tends to be higher relative to that of other companies in the industry (Patten, 1992; Deegan et al., 2000; Summerhays and De Villiers, 2012). It can thus be expected that Lonmin will seek to legitimise its existence in comparison to other companies in the mining industry by providing more disclosures. Although Coetzee and Van Staden (2011) find limited support for this notion, it is expected, based on the majority of the literature reviewed (see Patten, 1992; Deegan et al., 2000; Summerhays and De Villiers, 2012) that the extent of CSR disclosures provided by Lonmin will be higher than those for other mining companies. Thus, the hypothesis relating to employee-related CSR disclosure is stated as:

H2(a). The extent of employee-related CSR disclosures provided by Lonmin Plc. is significantly higher compared to the extent of employee-related

CSR disclosures by other companies in the mining industry following the Marikana massacre.

The hypothesis relating to total CSR disclosures and the other categories of CSR disclosure is stated as:

H2(b). The extent of total CSR disclosures as well as other categories of CSR related disclosures provided by Lonmin Plc. is not significantly higher than the extent of total CSR disclosures and other categories of CSR disclosure by other companies in the mining industry following the Marikana massacre.

According to the literature, an event threatening an entire industry can lead to changes in disclosure levels by companies in that industry (see Patten, 1992; Deegan and Rankin, 1996). Patten (1992) and Summerhays and De Villiers (2012) find that other companies in a specific industry, and not only the company that is directly associated with a legitimacy-threatening crisis, tend to also change their CSR disclosures. Patten (1992) and Summerhays and De Villiers (2012) find that the occurrence of an external significant event impacts positively on companies' environmental disclosures (which forms part of CSR disclosure). Assuming that companies will attempt to increase their CSR disclosures as a way to gain or repair the opinions of society and reduce the legitimacy gap (Patten, 1992; Summerhays and De Villiers, 2012), we expect platinum companies (being the industry associated with the event) to increase the extent of their disclosure following the Marikana massacre. Companies in mining sectors other than the platinum sector may perceive the threat as affecting the platinum mining sector's legitimacy only, and may thus not react to the negative publicity in the platinum sector (Coetzee and Van Staden, 2011). Therefore, drawing on legitimacy theory, the hypothesis regarding employee-related CSR disclosure is stated as follows:

H3(a). The extent of employee-related CSR disclosures for platinum mining companies is significantly higher compared to employee-related CSR disclosures provided by other mining companies following the Marikana massacre.

The hypothesis relating to total CSR disclosures and the other categories of CSR disclosure is stated in the null form:

H3(b). The extent of total CSR disclosures and other CSR disclosure categories for platinum mining companies is not significantly higher compared to total CSR disclosures and other CSR disclosure categories provided by other mining companies following the Marikana massacre.

Prior studies also document that companies increase their CSR disclosures following a highly published negative event (see Brown and Deegan, 1998; Deegan et al., 2000; Aerts and Cormier, 2009). Coetzee and Van Staden (2011) examined the disclosure responses of mining accidents by South African companies. Consistent with Patten (2002), Coetzee and Van Staden (2011) did not find

evidence to support the hypothesis that media attention influences safety disclosures in the South African context. They attribute their findings to the possibility that the pressure to disclose might consist of various factors not related to media attention. Thus, both hypotheses are stated in the null form:

H4(a). The Marikana massacre event is not positively and significantly associated with the extent of employee-related CSR disclosures provided by mining companies.

H4(b). The Marikana massacre event is not positively and significantly associated with the extent of total CSR disclosures and other CSR disclosure categories provided by mining companies.

The Marikana massacre, which Jacob Zuma, president of South Africa, deemed to be a national tragedy and which led to the appointment of the Farlam Commission of Enquiry, provides us with the ideal setting to evaluate whether companies increased the extent of their CSR disclosures as a result of this event. In order to evaluate the overall effect of this event on CSR disclosure, we test each of our four hypotheses using total CSR disclosure as well as CSR disclosure per category.

3. Sample and method

3.1 Sample

The sample period for this study is the reporting period immediately before and after the Marikana massacre that occurred on 16 August 2012. Our sample is based on a list of the top 39 mining companies listed in SA Mine report by PriceWaterhouseCoopers (PwC, 2012). This list is based on the financial performance of mining companies listed on the JSE whose main operations are in Africa who had a market capitalisation of more than R200 million at the end of June 2012 (PwC, 2012). We exclude 11 companies who do not have mining operations as their primary business activity, and another four companies, which are subsidiaries of companies already included in the sample. Similar to the selection criteria used by Coetzee and Van Staden (2011), we exclude a further six companies that do not derive 50 per cent or more of their turnover from mining operations in South Africa. The reason for this is that it can be argued that when companies obtain more than 50 per cent of their turnover from outside South Africa, they might perceive themselves as non-South African corporate citizens and are as such not affected by the crisis within the South African mining environment. Thus, the final sample consists of 18 companies of which six are platinum, five gold, five general and two coal mining companies.

Data for this study are collected by analysing the integrated annual and stand-alone CSR reports of the sample companies. The final sample includes seven companies with a 30 June 2012 yearend. The 30 June 2012 integrated annual and stand-alone CSR reports

of these seven companies are included in the post-Marikana massacre period because their annual reports were approved after the Marikana massacre. It is argued that although the Marikana massacre occurred after the date of their financial yearend, managers of these mining companies had time (i.e. the period from their financial yearend to the approval date of the financial statements) to increase their CSR disclosure to manage the legitimacy threat resulting from societal concern about the Marikana massacre. Therefore, these seven companies' 30 June 2011 integrated annual and stand-alone CSR reports will be included in the pre-Marikana period.

The integrated annual reports are collected from the McGregor BFA database and company websites where relevant. In addition, we analyse the stand-alone CSR reports of those companies that indicate in their annual reports that they issue such reports. The stand-alone CSR reports were collected from company websites.

3.2 Method

We use content analysis to evaluate whether there is an increase in the extent of CSR disclosures in the integrated annual reports and stand-alone CSR reports issued by the sample companies. This method has been widely used in prior research in this field (Deegan and Rankin, 1996; Boesso and Kumar, 2007; Coetzee and van Staden, 2011; Summerhays and De Villiers, 2012). The study uses a classification list similar to that used by Holder-Webb et al., (2009), based on the GRI (2006), to categorise CSR disclosures. In addition, following Cormier et al., (2004), we include governance-related disclosure, representing compliance with mining laws and rules. Our CSR disclosure classification list consists of the following eight CSR disclosure categories[1]: community, customers, environment, governance, employees, suppliers, political parties and other. Following prior research (Hackson and Milne, 1996; Deegan et al., 2000; Coetzee and Van Staden, 2011; Summerhays and De Villiers, 2012) we use sentence count to evaluate the influence of the Marikana massacre on the extent of CSR disclosures. The advantage of using sentence count is that it can be reliably coded and it is not often that coders disagree on coding categories, unlike in other methods (Hackson and Milne, 1996; Milne and Adler, 1999; Van Staden and Hooks, 2007). To address the potential of an incomplete representation of CSR disclosures (see Unerman, 2000), and following Van Staden and Hooks (2007) and Coetzee and Van Staden (2011), graphs, tables and figures are analysed using a standard sentence count of 15 words. Sentences coded as CSR disclosure sentences were grouped into one of the CSR disclosure categories according to our classification list. The total CSR disclosure is measured by counting all the sentences coded per CSR category.

As a robustness check to enhance the validity of the results, we also measure the extent of CSR disclosure using the proportion of pages allocated to each disclosure category and total CSR disclosures made in the integrated annual and stand-alone CSR reports. We utilise a grid similar to that employed by Gray et al. (1995), Unerman (2000), and Coetzee and Van Staden (2011). This grid contains 25 rows and four columns of equal width. The grid is placed over each page where CSR disclosures are coded and highlighted, and the extent of disclosure is measured by counting the number of cells on the grid utilised by the disclosure per CSR category (Unerman, 2000). Following Coetzee and Van Staden (2011) graphs and photographs are included while blank spaces are excluded.

To test our stated hypotheses, we firstly statistically evaluate whether CSR disclosure (in total as well as for each of our disclosure categories) is statistically different in the period following the Marikana massacre for all mining companies. Secondly, we statistically evaluate whether the CSR disclosure by Lonmin (in total as well as for each category) is statistically different to the CSR disclosure by other mining companies in the period following Marikana. Thirdly, we follow a similar procedure to evaluate whether CSR disclosure by

platinum mining companies is statistically different from CSR disclosure by other mining companies in the period following the Marikana massacre. Finally, we use a regression analysis to test hypothesis 4. The objective with our final hypothesis is to evaluate whether the Marikana massacre had a statistically significant effect on CSR disclosure (in total and per category) after controlling for other factors that, according to prior research, could have had an effect on CSR disclosure.

4. Results testing legitimacy theory

4.1 Comparison of means and medians

Table 1 summarizes the means and the medians for our sample companies before and after the Marikana massacre. Panel A presents the results for CSR disclosure in total, while panel B presents the results for each of the CSR disclosure categories. It is interesting to note that, both in the period before and after the Marikana massacre, the CSR disclosure category with the highest level of disclosure is employee related disclosures, followed by environmental disclosures and community-related disclosures.

Table 1. Means and medians of CSR disclosure before and after Marikana for all companies in the mining industry (*Observations (N) = 18 before Marikana; N = 18 after Marikana*)

	Mean	Median
Panel A:		
Total CSR disclosures		
Before Marikana	968.28	853.00
After Marikana	1047.61	825.00
Panel B:		
CSR disclosure per category		
Community		
Before Marikana	163.61	109.50
After Marikana	190.72	139.00
Customers		
Before Marikana	44.17	21.50
After Marikana	31.56	12.00
Environment		
Before Marikana	259.00	178.50
After Marikana	268.89	194.50
Governance		
Before Marikana	83.83	79.00
After Marikana	67.06	56.50
Employees		
Before Marikana	350.06	295.00
After Marikana	432.17	353.00
Political parties		
Before Marikana	2.11	1.00
After Marikana	0.72	0.00
Suppliers		
Before Marikana	22.83	11.50
After Marikana	15.22	12.50
Other		
Before Marikana	42.67	28.00
After Marikana	41.28	29.00

4.2 Hypothesis 1 – All companies in the mining industry (before and after the Marikana massacre)

Due to the small sample size we use the Independent Sample Mann-Whitney-U-test to test whether the difference in the extent of disclosure during the periods before and after Marikana is statistically significant. The results for hypothesis 1 (a and b) are reported in Table 2. Panel A indicates that there is no

significant difference in total CSR disclosure by mining companies for the periods before and after the Marikana massacre ($Z = -0.285$, $p = 0.791$). Panel B provides the results of the analysis in terms of the CSR disclosure categories. Similar to the results for panel A, we do not find a significant increase in any of the CSR disclosure categories ($p > 0.10$) for all eight CSR disclosure categories.

Table 2. Comparison of CSR disclosures before and after Marikana for all the companies in the mining industry

	Mean rank	Mean rank	Z-statistic	Exact significance
	Before	After		
Observations (N)	18	18		
Panel A:				
Total CSR disclosures	18.00	19.00	-0.285	0.791
Panel B:				
CSR disclosure per category				
Community	17.25	19.75	-0.712	0.481
Consumers	19.83	17.17	-0.761	0.462
Environment	17.97	19.03	-0.301	0.767
Governance	19.06	17.94	-0.316	0.767
Employees	17.50	19.50	-0.569	0.584
Political parties	20.97	16.03	-1.499	0.161
Suppliers	19.33	17.67	-0.475	0.650
Other	18.31	18.69	-0.111	0.913

4.3 Hypothesis 2 – Lonmin Plc. compared to all other companies in the mining industry (following the Marikana massacre)

Our second analysis evaluates whether the increase in total CSR disclosures of the company associated with the event (i.e. Lonmin) is statistically significant compared to other companies in the mining industry. The results are presented in Table 3. Table 3 indicates that there is no statistically significant difference in

total CSR disclosure (panel A) between Lonmin and other mining companies following the Marikana massacre ($Z = -0.096$; $p = 1.000$). There is also no significant difference in the CSR disclosures by Lonmin and other mining companies relating to community, consumers, environment, employees, suppliers, governance, political parties and other ($p > 0.10$ for all eight categories of disclosure) following the Marikana massacre.

Table 3. Comparison of CSR disclosure between Lonmin and other companies in the mining industry following the Marikana massacre

	Mean rank	Mean rank	Z-statistic	Exact significance
	Other	Lonmin		
Observations (N)	17	1		
Panel A:				
Total CSR disclosures	9.53	9.00	-0.096	1.000
Panel B:				
CSR disclosure per category				
Community	9.71	6.00	-0.482	0.667
Consumers	9.59	8.00	-0.097	0.889
Environment	9.53	9.00	-0.867	1.000
Governance	9.29	13.00	-0.675	0.667
Employees	9.35	12.00	-0.289	0.778
Political parties	9.35	12.00	-1.388	0.778
Suppliers	9.41	11.00	-0.870	0.889
Other	9.24	14.00	-0.675	0.556

4.4 Hypothesis 3 – Companies in the platinum sector compared to the other companies in the mining industry (following the Marikana massacre)

Our third analysis evaluates whether that the extent of CSR disclosure by mining companies in the platinum industry is significantly different than the extent of CSR disclosures by other companies in the mining industry following the Marikana massacre. Panel A in

table 4 indicates no significant difference in total CSR disclosures between the platinum and non-platinum mining companies ($Z = -1.311$ and $p = 0.213$). Panel B considers the increase in the extent of CSR disclosures per category. The results indicate that there is no significant difference in the CSR disclosures by companies in the platinum and non-platinum industry for the various categories ($p > 0.10$ for all categories except for suppliers).

Table 4. Comparison of CSR disclosures between platinum mining companies and other companies in the mining industry following the Marikana massacre

	Mean rank	Mean rank	Z-statistic	Exact significance
	Other	Platinum		
Observations (N)	12	6		
Panel A:				
Total CSR disclosures	8.33	11.83	-1.311	0.213
Panel B:				
CSR disclosure per category				
Community	9.00	10.50	-0.562	0.616
Consumers	8.04	12.42	-1.641	0.102
Environment	8.71	11.08	-0.890	0.385
Governance	8.00	12.5	-1.686	0.102
Employees	8.33	11.83	-1.311	0.213
Political parties	8.96	10.58	-0.630	0.553
Suppliers	7.83	12.83	-1.875	0.067
Other	9.00	10.5	-0.562	0.616

4.5 Hypothesis 4 – All companies in the mining industry (before and after the Marikana massacre; utilising a regression analysis)

Similar to the method used by Patten (1992) and Coetzee and Van Staden (2011), ordinary least-square regression analysis is used to evaluate whether there is a positive and significant association between the Marikana massacre event and the extent of CSR disclosures provided by mining companies (see hypothesis 4(a) and 4(b)). Following prior research, we control for other factors that are likely to influence the extent of CSR disclosures. The regression model is as follows:

$$DSC_{it} = b_0 + b_1 \text{Marikanait} + b_2 \text{Size}_{it} + b_3 \text{SRI}_{it} + e \quad (1)$$

Where:

DSC = CSR disclosures for company i for year t ,

measured in total as well as for each of the eight CSR disclosure categories. The regression model is estimated separately for total CSR disclosure as well as each of the eight CSR disclosure categories.

Marikana = A dichotomous variable equal to 1 for CSR disclosure after the Marikana massacre event and 0 otherwise.

Motivation: Prior research finds that companies increase their CSR disclosures in response to negative events associated with those companies (Patten, 1992; Brown and Deegan, 1998; Summerhays and De Villiers, 2012; Hasbani and Breton 2013; Lanis and

Richardson, 2013).

Size = Natural logarithm of total assets for company i for year t .

Motivation: Prior research provides evidence that size is positively associated with CSR disclosure (Patten, 2002; Aerts and Cormier, 2009). Patten (1992) finds that large companies are subject to more social and political pressure and are therefore likely to disclose more CSR information in comparison to smaller companies (also see Cho et al., 2012; Lanis and Richardson, 2013).

SRI = A dichotomous variable where SRI is equal to 1 if company i is a member of the JSE's SRI index for year t , and 0 otherwise.

Motivation: A company that is a member of the JSE SRI index will be expected to increase its social disclosure to convince the public that its activities are aligned to the beliefs of society (Coetzee and Van Staden, 2011; Lingenfelder and Thomas, 2011).

e = Error term.

We do not control for King III as all our sample companies have applied King III during the sample period.

Regression results:

Table 5 provides the results of equation 1 where the dependent variable is the total CSR disclosures as measured by sentence count. We evaluate the statistical association between the Marikana massacre event and the level of CSR disclosures provided by

mining companies after controlling for size and membership to the SRI index. The results in table 5 indicate that there is no statistical significant relationship between the total CSR disclosures for both the Marikana massacre event and the size of the company. Only the coefficient for membership to the SRI index is statistically significantly associated with CSR disclosure (coefficient 812.125; $p = 0.001$). Overall, the regression model explains 38 per cent of total CSR disclosures. The results suggest that membership to the SRI index plays a key role in the extent of CSR disclosure provided by a mining company.

Table 6 provides the results of the regression model where the dependent variable is the CSR disclosures relating to the eight CSR disclosure categories. These groups are considered separately in eight different regressions. The results suggest that the Marikana massacre did not have a statistically significant effect on CSR disclosure provided with regard to community (coefficient 21.943; $p = 0.301$), consumers (coefficient -14.140; $p = 0.200$); environment reporting (coefficient 1.952; $p = 0.448$),

governance (coefficient -18.269; $p = 0.204$), employees (coefficient 69.499; $p = 0.214$), suppliers (coefficient -7.918; $p = 0.160$) and other CSR related disclosures (coefficient -1.884; $p = 0.439$). Although political parties is significant at the 5 per cent level (coefficient -1.459; $p = 0.039$), it should be noted that the F-statistic for the model employed is not significant for political parties, as well as consumers, governance and suppliers. In summary, the regression results suggest that neither the Marikana massacre nor size has a significant association with the extent of CSR disclosures per category provided by companies. However, membership of the SRI index is positively and significantly associated with the extent of community related disclosures ($p = 0.004$, significant at the 1 per cent level), environmental disclosures ($p = 0.002$, significant at the 1 per cent level), governance disclosures ($p = 0.088$, significant at the 10 per cent level), employee related disclosures ($p = 0.001$, significant at the 1 per cent level) and other CSR related disclosures ($p = 0.076$, significant at the 10 per cent level).

Table 5. Regression results, the effect of Marikana on total CSR disclosure

Dependent variable: Total CSR disclosure		
	Coefficient	p-value
Intercept	-1 584.290	0.214
Marikana	49.725	0.400
Size	89.482	0.119
SRI	812.125	0.001***
Adjusted R2	0.375	n/a
F-Statistics	7.996	0.000

*** $p < 0.01$

Table 6. Regression results, the effect of Marikana on the different CSR disclosure categories

Dependent variables:	Community	Consumers	Environment	Governance	Employees	Suppliers	Political parties	Other
Intercept	-296.028 (0.277)	97.152 (0.367)	- 559.230 (0.184)	-58.457 (0.679)	-641.780 (0.255)	-35.093 (0.490)	0.199 (0.970)	-91.053 (0.255)
Marikana	21.943 (0.301)	-14.140 (0.200)	1.952 (0.448)	-18.269 (0.204)	69.499 (0.214)	-7.918 (0.160)	-1.459 (0.039)	-1.884 (0.439)
Size	16.185 (0.186)	-2.805 (0.558)	29.370 (0.120)	5.059 (0.424)	34.280 (0.175)	2.192 (0.336)	0.041 (0.844)	5.154 (0.152)
SRI	143.519 (0.004) ***	18.763 (0.316)	234.504 (0.002) ***	42.618 (0.088) *	333.971 (0.001) ***	12.358 (0.165)	1.400 (0.129)	24.990 (0.076) *
Adjusted R2	0.283	-0.039	0.321	0.079	0.338	0.066	0.080	0.136
F-Statistics	5.606 (0.003)	0.561 (0.644)	6.503 (0.001)	2.007 (0.133)	6.950 (0.001)	1.820 (0.165)	2.009 (0.132)	2.832 (0.054)

The p-values are indicated in parenthesis: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

4.6 Robustness tests and summary

We performed an additional analysis using the proportion of page as a measure of the extent of disclosures (in total as well as per category) to consider the robustness of the results for hypothesis 1, 2, 3 and 4. The un-tabulated results are qualitatively

similar to those reported in tables 1 to 6 and discussed in sections 4.1 to 4.5 above, except for table 6 where membership to the SRI index is positively and significantly associated with the following CSR disclosure categories: consumers (significant at the 5 per cent level compared to not significant when using sentence count) and political parties (significant at the

10 per cent level compared to not significant when using sentence count).

Overall, using both sentence count and proportion of page to measure the extent of CSR disclosures (in total and per category), our results do not support legitimacy theory in isolation as explanation of why companies make certain choices regarding the extent of disclosures in their integrated annual and stand-alone CSR reports. The results of hypothesis 4 provide evidence that membership to the SRI index is positively and significantly associated with the extent of CSR disclosures, but that size is not significantly associated with CSR disclosures.

5. Concluding remarks on legitimacy and institutional theories

The purpose of this study is to evaluate whether the Marikana massacre influenced the extent of CSR disclosures provided by SA mining companies. Following legitimacy theory (Patten, 1992; Brown and Deegan, 1998; Deegan et al., 2000; Aerts and Cormier, 2009; Cho, 2009; Summerhays and De Villiers, 2012 and Hasbani and Breton, 2013), it can be argued that Lonmin, the platinum industry and the mining industry as a whole would have been under pressure to increase CSR disclosure in their integrated annual and stand-alone CSR reports in an attempt to gain or repair legitimacy, following a major event such as Marikana. Such an event has the possibility to discredit and affect the public perception of the company involved, and potentially also the industry in which it operates. We evaluate CSR disclosure in total as well as in eight different disclosure categories to obtain a comprehensive overview of CSR disclosure responses in reaction to a major legitimacy-threatening event.

In contrast to prior studies, for example, Deegan et al., 2000, Coetzee and Van Staden, 2011, we do not provide evidence of increased CSR disclosure (neither in total nor for any of the different categories) in response to the Marikana massacre. Our results indicate that South African mining companies focus their CSR-related disclosures around employee matters, followed by environmental concerns and community services, both in the period before and after the Marikana massacre. Overall, our findings suggest that companies do not necessarily use CSR disclosures to gain or repair society's perception about the operations of the company. We provide evidence, contradicting to prior research, that the size of a company is not positively and significantly associated with CSR disclosure during our sample period. However, we do find that the extent of CSR disclosures provided by companies is positively and significantly associated with membership of the JSE's SRI index. This could be due to these companies pursuing a proactive CSR strategy driven by a willingness to attain corporate success and being regarded as good corporate citizens. It is important to

note that although membership to the SRI index is based on measurement against a set of environmental, social, governance and climate change criteria, it is ultimately based on an analysis of the public information that companies produce (SRI, 2014).

Our objective is not to test institutional theory, but rather to explore whether legitimacy theory used in the traditional sense (still) explains changes in CSR disclosure. Our findings are particularly relevant to users of integrated annual reports and stand-alone CSR reports as it might be an indication that the extent of CSR disclosures are no longer a function of company-specific characteristics such as size and/or CSR related intentions and performance. An alternative view to consider is whether CSR disclosure has become institutionalised as suggested by Larrinaga-Gonzalez (2007), De Villiers and Alexander (2014) and De Villiers et al., (2014).

Following Larrinaga-Gonzalez (2007), legitimacy theory within the context of institutional theory explains organisational stability in CSR disclosure behaviour (versus change in CSR disclosure behaviour as tested in this study). Following De Villiers et al., (2014), who provides evidence of institutionalisation on certain categories of CSR disclosure in the South African mining industry during 2007, organisations in similar industries will have similar reporting patterns, irrespective of the size of a company, as the reporting field matures. Following institutional theory, professionalization in reporting, driven by similar training between professionals in terms of what is required, conformation to taken-for-granted norms and the internationalisation of new norms may result in shared norms and CSR disclosure guidelines being followed (De Villiers and Alexander, 2014; De Villiers et al., 2014). The internationalisation of new norms include, for example, the framework on integrated reporting, the GRI guidelines which has become the most widely used framework for CSR reporting both nationally and internationally (KPMG, 2011; KPMG, 2013) and specific reporting requirements relevant to mining companies (The Mining Charter, 2010).

In summary, although our objective is not to test institutional theory, our findings support the notion that institutional theory may explain why our sample companies did not increase the extent of their CSR disclosure in response to the Marikana massacre. Our results suggest that CSR reporting by mining companies in their integrated annual and stand-alone CSR reports might in fact be representing organisation stability, which is related to legitimacy in the context of institutional theory, by following similar disclosure patterns. Therefore our findings suggest, as stated in De Villiers and Alexander (2014), that CSR reporting may in fact be "driven by a desire to follow global templates"

Our findings may not be generalizable to industries other than the mining industry. We also

cannot rule out the possibility that, due to the involvement of the South African police, who were responsible for the death and wounding of mine workers, mining companies potentially did not deem the event to be a threat to their legitimacy. Our findings may also not be generalizable to other disclosure media such as reactive press-releases and other web-site communications. Future research needs to evaluate how disclosure tone is used to communicate information, using different disclosure media, when a company or industry is facing a legitimacy-threatening event. Future research also needs to empirically address the question regarding the interaction between institutionalisation within an industry and membership of the SRI index (where institutional pressures may also be present) and its combined effect on CSR disclosure.

References:

1. Aerts, W. and Cormier, D. (2009), "Media legitimacy and corporate environmental communication", *Accounting, Organizations and Society*, Vol. 34, pp. 1-27.
2. Boesso, G. and Kumar, K. (2007), "Drivers of corporate voluntary disclosure: a framework and empirical evidence from Italy and the United States", *Accounting, Auditing & Accountability Journal*, Vol. 20, pp. 269-296.
3. Brown, N. and Deegan, C. (1998), "The public disclosure of environmental performance information – a dual test of media agenda setting theory and legitimacy theory", *Accounting and Business Research*, Vol. 29 No. 1, pp. 21-41.
4. Carels, C., Maroun, W. and Padia, N. (2013), "Integrated reporting in the South African mining sector", *Corporate Ownership and Control*, Vol. 11 No. 1, pp. 957-970.
5. Coleman, N. (2012), "More questions than answers", *Mail and Guardian*, 2 November 2012, p. 1.
6. Cho, C.H. (2009), "Legitimation strategies used in response to environmental disaster: a French case study of Total SA's Erika and AZF incidents", *European Accounting Review*, Vol. 18 No. 1, pp. 33-62.
7. Cho, C.H., Guidry, R.P., Hageman, A.M. and Patten, D.M. (2012), "Do actions speak louder than words? An empirical investigation of corporate environmental reputation", *Accounting, Organizations and Society*, Vol. 37, pp. 14-25.
8. Cho, C.H. and Patten, D.M. (2007), "The role of environmental disclosures as tools of legitimacy: a research note", *Accounting, Organizations and Society*, Vol. 32 No. 7/8, pp. 639-647.
9. Coetzee, C.M. and Van Standen C.J. (2011), "Disclosures responses to mining accidents: South African evidence", *Accounting Forum*, Vol. 35, pp. 232-246.
10. Cormier, D., Gordon, I.M. and Magnan, M. (2004), "Corporate environmental disclosure: contrasting management's perceptions with reality", *Journal of Business Ethics*, Vol. 49 No. 2, pp. 143-165.
11. De Villiers, C. and Alexander, D. (2014), "The institutionalisation of corporate social responsibility reporting", *The British Accounting Review*, forthcoming, available at: <http://dx.doi.org/10.1016/j.bar.2014.03.001> (accessed 23 April 2014).
12. De Villiers, C., Low, M. and Samkin, G. (2014), "The institutionalisation of mining company sustainability disclosures", *Journal of Cleaner Production*, forthcoming, available at: <http://dx.doi.org/10.1016/j.jclepro.2014.01.089> accessed 23 April 2014).
13. Deegan, C. and Rankin, M. 1996. "Do Australian companies report environmental news objectively? An analysis of environmental disclosures by firms prosecuted successfully by the Environmental Protection Authority", *Accounting, Auditing & Accountability*, Vol. 9 No. 2, pp. 50-67.
14. Deegan, C., Rankin, M. and Voght, P. (2000), "Firms' disclosure reactions to major social incidents: Australian evidence", *Accounting Forum*, Vol. 24 No. 1, pp. 101-130.
15. Derby, R. (2012), "Mine killings highlight platinum's other woes", *Business Day*, 20 August 2012, p. 2.
16. Gladdis, K. (2012), "South African police reveal 34 miners died and 78 were wounded when armed officers opened fire on strikers", *The Daily Mail*, 16 August, available at: <http://www.dailymail.co.uk/news/article-2189367/Marikana-strike-Police-gun-striking-South-African-miners-killing-30-leaving-scores-wounded.html#ixzz2nEBJvr3V> (accessed 16 October 2013).
17. Global Reporting Initiative (GRI), available at: <https://www.globalreporting.org/Information/about-gri/Pages/default.aspx> (accessed 13 October 2013).
18. Gray, R., Kouhy, R. and Lavers, S. (1995), "Corporate social and environmental reporting: a review of the literature and a longitudinal study of UK disclosure", *Accounting, Auditing & Accountability Journal*, Vol. 8 No. 2, pp. 47-77.
19. Hackson, D. and Milne, M.J. (1996), "Some determinants of social and environmental disclosures in New Zealand companies", *Accounting, Auditing & Accountability Journal*, Vol. 9 No. 1, pp. 77-108.
20. Hasbani, M. and Breton, G. (2013), "Restoring social legitimacy discursive strategies used by a pharmaceutical industry leader", *Society and Business Review*, Vol. 8 No. 1, pp. 71-89.
21. Holder-Webb, L., Cohen, J.R., Nath, L. and Wood, D. (2009), "The supply of corporate social responsibility disclosures among US firms", *Journal of Business Ethics*, Vol. 84, pp. 497-527.
22. Hooks, J. and Van Standen, C.J. (2011), "Evaluating environmental disclosures: the relationship between quality and extent measures", *British Accounting Review*, Vol. 43 No. 3, pp. 200-213.
23. Institute of Directors in Southern Africa. (2009), *The King Code of Corporate Governance for South Africa (2009) and King Report on Governance for South Africa (2009) (King III)*, Lexis Nexis South Africa, Johannesburg, South Africa.
24. Johannesburg Stock Exchange. (2014), *JSE Listing Requirements*, available at <https://www.jse.co.za/content/JSESpecificationsItems/Guidelines%20to%20Listing%20on%20the%20JSE.pdf> (accessed 25 April 2014).
25. KPMG International Survey of Corporate Responsibility Reporting. (2011), available at: <http://www.kpmg.com/PT/pt/IssuesAndInsights/Documents/corporate-responsibility2011.pdf> (accessed 25 June 2012).

26. KPMG International Survey of Corporate Responsibility Reporting. (2013), available at: <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Pages/default.aspx> (accessed 25 April 2014).
27. Lanis, R. and Richardson, G. (2013), "Corporate social responsibility and tax aggressiveness: a test of legitimacy theory", *Accounting, Auditing & Accountability Journal*, Vol. 26 No. 1, pp. 75-100.
28. Larrinaga-Gonzalez, C. (2007), "Sustainability reporting: insights from neo-institutional theory", in Unerman, J., Bebbington, J. and O'Dwyer, B. (Eds.), *Sustainability Accounting and Accountability*, Routledge, Abingdon, pp. 150-167.
29. Lingenfelder, D. and Thomas, A. (2011), "Stakeholder inclusiveness in sustainability reporting by mining companies listed on the Johannesburg securities exchange", *African Journal of Business Ethics*, Vol. 5 No. 1.
30. Lonmin Plc. (2012), "Annual report", available at: https://www.lonmin.com/annual_report_2012 (accessed 11 June 2013).
31. Marinovich, G. (2012), "Beyond the chaos at Marikana: the search for the real issues", *Daily Maverick*, available at: <http://www.dailymaverick.co.za/article/2012-08-17-beyond-the-chaos-at-marikana-the-search-for-the-real-issues#.U150f88aI5t> (accessed 9 June 2013).
32. Milne, M.J. and Adler, R.W. (1999), "Exploring the reliability of social and environmental disclosures content analysis", *Accounting, Auditing & Accountability Journal*, Vol. 12 No. 2, pp. 237-256.
33. Patten, D.M. (1991), "Exposure, legitimacy and social disclosure", *Journal of Accounting and Public Policy*, Vol. 10 No. 4, pp. 297-308.
34. Patten, D.M. (1992), "Intra-industry environmental disclosures in response to the Alaskan oil spill: a note on legitimacy", *Accounting, Organizations and Society*, Vol. 17 No. 5, pp. 471-475.
35. Patten, D.M. (2002), "The relation between environmental performance and environmental disclosure: a research note", *Accounting, Organizations and Society*, Vol. 27 No. 8, pp. 763-773.
36. PriceWaterhouseCoopers. (2012), SA Mine: highlighting trends in the South African mining industry.
37. Rabkin, F. (2012), "Manager confirms Lonmin 'side-lined' unions at Karee", *Business Day*, 4 December, p. 4.
38. Summerhays, K. and De Villiers, C. (2012), "Oil company annual report disclosure responses to the 2010 Gulf of Mexico oil spill", *Journal of the Asia-Pacific Centre for Environmental Accountability*, Vol. 18 No. 2, pp. 103-130.
39. Social Responsibility Index (SRI). (2014), available at <https://www.jse.co.za/services/market-data/indices/socially-responsible-investment-index> (accessed 6 May 2014).
40. The Mining Charter. (2010), "The Broad-based socio-economic empowerment charter for the South African mining and minerals industry", The Mining Charter (2010), Republic of South Africa, available at <http://www.dmr.gov.za/publications/finish/108-minerals-act-charter-and-scorecard/128-amendedofbbseecharter/0.html> (accessed 25 April 2014).
41. Unerman, J. (2000), "Methodological issues: reflections on quantification in corporate social reporting content analysis", *Accounting, Auditing & Accountability Journal*, Vol. 13 No. 5, pp. 667-680.
42. Van Standen, C.J. and Hooks, J. (2007), "A comprehensive comparison of corporate environmental reporting and responsiveness", *The British Accounting Review*, Vol. 39, pp. 197-210.
43. Watson, S. (2011), "Conflict diamonds, legitimacy and media agenda: an examination of annual report disclosures", *Meditari Accountancy Research*, Vol. 19 No. 1/2, pp. 94-111.

Note:

More information regarding the different CSR disclosure categories can be obtained from the authors.