

# Executive Compensation and Company Performance: Pre- and Post-Marikana Uprising Analysis

**Remofilwe Nkwadi**

University of Pretoria, South Africa  
remofilwemorei@gmail.com

**Reon Matemane**

<http://orcid.org/0000-0003-0225-3928>  
University of Pretoria, South Africa  
Reon.matemane@up.ac.za

## Abstract

**Background:** Executive compensation has become a controversial topic globally. Recent and past incidents of labour unrest, including those that plagued the South African mining sector in 2012, highlighted the level of controversy on the subject.

**Purpose:** The purpose of this study was to investigate the relationship between executive compensation and company performance in the mining sector of the Johannesburg Stock Exchange (JSE).

**Methodology:** The study was quantitative in nature and used purposive sampling in selecting 28 mining companies listed on the JSE. Estimated generalised least squares (EGLS) and seemingly unrelated regression (SUR) were used to analyse unbalanced panel data spanning from 2007 to 2018.

**Findings:** The results show that there is no relationship between executive compensation and market value added (MVA), revenue growth (RG), return on assets (ROA), and return on equity (ROE) both before and after the Marikana event. In the period before the Marikana event, 2007–2012, economic value added (EVA), share price (SP) and total assets (TA) were statistically significant in explaining variability in executive compensation. However, in the post-Marikana period, 2013–2018, only the TA and earnings per share (EPS) are statistically significant in explaining the variability in executive compensation.

**Value:** This study offers a practical contribution to policy makers and practitioners on pertinent performance measures that can aid in minimising agency costs when designing executive compensation plans.

**Keywords:** executive compensation; Marikana; strikes; mining; South Africa; company performance



South African Business Review  
<https://unisapressjournals.co.za/index.php/SABR>  
Volume 26 | 2022 | #11689 | 22 pages

<https://doi.org/10.25159/1998-8125/11689>  
ISSN 1998-8125 (Online)  
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## Introduction

Recently, there has been debate about whether executive compensation is excessive in the mining sector (Bussin 2018; Viviers et al. 2019). The debate is partly underpinned by the fact that executive compensation continues to rise despite changes in legislation, disclosure requirements, and interventions advanced by policy makers (Madlela and Lehloenyana 2016; Matemane, Moloi, and Adelowotan 2022). Mayosi and Benatar (2014) argue that the top 10% of South Africans earn 58% of the total national income while the bottom 70% combined earn only 17%. The mining sector has its fair share of this disproportionate distribution of income. According to Seccombe (2014), the mining sector in South Africa has faced relentless protest action regarding wages, which has had an impact on the country's gross domestic product (GDP). These protest actions in the mining sector could potentially harm not only the South African economy but also the global economy for two reasons. First, 10% of the world's gold production comes from South Africa, while the country is among the world's largest producers of platinum (De Villiers, Low, and Samkin 2014). Secondly, the South African mining sector employs a significant number of people, with over 460 000 employees and another 400 000 employed in the sector's supply chain (Zietsman, Marais, and Joubert 2018).

Madimu (2022) argues that the mining sector in South Africa has experienced a continuing decline in recent years with regard to economic feasibility and productivity. Mining, by its very nature of being a "price taker," experiences earnings volatility with huge investments in capital expenditure, as well as an uncertain and fluid operating environment (Yarram and Rice 2017). Despite a decline in the performance of the South African mining sector that emanated from the protest actions, executives still appear to believe that they deserve exorbitant pay packages (Viviers 2015). This has resulted in trade unions becoming critical of the gap in remuneration between executives and workers, which could be a factor increasing the likelihood of labour unrest (Bussin 2018; Viviers et al. 2019). Lower productivity stemming from labour unrest poses further ripple effects on the economy. For example, because of the no-work-no-pay principle, those who are on strike would have no income, while general confidence in the economy also declines (Jordaan 2016). There are different views on this matter, but no consensus exists regarding the reasons for excessive executive compensation in South African mining companies (Madlela and Cassim 2017).

Continuous escalation in the level of executive compensation has been identified as contributing to inequality and related socio-economic challenges, especially within the South African mining sector context (Bussin 2018). Although there is abundant literature on executive compensation, very few studies have focused on the mining sector, despite the pivotal role it plays in the economy. The few studies that have been conducted in the South African mining sector—such as those by Bussin (2018), Ngwenya (2016) and Theku (2014)—suffer fundamental weaknesses that the current study aims to address. First, in investigating the relationship between executive compensation and a company's performance, these studies narrowly focused on the

relationship between chief executive officer (CEO) compensation and company performance. In other words, the dependent variable—compensation—is limited to that of the CEO. This is problematic because the CEO is not the only person responsible for the performance of the company; some functions are delegated to other members of the executive team, such as the chief financial officer (CFO), chief operating officer (COO) and chief audit executive (CAE) (Bartling and Fischbacher 2012; Charness et al. 2012; Oehmichen, Schult, and Wolff 2017). Therefore, excluding the remuneration of the rest of the executive management does not fully account for their underlying efforts in delivering the requisite company performance.

Second, the study period used in previous studies is also problematic since it is only between 2008 and 2013. Therefore, it negates the transition and evolution in corporate governance that came about with the King IV code of corporate governance (King IV) since this code was only effective from 1 April 2017 (Esser and Delpont 2018; IoDSA 2016; Mokabane and Du Toit 2022). Esser and Delpont (2018) argue that King IV incorporates specific provisions that were not in King III. On executive compensation specifically, Esser and Delpont (2018) posit that King IV encourages shareholder activism because of the shareholders' say on pay provisions. A number of Johannesburg Stock Exchange (JSE) listed companies' executive compensation policies have been opposed by the shareholders and had to be reviewed as a result of King IV's directions regarding shareholders' say on pay provisions (Mchunu 2019; Viviers et al. 2019). Another pertinent feature in King IV is the fact that the executive compensation must be "fair and responsible" (IoDSA 2016, 64). The "fair and responsible" provision is in direct conflict with the current levels of executive compensation that are being structured without due consideration of societal challenges, as envisaged in King IV (Oehmichen et al. 2017). Therefore, excluding the period post 1 April 2017, King IV's effective period is a fundamental omission on the part of the executive compensation studies conducted thus far in the South African mining sector.

Thirdly, because previous studies only covered between 2008 and 2013, they have neglected the significant number of years featuring post-Marikana labour unrest, which took place in 2012 (Botiveau 2014; Cairncross and Kisting 2016; Maroun 2018). As a result, we do not yet fully understand what impact the Marikana event has had on the relationship between executive compensation and company performance. The current study that this article reports on aims to correct this omission as it covers a 12-year period, with six years post-Marikana labour unrest, ranging from 2007 to 2018. The main objective of this study, therefore, was to investigate the relationship between executive compensation and company performance in the mining sector of the Johannesburg Stock Exchange (JSE) before and after the Marikana uprising.

The ensuing passage discusses the literature review, which incorporates the theoretical foundations of the study, followed by research methodology, results and a discussion. Finally, the conclusion and managerial implications are drawn with a view to providing direction for future research.

## Literature Review

### **Theoretical Framework**

Executive compensation is a corporate governance mechanism which is used to align the interests of the executives with those of the shareholders and other stakeholders (Flammer, Hong, and Minor 2019; Xu et al. 2020). Therefore, in view of the complexity of the subject matter, the idiosyncratic socio-economic factors prevailing in South Africa as a developing economy, and following similar studies conducted in executive compensation, agency theory forms the theoretical foundation of the current study.

Agency theory states that when both the principal and the agent are utility maximisers, the agent may not always act in the best interest of the principal, which is known as the agency problem (Jensen and Meckling 1976). Solving this problem entails increasing compensation to ensure that executives act in the best interest of the company. While the theory is well documented in corporate governance and executive compensation literature, which is concentrated in the Anglo-Saxon context (Gyapong, Khaghaany, and Ahmed 2020), it is arguably not fully known how it can play out in a South African context with the “triple challenges of poverty, inequality and unemployment” (Masikane, Hewitt, and Toendepi 2020, 8).

### **Composition of Executive Compensation**

According to Madlela and Lehloenyana (2016), executive compensation is a package inclusive of a basic salary, benefits in kind, annual bonus, share options, other long- and short-term incentive schemes, and pension rights. Executive remuneration and directors' emoluments are the other terms used for executive compensation. They all refer to the same concept. Salary is a monthly cash amount which all salaried individuals, including the executives, receive. Benefits such as medical aids, car allowances, retirement contributions and other fringe benefits make up short-term benefits (Bussin and Modau 2015).

Long-term incentives include stock options, warrants and employee shares amounts, which are achieved over a period of time and, as a result, are also less prone to manipulation (Iatridis 2018). Bussin and Ncube (2017) show that executives prefer fixed remuneration rather than variable remuneration. This, they argue, is because the variable portion depends on the company's performance, and in a case where the company has delivered poor performance, the variable portion would decline. On the contrary, the fixed portion is not dependant on performance.

Short-term incentives, being cash, are more prone to earnings manipulation than long-term compensation as they may be seen as an opportunistic use of free cash flow (Iatridis 2018). The current study includes all the forms and components of executive compensation as disclosed on the income statement. The current study follows a few South African studies, such as De Wet (2012) and Kirsten and Du Toit (2018), in

including all of the above components (options, share-based payments, basic salary and bonus in the dependent variable) as executive compensation.

### **Determinants of Executive Compensation**

The literature discusses a number of factors that drive executive compensation. In broad terms, these factors include executive experience (Maloa and Rajah 2012), executive tenure (Ali and Zhang 2015), company size (Jung and Subramanian 2017; Maloa and Rajah 2012), and company performance (Blanes, De Fuentes, and Porcuna 2020). The literature has shown that there is a positive linear relationship between executive compensation and executive experience, as well as executive tenure and company size. In other words, when any one of the three determinants is higher, the executive compensation is expected to be higher (Bugeja et al. 2016; Ali and Zhang 2015; Davis, Batchelor, and Kreiser 2019).

According to Blanes et al. (2020), company size and company performance are the two main drivers of executive compensation that are also widely discussed in the literature. Consistent with agency theory (Fama and Jensen 1983; Jensen and Meckling 1976), which is also the theoretical lens through which the current study is carried out, rewarding the executives based on the company's performance helps in aligning the shareholders' (principal's) interests with those of the executives. In contrast, executives might also be rewarded simply because of the sheer size of the company they are employed in. This, according to Bebchuk and Fried (2003), supports an alternative to agency theory, namely managerial power theory. In larger companies, executives tend to use their power and privilege to ultimately extract rent from companies through executive compensation. Tosi et al. (2000) argue that company size is one of the dominating factors influencing executive compensation. While total assets have been used as a proxy for the company's size, this study focuses mainly on a company's performance as the key driver of executive compensation.

The reason to focus on company performance is that it is still not clear in the literature how company performance influences executive compensation. There are inclusive and mixed results with regard to executive compensation and company performance (Bussin 2015; Bussin and Blair 2015). Some studies found a positive relationship (Bussin and Blair 2015; De Wet 2012; Sigler 2011), some found a negative relationship (Alshimmiri 2004; Olaniyi, Obembe, and Oni 2017; Ko et al. 2022), and some found no relationship (Jensen and Murphy 2010). Kirsten and Du Toit (2018) argue that the reason for the mixed results found in the literature lies in company performance. These observational errors arose because many authors used accounting information as a proxy for company profitability (Bruce, Buck, and Main 2005; Coughlan and Schmidt 1985). There is no consistency with regard to which performance measure is optimal when measuring company performance (Bussin and Blair 2015).

## Performance Measures

Accounting-based performance measures and market-based performance measures are the two broad categories of performance measures used in the literature when evaluating the relationship between executive compensation and company performance (Raithatha and Komera 2016). Accounting-based measures include earnings per share (EPS) and return on equity (ROE). Market share price relates to the market performance of a company (Deysel and Kruger 2015). ROE and EPS have been used as measures of company performance in studies by, for example, Deysel and Kruger (2015), Bradley (2013), and Wolmarans et al. (2018). Accounting measures are not encouraged as performance measures due to an inherent susceptibility to accounting manipulation by executives (Deysel and Kruger 2015). This can be done by manipulating depreciation policies, inventory valuation techniques and use of short-term leases that are not capitalised to obtain operating equipment, for example. Companies also manipulate EPS by repurchasing shares to achieve bonus targets (Bennett et al. 2017). Companies reduce research and development costs to avoid showing a loss and to show improved profits (Bennett et al. 2017). There are a wide variety of window-dressing techniques that can be used by executives, such as keeping borrowed funds to make the companies seem more liquid (Chetty, Naidoo, and Seetharam 2015).

Instead of using accounting-based measures of performance, it has been suggested that market-based measures should be used to measure performance because they better reflect shareholder wealth (Bussin and Modau 2015). Market-based measures also reflect the perceived value of a business; however, these perceptions are subjective and may create inconsistencies (Deysel and Kruger 2015).

Different performance measures used in previous studies are one of the main reasons for the inconsistencies regarding the pay-performance relationship (Bussin and Modau 2015). To prevent bias, researchers have used both accounting and market-based performance measures (Bussin 2015). This study, therefore, also used both the accounting and financial performance measures as independent variables in investigating the relationship between executive compensation and company performance.

## Research Methodology

This study followed a quantitative research methodology. A purposive sampling method was used to specifically investigate the relationship between company performance and executive compensation in the mining sector of the JSE over the period 2007 to 2018. Inclusion criteria were such that the company should be in the mining sector of the JSE and should have published a complete set of financial statements and executive compensation for the period 2007 until 2018 inclusive. According to Integrated Real-time Equity System (IRESS) (2019), the most widely used financial database in South Africa (Naik, Padia, and Callaghan 2020), the mining sector is further divided into five

sub-sectors, namely, coal, platinum and precious metals, gold, general mining, and industrial metals and mining.

At the time of collecting data, a total of 55 companies were listed in the mining sector across all five subsectors. Only 28 of these companies met the inclusion criteria of being listed and having published a set of financial statements and executive compensation for the entire study period (2007–2018), constituting a total of 336 (28 companies x 12 years) observations.

The data across the 28 companies for the period 2007 to 2018 did have missing values across the research variables studied. Such missing values were not replaced, and the data, therefore, constituted an unbalanced panel that was analysed using the estimated generalised least squares regression (EGLS) and using period seemingly unrelated regression (SUR) estimation to determine the best set of independent variables that explains variability in executive compensation (Bezuidenhout, Bussin, and Coetzee 2018; Huo 2018). Data analysis was carried out using EViews and SPSS statistics software. The variables were “winsorised” before the regression analysis was conducted based on the distribution of the variables as observed through skewness and kurtosis values. Investigation of the data through panel least squared estimation highlighted the presence of serial correlation, as measured by Durbin Watson statistic, and heteroskedasticity. Subsequently, a fixed vs random effects model test, the Hausman test, was conducted to determine which of the two models best applies to the data. In the case of pre-Marikana, the analyses indicated that a random effect applied, while in the case of the post-Marikana period, a fixed model applied. The random effect model was compared with a model using the EGLS with period SUR estimates and white diagonal standard error and covariance estimates. The latter addressed serial correlation, residuals were normally distributed, and the F-test for the regression model, as well as the adjusted R square values, improved. In the post-Marikana period, although the fixed effect model appeared to be a better alternative, the number of dummy variables introduced as a result, given the relatively small sample size as well as the residual distribution, led to the decision to use the EGLS regression model.

Company performance was measured through the market value added (MVA), economic value added (EVA), earnings per share (EPS), return on equity (ROE), return on assets (ROA), share price (SP), total assets (TA) and percentage change in turnover (CIT), which represented the independent variables. The dependent variable selected was total executive compensation, which included a fixed basic salary, variable bonus and long-term incentives such as options and other equity-based compensation. This variable, executive compensation, was also obtained from the IRESS database and did not distinguish between executive and non-executive directors due to a lack of disaggregated data in this regard (Lemma, Mlilo, and Gwatidzo 2020). Other authors, such as De Wet (2012) and Kirsten and Du Toit (2018) also used the executive compensation figure from IRESS, aggregating both the executive and non-executive compensation together. As discussed elsewhere in this manuscript, this study, therefore,

includes the compensation of all those in charge of companies' governance instead of only focusing on the CEO. Therefore, the executive compensation figure used in this study includes that of the CEO, other executives as well as non-executive directors. No multicollinearity was detected between the independent variables as all variance inflation factors (VIF) ranged between 1.005 and 2.546, much smaller than the threshold value of 10.

First, descriptive statistics are reported for all the variables in the pre-Marikana period, 2007–2012, and then for the post-Marikana period, 2013–2018. The relationship between executive compensation and each performance measure was explored using estimated generalised least square regression, separately for the pre- and post-Marikana periods.

The model used in the study (together with the explanation) is as follows:

*Model 1*

$$y = \beta_0 + \beta_1(ROA) + \beta_2(ROE) + \beta_3(SP) + \beta_4(MVA) + \beta_5(EVA) + \beta_6(EPS) + \beta_7(TA) + \beta_8(RG) + e$$

Where:

$y$  = Executive compensation

$\beta_0$  = Constant

$\beta_1(ROA)$  = Return on Assets

$\beta_2(ROE)$  = Return on Equity

$\beta_3(SP)$  = Share Price as per JSE closing price

$\beta_4(MVA)$  = Market Value Added

$\beta_5(EVA)$  = Economic Value Added

$\beta_6(EPS)$  = Earnings Per Share

$\beta_7(TA)$  = Total Assets

$\beta_8(RG)$  = Revenue Growth or % change in revenue

$e$  = Random error



## Results

### Descriptive Statistics

Tables 1 and 2 below depict the descriptive statistics pertaining to the executive compensation and all the independent variables, ROA, ROE, share price, MVA, EVA, EPS, total assets and % change in turnover for the period under review.

**Table 1:** Descriptive statistics for the period 2007–2012

Variable	Obs	Mean	Std. Dev.	Min	Max
Executive compensation	167	R27m	R30.8m	R2m	R148.6m
ROA	167	7.62%	16.03%	-30.80%	35.43%
ROE	167	11.72%	29.57%	-63.73	72.21%
Share price	167	R157.82	R190.57	R4.7	R60.35
MVA	140	1.67	0.89	0.33	3.57
EVA	115	R931 837	R5.3m	-R11.2m	R15.6m
EPS	167	R6.90	R12.67	-R12.13	5.00
Total assets	167	R56.5m	R135.8m	R116.4m	R620.9m
% $\Delta$ in turnover	167	12.06%	31.32%	-41.51%	96.17%

**Source:** Own compilation from SPSS

The average executive compensation in the pre-Marikana period amounted to R27 million, which favourably compares to positive numbers experienced in all the independent variables on average. However, the minimum executive compensation of R2 million does not favourably compare to the minimum ROA (-30.80%), ROE (-63.73%), EVA (-R11.2 billion), EPS (-R12.13) and % change in turnover (-41.51%). This suggests that the executives continued to enjoy positive remuneration even when companies were not generating value for the shareholders in the least performing companies.

**Table 2:** Descriptive statistics for the period 2013–2018

Variable	Obs	Mean	Std. Dev.	Min	Max
Executive compensation	168	R39.6m	R40.6m	R2m	R148.6m
ROA	168	-0.03%	13.89%	-30.80%	35.43%
ROE	168	-2.30%	25.48%	-63.73%	72.21%
Share price	168	R108.08	R159.05	R4.7	R60.35
MVA	168	0.92	0.67	0.01	3.57
EVA	138	-R1.6m	R4.7m	-R11.2bn	R15.6m
EPS	168	R2.66	R11.06	-R12.13	R38.07
Total assets	168	R68.3bn	R156.6bn	R116.4m	R620.9m
% $\Delta$ in turnover	168	7.40%	31.35%	-41.51%	96.17%

**Source:** Own compilation from SPSS

Descriptive statistics for the post-Marikana period (table 2) are identical at a minimum point with regards to the metrics that were also negative in the pre-Marikana period, namely, ROA, ROE, EVA, EPS and % change in turnover. The minimum executive compensation also remained the same. However, the metrics deteriorated on average in the post-Marikana period since the average executive compensation amounted to R39.6m, in relation to the averages of -0.03%, -2.30% and -R1.6m for ROA, ROE and EVA, respectively. This suggests that the mining companies' values have actually been destroyed while the executives have been receiving their remuneration, a phenomenon which is not consistent with the agency theory discussed in the literature review above.

### Inferential Statistics

Tables 3 and 4 below depict the inferential statistics in the form of panel estimated generalised least square with period seemingly unrelated regression (SUR) for the pre- and post-Marikana periods.

**Table 3:** Panel estimated generalised least square (Period SUR), 2008–2012

		Variable	Coefficient	t-value	p-value
<b>Outcome variable</b>	<b>Executive compensation</b>	DR	16593.66	4.744582	0.0000
<b>Predictor variables</b>	<b>Accounting-based measures</b>	ROA	11.29204	0.117725	0.9065
		ROE	-11.38725	55.69195	0.8384
		Total Assets	8.75E-05	4.925914	0.0000
		% Δ in turnover	20.34558	0.656112	0.5132
		Share Price	0.219027	1.989027	0.0493
		EPS	0.883260	0.578076	0.5644
	<b>Market-based measures</b>	MVA	-2343.185	-1.267671	0.2077
		EVA	0.000582	2.569863	0.0116
	<b>R<sup>2</sup></b>	0.543997			
<b>Adjusted R<sup>2</sup></b>	0.400978				
<b>Durban Watson</b>	1.768626				
<b>F-Statistic</b>	10.53876				

Based on the p-values ( $<0.05$ ) in the pre-Marikana period, only total assets, share price, and EVA are statistically significant in explaining the variability in executive compensation. Total assets have been used as a proxy for size in previous studies. Studies, such as those of Zhu (2007), as well as Scholtz and Smit (2012), have also found a positive relationship between executive compensation and total assets. The share price was also significant in the pre-Marikana period. It suggests that there is congruency between executive compensation and shareholder value maximisation, which all support the agency theory upon which this study is based. The finding is also consistent with that of Essman et al. (2021) who found a positive relationship between executive compensation and share price. On the contrary, the other market-based measure included in the equation, MVA, was not significant ( $p=0.2077$ ). De Wet (2012) also found that the relationship between executive compensation and EVA was positive and stronger than with the MVA. All the other measures, ROA, ROE, % change in turnover and EPS, were not significant in explaining the variability in executive compensation in the pre-Marikana period.

**Table 4:** Panel estimated generalised least square (Period SUR), 2013–2018

		Variable	Coefficient	t-value	p-value
<b>Outcome variable</b>	<b>Executive compensation (DR)</b>	DR	21619.51	8.000510	0.0000
<b>Predictor variables</b>	<b>Accounting-based measures</b>	ROA	-61.55501	-0.485453	0.6282
		ROE	18.08990	0.273603	0.7848
		Total Assets	0.000196	13.87881	0.0000
		% $\Delta$ in turnover	-23.70231	-0.800975	0.4246
		Share Price	-0.043202	-0.311018	0.7563
		EPS	6.570088	2.653786	0.0090
	<b>Market-based measures</b>	MVA	-899.1847	-0.374895	0.7084
		EVA	-0.000306	-1.584546	0.1155
	<b>R<sup>2</sup></b>	0.700764			
<b>Adjusted R<sup>2</sup></b>	0.682207				
<b>Durban Watson</b>	1.846723				
<b>F-Statistic</b>	37.76229				

The panel estimated generalised least square with period seemingly unrelated regression in table 4 indicates that only total assets and EPS are significant in explaining variability in executive compensation in the post-Marikana period, based on the p-values ( $<0.05$ ). As indicated in the pre-Marikana discussion underpinning the results in table 1, the literature supports the positive relationship between executive compensation and company size as measured by total assets (Van Rijn, Zeng, and Hueth 2022). The main difference between the pre-Marikana and post-Marikana periods, however, is twofold. First, the EVA and share price are no longer significant in explaining the variation in executive compensation in the post-Marikana period. Second, the EPS, which was not significant in the pre-Marikana period, has become significant in explaining the variation in executive compensation in the post-Marikana period. The significance of EPS is consistent with findings by Cheng, Harford, and Zhang (2015) and Kim and Ng (2018), all indicating a significant positive relationship between executive compensation and EPS.

## Discussion

### **Pre-Marikana Period**

The study period covers 2007–2012. Therefore, it covers the global financial crisis that took place in 2008–2009 as well as the market crash in 2011. Although the effects of the global financial crisis largely started in the United States of America (USA), it was felt throughout the world (Walters 2019; Zhang and Broadstock 2020.) However, South Africa was mostly insulated (Matemane and Wentzel 2019; Sibindi and Makina 2018). It is, therefore, not surprising that during this period, share prices were among the variables that were significant in explaining the variability in executive compensation of South African listed mining companies together with the EVA. This is despite the fact that the minimum values of these variables, as summarised in the descriptive statistics in table 1, were negative. The executives, therefore, were motivated to maximise both the share price and EVA in order to increase their remuneration.

On the other hand, when looking at the p-value, the total assets variable, which was used as a proxy for company size in this study, was more prominent in explaining the variability in executive compensation than both the EVA and the share price. Executives did very little or nothing to ensure that the company's total assets were increasing, thereby increasing their own remuneration. This is because, by virtue of their size, large companies can easily afford to pay higher executive compensation compared to their smaller contemporaries (Bussin and Nel 2015). Therefore, in the pre-Marikana period, larger companies simply paid their executives more. This is consistent with the positive impact that the share price had on executive compensation during the same period. As the share prices rose, the EVA rose, and so did the total assets and, consequently, the executive compensation.

## Post-Marikana Period

In the post-Marikana period, there are only two variables that are statistically significant in explaining variability in executive compensation, namely, total assets and EPS. This means that after the labour unrest in the sector, short-termism prevailed in executive compensation plans as the executive sought to focus on EPS and total assets, which are both susceptible to manipulation (Anning and Adusei 2022; Fan et al. 2019). De Wet (2012) argues that market-based measures, such as MVA and EVA, must be integrated into designing executive compensation plans instead of solely focusing on accounting-based measures such as EPS—as is the case in the post-Marikana period. In developed economies, executives in companies such as Enron and WorldCom have been able to manipulate accounting-based measures such as overstating assets and EPS, which embellished the financial position and financial performance of their companies (Nickerson 2019; Slamkov, Stamevski, and Stamevska 2021). In South Africa, similar accounting frauds have also been perpetuated by companies' directors in organisations including, Bosasa, Tongaat Hullet and Steinhoff (Geldenhuys 2020). In the post-Marikana period, the mining companies should have been even more sensitive to the issues facing society and the perceived excessive executive compensation. They should have rather focused more on other measures of performance, including MVA and EVA, as advocated by De Wet (2012). This argument is supported by Almeida (2019) who argues that the EPS should completely be eliminated as a metric for executive compensation because of its susceptibility to manipulation.

## Conclusions and Managerial Implications

The main objective of the study was to determine whether a relationship exists between executives' compensation and company performance within the mining sector. The main findings in the study were that in the post-Marikana period, the EPS and the total assets were found to be statistically significant in explaining variability in executive compensation. On the contrary, EVA and share price were significant in explaining variability in executive compensation in the pre-Marikana period, in addition to total assets. This may suggest that the remuneration committees of the mining companies might have sought to focus on the performance measures that would also benefit the labourers and the general workers that were involved in the strikes. In particular, it would appear that the EPS and total assets would not result in bonuses accruing to the executives and companies' top management only, but also to the general workers as they ramp up productivity. Arguably, labour unrest in the mining sector can have a significant negative impact on the sector's performance. Meanwhile, Mahony and Baartman (2018) found that mining companies are struggling to curtail costs. This may support the narrative that mining companies are retrenching workers in order to reduce costs and improve margins. The decline is indicated in the average share price, percentage change in turnover and total assets in the post-Marikana period.

Most findings in the study are consistent with those in prior literature, enforcing the notion that, overall, there is a relationship between company performance (as measured

by EPS and total assets) and compensation in the mining industry, especially in the post-Marikana period. Furthermore, the results of this study confirm the mining executives' views that they are remunerated based on performance, although such performance is confined to accounting-based and financial metrics.

The research suggests that a better pay-performance system needs to be designed and implemented within the mining sector as a whole in order to hold executives accountable for the performance of the companies they manage. It is suggested that remuneration committees pay more attention to setting guidelines with regard to both remuneration for executives and the linking of performance with compensation, especially market-based performance measures such as EVA and MVA. Furthermore, it is also suggested that the mining sector, as a whole, engage in positive actions used to address labour unrest insofar as to limit the losses incurred as a result of labour unrest. Using stakeholder theory principles, mining companies cannot sit on the side-lines as spectators while the country suffers from inequality and poverty. Mining companies need to improve their corporate citizenship status to reflect the importance they hold in the country's socio-economic landscape.

In view of the Marikana tragedy, labour unrest that lasted for about five months and in which 34 mine workers were shot dead when demanding to be paid a minimum of R12 500 per month, which was still very small compared to the exorbitant pay for senior management and the executives (Mashayamombe 2020), policy makers should endeavour to enforce a disclosure requirement and similar accountability mechanisms that would allow the stakeholders to establish whether there are fairness, transparency and equity in the way those who are charged with companies' governance, are remunerated compared to the general workers. This could be done by way of a pay-ratio disclosure, for example, which is common practice in other jurisdictions such as the United States of America (Pan et al. 2022).

## Future Research

The research only investigated the link between executives' compensation and company performance using directors' compensation for executives' remuneration. The executive compensation variable incorporated pay for the entire executive team, as well as that of the non-executive directors. Future studies can use separate components of executive compensation, for example, by breaking down the executive compensation figure into fixed and variable portions in order to understand how the relationship would differ. Company performance measures used in the current study were limited to eight measures. Future studies can include more measures of company performance, in particular non-financial measures such as environmental, social and governance (ESG). Future studies can increase the scope of companies used, such as unlisted small to medium mining companies. This study only undertook to observe JSE listed companies. The study focused only on South African companies, and therefore, more research can be done in different mining countries in Africa and other developed economies, such as the United Kingdom and the United States of America in the form of a cross-country

comparative study. These future studies will help in understanding firstly, the relationship between remuneration and performance in the mining sector in general and secondly, provide an understanding of the reason why the South African mining sector may appear to operate differently from the rest of the world. This study focused only on the executives' compensation and company performance. Future studies can focus on evaluating company performance and ordinary worker remuneration. This will allow a comparison between studies and improve the understanding of variations in remuneration between ordinary workers and executives.

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