



The relationship between chief executive officer compensation and the size and industry of South African state-owned enterprises

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Orientation: Concerns about exorbitant executive compensation are making headlines, because executives receive lucrative packages despite state-owned enterprises (SOEs) performing poorly. It appears as if chief executive officers (CEOs) are not being held accountable for the performance of the SOEs.

Research purpose: The purpose of the study was to determine whether the size and the industry of an SOE had an impact on CEO compensation packages.

Motivation for the study: A greater understanding of the relationship between CEO remuneration and the size and type of industry of SOEs would assist with the standardisation of CEO remuneration and linking CEO pay to SOE performance.

Research approach/design and method: A multiple regression analysis on a pooled dataset of 162 panel observations was conducted over a 9-year period. Financial data of 18 SOEs were extracted from the McGregor BFA database and the annual reports of SOEs.

Main findings: The findings show that the size of an SOE does not influence the total compensation of CEOs. However, larger SOEs pay larger bonuses due to these SOEs being in a stronger financial position to offer lucrative bonuses. CEO's remuneration was aligned within certain industries.

Practical/managerial implications: The findings emphasise the need to link CEO compensation with SOE performance. Standardisation in setting CEO compensation and implementing performance contracts should be considered.

Contribution/value-add: The study confirms that CEO pay is not linked to performance and not justified when considering SOE size or industry.

Keywords: CEO compensation; company performance; fixed pay; industry; short-term incentive; SOE Size; state-owned enterprises; total compensation.

Introduction

Concerns about exorbitant executive compensation are not new, as noises were made back in 2008 about executives receiving lucrative packages despite state-owned enterprises (SOEs) performing poorly. The former Minister of Finance, Trevor Manuel, expressed the concern that excessive salaries were unjustified in the context of South Africa's 23% unemployment rate (Theunissen, 2010). Despite financial constraints, and in some cases major losses, chief executive officers (CEOs) in these SOEs receive compensation packages that are up to 11 times more than the average salary of employees (BusinessTech, 2017). Bussin and Ngube (2017) further noted that the increasing income gap in South Africa between rich and poor, split alongside racial lines, has caused various questions to be raised about the apparently excessive top management compensation.

State-owned enterprises, which are independent companies that are partially or wholly owned by the government, play a significant role in the South African economy. The four largest local SOEs are Transnet, Denel, Telkom and Eskom (Wendy Owens & Associates, 2013). State-owned enterprises, unlike private companies, receive the greater part of their revenue from the National Treasury (tax revenue) and are primarily tasked to provide a service to the public (Bezuidenhout, Bussin, & Coetzee, 2018). It seems, however, as if the bulk of funding is used for compensation purposes, rather than investing in service delivery (Ngwenya & Khumalo, 2012).

Despite the attention executive compensation has received, it appears as if government has become morally paralysed and unwilling to take action to ensure equality for all. The pay gaps between CEOs and average employees among the nine prominent SOEs showed that the average employee earned R58 9964.00, and the average CEO was paid R5.53 million (BusinessTech, 2017).

Given the widening gap between rich and poor, the disappearance of the middle class and the increasing number of people living below the breadline, it has become necessary to review those practices that threaten good governance and undermine equality (Mhlanga, 2018). The main criticism pertains to the widening gap between executive compensation and that of other employees. The share of total income going to the top 10% income earners in South Africa is 60% – 65%. In Europe it is 30% – 35%; in the United States it is 45% – 50%; and in Brazil it is 50% – 55% (Smith, 2017).

There is a general consensus that executive compensation has become excessive, given that (1) executive pay is inequitable relative to other employees' pay and (2) the amounts are unjustified, compared to the SOEs' performance (Nichols & Subramaniam, 2001). Maloa and Bussin (2016) postulate that research should be able to indicate how executive compensation is arrived at, and show all the necessary elements and dimensions at work when determining executive compensation.

Despite SOEs being the principal drivers of the formal sector of the economy, providing the bulk of economic growth, the performance of SOEs frequently comes under public scrutiny (Kanyane & Sausi, 2015). State-owned enterprises are further central to advancing national objectives through providing economic and social infrastructure, and play a vital role in terms of the direct services they provide (Mokoena, 2017). The underperformance of SOEs drain state finances and this has implications on South Africa's fiscus (eNCA 2016). Over the past few years, the return on assets of SOEs has been declining, yet their liabilities have been increasing (eNCA, 2016). Extrapolated over the long-term, it implies a potential bankruptcy of these SOEs (eNCA, 2016).

Several South African SOEs had to be rescued by government to keep them afloat. Corruption and mismanagement have also been blamed for the billions of rand in losses which these companies have recorded in recent years (Mutiso, 2016). During 2009, government paid R1.4 billion to the South African Broadcasting Corporation (SABC). The total amount of financial assistance to the SABC was R2.24 billion (bn) over 4 years, while other SOEs received R243.25bn during this period (Harris, 2009).

In 2015, the government spent nearly 10% of its total annual budget in servicing debts and paying to help struggling SOEs. For example, South African Airways (SAA) reported a loss of R2.5bn during 2015. Smit (2016) reports that SAA received a total of R29bn in bailout funds, loan guarantees

and convertible loans since the 2004/2005 financial year. Broadband Infracro required R500m during 2015 to help sustain its operations, having incurred losses since 2010 – it has only survived to date because of bailouts received from government (Mutiso, 2016). The South African Post Office (SAPO) received a R650m bailout, despite reports of fraud by the Public Protector (SABC News, 2016).

It seems as if South Africa still lags behind in terms of implementing measures to curb exorbitant CEO compensation packages. Given the above challenges in local SOEs and unprecedented government policy interventions, the need for further research appears to be justified, especially as existing research has not managed to deliver a simplified understanding of the determinants of executive compensation in the South African context.

The first purpose of this research was to determine whether there is a relationship between CEO compensation and company size. This purpose is based on a PhD study by Bezuidenhout (2016) and to this end, two sub-questions were set:

- Sub-question 1: Is there a relationship between CEO *fixed pay* and the size of the SOE?
- Sub-question 2: Is there a relationship between CEO *total compensation* and the size of the SOE?

Duffhues and Kabir (2008) and Goh and Gupta (2010), among others, postulate that the type of industry within which a company operates significantly influences the CEO's compensation. The second research objective was to determine whether the industry in which an SOE operates has an effect on CEO compensation. Here, the two sub-questions were:

- Sub-question 1: Is there a relationship between CEO *fixed pay* and the industry in which the SOE operates?
- Sub-question 2: Is there a relationship between CEO *total compensation* and the industry in which the SOE operates?

This article argues that the type of industry and company size in setting executive compensation within South African SOEs offers an explanation on how executive compensation is determined. It further provides insight on how challenges and constraints experienced in setting executive compensation could be overcome. The results should inform decisions about standard practices to control the perceived excessive pay of CEOs within South African SOEs.

Chief executive officer compensation

The CEO, who is appointed by the board of directors, is responsible for leading the company in achieving its corporate goals (Shaw, 2011). Mascarenhas (2009) elaborated on the responsibilities of CEOs and identified eight key responsibilities: developing growth avenues, raising productivity, competing for talent, managing diverse risks, tightening corporate governance, incorporating sustainability, creating innovation models and building new infrastructure.

The role of the CEO is difficult, and requires the skills and competencies of well-educated and knowledgeable individuals. Such talent is scarce. For companies to attract and retain CEOs, these individuals have to be properly rewarded (Kim, Kogut, & Yang, 2013).

Compensation is a broad concept, but for the purposes of this study – and as defined by 21st Century Pay Solutions Group (2012) – CEO compensation encompasses:

- fixed pay – basic salary and employee benefits
- variable pay – short-term incentives (STIs) (annual cash bonuses)
- total compensation – fixed pay plus STIs.

Executive compensation packages usually consist of basic salary, benefits, STIs and long-term incentives (LTIs), and therefore a combination of fixed and variable pay (Bussin, 2012). The fixed portion includes salary and other benefits not linked to the performance, whereas the variable portion differs according to the results of various measures of company performance (21st Century Pay Solutions Group 2012).

According to Bebchuk, Fried and Walker (2002), one of the significant problems is the pervasive influence the CEO has on the pay-setting process. Under such conditions, pay-setting could easily turn into a wealth-skimming process (Ulrich, 2010). Ferrarini, Moloney and Vespro (2003) suggest that current pay-setting practices involve a number of structural defects that make it possible for self-serving executives to hide enormous wealth transfers from shareholders.

Chief executive officer compensation in South Africa

The wage gap continues to be a challenge in South Africa's unequal society. In 2014, Mergence Investment Managers conducted an analysis of pay practices among the top 10 companies listed on the Johannesburg Stock Exchange (JSE) and found an upward trend over the past 5 years, with the gap between total compensation and average employee compensation increasing from just under 120 times in 2009 to over 140 times in 2013 (Lamprecht, 2014). The trend seems to have been driven by real increases in compensation packages, instead of mere variability in bonuses and share grants (Lamprecht, 2014). High levels of inequality are of global concern because it is detrimental to economic growth and fails to eradicate poverty (PriceWaterhouseCoopers, 2014).

A study by Theunissen (2010) revealed that the CEOs of all SOEs earned a mean salary 2.9 times higher than that of the state president. This difference is indicative of sizeable wage gaps which, according to Tjinders and Van Klaveren (2012), cannot be explained by visible or invisible workplace or employee characteristics.

The Mergence Investment Managers' analysis of variable compensation packages in 2012 and 2013 furthermore showed that approximately 50% of CEOs received 100% or

more of the value of their fixed pay as variable compensation (Bezuidenhout, 2016; Lamprecht, 2014).

Given this dire state of affairs, measures have been put in place to address concerns regarding CEO compensation. In this regard, the King IV report on Corporate Governance focuses on CEO compensation. Unfortunately, the report refers to fairness and responsibility but no clear guidelines are provided on exactly how CEO compensation needs to be determined. The report does, however, recognise that CEO compensation should be determined in the context of overall employee compensation in the organisation (Myburgh & De Costa, 2017).

In 2010, the Department of Public Enterprise (DPE) commissioned a compensation review with the purpose of determining the degree to which SOE compensation practices comply with DPE guidelines. Noteworthy findings revealed that SOEs do not follow the guidelines, and there is no standardisation in the way compensation is determined, nor were employment contracts, detailing the tasks and responsibilities of CEOs, compiled (Crafford, 2012). Despite non-compliance with DPE guidelines, no further actions were taken by the DPE to review the guidelines with regards to SOE compensation practices.

A key problem with the current SOE compensation framework is the non-existence of a centralised authority to oversee such compensation, resulting in SOE boards and CEOs determining their own pay structures (Massie, Collier, & Crotty, 2014).

The link between chief executive officer compensation and company size

The allocation theory of control (Rosen, 1992) states:

In a market equilibrium, the most talented executives occupy top positions in the largest firms, where the marginal productivity of their actions is greatly magnified over the many people below them to whom they are linked'. (p. 182)

This implies that there should be a direct relationship between CEO compensation and the size of the company when the market is balanced. In much of the literature (Canarella & Gasparyan, 2008; Finkelstein & Hambrick, 1988; McKnight, 1996), the relationship between a company's size and the CEO's salary is linked to job complexity (Agarwal 1981; McKnight, Tomkins, Weir, & Hobson, 2000). As executives' jobs become more complex, they receive higher levels of compensation (Rankin, 2006). As an organisation grows and becomes more complex to manage, the level of knowledge and understanding required of the CEO becomes more challenging (McKnight et al. 2000). A company's size therefore reflects the demand for a high-quality CEO which, in turn, relates to the CEOs level of compensation (Deysel, 2013; Rankin, 2006).

Various studies have outlined a positive correlation between executive compensation and company size (Lippert & Moore,

1994; Menozzi, Erbetta, Fraquelli, & Vannoni, 2011; Morton & Blair, 2013; Van Blerck, 2012; Zhou, 2010). A reasonable notion is that one would expect a larger company to be in a stronger financial position to offer lucrative compensation packages (Jeppson, Smith & Stone, 2009; Morton & Blair, 2013). Oberholzer and Theunissen (2012) and Janssen-Plas (2009) postulate that larger companies require executives to assume a higher level of responsibility and perform tasks that are more complex – thus justifying higher pay.

Chalmers, Koh and Stapledon (2006), Ciscel (1974) and Finkelstein and Hambrick (1988) reveal that company size is considered the strongest determinant of CEO compensation, when measured in terms of total assets. Agarwal (1981), however, argues that even though prior research found a statistical relationship between company size and executive compensation, it is unclear what aspect of company size relates to the level of executive compensation. Shah, Javed and Abbas (2009) found weaker relationships between company size, measured by sales and executive compensation, than was suggested by previous researchers, and argue that organisational size is not the primary determinant of CEO compensation. In their study of the South African banking sector, Deysel and Kruger (2015) found no correlation between CEO compensation and company size. Ngwenya and Khumalo (2012) in their study on South African SOEs found a positive relationship between CEO base salaries and the size of the SOE as measured by total revenue and number of assets. According to Lin, Kuo and Wang (2013), company size is the most important determinant of CEO compensation. It thus seems as if there are mixed results about the relationship between company size and CEO pay.

The rule of thumb is that a CEO's pay increases by 3% for every 10% increase in company size (Van Blerck, 2012). In addition, company size is likely to affect the expertise required of the CEO, hence explaining higher compensation of CEOs in large companies (Rankin, 2006).

The link between chief executive officer compensation and the industry in which the company operates

Dai (2014, p. 212) postulates that the industry factor has two main effects on executive compensation. Firstly, different industries with differences in profit models, profit level and risk lead to different executive compensation. Generally, the stronger the industry competition, the higher the level of executive compensation. Secondly, intense competition will improve the liquidity of the executives. Because of this, enterprises would compete in the labour market for talented executives (Dai, 2014). A similar situation applies to South African SOEs. Given the profit level and risk, the CEO of SA Post Office earns, on average, R536 000.00 as compared to R8.9m earned by the CEO of Eskom (BusinessTech, 2017)

Research results linking CEO compensation to company performance differ across industry sectors. The results of related studies, particularly in South Africa, vary and are

inconclusive, as many did not consider whether the company performance measures chosen bore any relation to executive compensation in different industries (Blair, 2014). The contingency theory suggests that executives' compensation is affected by how the organisation would like to compare itself with similar organisations in that industry. Maloa (2016) posits that this includes, among others, a consideration of current industry competition for the SOE, and the nature of the industry and its prospects.

Dai (2014) found that the industry has a significant influence on executive compensation within Chinese listed firms. Maloa and Bussin (2016) supported this viewpoint and found that in the context of South African SOEs, the type of industry contributes significantly and positively to executive compensation.

Methodology and research design

The research made use of a positivistic philosophy and a deductive approach. The research methodology was, in essence, descriptive, exploratory and archival in nature, while the time horizon was longitudinal. The methodology was quantitative, as that allowed the researchers to identify relationships among two or more variables and, based on the results, to confirm or challenge existing theories or practices. The quantitative research approach made use of descriptive and inferential statistics.

Data collection

Given that the researcher collected information from public companies' annual reports, which had been subjected to financial audit, the data were regarded as accurate and credible.

Population and sampling

The population of the study comprised 21 schedule 2 SOEs operating in South Africa. An SOE was included only if the annual reports were available on either the McGregor BFA database or the company website, and it had a 9-year financial history which revealed the CEO's compensation. Eighteen SOEs were subsequently included in this study.

Dependent variables

This study used two components of CEO compensation: *fixed pay*, and *total compensation* (fixed pay, STIs and employee benefits – the sum of the other types of cash payments, employers' contributions to medical aid, group life and pension or provident funds). As a rule, severance packages were not included; only the compensation paid out during the active career of the CEO.

Independent variables

This study focused on company size and industry as independent variables. To determine the size of the SOEs, this study used the DPE's organisation size grid

(categorised according to revenue or assets) (see Table 1). Based on this grid, SOEs were categorised as small (1), medium (2), large (3) or very large (4).

The target population for the study was schedule 2 SOEs. Using the definition of the *Public Finance Management Act*, all SOEs that were not schedule 2 public entities were eliminated, and a population was then defined. A total of 21 SOEs were identified as schedule 2 SOEs, and were therefore included in the study. Because of the small target population, which is uncharacteristic of quantitative samples, the researchers did not make use of any sampling methodology. A schedule 2 SOE was included in the study only if two criteria were met. First of all, the annual reports of the SOE had to be available on either the company website or on the McGregor BFA database. Secondly, only SOEs were considered where a 9-year financial history was available. This had to include the CEOs compensation. After implementing the selection criteria for inclusion, 18 of the 21 SOEs were included in the study. The 18 SOEs studied resided under different industries, which included transportation or freight logistics, defence, energy, forestry, telecommunications, development funding and aviation and aerospace.

Data analysis

This study used the Statistical Package for the Social Science programme (SPSS version 22) for the descriptive analysis of the data. EViews (version 8), a software package for econometric analysis, forecasting and statistics, was used to run multiple regression models on the pooled dataset comprising a cross-section of 18 SOEs over a 9-year period. In an article, Polakow (2015) questions the use of standard statistical techniques in financial analysis that ignore autocorrelation and stationarity. Using EViews (econometric modelling) addressed these concerns.

Multiple regressions were used to study the separate and collective contributions of organisation size and industry towards variances in CEO compensation components. According to Albright, Winston, Zappe and Broadie (2009), multiple regressions represent an improvement on simple regressions, because they allow any number of explanatory variables to be included in the analysis. In all the regressions, preliminary analyses were conducted to determine whether any of the assumptions had been violated. Further, to ensure that stationarity and serial correlation concerns were addressed, an auto-regressive term (AR1) was included in the regression. An iterative process was followed to determine the optimum regression model.

TABLE 1: State-owned enterprise categorisation – assets and revenue.

SOE size	Assets	Revenue	SOE category
A	> R16.3bn	> R2.54bn	Very large SOE
B	R1.55bn – R16.3bn	R243.2m – R2.54bn	Large SOE
C	R143.5m – R1.55bn	R22.8m – R243.2m	Medium SOE
D	Up to R143.5m	Up to R22.8m	Small SOE

SOE, state-owned enterprises; R, South African rand; m, million; bn, billion.

Source: Department of Public Enterprises (DPE). (2007). *State-owned enterprises compensation guidelines, Part B: Executive Directors*. Departmental report. Retrieved from <http://www.dpe.gov.za/res/SEOB.pdf>, p. 6.

Ethical considerations

Secondary data, such as CEOs remuneration and the organisations' financial performance, was collected from the annual reports of SOEs. Appropriate statistical techniques were used and information was not manipulated. Unisa provided ethical clearance for the study.

Results and findings

Descriptive statistics

Table 2 provides a summary of the various tests performed on *CEO compensation* components, with 162 observations between 2006 and 2014.

According to the data in Table 2, CEOs earned on average R2.8m in fixed pay and a further R1.1m in STIs. Total compensation amounted to R4.6m per year (R388 597.00 per month). The highest total compensation was R19 108 837.00, but this amount was identified as an outlier and probably included a severance payout.

Chief executive officer compensation components

The *CEO compensation* components – *fixed pay* and *total compensation* – were the dependent variables for all 18 SOEs under study.

Fixed pay

The median of *fixed pay* had increased steadily from R1.67m to R3m from 2006 to 2014: an average year-on-year increase of 8% and a total increase of 82%. Table 3 summarises *fixed pay* for the period under study.

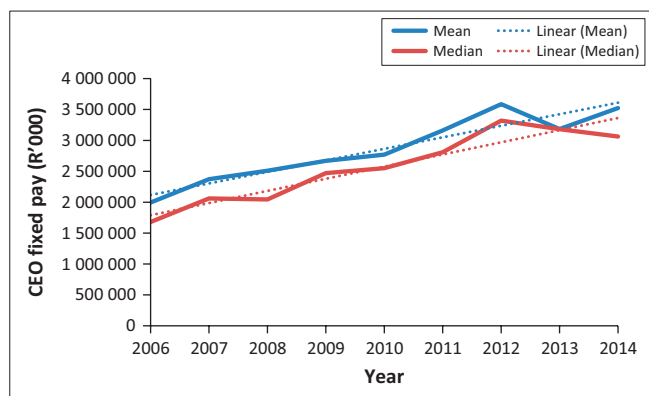
As can be expected, *fixed pay* continued to grow, regardless of weakening market conditions during 2008/2009 and 2011. Fixed salaries are often determined according to market surveys; therefore, the proportion of fixed pay is, in most cases, not expected to decline during periods of poor financial performance (Kuboya, 2014). As in the case of any other ordinary employee's salary, it is rare for fixed pay to decline during an economic downturn (Shaw, 2011).

The increase in the median of *fixed pay* for the 2006/2007 financial year was highest, at 23%, with the lowest increase for the 2009/2010 financial year at 3%. This may have been because of the fallout of the global economic slowdown.

TABLE 2: Chief executive officer compensation components for dataset (2006–2014).

Variable	Fixed pay (R'000)	Total compensation (R'000)
Mean	2863266.34	4663172.36
Median	2582000.00	3989017.50
SD	1348299.09	2863294.56
Skewness	0.84	1.57
Kurtosis	0.64	3.83
Minimum	468000.00	636000.00
Maximum	7751643.00	19108837.00

CEO, chief executive officer; SD, standard deviation.



CEO, chief executive officer.

FIGURE 1: Fixed pay (2006–2014).

TABLE 3: Fixed pay (R' 000) (2006–2014).

Year	Mean	SD	Median	Percentage change
2006	1994250.19	1052027.05	1679000.00	23% increase
2007	2372378.39	1242189.05	2062141.50	
2008	2509763.41	1325793.61	2044607.00	-
2009	2668468.03	1203410.04	2470000.00	3% increase
2010	2769787.70	1034832.47	2550500.00	
2011	3160985.56	1394699.82	280850000	-
2012	3586606.11	1243883.04	331996400	decrease
2013	3184005.83	1459638.89	3182000.00	
2014	3523151.89	1487536.39	3063420.50	

SD, standard deviation.

A decrease in *fixed pay* was experienced in the following financial years: -0.85% in 2007/2008, -4% in both 2012/2013 and the 2013/2014 financial years.

Figure 1 illustrates the mean and median for *fixed pay* tabulated in Table 3. While inflation was not taken into consideration, it is evident from the graph that the increase in the mean and median fluctuated throughout the period under analysis.

Clearly, CEOs' *fixed pay* did not experience the runaway growth claimed in the media. There was a slight increase in the median of *fixed pay* during 2007, with the highest noted in 2012, which suggests that the August 2011 stock market fall did not have an effect on CEOs' *fixed pay*.

Total compensation

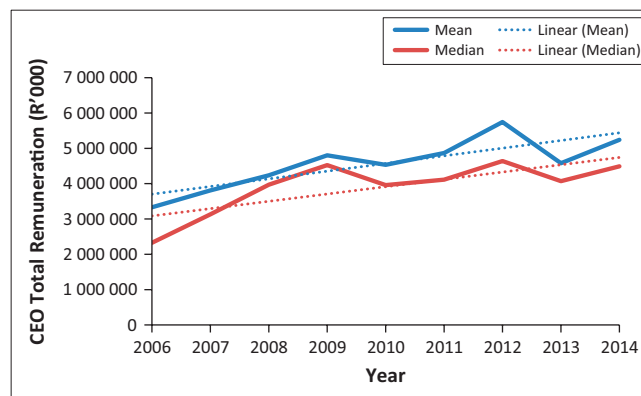
Table 4 summarises *total compensation* for the period under study.

Total compensation, as reflected in the median value, increased from R2 325 750.00 to R4 490 227.27 over the 9-year period – an average year-on-year increase of 9% and a total increase of 93%. The increase in *total compensation* during the 2006/2007 financial year was the highest at 35%. A decline of 13% in *total compensation* was found for the 2009/2010 financial year, and in 2012/2013, at 12%. A possible explanation for the 2009/2010 decline could be the fallout from the economic recession, while that of 2013 might be because of the great number of CEOs who were acting during that period.

TABLE 4: Total compensation (R' 000) (2006–2014).

Year	Mean	SD	Median	Percentage change
2006	3332067.96	2265677.94	2325750.00	35% increase
2007	3807600.78	2136055.98	3132787.50	
2008	4237731.59	2744345.78	3970035.00	-
2009	4802590.06	2716499.95	4525037.50	13% decline
2010	4531525.29	2300189.77	3959000.00	
2011	4868698.06	2666919.72	4111500.00	-
2012	5743642.19	3174628.91	4641500.00	12% decline
2013	4577509.56	2634924.46	4072000.00	
2014	5241013.27	2695857.11	4490227.27	-

SD, standard deviation.



CEO, chief executive officer.

FIGURE 2: Total remuneration (2006–2014).

The median of *total compensation* increased to its highest level in 2014 (see Figure 2).

Clearly, *total compensation* fluctuated during the period under study. At face value, the trend above appears to mirror that of certain components of *company performance*.

Company size

Company size was included as a dummy variable in the regression analysis, with *medium company size* used as a reference category, because none of the enterprises fell into the classification of *small company*. The researchers applied the following categorisation: large company (3) and very large company (4).

Relationship between chief executive officer compensation and state-owned enterprise size

The first objective of this study was to determine whether there is a relationship between *CEO compensation* components and *company size*.

Relationship between fixed pay and state-owned enterprise size

The regression model included 119 unbalanced panel observations and 17 cross-sectional units over a period of 9 years. The regression model was run with an optimum model, where it was determined which (1) *company performance* measures (turnover, net profit and irregular, fruitless and wasteful expenditure) and (2) *CEO demographic* variables had an effect on *fixed pay* (Bezuidenhout, 2016).

Table 5 provides the results of the optimum model of the pooled multiple regression analysis.

The results in Table 5 ($p < 0.00$) indicate that *company size* did not explain the variance in *fixed pay*. It can therefore be inferred that *company size* would not play a role in the setting of CEOs' fixed pay.

Relationship between total compensation and state-owned enterprise size

A regression analysis was performed with the optimum model where it was determined which company performance measures had an effect on total compensation (operating profit, net profit, liquidity ratio, return on capital employed and irregular, fruitless and wasteful expenditure). Table 6 provides the results of the pooled multiple regression analysis.

The last regression model, Model 2, was regarded as the optimum model, as the *F*-statistic increased to 38.06. The optimum model indicated that 65% (adjusted $R^2 = 0.65$) of the variance in *total compensation*, over and above the components of *company performance*, was explained by *company size*. It is thus possible to infer that company size affects CEOs' total compensation (although not significantly) in very large SOEs. The results suggest that the total compensation of CEOs is determined, irrespective of how large the company is. However, when it comes to the payment of bonuses, larger companies pay larger bonuses. Those payments are, however, not linked to company performance, which explains why CEOs continue to receive bonuses despite SOEs having to be rescued by government.

Industry

The second objective of this study was to determine whether there is a relationship between *CEO compensation* components and *SOE industry*. *Industry* was included as a dummy variable in the regression analysis.

TABLE 5: Regression analysis – *fixed pay* and *company size*.

Variable	Beta coefficient	Std. error	t-statistic	p-value
Constant	3042350.00	2945625.00	1.03	0.30
Large company	1413989.00	2452275.00	0.58	0.57
Very large company	1368887.00	2434449.00	0.56	0.58

Weighted statistics: *R*-squared = 0.79; Adjusted *R*-squared = 0.775; *F*-statistic = 34.91; Prob (*F*-statistic) = 0.00; DW stat = 2.64.

Std., standard; DW, Durbin Watson Statistic.

TABLE 6: Regression analysis – *total compensation* and *company size*.

Models	1	2
Constant	2307917.00 (1.26)	3781641.00 (5.50)
Large company	1649044.00 (0.85)	-
Very large company	2796956.00 (1.48)	1263352.00 (1.81)
<i>F</i> -Statistic (<i>p</i> -value)	33.32 (0.00)	38.06 (0.00)
DW stat	2.73	2.74
R^2	0.68	0.67
Adjusted R^2	0.6471	0.6478

DW stat, Durbin Watson Statistic.

Note: (1) Coefficients reported with *t*-statistics in parenthesis and (2) unstandardised beta coefficients are presented. Dependent variable: Total compensation.

Relationship between fixed pay and industry

The regression model included 144 unbalanced panel observations and 18 cross-sectional data over a period of 9 years. A regression analysis was performed with the optimum model, where it was determined which company performance measures had an effect on *fixed pay* (turnover, net profit and total irregular expenditure) (Bezuidenhout, 2016). Refer to Table 7 for the results of the pooled multiple regression analysis.

The last regression model, Model 3, was regarded as the optimum model, as the *F*-statistic increased to 52.28. The results in Table 7 ($p < 0.00$) indicate that *company industry* explains the variance in *fixed pay*. It is possible to infer that company industry affects CEO *fixed pay* in SOEs in the energy sector.

Relationship between total compensation and industry

The regression model included 144 unbalanced panel observations and 18 cross-sectional data variables over a period of 9 years. A regression analysis was performed with the optimum model where it was determined which company performance measures had an effect on total compensation (operating profit, net profit, total irregular expenditure, liquidity ratio and return on capital employed). Table 8 provides the results of the pooled multiple regression analysis.

The last regression model, Model 3, was regarded as the optimum model, as the *F*-statistic increased to 37.09. Model 3

TABLE 7: Regression analysis – *fixed pay* and *company industry*.

Models	1	2	3
Constant	2786737.00 (5.27)	2821658.00 (12.69)	2909617.00 (13.80)
Aviation and aerospace	120566.30 (0.19)	-	-
Development funding	54069.37 (0.09)	-	-
Energy	-957402.40 (-1.44)	-996300.00 (-1.55)	-1112492.00 (-2.26)
Forestry	-145147.50 (-0.20)	-	-
Telecommunications	509854.40 (0.78)	447263.70 (1.02)	
<i>F</i> -Statistic (<i>p</i> -value)	28.60 (0.00)	43.77 (0.00)	52.28 (0.00)
DW stat	2.50	2.50	2.48
R^2	0.68	0.68	0.65
Adjusted R^2	0.63468	0.64217	0.64197

DW stat, Durbin Watson Statistic.

Note: (1) Coefficients reported with *t*-statistics in parenthesis and (2) unstandardised beta coefficients are presented. Dependent variable: Fixed pay.

TABLE 8: Regression analysis – *total compensation* and *company industry*.

Models	1	2	3
Constant	4795968.00 (3.17)	4903129.00 (7.40)	4762020.00 (7.45)
Aviation and aerospace	101233.50 (0.06)	-	-
Development funding	-500115.80 (-0.28)	-	-
Energy	-921734.20 (-0.50)	-933546.50 (-1.07)	-
Forestry	-1234459.00 (-0.60)	-1292823.00 (-0.80)	-1130791.00 (-0.69)
Telecommunications	811901.90 (-0.28)	-	-
<i>F</i> -Statistic (<i>p</i> -value)	23.19 (0.00)	32.38 (0.00)	37.09 (0.00)
DW stat	2.70	2.73	2.74
R^2	0.662	0.660	0.659
Adjusted R^2	0.63380	0.64036	0.64184

DW stat, Durbin Watson Statistic.

Note: (1) Coefficients reported with *t*-statistics in parenthesis and (2) unstandardised beta coefficients are presented. Dependent variable: Total compensation.

TABLE 9: Relationship between *Chief Executive Officer compensation components, company size and industry.*

Question	Compensation	
	Fixed pay	Total compensation
Is there a relationship between CEOs' compensation and the size of a South African SOE?	No	Yes – very large SOE Not statistically significant
Is there a relationship between CEOs' compensation and the industry of a South African SOE?	Yes, within the energy industry	Yes, within the forestry industry

CEO, chief executive officer; SOE, state-owned enterprise.

indicates that 65% (adjusted $R^2 = 0.64$) of the variance in *total compensation*, over and above the components of *company performance*, was explained by *company industry*. It can therefore be inferred that *company industry* affects CEO total compensation in SOEs in the forestry sector.

Table 9 provides a summary of the findings as regards the relationship between compensation components, company size and industry.

Discussion

This study aimed to determine whether there was a relationship between the *CEO compensation components* and an SOE's size and the industry in which it operates. This is in line with Rosen's allocation theory of control which states that:

in a market equilibrium, the most talented executives occupy top positions in the largest firms, where the marginal productivity of their actions is greatly magnified over the many people below them to whom they are linked. (Rosen, 1992:182)

This reasoning provides a theoretical basis for a positive relationship between CEO compensation and company size (Zhou, 2010). Deysel (2013) posits that company size is an important variable, which is often mentioned by compensation committees as a reason for above-average CEO compensation packages.

Jeppson et al. (2009) support the findings of this study, confirming that the compensation of CEOs of larger companies is higher. A possible reason is that larger companies have more operations, subsidiaries and layers of management for the CEO to manage (Lippert & Moore, 1994). Furthermore, larger companies require a higher level of responsibility of CEOs; their tasks are more complex, and greater value is therefore placed on CEOs making the right decisions (Janssen-Plas, 2009).

Findings from this study show that industry affects both *fixed pay* and *total compensation* with regard to the energy and the forestry sector. The findings from this study seem to align with those of Duffhues and Kabir (2008), Goh and Gupta (2010) and Maloa and Bussin (2016).

Practical and managerial implications

The findings of this study offer new insights into the importance of company size and industry for the design,

development and management of executive compensation practices, especially in the South African SOE environment. It further provides insight into research and practice in establishing CEO compensation in South African SOEs.

Even though CEOs want to be paid more for their skills, experience and performance, SOEs' resources are limited and they face budgetary constraints. This forces compensation managers to address a basic economical fact, namely that of scarcity. In the war for talent and limited skills in the market, companies compete for competent CEOs. The reward committees of SOEs thus have to consider the following issues when setting executive pay levels:

- The size of the organisation has an influence, depending on how the SOE compares in size to similar organisations.
- The challenges presented by the industry within which the SOE operates.

It is acknowledged that South African SOEs have limited benchmarking opportunities when setting executive pay levels (Maloa, 2015a). This should, however, not excuse human resource practitioners from exercising due diligence when managing executive pay levels.

Recommendations

In managing the compensation of CEOs in a fair and responsible manner, it is recommended that relevant stakeholders consider the following:

- The development of an overarching framework for remunerating the CEOs of schedule 2 SOEs, in line with recommendations by the Presidential Review Committee on SOEs.
- Inconsistencies and a lack of checks and balances exist in the implementation of transformation involving executive compensation. Compensation specialists should enforce compliance with the *Employment Equity Act (EEA)*, 55 of 1998, which requires employers to take measures to progressively reduce a disproportionate income differential and to institute an equal-pay-for-equal-work philosophy (Maloa, 2015b).
- That SOE remuneration committees continue to manage total compensation for SOE executives to ensure that company size is not used as the main reason for high total compensation.

Conclusion

This study aimed to contribute to a better understanding of CEO compensation. Much of the public debate on CEO compensation has highlighted the steady erosion of income equality, and the growing wage gap that has accelerated in recent years. Of great concern were not only the exorbitant compensation packages of CEOs, but also the poor performance of South African SOEs. There is an urgent need to hold CEOs accountable for SOE performance. High unemployment, the downgrading of South Africa to junk status, social unrest, service delivery strikes and (perhaps most importantly) the vast majority struggling to

make ends meet are all indicators of a need for proper governance and ethical leadership in SOEs.

This research has contributed to a better understanding of measuring and setting CEO compensation against indicators that are significant to a particular industry as well as company size. However, the willingness and ability of SOEs to implement and apply the findings remains to be seen.

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Authors' contributions

M.C. wrote the article and was the co-supervisor for the study. M.L.B. provided assistance with the presentation of the results. This research is based on the PhD study of M.L.B.

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