



Relationship between executive pay and company financial performance in South African state-owned entities

**Authors:**

Craig Carlson¹ 
Mark H.R. Bussin¹ 

Affiliations:

¹Gordon Institute of Business Science, University of Pretoria, Illovo, South Africa

Corresponding author:

Mark Bussin,
drbussin@mweb.co.za

Dates:

Received: 26 Apr. 2019
Accepted: 27 Feb. 2020
Published: 14 May 2020

How to cite this article:

Carlson, C., & Bussin, M.H.R. (2020). Relationship between executive pay and company financial performance in South African state-owned entities. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, 18(0), a1211. <https://doi.org/10.4102/sajhrm.v18i0.1211>

Copyright:

© 2020. The Authors.
Licensee: AOSIS. This work is licensed under the Creative Commons Attribution License.

Orientation: Executive pay has been increasing; however, company performance has not been increasing proportionally. This could be due to an agency problem, resulting in executive pay not aligning with the shareholders' desired company performance.

Research purpose: The purpose of this research was to establish if there was a relationship between the total pay of the chief executive officer and their company's financial performance in South African Schedule 2 state-owned entities (SOEs).

Motivation for the study: A review of literature revealed conflicting views regarding the relationship between executive pay and company financial performance. There were limited studies conducted in South Africa, especially considering SOEs.

Research approach/design and method: This research was a quantitative, archival study using 8 years of secondary data from South African Schedule 2 SOEs. Spearman's rank-order correlation was used to evaluate the relationship.

Main findings: One significant weak positive relationship was observed when considering the net profit or loss metric of financial performance. Hence, there was no conclusive relationship between executive pay and company financial performance, which supported the proposition that there is an agency problem in South African SOEs.

Practical/managerial implications: There is a distinct need for an all-encompassing SOE legislation framework to standardise pay structure and reporting requirements. Additionally, accurate measures of performance are necessary to overcome the agency problem.

Contribution/value-add: This research adds to the limited knowledge base regarding the relationship between executive pay and company financial performance in South African SOEs. It also identified the need to incorporate non-financial metrics to influence executive pay.

Keywords: agency theory; company financial performance; executive pay; South Africa; state-owned entities.

Introduction

Key focus of the study

There has been a marked increase in executive pay, and there is recognition that remuneration arrangements are no longer aligned with the interests of the shareholder (Frydman & Jenter, 2010). This may be because of flaws in the governance processes that dictate the arrangements (Bebchuk & Fried, 2005). The compensation policy of the company is considered as one of the most important factors that contribute to its success and is a controversial topic (Jensen & Murphy, 1990; O'Reilly & Main, 2010).

Background of the study

Erick, Kefah and Nyaoga (2014) raised an interesting point: if executives are not adequately paid, then there may be a situation of inadequate incentive to perform. Furthermore, Deysel and Kruger (2015) indicated that there needs to be a balance between long- and short-term pay, as well as keeping the market value of the executive role in mind. Murphy (1998) noted that if executives were only paid a fixed salary, there would be little incentive to improve company performance because they do not get paid in relation to the performance. More recent literature indicates that there appears to be a trend towards the pay strategy of executives moving away from

Read online:

Scan this QR code with your smart phone or mobile device to read online.

performance-related elements (Bussin & Modau, 2015). Again, there seems to be a conflict between the patterns regarding the structuring of executive pay.

Trends from the research literature

There has been a significant amount of research that has been conducted on the relationship between executive pay, considering the chief executive officer (CEO) only, and the associated company performance. A summary of this research is detailed in Table 1. The existing research has covered a wide range of countries and industries, and there was a high level of variance in the observed results. It was noted that 56.5% of previous studies reviewed showed a

significant relationship of varying strength between executive pay and company performance. The remaining 43.5% found no significant relationship at all. Hence, it can be seen that there is currently no decisive conclusion regarding this relationship. Further to this, there are limited studies applicable to the South African market. Of these studies, only two considered the state-owned entity (SOE) environment, namely, studies by Bezuidenhout (2016) and Ngwenya and Khumalo (2012).

Research objectives

The problem is that executive pay (otherwise known as remuneration or compensation) is on the increase, whilst

TABLE 1: Summary of existing literature highlighting the key findings and the relationship between executive pay and company financial performance.

Reference	Country	Industry	Research period	Company financial performance	Relationship	Key findings
1 Aduda (2011)	Kenya	Banking	2004–2008	ROE; ROA	No	Non-significant negative relationship between CEO pay and company performance
2 Alves, Couto and Francisco (2014)	Portugal	Listed companies	2002–2011	Shareholder return	No	No significant relationship observed between CEO pay and total return to shareholders
3 Bezuidenhout (2016)	South Africa	SOEs	2006–2014	Revenue; operating profit; net profit; liquidity ratio; solvency ratio; ROE	Yes	Significant relationships between: Fixed pay and revenue (strong positive); net profit (weak negative) STIs and revenue (weak negative); operating profit (moderate positive); net profit (moderate negative) Total pay and revenue (strong positive); net profit (weak negative)
4 Busaule (2014)	Kenya	Banking	5 years	ROE	No	No significant relationship observed
5 Bussin and Modau (2015)	South Africa	JSE Top 40	2006–2012	Market capitalisation; ROE; EVA; MVA	Yes	Declining relationship between executive pay and company performance, especially since the 2008 financial crisis; suspected to be linked to the pay strategy of the executives moving away from performance-related elements.
6 Bussin and Nel (2015)	South Africa	Retail and consumer goods	2006–2011	DuPont analysis	No	Financial performance had little to no effect on the guaranteed cost-to-company of the CEO. Further to this, there was a negative relationship between ROE and guaranteed CEO pay.
7 De Wet (2012)	South Africa	Listed companies	2006–2010	ROE; ROA; EVA; MVA	Yes	Significant relationship between executive pay and company performance; strong relationship between traditional metrics (ROE and ROA) compared to EVA and MVA
8 Deysel and Kruger (2015)	South Africa	Banking	7 years	EBITDA; ROE; HEPS	Yes	Significant strong positive relationship between CEO pay and HEPS only; EBITDA and ROE results insignificant
9 Erick et al. (2014)	Kenya	Insurance companies	2006–2010	Solvency ratio	No	Negative non-significant relationship between executive pay and company performance suggesting that an executive pay cap would be more beneficial for performance.
10 Gigliotti (2013)	Italy	Listed companies	2004–2009	Revenue; ROE; ROA; ROI	No	No significant relationship observed
11 Lam, McGuinness and Vieito (2013)	China	Listed companies	2000–2008	Total assets; solvency ratio; ROE; ROA	No	No significant relationship observed
12 Luo (2015)	China	Banking	2005–2012	ROA	No	No significant relationship observed
13 Ngwenya and Khumalo (2012)	South Africa	SOEs	2009–2011	Revenue; total assets; ROA	No	No significant relationship observed
14 Rahman (2017)	Bangladesh	Banking	2006–2013	ROA	No	Significant negligible positive relationship
15 Raithatha and Komera (2016)	India	Listed companies	2002–2012	ROE; ROA	Yes	Significant moderate positive relationship
16 Scholtz and Smit (2012)	South Africa	AltX companies	2003–2010	Revenue; EBITDA; total assets; share price	Yes	Significant relationship between executive pay and revenue as well as total assets only. The other variables were non-significant.
17 Shaw (2011)	South Africa	Financial services	2005–2010	EBITDA; net profit; ROE; solvency ratio	Yes	Significant strong positive relationship between fixed pay and EBITDA, net profit; moderate between variable pay and EBITDA, net profit; strong again for total pay and EBITDA, net profit
18 Sigler (2011)	The United States	Listed companies	2006–2009	ROE	Yes	Significant positive relationship between CEO pay and ROE
19 Theku (2014)	South Africa	Mining	2009–2013	Revenue; EBITDA; ROE; ROA	Yes	Significant strong positive relationship between CEO pay and revenue, EBITDA; weak for ROA
20 Uyanik (2017)	Sweden	Listed companies	2000–2010	ROE; ROA	Yes	Significant weak positive relationship between CEO pay and ROA
21 Van Blerck (2012)	South Africa and The United States	Financial institutions	2002–2011	ROE; EVA	Yes	Significant strong positive relationship between CEO pay and EVA for South African banks; no significant relationship observed for USA banks
22 Van der Laan, Van Ees and Van Witteloostuijn (2010)	Netherlands	Listed companies	2002–2006	Revenue; operating profit; shareholder return	Yes	Significant moderate positive relationship between CEO pay and revenue
23 Zhou (2010)	Canada	Listed companies	1991–1995	Revenue; total assets; ROE; ROA	Yes	Significant positive relationships between CEO pay and company performance observed. However, the relationship was weak.

EBITDA, earnings before income tax, depreciation and amortisation; EVA, economic value add; HEPS, headline earnings per share; MVA, market value add; ROA, return on assets.

associated company performance is stagnating or even declining. This perception of a lack of performance is noted by Marshall and Lee (2016) where the pay of the CEO – as the lead executive of the company – does not reflect the long-term performance of the company. On the other hand, Schumpeter (2012) captured the argument that executives are remunerated for improving their company's performance. According to Jensen and Murphy (1990) – contrary to the literature at the time – executive pay was worsening with respect to company performance. Therefore, the primary objective of this study was to evaluate whether there was a relationship between executive pay and associated company financial performance, within the context of South African SOEs.

The potential value-add of the study

The findings of this study contribute to the existing body of literature surrounding the pay–performance relationship, specifically in the SOE environment.

Synthesis and critical evaluation of the literature

Executive roles and responsibilities

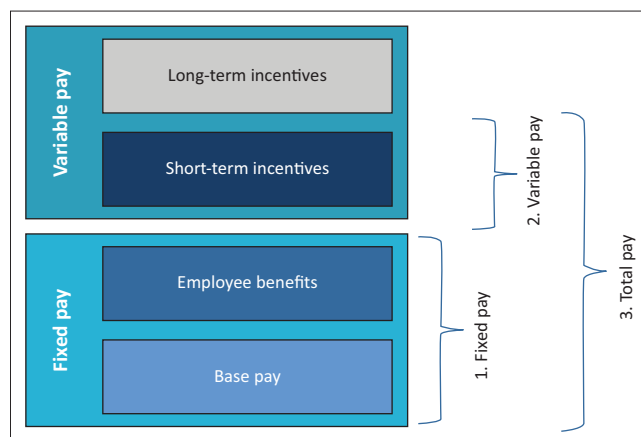
Perhaps, the most common premise surrounding the role of the executive is that their effectiveness has significant consequences on their associated company (Hambrick & Quigley, 2014). According to Jensen and Murphy (1990), Hambrick and Quigley (2014), as well as Bussin (2015), this effect is most pronounced when considering the CEO. Whilst the CEOs may be limited in their actions because of the structure and culture of their company (Hambrick & Quigley, 2014), the CEOs typically assume the greatest responsibility and accountability for a company and the associated performance on behalf of the board and stakeholders (Bussin & Modau, 2015).

Executive pay

Executive pay typically refers to the remuneration paid to the CEO and other senior executives in the company (Bussin, 2016; Frydman & Jenter, 2010).

Components of executive pay: Executive pay has several components making up the total package. A description of these is provided in Figure 1 (21st Century Pay Solutions, 2010; Bussin, 2016). It should be noted that long-term incentives (LTIs) are not commonly included in studies as a result of the erratic nature of their pay-outs, which can cause unsubstantiated influences during the chosen research period.

Agency theory and executive pay: Within agency theory, the principal–agent relationship becomes apparent when the ownership of the company is not with the individual in control, which creates two distinct players (Bussin, 2015). The *principal* would be the company owner, and the *agent* would be the delegated manager for the principal (Jensen & Meckling, 1976). In the research problem being addressed,



Source: Adapted from 21st Century Pay Solutions. (2010). Global reward trends. Retrieved from [https://www.saica.co.za/Portals/0/about/Committees/Global Reward Trends.pdf](https://www.saica.co.za/Portals/0/about/Committees/Global%20Reward%20Trends.pdf); Bussin, M. (2016). The remuneration handbook for Africa (3rd edn.). Randburg: Knowres Publishing.

FIGURE 1: Graphical representation of the components of executive pay.

the principal would be the shareholders, whilst the agent would be the executive. Bebchuk and Fried (2005) introduced a concept called ‘arm’s-length contracting’ as the agents seek to maximise their returns, whilst principals desire to deliver on shareholder expectations. Hence, remuneration packages should be designed to align the objectives of the executive decision-makers and their shareholders for the major benefit of the company (Bruce, Buck, & Main, 2005).

According to agency theory, when a principal–agent problem arises, there is a situation where the agent has created an agenda that conflicts with the principal’s interests, detracting from the desire to maximise company profits (Attaway, 2000; Bosse & Phillips, 2016; O’Reilly & Main, 2010). To prevent this problem from arising, and to align the interests of the principal and the agent, incentives are offered combined with clear performance measurement metrics (Bussin, 2015; Deysel & Kruger, 2015; Luo, 2015). Corporate governance is a mechanism used to align the interests of the agent and the principal (Bussin, 2015). This is achieved in South Africa through (but not limited to) the *Companies Act*, Act No. 71 of 2008 (Companies Act) and the King Report on corporate governance for South Africa (King Report), which give clear indications that executive pay should align with company performance (Arries, 2014; Price Waterhouse Coopers, 2012).

Company performance

There is no single definition of company performance, and it can consist of various inputs and measures. Typically, performance is considered on accounting-based and market-based measures (Attaway, 2000). Murphy (1998) is of the opinion that accounting measures should be used to describe company performance. These accounting measures should include absolute financial metrics, as well as financial performance ratios. Other researchers believe that the absolute performance measures (such as revenue and profit) are ideal because they are observable measures from audited

annual financial statements (Tosi, Werner, Katz, & Gomez-Mejia, 2000). Previous studies have included return on equity (ROE) as the predominant definition of performance (Attaway, 2000; Bussin & Modau, 2015; Bussin & Nel, 2015; De Wet, 2012). Ngwenya and Khumalo (2012) argued that ROE can be manipulated to improve the ratio; hence, using return on assets (ROA) is a more reliable measure.

State-owned entities

State-owned entities are autonomous companies that play an essential role in the South African economy. They are owned (at least in part) by the South African government. These companies fulfil specific functions and are expected to operate within the governing legislation to promote effective and efficient service delivery (Wendy Ovens & Associates, 2013).

State-owned entities differ from a typical company as a result of their positioning between the public and corporate environments. An implication of this is that the South African government is empowered as both the supervisory body and a majority (or sometimes sole) stakeholder (Arries, 2014). It does not preclude the SOE from performing profit-making activities to generate returns for their stakeholders. The source of funds for SOEs, outside of normal business operations, is the state.

Odainkey and Simpson (2013) proposed that SOE performance is a measure of how well the problem of agency theory has been addressed. The performance of SOEs is supported by the implementation of good corporate governance. Arries (2014) highlighted that SOEs need to comply with more legislation and laws than regular companies, inclusive of the Constitution of the Republic of South Africa, *the Companies Act*, *the Public Finance Mismanagement Act*, as well as the King Report. Based on this, it is apparent that there is no fully inclusive SOE legislation framework in South Africa (Presidential Review Commission, 2012).

Existing literature on executive pay and company performance

Of the 23 studies reviewed (as detailed in Table 1), 10 were from South Africa, three from Kenya and the remaining 10 from across the northern hemisphere (North America, Europe and Asia). The studies covered a wide range of business sectors, of which only two focussed on SOEs. The period of research varied across the studies, where the average research period was 7 years.

From the existing literature reviewed, there was no consensus as to whether there was a relationship between executive pay and company financial performance. Of the 23 studies considered, 13 showed that there was a significant relationship of various strengths, and 10 showed no significant relationship. The metrics used varied from study to study, whilst the most

common were ROE (16 studies), ROA (11 studies), revenue (seven studies), earnings before interest, taxation, depreciation and amortisation (EBITDA – six studies) and solvency ratio (four studies).

Research design

Research approach

This research entailed a desktop study of an archival nature using secondary data to define the dependent and independent variables (Saunders, Lewis, & Thornhill, 2012). This study was *ex-post facto* where the characteristics of the variables were reported rather than manipulated (Cooper & Schindler, 2014).

This study considered panel data, and therefore a longer period of study allows for a more reliable set of results to be achieved (Hsiao, 2007). The research period was chosen to be 8 years from 2009 to 2016. This period was not extended further into the past, as the researchers did not want to introduce potential instabilities in the data as a result of the global financial crisis in 2008 (Campello, Graham, & Harvey, 2010).

The pay-performance relationship was considered for each company included in the study as well as the complete dataset.

Research method

Research participants

This study was limited to South African Schedule 2 SOEs (21 companies) that had published audited annual reports for the period from 2009 to 2016 (8 years). This was chosen primarily as a result of the fiduciary and corporate governance regulations where these companies were required to submit audited financial statements as well as disclose their executive pay. If comprehensive data for the research period was not available for a company, that company was excluded from the study reducing the companies included to 14.

Unit of analysis

The two units of analysis for this research were executive pay and company financial performance. The metrics used to describe these variables are discussed in the sections that follow.

Dependent variable: Based on the literature reviewed, the following metrics were considered to define executive pay, as was depicted in Figure 1 (21st Century Pay Solutions, 2010):

- fixed pay (Base pay and employee benefits)
- variable pay (Short-term incentives only)
- total pay (Fixed pay + variable pay).

For this research, only total executive pay was considered, which excluded the effects of LTI. As a result of the erratic

nature of LTI pay-outs, there would have been unsubstantiated influence introduced during the research period.

Independent variables: In this research, the independent variable was the company financial performance. As described by Murphy (1998), the most commonly understood and used measures of company performance are accounting figures. It is also important to note that the use of multiple metrics to describe performance should provide better conclusions than a single metric (Brown & Caylor, 2006). The existing literature highlighted the most commonly used metrics which were considered as the metrics for this research:

- **Revenue:** Revenue (or turnover) is the money that is received by a company through normal business activities during a specified period (Graham & Winfield, 2010; Ward & Price, 2017).
- **Operating profit or loss:** Operating profit or loss is also known as gross profit or loss, profit or loss before tax or EBITDA (Graham & Winfield, 2010; Ward & Price, 2017). The operating profit or loss is a measure of the cost-effectiveness of a company's business operations.
- **Net profit or loss:** Net profit or loss – also termed net income or profit or loss after tax – is the absolute measure of accounting profit (Graham & Winfield, 2010).
- **Return on equity:** The ROE is often used to describe how well a company is performing. This is due to it being the ratio of net profit or loss and total equity invested by the shareholders (Graham & Winfield, 2010).
- **Return on assets:** The ROA is the ratio that considers how well a company has been able to use the available assets (Graham & Winfield, 2010). This takes into consideration the acquisition and utilisation of the assets.
- **Solvency ratio:** The solvency ratio, or debt ratio, considers the ratio between the total assets and total liabilities of the company. This indicates the proportion of the company assets that have been financed by debt, with a higher value indicating higher risk (Graham & Winfield, 2010).

Research procedure

Sources and nature of data

This study utilised secondary data that were obtained from the McGregor Bureau for Financial Analysis (BFA) database. Where the required information was not available from the database, the annual reports of the companies were used to source the data. The financial information obtained from the database was verified by the researchers using the annual reports, whilst the executive pay was sourced exclusively from the company annual reports.

Treatment of data

To ensure accurate statistical analysis of panel data, the raw data collected were transformed to take into account

differences (Polakow, 2010). This transformation removed the effects of stationarity. The transformation was carried out in two steps. The first step was taking the difference between each dataset. In the second step, the mean and standard deviation of the total dataset was considered and used to normalise the data. This normalisation process ensured that the data had a zero mean, as well as unit variance (Field, 2009).

Statistical analysis

Data analysis typically involves the cleaning and organising of data, describing the data and finally answering the research questions using inferential statistics (Trochim, 2006). This was achieved using a three-stage approach.

Descriptive statistics

The first stage of analysis was the determination of the descriptive statistics. This information not only informed the researchers as to the trends observed for each variable but also served the purpose of facilitating the transformation of the data.

Diagnosis checking

The second stage was diagnosis testing. Testing for assumptions (also known as diagnosis checking) was an important step performed to understand the dataset such that the correct statistical tools was identified and utilised.

One of the fundamental assumptions of most statistics is normality of the data (Razali & Wah, 2011). If the data support the assumption of normality, it implies that the data conform to a normal distribution. The data set was tested for normality using the Shapiro–Wilk's test, as it is suitable for smaller sample sizes (Razali & Wah, 2011).

A test for differences was required to determine if there were significant differences in the sample means across multiple populations (Wegner, 2016). For this research, a one-way analysis of variance (ANOVA) was performed to determine whether there were significant differences.

Autocorrelation is a concern for time-series, panel and longitudinal data – all of which apply to this research. This is because of the fact that autocorrelation would effectively reduce the number of independent observations (Field, 2009). The dataset was tested for autocorrelation using the Durbin–Watson test (Field, 2009).

Correlation analysis

Bivariate correlation analysis was used to determine the relationship (in terms of strength and direction) between the dependent and independent variables (Cooper & Schindler, 2014; Pallant, 2007). For this study, the Spearman's rank-order correlation coefficient was calculated as it was a non-parametric test that can also be used for parametric data. The results of the test were interpreted using Table 2 (Nel, 2012).

TABLE 2: Correlation coefficient strength interpretation.

Correlation coefficient	Relationship strength
$ r \geq 0.70$	Very strong
$0.40 \leq r < 0.69$	Strong
$0.30 \leq r < 0.39$	Moderate
$0.20 \leq r < 0.29$	Weak
$0 < r < 0.19$	Negligible
$r = 0$	No relationship

Source: Nel, M. (2012). *Sensitivity of guaranteed cost to company of CEOs in the South African retail and consumer goods sector*. Johannesburg: Gordon Institute of Business Science.

Ethical consideration

This article followed all ethical standards for carrying out research without direct contact with human or animal subjects.

Results

The dataset for this research encompassed 14 companies across 8 years. Hence, 112 separate cases were considered for the descriptive statistics portion of the results. As this was panel data, to ensure stationarity, a difference between the years was taken. This had the effect of reducing the total number of cases to 98 for the diagnosis checking and to evaluate the research objective.

Measures of executive pay

This study defined executive pay as the total pay (the sum of fixed pay and variable pay).

Interestingly, in 2013, there was a marked decline in executive pay (17.67% average year-on-year decrease from 2012), with half of the companies in the sample exhibiting this declining trend. Aside from the exception to the trend in 2013, there was still an average growth in total pay of 28.68% over the 8 year research period, or a year-on-year average increase of 5.00%.

Measures of company performance

The financial performance measures adopted for this research included revenue, operating profit or loss, net profit or loss, ROE, ROA and the solvency ratio.

Revenue

Over the research period, there was an increase of 43.77% in revenue, or an average increase of 5.47% year-on-year.

Operating profit or loss

There was an increase in the overall mean operating profit or loss from R286 million to R586 million, equating to an increase of 104.90% over the research period. This equated to an average 13.11% increase year-on-year. Aside from 2014 and 2015, there was a relatively linear increase year-on-year. There was always at least one company during the research period that reported an operating loss during the financial year. Whilst there were some companies that recorded losses,

on average, the operating profit was increasing at a faster rate than the revenue.

Net profit or loss

The net profit was found to be decreasing by an average of 9.54% year-on-year. Similar to operating profit or loss, there was a significant reduction in the 2015 financial year for the net profit or loss. This was the only year in the period where a net loss was reported on average for the companies in the study. In contrast to revenue and operating profit or loss, net profit or loss was decreasing during the research period.

Return on equity

The ROE was calculated for each of the 8 years and was found to be highly variable during the research period, showing positive returns in 5 of the 8 years, and negative returns in 3 years.

Return on assets

The ROA was calculated for each of the 8 years. There was an initial increase in the ROA from 2009 until 2011 (30.51% and 105.81%, respectively, increase each year). From 2012 onwards, the trend was decreasing with an average decrease of 21.47% over the next 3 years. In 2015 and 2016, there was a mean loss reported on assets. There appears to be a general decreasing trend over the reporting period.

Solvency ratio

The final financial metric that was considered to define company performance was the solvency ratio. Initially, there was a 71.01% increase in the mean solvency ratio in 2010. After this initial increase, there was a downward trend until 2015 (with an average decrease of 9.46% year-on-year). In 2016, there was an 8.13% increase again in the solvency ratio. Even with the fluctuation observed with the solvency ratio, the general trend was one of a decline, and there was an increase in the solvency ratio during the research period.

Diagnosis checking

Tests for normality

The Shapiro–Wilk's test was used to test the data for normality. The significance level for each of the variables considered (dependent and independent) were all below 0.05. Hence, it can be concluded that the dataset violates the assumption of normality, indicating that the variables deviate from a normal distribution.

Test for differences

To determine whether there were any differences between each of the years in the research period (the group), a one-way ANOVA was performed. There were no significant differences between the groups.

Test for autocorrelation

The values for the Durbin–Watson statistic were found to be between the threshold limits of 1.5 and 2.5 to disregard the effects of autocorrelation in the dataset.

Key results

The aim of this research was to determine whether there was a relationship between executive pay and company financial performance. The sections that follow detail the results of the correlation analysis performed. In the results tables, the significant correlation coefficients have an indicator whether it was significant at the $p < 0.05$ level or the $p < 0.01$ level. The sign in front of the correlation coefficient indicates whether the

relationship was positive or negative. The strength provides the interpretation of the correlation coefficient, using the ranges in Table 2 as a reference. The total pay for the CEOs of each of the 14 companies was evaluated against the six financial metrics identified, implying that there were 84 potential relationships investigated.

From the results presented in Table 3, the total pay and associated company financial performance was not consistent across the different companies. However, there were a greater number of *strong* or better correlations (57.14%) in the sample, with 20 of the 84 relationships (23.81%) showing a statistically significant coefficient. These significant relationships were all *very strong*, with

TABLE 3: Relationship significance and strength between total pay and company performance over the research period.

Variable	Revenue	Operating	Net	Return on equity	Return on asset	Solvency
SABC						
<i>Corr. Coeff</i>	0.972**	−0.037	−0.259	0.593	0.037	−0.482
<i>Strength</i>	Very strong	Negligible	Weak	Strong	Negligible	Strong
SAPO						
<i>Corr. Coeff</i>	0.676	0.000	0.408	0.000	0.408	0.204
<i>Strength</i>	Strong	None	Strong	None	Strong	Weak
Armscor						
<i>Corr. Coeff</i>	−0.036	−0.429	0.090	0.464	0.107	0.179
<i>Strength</i>	Negligible	Strong	Negligible	Strong	Negligible	Negligible
IDC						
<i>Corr. coeff</i>	0.643	0.786*	0.536	0.500	0.643	0.714
<i>Strength</i>	Strong	Very strong	Strong	Strong	Strong	Very strong
CEF						
<i>Corr. coeff</i>	0.630	0.927**	0.852*	−0.371	−0.519	−0.334
<i>Strength</i>	Strong	Very strong	Very strong	Moderate	Strong	Moderate
NECSA						
<i>Corr. coeff</i>	0.764*	0.204	0.408	−0.612	0.612	0.204
<i>Strength</i>	Very strong	Weak	Strong	Strong	Strong	Weak
DBSA						
<i>Corr. coeff</i>	0.685	0.991**	0.739	0.667	0.450	0.865*
<i>Strength</i>	Strong	Very strong	Very strong	Strong	Strong	Very strong
Landbank						
<i>Corr. Coeff</i>	0.144	0.891**	−0.270	0.883**	0.721	0.126
<i>Strength</i>	Negligible	Very strong	Weak	Very strong	Very strong	Negligible
Alexkor						
<i>Corr. coeff</i>	0.000	0.000	0.000	0.000	0.000	0.000
<i>Strength</i>	None	None	None	None	None	None
BIC						
<i>Corr. coeff</i>	0.836*	0.802*	0.315	−0.427	−0.490	−0.089
<i>Strength</i>	Very strong	Very strong	Moderate	Strong	Strong	Negligible
Denel						
<i>Corr. coeff</i>	0.964**	0.964**	0.893**	−0.179	0.036	0.000
<i>Strength</i>	Very strong	Very strong	Very strong	Negligible	Negligible	None
SAA						
<i>Corr. coeff</i>	0.941**	0.906**	0.394	0.433	0.335	0.079
<i>Strength</i>	Very strong	Very strong	Moderate	Strong	Moderate	Negligible
ATNS						
<i>Corr. coeff</i>	0.464	0.786*	0.036	−0.179	0.721	−0.036
<i>Strength</i>	Strong	Very strong	Negligible	Negligible	Very strong	Negligible
ACSA						
<i>Corr. coeff</i>	1.000**	0.893**	0.964**	−0.071	−0.429	0.036
<i>Strength</i>	Very strong	Very strong	Very strong	Negligible	Strong	Negligible

SABC, South African Broadcasting Corporation; SAPO, South African Post Office Ltd; Armscor, Armaments Corporation of South Africa; IDC, Industrial Development Corporation of South Africa Ltd; CEF, Central Energy Fund Pty (Ltd); NECSA, Nuclear Energy Corporation of South Africa; DBSA, Development Bank of Southern Africa; Landbank, Land and Agricultural Bank of Southern Africa; BIC, Broadband Infrastructure Company Pty (Ltd); SAA, South African Airways Ltd; ATNS, Air Traffic and Navigation Services Company; ACSA, Airports Company South Africa.

*, Correlation significant at the 0.05 level.

**, Correlation significant at the 0.01 level.

TABLE 4: Summary of relationship between executive pay and company performance.

Dependent variable	Independent variables	Relationship
Total pay	Revenue	Negligible
	Operating profit or loss	Negligible
	Net profit or loss	Weak**
	ROE	Negligible
	ROA	Negligible
	Solvency ratio	Negligible

ROA, return on asset; ROE, return on equity.

*, Correlation significant at the 0.05 level.

**, Correlation significant at the 0.01 level.

nine related to operating profit or loss, six related to revenue and three related to net profit or loss. There were no significant results observed for ROA.

Only three companies showed no significant relationship between total pay and company performance, although some of the correlation coefficients were *strong*.

This study sought to determine whether there was a relationship between executive pay and company performance in South African Schedule 2 SOEs. When considering the overall dataset results, as seen in Table 4, there was one significant correlation between total pay and net profit or loss. Whilst the relationship was observed to be significant, the actual relationship was *weak*. Hence, it can be concluded that there is a *weak* relationship between total pay and company performance in South African Schedule 2 SOEs.

Discussion

Of the six metrics used to define company financial performance, only net profit or loss showed a significant positive weak relationship with total executive pay when considering the total dataset. The remaining metrics showed non-significant, negligible results. When considering the metrics used to define company financial performance, the results observed in this research supported the consensus of the previous studies for five of the six metrics (operating profit or loss, net profit or loss, ROE, ROA and solvency ratio). The only metric where the literature indicated there should have been a significant relationship, and where none was observed, was for revenue. These are further discussed below.

Revenue

When considering the companies included in this study separately, six of the 14 showed a significant, very strong relationship. However, when considering the total dataset, there was a non-significant, negligible relationship. This non-significant result supports the findings of Ngwenya and Khumalo (2012) and Gigliotti (2013). However, there were a number of previous studies that found results contrary to this observation, which showed significant relationships of various strengths (Bezuidenhout, 2016; Scholtz & Smit, 2012; Theku, 2014; Van der Laan et al., 2010; Zhou, 2010).

Of the studies reviewed, it appears that the results of this research contradict the majority of the studies that included revenue as a measure of performance.

Operating profit or loss

Interestingly, the operating profit or loss metric showed the greatest number of significant correlations (nine of 14 SOEs) when considering the individual companies associated with total executive pay. When considering the whole dataset, it was found that there was a non-significant, negligible positive relationship with total pay. This set of non-significant results supports the findings of four other authors (Bezuidenhout, 2016; Deysel & Kruger, 2015; Scholtz & Smit, 2012; Van der Laan et al., 2010), whereas two other studies disagreed with the results of this research (Shaw, 2011; Theku, 2014).

It appears that the majority of research tends to agree that operating profit or loss exhibits no significant relationship with executive pay.

Net profit or loss

When considering the net profit or loss, only three of 14 SOEs yielded significant, very strong relationships. There was a different result observed when considering the total dataset where a significant weak positive relationship was seen. Shaw (2011) exhibited similar results as observed in this; however, the strength of the correlation was stronger. Similarly, Bezuidenhout (2016) reported a significant weak to moderate relationship, but the relationship was negative in comparison to the positive relationship observed in this study.

As net profit or loss is not one of the more common performance metrics used in research on this topic, the conclusion is not as robust. It appears that there could be a weak relationship between executive pay and net profit or loss.

Return on equity

The ROE was one of the most popular metrics used in the previous studies reviewed, with 16 of 23 studies using ROE as a metric. The results of this study showed that there was no significant relationship observed between total executive pay and ROE in the total dataset. The same (or similar) results were observed by Aduda (2011), Bezuidenhout (2016), Busaule (2014), Deysel and Kruger (2015), Gigliotti (2013), Lam et al. (2013), Shaw (2011), Theku (2014), Uyanik (2017) and Van Blerck (2012).

In comparison to this, six authors observed results that differed from those presented in this research. Zhou (2010), Sigler (2011) and De Wet (2012), as well as Raithatha and Komera (2016), showed a significant positive relationship of different strengths. Bussin and Nel (2015) found that there was a negative relationship. Finally, Bussin and Modau (2015) noted a significant relationship that appeared to be declining over the research period.

Whilst ROE is one of the most common metrics used to define company performance, the evidence from previous studies, as well as this study, points towards ROE not exhibiting a relationship with executive pay.

Return on assets

The ROA was the only financial performance metric used in this research that did not have any significant observations when considering the individual SOEs. It is also important to note that all observations for the total dataset were negligible. This finding supports the findings of five other studies (Aduda, 2011; Gigliotti, 2013; Lam et al., 2013; Luo, 2015; Ngwenya & Khumalo, 2012).

There were a number of other researchers who found significant positive relationships between executive pay and ROA. These included De Wet (2012) – strong relationship; Rahman (2017) – negligible relationship; Raithatha and Komera (2016) – moderate relationship; and Theku (2014) and Uyanik (2017) – weak relationship.

The evidence is not conclusive regarding the relationship between executive pay and ROA. However, the results of this study improve the validity of the non-significant relationship observed.

Solvency ratio

There was a majority of non-significant results observed for this performance metric. An interesting result was the number of negative relationships (of varying strength). For the overall dataset, a non-significant, positive, negligible relationship was observed. This result supported all three of the previous studies that used the solvency ratio as a performance metric (Bezuidenhout, 2016; Lam et al., 2013; Shaw, 2011).

From the evidence observed in previous studies and this research, it can be concluded that there is no significant relationship between executive pay and solvency.

Principal research findings

It was observed in this study that there was limited evidence regarding the pay–performance relationship of SOEs. Executive pay was considered using total pay only, and company financial performance was defined using six metrics (revenue, operating profit or loss, net profit or loss, ROE, return on assets and solvency ratio). The pay–performance relationship was considered for each of the 14 SOEs included in the study as well as the dataset as a whole.

Whilst there were significant relationships observed, executive pay in the South African Schedule 2 SOE environment showed no conclusive relationship with company financial performance. Considering the total executive pay, there was only one significant relationship observed with net profit or loss which

was weak. These results were similar to Shaw (2011). Whilst there were only weak relationships observed for some of the absolute financial measures, there were no significant relationships observed for the financial ratios. This supports the findings of Tosi et al. (2000).

These results support the proposition that there is an agency problem existent in South African SOEs.

Recommendations

Based on the results observed in this research, several considerations need to be catered for regarding the structuring of executive pay. The most important consideration needs to be addressed at a government level – the development of an all-encompassing SOE legislation framework as proposed by the Presidential Review Commission (2012). This will standardise the manner in which SOEs structure the pay of executives, as well as the reporting requirements. This would improve the quality and reliability of the data, as well as improve the relationship between executive pay and company performance.

Further to this, executive performance needs to be evaluated accurately to determine its impact on the performance of the company. Jensen, Murphy and Wruck (2004) indicated that the incorrect performance measures lead to inappropriate pay. Gopalan, Horn and Milbourn (2017) recommended a number of ways in which the attitude of the CEO can become more performance driven. This could include the use of multiple performance metrics, increasing pay based on the risk they are exposed to, reward relative to competitors and the inclusion of non-financial targets to ensure that the bottom line does not become the sole focus. If executive performance can be aligned to the expectations of the shareholder, then the agency problem that exists can be alleviated.

Conclusion

An agency problem appears to exist in South African Schedule 2 SOEs, where the CEOs are being paid in a manner that does not reflect the performance of their companies. This research showed that the pay–performance relationship was tenuous at best, with only weak significant correlations considering executive total pay and company financial performance. Hence, there was no conclusive relationship between executive pay and company financial performance in South African Schedule 2 SOEs.

Acknowledgements

Competing interests

The authors have declared that no competing interests exist.

Authors' contributions

C.C. conducted the research and M.B. cowrote this article.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

References

- 21st Century Pay Solutions. (2010). Global reward trends. Retrieved from [https://www.saica.co.za/Portals/0/about/Committees/Global Reward Trends.pdf](https://www.saica.co.za/Portals/0/about/Committees/Global%20Reward%20Trends.pdf)
- Aduda, J. (2011). The relationship between executive compensation and firm performance in the Kenyan banking sector. *Journal of Accounting and Taxation*, 3(6), 130–139.
- Alves, P., Couto, E., & Francisco, P. (2016). Executive pay and performance in Portuguese listed companies. *Research in International Business and Finance*, 37, 184–195.
- Arries, C. (2014). *A comparative study on specific governance elements in the state-owned entities overseen by the department of public enterprises (DPE) and the department of transport (DOT) in South Africa*. Stellenbosch: Stellenbosch University.
- Attaway, M.C. (2000). A study of the relationship between company performance and CEO compensation. *American Business Review*, 18(1), 77–85.
- Bebchuk, L.A., & Fried, J.M. (2005). Pay without performance: Overview of the issues. *Journal of Applied Corporate Finance*, 17(4), 8–23. <https://doi.org/10.1111/j.1745-6622.2005.00056.x>
- Bezuidenhout, M.L. (2016). *The relationship between CEO remuneration and company performance in South African state-owned entities*. Johannesburg: University of South Africa.
- Bosse, D.A., & Phillips, R.A. (2016). Agency theory and bounded self-interest. *Academy of Management Review*, 41(2), 276–297. <https://doi.org/10.5465/amr.2013.0420>
- Brown, L.D., & Caylor, M.L. (2006). Corporate governance and firm valuation. *Journal of Accounting and Public Policy*, 25(4), 409–434. <https://doi.org/10.1016/j.jaccpubpol.2006.05.005>
- Bruce, A., Buck, T., & Main, B.G.M. (2005). Top executive remuneration: A view from Europe. *Journal of Management Studies*, 42(7), 1493–1506. <https://doi.org/10.1111/j.1467-6486.2005.00553.x>
- Busaale, D.M. (2014). *The relationship between financial performance and executive compensation of commercial banks in Kenya*. Nairobi: University of Nairobi.
- Bussin, M. (2015). CEO pay-performance sensitivity in the South African context. *South African Journal of Economic and Management Sciences*, 18(2), 232–244. <https://doi.org/10.4102/sajems.v18i2.838>
- Bussin, M. (2016). *The remuneration handbook for Africa* (3rd edn.). Randburg: Knowres Publishing.
- Bussin, M., & Modau, M.F. (2015). The relationship between chief executive officer remuneration and financial performance in South Africa between 2006 and 2012. *South African Journal of Human Resource Management*, 13(1), a668. <https://doi.org/10.4102/sajhrm.v13i1.668>
- Bussin, M., & Nel, M. (2015). Relationship between CEO remuneration and company financial performance in the South African retail and consumer goods sector. *Acta Commercii*, 15(1), a240. <https://doi.org/10.4102/ac.v15i1.240>
- Campello, M., Graham, J.R., & Harvey, C.R. (2010). The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics*, 97(3), 470–487. <https://doi.org/10.1016/j.jfineco.2010.02.009>
- Cooper, D.R., & Schindler, P.S. (2014). *Business research methods* (12th edn.). New York, NY: McGraw-Hill/Irwin.
- De Wet, J.H.V.H. (2012). Executive compensation and the EVA and MVA performance of South African listed companies. *Southern African Business Review*, 16(3), 57–80.
- Deysel, B., & Kruger, J. (2015). The relationship between South African CEO compensation and company performance in the banking industry. *Southern African Business Review*, 19(1), 137–169. <https://doi.org/10.25159/1998-8125/5837>
- Erick, T.K., Kefah, B.A., & Nyaoga, R.B. (2014). The relationship between executive compensation and financial performance of insurance companies in Kenya. *Research Journal of Finance and Accounting*, 5(1), 113–122.
- Field, A. (2009). *Discovering statistics using SPSS* (3rd edn.). London: Sage.
- Frydman, C., & Jenter, D. (2010). CEO Compensation. *Annual Review of Financial Economics*, 2, 75–102. <https://doi.org/10.1146/annurev-financial-120209-133958>
- Gigliotti, M. (2013). The compensation of top managers and the performance of Italian firms. *International Journal of Human Resource Management*, 24(4), 889–903. <https://doi.org/10.1080/09585192.2012.702317>
- Gopalan, R., Horn, J., & Milbourn, T. (2017). Compensation targets that work. *Harvard Business Review*, 95(5), 102–107.
- Graham, M., & Winfield, J. (2010). *Understanding financial statements*. Cape Town: Cape Business Seminars.
- Hambrick, D.C., & Quigley, T.J. (2014). Toward more accurate contextualization of the CEO effect on firm performance. *Strategic Management Journal*, 35(4), 473–491. <https://doi.org/10.1002/smj.2108>
- Hsiao, C. (2007). Panel data analysis—advantages and challenges. *Test*, 16(1), 1–22. <https://doi.org/10.1007/s11749-007-0046-x>
- Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jensen, M. C., & Murphy, K. J. (1990). CEO incentives—It's not how much you pay, but how. *Journal of Applied Corporate Finance*, 3(3), 36–49. <https://doi.org/10.1111/j.1745-6622.1990.tb00207.x>
- Jensen, M.C., Murphy, K.J., & Wruck, E.G. (2004). *Remuneration: Where we've been, how we got to here, what are the problems, and how to fix them*. Working Paper No. 44/2004. European Corporate Governance Institute. <https://doi.org/10.2139/ssrn.561305>
- Jensen, M.C., Murphy, K.J., & Wruck, E.G. (2004). *Remuneration: Where we've been, how we got to here, what are the problems, and how to fix them*. ECGI - Finance Working Paper No. 44/2004. Brussels, Belgium: European Corporate Governance Institute. <https://doi.org/10.2139/ssrn.561305>
- Lam, K.C.K., McGuinness, P.B., & Vieito, J.P. (2013). CEO gender, executive compensation and firm performance in Chinese-listed enterprises. *Pacific Basin Finance Journal*, 21(1), 1136–1159. <https://doi.org/10.1016/j.pacfin.2012.08.006>
- Luo, Y. (2015). CEO power, ownership structure and pay performance in Chinese banking. *Journal of Economics and Business*, 82, 3–16. <https://doi.org/10.1016/j.jeconbus.2015.04.003>
- Marshall, R., & Lee, L.-E. (2016). *Are CEOs paid for performance? Evaluating the effectiveness of equity incentives*. New York, USA: MSCI Inc.
- Murphy, K.J. (1999). Executive compensation. In O. Ashenfelter & D. Card (Eds.), *Handbook of labor economics* (Vol. 3, pp. 2486–2557). San Diego, USA: North-Holland.
- Nel, M. (2012). *Sensitivity of guaranteed cost to company of CEOs in the South African retail and consumer goods sector*. Johannesburg: Gordon Institute of Business Science.
- Ngwenya, S., & Khumalo, M. (2012). CEO compensation and performance of state owned enterprises in South Africa. *Corporate Ownership and Control*, 10(1 A), 97–109. <https://doi.org/10.22495/cocv10i1art9>
- Odainke, H.N., & Simpson, S.N.Y. (2013). Ensuring accountability in state-owned enterprises: Examining the role of annual reports from a middle income country's perspective. *The Journal of Institute of Public Enterprise*, 36(1&2), 1–20.
- O'Reilly, C.A., & Main, B.G.M. (2010). Economic and psychological perspectives on CEO compensation: A review and synthesis. *Industrial and Corporate Change*, 19(3), 675–712. <https://doi.org/10.1093/icc/dtp050>
- Pallant, J. (2007). *SPSS survival manual* (3rd edn.). New York, NY: Open University Press.
- Polakow, D. (2010). If a portfolio manager who cannot count finds a four-leaf clover, is he still lucky? *Investment Analysts Journal*, 39(72), 53–71. <https://doi.org/10.1080/10293523.2010.11082523>
- Presidential Review Commission. (2012). *Growing the economy—bridging the gap: Presidential review committee on state-owned entities*. Pretoria: The Presidency of the Republic of South Africa.
- Price Waterhouse Coopers. (2012). *State-owned companies: The new Companies Act, PFMA and King III in perspective*. Retrieved from <https://www.pwc.co.za/en/assets/pdf/companies-act-steering-point-4.pdf>
- Rahman, M. (2017). Determinants of CEO compensation: Empirical evidence from listed banks of Bangladesh. In *The 7th international conference of the Japanese accounting review*. 7 January 2017. Kobe, Japan.
- Raithatha, M., & Komera, S. (2016). Executive compensation and firm performance: Evidence from Indian firms. *IIMB Management Review*, 28(3), 160–169. <https://doi.org/10.1016/j.iimb.2016.07.002>
- Razali, N.M., & Wah, Y.B. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*, 2(1), 21–33.
- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6th edn.). Harlow, UK: Pearson Education Ltd.
- Scholtz, H.E., & Smit, A. (2012). Executive remuneration and company performance for South African companies listed on the Alternative Exchange (AltX). *Southern African Business Review*, 16(1), 22–38.
- Shaw, P. (2011). *CEO pay-performance sensitivity in South African financial services companies*. Johannesburg: Gordon Institute of Business Science.
- Sigler, K. (2011). CEO compensation and company performance. *Business and Economic Journal*, 2011(31), 1–8.

- Theku, M. (2014). *CEO compensation sensitivity to performance in the South African mining industry*. Johannesburg: Gordon Institute of Business Science.
- The Economist. (2012). American chief executives are not overpaid. In *The Economist*, 8 September 2012, p. 58. London, UK: The Economist Group Ltd.
- Tosi, H.L., Werner, S., Katz, J.P., & Gomez-Mejia, L.R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management*, 26(2), 301–339. <https://doi.org/10.1177/014920630002600207>
- Trochim, W.M.K. (2006). The research methods knowledge base. Retrieved from <https://www.socialresearchmethods.net/kb>
- Uyanik, O. (2017). *Fair value, firm performance ratios and CEO compensation*. Småland: Linnaeus University.
- Van Blerck, T.G. (2012). *The relationship between executive remuneration at financial institutions and economic value added*. Johannesburg: Gordon Institute of Business Science.
- Van der Laan, G., Van Ees, H., & Van Witteloostuijn, A. (2010). Is pay related to performance in The Netherlands? An analysis of Dutch executive compensation, 2002–2006. *The Economist*, 158(2), 123–149. <https://doi.org/10.1007/s10645-010-9140-7>
- Ward, M., & Price, A. (2017). *Turning vision into value*. Johannesburg: Van Schaik Publishers.
- Wegner, T. (2016). *Applied business statistics: Methods and excel-based applications*. Cape Town: Juta & Company, Ltd.
- Wendy Ovens & Associates. (2013). *The role and significance of state owned enterprises, public entities and other public bodies in the promotion of urban growth and development in South Africa*. Johannesburg: Wendy Ovens & Associates.
- Zhou, X. (2010). CEO pay, firm size, and corporate performance: Evidence from Canada. *The Canadian Journal of Economics*, 33(1), 213–251. <https://doi.org/10.1111/0008-4085.00013>