



The year-on-year analysis of the relationship between chief executive officer remuneration and state-owned company performance in South Africa



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Dates:

Received: 08 June 2020

Accepted: 13 Oct. 2020

Published: 15 Dec. 2020

How to cite this article:

Bezuidenhout, M.L., & Bussin, M.H. (2020). The year-on-year analysis of the relationship between chief executive officer remuneration and state-owned company performance in South Africa. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, 18(0), a1411. <https://doi.org/10.4102/sajhrm.v18i0.1411>

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Orientation: Executive remuneration remains very much at the centre of academic and policy debates. There seems to be a lack of consensus on the origins of the substantial increase in executive remuneration.

Research purpose: This study aimed to further explore the relationship between chief executive officer (CEO) remuneration and state-owned company (SOC) performance by investigating the year-on-year behaviour of the relationship. The observed trends regarding the direction and strength of the relationship inform business and economic occurrences that provide an organisation with an in-depth understanding of the relationship.

Motivation for the study: The rationale for this analysis was to broaden the understanding of the behaviour of the relationship over a period by studying the year-on-year correlation coefficients.

Research approach/design and method: This quantitative, longitudinal study collected secondary data from the annual reports of 18 Schedule 2 SOC's over the period 2006 to 2014. Spearman's rank correlation coefficient was the principal statistical technique utilised in the study.

Main findings: Overall, the results revealed a fluctuation in the relationship between CEO remuneration and SOC performance with turnover having the most stable relationship with both fixed pay and total remuneration.

Practical/managerial implications: The use of discretion in the determination of CEO remuneration within SOC's is likely to attract attention considering the fluctuating, sometimes volatile, relationship between the constructs. This will create the motivation for dynamic-policy frameworks to ensure consistency and fairness.

Contribution/value add: The value of this research is that SOC remuneration committees now have empirical evidence of the importance that turnover plays as a performance measure.

Keywords: business performance; CEO compensation; CEO remuneration; fixed pay; state-owned companies; state-owned entities; South Africa.

Introduction

South African state-owned companies (SOCs) have been plagued by financial misalignment and ineffective corporate governance (Timothy, 2018). Taking into consideration that most of the Schedule 2 SOC's directly affect the lives of South African citizens because of the services and infrastructure they provide, poor governance as well as a dearth of financial sustainability at some of these SOC's placed them in the spotlight during the past few years (Accountant General South Africa, 2016). This, as well as the seemingly poor performance of SOC's, resulted in an increased focus on South African SOC's (Bussin & Ncube, 2017).

It is important to determine the year-on-year analysis of the relationship between chief executive officer (CEO) remuneration and business performance because of the division between ownership and management in these companies. This leads to an agency problem, whereby managers follow their self-interest above the interest of stakeholders (Bognanno, 2014; Kang, Kumar, & Lee, 2006). This is specifically true in the SOC's' environment because the principal is unable to monitor the CEO as the agent (Li & Xia, 2007).

Even though the research on executive remuneration is going as far back as the work of Berle and Means (1932), there remains a virtual void in empirical research into CEO remuneration in South

African SOCs (Marimuthu & Kwenda, 2019). Bearing in mind the important role of SOCs in the South African economy, this omission could have adverse effects (Govender, 2010). Many studies model the relationship over the period studied; however, this study investigates whether the year-on-year relationship between CEO remuneration and SOC performance has strengthened and/or changed the direction over time to provide an in-depth understanding of the behaviour within, and across, a year(s).

Problem investigated

Recently, the public's attention has been drawn to the SOCs because of the revelations of corrupt practices at these SOCs. In some instances, these were orchestrated through poor oversight by the boards and delays in taking appropriate action where wrongdoing was revealed (Department of Public Enterprises, 2019). Furthermore, numerous SOCs are facing financial difficulties that have led to credit-rating downgrades, increasing financial deficits (Krugel, 2018). Bearing in mind the poor performance of South African SOCs with highly remunerated CEOs and the importance of SOCs to the economy altogether (PriceWaterhouseCoopers, 2015), the performance of SOCs needs to be investigated (Mbo & Adjasi, 2013).

Most of the previous studies conducted in relation to executive remuneration in South Africa have mostly related to the relationship between executive pay and a company's financial performance within private companies (Bussin & Blair, 2015; Bussin & Modau, 2015; Kuboya, 2014; Scholtz & Smit, 2012; Shaw, 2011; Van Blerck, 2012). Limited academic research, however, has been undertaken to investigate the trend in the relationship between CEO's remuneration and company performance over 9 years. It is acknowledged that analysing the relationship on a year-on-year basis is uncommon; however, conducting a trend analysis allows one to assess how performance has changed over time. By doing this, analysing the trend becomes a powerful tool for strategic planning by creating a plausible, detailed picture of how the future of SOCs might look like (OECD, 2019).

Research objectives

Considering the research gap as discussed above, along with the relevance of the topic from a social justice point of view, the primary objective of this study is to enhance the understanding of the overall results found whilst using the multivariate regression approach. The specific objective is to further explore the behaviour of the relationship between CEO remuneration and SOC performance on a year-to-year basis over the period 2006 to 2014.

The period 2006 to 2014 provided the researchers with an opportunity to analyse and test the influences of different CEO remuneration components on the strength of the relationship amongst CEO remuneration and SOC performance. The importance of conducting a trend analysis is to evaluate the performance of SOCs. By

evaluating the changes and percentage movements, one can evaluate the performance of the SOC (DBS Partners, 2018). The trend will further help stakeholders determine whether the SOCs are deteriorating or improving in terms of their performance. The study contributes to knowledge by providing empirical support on the behaviour of the relationship between CEO remuneration and company performance on a year-to-year basis.

Literature review

Theoretical grounding

The theoretical foundation of this article resides in agency theory, and Li and Xia (2007) highlight the significance of the agency problem in SOCs. In mainstream finance, according to Erturk, Froud, Johal and Williams (2005), the agency theory is concerned with how appropriate pay for performance can incentivise executives to deliver value for stakeholders. The agency theory hypothesises that a contracting problem exists involving principals and agents who have opposing interests (Fama & Jensen, 1983). As for SOCs, the CEOs are the agents. Consistent with the agency theory, remuneration plans should be designed to motivate managers to make decisions in such a way that would maximise shareholders' prosperity and minimise the manager-shareholder agency problem (Ngwenya, 2016).

Even though the agency theory has been regarded as the dominant underlying principle in explaining executive remuneration, there are researchers who question the exactness of this opinion. According to Filatotchev and Allcock (2010), to mention but one example, the agency theory has been critiqued as under-socialised owing to its inability to account for cross-country differences. Li and Xia (2007) also question the competence of a principal to oversee the agent. Li and Xia (2007) further maintain that this skill shortage leads to further possibilities for SOC executives engaging in thriftless projects, to the benefit of their interest. In addition, the predictive ability of agency theory is continuously questioned. Several studies found a limited or weak correlation between CEO pay and business performance (Gopalan, Milbourn, Song, & Thakor, 2014; Otto, 2014). Aguinis, Gomez-Mejia, Martin and Joo (2018) concur that the agency theory does not predict a very strong relationship between CEO pay and business performance. However, Aslam, Haron and Tahir's (2019) findings support the notion that the pay-performance framework supports the agency theory.

Chief executive officer remuneration

Executive remuneration packages typically include basic salary, benefits, short-term incentives (STIs) and long-term incentives, hence a mix of fixed and variable pay (Bussin, 2012). Even though there are multiple explanations for the composition of executives' total annual package, definitions of the 21st Century Pay Solutions Group (2010) for fixed pay

(FP), STIs and total remuneration (TR) are adopted for this study. These definitions are as follows:

- FP comprises basic salary and benefits. It is all the guaranteed components of the remuneration package.
- STIs measure performance of up to 1 year and typically include profit share, gainshare, commission and bonus schemes.
- TR comprises FP and STIs.

Even though the poor performance of South African SOCs is widely publicised, many do not follow the remuneration guidelines issued in 2011 by the Department of Public Enterprises (DPE) that require SOC remuneration to be benchmarked with the private sector (Marimuthu & Kwenda, 2019). Davies (2013) postulates that executive remuneration frameworks and practices are inconsistent amongst South African SOCs, having a direct impact on their performance which is under constant public scrutiny, especially when these packages are disconnected from the firm's performance.

Measures of business performance

Even though business performance can be defined as the overall performance of a business (Musvasva, 2013, p. 19), there is no consensus on what exactly is meant by business performance (Jeppson, Smith, & Stone, 2009). Two seminal studies by Jensen and Murphy (1990) and Hall and Liebman (1998) formalised the pay-to-performance ratio that examined the sensitivity of remuneration concerning company performance. In a study conducted by Murphy (1998), it has been found that there is no definite development in the utilisation of performance measures whilst studying the relationship between business performance and CEO remuneration. Even though academics have recorded several indicators of business performance, there are contradictory opinions on the indicators that are the most appropriate ones (Motala & Fourie, 2014).

Bussin (2015) postulates that the economic theories of remuneration propose that business performance influences an executive's remuneration only to such a degree that it functions as a substitute for unobservable executive competence. Whilst these theories propose a relationship between remuneration and perceived performance, most studies differ concerning the measure of business performance (Bussin, 2015). There is a difference in opinion vis-à-vis the optimal measure of business performance in observed remuneration literature. The reason is that researchers operationalise the company performance in various ways (Abowd, 1990; Attaway, 2000; Jeppson et al., 2009). All through previous studies, the financial performance of a business is determined by using various equations, percentages and ratios. Financial measures of business performance can be grouped into three major classifications: absolute financial performance measures (audited measures within a specific year), financial performance ratios (ratios derived from absolute performance measures) and market performance measures (performance within equity markets) (Bussin, 2015).

Although there are various potential predispositions engrained in utilising either market- or accounting-based business performance (Gentry & Shen, 2010; Murphy, 1999), in most cases, researchers use accounting-based measures as measures of business performance (Demirer & Yuan, 2013). The reason for this is that these measures can be considered as the fulfilment of the economic goals of a business (Barney, 2002, p. 37; Venkatraman & Ramanujam, 1986). Seminal authors, such as Ittner, Larcker and Rajan (1997), suggest that accounting measures have been used for several years as significant measures of business performance. For this study, mostly accounting measures were utilised. These measures can be verified and are universally known (Murphy, 1999).

Empirical evidence on chief executive officer remuneration and company performance

Research by Jensen and Murphy (1990) has shown that in the late 1970s, CEO remuneration changed by \$3.25 for every \$1000 change in shareholder wealth. Bootsma (2010), in a study conducted on Dutch-listed companies during the period 2002 to 2007, established that the relationship between CEO remuneration and business performance strengthened after the inception of the Dutch corporate governance code in 2004. This was concurred by Duffhues and Kabir (2008). Frydman and Saks (2010) have found that the relationship between executive directors' remuneration and business performance has increased since the 1970s because of increased incentives.

In South Africa, Otieno (2011), studying 21 Schedule 2 South African SOCs, during 2007–2009, found a positive relationship between executive remuneration and company performance. Shaw (2011), studying South African banks from 2005 to 2010 found that although there was a moderate to a strong relationship between corporate performance and CEO remuneration, the relationship experienced a decline. Scholtz and Smit (2012) found a strong relationship between executive director remuneration and performance measures such as turnover, total assets and share price. Bussin and Modau (2015) discovered that after the 2008 financial crisis, the relationship between CEO remuneration and performance decreased. Marimuthu and Kwenda (2019) found an inverse relationship between executive remuneration and the financial performance of South African SOCs (Schedule 1, 2, 3a, 3b and 3d SOCs). There is, however, a dearth in research investigating that the year-on-year analysis is to explore the behaviour of the relationship between CEO remuneration and company performance on a year-to-year basis, especially within South African SOCs.

Research method

This study was a longitudinal, empirical, quantitative study, and the desktop study was archival by nature.

Research context

The research data were obtained for South African Schedule 2 SOCs for the period 2006 to 2014. According to the

Department of National Treasury, there were 21 South African Schedule 2 SOCs as on 30 April 2015. Schedule 2 SOCs were chosen for this study as they are regarded as major public entities, which are sovereign entities, partly or wholly owned by the state. Their mandate is to achieve the various socio-economic plans of the government. It is expected of Schedule SOCs to realise a two-fold commercial and development directive (Accountant General South Africa, 2016).

Sampling

The total population of 21 SOCs was used in the study and because of the small target population, all SOCs were included. However, the 21 SOCs had to meet the following conditions to be included in this study, which was the accessibility of:

- The annual reports from either the McGregor BFA database or the SOCs' websites.
- A 9-year financial history for the SOCs, including the remuneration of the CEOs.

Eighteen of the 21 Schedule 2 SOCs were, therefore, included in the study after the implementation of the selection criteria.

Measuring variables

Because the objective of this study was to establish whether CEO remuneration varied according to SOC performance, the CEO remuneration components were the dependent variables, and the SOC performance components were independent variables. For this study, there were no control variables.

Dependent variables

The dependent variables for this study were CEO's FP, STIs and TR. In general, severance packages were not included in the data analysis. However, there were exceptions where the severance pay was included in the analysis. The reason is that, in the annual report, there was no clear distinction between a CEO's FP and severance pay. The researchers acknowledge that these inclusions could have influenced the results of this study.

Independent variables

The independent variable for this study was the financial performance of the SOCs. The investigation into SOC performance was approached from an organisational theory perspective. This study further draws on research conducted by the Department of Public Enterprises on measures identified in driving the performance of SOCs under its authority (Anon, 2016). The SOC performance components in this analysis were turnover (revenue), operating profit, net profit (loss), liquidity ratio, solvency ratio, return on capital employed, return on equity, audit opinion (AO) and fruitless and wasteful expenditure. Even though it is acknowledged that turnover is the single most prominent driver of any element of CEO pay and that is generally used as a proxy for company size, the latter was not investigated in this article.

Considering that the AO and irregular, fruitless and wasteful expenditure were not utilised in prior studies, they are discussed in more detail.

The following AO categories were used in this research (Schmidt, 2019):

- An *unqualified opinion*. The term 'unqualified' suggests that in the auditor's opinion, the financial statement (1) conforms to generally accepted accounting principles (GAAPs) and (2) objectively depicts the SOCs' financial accounts.
- A *qualified opinion* means that the auditor finds that reports comply with GAAPs, except in a few areas. For these areas, the auditor cannot assert compliance. Auditors report the audit outcome as 'qualified' when they are not confident in depicting it either 'unqualified' or 'adverse'.
- An *adverse opinion* means that the auditor finds one or both of the following: (1) statements do not fairly represent the SOCs accounts and (2) the audited statements do not comply with GAAPs.
- An *emphasis of matter* is a paragraph included in the annual report to draw attention to something, so the reader can better understand the financial statements. An example of when such a paragraph may be included is when there is a major catastrophe that has a significant effect on the SOCs' financial position.
- With a *Disclaimer of opinion*, an accurate audit report could not be completed. With this, auditors choose not to render an opinion. There are various reasons why an auditor would include a disclaimer of opinion (Schmidt, 2019).

Irregular, fruitless and wasteful expenditure was categorised as follows (Le Roux, 2018):

- *Irregular expenditure* is an expenditure that is earned in breach of, or that is not complying with any related legislation. It also includes expenditure in contravention of, or that is not according to a requirement of the supply and demand chain management policy, or any applicable laws.
- *Unauthorised expenditure* refers to the expenditure that SOCs incurred without provision having been made for it in the approved budget.
- *Fruitless and wasteful expenditure* refers to the expenditure that was made in vain and could have been avoided, had reasonable care been taken (Accountant General South Africa, 2017).

Research procedure

Secondary, longitudinal data were obtained from the SOCs' annual financial statements in the annual reports. For this study, secondary data provided relevancy and addressed the research objectives whilst longitudinal data allow researchers to explore movements and changes overtime (Crossman, 2019).

Since the financial year-end of all the SOCs is 31 March, the remuneration and financial data were reflected as at

31 March of each year-end. Chief executive officer turnover was considered given that CEOs changed during the study. Chief executive officer remuneration values may therefore not have related to a full financial year (01 April to 31 March). During the 5 years, there were 36 CEO position changes. To equalise for this, the data of the CEO with the longest office term during the financial year were included. The remuneration of these CEOs was annualised to ensure that it represents a full year's remuneration. The reasons for this were not to: (1) omit the 36 observations from the sample (the calculations in annualising the data were straightforward) and (2) distort remuneration data. Baptista (2010) employed a similar approach.

There were six instances where the acting CEOs' remuneration was used. In these instances, the researchers utilised unadjusted CEO remuneration. In three instances, termination payments were incorporated in the FP part of the CEOs package. Therefore, the researchers used the previous years' FP by calculating a percentage package increase for the specific year, not to misrepresent the remuneration data. In all three cases, the researchers utilised the projected salary increase. This was based on information obtained from the SOC's annual reports.

Statistical analysis

The software SPSS (version 22) was used to analyse the data. Non-parametric correlation statistics were used to test the strength of the correlation between CEO remuneration components and SOC performance components per year to further explore the behaviour of the relationship on a year-to-year basis.

Because of the small sample size, the Spearman's rank-order correlation coefficient was employed to explore the relationship between each measure of CEO remuneration and SOC performance. The correlation coefficients per year were used to chart the trend between CEO remuneration and SOC performance on year-on-year basis across the nine years. The value denotes the strength and direction of the relationship varying between -1 and +1 (Bryman & Cramer, 2011). For this study, the researchers employed a cut-off point of $r \geq 0.30$ (medium effect) at $p \leq 0.05$ to determine the practical significance of correlation coefficients (Cohen, 1988).

Ethical considerations

University of South Africa, College of Economic and Management Sciences Research Ethics Review Committee (Ethical clearance number: 2013_2013_CEMC_022).

Results and findings

Descriptive statistics of the total data set

For this study, the median results will be reported on because there were several cases where there were variations in the descriptive results amongst the mean and median values for CEO remuneration and SOC performance.

According to McChesney (2017), medians ignore all outliers because they ignore all values in a data set. In cases where data sets have outliers (when describing the median), the central tendency of the data regularly presents a greater predictable data value than the mean (Weiers, 2010). Table 1 shows a summation of the CEO remuneration for the total data set over 9 years. The data set consisted of a panel of 162 observations. Research making use of time series data (data collected over a period) implies that one variable is tested several times within the same time interval. Panel data are a mix of cross-sectional (data collected at one point in time) and time series data (Dougherty, 2002). Panel data are a special type of pooled data, in which the same cross-sectional unit is surveyed over a period and has a space- as well as a time dimension (Gujarati & Porter, 2009). In the present study, panel data were used because the TR of the CEOs of all 18 SOC's was tested against several variables during the years 2006 to 2014, and the data therefore became multidimensional (Resnick, 2013).

Because of incomplete CEO demographic data for some years, the researcher adopted an unbalanced data panel approach with appropriate regression estimates, by using EViews 8 software. For company performance measures, the researcher followed a balanced panel data approach.

The difference between FP and TR can be ascribed to the different industries in which the SOC's function. This could influence their TR. A possible explanation for the nil STI values could be that (1) either there are fewer CEOs who earned STIs, or (2) the STIs were not individually reported on. It is further observed that the median of CEO remuneration was lower than the mean throughout the study period. This suggests that the data are skewed to the right. This is in line with a study conducted by Aguinis, Martin, Gomez-Mejia, O'Boyle and Joo (2018), wherein it has been found that the mean pay levels of American CEOs were higher than the median. Table 2 presents a summary of the business performance components for the total data set over the 9 years.

From Table 2, results for the SOC performance components were predominantly skewed and not normally distributed.

Results of the year-on-year analysis

The outcomes of Spearman's correlation were assessed, by using the values of the correlation coefficient as applied by Nel (2012) to explore the relationship between CEO

TABLE 1: Descriptive statistics: Chief executive officer remuneration components for the data set (2006–2014).

Descriptive statistics	Fixed pay (R'000)	Short-term incentives (R'000)	Total remuneration (R'000)
Mean	2 863 266, 34	1 111 574, 88	4 663 172, 36
Median	2 582 000, 00	600 000, 00	3 989 017, 50
Standard deviation	1 348 99, 09	1 319 400, 00	2 863 294, 56
Minimum	468 000, 00	0	636 000, 00
Maximum	7 751 643, 00	6 473 000, 00	19 108 837, 00

remuneration and the performance of South African Schedule 2 SOCs on a year-on-year basis over 9 years.

The focus is on the strength and direction of the relationship and not the statistical significance of a correlation per se as the sample consists of 18 of the 21 SOCs and generalisability is not of relevance. These results were used to illustrate and discuss the strength and direction of the relationship between CEO remuneration and SOC performance. The correlation coefficients per year were used to chart the trend over the 9-year period.

Trends: Fixed pay and state-owned companies performance

The correlation matrix that shows the direction and strength of the linear relationship between the variables is presented in Table 3.

The results indicate that there was a strong correlation between FP and five measures of SOC performance: turnover, operating profit, net profit, liquidity and ROCE. However,

the relationship between FP with liquidity and ROCE was mainly negative. From Table 3, it is evident that over the 9-year period, there is a very strong statistically significant positive relationship between PF and turnover per year. Figure 1 shows the strength of the relationship between FP and SOC performance measures from 2006 to 2014.

From Figure 1, a varying relationship is evident. A very strong positive relationship between FP and turnover existed throughout the period. Turnover appeared to have the most stable relationship with FP. However, this stable relationship does not infer that the relationship strengthened. It simply implies that the values are similar and that they are moving in the same direction. The relationship with the other components of SOC performance (except operating profit) appeared to vary between a positive and negative weak to very weak linear relationship during the study period. Unmistakably, there was a steep decrease during 2013 in the strength of the linear relationship between FP and all the SOC performance components (excluding turnover). This infers that during

TABLE 2: Descriptive statistics: Business performance of total data set (2006–2014).

Descriptive statistics	Turnover	Operating profit	Net profit	Liquidity ratio	Solvency ratio	ROCE	ROE	IFWE
Mean	12 846 687 444, 51	2 024 505 570, 55	1 198 456 114, 76	2.12	2.21	0.13	0.10	149 434 056, 36
Median	3 906 150 000, 00	427 877 500, 00	187 401 000, 00	1.29	1.64	0.07	0.07	0
Standard deviation	22 409 083 681, 46	4 172 812 904, 44	3 880 533 795, 92	2.07	1.54	0.45	0.53	756 117 926, 82
Minimum	93 908 207	-11 047 000 000, 00	-11 499 000 000, 00	0.44	0.82	-0.48	-1.90	0
Maximum	139 506 000 000, 00	22 329 000 000, 00	37 585 000 000, 00	10.49	9.77	4.46	4.99	8 300 500 000, 00

ROCE, return on capital employed; ROE, return on equity; IFWE, irregular, fruitless and wasteful expenditure.

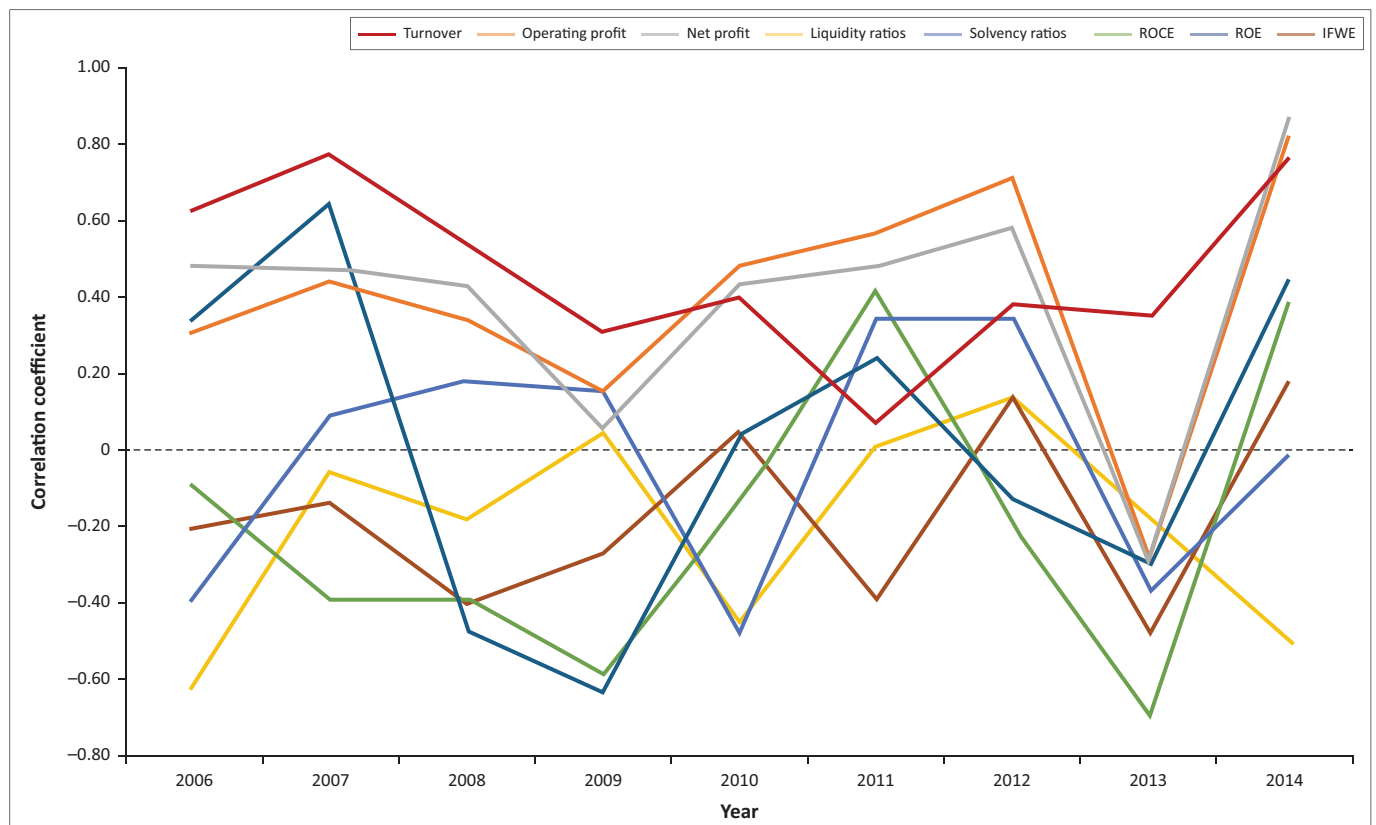


FIGURE 1: Fixed pay and state-owned companies' performance. ROCE, return on capital employed; ROE, return on equity; IFWE, irregular, fruitless and wasteful expenditure.

TABLE 3: Correlation: Fixed pay and state-owned companies' performance ($n = 18$ per year).

Company performance measure	2006	2007	2008	2009	2010	2011	2012	2013	2014
Turnover	0.63**	0.51*	0.51*	0.77**	0.71**	0.51*	0.64**	0.65**	0.74**
OP	0.43	0.45	0.28	0.28	0.55*	0.44	0.58*	0.10	0.72**
NP	0.41	0.37	0.17	-0.19	0.29	0.34	0.49*	-0.23	0.66**
LR	-0.26	-0.34	-0.17	-0.14	-0.23	-0.16	0.09	-0.55*	-0.41
SR	-0.22	-0.26	-0.15	-0.11	-0.07	-0.04	-0.00	-0.38	-0.23
ROCE	-0.26	-0.01	-0.35	-0.27	-0.17	0.04	-0.34	-0.50*	0.19
ROE	0.36	-0.43	-0.34	-0.20	0.12	-0.12	-0.00	-0.20	0.14
IFWE	0.53*	-0.02	-0.00	-0.18	0.07	0.14	0.17	-0.23	-0.18

OP, operating profit; NP, net profit; LR, liquidity ratio; SR, solvency ratio; ROCE, return on capital employed; ROE, return on equity; IFWE, irregular, fruitless and wasteful expenditure.

*, $p < 0.05$ (2-tailed); **, $p < 0.01$ (2-tailed).

TABLE 4: Short-term incentives and state-owned companies' performance.

Company performance measure	2006 ($n = 13$)	2007 ($n = 15$)	2008 ($n = 12$)	2009 ($n = 12$)	2010 ($n = 13$)	2011 ($n = 12$)	2012 ($n = 11$)	2013 ($n = 10$)	2014 ($n = 10$)
Turnover	0.63*	0.77**	0.55	0.31	0.40	0.07	0.38	0.35	0.76*
OP	0.31	0.44	0.34	0.15	0.48	0.57	0.71*	-0.28	0.82**
NP	0.48	0.47	0.43	0.05	0.43	0.48	0.58	-0.29	0.86**
LR	-0.62*	-0.09	-0.18	0.04	-0.45	0.01	0.11	-0.19	-0.53
SR	-0.39	0.09	0.18	0.15	-0.48	0.34	0.36	-0.37	-0.19
ROCE	-0.10	-0.39	-0.40	-0.59*	-0.14	0.42	-0.19	-0.70*	0.38
ROE	0.34	-0.64*	-0.47	-0.64*	0.32	0.25	-0.13	-0.30	0.42
IFWE	-0.21	-0.15	-0.41	-0.27	0.05	-0.39	0.14	-0.48	0.18

OP, operating profit; NP, net profit; LR, liquidity ratio; SR, solvency ratio; ROCE, return on capital employed; ROE, return on equity; IFWE, irregular, fruitless and wasteful expenditure.

*, $p < 0.05$ (2-tailed); **, $p < 0.01$ (2-tailed).

2013, the linear relationship between FP and SOC performance components was at an all-time low. In 2014, a rising trend in the strength of the linear relationship amongst FP and nearly all the SOC performance components is noted.

Trends: Short-term incentives and company performance

Table 4 presents the correlation coefficients (r_s) of the relationship between STIs and all the SOC performance components per year.

Evident from the results is a statistically significant strong or very strong positive correlation between STIs and turnover, operating profit and net profit in several years. The results further show a strong negative linear relationship between STIs and liquidity ratio (2006), and return on capital employed (2009, 2013) and return on equity (2007, 2009) in several years. Figure 2 illustrates the direction of the relationship between STIs and the components of SOC performance components for the period 2006 to 2014.

Evident from Figure 2 is a fluctuating linear relationship between STIs and SOC performance. Furthermore, these trends were inconsistent during the 9 years.

Trend: Total remuneration and state-owned companies' performance

Table 5 displays the Spearman correlation coefficients and their associated p -values for the relationship between TR and SOC performance.

The results indicate a strong to a very strong statistically significant positive relationship between TR and turnover. Nearly all the other SOC performance components exhibited

varying levels of correlation over time - stronger in some instances and weaker in other instances.

The strength of the relationship between TR and SOC performance components from 2006 to 2014 is illustrated in Figure 3. Once more, turnover seemed to have the steadiest trend in the strength of the relationship.

Evident from Figure 3 is an instability in the strength of the linear relationship between TR and SOC performance components. From Figure 3, we can observe that there is a distinct diminishing trend in the strength of the relationship during 2013.

Trend: Audit opinion and state-owned companies' performance

The statistical analysis to establish the relationship between CEO remuneration components and AO was run independently from those for the other SOC performance components because of the ordinal value of AO. Once more correlation coefficients were used to plot the year-on-year movement over the 9-year period. For this study, AO was classified as follows: 0 = unqualified; 1 = qualified; 2 = emphasis of matter; 3 = adverse/going concern; and 4 = disclaimer. An adverse (going concern) AO, for example, casts doubt on whether the SOCs will be capable to continue their operations for another year and that they will not close and liquidate their assets (Accountant General South Africa, 2016). The results are presented in Table 6.

The results reveal that differing degrees of correlation are evident throughout the 9 years. In several instances, the correlation was stronger and there was either a negligible relationship or no relationship at all.

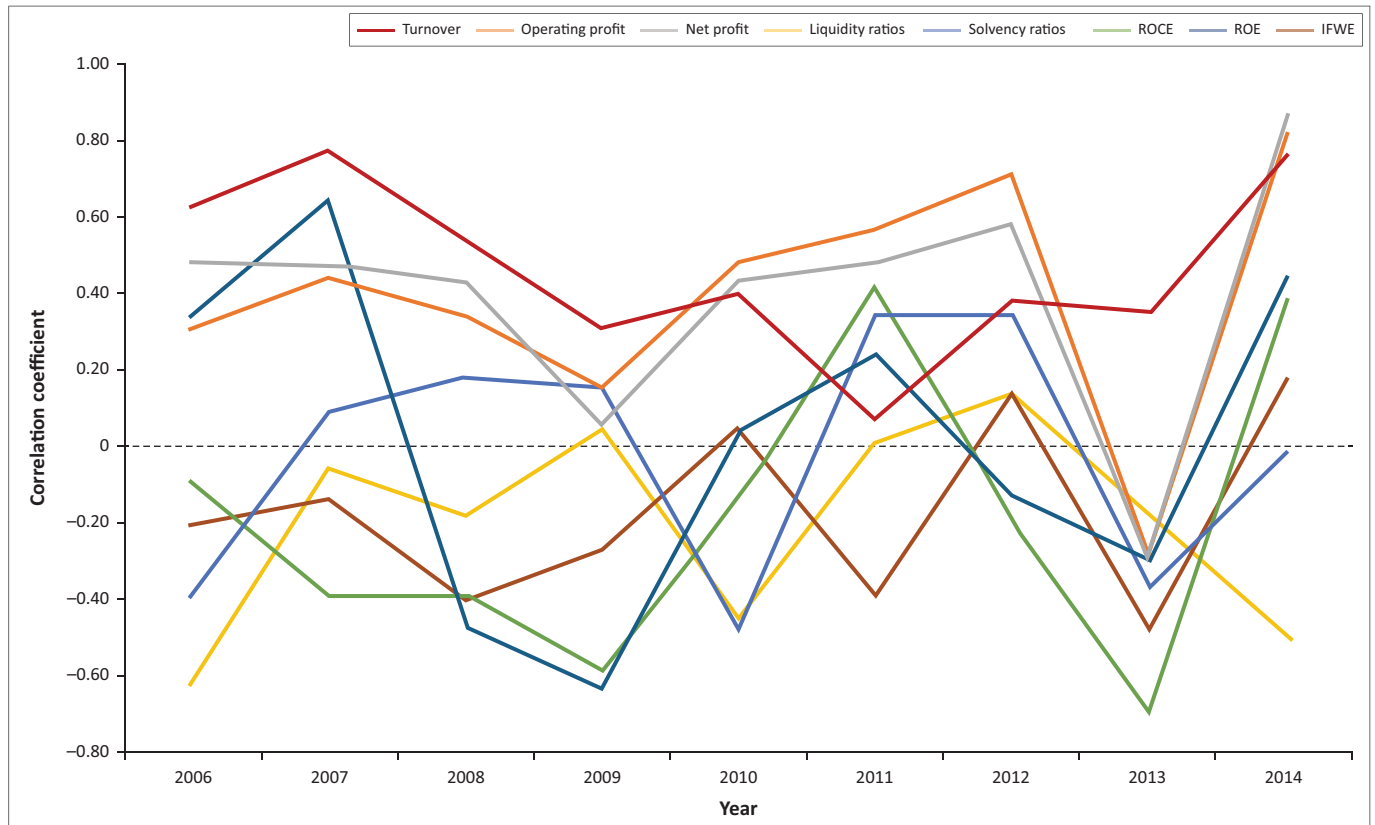


FIGURE 2: Short-term incentives and state-owned companies' performance. ROCE, return on capital employed; ROE, return on equity; IFWE, irregular, fruitless and wasteful expenditure.

TABLE 5: Total remuneration and state-owned companies' performance.

Company performance measure	2006 (n = 13)	2007 (n = 15)	2008 (n = 12)	2009 (n = 12)	2010 (n = 13)	2011 (n = 12)	2012 (n = 11)	2013 (n = 10)	2014 (n = 10)
Turnover	0.72**	0.70**	0.79**	0.74**	0.50*	0.71**	0.73**	0.76**	0.74**
OP	0.46	0.36	0.21	0.20	0.66**	0.66**	0.75**	0.26	0.79**
NP	0.53*	0.29	0.32	0.24	0.59**	0.58**	0.53*	0.14	0.69**
LR	-0.52*	-0.17	0.05	0.03	-0.39	-0.33	-0.28	-0.63**	-0.11
SR	-0.22	-0.03	0.25	0.34	0.06	0.10	0.29	-0.30	-0.11
ROCE	0.01	-0.10	-0.32	-0.44	-0.13	-0.00	0.21	-0.11	0.39
ROE	0.31	-0.53*	-0.31	-0.31	0.29	-0.06	0.07	-0.24	0.07
IFWE	0.01	-0.20	-0.19	-0.21	-0.14	-0.23	0.20	-0.13	-0.12

OP, operating profit; NP, net profit; LR, liquidity ratio; SR, solvency ratio; ROCE, return on capital employed; ROE, return on equity; IFWE, irregular, fruitless and wasteful expenditure.

*, $p < 0.05$ (2-tailed); **, $p < 0.01$ (2-tailed).

The correlation coefficients were used to plot the year-on-year movement across the 9 years. Figure 4 shows the strength of the relationship for the period 2006 to 2014.

Figure 4 shows an unstable or fluctuating negative linear relationship between CEO remuneration and AO. Figure 4 also presents an inconsistent positive linear tendency over the 9 years. This negative linear relationship suggests that as AO increases (thus, the more adverse [negative] AO is), CEO remuneration decreases.

Discussion of the findings

The main objective of this study was to explore the relationship between CEO remuneration and SOC performance further based on a year-on-year basis from 2006 to 2014. The key findings of the study are discussed in this section.

Fixed pay

The results reveal that the trend in the relationship between FP and SOC performance was typified by a flux over the 9 years. The findings reveal an unmistakable steep decrease during 2013 in the strength of the linear relationship between FP and all the SOC performance components (excluding turnover). This infers that, during 2013, the linear relationship between FP and SOC performance was at an all-time low. A probable explanation for this deterioration could be the downturn in the economic markets or because of political unrest (Aslam et al., 2019). The 16% decline in the value of the rand during 2013 could be another justification. The rising trend during 2014 in the strength of the linear relationship amongst FP and nearly all the SOC performance components could be because of political stability at the time (Aslam et al., 2019).

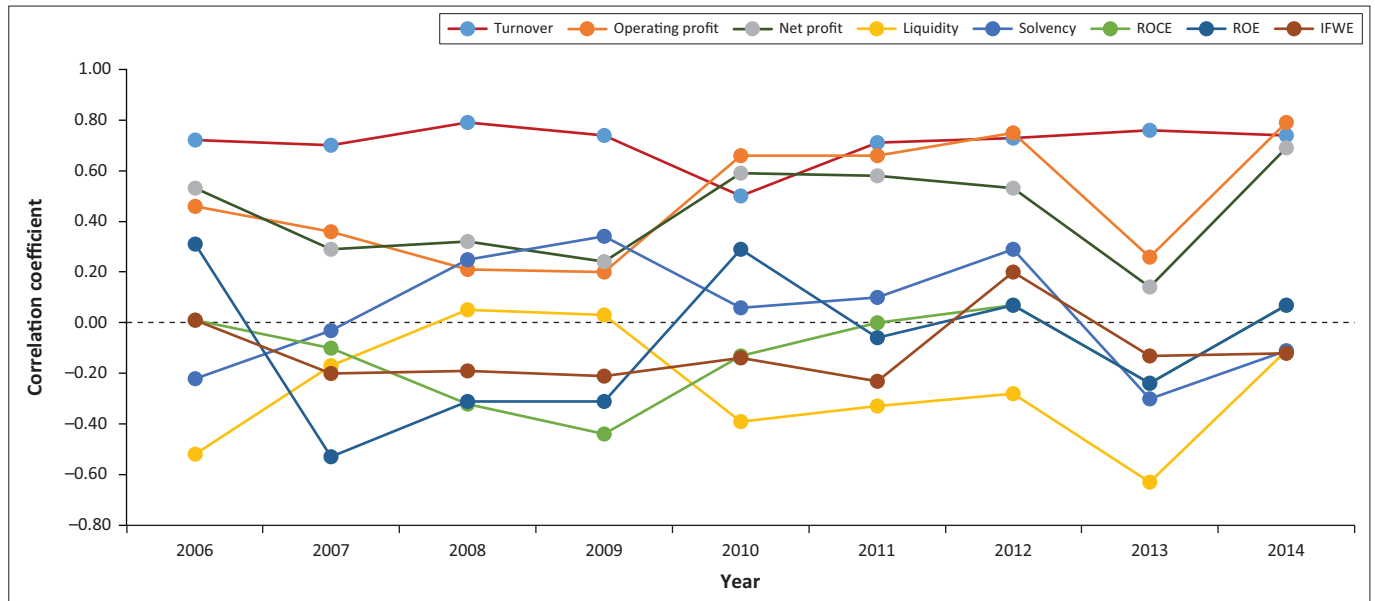


FIGURE 3: Total remuneration and state-owned companies' performance. ROCE, return on capital employed; ROE, return on equity; IFWE, irregular, fruitless and wasteful expenditure.

TABLE 6: Correlation – Chief executive officer remuneration components and audit opinion.

Year	Fixed pay	STIs	Total remuneration
2006	-0.36	-0.10	-0.39
2007	-0.10	-0.33	-0.16
2008	-0.17	-0.15	-0.02
2009	-0.11	-0.29	-0.23
2010	-0.25	-0.26	-0.34
2011	-0.13	-0.24	-0.24
2012	-0.35	-0.11	-0.52*
2013	-0.34	-0.32	-0.33
2014	-0.55*	-0.42	-0.55*

STI, short-term incentives.

*, Correlation is significant at the 0.05 level (2-tailed).

Turnover had a stronger impact on FP than on the other SOC performance components. Over a period of 9 years, mainly a positive relationship is observed between FP and turnover. This positive relationship could be an indication that FP within the SOCs is appropriately designed that limits the self-interest behaviour of management (Kang et al., 2006). The finding of a positive relationship between turnover and FP is in line with the agency theory that posits that executive remuneration is positively linked to firm performance. The other SOC performance components appeared to move in and out of the different relationship thresholds, fluctuating in other years.

Even though FP increased by 83% over the 9 years, further scrutiny of the FP median data points shows that there was an 11% increase on a year-on-year basis from 2006 to 2010 in the median. However, from 2011 to 2014, the FP median data points increased by only 3% on a year-on-year basis.

The higher FP increases and decline in almost all the SOC performance component measures (except turnover) across the first half of the study period seem to attribute to the

declining relationship between FP and most of the SOC performance components.

Short-term incentives

The results indicate an unstable and inconsistent linear relationship between STIs and SOC performance components. This fluctuating positive and negative linear relationships could indicate that STIs were determined independently from SOC performance. It could moreover infer that SOCs do not adhere to remuneration policies and guidelines in awarding STIs as eluded to by Marimuthu and Kwenda (2019). It could furthermore suggest that the performance measures entered vary in each of the SOCs. This is consistent with results from the Public Service Review Committee (PRC) that there is no overarching framework for performance monitoring of SOCs (PRC, 2013) because not all the SOCs fall in the same jurisdictions. The year-on-year fluctuations in STIs during the 9 years could moreover suggest that CEO remuneration is probably not linked to accounting performance. This supports the notion of Jensen and Murphy (1990). For the same reason, it could also imply that STIs are not sensitive to SOC performance (Nulla, 2015), or even that CEOs were rewarded with STIs that are not in line with their efforts and the performance of the SOCs (Kirsten & Du Toit, 2018).

A further examination of the median STI data points signifies that the median STI reduced by 29% over the 9 years. Over the period 2011 to 2014, the median STI data points declined with 26% year-on-year. Although Kuboya's (2014) study was conducted in private companies, these results concur Kuboya's finding in that variable performance bonuses experienced a decline during the economic recession of 2007 to 2008. Concurrently, the median of four out of the eight components of SOC performance (operating profit, net profit, return on capital employed and return on equity)

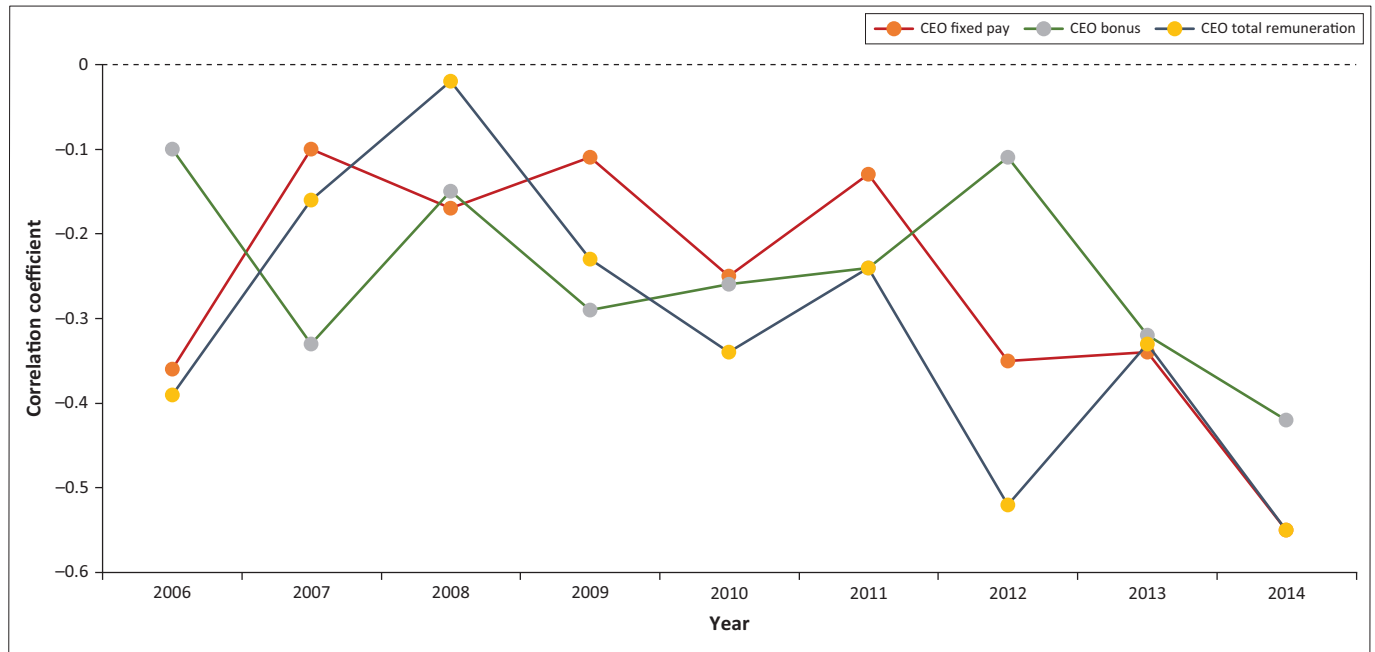


FIGURE 4: Audit opinion and state-owned companies' performance. CEO, chief executive officer.

declined by between 29% and 74% over the 9 years. Thus, whilst there was a decline in STIs over the 9 years, it was not aligned with the decline in SOC performance measures. This could be one of the reasons for the fluctuating linear relationship and why the relationship did not improve.

The downward slope in STIs, together with the escalation of FP over the 9 years, implies that the emphasis was more on FP to compensate CEOs for a decline in STIs. When it is difficult to attain STIs because of situations beyond the control of the CEO, how remuneration is structured would favour a guaranteed cost-to-business or FP (Ellig, 2007). The universal trend would be to lower or postpone *inter alia* STIs and incentive bonuses (Bussin & Modau, 2015).

Total remuneration

The trend seems to mirror that of FP where inconsistency was noted over the 9 years. Furthermore, no explicit pattern of improvement in the strength of the linear relationship was observed year-on-year. Except for turnover, a decline in the relationship was observed during 2013. This might be a sign that the structure of CEO TR is changing over the years (Klingenberg, n.d.). Apart from 2010, and as with FP, turnover revealed a growing significant correlation with TR. Contrary to Van Blerck's (2012) results, almost all the SOC performance measures exhibited various degrees of correlation during the study period.

From the descriptive statistics, it is evident that TR's rate of change was exorbitant, with an escalation of 93% across the 9 years. The increase in TR may, therefore, have been as excessive as stated in the newspapers (Anon, 2016). The volatile and fluctuating year-on-year growth of TR across the 9 years is at odds with the findings of Kuboya (2014). This author has found that TR steadily escalated through

5 years. According to the results of the current study, the relationship between TR and the SOC performance measures fluctuated because the initial TR increases had not been aligned with the decline in SOC performance measures from 2006 to 2010.

Analysing the TR data together with the measures of SOC performance, it is evident that the trend lines over the 9 years varied. Total remuneration was not sensitive to SOC performance measures during the 9 years. As with STIs, this suggests that the remuneration committees of SOC did not consider the SOC's performance in determining TR. This finding supports the findings of Kirsten and Du Toit (2018) that executive director remuneration is primarily linked to the value of the company as opposed to the financial performance.

Audit opinion

The unstable or fluctuating negative linear relationship between the CEO remuneration components and AO is clear from the analysis. Even though there was a statistically strong, negative relationship between FP and TR in some of the years, no statistically significant relationship was found between STIs and AO. The negative linear relationship infers that poor AOs were associated with lower CEO remuneration. Leadership instability could be a possible cause of poor audit outcomes at SOC. In fact, during the analysis, it became apparent that, from a panel observation of 162, there were 36 instances where there were CEO position changes. In fact, at some of the SOC, CEOs had been in the position for an average of only 2.5 years (Accountant General South Africa, 2016). Because an adverse or negative AO is damaging for the SOC, the negative relationship should, in theory, imply that CEOs are being punished for the poor AOs that their SOC receive. This seems to occur rarely.

In the results for almost all the SOC performance measures, a steep deterioration was apparent in the strength of the linear relationship during the 2012/2013 financial year amongst FP, STIs and TR. This suggests that the linear relationship with CEO remuneration was fragile during this time. The instability of the worldwide economy, political insecurity or unemployment in South Africa at that time could be a plausible justification for the fragile relationship. According to Davies (2013), there were 99 reported strikes during 2012. This trend continued in 2013. Several of these strikes were characterised by violence (Davies, 2013). The inference that could be made is that as the political and economic conditions in South Africa became more volatile (2011 to 2013), the increase in CEO remuneration was smaller, suggesting that the tougher economic conditions became a reality.

Practical implications and recommendations

Based on the results, it is recommended that human resources (HR) practitioners in SOC's should develop appropriate remuneration frameworks with due consideration of SOC performance and according to the following guiding principles: appropriateness, fairness and effectiveness. It is further recommended that the remuneration policies of SOC's be more closely aligned with the long-term worth of the SOC's. Based on the variation in strength, significance and direction of correlations in the yearly correlation results, it is further recommended that SOC's follow a tailored approach when establishing remuneration contracts for their CEOs. These contracts should be adaptable enough to change as and when specific micro- and macro-economic factors that SOC's face change.

Findings from this study indicate that the relationship between CEO remuneration and SOC performance fluctuated year-on-year over 9 years. This could result in the remuneration system not being aligned to, amongst others, the interests of corporate governance. State-owned companies' HR practitioners, remuneration committees and stakeholders should, therefore, seek ways to ensure a better alignment of interests, a stronger link between pay-and-performance as well as to promote corporate governance.

Limitations

Whilst this study has contributed to the body of knowledge of the relationship between components of CEO remuneration and components of financial performance within South African SOC's, there are several limitations. Firstly, this research focussed only on Schedule 2 SOC's. The inferences from this study may, as a result, not be generalisable to other SOC's. Secondly, considering that executives could manipulate profitability indicators, the use thereof as a performance measure is susceptible to criticism (Attaway, 2000). Including these measures in this study could, therefore, have influenced the results. Besides, the period under investigation could

influence the study, because it included the financial crisis. According to Klingenberg (n.d., p. 9), the financial crisis had a big influence on the financial and CEO remuneration characteristics.

Recommendations for future research

The inclusion of AO and IFWE as performance measures, and the fact that these measures have not been used in previous studies examining the pay-performance relationship, it is recommended that future studies extend the investigation on these two measures and explore how these two measures relate to CEO pay. Also, the study did not focus on causality. The fact that it has been proved that there is a relationship between the two constructs suggests that further research may be necessary to expand on these findings and determine whether causality exists in the relationship.

Conclusion

Although there seems to be a relationship between the two constructs, the unstable relationship can be a reason for concern. In addition, the role of turnover as an overall performance measure is highlighted, having the most stable relationship with FP and TR of the 9 years.

As a general observation, the fluctuating and unstable relationships between CEO remuneration and SOC performance emphasise the role that labour market forces, a contributing factor to CEO remuneration, play. This supports the findings of Shaw (2011). Furthermore, the fact that the relationship did not improve year-on-year over the 9 years could suggest that there are factors other than SOC performance that influence CEO remuneration. It is recommended that this be further investigated.

The use of discretion in the determination of CEO remuneration within SOC's is likely to attract attention considering the fluctuating, sometimes volatile, relationship between the constructs. This will create the motivation for vigorous policy frameworks to ensure consistency and fairness. The change in the structure of CEO remuneration packages (with more emphasis being placed on FP) raises a concern as it suggests an increasing lack of alignment between shareholders and CEOs. Managing this shift will require remuneration committees to either reverse the shift or realistically manage the shift within reasonable target levels.

Notwithstanding the scrutiny on the CEO pay-performance relationship and the unease that CEO pay is not related to the CEOs contributing to the business, this study has found that the traditional pay-performance link has been lost. Even though this proposes that CEO pay may be more closely linked to business performance measures than society perceives, the concern over the pay-performance relationship may not in all situations be unjustified.

Acknowledgements

Parts of this article were taken from a thesis that was used in the fulfilment of Doctorate of Philosophy qualification.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

M.L.B. wrote the article, and M.H.B. assisted with the review and proofreading.

Funding information

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

Data availability

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

Disclaimer

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

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