



Determinants of chief executive officers remuneration for Johannesburg Stock Exchange listed financial service organisations



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Orientation: Research is inconclusive regarding which factors that determine Chief Executive Officers (CEO) remuneration. There is evidence of a positive link between the risky actions taken by CEOs, incentivised by their remuneration structure, which contributed to the financial crisis of 2008.

Research purpose: The purpose of this study was to determine whether organisation size and organisation performance were determinants of CEO remuneration and to what degree.

Motivation for the study: No consensus on a model, a set of variables, or a consistent view defines the principles of remuneration setting at the CEO level across organisations or industries. This study intended to provide further clarity on the matter.

Research approach/design and method: The research employed a mono-method methodology, and the study was longitudinal in nature. Secondary data were collected over a 5-year period (2015–2019) using a homogenous purposive sampling method. Statistical analysis was performed to analyse the data.

Main findings: Organisation size was not found to be a significant determinant of CEO remuneration in financial services organisations listed on the Johannesburg Stock Exchange (JSE). In contrast, organisation performance was found to be a significant determinant of CEO remuneration.

Practical/managerial implications: This study serves as a baseline for best practice, enabling remuneration committees to leverage when setting CEO remuneration, to ensure that the outcomes driven by remuneration are in line with the best interests of all stakeholders within the organisation.

Contribution/value-add: The findings add to the body of knowledge on this topic and create an evidence base showing whether these exorbitant remuneration packages are performance driven or if they are merely driven by managerial power.

Keywords: CEO remuneration; financial services; organisation size; organisation performance; South Africa.

Introduction

Orientation

Chief Executive Officers (CEOs) are board-appointed leaders responsible for implementing an organisation's strategic plans, as set out by the board of directors (Daft, 2011). Chief Executive Officers remuneration, more specifically, refers to the pay received by these individuals as the CEO of the organisation (Ryder, 2019).

Given the nature and complexity of the role, CEOs are typically highly educated, skilled, and experienced individuals who have gained management prowess through their tenure in leadership roles (Acero & Alcalde, 2019, Adams, 2019). To acquire and retain individuals of this calibre and to influence actions that drive performance within the organisation to maximise shareholder returns, a wage premium may be necessary and is used as an incentive (Morton, 2018). Hayek, Thomas, Novicevic and Montalvo (2015) state that human capital plays a role in the remuneration setting but social and institutional pressures also play a role in the process. This could explain why the remuneration of a CEO is so markedly different from other employees within the organisation.

Over time, two main schools of thought on the determinants of CEO remuneration have emerged. The optimal contracting approach theorises that CEO pay is driven by efficient bargaining

between shareholders and CEOs to alleviate the agency-principal problem (Abdou, Ntim, Lindop, Thomas, & Opong, 2019). The Managerial power approach theorises that CEOs, as rent seekers, set their pay (Bussin, 2011; Bussin & Ncube, 2017) and can extract higher remuneration by exploiting their advantage (Acero & Alcalde, 2019; Temkin, 2020).

This research addresses the relationship and relationship strength of organisational size, as measured by assets, revenue and the number of employees and organisational performance as measured by profit, return on equity (ROE) and earnings per share (EPS) on the components of CEO remuneration. Furthermore, it addresses how the abovementioned schools of thought play a role by testing two main assumptions:

- Organisation size influences CEO remuneration.
- Organisation performance influences CEO remuneration.

These assumptions were tested using six hypotheses where the fixed, variable and total remuneration of the CEO were contrasted against one another.

For the purposes of this study, only fixed remuneration and short-term incentives were included. Core, Holthausen and Larcker (1999) state that long-term incentives (LTIs) are pegged to performance over a future period and, although provisioned for, are not guaranteed. Therefore, including LTIs can be problematic in a study of this nature and may distort the results (Core et al., 1999).

Research purpose and objectives

There has been isolated research conducted, where researchers have tested organisation size or organisation performance to establish the relationship that these variables have on CEO remuneration. However, there has been limited research conducted on testing the relationship of both variables (organisation size and organisation performance) on the elements of remuneration, in a single study. For the purposes of this study, proxy variables will be used to measure the direction and degree of influence that organisation size and organisation performance have, on the different components of CEO remuneration (fixed, variable and total), by testing the following research hypotheses:

H₁ Organisation size is a significant determinant of fixed remuneration, for CEOs of financial services organisations, listed on the JSE

H₂ Organisation size is a significant determinant of variable remuneration, for CEOs of financial services organisations, listed on the JSE

H₃ Organisation size is a significant determinant of total remuneration, for CEOs of financial services organisations, listed on the JSE

H₄ Organisation performance is a significant determinant of fixed remuneration, for CEOs of financial services organisations, listed on the JSE

H₅ Organisation performance is a significant determinant of variable remuneration, for CEOs of financial services organisations, listed on the JSE

H₆ Organisation performance is a significant determinant of total remuneration, for CEOs of financial services organisations, listed on the JSE

The outcomes of hypotheses one, two, and three will confirm whether organisation size is a significant determinant of fixed remuneration, variable remuneration and total remuneration of financial services CEOs and to what degree. Similarly, the outcomes of hypotheses four, five and six will confirm whether organisation performance is a significant determinant of fixed remuneration, variable remuneration and total remuneration of financial services CEOs and to what degree.

Literature review

Agency theory

Jensen and Meckling (1976) state that when decision making power is given by a principal to an agent, an agency relationship is created. In these circumstances, where an agent is a utility maximiser, it is reasonable to believe that the agent will favour their own interests above the interests of the principal (Akram, Abrar ul Haq, & Umrani, 2021). Safriliana, Subroto, Subekti and Rahman (2018) concur and add that agents derive personal gains from the work they do and may manipulate what is in their control to their advantage. Therefore, agency theory seeks to understand the problems that arise between agents and principals of an organisation, where the agent refers to the CEO leading the organisation and the principal refers to the shareholders of the organisation.

Linder and Foss (2015) state that the problem, in this context, is a conflict of interest that arises from information asymmetry, where the agent holds considerably higher levels of information than the principal. Furthermore, the agent is in control of the information that is made available to the principal. Consequently, CEOs have the ability to define the goals of the organisation in a way that is beneficial to them, even though it may destroy value for the organisation (Oliveira, Almeida, & Lucena, 2017). These events may be exacerbated when there are loose controls by the principal over the agent and may increase the welfare loss that arises from the agent-principal problem (Safriliana et al., 2018). A prime example of this was the bloated salary of R50 million paid to the Chief Finance Officer (CFO) of the Steinhoff group, who at the time double hatted as the CEO of Steinhoff Africa Retail. This was a salary paid to a CEO, at a time when the organisation was in the process of needing financial rescue, highlighting the fact that there is information asymmetry between agent and principle (Wessels, 2018).

Optimal contracting

Jensen and Meckling (1976) suggested for principals to use incentives to drive the right behaviour of the agent. Hogan

and Jones (2016) agree with this view. In some instances, mere monitoring may ensure that the agents' behaviour is in line with the best interest of the principal. Oppositely, the principal may use bonding costs to influence the behaviour of the agent. Whichever decision is made, it will cost the organisation and these costs do not guarantee that the agent will not diverge from the decisions that would ordinarily maximise the returns to shareholders. Jensen and Meckling (1976) refer to these costs as a residual loss that is ultimately borne by the principal.

Managerial power

The managerial power approach depicts CEOs as rent seekers who have a significant degree of influence over the board of directors and their remuneration. Bussin and Ncube (2017) and Acero and Alcalde (2019) state that CEOs are able to exploit their advantage to extract higher remuneration from the organisation. Evidently, where managerial power exists, the board's ability to objectively set remuneration is diminished, and hence the board does not operate at arm's length in these transactions (Bebchukt, Walker, & Friedtt, 2002). Ultimately, this process negatively impacts shareholder value, which is counterintuitive to the responsibility of a CEO, which is to maximise shareholder value (Chamorro-Premuzic, 2014; Gande & Kalpathy, 2017; Gaye, Li, & Miller, 2018).

Organisation size

Various authors (Acero & Alcalde, 2019; Ghazali & Taib, 2015; Merhebi, Pattenden, Swan, & Xianming, 2006; Sonenshine, Larson, & Cauvel, 2016; Zhou, 2000) have debated the influence of size of an organisation on CEO remuneration. Theoretically, larger organisations are deemed more complex, requiring a greater level of skill and effort from their CEO. Finkelstein and Hambrick (1989) concur and state that as the size of an organisation increases, they are subject to higher marginal demands, because of increased complexity of managing the business and therefore need highly skilled and experienced CEOs to run the business. Additionally, they identified that larger organisations tend to have more hierarchical layers and therefore, more people under management. Zhou (2000) adds that the marginal product of the actions of the CEO are magnified by the span of their control resulting in a higher demand on the CEO, who in turn demands a premium wage for their efforts. Thus, it may be concluded that the size of an organisation can be used as a proxy for complexity and effort (Ghazali & Taib, 2015).

Merhebi et al. (2006) and Bussin and Ncube (2017) found that organisation size is a key consideration in determining CEO remuneration. Given that a CEO's remuneration is set at the beginning of their tenure, their performance in the organisation is indeterminable at that point. An organisation specific measure that CEO remuneration can be pegged against is the size of the organisation. In this case, size acts as a proxy for the complexity the CEO can expect in their role. The size of the organisation is therefore deemed to have a positive and significant relationship with CEO fixed

remuneration, at the hiring phase. However, this variable may lose its explanatory power over time, according to Sonenshine et al. (2016), who found that organisation size is not a factor that influences fixed remuneration during tenure. Even when actions taken by the CEO result in a reduction of the organisation size (through asset divestitures), this does not have a negative influence on the fixed component of a CEO's remuneration in future periods.

Based on previous research, the view is that organisation size has an influence on CEO remuneration. These findings have been deduced using proxies for organisation size and confirm a positive relationship between the independent variables used to measure organisation size and CEO remuneration.

Zhou (2000) used revenue, assets and market capitalisation as three proxies for organisation size. Zhou (2000) concluded that where revenue is used as a proxy for organisation size, a positive and statistically significant relationship exists. It was observed that a 10% increase in revenue led to a 2.5% increase in the remuneration paid to a CEO. In addition, the study concluded that when assets were used as a proxy for organisation size, a negative relationship was exhibited. However, the significance levels of this relationship were low. Merhebi et al. (2006) who used the same proxies for organisation size as Zhou (2000) concurred that there is a strong, positive relationship between organisation size and CEO remuneration. Their study concluded that for every 1% increase in revenue of the organisation, there is a resultant 2.74% increase in CEO remuneration.

Ghazali and Taib (2015), Hussain, Obaid and Khan (2014) and Sonenshine et al. (2016), using revenue as a proxy for organisation size, concluded that even when using revenue as the only measure of organisation size, there is a positive and significant relationship between organisation size and CEO remuneration. In addition, Ghazali and Taib (2015) further state that it is the quantum of the CEO remuneration that is most explained by the size of the organisation. In their study, using assets as a proxy for organisation size, Acero and Alcalde (2019) found that organisation size can be used to explain the difference in CEO remuneration across organisations.

Thus, there seems to be consensus on the positive relationship between organisation size and CEO remuneration, even in instances where different variables have been used as a proxy for organisation size. However, there are mixed views on whether organisation size has an influence on overall CEO remuneration or whether specific proxies for organisation size have an influence over a specific component of CEO remuneration. Sur, Magnan and Cordeiro (2015) concur with the view that there is a positive correlation but found that this influence is limited to the cash component of remuneration only and that organisation size has no significant influence on the variable remuneration of a CEO.

Although organisation size has been established to have a positive and significant relationship with CEO remuneration,

Sonenshine et al. (2016) state that there may be instances where management actions are taken to reduce the organisation size and a reward for these management actions are captured in the variable component of CEO remuneration. However, this can only be adequately measured where the components of CEO remuneration are broken down into a fixed and variable remuneration view (Philipps, 2018). This highlights that when testing variables on the components of CEO remuneration, it may be necessary to include more than one proxy for organisation size to ensure the accuracy of the model.

Organisation performance

Chief Executive Officers typically earn high returns for the effort they give, relative to those employees who rank below them in the organisation. However, of late, many organisations have started to adjust the way in which they reward their CEOs and a significant portion of their remuneration is tied to performance measures, making this portion of pay at-risk (Martin & Magnan, 2019).

Earlier studies on the topic found a negative relationship between CEO remuneration and organisation performance. In addition, Van Essen, Otten and Carberry (2015) found that the remuneration-performance link diminishes as CEO tenure increases. This occurs as the influence of CEOs over remuneration structure and level of remuneration strengthens over time, concurring with the theory of managerial control.

Sonenshine et al. (2016) found that the determinants of CEO remuneration have shifted towards a pay for performance model since the financial crisis in 2008. Where a pay for performance model exists, Otomasa, Shiiba and Shuto (2020) state that management forecasts form the basis of CEO compensation. Martin and Magnan (2019) concur with this view. It is a common practice for organisations to attribute the performance of an organisation to the prowess of their CEO (Lange, Boivie, & Westphal, 2015; Mascarenhas, 2009). Therefore, their pay is likely aligned in this manner. Where CEOs can influence the remuneration equation, it is in the favour of measures that are not related to performance. However, at an aggregate level, CEO remuneration tends to be higher when driven by a pay for performance model (Dale-Olsen, 2012).

Based on the above evidence, it can be argued that organisation performance influences CEO remuneration. These findings were established by using proxies for organisation performance, and the findings confirm a positive relationship between the independent variables used to measure organisation performance and CEO remuneration.

Merhebi et al. (2006), and Zhou (2000), using Return on Assets (ROA) and Return on Equity (ROE) as proxies for organisation performance, found a positive and statistically significant relationship between organisation performance and CEO remuneration. In their results, Merhebi et al. (2006) concluded

that for every 10.00% increase in organisation performance, there is a resultant 1.16% increase in CEO remuneration. Similarly, Dale-Olsen (2012) observed the same directional change. However, the results of their study showed a 0.55% increase in CEO remuneration for every 1.00% increase in performance, when profit was used as a proxy for performance. Evidently, there is a measurable change in remuneration, based on performance. However, it has been noted that the type of contract that the CEO is on has an influence on their total remuneration, but the influence of performance is not always positive for all CEO remuneration contract types. Where a CEO is on a performance-remuneration contract, they earn approximately 30.00% more than their fixed remuneration counterparts and only where a performance contract exists, does organisation performance have a positive and statistically significant influence on CEO remuneration (Dale-Olsen, 2012).

Consequently, Sonenshine et al. (2016), using EPS as their proxy for organisation performance, concluded that organisation performance is a strong determinant of CEO remuneration. This follows the expectations that are derived from agency theory, which endeavours to align the shareholders' interests with CEO actions. Otomasa et al. (2020) concur with the agency theory principle and state that organisation performance has shown a strong, positive correlation with the cash component of CEO remuneration where earnings were used as a proxy for organisation performance. They state that this occurrence only happens in the positive scenario, and there does not seem to be a penalty on earnings even when organisation performance is less desirable than expected.

In contrast to the findings mentioned above, various authors have found converse results when measuring the effect of organisation performance on CEO remuneration. Using profit and ROA as their proxies for organisation performance, Ghazali and Taib (2015) observed that there is no significant relationship between organisation performance and CEO remuneration. Similarly, when using ROE as their proxy for organisation performance, Acero and Alcalde (2019) and Hussain et al. (2014) reached similar results and concluded that there is no significant relationship between organisation performance and CEO remuneration.

Having discussed the findings from previous research, the next section outlines the approach and methods that were adopted to conduct this research.

Research design

This section discusses the research approach and research method adopted in this study.

Research approach

A deductive reasoning approach was used by testing the theoretical proposition, through a research strategy, designed to collect data for this purpose (Saunders & Lewis, 2018). This approach was taken as deductive reasoning is a valid

reasoning approach where it is impossible to accept the premise of the argument while rejecting the conclusion (Zalaghi & Khazaei, 2016). In this research, data were collected and analysed using a logical structure to determine the manner and the extent in which the independent variables influence the dependent variables. As such, research hypotheses were defined and tested, based on the premise outlined in the literature review. New theories have not been developed as an outcome of this research. Rather, existing theories were tested.

Research method

Secondary data were collected over a 5-year period (2015–2019) using a single data collection technique. This data collection technique lends itself to quantitative techniques on which statistical analysis was performed, and results were examined to determine the explanatory power of the independent variables on the dependant variable (Saunders & Lewis, 2018). This section will address the research participants, measuring instruments, research procedure, ethical considerations and statistical analysis related to the study.

Research participants

Given the research focus for this study, the population was limited to CEOs of financial services organisations, listed on the JSE within the context of South African financial service organisations.

As the research was focused on a specific population, namely CEOs in the financial services sector, a homogenous purposive sampling method was employed. The sample was limited to the top 15 financial services organisations on the JSE, based on their market capitalisation. The CEO of the selected company become the subject of this study and the period of observation spanned 5 years. Therefore, the dataset consisted of ~75 observations per variable. To qualify for inclusion, organisations had to meet the following criteria:

- The organisation must have been in operation for the entire period under observation (2015–2019).
- The organisation must have been listed on the JSE for the entire period of the study (2015–2019).
- The data must have been available on the data sources specified for this study.

Measuring instruments

Given that this research was based on secondary data analysis, this section will discuss the unit of analysis and the sources used to retrieve the relative data.

The first unit of analysis was CEO remuneration, broken down into fixed remuneration and short-term incentives (bonuses). For this study, only fixed remuneration and short-term incentives were included. Core et al. (1999) stated that LTIs are pegged to performance over a future period and, although provisioned for, are not guaranteed. Therefore,

including LTIs can be problematic in a study of this nature and may distort the results (Core et al., 1999). For this reason, LTIs have been excluded from the study.

The second unit of analysis was organisation size. The following variables were chosen as proxies: assets, revenue and number of employees. This information was sourced from I-NET Bureau for Financial Analysis (I-NET BFA), one of the leading sources of financial information in South Africa and validated against the annual financial statements for each organisation. Given that I-NET BFA is a trusted and widely used source of information, the information was deemed valid and reliable.

The third unit of analysis was organisation performance. The following variables were chosen as proxies: profit, ROE and EPS. This information was also sourced from I-NET BFA and validated against the annual financial statements for each organisation. The information was deemed valid and reliable.

Research procedure and ethical considerations

Secondary data were collected and analysed using a logical structure to determine how the independent variables influence the dependent variables and to what extent. As such, research hypotheses were defined and tested, based on the premise outlined in the literature review. New theories have not been developed as an outcome of this research. Rather, existing theories were tested.

The focus for this research was confined to CEOs of financial services organisations listed on the JSE. Given the requirements of the JSE, all organisations are mandated to publish their CEOs' remuneration in their annual financial reports. This made data collection standardised and accurate as financial statements for all JSE listed companies are subject to audit requirement.

After the secondary data were collected, the research hypotheses were tested to determine the degree of influence that the independent variables had on the dependent variable, CEO remuneration.

Throughout the research procedure, the researcher adhered to the ethical principles of respect, beneficence and justice.

Statistical analysis

The data were categorised into two distinct categories, namely (1) organisation size and (2) organisation performance.

All information relating to the organisation's size and performance was extracted from the I-NET BFA database, which is South Africa's leading provider of financial data and was validated against the annual financial statements of the organisation. The data were aggregated at a per-subject level after which, this data formed the basis for data analysis.

The dependent variable (CEO remuneration) was broken up into fixed remuneration and variable remuneration, where the former refers to guaranteed pay and the latter refers to bonus payments, made to the CEO, in the financial year under review. All other independent variables were presented as is. The data was prepared and run through Statistical Package for the Social Sciences (SPSS). Descriptive statistics were run to determine the mean and standard deviation for the variables.

Because of the small sample size, a *t*-test was not valid. Therefore, the data was tested for normality by means of a Cronbach's alpha test (Kline, 2015; Taber, 2018). In addition, the skewness and kurtosis of the data set were also tested. The outcomes of these tests signified whether parametric (normally distributed) or non-parametric (not normally distributed) testing should be performed to test for differences (Saunders & Lewis, 2018).

To test the strength of the relationship between the dependent variable (CEO remuneration) and the proxy variables for the two categories being tested (organisation size and organisation performance), a Pearson correlation test was used. Thereafter, inferential statistics were drawn using regression analysis to test the hypotheses and reach conclusions from the results.

The next section provides the results determined from the research analysis. The results convey the research hypotheses, contrasted against the findings of the study.

Results

Research hypothesis one

Regression analyses were used to test the hypotheses.

Research hypothesis one tested whether organisation size is a significant determinant of CEO fixed remuneration:

H_0 Organisation size is not a significant determinant of CEO fixed remuneration

H_1 Organisation size is a significant determinant of CEO fixed remuneration:

H_{1a} Assets is a significant determinant of CEO fixed remuneration

H_{1b} Revenue is a significant determinant of CEO fixed remuneration

H_{1c} Number of employees is a significant determinant of CEO fixed remuneration

Table 1 shows the standardised coefficients and level of significance of the proxies used to measure organisation size. Over the 5-year period under observation, the following was observed:

- Assets had a non-significant positive effect on CEO fixed remuneration. This implies that assets do not influence CEO fixed remuneration, and therefore, the null hypothesis cannot be rejected.
- Revenue had a non-significant positive effect on CEO fixed remuneration. This implies that revenue does not

influence CEO fixed remuneration, and therefore, the null hypothesis cannot be rejected.

- Number of employees had a non-significant positive effect on CEO fixed remuneration. This implies that the number of employees does not influence CEO fixed remuneration, and therefore, the null hypothesis cannot be rejected.

The models adjusted $R^2 = 0.062$ signify that only 6.2% of the variation in CEO fixed remuneration is explained by the organisation size model.

Research hypothesis two

Research hypothesis two tested whether organisation size is a significant determinant of CEO variable remuneration:

H_0 Organisation size is not a significant determinant of CEO variable remuneration

H_2 Organisation size is a significant determinant of CEO variable remuneration:

H_{2a} Assets is a significant determinant of CEO variable remuneration

H_{2b} Revenue is a significant determinant of CEO variable remuneration

H_{2c} Number of employees is a significant determinant of CEO variable remuneration

Table 2 shows the standardised coefficients and level of significance of the proxies used to measure organisation size. Over the 5-year observation-period, the following was determined:

- Assets had a significant negative effect on CEO variable remuneration in 2017 but when an aggregate regression was run, a non-significant positive effect on CEO variable remuneration was found for the entire 5-year period. This implies that assets do not influence CEO variable remuneration, and therefore, the null hypothesis cannot be rejected.
- Revenue had a significant positive effect on CEO variable remuneration in 2017 and 2018 but a non-significant effect

TABLE 1: Multiple regression – Organisation size on chief executive officers' fixed remuneration.

Organisation size	2015	2016	2017	2018	2019	2015–2019
β assets	0.587	-0.043	0.043	-0.037	-0.622	0.040
β revenue	-0.017	0.248	0.175	-0.063	0.190	0.096
β employees	0.041	0.359	0.335	0.480	0.864	0.396
R^2	0.375	0.296	0.271	0.156	0.216	0.263
Adjusted R^2	0.205	0.104	0.072	-0.074	0.003	0.062
Sample size	15.00	15.00	15.00	15.00	15.00	15.00

TABLE 2: Multiple regression – Organisation size on chief executive officers' variable remuneration.

Organisation size	2015	2016	2017	2018	2019	2015–2019
β assets	0.590	0.319	-0.377	0.540	0.632	0.279
β revenue	-0.247	-0.06	0.203	0.253	0.236	0.116
β employees	0.214	0.42	0.95	-0.075	-0.255	0.331
R^2	0.377	0.463	0.59	0.484	0.348	0.485
Adjusted R^2	0.207	0.317	0.478	0.344	0.171	0.345
Sample size	15.00	15.00	15.00	15.00	15.00	15.00

on CEO variable remuneration when an aggregate regression was run, for the entire 5-year period. This implies that revenue does not influence CEO variable remuneration and therefore, the null hypothesis cannot be rejected.

- Number of employees had a non-significant positive effect on CEO variable remuneration. This implies that the number of employees does not influence CEO variable remuneration, and therefore, the null hypothesis cannot be rejected.

The models adjusted $R^2 = 0.345$ signifies that only 34.5% of the variation in CEO variable remuneration is explained by the organisation size model.

Research hypothesis three

Research hypothesis three tested whether organisation size is a significant determinant of CEO total remuneration:

H_0 Organisation size is not a significant determinant of CEO total remuneration

H_3 Organisation size is a significant determinant of CEO total remuneration:

H_{3a} Assets is a significant determinant of CEO total remuneration

H_{3b} Revenue is a significant determinant of CEO total remuneration

H_{3c} Number of employees is a significant determinant of CEO total remuneration

Table 3 shows the standardised coefficients and level of significance of the proxies used to measure organisation size. Over the 5-year period under observation, the following was observed:

- Assets had a non-significant positive effect on CEO total remuneration. This implies that assets do not influence CEO total remuneration, and therefore, the null hypothesis cannot be rejected.
- Revenue had a non-significant positive effect on CEO total remuneration. This implies that revenue does not influence CEO total remuneration, and therefore, the null hypothesis cannot be rejected.
- Number of employees had a non-significant positive effect on CEO total remuneration. This implies that the number of employees does not influence CEO total remuneration, and therefore, the null hypothesis cannot be rejected.

The models adjusted $R^2 = 0.527$ signifies that 52.7% of the variation in CEO total remuneration is explained by the organisation size model.

TABLE 3: Multiple regression – Organisation size on chief executive officers' total remuneration.

Organisation size	2015	2016	2017	2018	2019	2015–2019
β assets	0.836	0.197	-0.269	0.434	0.199	0.263
β revenue	-0.138	0.099	0.238	0.183	0.311	0.147
β employees	-0.002	0.494	0.886	0.159	0.262	0.418
R^2	0.534	0.59	0.689	0.559	0.497	0.628
Adjusted R^2	0.408	0.479	0.604	0.438	0.359	0.527
Sample size	15.00	15.00	15.00	15.00	15.00	15.00

Research hypothesis four

Research hypothesis four tested whether organisation performance is a significant determinant of CEO fixed remuneration:

H_0 Organisation performance is not a significant determinant of CEO fixed remuneration

H_4 Organisation performance is a significant determinant of CEO fixed remuneration:

H_{4a} Profit is a significant determinant of CEO fixed remuneration

H_{4b} Return on equity is a significant determinant of CEO fixed remuneration

H_{4c} Earnings per share is a significant determinant of CEO fixed remuneration

Table 4 shows the standardised coefficients and level of significance of the proxies used to measure organisation performance. Over the 5-year period under observation, the following was observed:

- Profit has a significant positive effect on CEO fixed remuneration. This implies that profit has an influence on CEO fixed remuneration, and therefore, the null hypothesis is rejected in favour of hypothesis H_{4a} .
- Return on equity has a significant negative effect on CEO fixed remuneration. This implies that ROE does influence CEO fixed remuneration, and therefore, the null hypothesis is rejected in favour of hypothesis H_{4b} .
- Earnings per share has a significant positive effect on CEO fixed remuneration. This implies that EPS does influence CEO fixed remuneration, and therefore, the null hypothesis is rejected in favour of hypothesis H_{4c} .

The models adjusted $R^2 = 0.658$ signify that 65.8% of the variation in CEO fixed remuneration is explained by the organisation performance model.

Research hypothesis five

Research hypothesis five tested whether organisation performance is a significant determinant of CEO variable remuneration:

H_0 Organisation performance is not a significant determinant of CEO variable remuneration

H_5 Organisation performance is a significant determinant of CEO variable remuneration:

H_{5a} Profit is a significant determinant of CEO variable remuneration

TABLE 4: Multiple regression – Organisation performance on chief executive officers' fixed remuneration.

Organisation size	2015	2016	2017	2018	2019	2015–2019
β profit	0.576	0.450	0.402	0.272	0.184	0.386
β ROE	-0.328	-0.323	-0.375	-0.517	-0.545	-0.465
β EPS	0.254	0.393	0.385	0.435	0.488	0.374
R^2	0.732	0.666	0.67	0.689	0.667	0.737
Adjusted R^2	0.652	0.566	0.579	0.604	0.576	0.658
Sample size	15.00	15.00	15.00	15.00	15.00	15.00

ROE, return on equity; EPS, earnings per share.

TABLE 5: Multiple regression – Organisation performance on chief executive officers' variable remuneration.

Organisation size	2015	2016	2017	2018	2019	2015–2019
β profit	0.573	0.694	0.829	0.763	0.754	0.804
β ROE	0.235	0.214	0.128	0.21	0.267	0.229
β EPS	-0.005	0.101	-0.126	-0.041	-0.124	-0.060
R^2	0.295	0.488	0.638	0.549	0.596	0.599
Adjusted R^2	0.084	0.335	0.539	0.426	0.486	0.479
Sample size	15.00	15.00	15.00	15.00	15.00	15.00

ROE, return on equity; EPS, earnings per share.

H_{5b} Return on equity is a significant determinant of CEO variable remuneration

H_{5c} Earnings per share is a significant determinant of CEO variable remuneration

Table 5 shows the standardised coefficients and level of significance of the proxies used to measure organisation performance. Over the 5-year observation-period, the following was determined:

- Profit has a significant positive effect on CEO variable remuneration. This implies that profit has an influence on CEO variable remuneration. Therefore, the null hypothesis is rejected in favour of hypothesis H_{5a} .
- Return on equity has a non-significant positive effect on CEO variable remuneration. This implies that ROE does not influence CEO variable remuneration. Therefore, the null hypothesis cannot be rejected.
- Earnings per share has a non-significant negative effect on CEO variable remuneration. This implies that EPS does influence CEO variable remuneration. Therefore, the null hypothesis cannot be rejected.

The models adjusted $R^2 = 0.479$ signifies that 47.9% of the variation in CEO variable remuneration is explained by the organisation performance model.

Research hypothesis six

Research hypothesis six tested whether organisation performance is a significant determinant of CEO total remuneration:

H_0 Organisation performance is not a significant determinant of CEO total remuneration

H_6 Organisation performance is a significant determinant of CEO total remuneration:

H_{6a} Profit is a significant determinant of CEO total remuneration

H_{6b} Return on equity is a significant determinant of CEO total remuneration

H_{6c} Earnings per share is a significant determinant of CEO total remuneration

Table 6 shows the standardised coefficients and level of significance of the proxies used to measure organisation performance. Over the 5-year period under observation, the following was observed:

- Profit has a significant positive effect on CEO total remuneration. This implies that profit has an influence on

TABLE 6: Multiple regression – Organisation performance on chief executive officers' total remuneration.

Organisation size	2015	2016	2017	2018	2019	2015–2019
β profit	0.717	0.737	0.825	0.763	0.756	0.818
β ROE	-0.035	-0.032	-0.077	-0.063	-0.074	-0.072
β EPS	0.157	0.291	0.084	0.166	0.166	0.146
R^2	0.534	0.59	0.689	0.559	0.497	0.769
Adjusted R^2	0.408	0.479	0.604	0.438	0.359	0.699
Sample size	15.00	15.00	15.00	15.00	15.00	15.00

ROE, return on equity; EPS, earnings per share.

CEO total remuneration. Therefore, the null hypothesis is rejected in favour of hypothesis H_{6a} .

- Return on equity has a non-significant negative effect on CEO total remuneration. This implies that ROE does not influence CEO total remuneration. Therefore, the null hypothesis cannot be rejected.
- Earnings per share has a non-significant positive effect on CEO total remuneration. This implies that EPS does not influence CEO total remuneration. Therefore, the null hypothesis cannot be rejected.

The model's adjusted $R^2 = 0.699$ signifies that 69.9% of the variation in CEO total remuneration is explained by the organisation performance model.

All variables used in the models were tested for internal reliability and generated an adequate score. The skewness and kurtosis of the data were assessed, and the data were cleared for inferential statistics as all measures were deemed fit.

Discussion

Practical implications

The literature review, which is supported by the findings of this study, shows that a remuneration-performance link is required to drive alignment between the agent and the principal. Linder and Foss (2015) state that information asymmetry can have dire consequences and results in the agent benefiting at the expense of the principal, creating a welfare loss that is invariably borne by the principal.

As such, the results of this study have shown that financial services organisations have tied both elements of CEO remuneration to the overall performance of the organisation, which places the agent's total remuneration at risk in the absence of satisfactory organisational performance in the South African context.

These findings are in line with King IV, which recommends that organisations in South Africa use performance measures that support positive outcomes within the organisation and that organisations should provide an account of the performance measures that have been used in CEO remuneration setting (Institute of Directors Southern Africa, 2016). Although a guideline, these recommendations coupled with the requirements of the *Companies Act* (2008) (which compels organisations to disclose the remuneration paid to CEOs, as well as the benefits they receive) creates a

degree of transparency that ascertains the best interest of stakeholders.

Therefore, when remuneration committees apply the guidelines of King IV, a higher degree of transparency and trust is created among organisational stakeholders. Applying these processes provides stakeholders with the information they need to hold the board of directors accountable for any poor decisions made and assists in neutralising managerial power to a certain degree. This is especially the case where CEOs have considerable influence over the board and attempt to use this influence to extract higher remuneration.

In addition to the measures that are driven from a Companies Act and King IV perspective, remuneration committees can introduce measures such as the 'say-on-pay' approach to the remuneration setting. This approach allows shareholders to have oversight and input on the remuneration paid to CEOs. In their research, Newman, Banning, Johnson and Newman (2019) observed a reduction in pay ratios and a significant reduction in CEO remuneration in organisations following the implementation of the 'say-on-pay' measures being adopted. Similarly, this measure helps neutralise the effects of managerial power in an attempt to extract additional remuneration from encumbered board members.

Limitations and recommendations

The focus of this research was on the top 15 JSE listed financial services organisations, based on their market capitalisation. As such, these organisations can be deemed large, and the findings of this research may not lend itself to organisations that are classified as medium or small organisations. Davis, Batchelor and Kreiser (2018) highlight that the scale of the organisation should also be taken into consideration when setting up the metrics for CEO remuneration, because small and medium enterprises (SMEs) may not be able to apply the same remuneration metrics based on performance. The measures used in this research are specific to large organisations, and they may not have wider applicability where the scale of the organisation is not classified as large.

This research focused primarily on the effects of organisation metrics, being size and performance. Finkelstein and Hambrick (1989) refer to CEOs as highly skilled and qualified individuals. In this instance, skills and qualifications are captured in the human capital characteristics of a CEO, which this research did not account for. As such, some of the explanatory power of these variables will not have been accounted for and their influence on the determination of fixed, variable and total remuneration will not be evident in this study.

For this research, the sample was limited to financial service organisations that were listed on the JSE. Therefore, no comparatives can be drawn across industries to

determine whether the findings are applicable to other JSE listed organisations that fall outside of the financial services industry. Based on the sample selection criteria, the findings of this research may not be applicable to private financial services organisations that are not listed on the JSE.

Future research should include a broader spectrum of industries. This will allow for comparatives to be drawn between the findings of each industry and to determine whether there is a convergence or divergence of remuneration setting practices over time. Future research should also focus on share schemes, particularly during the decline in share prices early in 2020.

Chief Executive Officers' tenure should be included in the research to determine whether tenure plays a role in the influence of organisation size on CEO fixed remuneration.

The size of the organisations selected for the study should be more varied by not selecting organisations on the basis of market capitalisation. Rather, market capitalisation should be used to categorise these organisations into small, medium and large organisations to draw parallels based on the findings. This will allow for a broader degree of applicability of the results from the study.

Given that market trend shifts, a longer period of observation could show the shifts in remuneration setting trends, if any appear in the findings of the research. For example, a study that looked back prior to 2008 may have findings that show the shift in trends post the financial crisis of 2008, thereby adding more depth to the research and its findings.

Conclusion

This section outlines the key findings from this study. The key finding of this study is that organisation size, as measured by assets, revenue and number of employees is not a significant determinant of CEO fixed, variable or total remuneration. In contrast, organisation performance, as measured by profit, ROE and EPS are significant determinants of CEO fixed remuneration and, when measured by profit, are significant determinants of CEO variable and total remuneration.

The mixed views on the influence of organisation size on CEO remuneration highlighted the lack of consensus on the influence of organisation size on CEO remuneration or the proxies that should be used to accurately predict CEO remuneration. The findings of this study showed no significant relationship between organisation size and any of the components of CEO remuneration even after using universally accepted variables as proxies for organisation size. In addition, the models that were created showed moderate to low levels of explanatory power that indicated that organisation size, as measured by assets, revenue and number

of employees, is not a good predictor of CEO fixed, variable and total remuneration, when assessing their influence over the remuneration earned by CEOs of financial services organisations listed on the JSE.

No consensus exists on the influence of organisation performance on CEO remuneration or the proxies that should be used to accurately predict CEO remuneration. The findings of this study indicated a significant relationship between organisation performance, as measured by profit, ROE and EPS and CEO fixed remuneration. In addition, organisation performance, as measured by profit, proved to be a significant determinant of CEO variable remuneration and CEO total remuneration. The models that were created showed moderate to high levels of explanatory power, thus indicating that organisation performance is a good predictor of CEO fixed, variable and total remuneration, when assessing their influence over the remuneration earned by CEOs of financial services organisations listed on the JSE.

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The authors have declared that no competing interests exist.

Authors' contributions

All authors contributed equally to this work.

Ethical considerations

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Data availability

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