



The impact of institutional and managerial ownership on the pay-performance relationship: Evidence from JSE-listed firms

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Abstract

This study explores how institutional and managerial ownership influence the connection between executive directors' pay and firm performance in South Africa. Employing panel linear regression models and Johnson-Neyman analysis, complex insights are revealed. This study revealed that institutional ownership acts as a double-edged sword, positively moderating the link between long-term and total incentive remuneration and Return on Assets (ROA), while negatively influencing the relationship with market-based metrics like Tobin's Q. This suggests that institutional shareholders play a dual role in enhancing long-term alignment and tempering short-term performance pressures. Managerial ownership also demonstrates mixed impacts, positively moderating the relationship between both short-term and total incentive remuneration, and ROA, but negatively moderating the link between long-term incentive remuneration and Total Shareholder Return (TSR). These findings underscore the delicate balance between managerial incentives, shareholder interests, and long-term value creation. While higher managerial ownership aligns with short-term shareholder goals, it may also lead to managerial entrenchment and short-termism in certain contexts. This study contributes to literature on corporate governance and executive remuneration in an emerging market setting.. By revealing the nuanced effects of institutional and managerial ownership on the pay-performance relationship, the paper provides valuable insights for policymakers, investors and corporate leaders aiming to improve governance practices and foster sustainable value creation. Our study offers essential implications for corporate governance practices and sets the stage for further inquiry into the intricate relationship between ownership structure, executive compensation, and firm performance.

Keywords Institutional ownership · Managerial ownership · Executive directors' remuneration · Firm performance · Bonding costs · Monitoring costs

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1 Introduction

The initial strides in corporate governance literature primarily focused on minimising agency costs that result from the separation of ownership and control, often referred to as the agency problem (Jensen & Meckling, 1976). As a result of this separation, the behaviour of employees (including executive directors) are not always aligned with the objectives and strategies of the firm. Management control systems are those practices put in place to ensure such goal congruence (Malmi & Brown, 2008). This study is concerned with only one of the five aspects of a management control system, namely compensation (in our case executive remuneration).¹ More specifically, this study explores how institutional and managerial ownership influences the relationship between executive remuneration and firm performance in a South African setting.

Worldwide the debate on executive remuneration continues to intensify despite continuous advancements in corporate governance. We applied our study to South Africa (SA) as it, on the one hand, has the largest income inequality in the world (as measured with the Gini coefficient) (World Bank, 2024), but on the other hand, is also known for progression made with the quality of its corporate governance codes. The King IV corporate governance code (hereafter referred to as King IV) that is mandatory for Johannesburg Stock Exchange (JSE)-listed firms, requires listed firms to link Executive Directors Remuneration (EDR) to performance (to ensure goal congruence between shareholders and executive directors). The JSE being the most established stock exchange in Africa, also offers a unique environment characterised by high institutional ownership (Lynne, 2017). This high institutional ownership occurs within a context marked by weak shareholder activism and an underdeveloped legal system associated with poor investor protection (Ntim, 2012).

Monitoring and bonding costs are often suggested as solutions (also known as agency costs) to reduce the agency problem (Duh, 2017). Literature suggests that the monitoring role played by institutional shareholders can compensate for deficiencies in legal and investor protection systems commonly observed in emerging markets (Faccio & Lang, 2002; Kazemian & Sanusi, 2015; Lins, 2003). In addition, high levels of managerial ownership theoretically aligns the interests of management and shareholders. Directors who are also shareholders will have to bear the consequences of the quality of management. This study examines the dynamics of oversight by institutional shareholders and their activism, categorised as monitoring costs, as well as performance-based compensation and executive share ownership programmes, regarded as bonding costs.

More specifically, this study focuses on the role that monitoring and bonding costs play to ensure that the behaviours of executive directors (as agents in the principal-agent relationship) are consistent with the objectives of the firm. Monitoring costs involve monitoring the activities and decisions of the executives and providing the principal (shareholders) with assurance that executives' actions are in line

¹ For a discussion of the five components of a management control system package (i.e. planning, cybernetic, reward/compensation, administrative and culture), please refer to Malmi and Brown (2008).

with their best interest (Fama & Jensen, 1983). Conversely, bonding costs refer to expenses incurred by agents to demonstrate their dedication to fulfilling obligations to the principal (Jensen & Meckling, 1976).

The overarching objective of this study is to examine how these factors contribute to the sustainable long-term value creation agenda of firms. Both the agency and managerial power theories operate under the assumption of a misalignment of interests between shareholders and executives. This misalignment can lead to adverse outcomes such as excessive EDR, EDR not linked to firm performance, and unacceptable pay disparities. The managerial entrenchment hypothesis (Fama & Jensen, 1983), which outlines a manifestation of the agency problem and an outcome of power dynamics, posits that heightened levels of managerial ownership may exacerbate this problem. In contrast, the alignment hypothesis, which serves as a framework for addressing the agency problem, suggests that increased managerial ownership could theoretically alleviate the agency problem, with directors assuming the dual role of being both the principal and the agent (Jensen & Meckling, 1976; Linder & Foss, 2015). While executive directors' roles and interests are central to these theories, institutional shareholders have a distinct corporate governance role. As informed, responsible, and powerful investors, they are expected to counteract managerial entrenchment (Lins, 2003), ensuring, among other things, fair and reasonable EDR. However, it is important to note that increased institutional ownership may carry unintended consequences. Self-interest and tunnelling² intentions could potentially fuel entrenchment behaviour, as noted in the findings of Lee and Chen (2011). This duality highlights the complexity of the roles played by both managerial and institutional ownership in shaping corporate behaviour.

A vast body of literature exists on the impact of institutional and managerial ownership on firm performance (Badhani et al., 2023; Jentsch, 2019; Ntim, 2012; Short & Keasey, 1999); earnings management (Kazemian & Sanusi, 2015; Warfield et al., 1995); financial reporting quality (Pucheta-Martínez & García-Meca, 2014) and the pay-performance relationship (Almazan et al., 2005; Hartzell & Starks, 2003; Liu & Yin, 2023). Notably, prior empirical research has predominantly focused on developed economies (Ararat et al., 2021; Berle & Means, 1932; Liew et al., 2022; Ntim, 2012), with a growing interest in emerging markets (Ararat et al., 2021). Despite this increasing attention, the net effect of firm ownership on executive behaviour, particularly in aligning EDR with firm performance, remains largely unknown in the context of emerging markets. The limited empirical evidence available suggests a weak role of firm ownership in sustainable value creation (Iwasaki et al., 2022). Hence, this paper seeks to contribute to the literature by examining the moderation effect of institutional and managerial ownership on the relationship between EDR and firm performance (herein referred to as the pay-performance relationship) in SA, an emerging market.

² We use the word 'tunnelling' to refer to a situation where institutional shareholders exploit their position to divert company resources for personal gain, disadvantaging minority shareholders (Gao & Kling, 2008).

This study has extended the existing remuneration governance literature in the following manner: first, by demonstrating how institutional and managerial ownership exert influence on the pay-performance relationship within an emerging market setting. Second, the study provided additional evidence supporting the applicability of the agency and managerial power theories. By grounding these theoretical frameworks in the specific context of emerging markets, the research advanced understanding of the universal and context-specific factors influencing executive remuneration. Third, as opposed to several international studies (for example, Ataay (2018) and Sheikh et al. (2018)) and most SA studies (for example, Bussin and Nel (2015) and Deyssel and Kruger (2015)) that have excluded long-term EDR when examining the relationship between EDR and performance, this study specifically includes long-term EDR. Fourth, to the best of our knowledge, the study was the first to investigate the moderation effect of institutional and managerial ownership on the relationship between EDR and firm performance in SA. This unique contribution addressed the existing gap in empirical evidence, which remains scant, mixed, and inconclusive within the context of both developed and emerging markets (Adelopo et al., 2023; Ming et al., 2018; Zhang et al., 2021). This study therefore sought to provide valuable insights and contribute to the ongoing discourse surrounding executive remuneration and corporate governance in SA and similar emerging market environments. Finally, this study aimed to shed light on the intricate interplay between monitoring and bonding costs and their impact on the pay-performance relationship, ultimately contributing to a better understanding of corporate governance dynamics in both developed and emerging market settings.

The remainder of this paper is organised as follows: Sect. 2 aims to contextualise the study; Sect. 3 discusses empirical literature and the hypothesis development; Sect. 4 discusses the sample selection criteria, the measurement of study variables and the empirical methods relied on in this study. Finally, the results are presented in Sects. 5 and 6 concludes.

2 The South African context

It is well known that the policy of apartheid in SA (between 1948 and 1994) excluded most of the SA population from economic opportunities, resulting in raised inequalities. Post-apartheid SA struggles to correct such inequalities. Research by Leibbrandt et al. (2012), for example, report results that suggest that income inequality in SA has increased between 1993 and 2008 because of an increased share of income by the top decile. Excessive EDR and large pay gaps are often identified as key factors driving income inequalities (Lemma et al., 2020; Steenkamp et al., 2019).

The increased attention by standard setters and regulators on EDR is therefore not unexpected. King I, published in 1994 shortly after the transition to a constitutional democracy, first contained recommendations on the establishment of a remuneration committee and the disclosure of total EDR. Subsequent King reports published in 2002 (King II), 2009 (King III) and 2016 (King IV) progressively added recommendations to ensure that firms remunerates fairly, responsible and transparently.

King IV, for example, recommends that EDR is fair and responsible in the context of overall employee remuneration. Although all JSE-listed firms are required to comply with King IV, recent amendments in the SA companies Act introduced groundbreaking changes to corporate pay gap disclosure practices in SA (Dahms-Jansen & Mazibuko, 2024).

Despite such advances, SA is also known for corporate scandals such as Steinhoff and for having the highest income inequality in the world. Steinhoff's executive directors entered in fraudulent transactions that allowed them to receive large bonuses and long-term remuneration based on inflated firm performance (Mckune & Thompson, 2018).

3 Empirical literature and hypothesis development

This section presents a detailed discussion of empirical literature on the role of institutional and managerial ownership, as well as the development of the study hypotheses.

3.1 Institutional ownership

Institutional shareholders, owing to their capacity and interests, play a crucial role in monitoring management decisions and preventing managerial opportunism (Ararat et al., 2021; Dell'Erba & Ferrarini, 2024; Kazemian & Sanusi, 2015). Operating as intermediaries, these shareholders are focused on safeguarding entrusted resources and maximising returns (David & Kochhar, 1996). The efficient monitoring hypothesis posits that institutional shareholders leverage their advantages in information, professionalism, and competencies to enhance their monitoring effectiveness (Sandberg, 2013; Shleifer & Vishny, 1986). While some prior empirical studies suggest a positive relationship between institutional ownership and firm performance (Kazemian & Sanusi, 2015; McCahery et al., 2016; Yermack, 2017), others argue that institutional shareholders are primarily interested in short-term returns (Çelik & Isaksson, 2013). Other authors, like Karpoff et al. (1996), reveal no evidence of institutional shareholders' impact on firm policies and firm performance dynamics, suggesting that while they may be investment experts, their monitoring abilities may vary (Borochin & Yang, 2017). This diversity in effects implies that not all institutional investors exert the same influence on firms (Schwarte & He, 2024). We therefore recognise that monitoring efforts can differ among institutional shareholders (Borochin & Yang, 2017; Courteau et al., 2016). Nonetheless, considering the inherent characteristics of institutional shareholders, it could be plausible to speculate enhanced monitoring following an increase in institutional ownership, particularly because institutional shareholders have intimate knowledge of industry dynamics, have access to information, and have the potential to significantly affect the firm's operational dynamics through activism (Chung & Wang, 2014; Filatotchev & Dotsenko, 2015).

The existing literature further underscores the crucial role of institutional shareholders' monitoring functions in both developed and emerging markets. Prior studies that explored the moderation role of institutional ownership on the pay-performance relationship are limited and provide conflicting evidence. For example, Zhang et al. (2021) reported a positive moderation effect of domestic institutional ownership on pay-performance relationship using Chinese data. Similarly, using Chinese data, Liu and Yin (2023) found that only institutional investors with very high levels of monitoring attention positively influence the relationship between EDR and performance. On the other hand, Adelopo et al. (2023), using UK data, found that institutional investors, did not exert their influence on short-term EDR decisions, indicating no moderating effect. Using Malaysian market data, Ming et al. (2018) concluded that domestic institutional ownership has a negative moderation effect on the pay-performance relationship. In the context of emerging markets, scholars largely argue that institutional shareholders' monitoring plays a vital role in offsetting weak legal systems and poor investor protection against self-serving market players (Ararat et al., 2021; Kazemian & Sanusi, 2015; Lins, 2003). However, there is conflicting evidence from certain emerging markets, suggesting that institutional shareholders in diverse market settings do not always exhibit uniform behaviour as their actions are often motivated by distinct and independent interests. For instance, Lee and Chen (2011) challenged theoretical predictions and contradict evidence from other studies (Hartzell & Starks, 2003; Khan et al., 2005; Ozkan, 2011) by reporting a positive relationship between institutional ownership and executive compensation. They argued that large institutional shareholders with internal relations and potential tunnelling intentions leverage their power to influence decisions aligned with their self-serving interests possibly at the expense of minority investors (Crocì et al., 2012; Fernandes et al., 2013; Moscariello et al., 2019). Such empirical evidence challenges the monitoring capacity of institutional shareholders. These diverse and inconclusive perspectives on the influence of institutional ownership informed the following hypothesis:

H₁: The level of institutional ownership moderates the relationship between EDR and firm performance.

3.2 Managerial ownership

While the alignment hypothesis suggests that managerial ownership fosters alignment of interests between firm executives and stakeholders, some empirical evidence challenges this notion, casting doubt on its true impact on the pay-performance relationship. For instance, Abrahams et al. (2017) contend that, subject to board and intra-organisational dynamics, managerial share ownership may be perceived more as a sign of loyalty than as an incentive for driving firm performance. Empirical literature on the influence of managerial ownership on firm performance outcomes in emerging markets is still evolving, marked by conflicting and inconclusive findings. One group of scholars reports a positive association between managerial ownership and firm performance (Iwasaki et al., 2022; Ntim, 2012). Notably, Iwasaki

et al. (2022), despite establishing an overall weak link between ownership structure and firm performance in emerging markets, predominantly documented a strong positive relationship between managerial ownership and firm performance, supporting the alignment hypothesis. This finding resonates with Ntim (2012), whose study in SA revealed a clear positive association between managerial ownership and firm performance without evidence of a non-linear effect. On the other hand, a different group of scholars documented a non-linear relationship between managerial ownership and firm performance outcomes (Chen & Yu, 2012; Kim et al., 2004). Additionally, Lins (2003) and Adelopo et al. (2023) established a negative association between managerial ownership and firm performance, particularly in the absence of strict external monitoring mechanisms. Adelopo et al. (2023) attribute this negative relationship to executive directors becoming more risk-averse, potentially steering clear of risky yet positive net present value activities. This divergence in findings emphasises the complexity of the relationship between managerial ownership and firm performance in emerging markets, highlighting the need for further research to gain a better understanding of the nuances and contextual factors at play.

Despite the conflicting evidence on the impact of managerial ownership on firm performance, corporate governance codes in SA underscore the importance of incorporating incentive remuneration components in compensation contracts to align EDR with firm performance, including the use of share options. This unique context provides an opportune environment to investigate and analyse the effectiveness of managerial ownership in shaping the pay-performance relationship. Considering the diverse and inconclusive perspectives on the role of managerial ownership, we state our study hypothesis as follows:

H₂: The level of managerial ownership moderates the relationship between EDR and firm performance.

4 Data, variables, and research design

In line with a positivist philosophy, we adopted a deductive approach for a quantitative inquiry into the moderation effect of firm ownership on the pay-performance relationship. This section discusses the selection of the study sample (Sect. 4.1), the measurement of study variables (Sects. 4.2–4.6), and the empirical model employed to test the two hypotheses set for this study (Sect. 4.7).

4.1 Sample

We selected a sample of 100 JSE-listed firms over an 11-year period (2012–2022). For practical reasons (many of the variables were for example hand collected as discussed in Sects. 4.2 to 4.6), the selection of a study sample was deemed appropriate. The sampling technique that was used was stratified random sampling with proportional allocation. Using the relative frequencies of JSE industries in the population, the population was stratified into industries. To ensure generalisability, this study

has not excluded any industries (except for two small industries as explained in footnote 5), and the sample was selected without stratifying for size to ensure sufficient cross-sectional variation. The study sample was selected in two stages.

For the first 5 years (2012–2016), a sample of 100 firms was selected³ from a defined population of 180 firms.⁴ With the selection of this first sample, 280 firms had a primary listing on the JSE main board. To ensure data availability and meaningful comparison between firms, 100 firms were excluded,⁵ resulting in 180 firms. As a result of firms that have delisted from the JSE, replacement firms were selected for the last 6 years (2017–2022) using the same criteria as above. To mitigate survivorship bias, a minimum listing period of three years was imposed to ensure adequate variation.

Considering the criteria mentioned above, and excluding observations with missing data, the final dataset comprised an unbalanced panel of 121 firms contributing to a total of 1083 firm-year observations across the study period.

4.2 Dependent variable

Given their distinct nature, as well as the recommendations by the King IV Corporate Governance Code, this study relied on three proxies for EDR: average short-term executive directors' remuneration (EDRS), average long-term executive directors' remuneration (EDRL), and the composite variable EDRI, which combines EDRS and EDRL. EDRS comprises cash bonus awards paid to executive directors, while EDRL represents the value of share option incentives. Both EDRS and EDRL are scaled by the total number of executive directors. Unlike variable remuneration (EDRS and EDRL), which is determined based on various financial and non-financial performance metrics, basic EDR remains fixed and typically unresponsive to fluctuations in firm performance. In addition, empirical research showed that EDR in SA companies mostly consists of EDRS and EDRL (Scholtz, 2024). Given the objective of this study, basic (fixed) EDR was therefore not considered for the purpose of this study. For robustness purposes, such basic EDR was however examined in Sect. 5.3.3.

³ The sample selection process was done as follows. Numbers were assigned to firms per industry; random numbers were generated using Excel; and, according to these random numbers, firms were included in the sample.

⁴ According to tables supplied by Saunders et al. (2019), a sample of 100 firms from a population of 180 equates to a 93% confidence level. This is in line with previous studies such as Ntim (2009) and Mitchell (2014).

⁵ The following firms were excluded (number of firms in brackets): (i) firms that were suspended (but still listed) (17), (ii) firms not listed in one of the ten main JSE industries (listed as debt instruments only) (10), (iii) firms listed for less than five years (67), (iv) development capital and venture capital firms (2), and finally, (v) firms in the oil and gas utilities sectors (4).

4.3 Independent variables

The firm performance proxies used in this study were established by drawing insights from prior related studies. The study adopted proxies that encompass both market- and accounting-based measures of a firm's financial performance. Specifically, this study employed earnings per share (EPS) and Return on Assets (ROA) as accounting-based proxies for firm performance, as indicated in studies by Aslam et al. (2019), Bussin et al. (2023), Kirsten and Du Toit (2018) and Mnyaka-Rulwa and Akande (2024). Additionally, the study incorporated total shareholder return (TSR) and Tobin's Q (TQ) as the two market-based proxies for firm performance, following Aslam et al. (2019), Bussin et al. (2023) and Mnyaka-Rulwa and Akande (2024). The results of a literature review conducted by Al-Matari et al. (2014) show ROA as the most popular accounting based—and Tobin's Q as the most popular market-based performance measure used in corporate governance studies between 2002 and 2012. In addition, Scholtz (2024) report results that emphasises the important of EPS and TSR as performance measures used by South African firms to award EDR. These diverse measures enabled a comprehensive assessment of the firm's overall financial performance, aligning with the multifaceted nature of the study objective.

4.4 Moderator variables

Two moderator variables were tested in separate regression analyses: institutional ownership and managerial ownership. Institutional ownership pertains to the portion of a firm's outstanding (issued) shares held by institutions or organisations acting as intermediaries, fulfilling a stewardship role on behalf of other clients or beneficiaries. The second moderator variable considered was managerial ownership, which refers to the proportion of a firm's shares held by its executive directors.

4.5 Control variables

Incorporating insights from prior remuneration governance studies, the study introduced several control variables to mitigate omitted variable bias. These variables encompass firm size, leverage, block shareholding and revenue growth (Park, 2023). It is crucial to note that, in line with the recommendations of Hünermund and Louw (2020), we neither formulated any expectations for these control variables nor discussed their results, including aspects such as significance levels or direction of relationships. This approach ensured that the primary focus would remain on the examination of the moderation effect of firm ownership on the pay-performance relationship. The discussion below briefly justifies the choice of control variables, both those used within this study, as well as control variables considered, but not used in this study.

Firm size is material in determining EDR (Blanes et al., 2020), as larger firms pay more for talented and experienced directors (Ataay, 2018). Larger firms is more

complex to manage and often more profitable than small firms. Debt holders not only monitor EDR but leverage further reduces the amount of free cash flow over which executives have control. On the other hand, higher debt levels can increase risk and therefore justify higher EDR (El-Sayed, 2013; Janssen-Plas, 2009). Like debt holders, block shareholders can use several formal and informal mechanisms to monitor and limit EDR (Viviers et al., 2019). Competition for skilled directors who can lead a firm through a growth phase is often fierce between companies (El-Sayed, 2013), resulting in increased levels of EDR. High sales growth also reflects a firm's ability to expand its market share.

The presence of a Big-4 audit firm and the quality of corporate governance measures such as board composition are two control variables that may also explain variations in EDR between firms (Ntim et al., 2019) but were excluded from this study. As both these variables are highly correlated with firm size (Scholtz et al., 2022) this study argued that the inclusion of firm size as control variable should suffice. Using data from firms listed on the Pakistan Stock Exchange, Khursheed and Sheikh (2022) report results that show that dividends paid, and gross domestic product growth are also positively related to EDR. Arguable dividends paid are proxied by firm size and profitability, as larger and more profitable firms often pay more dividends, and gross domestic product growth by revenue growth.

4.6 Measurement of study variables and data sources

Data for the analysis were collected from the Iress database and hand collected from firms' integrated annual reports. Table 1 summarises the measurement of the study variables, as well as each relevant source used.

4.7 Empirical model

To examine the moderation effects of institutional—and managerial ownership on the pay-performance relationship, we state the following panel linear regression models:

$$\begin{aligned} \ln(EDR_{it}) = & \beta_o + \sum_{k=1}^4 \beta_1 (PERFORM_{it}) + \beta_2 ISHARE_{it} + \sum_{k=1}^4 \beta_3 (PERFORM_{it} * ISHARE_{it}) \\ & + \sum_{k=1}^5 \delta_k CONTROL_{it} + \alpha_i + \gamma_t + \epsilon_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} \ln(EDR_{it}) = & \beta_o + \sum_{k=1}^4 \beta_1 (PERFORM_{it}) + \beta_2 ISHARE_{it} \\ & + \sum_{k=1}^4 \beta_3 (PERFORM_{it} * ISHARE_{it}) + \sum_{k=1}^5 \delta_k CONTROL_{it} + \alpha_i + \gamma_t + \epsilon_{it} \end{aligned} \quad (2)$$

Table 1 Measurement and data sources used for study variables

Variable	Description	Source
Panel A: Dependent variable		
EDRS	The natural logarithm of average short-term EDR	IAR
EDRL	The natural logarithm of average long-term EDR	IAR
EDRI	EDRS plus EDRL	IAR
Panel B: Independent variables		
EPS	Ratio between the normalised headline earnings attributable to ordinary shareholders to weighted average outstanding ordinary shares	Iress
ROA	Ratio between profit before interest and tax, depreciation, and amortisation to total assets	Iress
TSR	Ratio between share price at year-end plus dividend (dividend yield times share price at beginning of the year) to share price at the beginning of the year	Iress
TQ	Ratio between equity (market value) and book value of debt to total assets (at replacement cost)	Iress
DSHARE ^a	The percentage of direct, indirect, beneficial, and non-beneficial shareholding held by executive directors of the firm	Iress
ISHARE	The percentage shares of direct or beneficial nature held by institutional investors, which include firms, retirement funds and insurance firms, investment banks and other financial institutions	Iress
Panel C: Control variables—continuous		
LEV	Ratio between total debt and total owners' interest	Iress
GRO	Revenue current accounting period less revenue previous accounting period divided by the revenue in the previous accounting period	Iress
SIZE	The natural logarithm of total assets	Iress
Panel C: Control variable—dichotomous		
BSHARE	Dummy variable equal to 1 if a single shareholder owns more than 5% of the issued shares, 0 otherwise	Iress

IAR integrated annual report

^aAs discussed in Sect. 4.4, directors' shareholding (DSHARE) was used in this study as proxy for managerial ownership

In all regression models, the pooled ordinary least squares (OLS), fixed-effect and random-effects models were considered. The F-test for fixed-effects and the Hausman test were employed to identify the most appropriate regression model for the 24 regression models reported in Tables 4 and 5, as well as the additional regression models that were performed as robustness (untabulated but discussed in Sect. 5.3.3).

In Eqs. (1) and (2), we name $PERFORM_{it}$ as the independent variable (respectively EPS, ROA, TSR and TQ), $CONTROL_{it}$ as the vector of control variables listed in Panel C in Table 1. Further, β_o is the constant term, i a specific firm, t time in years, α_i entity fixed effects, γ_t time fixed effects and ϵ_{it} the error term. Finally, we name $ISHARE_{it}$ and $DSHARE_{it}$ as the moderator variable in respectively Eqs. (1) and (2).

The reason why we have five control variables in our regression equations unlike the four listed in Table 1 is that each regression model controlled for the effects of the other ownership variable, hence increasing the number of control variables to five in each of the two models. To delve further into the interaction effect of the two moderator variables, a Johnson-Neyman (J-N) analysis was conducted. This analysis enables the identification of specific ranges of institutional and managerial ownership where the moderation effect is statistically significant. The utilisation of J-N analysis added depth to the exploration, allowing for a more nuanced understanding of the influence of firm ownership on pay-performance relationships.

5 Results

This section presents the descriptive statistics, correlation matrix, and regression results.

5.1 Descriptive statistics

Descriptive statistics are presented in Table 2. Normality plots and histograms were examined for all variables and where appropriate, winsorising was done using the Interquartile Range “scores” function from the R outliers’ package. For four variables (i.e., EDRS, EDRL, EDRI and SIZE), the natural logarithm was used to reduce the skewness in distribution. No outliers were trimmed (therefore removed) from the dataset. Descriptive statistics in Table 2 are presented prior to any winsorising and natural logarithmic transformations, which were used in all further analysis.

Table 2 reveals significant cross-sectional variation across all variables, aligning with the sample selection strategy. Both $ISHARE$ and $DSHARE$ exhibit a range from minimum values of 0% to respective maximum values of 61.53 and 93.94%. These variables display positively skewed distributions, indicating that most JSE-listed firms in the study sample have relatively low levels of institutional and managerial ownership. Similarly, all EDR variables reflect positively skewed distributions. This implies that many executives for the study sample firms received relatively low incentive EDR. As depicted by EPS and ROA, the average firm in the study sample was profitable, and realised average shareholders’ return of nearly 10%

Table 2 Descriptive statistics

Variable	Observations	Mean	Std. Dev	Min	Median	Max
Panel A: Dependent variable (Rm)						
EDRS	1083	2.65	3.77	0.00	1.51	47.84
EDRL	1083	7.05	58.64	0.00	0.45	1298.80
EDRI	1083	9.71	58.81	0.00	2.94	1299.29
Panel B: Independent and moderator variables						
EPS (cents)	1083	171.54	433.68	– 1625.30	6.70	3797.00
ROA (%)	1083	7.05	12.25	– 178.21	6.18	63.73
TSR (%)	1083	9.74	48.18	– 129.00	3.72	536.36
TQ (ratio)	1083	1.32	0.99	0.00	1.02	8.71
DSHARE (%)	1083	14.00	20.22	0.00	3.73	93.94
ISHARE (%)	1083	5.55	9.30	0.00	2.57	61.53
Panel C: Control variables – continuous						
LEV (ratio)	1083	1.93	9.61	– 17.71	0.88	288.97
GRO (%)	1083	0.17	1.08	– 1.00	0.07	22.78
SIZE (Rm)	1083	35.20	139.58	0.06	6.57	1804.66
Panel C: Control variables – dichotomous						
BSHARE	1083	0.93	0.26	0.00	1.00	1.00

All variables are defined in Table 1

over the study period. This is also reflected in the TQ ratio, as a ratio of more than 1 implies high growth and profit potential. Additionally, the table reveals a mean BSHARE of 0.93, suggesting that the majority of sample firms had block shareholders owning more than 5% of shares.

5.2 Correlation matrix

Table 3 shows the Pearson correlation coefficients among all study variables. As expected, Table 3 depicts that all three proxies used for EDR in this study have a significant positive correlation with the four performance variables (except for both EDRL and EDRI with TSR). The highest correlation coefficient between independent and control variables as reported in Table 3 was – 0.420 (between DSHARE and SIZE).⁶ For robustness, both Spearman- and Partial correlation coefficients were examined in addition to the Pearson correlation coefficients as reported in Table 3.⁷

⁶ Although Table 3 also depicts correlation coefficients of 0.810 between EDRS and EDRI, and 0.582 between EDRL and EDRI, such high correlations were expected as EDRI was calculated as the sum of EDRS and EDRL. Furthermore EDRS, EDRL and EDRI were used as dependent variables in different regression models in this study. In addition, high correlation coefficients between the four performance variables (EPS, ROA, TSR and TQ) were ignored as only one performance variable was used per regression model as evident from Tables 4 and 5.

⁷ For practical reasons, the Spearman – and Partial correlation coefficients are not tabulated in this paper but are available from the corresponding author on request.

Table 3 Correlation matrix

	EDRS	EDRL	EDRI	EPS	ROA	TSR	TQ	SIZE	LEV	GRO	DSHARE	BSHARE	ISHARE
EDRS	1												
EDRL	0.17***	1											
EDRI	0.810***	0.582***	1										
EPS	0.158***	0.178***	0.171***	1									
ROA	0.101***	0.124***	0.111***	0.199***	1								
TSR	0.066**	-0.019	0.036	0.145***	0.109***	1							
TQ	0.127***	0.236***	0.189***	0.112***	0.443***	0.083***	1						
SIZE	0.331***	0.325***	0.367***	0.268***	-0.003	-0.037	-0.023	1					
LEV	-0.024	-0.020	-0.036	0.005	-0.038	-0.027	0.001	0.108***	1				
GRO	-0.005	-0.005	-0.015	-0.014	-0.030	0.031	0.010	-0.029	-0.009	1			
DSHARE	-0.190***	-0.219***	-0.184***	-0.111***	-0.055	0.027	-0.035	-0.420***	-0.027	0.005	1		
BSHARE	-0.068**	0.040	-0.022	-0.018	0.062**	0.002	0.152***	-0.020	-0.119***	-0.056	0.004	1	
ISHARE	0.102***	0.187***	0.145***	0.244***	0.066**	-0.007	0.061**	0.313***	0.015	0.039	-0.189***	0.001	1

All the variables are defined in Table 1

*, **, ***, levels of significance at 10, 5, and 1% respectively

Table 4 The moderation effect of institutional ownership

	EDRS			EDRL			EDRI					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
EPS	0.004	-	-	-	0.087**	-	-	-	0.044**	-	-	-
ROA	-	0.055	-	-	-	0.096*	-	-	-	0.093	-	-
TSR	-	-	0.070**	-	-	-	-0.036**	-	-	-	0.012	-
TQ	-	-	-	0.082**	-	-	-	0.209***	-	-	-	0.170***
Ln Size	0.128	0.137*	0.156**	0.116	0.245***	0.256***	0.116	0.250***	0.318***	0.333***	0.242***	0.320***
LEV	-0.031	-0.077***	-0.076***	-0.080***	-0.056	-0.037	-0.042*	-0.042*	-0.021	-0.076***	-0.081***	-0.080***
GRO	0.067***	0.022	0.022	0.023	0.011	0.013	0.014	0.009	0.073***	0.008	0.007	0.005
DSHARE	0.008	0.013	0.014	0.002	-0.005	-0.000	-0.009	-0.011	0.061*	0.069*	0.097**	0.056
BSHARE	-0.027	-0.021	-0.020	-0.026	0.035	0.022	-0.005	-0.006	-0.002	-0.014	-0.003	-0.036
ISHARE	-0.042	-0.053	-0.037	-0.024	0.001	-0.002*	-0.077	0.013*	-0.016	-0.035**	-0.058	-0.013*
ISHARE*PERFORM	0.013	0.066	0.012	-0.069**	-0.008	0.092*	0.042	-0.056*	-0.010	0.103**	-0.015	-0.066**
<i>Firm-fixed</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year-fixed</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry-fixed</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Best model fit</i>	FE	FE	FE	FE	RE	RE	FE	RE	RE	RE	FE	RE
<i>N (Firm-years)</i>	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083
<i>R²</i>	0.01	0.02	0.02	0.02	0.03	0.03	0.02	0.05	0.05	0.05	0.03	0.07
<i>Adj. R²</i>	-0.13	-0.13	-0.12	-0.12	0.02	0.02	-0.13	0.05	0.04	0.05	-0.11	0.06

The Breusch-Pangan-Godfrey (BPG) test was used to assess heteroscedasticity

*, **, *** denotes levels of significance at the 10, 5, and 1% levels, respectively

OLS pooled ordinary least square, FE fixed effects, RE random effects

Table 5 The moderation effect of managerial ownership

EDRS				EDRL			EDRI				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
EPS	ROA	TSR	TQ	EPS	ROA	TSR	TQ	EPS	ROA	TSR	TQ
0.004	-0.005			0.085**	0.072**			0.032*	-0.007		
ROA						-0.032				0.018	
TSR		0.064*					0.201***				0.163***
TQ			0.074								
Ln Size	0.128	0.117	0.158*	0.105	0.244***	0.117	0.266***	0.316***	0.220***	0.240***	0.329***
LEV	-0.031	-0.080***	-0.077***	-0.079***	-0.056	-0.038**	-0.042*	-0.042*	-0.020	-0.082***	-0.080***
GRO	0.066**	0.021	0.021	0.022	0.011	0.014	0.013	0.009	0.075***	0.006	0.007
DSHARE	0.007	0.022***	0.014	0.020	-0.006	-0.006	-0.008**	-0.011	0.054	0.112***	0.098
BSHARE	-0.024	-0.017	-0.020	-0.036	0.035	0.021	-0.002	-0.008	0.000	0.000	-0.004
ISHARE	-0.036	-0.036	-0.036	-0.041	-0.002	0.012	-0.071*	0.001	-0.021	-0.056	-0.059
DSHARE*PERFORM	-0.008	0.067***	0.009	0.084**	0.001	-0.024	-0.046**	-0.022	-0.027	0.070***	-0.007
Firm-fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Best model fit	FE	FE	FE	FE	RE	FE	RE	RE	FE	FE	RE
N (Firm-years)	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083
R ²	0.01	0.02	0.02	0.02	0.03	0.03	0.02	0.05	0.04	0.03	0.07
Adj. R ²	-0.13	-0.12	-0.12	-0.12	0.02	0.02	-0.12	0.04	-0.10	-0.11	0.06

The Breusch-Pangan-Godfrey (BPG) test was used to assess heteroscedasticity

*, **, *** denotes levels of significance at the 10, 5, and 1% levels, respectively

OLS pooled ordinary least square, FE fixed effects, RE random effects

Like the Pearson correlation coefficients, the highest Partial correlation coefficient was -0.410 , also between DSHARE and SIZE. The highest Spearman correlation coefficient was 0.527 between SIZE and ISHARE. According to Siavoshi (2024), correlation coefficients greater than 0.80 or less than -0.80 typically indicates the presence of multicollinearity. The results of the Pearson-, Spearman- and Partial correlation coefficients therefore all suggest the absence of multicollinearity.

In addition, we have examined the variance inflation factor (VIF) score for all independent and control variables in all regression results (as reported in the next section) to confirm the absence of multicollinearity. Like Elmarzouky et al. (2021) a VIF of 10 was seen as a concern in this study. The highest VIF reported in this study was 4.1 (excluding the interaction variables), confirming the absence of multicollinearity. Dawson (2014) and Hayes (2017) have both pointed out that for the results of the regression coefficients, the significance of the interaction term (p-value) would be identical, with or without mean-centring to address multicollinearity.

5.3 Regression results

5.3.1 Moderation effect of institutional ownership

Table 4 presents the regression results from Model (1), utilising three distinct proxies for the dependent variable (EDRS, EDRL and EDRI) and four proxies for firm performance (EPS, ROA, TSR and TQ). The purpose of these regressions is to assess the moderation effect of institutional ownership on the pay-performance relationship.

Columns (6) and (10) of Table 4 show a significant positive moderation effect of institutional ownership on the relationship between EDRL and ROA, as well as between EDRI and ROA. These findings indicate that, as institutional ownership increases, the pay-performance relationship strengthens. This aligns with the monitoring hypothesis (Jensen & Meckling, 1976). Although it was not the purpose of this paper to discuss the substantive significance of coefficients, it is important to consider the substantive significance of results in addition to the statistical significance thereof (Miller, 2008). Miller (2008) however also cautioned the interpretation of logarithmic transformed variables. All dependent variables used in this study were log transformed. Using column 6 in Table 4 however as an example, our results show that if ISHARE increases with 1%, the relationship between ROA and EDRL increases with 0.092%. It should also be noted that although the purpose of this study was not to develop a model that best explains or predicts variations in EDR, the reported R^2 in all regression models in Tables 4 and 5 are very low, and points to a limitation of this study. Such low R^2 is a limitation of this study that further restricted our ability to interpret and report on substantial significance.

Conversely, columns (4), (8) and (12), of Table 4 show a significant negative moderation effect of institutional ownership on the relationship between all three pay variables (EDRS, EDRL and EDRI) and TQ. These results indicate that, with an increase in institutional ownership, the pay-performance relationship weakens. More specifically, a 1% increase in ISHARE, results in decreased relationship between TQ

and EDRS, EDRL and EDRI with respectively -0.069 , -0.056 , and -0.066% . This finding contradicts theoretical expectations but aligns with the findings of Lee and Chen (2011), Croci et al. (2012), and Fernandes et al. (2013). Jentsch (2019) also supports this observation by highlighting that institutional shareholders with a significant holding can lead to a reduction in firm value. The results support our first hypothesis (H_1), suggesting that the level of institutional ownership moderates the pay-performance relationship.

Overall, the study results therefore reveal an inconsistent moderation effect of institutional ownership on the pay-performance relationship. Following the establishment of statistically significant results for the moderation effect of institutional ownership on the pay-performance relationship as presented in Table 4, we proceeded to conduct a J-N analysis to pinpoint the specific ranges of institutional ownership where the moderation effect is significant (therefore the models in columns 4, 6, 8, 10 and 12). Figure 1 shows a significant positive effect on the relationship between EDRL and ROA for any level of institutional ownership above 1.05%. A closely related result is depicted in Fig. 2, where a minimum institutional ownership of 1.69% and above enhances the relationship between EDRI and ROA.

Figure 3, on the other hand, illustrates that institutional ownership has a significant and negative moderation effect on the relationship between EDRS and TQ for institutional ownership levels below 5.22%. Similarly, Figs. 4 and 5 depicts related significant negative moderation effects. More specifically, institutional ownership negatively moderates the pay-performance relationship (both EDRL and EDRI, and TQ), but only at institutional ownership levels

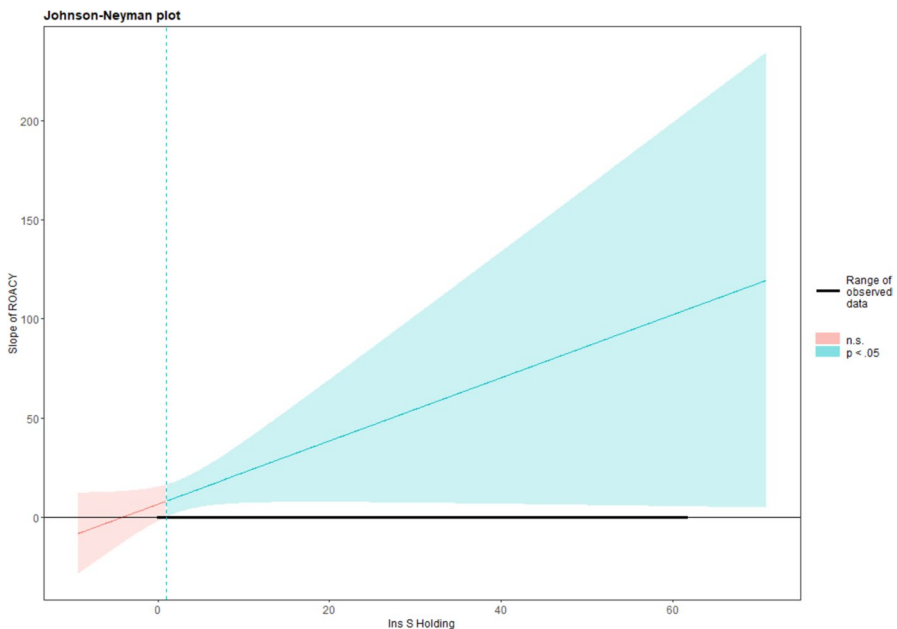


Fig. 1 The moderation effect of institutional ownership on the relationship between EDRL and ROA

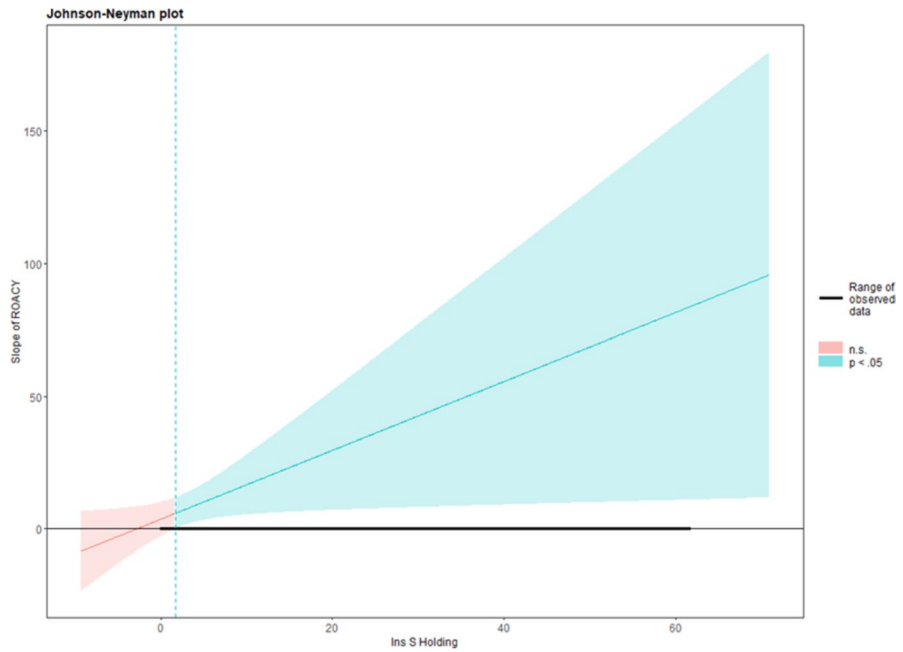


Fig. 2 The moderation effect of institutional ownership on the relationship between EDRI and ROA

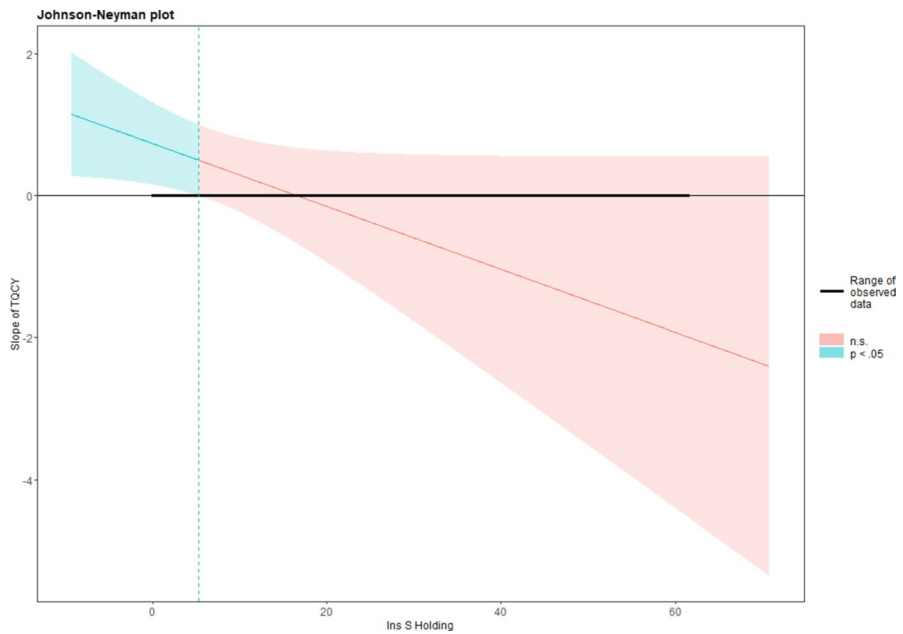


Fig. 3 The moderation effect of institutional ownership on the relationship between EDRS and TQ

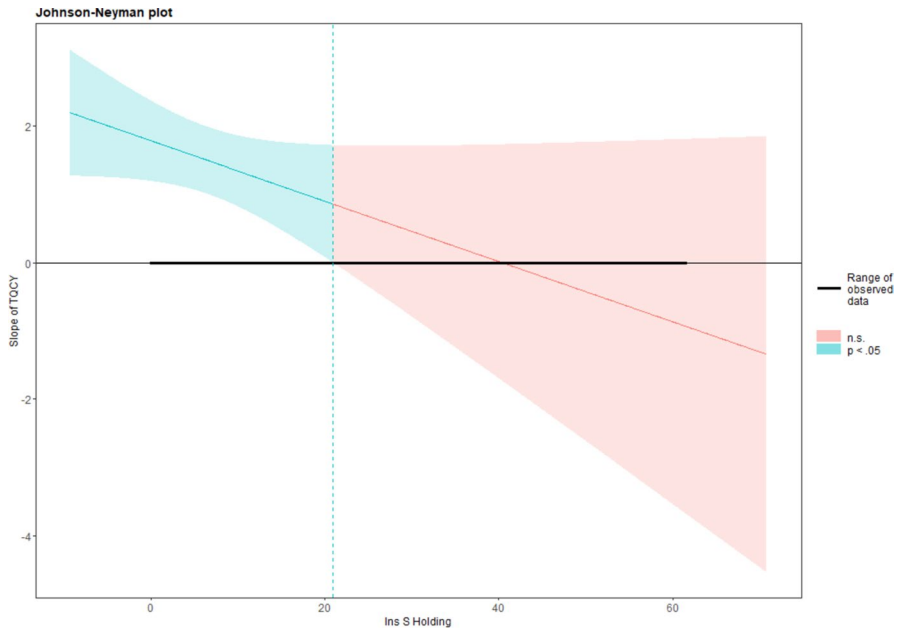


Fig. 4 The moderation effect of institutional ownership on the relationship between EDRL and TQ

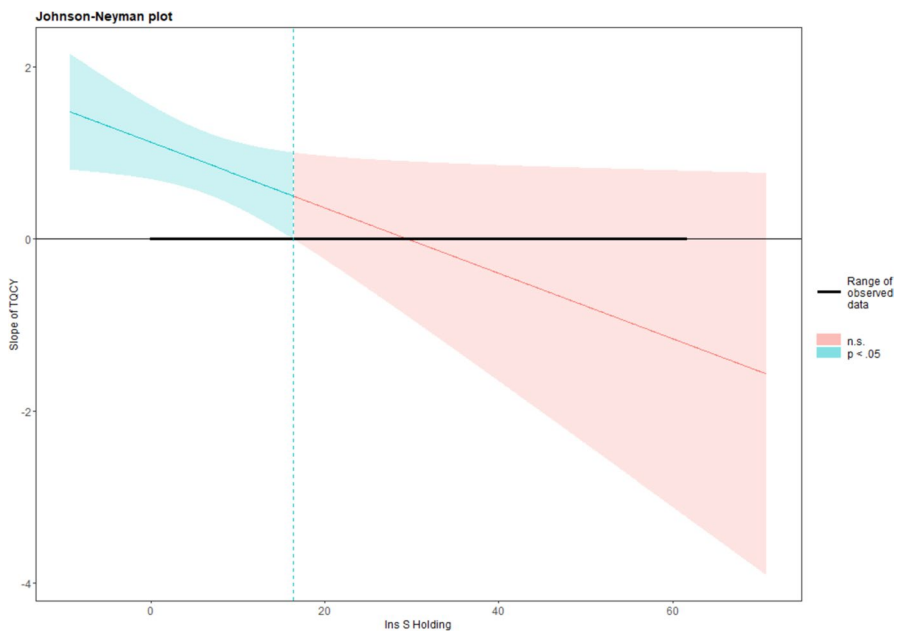


Fig. 5 The moderation effect of institutional ownership on the relationship between EDRI and TQ

below 20.86% for EDRL and 16.37% for EDRI. The findings indicate that higher institutional ownership levels may improve the pay-performance relationship. Although the effect is not statistically significant in a positive direction, the absence of negative moderation at higher ownership levels suggests stronger influence by institutional shareholders, fostering better alignment.

5.3.2 Moderation effect of managerial ownership

Table 5 presents the regression results from Model (2), utilising three distinct proxies for the dependent variable (EDRS, EDRL and EDRI) and four proxies for firm performance (EPS, ROA, TSR and TQ). The purpose of these regressions is to assess the moderation effect of managerial ownership on the pay-performance relationship.

In columns (2) and (10) we identify a significant positive moderation effect of managerial ownership (DSHARE) on the relationship between EDRS and ROA, as well as between EDRI and ROA. In addition, column (4) shows that managerial ownership positively moderates the relationship between EDRS and TQ. These findings align partially with the alignment hypothesis (Jensen & Meckling, 1976) and correspond with the outcomes reported by Adelopo et al. (2023), who highlighted that managerial ownership is among the corporate governance variables that positively influence the pay-performance relationship. A 1% increase in DSHARE therefore results in a 0.067 and 0.070% increased relationship between ROA and respectively EDRS and EDRI. Similarly, a 1% increase in DSHARE results in a 0.084% increased relationship between TQ and EDRS. Column (7), on the other hand, depicts a statistically significant negative moderation effect of managerial ownership on the relationship between EDRL and TSR. This negative moderation effect contradicts the alignment hypothesis, leaning towards supporting the managerial entrenchment hypothesis. Several explanations are proposed for this counterintuitive result, including the potential influence of short-termism, and aggressive accounting choices (Kazemian & Sanusi, 2015; Warfield et al., 1995). These findings support the second hypothesis (H_2), suggesting that the level of managerial ownership moderates the pay-performance relationship.

Figures 6, 7, 8, and 9 present the moderation effects of managerial ownership on the pay-performance relationship through J-N analysis, offering further insights into the nuanced dynamics observed in the study. Figures 6, 7 and 8 reveal significant positive moderation effects. These positive moderation effects however only hold for higher levels of managerial ownership above 0.34, 0.32, and 0.17%. Therefore, lower levels of managerial ownership do not assist in strengthening the positive EDRL-ROA relationship. These findings align with the alignment hypothesis and support the study hypothesis.

Figure 9, on the other hand, reveals results that deviate from theoretical predictions, indicating that managerial ownership diminishes the relationship between EDRL and TSR from a minimum shareholding of 0.22% and above.

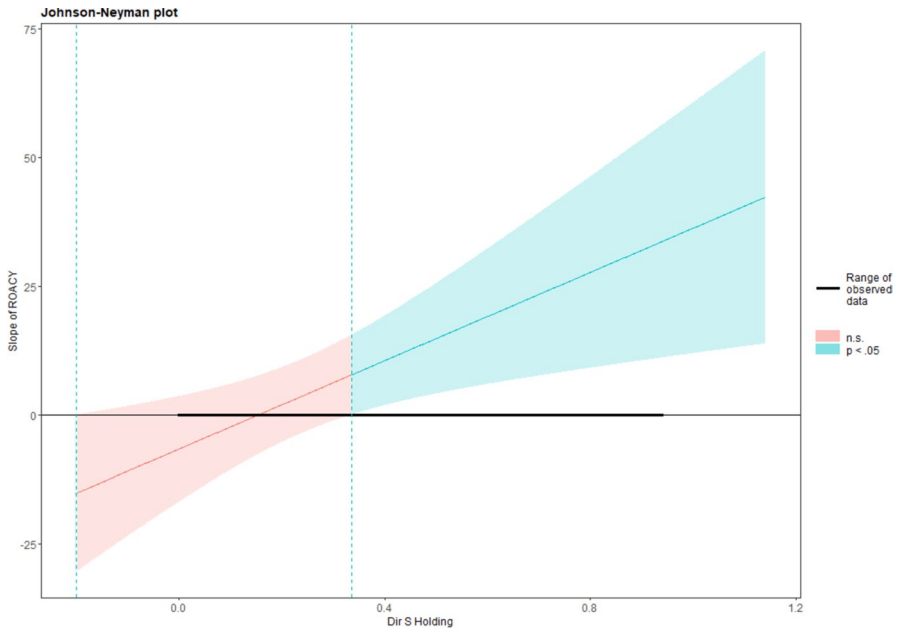


Fig. 6 The moderation effect of managerial ownership on the relationship between EDRS and ROA

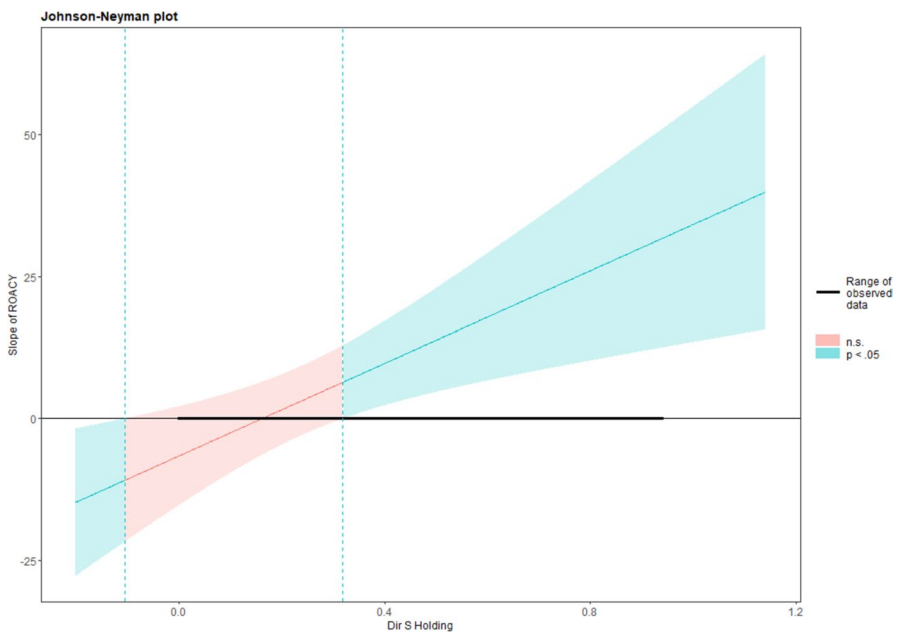


Fig. 7 The moderation effect of managerial ownership on the relationship between EDRI and ROA

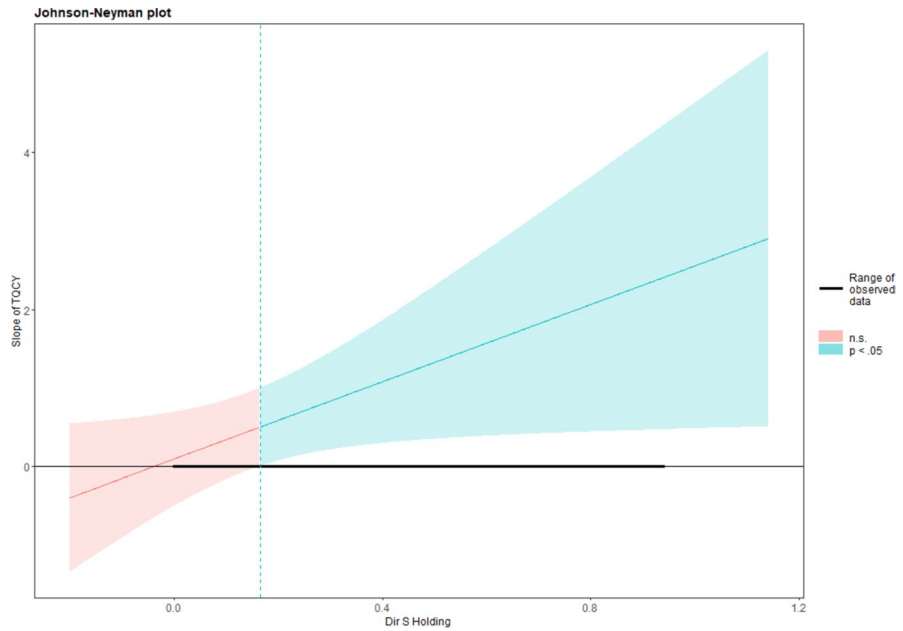


Fig. 8 The moderation effect of managerial ownership on the relationship between EDRS and TQ

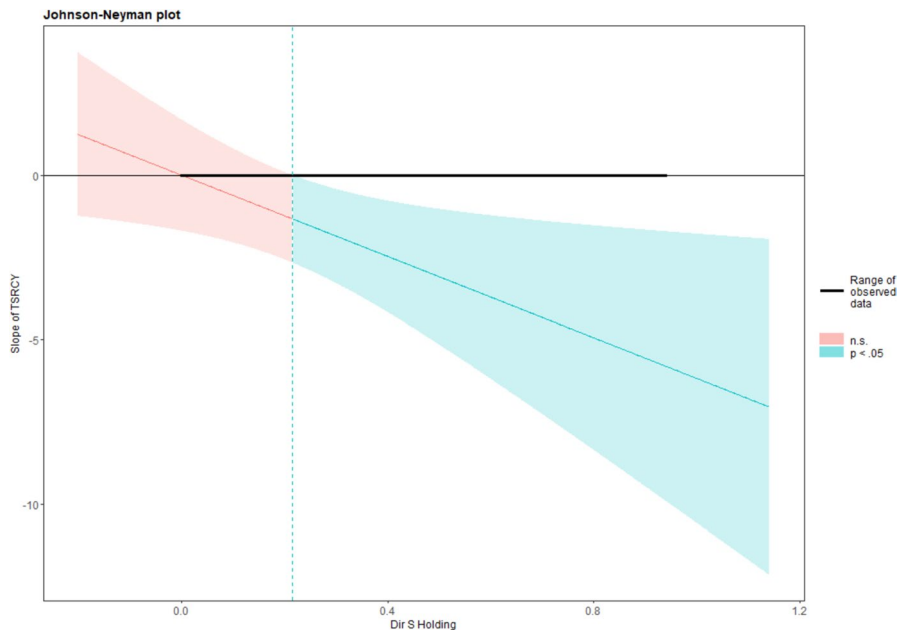


Fig. 9 The moderation effect of managerial ownership on the relationship between EDRL and TSR

5.3.3 Additional tests

In addition to the regression analyses reported in Tables 4 and 5, we have conducted several additional analyses for robustness. For practical reasons, the results are not tabulated, and only discussed as appropriate.

Although we have specifically excluded basic or fixed EDR (EDRB) as discussed in Sect. 4.2, empirical evidence shows that firm size accounts for more than 40% of the variance in total CEO pay, while performance accounts for less than 5% (Tosi et al., 2020). As a result, we have conducted eight additional regression analyses to examine the moderating effect of ISHARE and DSHARE on the relationship between each of the four performance proxies and EDRT. EDRT is calculated as the total of EDRB, EDRS and EDRL. For ISHARE, only one significant moderating effect was found, TSR at the 5% level. More specifically, a 1% increase in ISHARE resulted in a 0.066% increased relationship between TSR and EDRT. For DSHARE, no statistically significant moderating effect was observed for any of the additional regression analyses performed.

Although there is a possibility that the EDR awarded in one year was contingent on the achievement of firm performance targets in the previous year, most prior studies have not included any lagged performance measures in the investigation of the pay-performance relationship. As additional robustness tests, we have conducted 24 additional regression analyses with lagged performance, moderator and control variables. For ISHARE, the results pertaining to the ISHARE*PERFORM variable remained significant or non-significant as reported in Table 4, except for columns 4 (TQ and EDRS), 6 (ROA and EDRL) and 10 (ROA and EDRI) where no significant moderating effects were found for the lagged variables. For DSHARE, the results pertaining to the DSHARE*PERFORM variable remained significant or non-significant as reported in Table 5, except for columns 2 (ROA and EDRS), 7 (TSR and EDRL) and 10 (ROA and EDRI) where no significant moderating effects were found for the lagged variables. Using lagged variables, DSHARE was however found to significantly (positively) moderate the relationship between TQ and EDRI.

6 Conclusion

Spanning the period from 2012 to 2022 and utilising data from JSE-listed firms, we meticulously explored the intricate dynamics between EDR, institutional ownership, managerial ownership, and firm performance. Employing panel regression models and the J-N analysis, our investigation yielded nuanced insights that contribute to the existing literature.

Our study findings revealed a dual-faced role of institutional ownership. On the one hand, a positive and significant moderation effect on ROA emerged, suggesting that heightened institutional ownership is associated with an amplified connection between EDRL and ROA, as well as between EDRI and ROA. This aligns with the monitoring hypothesis, indicating that institutional oversight enhances the alignment of EDR and firm performance. On the other hand, we observed a negative moderation effect on market-based performance metric TQ at lower levels of institutional

ownership. As institutional ownership increased, a reduction in the relationship between incentive remuneration and TQ ensued, up to a maximum shareholding of 20.86% of ownership. The findings indicate that higher institutional ownership levels may improve the pay-performance relationship. Although the effect is not statistically significant in a positive direction, the absence of negative moderation at higher ownership levels suggests stronger influence by institutional shareholders, fostering better alignment.

Likewise, it was found that managerial ownership plays a pivotal role in shaping the pay-performance relationship. This study revealed a significant and positive moderation effect on ROA for both EDRS and EDRI. This finding supports the alignment hypothesis, indicating that higher managerial ownership strengthens the pay-performance relationship. However, a noteworthy negative moderation effect on TSR emerged concerning the relationship between EDRL and TSR. This counterintuitive finding suggests potential managerial entrenchment and prompts considerations of factors such as short-termism and aggressive accounting choices.

The implication of this study extends beyond the immediate findings. Firstly, we contribute to the literature on institutional and managerial ownership roles within emerging markets, with a specific focus on the nuanced South African context. The study aligns remuneration governance with broader socio-economic development objectives, offering potential avenues for mitigating income inequality. The validation of both monitoring and alignment hypotheses in emerging markets acts to enhance the understanding of contemporary remuneration governance dynamics.

The study introduces methodological novelty through the application of J-N analysis, providing granular insights into the moderation effects and delineating specific ranges of significant impact within the South African market. South Africa presents unique circumstances, such as the high-income inequality discussed in the Introduction, which may limit the applicability of the results to other emerging markets. However, we also acknowledge the limitation associated with the exclusive reliance on financial metrics. We therefore propose that future research might incorporate non-financial performance measures like the Environmental, Social and Governance (ESG) scores for a more comprehensive analysis. Research by Dell’Erba and Ferrarini (2024) however questions whether EDR is the best incentive for ESG compliance. The exclusion of non-financial metrics may however limit the generalisability of our findings.

As a result of our sample size, it was not feasible to perform regression analyses for various levels of institutional and managerial ownership (often referred to as sub-sampling) like Elmarzouky et al. (2023) and Shohaieb et al. (2022). Given the inherent link between the pay gap and diversity management, future studies should also consider the moderating effect of women on the board and board independence. Shohaieb et al. (2022), for example, report results that suggest that more women on the board results in more pressure on management to increase the level of diversity management disclosures.

Finally, we suggest that future research could explore conducting in-depth interviews with both institutional shareholders and firm executives. By delving into their perspectives, researchers can gain valuable insights into the pivotal role they play in fortifying the pay-performance relationship within listed firms. The practical

implications of our findings are significant. Institutional shareholders can leverage their influence to enhance the pay-performance alignment by actively engaging in monitoring EDR structures. This could involve recommending performance-based targets that align with both financial and strategic goals, thus ensuring that executive incentives promote sustainable firm growth. Additionally, encouraging a long-term investment perspective can mitigate the negative impacts of short-termism and enhance firm value. Institutional investors should advocate for EDR structures that reward long-term performance and discourage aggressive accounting practices. Firms should consider increasing managerial ownership stakes to strengthen the alignment between management and shareholder interests, leading to better operational performance and higher returns on assets. Implementing governance mechanisms that counteract potential entrenchment risks associated with high managerial ownership is also crucial. This could include setting clear performance metrics, regular performance reviews, and ensuring transparency in executive compensation. Policymakers should develop regulatory frameworks that encourage transparency and accountability in executive compensation practices. Regulation that mandate adherence to the remuneration governance components of King IV, which promote the disclosure of remuneration policies and performance metrics can enhance investor confidence and ensure fair compensation practices.

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