Executive Compensation Schemes: Accelerants of Agency and Corporate Governance Problems in South Africa

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Abstract

Executive remuneration has been less analysed and there is need for scrutiny on executive compensation structures and their implications on corporate governance. The study aimed to ascertain the role of executive compensation in accelerating agency and governance problems for FTSE/JSE Top-40 companies from 2008 - 2016. A Generalised Method of Moments was employed, and the results revealed that executive compensation structures can be accelerants of agency and corporate governance problems as the performance was found to negatively affect directors' remuneration. Also, governance had a negative impact on remuneration. Share option trading results confirm agency conflict as net trades and the number of directors that traded on their share options were found to deteriorate with improvement in remuneration. Therefore, it is recommended that the remuneration of executives must be aligned with performance and corporate governance. Moreover, executive directors must exercise their share options after the vesting period and in years they meet predetermined performance targets. Companies should adopt the proposed executive remuneration model in their policies to ensure that executive remuneration considers the governance of the companies they lead. The study's proposed model can be modified in future studies to incorporate other performance matrices such as the six capitals.

Keywords: Remuneration Model, Executive Compensation, Governance, Share Options

Introduction

Corporate governance (CG) is anchored in agency theory and CG encompasses executive remuneration issues (Jin, Li & Liang, 2022; Sarhan & Al-Najjar, 2022). Agency theory identifies shareholders (long-term or short-term) as the main providers of equity capital.

Shareholders, as principals, enter contracts with executives who are supposed to maximise value on their behalf. These value maximisation contracts are a result of the separation that exists between those who own companies (shareholders) and those that run companies daily (executives). This arrangement between the principal and agent is what is known as the principal-agency relationship.

The principal-agency relationship (agency relationship hereafter) results in a power-sharing scenario which is defined by CG arrangements (Gompers, Ishii and Metrick, 2003). The principal will have the power to hire or fire the agent, reward the agent, ratify, or reject the agent's strategy or business model while the agent acquires more knowledge about companies they run daily and use that knowledge to negotiate compensation with the principal. Naturally, the interests of the principal and the agent vary as each exercises power to achieve intended objectives. It is this divergence of interests that creates agency problems as both the principal and agent are motivated to espouse their interests at each other's expense. In intending to maximise return on capital provided and minimise residual risk, the principal can structure incentive packages for the agents to attract the best skills (Lambert, 2001; Neokleous, 2015) and retain control over the agent's behaviour towards attaining agreed value maximisation targets.

The principal can craft the agent's compensation based on recognisable financial outcomes which are contracted upon (Lambert, 2001) to achieve convergence of interests. In contrast, the agent is expected to make decisions on behalf of the principal while bearing some risks of being fired should she or he fails to maximise value for the principal (Lambert, 2001). Since the agent has more knowledge about the company than the principal and has the motivation to maximise his or her compensation before being sacked, the temptation to engage in unscrupulous management of financial outcomes contracted upon is high. The potential misalignment of interests and motivations in the agency relationship makes the compensation of the agent an important component of agency theory. As such, this study seeks to use the agency theory lens in examining the role of executive compensation schemes in exacerbating agency and CG problems in South Africa's top forty biggest listed companies.

These are companies listed on Financial Times Stock Exchange/ Johannesburg Stock Exchange (FTSE/JSE) Top40 index and constitute over 80% of the total Johannesburg Stock Exchange (JSE) market capitalisation, are among the most traded shares, and have wider institutional ownership (Courtney Capital Private Wealth, 2013). The aforesaid characteristics were identified by Gompers et al. (2003) as positively linked to CG. Also, being the top forty largest listed companies in the country, governed by listing requirements, laws, regulations, and codes of best practice such as King IV, awaken expectations that insignificant agency and CG problems exist because they regulate agents' behaviour. The study focuses on these companies because their size, industries they

operate, contribution to economic performance and fiscus tend to set the tone of CG behaviour in the country.

Given this background, the researchers used an agency theoretical lens to achieve the following objectives:

1. To ascertain the role of executive compensation in exacerbating agency and CG problems in South Africa, given the conclusions by Nordberg (2011) that compensation schemes are the biggest aspect of CG; and
2. To establish an executive compensation model that records pertinent aspects of CG in incentivising executives. The model considers Kirkpatrick's (2009) assertions that mismatches in incentive systems may cause weaknesses in CG.

The Problem and Research Gap

Kirkpatrick (2009) and Sánchez-Marín, Lucas-Pérez, Baixauli-Soler, Main, and Mínguez-Vera (2022) suggested that executive remuneration has been less analysed and there needs to be scrutiny on executive compensation structures and their implications on CG. In contributing to the suggested shortfalls in the analysis of executive compensation, this study examined the role of executive compensation schemes in exacerbating agency and CG problems in South Africa. Furthermore, Kirkpatrick (2009) cites the Institute of International Finance's (2008a) proposed principles of conduct for compensation policies which provide guidelines on executive compensation. However, the focus of the proposed principles is on incentivising executives based on profitability, risk-adjusted compensation, compensation that does not encourage risk-taking, severance pay that considers performance for shareholders over time, and transparency to stakeholders – all of which fall short in proposing a remuneration model that considers executive's governance of the company and other pertinent factors other than company's financial performance in the reward period. This study seeks to address this gap by proposing a remuneration model that considers the governance of the company and other pertinent factors.

This study contributes to present knowledge by ascertaining the role that executive compensation structures play in weakening CG mechanisms and exacerbating agency problems (an unintended consequence of agency theory). Also, this paper contributes to extant knowledge by proposing an executive remuneration model that incorporates the executive's governance of the company and other pertinent factors other than financial performance. In establishing the model, the researchers formulated governance indices using South Africa's King Reports on Corporate Governance – a first for South Africa as we are aware at the time of the research.

The paper's layout is as follows: In Section 2 literature on executive compensation and nexuses to CG challenges is reviewed. Then followed by Section 3 where the researchers discuss the construction of the governance index as a proxy, model specification and the employed estimation techniques in proposing a remuneration model that considers the governance of a company. Section 4 displays, analyses, and discusses empirical results, while Section 5 reports the concluding remarks, and the theoretical and policy implications.

Literature Review

Executive compensation is a controversial topic (Edmans & Gabaix, 2009; Neokleous, 2015) and CG incorporates issues around it thus warrants inclusion in the paper. The interaction between executive compensation and CG is becoming topical among researchers, media, and policymakers (Neokleous, 2015; Abdalkrim, 2019). Munzig (2003) adds that executive compensation and attempts to achieve goal congruence between shareholder-executive interests are part of CG. As such, are directly linked to agency problems. Agency theory suggests that executive compensation is aimed at aligning shareholder and executive interests to maximise shareholder value. In this attempt, contracts are crafted to attract talented executives, rewarding them for their efforts in exploiting growth opportunities, minimising costs and rejecting wasteful projects (Edmans & Gabaix, 2009). Also, while shareholders seek to get maximised value, executives endeavour to maximise personal wealth by negotiating favourable compensation (Bebchuk & Fried, 2006). This is what agency theory seeks to avoid (Al Farooque, Buachoom & Hoang, 2019; Jin et al., 2022). The costs of that avoidance are agency costs such as monitoring, bonding, and residual costs (Meinhövel, 1999 cited in Dühnfort, Klein & Lampenius, 2008)). These costs may be profit-related or economic value-added compensation, attractive share offers to executives, and share option schemes. Jensen and Meckling (1976) argue that these agency costs are unavoidable for the shareholder because of the existence of the agency relationship.

Following on from executives' wealth maximisation accentuated by Bebchuk and Fried (2006), Shah (2014) contributes to the debate by suggesting that agency problems may be exacerbated by executives' compensation structure. Shah (2014) further states that where goal-divergence exists and monitoring is problematic or ineffective, executives may act in their interests which contradicts shareholders'. Consequently, implications for governance systems are that shareholders carry substantial monitoring, bonding, residual, and enforcement costs on negotiated contracts. It is therefore essential to ensure that negotiated executive contracts remunerate based on a model that incorporates executives' governance of the company and not only on financial outcomes.

Executive compensation and its implications on CG are further made complex by variations in incentive structures that exist within companies and among executives (Laffont &

Martimort, 2002 cited in Shah, 2014; Ferri & Gök, 2018). The existence of variations may emanate from compensation negotiations during the appointments of new executives. Subsequently, this causes distortions in existing compensation structures which may not consider how the newly appointed executive will govern the company they will lead. Empirically, Prudential, a UK company appointed a new executive and consented to pay £513 750 for stamp duty in the acquisition of a personal house and interest of £56 604 per annum for three years (Pratley, 2016). These benefits were not afforded to his predecessor or other executives within the company. The benefits were not related or linked to how the new executive will govern the company.

To support the assertion that compensation structures for executives may exacerbate agency problems, Shah (2014) cited a 2013 survey by Sorkin. The survey included 250 financial services industry role-players on Wall Street. The survey's findings included that:

- 26% of participants believed that compensation and bonus structures are the main reasons employees compromise ethical standards and breaches of the law;
- 17% of participants held that leaders paid a blind eye to top achievers who would have violated ethical standards and the law; and
- 15% of the participants intimated that the leader will not report such violations.

Inferring from the survey's findings, by neglecting executives' governance of the company, current compensation structures introduce conflicts of interests that executives, as beneficiaries of financial outcomes, are willing to weaken the efficacy of CG systems, conceal ethical and law breaches, and act undetected for personal gain. The Olympus case augment the survey's findings as the company's executives managed to conceal losses for more than twenty years (Hawkes & Goodley, 2011) until a newly appointed executive exposed the scandal. Another case that amplifies the dangers of neglecting the executives' governance in compensation structures is that of Steinhoff International where the CEO managed to manipulate financial statements since 2014. Financial statements for years ending 2015, 2016, and 2017 had to be restated due to 'accounting irregularities' (Steinhoffinternational.com, 2018). Further evidence of how ignoring executives' governance in compensation structures may cause or create agency problems and weaknesses in CG systems are prominent in the Tongaat Hulett scandal. Here, a PwC investigation uncovered accounting fraud (revenue and asset-value overstatements and understatement of expenses), governance failures and participation in misstatements of financial statements by some of the company's former senior executives (Lowman, 2019). Lowman (2019) cites the PwC report that highlighted that those former senior executives seemed to have been motivated by personal enrichment to be acquired in the years when financial targets were achieved through the over and understatements in financial reports. Governance policies, guidelines, and frameworks were sacrificed (Lowman, 2019 citing the PwC report) for the sake of striving to earn lucrative compensation. Thus, this evidence seems to sustain the study's title question of whether executive compensation schemes are accelerants of agency and CG problems or not.

In some instances, the principal offers the agent overly generous compensations to satisfy the principal's short-termism, particularly when investment decisions are focused on the short-term performance evaluation of the agent (Shah, 2014). This creates a conducive environment for what Bebchuk, Fried and Walker (2002) and Bertrand and Mullainathan (2001) termed 'rent-extraction' from principals. The modern-day compensation structures and related contracts also make it difficult for the principal to fire the agent should they not perform, or flout CG regulations and best practices (Gompers et al., 2003). The shareholders' demand for short-term returns has created an adrenalin-pumped desire to do whatever it takes for the executives to deliver handsome quarterly results. The result is a high-risk high-return approach which circumvents and willingly breaches CG mechanisms, quests to make excess returns, entices management of earnings, and possible engagement in fraudulent financial reporting. This high-risk high-return approach has unintended consequences of executives requiring managerial entrenchments which limit the rights of shareholders. Also, managerial entrenchments make it difficult and costly to fire executives. This further increases the control or influence of executives. The resultant impact is that the independence of board committees and their monitoring capacity is compromised (Linck, Netter & Yang, 2008). Consequently, executives may extract personal benefits from shareholders, leading to higher agency costs and a decline in company valuations. In all this, sight is lost on how the executive governs the company or upholds CG systems in place.

Performance bonuses paid to executives as sweeteners to encourage goal congruence provide opportunities for call options that have enormous upside profit potential but with no risk of losses (Maskara et al., 2012). As such, the executive shares profits but not losses with the shareholder. The said authors further suggest that this creates an unruly incentive scheme that results in the agent taking excessive risks. Lessons from the 2008 financial crisis revealed that executives can still pocket handsome compensation and bonuses while shareholders and taxpayers incur devasting losses. To deal with the incontinent executive incentive schemes that created such challenges, we argue for the incorporation of governance in compensation structures. This is a risk-sharing method between the shareholder and executive as any excessive risk-taking will cost the executive should losses be incurred due to circumvented CG systems. Also, this should mitigate the risk exposures driven by executive compensation structures (Kirkpatrick, 2009 citing KPMG (2008)).

Although the afore-cited literature highlights various challenges with current executive incentive schemes, it falls short in addressing the role of executive compensation schemes in exacerbating agency and CG problems as well as providing remuneration model(s) to mitigate the challenges. These are the gaps that this paper seeks to address.

Methodology

The paper aimed to ascertain the role of executive compensation in exacerbating agency and CG problems and establish an executive compensation model that records pertinent aspects of CG in incentivising executives. Therefore, this article employed archival research which Corti (2004:20) defined "as the locating, evaluating and systematic interpretation, and analysis of sources found in archives". Historical data and publicly available information were collected and used. Annual financial statements (AFS) and or integrated reports <IR> published and filed by companies were used. The validity and reliability of data were done on the assumption that filed records and documents are official and are a true or fair representation of the companies' position as filed with the Johannesburg Stock Exchange (JSE).

The collected data was used to calculate governance indices as discussed below and the indices served as one of the variables of the formulated remuneration model. In formulating the indices, provisions from King III and King IV were extracted to make them relevant to South Africa – one major salient contribution of this paper.

Governance Index

Data collected enabled the calculation of the governance index (G-Index). Maskara et al. (2012) found that many CG studies that try to ascertain the influence of CG on securities valuation, information disclosure, firm performance, and financial distress, have similar constructions of the G-Index. As such, this study chose not to reinvent the wheel but to adopt a similar index-construction method. However, the study's uniqueness is in the provisions used in the construction of the index. The provisions were extracted from King III and King IV's recommendations, whereas provisions used in other studies are extracted from the company's Memorandum of Incorporations. King reports include principles and practices, and provisions that, if adhered to or not, demonstrate the strength of the executives' governance in the companies they lead. The provisions are then mapped to what was contained in the Governance Sections of 46 companies representing 423 AFS and or <IR> from 2008 to 2016. This enabled the study to capture the strength and quality of CG. This approach of index construction anchored the study in agency theory and has support from observable evidence (Shaukat & Trojanowski, 2017).

Twenty provisions addressing board and committee independence and compliance with laws and regulations were gleaned from the King III and King IV recommendations. The recommendations focus on oversight functions of the nominating, remuneration, audit, risk, social and ethics committees, the committee overseeing technology and information governance, and compliance to laws, regulations, rules, codes, and standards.

The weighting of the twenty provisions was equal. To convert the provisions into a governance index, 1 point was added where the company complied with laws, regulations, codes, and standards. Zero was allocated for non-compliance with the King III and King IV recommendations. This means that a company that was compliant with all provisions would have a total of twenty points (G-Index of 20) and would be considered a well-governed company. In contrast, a company with a calculated index closer to 0 would suggest a poorly governed company. This index calculation aligned with Gompers et al. (2003), Bebchuk, Cohen and Ferrell (2004), Brown and Caylor (2006) and Shaukat and Trojanowski's (2017) index construction. We then used calculated indices as governance proxies included in the proposed remuneration model.

Table 1: Summary of governance indices between 2008 and 2016

TABLE 1: SUMMARY OF GOVERNANCE INDICES BETWEEN 2008-2016												
Company Name	Name	Sector	2016	2015	2014	2013	2012	2011	2010	2009	2008	Average
Anglo American plc	1	Mining-Metals & Minerals	14	14	14	15	15	15	14	14	14	14
AngloGold Ashanti Ltd.	2	Mining-Gold	19	19	19	20	20	20	20	16	16	19
Anglo American Platinum Ltd.	3	Mining-Platinum	16	15	18	17	18	15	14	14	16	16
Aspen Pharmacare Holdings Ltd.	4	Manufacturing-Pharmaceutical	18	19	19	18	19	16	17	16	14	17
Barclays Africa Group Ltd.	5	Banks-Financial Services	19	19	18	19	19	19	16	16	15	18
BHP Billiton Plc	6	Mining-Metals & Minerals	16	16	16	16	16	16	16	16	16	16
British American Tobacco plc	7	Manufacturing-Tobacco	19	18	19	19	19	19	19	19	19	19
The Bidvest Group Ltd.	8	Industrial-Diversified	16	16	16	15	16	14	14	14	12	15
Discovery Ltd.	9	Insurance-Financial Services	12	13	13	13	13	12	12	12	12	12
FirstRand Ltd.	10	Banks-Financial Services	18	16	17	15	15	11	15	15	15	15
Gold Fields Ltd.	11	Mining-Gold	18	17	17	17	17	15	15	15	15	16
Growthpoint Properties Ltd.	12	Real Estate	17	17	17	17	17	13	13	13	13	15
Impala Platinum Holdings Ltd.	13	Mining-Platinum	18	15	16	16	16	18	18	17	17	17
Investec Ltd.	14	Investment-Financial Services	19	19	18	18	18	14	14	14	14	16
Intu Properties plc	15	Real Estate	16	16	16	16	16	16	16	16	15	16
Life Healthcare Group Holdings Ltd.	16	Hospital Mgt-Healthcare	19	19	18	19	19	19	15	15	15	18
Mondi Ltd.	17	Manufacturing-Paper	17	17	17	17	17	14	14	14	14	16
Mr Price Group Ltd.	18	Retail-Soft goods	19	18	18	17	17	15	15	16	16	17
MTN Group Ltd.	19	Wireless Telecom Services	16	16	20	18	17	18	14	15	14	16
Nedbank Group Ltd.	20	Banks-Financial Services	20	20	20	20	20	20	16	16	16	19
Naspers Ltd.	21	Broadcasting Contractors	19	19	19	19	13	13	16	16	13	16
Netcare Ltd.	22	Hospital Mgt-Healthcare	18	16	15	15	15	12	12	13	12	14
Old Mutual plc	23	Insurance-Financial Services	16	16	15	15	15	15	15	15	15	15
Redefine Properties Ltd.	24	Real Estate	15	15	14	15	15	13	13	13	11	14
Remgro Ltd.	25	Industrial-Diversified	19	19	19	19	19	17	17	17	17	18
RMB Holdings Ltd.	26	Banks-Financial Services	17	17	18	17	18	17	14	13	14	16
Sappi Ltd.	27	Manufacturing-Paper	19	18	18	18	15	15	15	15	15	16
Standard Bank Group Ltd.	28	Banks-Financial Services	15	17	18	18	17	17	13	13	13	16
Shoprite Holdings Ltd.	29	Retail-Food & Drug	18	18	18	17	16	9	10	9	9	14
Sanlam Ltd.	30	Insurance-Financial Services	14	14	15	15	15	15	12	12	12	14
Sasol Ltd.	31	Manufacturing-Chemical Speiality	20	20	20	20	20	18	17	18	18	19
Tiger Brands Ltd.	32	Manufacturing-Food Processors	15	15	15	15	17	12	12	14	14	14
Vodacom Group Ltd.	33	Wireless Telecom Services	13	13	13	13	13	13	11	9	8	12
Woolworths Holdings Ltd.	34	Retail-Multi Department	19	19	19	19	19	15	15	14	14	17
African Rainbow Minerals Ltd.	35	Mining-Metals & Minerals	15	15	15	15	15	15	13	13	13	14
Assore Ltd.	36	Mining-Metals & Minerals	12	12	12	12	12	10	10	10	10	11
Barloworld Ltd.	37	Industrial-Diversified	18	18	18	17	18	18	15	14	14	17
Capital & Counties Properties plc	38	Real Estate	16	16	16	16	16	16	16	16	16	16
Capitec Bank Holdings Ltd.	39	Banks-Financial Services	16	16	16	16	15	13	13	14	14	15
Exxaro Resources Ltd.	40	Mining-Coal	19	19	19	19	18	14	14	13	14	17
Imperial Holdings Ltd.	41	Transportation Services	18	18	18	18	17	17	15	14	14	17
Kumba Iron Ore Ltd.	42	Mining-Steel	19	19	18	17	16	17	13	13	13	16
Liberty Holdings Ltd.	43	Insurance-Financial Services	19	19	19	19	18	18	15	15	15	17
Massmart Holdings Ltd.	44	Retail-Multi Department	15	15	15	15	15	15	17	16	16	15
Pick n Pay Stores Ltd.	45	Retail-Food & Drug	16	16	17	16	17	16	16	16	14	16
Truworths International Ltd.	46	Retail-Soft goods	16	14	16	15	15	13	13	13	13	14
Average Gov Score over the period 2008-2016												16

Source: Own study

Executive Compensation Model

The researchers sought to propose an executive remuneration model that considers the executives' governance of the companies they lead. We argue that factors other than

financial outcomes should be incorporated in rewarding executives to attain goal congruence with shareholders. We attempted to propose a remuneration model that incorporates governance (using G-Index as proxy) and other factors like financial performance (revenue), GDP, inflation, ownership structure, executive net share trades (net buyer or seller of the company's shares), number of share-trades by executives, and the number of board members who traded in the company's shares per year. The proposed estimation model for executive compensation is expressed by:

Equation 1: Proposed executive compensation estimation model

$$Rem_{it} = \alpha_{it} + \beta_{i1}Rem_{it-1} + \beta_{i2}Perf + \beta_{i3}Gov + \beta_{i4}GDP + \beta_{i5}Inf + \beta_{i6}OS + \beta_{i7}NT + \beta_{i8}TY + \beta_{i9}DTY + \varepsilon_{it}$$

Where:

$Rem_{it} = Remuneration\ for\ director\ at\ the\ company\ i\ at\ time\ t,$
$Rem_{it-1} = Remuneration\ for\ director\ at\ the\ company\ i\ in\ the\ previous\ year,$
$\alpha_{it} = intercept,$
$Perf = Performance\ as\ measured\ by\ revenue\ in\ this\ study$[1],
$Gov = Governance\ index,$
$GDP = Annual\ Gross\ Domestic\ Product,$
$Inf = Average\ Annual\ Inflation,$
$OS = Ownership\ Structure,$
$NT = Net\ Share\ Trades,$
$TY = Share\ Trades\ by\ a\ director\ per\ year,$
$DTY = Number\ of\ Directors\ who\ Traded\ Shares\ in\ a\ year,$
$\beta_{it} = Sensitivity\ of\ Remuneration\ to\ the\ variable\ at\ time\ t\ \ and$
$\varepsilon_{it} = Error\ term\ for\ the\ company\ i\ at\ time\ t$

The proposed estimation model aligns what the executive should earn in a performance period to company governance, ownership structure, their share-trading activities (through the exercise of their options), and general economic environment (GDP and inflation are included in a similar way as Mensah and Abor (2014) who included inflation and other macroeconomic variables like interest and exchange rates in determining net

[1] Padgett (2012) cited Shire Plc, a dually listed company on London Stock Exchange and NASDAQ Stock Exchange and used revenue as a short-term performance measure. Bhabra, Kaur and Seoungpil (2016) also used revenue as a performance proxy. Hence, this study's adoption of revenue as a measure of performance.

interest rates spreads that in-turn influence executive compensation in Ghanaian banks). Cited variables become the main determinants of executive remuneration.

STATA was used to run the proposed estimation model with data inputs:

- Each of the 46 sample companies and the period covering 2008 to 2016 (inclusive).
- Governance indices were calculated for each sample company over the period, as explained earlier.
- Executive remuneration was lagged because the current year's remuneration is usually based on last year's remuneration adjusted for performance, inflation, etc. Remuneration data was publicly available, as officially disclosed by sample companies, as required by the South African Companies Act 71 of 2008.
- A dual or single listing of sample companies. A dummy variable of 1 was used if dually listed, and 0 otherwise.
- Ownership structure with a dummy variable 1 where the sample company had concentrated ownership (top five institutional shareholders) and 0 otherwise.
- Revenue as a measure of performance was lagged because revenue targets are based on previous years with adjustments based on inflation and other performance factors. The information was publicly available, as officially disclosed by sample companies in AFS and or <IR>.
- GDP and inflation figures were obtained from Statistics South Africa databases.
- Directors' trades per year, and the number of directors who traded on the company's share (buying and selling of shares) is publicly available information, as officially disclosed by sample companies, as required by the South African Companies Act 71 of 2008, and JSE listing requirements.
- The net trades were calculated by subtracting the value of shares bought (call options exercised) from the value of shares sold (put options exercised).

The Hausman Test is used to state the null hypothesis that the preferred model is the random effects, and the alternative hypothesis is the fixed effects model (Torres-Reyna, 2007). The test was used to ascertain the efficiency and consistency between the Fixed and Random Effects. Further, a robust test to control for heteroscedasticity and other redundancies was done. Pooled effects, random effects, generalised least squares (GLS), and the two-step generalised method of moments (GMM) models were run for diagnostics and validation purposes. Brown et al. (2010), Aslan and Kumar (2014), Sheikh, Shah and Akbar (2018) and Rehman, Ali, Hussain and Waheed (2021) also applied similar models. The model and diagnostic results are presented, discussed, and analysed below.

Analysis and Discussion of Findings

This section presents and discusses the results of this study. The section begins by discussing the descriptive statistics then followed by a discussion of the correlations matrix. Lastly, the empirical results of the study put into perspective the establishment of

an executive compensation model that records pertinent aspects of CG in incentivising executives and how the misalignment between executive remuneration may exacerbate agency and CG problems.

Table 2: Descriptive statistics for all variables

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Jarque-Bera	Observations
BT	59 171 000,00	7 455 810,00	2 870 000 000,00	0,00	219 000 000,00	121 146,80***	414,0 0
DTY	6,79	6,00	31,00	0,00	5,26	383,24***	414,0 0
DUAL	0,46	0,00	1,00	0,00	0,50	69,02***	414,0 0
GDP	0,01	0,01	0,02	-0,03	0,02	60,23***	414,0 0
GOV	15,82	16,00	20,00	8,00	2,38	7,92**	414,0 0
NT	-13 583 179,00	-3 843 981,00	2 750 000 000,00	-1 980 000 000,00	250 000 000,00	56 922,00***	414,0 0
OS	0,92	1,00	1,00	0,00	0,27	1 550,05***	414,0 0
REM	0,00	0,00	0,11	0,00	0,01	127 771***	414,0 0
REV	0,14	0,09	12,52	-0,86	0,68	1 207 108***	414,0 0
ST	-72 754 179,00	-15 071 903,00	0,00	-2 010 000 000,00	182 000 000,00	50 472,13***	414,0 0
TY	22,75	17,00	105,00	0,00	20,18	161,94***	414,0 0

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Source: Own study.

Table 3: Cross-correlations

Variables	BT	DTY	DUAL	GDP	GOV	NT	OS	REM	REV	ST	TY
BT	1										
DTY	0.3015***	1									
DUAL	-0,025352	0.156394***	1								
GDP	-0,043493	-0,001372	7,85E-18	1							
GOV	-0,040465	-0,011887	0.140358***	-0,0611	1						
NT	0.7043***	0.103***-	0.093706**	-0,034517	-0,047646	1					
OS	0.460809***	-0.293685***	0.115189***	-0,028395	-0,06212	-0.303314***	1				
REM	0.0711 22**	0.0913 15**	0.090139*	-0,035576	-0.062159*	0.0519**	-0,039304	1			
REV	-0,017175	-0,04953	-0,028212	-0.09 9102**	-0,068705	-0,006677	-0,005636	-0.025123*	1		
ST	-0.237635***	-0.220216***	-0.158682***	-0,005022	-0,016582	-0.522155***	-0.138583***	0.156572***	-0,02977	1	
TY	0.2489 15***	0.7952 5***	-0.198617***	-0,020902	-0,033524	-0,04432	-0.146899***	0.120629***	-0,00652 6	-0.238406***	1

* p < 0.05, ** p < 0.01, *** p < 0.001

Source: Own study

Descriptive Statistics

The average for BT (value of executive's buy transactions) is 59 171 000,00 with a median of 7 455 810,00, a maximum of 2 870 000 000,00 and a minimum of 0,00. The standard deviation for BT was found to be 219 000 000,00 and the Jarque-Bera shows that BT is normally distributed. The results from **Table 2** showed that the mean DTY (number of directors who traded the company's shares in a year) was 6,79 with a median of 6,00, a maximum of 31,00 and a minimum of 0,00. The standard deviation for DTY was 5,26 and this variable was normally distributed as the Jarque-Bera statistic was significant. DUAL (company with a dual listing) was found to have a mean of 0,46 with a median of 0,00, a maximum of 1,00 and a minimum of 0,00. The findings showed that DUAL has a standard deviation of 0,50 and is normally distributed. Results revealed that GDP (gross domestic product) growth has an average of 0,01 with a median of 0,01, maximum growth of 0,02 and minimum growth of negative 0,03. The standard deviation was 0,02 and GDP growth was found to be normally distributed. The GOV (governance index) had a mean of 15,82 with a median of 16,00. The governance index was found to have a maximum of 20,00 and a minimum of 8,00, the standard deviation for GOV was 2,38 and it was normally distributed at a 1% significance level. NT (net share trades) had an average of -13 583 179,00 with a median of -3 843 981,00, a maximum of 2 750 000 000,00 and a minimum of -1 980 000 000,00. The standard deviation for NT was 250 000 000,00 and the data was normally distributed. The mean for OS (ownership structure) is 0,92 with a median of 1,00, a maximum of 1,00 and a minimum of 0,00. The standard deviation for OS was found to be 0,27 and the variable is normally distributed. REM (remuneration) had an average of 0,00 with a median of 0,00, a maximum of 0,11 and a minimum of 0,00. The data for REM was normally distributed with a standard deviation of 0,01. From the same **Table 2**, REV (revenue to measure performance) was found to have a mean of 0,14 with a median of 0,09, a maximum of 12,52 and a minimum of -0,86. The standard deviation for REV was 0,68 and it was normally distributed. The results revealed that the mean for ST (value of executive's sell transactions) was -72 754 179,00 with a median of -15 071 903,00, a maximum of 0,00 and a minimum of -2 010 000 000,00. The standard deviation for ST was found to be 182 000 000,00 and the data for this variable was found to be normally distributed for the period under analysis. Lastly, TY (share trades by a director per year) was found to have a mean of 22,75 with a median of 17,00, a maximum of 105,00 and a minimum of 0,00. The standard deviation for TY was 20,18 and the data was normally distributed.

Cross Correlations

Table 3 provides a summary of the output of the cross-correlation between remuneration and the independent variables. As a result of the strong persistent behaviour of remuneration, the model is specified as a dynamic panel model which includes a one-

period lag of the remuneration. The BT (value of executive's buy transactions), DTY (number of directors who traded the company's shares in a year) and TY (share trades by a director per year) are positively correlated with remuneration and significant at a 1% significance level. This confirms the a priori expectations stated in the literature review that REM is positively affected by BT, TY and DTY. Similarly, DUAL (dual listing), GOV (governance), NT (net share trades) and ST (value of executive's sell transactions) are inversely related and are significant at a 1% significance level. Therefore, the a-priori expectation is that these variables negatively affect remuneration.

Diagnostic Statistics

Due to the strongly persistent nature of remuneration, the estimation model is specified as a dynamic panel model which includes a lag of the dependent variable. However, before specifying the model, initial diagnostic tests must be conducted. **Table 4** details the results of these tests.

The first test confirmed the presence of cross-sectional individual effects as the F-statistic was significant. Implying that the pooled OLS estimation method becomes inconsistent and inefficient. The second test was the Breusch and Pagan (1980) LM test which confirmed the presence of random effects. Since both the fixed effects and random effects were present, the third test was carried out in the form of Hausman's (1978) test. The result favoured the use of the fixed effects specification as valid because regressors were not exogenous. The heteroscedasticity test confirmed that the variance of the error term was constant, and this was desirable. The final test showed the presence of cross-sectional dependence and therefore the GMM approach was used as an alternative to the other models. Also, suspecting the problem of endogeneity, specifically 2 step system GMM was adopted as the best estimating model. The estimated results are presented in **Table 5.**

Table 4: Diagnostic tests with Remuneration (REM) employed as the dependent variable

Test	Test Statistic	P – Value	Inference
Joint validity of cross-sectional individual effects ***H0:*** $\alpha_1 = \alpha_2 = \cdots \alpha_{N-1} = 0$ ***HA:*** $\alpha_1 \neq \alpha_2 \neq \cdots \alpha_{N-1} \neq 0$	F=4.86	0.0034	Cross-sectional individual effects are valid.
Breusch Pagan's (1980) LM test for random effects ***H0:*** $\delta_\mu^2 = 0$ ***HA:*** $\delta_\mu^2 \neq 0$	LM = 5.91	0.0003	Random effects are present. The random effects model is preferred.
Hausman's (1978) specification test ***H0:*** $E(\mu_{it}\|X_{it}) = 0$ ***HA:*** $E(\mu_{it}\|X_{it}) \neq 0$	Chi2 = 100.98	0.0000	Regressors are not exogenous. Hence the Fixed effects specification is valid.
Heteroscedasticity ***H0:*** $\delta_i^2 = \delta$ *for all i* ***HA:*** $\delta_i^2 \neq \delta$ *for all i*	LM = 1.233	0.1694	The variance of the error term is constant. Heteroscedasticity is not present.
Cross-sectional dependence tests $H0: \rho_{ij} = \rho_{ji} = cor(\mu_{it}, \mu_{jt}) =$ $HA: \rho_{ij} \neq \rho_{ji} = 0$ **Pesaran's (2004) CD test**	CD = 5.001	0.0001	Cross-sections are interdependent.

Source: Own study

Table 5: Estimation results for determinants of remuneration

	Fixed Effects	Pooled effects	FGLS	Random Effects	GMM
	rem	Rem	rem	rem	rem
L.rem	0.623***	0.938***	1.024***	0.938***	0.834***
	(0.0451)	(0.0324)	(0.0726)	(0.0324)	(0.0862)
gdp	-0.0525*	0.124***	-0.357***	0.124***	0.776***
	(0.0168)	(0.0178)	(0.0234)	(0.0178)	(0.0182)
rev	-0.00105	-0.00179*	-0.00179***	-0.00179*	-0.0206**
	(0.000889)	(0.000861)	(0.000368)	(0.000861)	(0.00202)
os	0.00101	-0.000277	0.0000565	-0.000277	-0.0000963
	(0.00224)	(0.00105)	(0.000692)	(0.00105)	(0.00202)
nt	-2.49e-12*	-2.11e-12*	-1.30e-12**	-2.11e-12*	-1.77e-12***
	(1.16e-12)	(1.06e-12)	(4.70e-13)	(1.06e-12)	(2.36e-13)
ty	-0.0000346	0.0000160	0.0000143	0.0000160	0.0000702
	(0.0000272)	(0.0000216)	(0.0000254)	(0.0000216)	(0.000230)
dty	0.00194*	0.000296**	-0.000528***	0.000296**	-0.00133**
	(0.000106)	(0.0000865)	(0.0000956)	(0.0000865)	(0.000624)
gov	0.000203	-0.00724***	0.0000386	-0.00724***	-0.0339***
	(0.000167)	(0.000115)	(0.000165)	(0.000115)	(0.000494)
_cons	-0.00317	0.00146	0.000257	0.00146	0.00566
	(0.00361)	(0.00214)	(0.00272)	(0.00214)	(0.00786)
N	368	368	368	368	368
R²	0.401	0.710			
Groups	46	46	46	46	46
F-stas/Wachi2	26.29***	78.63***	98.12***	77.54***	16.50***
R-SQUARED	0.4021	0.7105		0.7096	
Arellano-Bond AR(1)					-1.3
Arellano-Bond AR(2)					1.24
Sargan test of overid					0.92
Hansen test of overid					2.18
Instruments					14

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Source: Own study.

Focusing on the 2-step system GMM results in **Table 5**, the lagged remuneration confirms that salaries are persistent, and the positive sign also supports the notion that wages are sticky downwards (Blinder, 2007). Salaries are subject to annual adjustments, and these are generally positive to cover for inflation pressures and other uncertainty. This justified a dynamic model.

Remuneration was found to improve as the gross domestic product increased. An improvement in economic activity is positively reflected in salaries increase. This is in line with Sabia's (2015) findings that the growth in the economy positively influences the benchmark salary and hence remuneration in general.

There is a negative and significant relationship between revenue and director remuneration. An indication that directors' remuneration improved during the times when sales (performance) had negative growth. This phenomenon is exemplified in Anglo American Plc which reported a £3.7 billion loss in 2015 but the executive was paid almost £1 million as a bonus (Schumpeter, 2016). The erosion of shareholder value is without corresponding diminution in the executive's remuneration (Jiraporn, Kim & Davidson, 2005). In this finding, there is no goal congruence as suggested by Munzig (2003) as lack of performance still rewards directors. This implies that directors will still be generously compensated even in times where value maximisation fails or they fail to exploit growth opportunities, minimise costs and embark on wasteful or empire-building projects (Edmans & Gabaix, 2009). This finding is inconsistent with the theory which posits that performance measures form the basis of executive compensation (Lambert, 2001). Generally, executives negotiate and settle for compensation which is favourable to them at the hiring stage, but this may turn out to be detrimental to the shareholder hence the agency conflict (Panda & Leepsa, 2017). This phenomenon is argued by Bebchuk et al. (2002), and Bertrand and Mullainathan (2001) as 'rent-extraction' from principals. As talent retention costs become inevitable, poorly structured compensation schemes that are not aligned to performance become ubiquitous. This might explain the reported high-profile corporate malfeasance in listed companies such as Steinhoff International and Tongaat Hulett where governance systems were circumvented for personal enrichment.

Net share trades were found to deteriorate as remuneration improved. The relationship exhibited a strong substation effect between remuneration and net trades. Implying that executive directors aggressively traded on their option as a compensatory move when they are poorly remunerated or not remunerated as much as they expect. Such behaviour is regressive as it may lead to the propagation of insider trading, and encouragement of fraudulent and manipulative behaviour. A tendency to rely upon trading options may result in a significant increase in accounting irregularities in favour of executive directors (see for example Lowman (2019)). This occurs in the milieu of executives exercising call options that have enormous upside profit potential but with no risk of losses (Maskara et

al., 2012). That is, the executive shares profits but not losses with the shareholder who is exposed to excessive risks. We argue that executive remuneration structures that encourage directors to aggressively trade their options as a compensatory move ameliorate agency and governance problems.

Salaries increase as the number of directors who traded in their options decreased. This suggests that directors were expected to compensate themselves for a deficit in their salary through trading. The results support the earlier discussion on net trades as poorly remunerated directors opt for trading on their options as a compensatory exercise. These results are aligned with the notion that directors' stock options are accounted for as part of the remuneration package. This too, has consequences for agency and CG arrangements.

Governance had a negative impact on remuneration. This result is consistent with Rehman et al. (2021) and Adu, Al-Najjar & Sitthipongpanich's (2022) findings. Meaning that remuneration waned with improvement in governance. This confirms the fact that when proper governance structures are put in place, the directors shift their concern from exorbitant salaries to enhancing shareholder value as they directly benefit from such initiative – creating a win-win situation within the agency arrangement. Though it seems like companies that have good governance poorly compensate their directors, this is not entirely the case as directors have a lot more packages that are meant to persuade them to minimise agency conflict. Of cause, there are costs associated with good corporate governance practices hence agency costs. This is also true from the results as there is a substitution effect between remuneration and share options. This finding acquiesces with Jensen and Meckling (1976) who argue that agency costs are unavoidable for the shareholder and Munzig (2003) who adds that executive compensation is part of CG. This finding reinforces our proposition that executive remuneration models should consider how executives govern the companies they lead. This transcends pecuniary performance measures and should incorporate CG aspects as well as pave the way for future performance matrices that can be used to determine executive compensation. This result showing governance's negative impact on remuneration does not go without caution. This is in light of the conclusions by Conyon and He's (2016) and Zhou, Zhang, Yang, Suc and An's (2018) that entities with lower executive compensations experience more severe fraud. The governance structure needs to be robust to prevent and detect potential fraud perpetrated by executives.

The results presented align with some cited prior studies and provide new insights that inform the conclusions that follow.

Conclusion

This article aimed to ascertain the role of executive compensation in accelerating agency and governance problems in South African companies. This was done in a bid to propose a compensation model that considers pertinent aspects of corporate governance in incentivising executives. The study employed GMM as the appropriate model for analysis and the results revealed that executive compensation structures can be accelerants of agency and CG problems as the performance was found to negatively affect director remuneration. Also, governance had a negative impact on remuneration confirming the fact that when proper governance structures are put in place, executives shift their concern from exorbitant salaries to enhancing shareholder value as they directly benefit from such initiatives. This reduces agency conflict.

Results on share option trading confirm agency conflict as the net trades and the numbers of directors that traded on their share options were found to deteriorate with improvement in remuneration. This implied that executive remuneration structures encouraged directors to aggressively trade their options as a compensatory move and ameliorated agency and governance problems.

Given these results, it seems executive compensation schemes that consider company governance are beneficial to both the principal and agent if they are properly structured to achieve goal congruence. As such, we propose a remuneration model that seeks to deliver the intentions of the agency proposition. The remuneration of executives should be aligned with performance and corporate governance. Also, executives must exercise their share options after the vesting period and only in years where they meet predetermined performance targets.

The Agency theory proposition needs modification to incorporate governance as a vehicle to attain goal congruence and not just focus on making the agent part-owner and agency costs incurred. Moreover, company remuneration policies for executives should adopt a model such as one proposed to ensure that executive remuneration considers the governance of companies. The proposed model in this study can be modified in future studies to incorporate other performance matrices such as the six capitals.

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