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RESEARCH ARTICLE:

Corporate Governance in South Africa: Profit-Sharing and Stakeholder Management

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Abstract

Executive compensation and rewards continue to increase at a higher rate than employee income, incentives, and rewards despite prominent growth in corporate earnings and stock valuations. The aim of this study is to determine whether executive compensation policies are aligned with firm performance, and assess how an employee profit-sharing structure could be implemented to minimise the disparity between firm income growth and the level of employee productivity that contributes to such growth. Three firms listed on the Johannesburg Stock Exchange (JSE) were selected for this study for the financial period 2014 to 2020. Log-linear models are applied to firm efficiency and growth factors. A classification model relating executive compensation to firm risk and performance is presented. Thirdly, a profit-share model is proposed to analyse profit-share impact on compensation ratios and firm cash flow and net profit. No conclusive relationship be-tween executive compensation and financial performance was found for this sample. Profit-share implementation reduces the average employee-executive compensation ratio marginally and has mixed results on inter-firm cash flows and net profits.

Keywords: *executive compensation; firm performance; agency theory; South Africa*

Introduction

The growth in overall income and wealth since the 2008 global financial crisis, due to prominent growth in corporate earnings and valuations, has seen a dichotomy in experience of this growth in society (Chen *et al*., 2017; Mueller *et al*., 2017a). Executive compensation continues to increase at a higher rate than employee compensation, leading to increasing absolute income and wealth inequality (Haynes *et al*., 2015; Mueller *et al*., 2017b; Clarke *et al*., 2019). Remunerative principles are applied differently to executives than employees, and these differences tend to benefit executives and are detrimental to employees (Magnan and Martin, 2019). Proponents in support of high executive remuneration argue that peer compensation due to globalisation, incentive alignment between shareholder and executive interests (agency theory), and increased productivity/profitability due to management's capability (human capital theory) are all factors that support high executive compensation (Dai, 2014; Aguinis *et al*., 2018; Sandberg and Andersson, 2020; Keller and Olney, 2021). Excessive power held by management, coupled with poor governance and board controls also promote increasing executive compensation over time (Bebchuk *et al*., 2002; Bebchuk and Fried, 2003; Akram and Iqbal, 2016; Saito, 2019). The failure of corporate governance and excessive greed in executive compensation has led to several high-profile corporate collapses (Dnes, 2005; Conyon *et al*., 2011; Rossouw and Styan, 2018).

Persistently high inequality in South Africa, despite economic and stock valuation growth, indicates that economic growth alone cannot alleviate and reduce inequality (Simson, 2010; Barros and Gupta, 2017; Fortuin *et al*., 2022). The Johannesburg Stock Exchange All Share Top 40 Index (JSE ALSI) grew by 900% over two decades (Kotze, 2017). The corporate executive remuneration structure in South Africa has shifted in favour of allocating a higher weighting for share options over time, from 28% of remuneration value in 2010 to 50% by 2016 (Van Wyk and Wesson, 2021). This type of remuneration structure was proposed firstly as a solution to address the agency problem,

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through which shareholder and management interests are aligned via shared firm ownership (Agrawal and Mandelker, 1987; Eisenhardt, 1989; Nyberg *et al*., 2010). Secondly, the adoption of such compensation structures was proposed to align executive performance with comparable reward (Finkelstein and Hambrick, 1989). However, the contrast between firm performance relative to executive compensation indicates that lower executive compensation does not compromise firm performance and is also a necessary condition to build a stakeholder-friendly corporation (Salazar and Raggiunti, 2016). Executive prioritisation on the long-term share price coupled with a focus to decrease costs as a strategy to increase profits and support elevation in the share price long-term has led to large real decreases in employee compensation and benefits over time (Lucero and Allen, 1994; Reilly, 1998; Valverde *et al*., 2000; Stojčić *et al*., 2012).

Literature generally focused extensively on whether employees' productivity levels warrant increased compensation, however, increases in firm output growth and antecedent increases in employee productivity has not led to increases in wages and benefits (Eswaran and Kotwal, 1993; Dew-Becker and Gordon, 2005; Birch and Preston, 2021). The focus has shifted to income inequality distributions, wage stagnation, lower tax rates on high incomes and wealth, and low interest rates that gave rise to speculation in stock markets (Volscho and Kelly, 2012; Wisman, 2013; Dabla-Norris *et al*., 2015). In South Africa, income growth has accelerated much faster at the top of the income distribution, in part due to divergence driven by high capital returns for those with top incomes (Bassier and Woolard, 2020). Rewarding employees through profit-sharing schemes increase earnings risk in general, but can also lead to higher salaries, wealth and improve such distributions (Fang, 2016; Blasi *et al*., 2018). Firms adopting such a policy experience reduced voluntary turnover, increased employee stability and increased return on equity (Bhargava 1994; Blasi *et al*. 2015). Societal impacts include reduced risk of bankruptcy and levels of poverty, leading to improvements in the social and economic welfare of employees (Holleran, 2020; Karambakuwa and Ncwadi, 2021).

The aim of this study is two-fold. Firstly, this study aims to determine whether executive compensation policies are aligned with firm performance. Secondly, this study aims to investigate how an employee profit-sharing structure could be implemented to minimise the disparity between firm income growth and the level of employee productivity that contributes to such growth. The null hypotheses evaluated for this study are:

- H_{01}: There exists a misalignment between executive compensation and firm performance, and that executive compensation is largely aligned with firm share price at the omission of fair weighting of other performance metrics.
- H_{02}: An employee profit-sharing structure would have negligible impact on the firm's financial performance and improve the compensation ratio between employees and executives.

The findings of this study will make a significant contribution to the growing literature on corporate governance and firm performance within the South African context. Capitec Bank (CB), Sibanye-Stillwater (SS) and Woolworths (WW) are the South African corporates selected for the investigation of these objectives. Their selection is based on the GDP and employment weightings of the economic sectors these corporates operate in within the South African economy (Statistics South Africa, 2021; Statistics South Africa, 2022).

Literature Review

In this section, we discuss two theories related to corporate governance, executive compensation, and employee wages, namely agency theory and human capital theory.

Agency theory refers to the relationships between firm owners, shareholders, and their agents who manage their firm interests, namely executives (Ross, 1973). The focus of agents is to maximise shareholder value, represented in general by the change in share price of the firm, by acting within the interests of shareholders (Jensen and Meckling, 1976). However, due to the shift in power when shareholders appoint executives to act on their behalf, opportunistic behaviour may arise, which cannot be effectively enforced by rewards or sanctions; instead, the sanctions for unethical behaviour must be internalized (Noreen, 1988). Agency theory thus aims to resolve two problems; firstly, when the interests of shareholders and executives are in conflict; and secondly, when it is difficult or expensive for shareholders to verify executive behaviour (Eisenhardt, 1989). The role of ethical executive behaviour thus impacts agency theory greatly, introducing the role of ethics into the theory (DeGeorge, 1992; Quinn and Jones, 1995). Shankman (1999) deconstructs the assumptions of agency theory and proposes that agency theory must recognise all stakeholders' interests and requires a moral minimum to be upheld. Weak governance and limited protection for minority stakeholders intensify traditional agency theory problems, such as entrenched advantageous compensation

and asset expropriation (Dharwadkar *et al*., 2000). Ethical corporate culture promotes positive stakeholder relations, since such values prevent corruption, fraud, nepotism, or any form of discrimination (Park and Lee, 2021).

Human capital theory is a conceptual valuation framework for determining the value of expected productivity, where human capital is a firm asset (Mincer, 1958; Schulz, 1961; Weisbrod, 1961). Becker (1962) proposed that investment in human capital to increase productivity is only undertaken by firm owners if the expected rate of return on such investment exceeds the market rate of interest (Becker, 1964). The difference in education between different employees are used as market signals for differing levels of employee productivity (Spence, 1973). The accumulation of such education and the consequent effect on human capital takes place through three forms: formal schooling, firm training, and off-the-job training (Lynch, 1991). All three forms of education require a particular form of investment, either being tuition expenditure, loss of income during schooling or reduced income during training (Becker, 1992). Education alone, however, cannot improve productivity unless human capital-aligned firm inputs, such as training, complimentary employment terms and good management practises exist (Levin and Kelley, 1994). The disparity in firm income distributions, however, indicates that either education outcomes are becoming more disparate, or that some types of human capital may be losing value while other types are becoming more valuable (Lazear and Shaw, 2007; Hansen, 2011; Hollenbeck and Jamieson, 2015). Human capital theory fails however to explain how education augments productivity, or why salaries have become more unequal (Marginson, 2017). The interplay between human capital theory and social capital theory, which is the ability of individuals to secure benefits by virtue of membership in social structures, has been proposed to explain economic exclusion and income disparities within populations (Muntaner and Lynch, 2020; Metz, Stamper and Ng, 2022).

Corporate governance, ethical agency behaviour, inclusive employee stakeholder management and income inequality are topics of great interest globally, especially due to increased inequality and economic class divides (McCall and Percheski, 2010). Sikka (2008) investigated the role of political economics and how corporate governance structures have shaped policies relating to income distribution, industrial democracy, and disclosures in the United Kingdom (UK). The results showed that institutional structures and mechanisms lack the enablement of increased firm profit-share for employees. Faleye and Trahan (2011) evaluated the potential trade-off between shareholder and non-shareholder stakeholder interests. They found that labour-friendly firms outperform similar firms in share price movements and operational metrics. Kaplan and Rauh (2013) assessed the wealth accumulation of the richest Americans within firm settings, as per the Forbes 400. They found little evidence of income and wealth flows to the top 1% due to poor corporate governance, excess management power or changes in social norms regarding executive compensation.

Chang *et al*. (2015) examined whether employee stock-options provide an uplift in corporate innovation in USA firms and what effect such profit-sharing policies have on employee behaviour. They concluded that a positive relationship exists between profit-share adoption and innovation, primarily due to increased risk-taking by employees rather than the actual performance-incentive reward itself. Bussin (2015) investigated executive pay-performance sensitivity in South Africa and averred that during periods of strong economic growth that principal-agent theory drives compensation, and that managerial power dominates during periods of weak economic growth. The results confirmed that there is a disconnect between executive compensation and firm performance within the South African context. There has been a general trend in shifting executive remuneration structures to manage the downward risk component in their compensation packages. Similarly, Ntim *et al*. (2017) analysed the compensation sensitivity between executive power and corporate governance structures in South African firms. The results suggest a relatively weak positive association between executive power and performance. Secondly, executive opportunism overrides low compensation sensitivity thresholds compared to firms with independent nomination and remuneration committees. Kruse *et al.* (2021) provide empirical evidence on whether employee share-ownership policies expose employees to excessive financial risk in U.S. firms. Employees who take part in share-ownership schemes exhibit higher risk tolerance, financial knowledge, and a greater understanding of the value of portfolio diversification. They also observed that while financial risk increases, only a small subset of employees face excessive risk, which can be managed by alternative approaches.

Methodology

To achieve the objective of this study, two models are presented in this analysis. Firstly, an executive and firm performance model is presented. The null hypothesis for this model is that there exists a misalignment between executive compensation and firm performance, and that executive compensation is largely aligned with firm share price at the omission of fair weighting of other performance metrics. Secondly, a model for an employee profit-sharing structure is presented. The null hypothesis for this model is that an employee profit-sharing structure would have

negligible impact on the firm's financial performance and improve the compensation ratio between employees and executives.

For the purposes of this study, data was collected from the annual financial statements for Capitec Bank (CB), Sibanye-Stillwater (SS) and Woolworths (WW), respectively, for the period 2014 to 2020. The JSE/ALSI market data was collected from the Financial Times. These data include organisational market information, such as share price, cash flow, earnings, net profit, assets, and liabilities per year. Other data includes the number of employees and executives per financial year, compensation paid for each employment type, and how the structure of compensation has changed. Despite the short period under consideration herein, this period horizon is consistent with average chief executive officer (CEO) and employee tenure, and aligns with equity investment horizons (Rehring, 2011; Hou *et al*., 2014; Wang *et al*., 2020). The selection of these firms for this study is based on the different economic sectors they operate in, since financial services, mining and general retailers contribute strongly in relation to gross domestic product and employment within the South African economy (Statistics South Africa, 2022a; Statistics South Africa, 2022b).

Executive compensation and firm performance mode

Executive remuneration is provided in multiple forms of compensation, such as salaries, bonuses, allowances, and stock options (Zandi *et al*., 2019). Within this study, executive compensation is defined as the sum of salary, bonus, and stock options over a particular financial year (Faria *et al*., 2014). Since executive compensation is determined as a reward function for firm performance, how firm performance is defined is crucial in estimating executive remuneration relative to firm performance (Chuo *et al*., 2011). Stock option valuations are determined within total compensation as the stock return over either the period when these are exercised, over the vesting period of the options, or for options currently held as the latest share price valuation (Carmona *et al*., 2011). Executive compensation as a function of firm performance is described through the comparison of two different log-linear models and a classification model.

The first model, efficiency measures of performance, describes the relationship between executive compensation and efficiency related to firm assets and equity in generating sustained firm performance (Lambert and Larcker, 1988; Al-Matari *et al*., 2014; Bin Ismail *et al*., 2014). Accounting measures of firm performance, such as return on assets (ROA), return on equity (ROE), changes in earnings (E) and cash flows (CF) are also used as measures of firm performance (Chuo *et al*., 2011; De Wet, 2012). Model 1 is described by equation 1

$$\Delta \ln (EXC) = \alpha + \beta_1 (\Delta ROA) + \beta_2 (\Delta ROE) \quad (1)$$

where the change in the natural log of total executive compensation between consecutive years, $\Delta \ln (EXC)$, is the response variable, consisting of the change in all guaranteed benefits, short-term and long-term incentive rewards; Δ ROA is the change in return on assets between consecutive years; Δ ROE is the change in return on equity between consecutive years; α and β_i are coefficients. Stepwise-backward selection is performed to remove either Δ ROA or Δ ROE within the model for a given firm (Xu and Zhang, 2001). The Akaike information criterion (AIC) estimator is used to for model quality comparison (Posada and Buckley, 2004).

The second model, growth measures of performance, describes the relationship between executive compensation and performance related to outright firm growth and generating sustained earnings and cash flow (Lambert and Larcker, 1988; Bin Ismail *et al*., 2014). Model 2 is described by equation 2

$$\Delta \ln (EXC) = \alpha + \beta_1 (\Delta SP) + \beta_2 (\Delta CF) + \beta_3 (\Delta E) \quad (2)$$

where $\Delta \ln (EXC)$ is defined the same as per the previous model; Δ SP is the change in share price between consecutive years; Δ E is the change in earnings between consecutive years; Δ CF is the change in cash flow between consecutive years; α and β_i are coefficients. Stepwise-backward selection is performed until only one independent variable remains within the model for a given firm (Xu and Zhang, 2001). A comparison of the different variable combination models is presented, and the AIC estimator is used for comparing model quality (Posada and Buckley, 2004).

The third model, executive compensation and firm risk-to-performance, arises due to the agency-principal problem in firm management, where excessive risk-taking behaviour by executives can negatively impact firm value

(Eisenhardt, 1989). The beta factor is widely used within literature as an indicator of a firm's risk compared to systemic risk (Campbell and Vuolteenaho, 2004; Drew, 2010; Jo and Na, 2012). Tobin's q is used as a market measure of firm performance and is strongly supported within literature (Wernerfelt and Montgomery, 1988; Lang and Stulz, 1994; Bharadwaj *et al*., 1999). Regarding firm risk-to-performance, under the capital asset pricing model an increase in risk should relate to an increase in shareholder return (Fama and French, 2004). A classification model is derived to relate the Tobin's q value of the firm to the firm's beta factor for a particular financial year. This classification model is described in $\mathbb{R}^2$ Euclidian space by the function given by equation 3

$$FRP_i = [\ \beta_i\ ;\ TQ_i\ ] \tag{3}$$

where FRP_i is the firm risk-to-performance metric. β_i is the beta factor for firm i, determined by equation 4

$$\beta_i = COV\ (r_i\ ;\ r_m)\ /\ \sigma^2\ (r_m) \tag{4}$$

where $COV\ (r_i; r_m)$ is the covariance between the firm return r_i and the market return r_m ; $\sigma^2\ (r_m)$ is the variance of the market return r_m .Tobin's q value TQ_i in equation 3 is given by equation 5

$$TQ_i = MV_i\ /\ AV_i \tag{5}$$

where MV_i is the market value of firm i and AV_i is the asset value of the firm. The FRP_i matrix solution is classified according to Table 1.

Table 1: Risk-to-performance classification model with expected firm performance indicators.

β_i	TQ_i		
	< 1	**= 1**	**> 1**
< 1	[(+) ; (+)]	[(+) ; (+)]	[(+) ; (-)]
= 1	[(+) ; (+)]	[(+) ; (+)]	[(+) ; (-)]
+ 1	[(-) ; (+)]	[(-) ; (+)]	[(-) ; (-)]

Source: Authors' own calculations.

Relating executive compensation to FRP_i and expected firm performance as given by Table 1, poor FRP_i results in the period t-1 coupled with an increase in executive compensation between periods t-1 and t is indicative of poor asset management by executives and is indicative of rent-extraction behaviour (Lang, 1989; Wolfe and Sauaia, 2014).

Employee profit-share model

The increase in wage inequality between employees and executives despite increased employee productivity indicates that the employee production function is detached from real wage growth (Cowherd and Levine, 1992; Juhn *et al*., 1993; Antonczyk *et al*., 2010). The production function given by equation 6 describes the relationship between firm production and labour productivity (Dobija, 2011)

$$Q = P\ /\ Wh \tag{6}$$

where Q is the productivity of labour; P is firm production, analogous to revenue; and Wh is the total amount of labour hours. Variable inputs for P and Wh are used to determine Q for a particular year. This result is compared to total employee compensation, given by equation 7

$$W = EMW\ /\ Wh \tag{7}$$

where W is the average wage per labour hour; EMW is the total of employee wages; and Wh is the total amount of labour hours. A standard 8-hour workday over 52 weeks is assumed as the total working hours per employee per year. These variables are all determined for a particular year. Equations 6 and 7 are used in conjunction to determine the employee compensation-productivity gap, given by equation 8

$$G = Max\ \{\ K\ [\ Q_t - Q_{t-1}\ ]\ -\ [\ W_t - W_{t-1}\ ]\ ;\ 0\ \} \tag{8}$$

where K, the payroll to revenue ratio, is an inclusion factor representing the proportion of revenue apportioned to employee compensation (Autor et al., 2020). K varies by industry, however in this study this factor is fixed at a value of 0.25. Equation 8 indicates that should G > 0, then employees should receive compensation above the current compensation rate W at the rate G + W. Introducing such additional compensation in the form of current stock options

allows employees to partake in profit-sharing, and further align employee productivity interests with firm and shareholder interests in generating long-term firm value (McCarthy *et al*., 2010; Fang *et al*., 2015; O'Boyle *et al*., 2016). The employee profit-share scheme is determined by equation 9

$$ESS = G * Wh \text{ if } G > 0, \text{ else } 0 \quad (9)$$

where ESS is the employee share scheme size, given as the sum of the value of share options awarded to employees for increased productivity in a particular year (Fischer and Lindermoyer, 2020). A comparison is then performed for the observed average executive-to-employee pay ratio versus the predicted ratio given by this model result. For this comparison, ESS is assumed to be drawn down at 50% of the scheme size over consecutive periods, with the remainder of the scheme increasing in tandem with the share price movement.

Results and Discussion

Results for the three components of the executive compensation and firm performance model are presented. Results for the employee profit-share model are also presented.

Executive compensation and firm performance model

For the efficiency measures of performance model component, three different independent variable combinations regressed against the dependent variable is possible within the methodology context outlined previously. The summary results for all models are presented in Table 2 for CB, SS, and WW.

Table 2: Summary results for different model combinations for CB, SS, and WW.

Firm	Model	Ind. Variables[1]	AIC[2]	AICWt[3]	LL[4]	P[5]	R^2 [6]
CB	**1**	Δ ROA	22.99	0.74	-4.49	0.236	0.266
	2	Δ ROE	25.14	0.25	-5.57	0.931	0.001
	3	Δ ROA; Δ ROE	34.18	0.00	-3.09	0.112; 0.232	0.509
SS	**1**	Δ ROA	12.54	0.41	1.08	0.034	0.628
	2	Δ ROE	11.83	0.59	0.73	0.026	0.664
	3	Δ ROA; Δ ROE	25.82	0.00	1.09	0.933; 0.546	0.665
WW	**1**	Δ ROA	11.05	0.51	1.48	0.756	0.021
	2	Δ ROE	11.15	0.49	1.43	0.855	0.007
	3	Δ ROA; Δ ROE	24.68	0.00	1.66	0.628; 0.666	0.071

Source: Authors' own calculations.

[1]The independent set of variables upon which the dependent variable is regressed against.

[2]Akaike information criterion for the model under consideration, calculated for small sample sizes.

[3]The proportion of the total predictive power that can be found in the model.

[4]The log-likelihood of the model, indicating how likely the model is, given the data used.

[5]The P-value of the variables under consideration.

[6]The coefficient of determination, the proportion of the variation in the dependent variable that is predictable from the independent variables.

The results in Table 2 show that, for most models under consideration, little statistical evidence exists that could indicate a significant relationship between executive efficiency management and the degree of increase in compensation over this period. Δ ROA is the most significant variable between all three firms. However, the degree of unexplained variance between Δ ln (EXC) and Δ ROA is very high for CB and WW, indicated by the low R^2 model results. Only in the case of SS is there strong evidence of explained variance by all three models shown in Table 2, with both models 1 and 2 indicating significant relationships between Δ ROA and Δ ROE as independent regressors against Δ ln (EXC). The insignificance of both Δ ROA and Δ ROA as regressors in model 3 indicates multicollinearity within this model (Daoud, 2017). Empirical evidence supports the model results (Brick *et al*., 2006; Firth *et al*., 2006; Banghøj *et al*., 2010).

For the growth measures of performance model component, seven different independent variable combinations regressed against the dependent variable is possible within the methodology context outlined previously. The summary results for the three best model combinations as per AIC all models are presented in Table 3 for CB, SS, and WW. The results in Table 3 show that for most models under consideration, little statistical evidence exists that could indicate a significant relationship between executive efficiency management and the degree of increase in compensation over this period. The results in Tables 2 and 3 conform to previous empirical evidence on non-

significance between firm performance measures and executive compensation (Raithatha and Komera, 2016; Fischer and Lindermoyer, 2020; Sikawa *et al*., 2020).

Table 3: Summary results for different model combinations for CB, SS, and WW.

Firm	Model	Ind. Variables	AIC	AICWt	LL	P	R^2
CB	1	Δ SP	17.81	0.78	-1.91	0.029	0.649
	4	Δ CF	20.67	0.19	-3.33	0.088	0.473
	6	Δ E	7.34	0.02	-5.57	0.983	0.0001
SS	1	Δ SP	16.42	0.49	-1.21	0.159	0.353
	4	Δ CF	17.26	0.32	-1.63	0.231	0.271
	6	Δ E	18.39	0.18	-2.20	0.404	0.142
WW	6	Δ E	1.23	0.96	6.38	**0.011**	0.759
	4	Δ CF	8.52	0.02	2.74	0.188	0.318
	1	Δ SP	10.10	0.01	1.95	0.400	0.145

Source: Authors' own calculations.

Δ SP is the most significant model variable for CB and SS and presents as significant in model 1 for CB. This result is supported by Kirsten and Du Toit (2018), who found that the alignment between executive remuneration and firm share price indicates that remuneration policies are based on share price appreciation, and thus focuses on the principle of shareholder wealth maximisation.

Δ E is significant in model 6 for WW. In both model 6 cases for CB and WW, the degree of explained variance is relatively high, with R^2 values of 0.649 and 0.759 (Hamilton *et al*., 2015). The degree of unexplained variance in all other models is relatively high, with low levels of significance. Multi-factor variables displayed poorer significance and model fit results than the univariable models presented in Table 3. Such results could potentially indicate multicollinearity and/or non-linearity effects present in the underlying relationships (Fauzi and Locke, 2012; Daoud, 2017). Empirical studies provide evidence that there exists asymmetry between executive compensation and firm performance, and that this relationship is strongly non-linear (Canarella and Nourayi, 2008; Olaniyi, 2019). Rasoava (2019) finds that this non-linear relationship is also true for South African firms, regardless of firm size.

For the executive compensation and firm risk-to-performance model component, the results for the executive compensation and firm risk-to-performance classification model are given in Table 4.

Table 4: Summary results for firm risk-to-performance classification model for CB, SS, and WW.

Year	CB			SS			WW		
	β[1]	TQ[2]	FRP	β*	TQ	FRP	β	TQ	FRP
2014	0.327	0.459	[(+) ; (+)]	0.913	0.727	[(+) ; (+)]	0.978	4.554	[(+) ; (-)]
2015	1.029	0.879	[(-) ; (+)]	0.568	0.739	[(+) ; (+)]	1.021	2.392	[(-) ; (-)]
2016	0.931	0.871	[(+) ; (+)]	0.522	0.566	[(+) ; (+)]	1.092	1.737	[(-) ; (-)]
2017	0.901	1.143	[(+) ; (-)]	0.857	0.450	[(+) ; (+)]	0.711	1.465	[(+) ; (-)]
2018	0.772	1.136	[(+) ; (-)]	0.557	0.267	[(+) ; (+)]	0.757	1.414	[(+) ; (-)]
2019	0.761	1.504	[(+) ; (-)]	0.222	0.948	[(+) ; (+)]	1.174	1.426	[(-) ; (-)]
2020	1.390	1.117	[(-) ; (-)]	1.881	1.308	[(-) ; (-)]	1.093	0.528	[(-) ; (+)]

Source: Authors' own calculations.

[1]Firm beta is determined as indicated by equation 4 in the methodology.

[2]Tobin's q is determined as indicated by equation 5 in the methodology.

*Firm beta for SS substituted by composite firm index beta prior to 2020 due to SS listing on 19 Feb 2020 on the JSE. This composite index includes AngloGold Ashanti, African Rainbow Minerals, Gold Fields, Harmony Gold, and Kumba Iron Ore.

The results in Table 4 show that firm beta values were mostly positive for CB and SS, but mostly negative for WW. For JSE-listed firms, beta has an inverse relationship with investment return, and consequently increased risk and poorer firm performance (Strugnell *et al*., 2011). The results indicate that CB and SS managed firm risk well in relation to executive compensation. Firm results for Tobin's q over the period are largely negative for CB and WW, and positive for SS. This implies that executive compensation and firm performance were not aligned in the cases of CB and WW and warranted for SS. Figure 1 indicates the results for the executive compensation and firm risk-to-performance classification model.

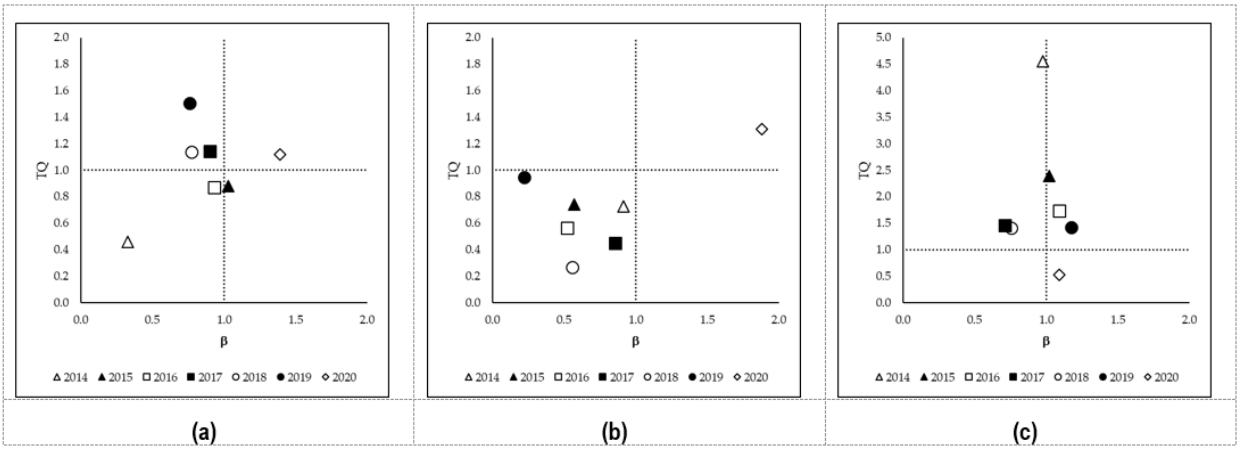

Figure 1: Results for the executive compensation and firm risk-to-performance classification model: **(a)** Results for CB; **(b)** Results for SS; **(c)** Results for WW. Source: Author's own calculations.

Figure 1 shows the results of the classification model indicates mixed performance for CB over the period. Risk-to-performance was positive in two periods, 2014 and 2016, and the classification result for 2020 is indicative of poor risk-to-performance. SS shows generally positive performance over the period, with the 2020 result being an outlier. The results for WW are generally the worst between these three firms, with no distinctive positive performance period indicated within the model. The classification model results are consistent with the results obtained for the executive compensation and firm performance model in the previous section.

Employee profit-share model

The results for the employee profit-share model are given by Table 5.

Table 5: Summary results for the employee profit-share model for CB, SS, and WW.

Year	CB				SS				WW			
	Q[1]	W[2]	G[3]	ESS[4]	Q	W	G	ESS	Q	W	G	ESS
2014	15.6	-0.7	4.6	86	-20.4	-9.4	4.3	400	27.0	1.2	5.5	363
2015	21.7	7.2	0.0	0	0.3	4.2	0.0	0	114.3	27.0	1.5	122
2016	37.3	4.4	4.9	116	-34.5	-16.5	7.9	1 217	55.5	10.6	3.3	279
2017	12.0	2.9	0.1	3	130.5	51.0	0.0	0	14.2	1.2	2.3	202
2018	58.5	14.3	0.3	7	43.2	5.6	5.2	707	14.0	3.1	0.4	36
2019	57.2	11.3	3.0	86	39.6	4.0	5.9	1 036	31.1	6.6	1.2	109
2020	40.4	9.0	1.1	33	307.7	14.9	62.0	10 937	58.5	-0.1	14.7	1 216

Source: Authors' own calculations. All units in ZAR.

[1]Firm productivity of labour is determined as indicated by equation 6 in the methodology.

[2]Firm average wage labour per hour is determined as indicated by equation 7.

[3]Employee compensation-productivity gap is determined as indicated by equation 8.

[4]Employee share scheme size is determined as indicated by equation 9. Results indicated are in millions.

The results in Table 5 show that employees have gained low compensation increases relative to their increase in productivity over this period. The discrepancy in compensation is largest over this period for SS, despite SS having improved employee compensation by the largest relative factor than CB or WW. The driver of the large ESS results for SS is due to the large increases in revenue over this period, increasing on average by 33% annually. Employee compensation increased on average by 23%, while the number of employees increased by 15% on average annually. This result indicates that employees largely do not share gains in productivity or profit within these firms.

Table 6 below shows results for the relative impact of such increases in employee compensation compared to executive compensation. The firm impact on net profit and cash flow is also shown.

Table 6: Summary results for the employee profit-share model for CB, SS, and WW

Year	CB				SS				WW			
	E: EX[1]	ES: EX[2]	CF[3]	NP[4]	E:EX	ES:EX	CF	NP	E:EX	ES:EX	CF	NP
2014	95	89	0.9	4.2	44	41	71.1	25.6	76	71	21.8	12.2
2015	174	174	0.0	0.0	60	60	0.0	0.0	95	93	13.8	3.9
2016	106	100	0.8	3.6	161	143	125.8	40.0	98	96	18.7	6.4
2017	182	182	0.0	0.1	52	52	0.0	0.0	68	66	11.5	3.7
2018	124	123	0.0	0.2	56	53	27.8	-28.1	56	56	2.0	-1.0
2019	184	179	0.3	1.6	61	58	18.4	239.3	73	73	10.5	-10.1
2020	76	75	0.1	0.5	95	65	54.0	35.7	45	41	22.4	217.7

Source: Authors' own calculations.

[1]E/EX is determined as the actual average employee-executive compensation ratio.

[2]ES/EX is determined as the predicted average employee-executive compensation ratio.

[3]CF is determined as the predicted ESS compensation as a percentage of reported cash.

[4]NP is determined as the predicted ESS compensation as a percentage of reported net profit.

The results in Table 6 show that the Employee Share Scheme (ESS) model decreases the average employee-executive compensation ratio marginally in most years, leading to a positive alignment between increased employee productivity and compensation. The impact of ESS is less noticeable on the compensation ratio change for SS and WW when compared to CB. The large variance in compensation ratios inter-firm indicates that different industries employ different executive compensation relative to their labour costs input. The effect of the ESS model on firm cash flow and net profit varies just as much as the compensation ratio by firm. The model has marginal effect on CB's cash flow and net profit and has considerable impact on SS's financial performance.

The results confirm hypothesis H_{01} for the three firms selected for this study. For the first model under consideration, the executive compensation and firm performance model, regarding both firm efficiency and growth measures of performance, model results show little statistical significance for the log-linear regression models. The results of the third model, the executive compensation and firm risk-to-performance classification model, supports the findings of the first two models. Our findings are in line with those of Bussin and Carlson (2020) who also found no conclusive relationship between executive compensation and financial performance within state-owned enterprises in South Africa. Khumalo and Masenge (2015) averred that not all firm performance indicators in the South African banking sector share a significant relationship with executive compensation. Similar to Coetzee and Hall (2020) and Zoghlami (2020), we found that the selection of firm performance metrics also infers widely different results when regressed against executive compensation. This implies that the selection of performance measurements could induce executive opportunistic behaviour encouraging overcompensation within firms and could thus be the reason in differences in findings of empirical studies undertaken.

The results of the employee profit-share model support hypothesis H_{02} partly due to the impact of the Employee Share Scheme (ESS) model on firm cash flow and net profit, which varied widely by firm. This indicates that there exists nuance between firms regarding their cash flow, net profit, and revenue trends, and should an ESS model be adopted, it must not be to the detriment of financial risk to the firm (Burke and Hsieh, 2006; Kong *et al*., 2022). Strategic factors, such as share buybacks, dividends, capital investment, leverage and accumulated cash equivalents impact firm cash flow and net profits. In turn, these all impact employee compensation negatively when policies affecting these factors are completely leveraged by executives in a bid to maximise share prices as a mechanism to increase executive compensation relative to rewarding employees for improved productivity (Kahle, 2002; Bhargava, 2011; Kiefer and Rada 2015; Sikka, 2015). Stout (2012) argued that focusing primarily on shareholder maximation alone is often to the detriment of other firm stakeholders, such as employees (Jones and Felps, 2015; Clarke, 2020). Hence in this study, we were of the view that executive compensation of firms, both listed and unlisted, should be aligned to the rewards of the employees responsible for the generation of income, which translates to enhanced value creation and higher profits, positive cash flows and potential dividends for stakeholders such as the real owners of the company.

Conclusion

This study focused on an analysis of executive compensation and employee profit-sharing policies from a South African perspective, based on a sample of three firms, namely Capitec Bank (CB), Sibanye-Stillwater (SS) and Woolworths (WW), which are central to the financial services, mining, and retail sectors of the South African economy (Statistics South Africa, 2022a; Statistics South Africa, 2022b). Our empirical results revealed that little evidence exists to support the existence of a relationship between executive compensation and firm performance for the study

sample. These results confirm that company executives have unduly benefitted from increases in their compensation, despite the presence of various corporate governance structures, such as independent directors and remuneration committees. We thus failed to reject our first null hypothesis, that there exists a misalignment between executive compensation and firm performance, and that executive compensation is largely aligned with firm share price at the omission of fair weighting of other performance metrics. It is therefore necessary for companies to rather adopt a holistic approach to assessing the performance of the company and those at its helm, prior to rewarding the key executives, based only on the capital gains noted on the share price. In addition, this study found employee profit-sharing schemes to have a positive impact in reducing the divergence between executive and employee compensation. However, in order to be fully effective - such profit-sharing schemes must also consider distinct firm financial trends before implementation, since these can vary widely between firms and different economic segments.

This latter finding was correlated to our second hypothesis that an employee profit-sharing structure would have negligible impact on the firm's financial performance and improve the compensation ratio between employees and executives. This study thus recommends that governance and remuneration committees be investigated to determine their independence regarding fair remuneration for executives and employees alike, as they also benefit from their own policies, and may thus not exercise objectivity and impartiality. Although our study was limited by the very small sample of firms included, and the short period of analysis, we believe that the results are still valid and fit for purpose. Future studies can however consider expanding the period under assessment as this may induce other model effects and factors. Increasing the number of firms under consideration could also induce segment or market effects within the models, and enable a more detailed cross-sectoral analysis.

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