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Key Determinants of Corporate Governance in Financial Institutions: Evidence from South Africa

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Abstract: The purpose of this study was to examine the key determinants of corporate governance in selected financial institutions. Using South African financial institutions as a unit of analysis, namely insurance companies and banks, the study employed a panel generalised method of moments (GMM) model using a data set for the period from 2007 to 2020, to assess key determinants of corporate governance proxies identified for the study. The study sampled 21 South African financial institutions composed of Johannesburg Securities Exchange (JSE) listed and unlisted banks and insurance companies. To measure corporate governance, the study developed a composite index employing the principal components analysis (PCA) method. The findings revealed a positive and significant association between the corporate governance index and its lagged variables. Furthermore, a significant and positive link was found between the efficiency ratio and corporate governance index and capital adequacy ratio (CAR); corporate governance index and firm size; corporate governance index and leverage ratio (LEV); and corporate governance index and return on assets (ROA). However, a negative and significant correlation was found between financial stability and the corporate governance index. The link between return on equity (ROE) and corporate governance was insignificant. A small cohort of financial institutions was excluded because it was challenging to obtain complete annual reports to extract the required data. The study was limited to only five corporate governance measures, namely board diversity, board size, board composition (independent non-executive directors and non-executive directors), and board remuneration. The findings are anticipated to persuade developing countries to pay special attention to how corporate governance is measured.

Keywords: corporate governance; financial institutions; return on equity; financial stability; capital adequacy ratio; return on assets

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1. Introduction

Over the previous two decades, the 2007–2009 global financial crisis, environmental concerns, globalisation, and corporate scandals have significantly increased public knowledge and attention to corporate governance. Corporate governance has developed as a comprehensive institutional quality concern and is critical to the management of an organisation (Mwanzia and Wong 2011). Mahtab and Abdullah (2016) and Ahmar (2022) assert that institutions with sound corporate governance are better at allocating resources. Furthermore, financial performance and corporate governance measures are associated, and sound corporate governance has been found to positively influence financial institutions' performance (Mahtab and Abdullah 2016; Anuolam and Ajagu 2022). Although these earlier studies assessed the relationship between good corporate governance principles and practice, it was not clear as to which individual factors actually give rise to corporate governance, particularly in financial institutions. This was further confirmed by Khatib et al. (2022) when they undertook an extensive literature review based on the Malaysian market.

Their study confirmed that the bulk of existing studies had applied similar quantitative techniques and had assessed non-financial companies' data.

Corporate governance's role is to guarantee that institutions operate in accordance with established operational and strategic objectives, which are to enhance the institution's value and satisfy its owners' interests. Corporate governance contributes to the financial stability, environment of accountability, transparency, and trust required for long-term investments and corporate integrity, supporting greater growth and a more equitable society; a well-functioning business management system assists institutions in raising finances, attracting investment, and strengthening important business performance indicators (Musa et al. 2018; Valaskova et al. 2018). Despite the financial crises that occurred periodically, the connection between financial firms and their performances, as well as the long-run stability on financial systems, are not yet well understood. Post the COVID-19 pandemic, however, scholars such as Ismail et al. (2024) established that there was an unprecedented interruption to the governance decisions made by companies, resulting in increasing threats to their sustainability. Their study underpinned the need to relook at the key drivers of corporate governance in order to better appreciate the factors that need to be strengthened, to avoid future collapses in corporate governance practices, particularly during crisis periods.

Against the aforementioned background, the current study focuses on the South African markets. Despite the high level of global integration with other financial markets, South Africa, as a developing country, still portrays some unique features that necessitate that the drivers of corporate governance be examined in detail. As such, this paper seeks to achieve the following research objective: to confirm the key determinants of corporate governance, specifically in financial institutions, using a sample drawn from South Africa, for the period from 2007 to 2020. Specifically, the hypotheses addressed in this study are as follows:

- H_1: Sound corporate governance practices improve overall company performance.
- H_2: There is a positive association between firm size and the corporate governance index.
- H_3: There is a positive association between leverage and the corporate governance index.

This study was further necessitated by the growing attention being paid to governance issues in the wake of recent collapses of financial institutions in the country. This paper contributes to the ongoing debates on corporate governance by highlighting the main factors that give rise to corporate governance in the financial institutions of developing countries such as South Africa. In addition to numerous corporate governance scandals, the country has been susceptible to the collapse of financial institutions, leaving investors with limited recourse. In an attempt to protect local and foreign investors, this paper will empower them in relation to the corporate governance practices that such stakeholders should emphasise in order to protect their interests. Methodologically, this paper adds to the existing corporate governance literature by developing and applying a PCA-constructed composite index that integrates the six corporate governance metrics into a single measure. Most other studies of this nature have generally used selected measures to proxy corporate governance. The remainder of the paper is as follows: the next section presents the literature that grounds this study. We then present the relevant methodology adopted to address the objectives of the study and consider the data findings and discussion thereafter. The paper ends with a brief conclusion and policy recommendations, as well as suggestions for future research.

2. Literature Review

2.1. Theoretical Literature

The emergence of agency theory encouraged the development of corporate governance theories (Abdullah and Valentine 2009). Other theories, including the notions of stakeholder, transaction costs, resource dependence, and stewardship theories, were developed in the discipline (Lau et al. 2016; Alabdullah et al. 2022). A multi-theory approach to research is

advised because there is never one ideal theory that fully accounts for the phenomenon under study (Abdullah and Valentine 2009; Hussain et al. 2018). A single-theory approach is further criticised by Walls et al. (2012), who claim that it is insufficient to properly explain study phenomena and account for hypothesised correlations.

Jensen and Meckling (1976) discuss how agency theory originates from the economic concept of risk sharing between shareholders and managers, yet they may use different technique to solve the agency problems. The shareholders' devotion to risk-sharing will be of great concern because shareholders have presented managers' responsibilities to achieve their expected goals. Therefore, managers are required to achieve the objectives provided and specified by shareholders (Bendickson et al. 2016). However, the agency problem stems from managers' concern for self-interest behaviours, which may induce them to behave against the interest of the shareholders (Fama 1980).

Due to the dynamic and complex nature of a financial institution's operating environment, its management and control are complex, and the agency problem in financial institutions is due to expectations and multiple interests by the shareholders (principal). Therefore, agency theory is relevant to financial institutions as they are led by executive management and represent the interest of shareholders. In financial institutions, the executive directors are usually the agents. Wangechi (2019) asserts that researchers should consider the agency relationship's influence on the viability and sustainability of financial institutions.

Stewardship theory suggests that agents of financial institutions act as stewards of the institution's stakeholder wealth, because they have to work faithfully to safeguard the interest of stakeholders (Donaldson and Davis (1991)); Donaldson (1990) asserts that stewardship theory presents the management model in institutions where agents are presumed as good stewards, to operate in the best interests of stakeholders. In financial institutions, managers are regarded as good stewards since they deal with stakeholders' funds; therefore, they have to operate in the stakeholders' best interests (Mweta and Mungai 2018; Le et al. 2023). Stewardship poses a strong relationship between an institution's success and managers and protects shareholders' wealth through performance. Therefore, the theory assumes that managers are trustworthy stewards who focus on improving the institutions rather than their interests. The agents of the banking institutions are viewed as custodians, whose interests remain associated with the principal's objectives and interests.

Unlike agency theory, whereby agents are responsible for fulfilling the shareholders' interests, the stakeholder theory maintains that agents are responsible to fulfil the interests of the principals and other stakeholders (Fekadu 2015). de Villiers and van Staden (2011) assert that the reporting of information by managers is targeted at various stakeholders in the institution. The theory holds the notion that the objective of a financial institution is to coordinate and serve the interest of the stakeholders. Stakeholders of financial institutions create a favourable external environment when considering corporate governance. Mutual resource dependence gives stakeholders a justifiable claim on the institution's resource allocation (Kock et al. 2012). Kock et al. (2012) suggest that the principal–agent correlation is extended to managers and shareholders within the stakeholder framework.

2.2. Empirical Literature

Corporate governance shortcomings in the financial services sectors came to the fore after the global financial crisis in 2007. Erkens et al. (2012) confirmed the role of corporate governance on the performance of financial firms during the crisis, using a sample of 296 financial firms drawn from 30 countries around the world. They found that increased risk-taking and poor corporate financing decisions before the crash resulted in losses for shareholders. Furthermore, the tenets of the agency theory were overlooked, as managers in pursuit of quick returns took higher risks using funds from institutional investors. These sentiments follow on from the work of Barucci and Falini (2005), who argued that, since institutional investors are long-term shareholders with the largest stakes in investor companies, they play an important moderating role in the governance of a company.

The agency theory highlighted the importance of a board, which proposed the company's directors' control and monitoring of the strategic direction (Jensen and Meckling 1976). When monitoring is implemented, the institution's performance is increased, thereby maximising the shareholders' wealth (Fama and Jensen 1983). Orazalin and Mahmood (2018) and Apochi et al. (2022) found that a company with good corporate governance improves the institution's financial performance. Earlier empirical evidence has shown that high-quality corporate governance is significant for emerging economies to attract investments in financial institutions. However, there is still no unanimity on which institutional determinants are significant determinants of corporate governance for financial institutions. Empirical studies appear to have been relatively more associated with the link between corporate governance and firm performance than examining the key determinants of corporate governance in financial institutions. These gaps can be identified in the prior and more contemporary strands of the empirical literature.

Majeed et al. (2020) evaluated the effects of board size on the financial performance of a financial institution. The study sampled Pakistan and China's listed banking sectors from 2007 to 2018. A panel regression model was employed to examine the correlation and, for Pakistan, board size was positive and significant with ROA and negative with ROE. Board size in the Chinese banking sector was shown to be significant and positive with ROE and ROA. Sarpong-Danquah et al. (2018), on the other hand, investigated the impact of corporate governance on the financial performance of manufacturing enterprises in developing nations from 2009 to 2013, in which the GLS panel regression model was employed to analyse data from 11 publicly traded industrial enterprises. The results found that there was a negative and insignificant link between board size and financial performance measures (ROA and ROE). In contrast to the findings, Kafidipe et al. (2021) discovered a positive and significant association between board size and ROE.

Wadesango et al. (2020) investigated the effects of corporate governance on the financial performances of Zimbabwean financial companies. The study sampled 13 financial institutions during the years 2010–2017. The board sizes, audit committee, LEV, and board composition were used to proxy corporate governance, while ROE measured the institution's performance. The study found that audit committees, LEV, board composition, and board size were positive and significant in explaining the profitability of the financial institutions. Similarly, Boachie (2023) assessed the influence of ownership on a link between corporate governance and financial performance by sampling 23 Ghanaian banks from 2005 to 2015. The findings of the study show that non-executive directors and bank size had a positive and significant impact on performance. More recently, Lee and Tulcanaza-Prieto (2024) examined the effect of corporate governance on non-financial firms listed on the Korean Composite Stock Price Index. They concluded that firms with high levels of corporate governance experience lower agency costs than those with low corporate governance, thus supporting the proponents of the agency and stakeholder theories.

The theoretical and empirical literature presented herein was drawn from various contexts and countries and applied different methodologies. We find that the outcomes of our reviewed literature differ on the basis of the measures of corporate governance applied, as well as the economic sectors of the firms. For instance, board size has a positive impact on firm performance in financial institutions, whereas the opposite holds true for manufacturing companies. This could be explained by the measure of financial performance applied; for instance, where manufacturers own their assets used for production, banks, on the other hand, have limited assets. Although the agency theory is the most well-known when it comes to finance studies, we found that the other theories are equally applicable to studies on corporate governance. While the agency theory guides the underlying principles that pertain to managers and shareholders; from a stakeholder perspective, managers as agents of a company are expected to maintain the best interests of stakeholders, which includes shareholders, employees, clients, and others. This is evidenced by the empirical studies, which note the impact of individual corporate governance variables on the financial performance of the assessed firms, thereby affirming that, by upholding the tenets of

the stewardship theory for instance, the value derived from shareholders in a financial institution increases substantially due to the added trust layer. In addition, listed firms are open to greater scrutiny as they have to publish their annual financial statements on the bourse, hence strengthening corporate governance expectations by the various stakeholders and regulators alike.

3. Methodology

3.1. Data, Sample, and Variables

The study used panel regression models to analyse annual data from 2007 to 2021 for 21 financial institutions. The Bureau Van Dijk Orbis Bank focus database was used to source a list and data of banks; the Orbis database and the Financial Sector Conduct Authority (FSCA) were used to source an insurance list and insurance company data. Furthermore, data were obtained from the institution's annual integrated reports, which are downloaded from their websites. The Bureau Van Dijk Orbis Band focus and FSCA databases are South Africa's leading providers of data (Bussin and Modau 2015). The Orbis database is an arm of Moody's, while the FSCA is the regulatory body of the South African financial services sector. As such, both databases are assumed to be credible and reliable in their listings. For the purposes of this study, the banking sample comprised 11 banks out of a population of 19 banks in South Africa. The insurance sample comprised 10 insurance companies out of 179 in South Africa. There were 291 cross-sectional time observations for the financial institutions.

Our dependent variables for this study consisted of board diversity, board composition, board size, and board remuneration. CAR, ROA, ROE, and efficiency ratio served as independent variables. The control variables were transparency and disclosure, growth prospect, LEV, and firm size. Transparency and disclosure is averred to have a positive effect on corporate governance and firm performance as it requires openness to scrutiny, as suggested by Khanchel (2007). Growth prospect is aligned to economic growth rates and is assumed to inspire increased financial performance. Leverage and firm size are both related to the balance sheet of a company in that the interest is in the available assets, which are used productively to generate income. These control variables were selected based on empirical studies that argued positively for the application of these variables, particularly for those studies that use a sample derived from financial institutions (see for example, Ismail et al. 2024; Rastogi et al. 2023). Board size was measured by the total number of people on the board of directors. Board composition was proxied by two variables, namely independent non-executive directors and non-executive directors. Independent non-executive directors is measured by the total number of independent non-executive directors to total non-executive directors, while non-executive directors is measured by the number of non-executive directors to the total number of directors. Board remuneration is measured by the total amount paid to board members. Board diversity is measured by the percentage of female board members in relation to the total number of board members. Transparency and disclosure are measured by disclosures of financial information, general corporate governance disclosure, age, qualification of directors, compliance reports, committees, accounting policies, remuneration of directors, auditor's reports, and board of directors' reports.

The study employed PCA to integrate the six corporate governance metrics to a single index (GOVINDEX). Therefore, the dependent variable employed is the corporate governance index. The independent variables were financial performance, financial stability, and CAR. Financial performance is measured using ROE (net income to average total equity) and ROA (net income to average total assets). Financial stability is measured using the z-score, and the CAR is assessed by the capitalisation ratio consisting of total equity to total assets. The analysed financial institutions are composed of banks and insurance companies operating in South Africa, as listed in Table 1 below.

Table 1. List of sampled South African financial institutions.

Insurance Firms	Banks
African Reinsurance Corporation (South Africa) Limited (Johannesburg, South Africa)	ABSA Bank Limited (Johannesburg, South Africa)
Clientele Limited (Johannesburg, South Africa)	Albaraka Bank Limited (Durban, South Africa)
Discovery Life Limited (Johannesburg, South Africa)	Mercantile Bank Limited (Johannesburg, South Africa)
Old Mutual Life Assurance Company Limited (Cape Town, South Africa)	Bidvest Bank Limited (Johannesburg, South Africa)
Federated Employers Mutual Assurance Company (Johannesburg, South Africa)	First Rand Bank Limited (Johannesburg, South Africa)
Liberty Holdings Limited (Johannesburg, South Africa)	Nedbank Limited (Johannesburg, South Africa)
Export Credit Insurance Corporation of South Africa (Pretoria, South Africa)	Grindrod Bank Limited (Durban, South Africa)
Professional Provident Society Limited (Johannesburg, South Africa)	Habib Overseas Bank Limited Johannesburg, South Africa)
PSG Consultant (Stellenbosch, South Africa)	Investec Bank Limited (Johannesburg, South Africa)
Sasria Limited (Johannesburg, South Africa)	Standard Bank of South Africa Limited (Johannesburg, South Africa)
	HBZ Bank Limited (Durban, South Africa)

Source: Authors' own composition.

3.2. Principal Component Analysis (PCA)

This study applied PCA to generate a composite index of corporate governance. It was necessary to employ this method since there is no agreement among the scholars about the single most appropriate variable to measure corporate governance (Swedan and Ahmed 2019). Based on the variables identified for the financial institutions, PCA was applied to develop unidimensional measures of corporate governance.

The reason for using PCA is that using individual variables may not be sufficient to capture and adequately reflect the corporate governance status of the financial institutions when used independently (Alam and Sattar 2019; Festić et al. 2020). To achieve PCA, the eigenvalues of the variance matrix must be computed. Several mutually independent principal components are used to summarise the variables of interest, where each principal becomes the weighted average of the underlying variables (Bro and Smilde 2014; Tharwat 2016). When PCA was used to construct a composite index, the weighted index values were determined using the correlations between the individual corporate governance measures, namely board diversity, board remuneration, independent non-executive directors, non-executive directors, board size, and transparency and disclosure. Therefore, the study used PCA, combining the six corporate governance measures into a single index, namely GOVINDEX.

3.3. Model Specification

The study adopted the GMM model to address the objective of assessing the key determinants of corporate governance in selected financial institutions. To address the problems of specification errors and endogeneity associated with panel data, the GMM is adopted in lieu of ordinary least squares (Arellano and Bover 1995; Gujarati and Porter 2009; Arellano and Bond 1991). The panel data technique entails the selection of a suitable estimation method between random effects and fixed effects. To that purpose, we used the Hausman test with the null hypothesis that the appropriate approach was the random effects method over the alternative hypothesis that the optimal approach was the fixed effects approach (Arellano and Bond 1991).

The general system GMM is therefore specified as follows:

$$Y_{it} = \alpha Y_{it-1} + \beta X_{it-1} + \mu_i + \varepsilon_{it} \quad (1)$$

where Y_{it} is the dependent variable of the institution's i for the time t. X is the vector of the explanatory variables. Y_{it-1} is the lagged dependent variable. μ_i is the time-invariant institution's specific effect. ε_{it} is the disturbance term.

The general system GMM is therefore re-specified as follows:

$$GOVINDEX_{it} = \alpha GOVINDEX_{it-1} + \beta_1 FINPERF_{it} + \beta_2 FINSTAB_{it} + \sum_{n=1}^{i} bX_{it} + \mu_i + \varepsilon_{it} \quad (2)$$

where $GOVINDEX_{it}$ represents the corporate governance proxies, as captured in this study, namely board size (BS), board remuneration (BR), board diversity (BD), and board composition (BC), for institution's i at time period t. $GOVINDEX$ is a composite index constructed using PCA. $GOVINDEX_{it-1}$ represents the first lagged dependent variable for the $it-1$. X_{it} represents the vector of explanatory variables. $FINPERF_{it}$ represents the financial performance proxies captured using ROA and ROE. $FINSTAB_{it}$ represents financial stability. μ_i represent the time-invariant institution's specific effects. ε_{it} represent the error term.

Before estimating the above model, diagnostic tests were performed. To avoid erroneous regression analysis results, the data were checked for serial correlation, multicollinearity, and heteroskedasticity. To test for heteroskedasticity, the Chi-square test and the F-test, using the p-values where p-values were greater than 0.05, means there is no heteroskedasticity. To discover any multicollinearity among the variables, a correlation matrix was used.

4. Results and Discussion of Findings

We begin this section by presenting the results of the PCA-constructed composite index of corporate governance.

Table 2 reflects that the first component's eigenvalue is 1.858412, accounting for 30.97% of the maximum variance. The eigenvalue of the second component is 1.225184, accounting for 20.42% of the maximum variance. The eigenvalue of the third component is 1.061980, accounting for 17.70% of the total variation. The fourth component's eigenvalue is 0.999217 and accounts for 16.65% of the maximum variance. The eigenvalue of the fifth component is 0.643385, which accounts for 10.70% of the total. The last component has a value of 0.212922 and accounts for 3.55% of the total variation. As a result, the components have enough information, as evidenced by their eigenvalues.

Table 2. Principal component analysis (PCA) results.

Eigenvalues: (Average = 1, Sum = 6)					
Component	**Eigenvalue**	**Difference**	**Proportion**	**Cumulative Value**	**Cumulative Proportion**
01	1.858412	0.633229	0.3097	1.858412	0.3097
02	1.225184	0.163204	0.2042	3.083596	0.5139
03	1.061980	0.062763	0.1770	4.145576	0.6909
04	0.999217	0.356932	0.1665	5.144793	0.8575
05	0.642285	0.429363	0.1070	5.787078	0.9645
06	0.212922	---	0.0355	6.000000	1.0000

Source: Authors' own composition.

Below are the results of the GMM model, as well as a detailed discussion of the findings.

From Table 3, we confirmed that the relationship between the corporate governance index and its lagged variable is positive and statistically significant. This study's findings imply that the corporate governance index is persistent with its lagged variable over time. Abobakr (2017) employed the generalised least squares (GLS) method and found that the corporate governance index was positively affected by the financial performance measures. The results are supported by Arora and Bodhanwala (2018) and Benvenuto et al. (2021), who established a positive and significant correlation between the corporate governance index and its lagged variable. However, the result is inconsistent with that of Zagorchev

and Gao (2015), who used US financial institutions and established a negative link between the corporate governance index and its lagged variable; the result is also inconsistent with that of Love and Rachinsky (2015), who sampled the Russian banking sector and established a negative link between corporate governance and its lagged variable.

Table 3. Determinants of corporate governance in selected financial institutions.

	2-Step System GMM	2-Step System GMM
Variables	**GOVINDEX**	**GOVINDEX**
L.GOVINDEX	0.686 ***	0.580 ***
	(0.0399)	(0.0939)
FINSTAB	−0.0234 **	−0.0901 ***
	(0.00655)	(0.00502)
ER	0.0105 *	0.00298 ***
	(0.00441)	(0.000425)
CAR	1.902 **	2.080 ***
	(0.658)	(0.134)
FS	0.0874 *	−0.0785
	(0.0413)	(0.135)
LEV	1.906 **	2.081 ***
	(0.660)	(0.134)
ROA	0.0501 **	
	(0.0135)	
ROE		−0.00366
		(0.00321)
N	249	249
Number of instruments	17	20
Groups	21	21
AR(1)	−3.37	−3.09
AR(2)	1.74	1.79
Sargan test	11.79	36.46
Hansen test	9.62	16.63

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Standard errors are in parentheses. L.GOVINDEX = lagged corporate governance index, FINSTAB = financial stability, ER = efficiency ratio, CAR = capital adequacy ratio, FS = firm size, LEV = leverage ratio, ROE = return on equity, and ROA = return on assets.

The correlation between the corporate governance index and financial stability is negative and significant. The result implies that financial stability negatively influences the corporate governance index. A percentage increase in financial stability will decrease the corporate governance index measure. Furthermore, the finding means that the corporate governance index could be ineffective when financial stability increases. The result is inconsistent with that of Mathew et al. (2018) and Festus et al. (2019), who established a positive and significant link between corporate governance and financial stability. However, the result is consistent with that of Gaganis et al. (2020), who found a negative and significant link between the corporate governance index and the financial stability.

Total cost to income best captures financial institutions' potential to be efficient in the industry, thereby offering financial services. According to Jerab (2011), the institution's efficiency has an effect on the corporate internal governance procedures. The resource dependence theory promotes an institution's efficiency in satisfying the needs of its shareholders (Pfeffer 1972). The findings established a significant and positive link between the corporate governance index and the efficiency ratio. However, the significance level is at 0.05 when the financial performance measure is the ROA, and is at 0.001 when ROE measures the financial performance. The findings are consistent with those of Salim et al. (2016), Zeineb and Mensi (2018), and Thaker et al. (2022), who found a significantly positive correlation between the corporate governance index and efficiency ratio. The results imply

that increasing the efficiency ratio enhances the effectiveness of the corporate governance index of the selected financial institutions. Implementing a strict corporate governance framework correlates with better levels of efficiency in financial institutions. Furthermore, the effective utilisation of an institution's assets may have important effects on the corporate governance index. In accordance with the stakeholder theory, a strong and effective corporate governance structure is more beneficial to an institution's long-term viability and profitability.

The capitalisation ratio of total equity to total assets best captures the institutions' CAR. It is crucial for a financial institution to have a positive and high CAR (Chineme and Nwadialo 2018; Marak et al. 2022). The findings established a positive and significant link between the CAR and the corporate governance index. The result is supported by that of Pratiwi (2016), Purba and Djamaluddin (2020), and Benvenuto et al. (2021), who established a positive and significant association between CAR and corporate governance. According to the findings of this study, increasing the percentage of CAR for financial institutions increases the corporate governance index. Furthermore, the institutions will take a more appropriate level of loss, while maintaining their sustainability. As a result, the institutions will have higher capital reserves and will be less likely to fail. However, the current findings contradict Retno (2014), who discovered that the CAR had no effect on corporate governance.

The natural logarithm of total assets best captures the firm size of the financial institution. When ROA was employed as a measure of financial performance, the findings of this study observed a positive and significant association between firm size and corporate governance index. The findings are congruent with those of Widiyanti et al. (2018) and Benvenuto et al. (2021), who established a positive and significant association between the firm size and the corporate governance index of the financial institutions. Therefore, larger firm sizes improve corporate governance index practices. According to the agency theory (Fama and Jensen 1983), a bigger firm size may imply more board representation; thus, adding non-executive directors will lessen agency problems. However, the current analysis established an insignificant and negative association between firm size and corporate governance index when the financial performance was measured using the ROE.

The LEV of financial institutions is established as total debts in relation to total assets. According to the findings, LEV and the corporate governance index have a positive and statistically significant association. The results demonstrate the persistence of LEV to the corporate governance index if both financial performance indicators are considered (ROE and ROA). The findings imply that increasing LEV by a percentage increases the corporate governance index of the selected financial institutions. The positive results imply that LEV has long-lasting effects on the corporate governance index. A higher LEV is safer for financial institutions. In general, institutions utilise their capital to make investments, provide loans, or sell their most risky or levered assets (Ross et al. 1998). The findings are supported by the positive and significant link between LEV and corporate governance index discovered by Yaseen and Al-Amarneh (2015) and Uddin et al. (2019). However, the findings contradict the negative findings of Zhou et al. (2021).

Net income divided by average total assets captures the ROA. The study predicted a positive association between ROA and the corporate governance index, implying that an increase in ROA indicates that the institution's assets are being used efficiently and effectively. The study established a positive and significant link between ROA and the corporate governance index. The positive results established were based on the financial performance measure (ROA) employed. The link between the corporate governance index and ROE was insignificant. The current study's findings suggest that a percentage increase in financial performance, particularly ROA, will increase the corporate governance index of the selected financial institutions. However, the corporate governance index rendered a significantly effective cause for financial institutions. The findings are consistent with those of Isik and Ince (2016), Dong et al. (2017), and Singh et al. (2018), who established a significant and positive correlation between corporate governance index and ROA. How-

ever, the result contradicts that of Pratiwi (2016), who established a significant and negative correlation between ROA and corporate governance.

ROE is determined by dividing net income by average total equity. The findings unearthed a negative and insignificant link between ROE and the corporate governance index. However, the results are in contrast with those of Singh et al. (2018), who established a significant and positive association between ROE and corporate governance.

5. Conclusion and Recommendations

The study was restricted to South African financial institutions registered with the Bureau Van Dijk Orbis Bank and the Financial Sector Conduct Authority (FSCA), with data spanning the years 2007 to 2020. This study applied PCA to generate a composite index of corporate governance. The corporate governance measures employed by the PCA were board diversity, board remuneration, board composition, and board size. The key findings are that the corporate governance practices of South African financial institutions are underpinned by the return on assets, the capitalisation ratio, and leverage. These three aspects are derived directly from the balance sheet of financial institutions, hence their effective management is of paramount importance, particularly to investors who are the main providers of capital. The practical implications of the study's findings are that, despite the lessons learnt from the global financial crisis of 2007 and the COVID-19 pandemic, corporate governance principles, in South Africa and globally, still require greater enforcement not only by the board of directors, but also oversight and regulatory bodies, as well as stakeholders such as investors and clients. By doing so, this would instil greater confidence in the financial services sector, as well as affirming that theories such as the agency, stakeholder, and stewardship theories are applicable in today's business transactions. No company exists to make a loss, and sound corporate governance practices would thus enhance financial performance.

Despite our findings herein, there is still scope for further research. We believe that a study is required to compare the pre- and post-crisis corporate governance relationships and financial performance. This is necessary due to the fact that it takes a few years for the effects of a crisis to filter through markets; hence, a study on this would enhance the literature on corporate governance. Future research may also consider the role of audit committee-based measures to better understand listed financial institution performance in developing economies. Lastly, future studies could investigate the role of internal factors such as non-performing loans, which could affect corporate governance systems in financial institutions.

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