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Corporate Social Responsibility, Corporate Governance, and Banking Performance in the CEMAC Region

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Abstract *This paper examines how corporate governance and corporate social responsibility affect banking performance in the Central African Economic and Monetary Community (CEMAC) region. The sample is obtained from the Worldwide Governance and the World Bank Environment Social Governance (ESG) database from 2003 to 2018. It employs the Z-score to proxy the corporate social responsibility factors such as labour force participation rate, population density, and renewable energy. The results reveal that a better corporate social responsibility and corporate governance environment could improve banking performance, thereby maximising shareholders' wealth in the CEMAC region. The results support a similar suggestion by the International Monetary Fund (IMF) which asserts that the CEMAC region must strengthen its code of good governance and transparency in public resources management. Therefore, implementing corporate social responsibility strategies and improving corporate governance practices may be crucial in attracting and improving direct foreign investment for a strong capital market, restoring investors' confidence in the CEMAC region.*

Keywords *Corporate Social Responsibility, Corporate Governance, Banking Performance, The Central African Economic and Monetary Community*

JEL Classification Codes: *G3, G15, G35, F3, O55, Q51*

INTRODUCTION

In 1994, six member countries, including Cameroon, the Central African Republic, Chad, the Republic of Congo, Equatorial Guinea, and Gabon, formed the Central African Economic and Monetary Community (CEMAC), to promote economic integration among members in the currency union (Poplawski-Ribeiro et al., 2011). Although the countries are among the richest in Africa, rely heavily on mineral resources to boost their economies, and the exploitation of mineral resources shows a weak institutional performance and a continuous change in the business environment among member countries, especially in the financial sectors (Giz Magazine, 2016). The sustainable management of organisational and community resources is of paramount importance to the power of corporations. In addition, the structure of corporate governance (CG) and corporate social responsibility (CSR) in the CEMAC region are fragile, and most business entities, precisely financial institutions, need more ability to manage wealth (Ayandele & Isichei, 2013). Moreover, the link between firms involved in financial services and the community's engagement is rarely examined in the literature due to limited knowledge of the CEMAC region (Mangantar, 2019).

Due to poor implementation and execution of corporate governance and corporate social responsibility, the region attracted very few foreign investments, calling for effective public financial management. Specifically, banks are responsible for good accountability, disclosure of information to the public, and the community's prosperity. One reason for establishing a financial organisation is to maximise gain and optimise shareholder values without harming its community's prosperity (Mangantar, 2019). The other reason is that CEMAC banks play a crucial role in the growth of the regional and global economy because they function as a core provider of financial products such as loans to businesses.

Brealey et al. (2019) define CG as the regulatory framework, including laws, regulations, institutions, and corporate practices that protect shareholders and other investors. At the same time, the World Business Council for Sustainable Development (WBCSD) defines CSR as a perpetual responsibility of organisations to commit to practicing ethical standards that benefit the economic development and quality of life of employees and the local community. Mainly, CSR is the continuing commitment by businesses to behave ethically and contribute to economic development as well as

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the local community and society (WBCSD, 1998). CSR also requires holding organisations accountable and responsible for how their business activity affects the community. Therefore, it assumes that banks within the CEMAC region may add value and gain comparative advantages through effective implementation and good CG and CSR practices.

This study has several contributions. First, it applies to the CEMAC countries with high dependency on monetary regimes, limited knowledge of CG, and low bank performance. Typically, non-governmental organisations in developing countries do not reflect corporate transparency and accountability. As a result, these countries may witness slow growth and poor corporate performance compared to companies in developed economies (Rahim & Alam, 2014; Faruqi et al., 2019). Second, this research is carried out in developing countries and examines the influence of CG on firms' capital structure and performance (Krishna & Stuart, 2014; Rami, 2014; Titisari et al., 2019). Research shows that poor corporate governance was one of the significant factors influencing banks' financial distress (Luo, 2015).

Nevertheless, the effect of CG on banks' performance remains limited or reveals inconsistent outcomes (Faruqi et al., 2019; Mangantar, 2019). This research adds to the ongoing debate concerning CG and CSR on banks' performance in Sub-Saharan Africa (Tchouassi & Nosseyamba, 2011). Third, this study includes the CSR index to investigate its influences on bank performance in the CEMAC. Rahim and Alam (2014) recognise CSR as organisational rules which integrate social and environmental factors in promoting shareholder needs by reducing externality that might affect other shareholders. The integration of CG and CSR theoretical models was crucial because each country developed its standards and practices of CG and CSR concerning its unique social, political, and religious needs (Faruqi et al., 2019).

This paper examines corporate governance and social responsibility's effect on banking performance in the CEMAC region using the Worldwide Governance and the World Bank database from 2003 to 2018. This study employs the Z-score to proxy the corporate social responsibility factors such as labour force participation rate, population density, and renewable energy. The results reveal that corporate social responsibility has a significant relationship, while corporate governance positively affects banking performance in the CEMAC region. It suggests that corporate social responsibility strategies and corporate governance practices are essential in improving banking performance in the CEMAC region.

LITERATURE REVIEW

Literature typically suggests a positive and sustainable influence of CG on banking performance. Bunea (2013) shows how CG deficiency within European banking sectors is a recipe for a financial crisis. The author applies CG practices to find a positive effect of CG and sustainability in the banking sectors. Kartika et al. (2019) also reveal that the cost of capital, CG, and CSR directly affect the firm's performance in Indonesia. Using a sample of 27 companies and the partial least square technique, the authors find that CG and CSR positively influenced banking performance. Different from these results, Mahmudur and Shawkat (2014) report that CG and CSR did not affect weak economies, especially civil society groups characterised by disorganisation and corruption in public agencies. Previous research conducted in different countries produced diverse empirical evidence (Kartika et al., 2019).

However, the International Monetary Fund (IMF) pinpointed the CEMAC region as a zone that should strengthen its corporate governance practices and reduce systematic corruption between public and private corporations. Therefore, the Central African Monetary Union (CAMU) plays a significant role in financial transactions. Notably, the exposure of the CEMAC region to the dramatic collapse of corporate systems worldwide, as a result of weak CG structures, exacerbates the need to improve and reform CG practices in developing and developed countries (Onakoya et al., 2012). For example, Peni and Vahamaa (2012) suggest that crucial components influencing change in a corporation's growth in developed and developing countries include sustainability and corporate governance. Studies conducted in developed countries concerning the effect of CG on banks' performance revealed robust results. For instance, an analysis performed during the 2008 financial crisis proved that banks that implemented healthy CG practices realised substantially higher profitability than banks with weaker CG mechanisms (Peni & Vahamaa, 2012). Additionally, researchers documented how developing countries, especially those in Sub-Saharan Africa, experienced low intra-regional trade, high inflation rates, and slowed inflow of foreign direct investment because of weak CG practices (Onakoya et al., 2012; Peni & Vahamaa, 2012).

According to Onakoya et al. (2012) and Peni and Vahamaa (2012), CG refers to a system through which the board of directors, managers, and shareholders manage a corporation's fund to maximise shareholders' value and the overall objective of the company. CG and CSR can influence management efforts to achieve an organisation's desired level of productivity. The management of firms and maximisation of shareholders' values received more attention in developing countries because firm size continues to increase, and financial institutions' role continues to grow (Luo & Jackson, 2012). Hence, the mobilisation and allocation of capital have become more complex and pose challenges to businesses. Therefore, the liberalisation and deregulation of financial

activities increased and systematically changed the nature of competition, especially in the CEMAC region (IMF, 2018).

Moreover, the CEMAC countries' high over-dependence on oil supply signals that the region is experiencing regional constraints, leading to an adverse effect on CG and CSR (IMF, 2018). In addition, a sharp decline in oil prices and civil conflicts in some parts of the region may hurt regional economic growth and development (IMF, 2018). Peni and Vahamma (2012) explore some selected corporations in the CFA zone by examining the influence of CG on bank performance, and found that country-specific characteristics significantly impact shareholder value maximisation. However, the association between CG and CSR on bank performance within the CEMAC region remains unknown. This study intends to examine the relationship between CG and banks' performance on the one hand and, on the other hand, the relationship between CSR and banking performance in the CEMAC region. The CEMAC region made tremendous efforts to manage business activities among member countries. In controlling market distortions, the CEMAC region formed the regional banking supervision commission, known as the Commission of Bank of Central African States (COBAC), in 1990, intending to harmonise and supervise banking activities. The main objective of COBAC was to ensure that banks comply with financial laws protecting investors. Specifically, the COBAC oversees all banking activities within the CEMAC region (Saab & Vacher, 2008). CAMU created a common currency, the Central African France (CFA), which facilitates the buying and selling of goods within the CEMAC region. The Bank of Central Africa States (BCAS) manages the supply and regulation of the quantity of money circulating within the CEMAC region. The region has witnessed a slow growth in foreign direct investments because shareholders are worried about the high rate of corruption, which may have a devastating effect on their short- and long-term investments (IFM, 2018). CG and CSR are vital for financial stability and economic growth in the CEMAC region. Hence, evaluating the banks' performance is advantageous to the board of directors, managers, and shareholders because it provides reliable information to other investors, thereby attracting the inflow of capital to the region.

Previous researchers shared varying CSR and banking performance results. For example, CG and banking performance are measured as the return on assets (ROA) or return on equity (ROE). Kabir and Thai (2017) show that CSR activities positively affect corporate financial performance and CG measures by foreign ownership. The board size and board independence enhanced the relationship between CSR and a bank's financial performance. However, Mangantar (2019) reports neutral results of CSR and CG on ROA; they did not influence financial performance. Wang et al. (2015) find mediation effects between CSR and CG on ROA. The authors supported that environmental-related CSR outcomes mediated the relationship between CG and banking performance. Forte (2013) claims that culture played an ultimate role in the relationship between CSR and CG in banking sectors. For instance, the author notes that CSR and CG practices enhance financial performance, and it is more prevalent in countries that support social democratic traditions. These mixed results highlighted the need for additional research to explain CSR and CG further. For example, Faruqi et al. (2019) formulate a theoretical model of CG on bank performance through the intermediation of cash flows, revealing the significant effect of CG on bank performance in developing countries. The findings of Rahim and Alam (2014) recognise that civil society groups were unorganised agencies with either ineffective or corrupt leadership.

Essential to the global financial stability among financial institutions, especially banks, is the effective implementation and execution of CG principles (Faruqi et al., 2019). Specifically, corporate governance practices ensure accountability and transparency in the banking system (Faruqi et al., 2019; Rahim & Alam, 2014). The concept of CG states that utilising rules, power, and principles established within an organisation, human behaviours would be transformed towards value maximisation and accomplishing its objectives (Rahim & Alam, 2014; Faruqi et al., 2019). Therefore, the concept of CG emphasises business rules and decision-making processes via the effective adoption of policies and regulations that influence how corporations direct and control achieving shareholder values (Rahim & Alam, 2014). Faruqi et al. (2019) reveal two broad themes, accountability and transparency, in the banking sector. The theory of CG depends on understanding every country's system, standards, and CG practices as they relate to its social, political, and religious practices. According to the authors, the presence of CG in any organisation expands and stabilises performance in financial sectors, because CG guarantees accountability and transparency (Faruqi et al., 2019). Financial performance requires holding board members, managers, and employees accountable and transparent while working to realise the organisation's objectives. A company's success in improving its financial performance is inseparable from applying good CG (Mangantar, 2019). It necessitates adequate supervision of financial activities within an organisation through implementing good CG practices (Farugi et al., 2019; Mangantar, 2019). The fundamental proposition is that good CG encourages the board of directors, managers, and employees to realise the objective of a fair return on shareholder investments.

Mangantar (2019) adds that the quality of CG and CSR could improve the banks' and institutions' financial performance.

Specifically, Afolabi and Sy (2017) compare corporate governance in Ghana, Nigeria, and South Africa by focusing on each country's corporate governance institutions, politics, corruption, and economics. They found a need for more institutional shareholders in Ghana, while institutional shareholders resided in Nigeria and South Africa. Thus, their results reveal that corruption, bribery, politics, and economics effectively influence CG practices in each country. They further suggest that it is vital to reorganise and revitalise the political, economic, and cultural background of those countries in Anglophone Sub-Saharan Africa countries.

Moreover, Quttainah et al. (2017) examine the effect of corporate governance on Islamic banks' financial performance by implementing religious supervisory boards. They reveal that banks with religious supervisory boards integrated into their governance structures outperformed banks without such a homogenous board. Further, El-Kassar et al. (2018) investigate the mechanisms of Lebanese banks with a greater focus on their CG practices, namely, the board of directors. Banks failed to abide by international informational transparency standards and lacked consistent accountability on the board of directors. Their results show that domestic banks' performance deteriorates because of the ineffective accountability and transparency in the management of their board of directors.

The principles of CSR guide accomplish three significant outcomes: accountability, responsibility, and transparency of organisations to the community in which they operate. CSR refers to ethical standards for ensuring social responsibility to an ecological community where businesses serve to gain a comparative advantage (Mangantar, 2019). Previous researchers produced varying results on the effects of CSR on banking performance. Kolisch (2015) and Fauzi and Idris (2010) suggest that CSR significantly affects an organisation's financial performance. In addition, Jizi et al. (2014) assert this view when discussing the lack of research into the relationship between CSR and CG in the banking sector. However, the findings of other studies did not identify significant influences on financial performance (Siregar & Bukit, 2017). For example, in Africa, precisely, Abobakr (2017) did not find a significant relationship between CSR, when measured by the community, customers, and employees, and the dependent variables ROA and ROE. CSR concepts focus on companies integrating social and environmental factors to achieve long-term value maximisation in their organisations (Huang, 2010). CSR ensures that organisations embrace their responsibility for shareholder values. Specifically, researchers reported a positive and significant impact (Buchner, 2012; Huang, 2010), although Magantar (2019) fails to find that CSR significantly affects corporate financial performance. However, Buchner (2012) identifies CG as an integral aspect of CSR; therefore, CSR practices enhance CG, improving bank performance.

This study formulates the following two hypotheses.

H1: There is a positive relationship between corporate social responsibility and banking performance in the CEMAC region.

H2: There is a positive relationship between corporate governance and banking performance in the CEMAC region.

This research also integrates different macroeconomic variables when investigating factors influencing banking performance in the CEMAC region. For example, Guruswamy and Hedo (2014) examine the influence of macroeconomic variables on the financial performance of selected commercial banks in Ethiopia. They found that some macroeconomic variables contributed significantly to banking performance, such as the interest rate, inflation rate, import, and gross domestic product per capita. Similarly, Onakoya et al. (2012) include macroeconomic variables such as gross domestic product (GDP), broad money supply, and interest rate to examine the banks' performance in Nigeria. In addition, Munir and Alhaleem (2018) investigate macroeconomic determinants of the banks' profitability and liquidity in Jordan. The authors applied a comparative approach to examine the influence of macroeconomic factors on Islamic and Jordanian banks from 2005 through 2015. They find that the national GDP and inflation are the two macroeconomic variables significant in the model. In addition, Nguena and Tsafack (2014) apply qualitative and quantitative approaches to investigate the performance of financial sectors in the CEMAC region and find that the CEMAC region was vulnerable to macroeconomic shocks. They show that incorporating these macroeconomic shocks may inform policymakers of pertinent factors affecting financial policy and decision-making within the board of directors in the region. Therefore, this study also considers the following variables as control variables in model specification: foreign direct investment as a per cent of GDP, GDP deflator, and the unemployment rate in the region.

DATA AND METHODOLOGY

The sample is retrieved from the Worldwide Governance database (http://info.worldbank.org/governance/wgi/) and the World Bank Environment Social Governance (ESG) database (http://datatopics.worldbank.org/esg/framework.html) from 2003 to 2018. The macroeconomic variables, such as foreign direct investment and inflation rate, are obtained from the World Bank database, while CG was retrieved from the Worldwide Governance database. The governance dimensions include: 1) voice and accountability; 2) political stability and absence of violence; 3) government effectiveness; 4) regulatory quality; 5) rule of law; and 6)

control of corruption. The ESG factors include labour force participation rate, population density, and renewable energy. This study focuses on how CG and CSR affect banking performance in specific developing countries, like the methodology of Oyerinde and Awolowo (2014) and Hatane et al. (2019). The total number of observations is 96.

The dependent variables are ROA and ROE, respectively.

Return on Assets (ROA): It refers to the percentage of an organisation's net profit margin divided by the bank's total assets within the CEMAC.

Return on Equity (ROE): It refers to the percentage of an organisation's net profit margin divided by the total equity of the banks within the CEMAC.

The independent variables are defined as follows, respectively.

Corporate Social Responsibility (CSR): It refers to a company's duty to operate ethically, such as providing the right working conditions for employees, providing reliable information to the community, and transparency with financial statements (Gamble et al., 2019). The three ESG factors include labour force participation rate, population density, and renewable energy, while this study uses an equal-weight average index: $Z\_CSR_{it} = \frac{1}{3}(P_{it+}E_{it} + L_{it})$.

Corporate Governance (CG): It refers to the laws, regulations, institutions, and corporate practices which bind and protect shareholders and other investors within an organisation in achieving value maximisation. It also incorporates the external components of CG. The six governance dimensions include: 1) voice and accountability; 2) political stability and absence of violence; 3) government effectiveness; 4) regulatory quality; 5) rule of law; and 6) control of corruption.

Foreign Direct Investment (FDI): The total net inflow (positive) or outflow (negative) of funds from foreign nations to the CEMAC region.

Inflation (INF): The general increase in the prices of goods and services within the CEMAC region for a given year.

Unemployment (UNE): It refers to the unemployment rate over the entire population of the labour force times 100 within the region for a given year.

Following Magantar (2019), this study adopts a quantitative research method to investigate whether CG or CSR affect banking performance in the CEMAC region. It focuses on exploring and understanding the meaning of an individual or group, as Creswell (2014) explains, how valuable and effective the quantitative method of inquiring could limit research bias. The specific model specification is expressed as follows:

$$ROA_{it} = \beta + \beta_1 CG_{it} + \beta_2 CSR_{it} + \beta_3 UNE_{it} + \beta_4 INF_{it} + \beta_5 FDI_{it} + \varepsilon_{it}$$

Alternatively,

$$ROE_{it} = \beta + \beta_1 CG_{it} + \beta_2 CSR_{it} + \beta_3 UNE_{it} + \beta_4 INF_{it} + \beta_5 FDI_{it} + \varepsilon_{it}$$

Where,

- ROA is return on assets.
- ROE is return on equity.
- β to β_{it} are estimated coefficients of the model.
- CG is corporate governance effectiveness.
- CSR is a corporate social responsibility index.
- FDI is the ratio of foreign direct investment to GDP.
- INF is the inflation rate.
- UNE is the unemployment rate.
- i denotes each CEMAC country, while t denotes the year.
- ε_{it} is a random variable.

This research incorporates the Z-score in scaling ESG factors, including three key elements: labour force participation rate, population density, and renewable energy consumption. These factors cover the social and environmental domains in the ESG data framework. This inclusion provides valuable insight for the board of directors in the CEMAC region to integrate CSR practices into their strategic toolkits. Siueia et al. (2019) report similar findings, discovering a significant positive relationship between CSR and financial performance in Sub-Saharan Africa. Generally, this study supports the perception that banks should continue integrating CSR practices into their strategic planning. Specifically, this study performs the subsequent estimations using pooled ordinary least square (OLS) and panel data analysis.

EMPIRICAL RESULTS

Univariate Data Analysis

Table 1 displays the summary of the descriptive statistics of the selected variables. ROA and ROE, respectively, measure the dependent variables. The descriptive results indicate ROA ranges from −24.1 to 38.4, with an average of 1.704, exhibiting a weak performance of bank earnings using its assets. Similarly, the ROE has a minimum and maximum value of −6.9 and 118.2, respectively. The average ROE ratio of 22.842 also conveys a weak financial performance. In sum, ROA and ROE indicate a lower-than-average banking performance in the CEMAC region.

This study focuses on CSR and CG to test both hypotheses. The CSR index has a minimum score of −19.363 and a maximum score of 17.937. The mean score of CSR (−0.008)

indicates a low performance of CSR practice. In addition, the CSR standard deviation of 9.877 depicts a slight variation from the mean. The CSR index is one of the ESG factors that show how the banking sectors effectively utilise and manage environmental and social elements within the region. Similarly, the governance effectiveness measured by CG describes the perceptions of public services, the quality of the civil service, and its independence from political pressures. The score of governance effectiveness ranges from approximately −1.85 (weak) to −0.44 (better), with an average of −1.217. This weak CG performance implies the credibility of government commitment to implement quality policies that maximise shareholders' wealth within the CEMAC region.

Notably, the inflation rate ranges from −29.7 to 59.3, with an average of 4.346, which indicates a moderate increase compared with the Word Bank annual report of 2.7 per cent. However, easing the inflation rate by monetary authorities may weaken the GDP growth rate because of the high cost of equity needed to produce goods and services within the region. In addition, Table 1 illustrates that the FDI score ranges from −4.8 to 50 per cent of GDP. The mean of 6.049 indicates a weak flow of foreign capital into the CEMAC region. It implies that foreign shareholders and investors need to be well-attracted to allocate their wealth to the CEMAC region. The unemployment rate, as measured by the percentage of the labour force, has maximum and minimum values of 20.5 and 1.2, respectively. The mean score of 8.171 shows a slight increase of 1.672 compared to the 6.5 unemployment rate reported by Trading Economics in 2017.

Table 1: Summary of Descriptive Statistics

	Mean	Std. Dev.	Min.	Max.
CSR	−0.008	9.877	−19.363	17.937
CG	−1.217	0.341	−1.85	−0.44
FDI	6.049	9.32	−4.8	50
INF	4.342	11.551	−29.7	59.3
UNE	8.171	6.586	1.2	20.5
ROA	1.704	7.364	−25.1	38.4
ROE	22.842	23.38	−6.9	118.2

This table reports the summary of descriptive statistics for selected variables. ROA is the return on assets. ROE is the return on equity. FDI is foreign direct investment as a per cent of GDP. INF is GDP deflator (annual %). CSR is a measure of corporate social responsibility. UNE is the unemployment rate (%). CG is the governance effectiveness in the region. The total number of observations is 96.

Table 2 illustrates the Pearson correlation matrix between each selected variable. The study investigates how CG and CSR affect banking performance in the CEMAC region. Even though the Pearson correlation ignores the heterogeneity among countries in the CEMAC region, it is vital because the coefficient helps detect whether a multicollinearity relationship exists. Specifically, a slightly significant and negative relationship (−0.198) exists between ROA and CRS index, as shown in Table 2. Conversely, these results do not determine the nature of the relationship between CSR and banking performance because they need to pay attention to the individual characteristics of the banking industry in the CEMAC region. Therefore, the fixed-effect and random-effect estimates best justify the nature of the relationship. Similarly, CG seems to have a negative association (−0.078) with ROA, as shown in the Pearson correlation matrix. These results contrast with Gugong et al. (2014), who documented managerial shareholders' moderate correlation with institutional shareholders in Nigeria. Nevertheless, deploying the pooled OLS, fixed-effect, and random-effect regression techniques is better, because Ibe and Ugwuanyi (2017) claim that the pooled OLS estimators neglect the individual characteristics.

Table 2: Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) CSR	1.000						
(2) CG	0.454***	1.000					
(3) FDI	−0.274***	0.030	1.000				
(4) INF	−0.195*	−0.108	0.010	1.000			
(5) UNE	−0.304***	0.496***	0.206**	0.052	1.000		
(6) ROA	−0.198*	−0.078	−0.167*	−0.101	−0.254**	1.000	
(7) ROE	−0.270***	−0.002	0.400***	0.041	0.037	0.477***	1.000

This table reports the correlation matrix for selected variables. ROA is the return on assets. ROE is the return on equity. FDI is foreign direct investment as a per cent of GDP. INF is GDP deflator (annual %). CSR is a measure of corporate social responsibility. UNE is the unemployment rate (%). CG is the governance effectiveness in the region. The total number of observations is 96. *, **, and *** indicate the significance levels of 10%, 5%, and 1%, respectively.

Table 3 reports the empirical results from the pooled OLS regression and OLS with robust standard error regression analysis. The table shows that the estimated coefficients are significant for CSR and CG using the pooled OLS model and the OLS with robust standard error estimates. The estimate indicates a significantly positive relationship between CG and banking performance ROA at the 1% significance level in the CEMAC region. It implies that one unit change in the governance effectiveness score would result in 14.721 units of improvement in banking performance measured by ROA. Based on the pooled OLS results, it shows a significantly negative relationship between CSR and banking performance at the 1% significance level, which indicates that one unit increase in corporate social responsibility score would result in 0.628 units of decrease in banking performance measured by ROA. The model specification is appropriate because the coefficient of determination indicates that the independent variables account for 32.6% of the variation in banking performance ROA in the CEMAC region. However, the pooled OLS models neglect the specific-country characteristics and ignore the heterogeneity among individuals. In sum, the results presented in a single table clearly show the estimated coefficient and significance levels, which align with the results of Ibe and Ugwuany (2017), that the CG mechanism has substantial effects on the financial performance of insurance companies in Nigeria. Maqbool and Zameer (2018) use both ROA and ROE to measure economic performance to justify the corporate social responsibility effect. In addition, Ibe and Ugwuany (2017) deploy ROA and ROE when investigating the effect of CG on the financial performance of insurance companies in Nigeria. Based on these empirical studies, this research reports the empirical results using ROE and ROA to measure banking performance.

Table 3 also reports the effects of selected macroeconomic variables, such as FDI, inflation, and unemployment on banking performance in the region. The findings indicate a significant and negative relationship between banking performance and FDI. The results support the theoretical evidence that FDI generally improves economic growth in the developing economy. Herzer (2012) identifies the effect of FDI on economic growth in developing countries, noting the dependency on factors such as per capita income, human capital, degree of trade openness, and the level of financial market development. His analysis shows that the degree of trade openness and financial market development produced an insignificant and adverse effect on banking performance. As a result, the board of directors in the CEMAC region should review their business philosophy, increasing the emphasis on improving the legal and judicial systems. Moreover, the BCAS's board of directors should consider adding an effective monitoring agent capable of supervising banking activities. In addition, the findings reveal a weak and marginally significant relationship between inflation and banking performance. Although it is significant at the 10% level, the results support the theoretical evidence that an increase in the prices of goods and services would undermine the value of money in the economy. Hence, the results may help the monetary authorities adjust the interest rate in the CEMAC region. Finally, the findings indicate a significantly negative relationship between unemployment and banking performance at the 1% significance level. Therefore, the results underscore the increasing importance of employment in the CEMAC countries, because the unemployment rate may lead to a percentage increase in the amount of defaulted loans among various regional banks.

This study also conducts Pesaran's cross-sectional independence test in Table 3 to check for serial correlation among the variables in the panel data. The serial correlation indicates the influence of present values on future values. The null hypothesis of Pesaran's test is the absence of serial correlation among the CEMAC countries. The alternative hypothesis states that a serial correlation exists among CEMAC countries. Pesaran's test of cross-section independence has a score of 0.889, with a corresponding p-value of 0.3740. Therefore, it indicates no autocorrelation among the selected variables, and the results reveal the characteristic of heterogeneity or individuality in the CEMAC countries. Finally, this study conducts the heteroscedasticity test; the Breusch Pegan results indicate a heteroscedasticity problem. An essential need is to perform this test because of the violation of the classical assumption of the constant error term. The Breusch Pegan test null hypothesis is that constant variance exists among the cross-sectional residuals. At the same time, the alternative assumption elucidates that there are no residual constant variances across different entities. The chi-square value of the Breusch Pegan test is 29.55, with a probability value of 0.000, less than the 1% significance level. Therefore, it rejects the homoscedasticity null hypothesis and accepts the heteroscedasticity alternative.

Table 3: Pooled OLS and OLS with Robust Standard Error Regression Analysis

	(1) Pooled OLS	(2) OLS with RSE	(3) Pooled OLS	(4) OLS with RSE
	Dependent Variable			
	ROA		**ROE**	
CSR	−0.628***	−0.628***	−1.028***	−1.028**
	(−6.21)	(−3.73)	(−2.93)	(−2.00)
CG	14.721***	14.721***	24.108**	24.108**
	(4.77)	(3.82)	(2.25)	(2.14)

	(1) Pooled OLS	(2) OLS with RSE	(3) Pooled OLS	(4) OLS with RSE
Dependent Variable				
	ROA		**ROE**	
	(−2.86)	(−2.95)	(3.49)	(1.98)
INF	−0.093*	−0.093*	0.019	0.019
	(−1.70)	(−1.69)	(0.10)	(0.10)
UNE	−0.880***	−0.880***	−1.206**	−1.206**
	(−5.92)	(−3.94)	(−2.34)	(−2.18)
Constants	60.783***	60.783***	109.759***	109.759**
	(6.46)	(3.99)	(3.36)	(2.39)
N	96	96	96	96
Adj. R^2	7.56	4.69	0.24	0.24
F	0.326	0.326	0.194	0.194

This table reports the results from pooled OLS and OLS with robust standard error (RSE) regression analysis. The dependent variables are ROA (return on assets) and ROE (return on equity), respectively. FDI is foreign direct investment as a per cent of GDP. INF is GDP deflator (annual %). CSR is a measure of corporate social responsibility. UNE is the unemployment rate (%). CG is the governance effectiveness in the region. The total number of observations is 96. The t-statistics are reported in parentheses. *, **, and *** indicate the significance levels of 10%, 5%, and 1%, respectively.

Table 4 reports the results of the fixed-effects and random-effects models using panel data analysis. Lambert (2014) explains how the estimated coefficient of the fixed-effect model could differ from those in the pooled OLS models. As Lambert (2014) revealed, the fixed-effects model allows for the heterogeneity or individuality involved in the CEMAC countries. Therefore, the fixed- and random-effect statistical results in Table 4 show how CG and CSR affect banking performance in the CEMAC region. In Table 4, ROA and ROE are regressed on the various independent variables. Specifically, the statistical results highlighted the positive and significant relationship between the CSR index and banking performance in the fixed-effect models. In contrast, the random-effect model indicates a significant but negative relationship. The coefficients of determination (0.418 and 0.244) suggest that the independent variables account for 24-42% of the variation in banking performance. Unlike the pooled OLS regression, the fixed-effect model considers the countries' heterogeneity. In general, the results support the testing hypothesis that a significantly positive relationship exists between CSR and banking performance in the CEMAC region.

Table 4 displays the CG estimations from the fixed- and random-effect models using ROE and ROA as banking performance measurements. The results indicate that CG, a proxy for governance effectiveness, has a significantly positive relationship with banking performance using random-effect. Still, this relationship is insignificant in the fixed-effect model. In contrast, the CSR index is measured by the regional-level sustainability performance using ESG indicators such as population density, labour force, and renewable energy consumption. It has a significantly negative relationship with banking performance using the random-effect model, but a significantly positive relationship using the fixed-effect model. In addition, the panel data regression estimates show that control variables such as unemployment and FDI significantly influence ROE and ROA. There is a significantly positive relationship between CG and banking performance. However, the panel data regression results vary among each selected variable, and the estimated signs are inconsistent between fixed and random models. This discrepancy may result from the small sample size and model specification.

Further, this study performs the Hausman test to assist in deciding whether to select the fixed-effect model or the random-effect model. The Hausman results for the dependent variable ROA present a Chi-square of 58.27, and the associated probability is less than 1% (for the dependent variable ROE offers a Chi-square of 27.89 and the associated possibility is less than 1%), revealing that the fixed-effect model is superior to the random-effect model. The outcome from the fixed-effect model demonstrates more excellent reliability and dependability than the pooled OLS and random models. Therefore, based on the fixed-effect model results, this paper confirms that CG, as a proxy of governance effectiveness, has an insignificant but positive relationship with banking performance, indicating the low quality of external governance practices in the CEMAC region. The findings support the view of the existing literature of Faruqi et al. (2019), that the quality of external governance is superior in developed countries than in developing countries.

Table 4: Panel Data Fixed-Effect and Random-Effect Regression Analysis

	(1) Fixed-Effect	(2) Random-Effect	(3) Fixed-Effect	(4) Random-Effect
Dependent Variable				
	ROA		**ROE**	
CSR	2.206***	−0.628***	6.726***	−1.028***
	(5.59)	(−6.21)	(4.67)	(−2.93)
CG	6.806	14.721***	16.218	24.108**
	(1.62)	(4.77)	(1.06)	(2.25)
FDI	−0.118*	−0.201***	0.505**	0.853***
	(−1.75)	(−2.86)	(2.05)	(3.49)
INF	−0.017	−0.093*	0.191	0.019

	(1) Fixed-Effect	(2) Random-Effect	(3) Fixed-Effect	(4) Random-Effect
Dependent Variable				
	ROA		**ROE**	
UNE	−1.241***	−0.880***	−1.897*	−1.206**
	(−4.38)	(−5.92)	(−1.83)	(−2.34)
Constants	−92.678***	60.783***	−292.150***	109.759***
	(−4.09)	(6.46)	(−3.54)	(3.36)
N	96	96	96	96
Adj. R^2	0.418	0.361	0.244	0.237
F	12.53		9.7	
Wald Chi^2		50.87		27.89
Hausman test	58.27***		23.98***	

This table reports the results from the fixed-effect and random-effect panel data regression analysis. The dependent variables are ROA (return on assets) and ROE (return on equity), respectively. FDI is foreign direct investment as a per cent of GDP. INF is GDP deflator (annual %). CSR is a measure of corporate social responsibility. UNE is the unemployment rate (%). CG is the governance effectiveness in the region. The total number of observations is 96. The t-statistics are reported in parentheses. *, **, and *** indicate the significance levels of 10%, 5%, and 1%, respectively.

CONCLUSION

This study examines the relationship between CSR, CG, and banking performance in the CEMAC region. It extracted data from the Worldwide Governance and World Bank sovereign databases from 2003 to 2018, and performed statistical analysis within a strongly balanced panel data framework. The results indicate a significant effect of CSR on banking performance, while CG demonstrates a positive but weaker relationship with banking performance. The results suggest that the CEMAC region should emphasise the importance of strengthening CG policy. Therefore, revising the code of CG for effective implementation and execution of CG practice is crucial in the CEMAC region. Such improvement may boost the business's financial performance and economic growth within the CEMAC region. The IMF supports a similar suggestion; it asserts that the CEMAC region must strengthen its code of good governance and transparency in public resources management. Notably, the IMF identified fundamental principles to ensure reasonable control and effective civil society participation in fiscal policy and budget formulation and execution. Moreover, improving CG policies may be crucial in attracting and improving FDI for a strong capital market, restoring investors' confidence in the CEMAC region.

The results illustrate that a better CSR and CG environment could improve banking performance, thereby maximising shareholders' wealth. The agency theory undergirded the need to address weak CG practices, which incentivised managers to protect their interests rather than the value of their owners. Therefore, the results can help the board of directors pursue suitable CG structures and avoid weak CG structures to increase banking performance and economic growth within the CEMAC region. On the one hand, the narrow level of trade openness and low financial market development influenced the insignificantly negative relationship between FDI and banking performance. On the other hand, researchers can develop sustainable CG and improve CSR policies to strengthen banking performance and economic growth in the CEMAC region. Nevertheless, this research benefits the banking sector's board of directors and managers. A further improvement in regional development should be projected, assuming that policy commitments are implemented by CEMAC members. This situation remains subject to substantial risks from possible weaker programme implementation, energy usage, and sufficient external financing.

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APPENDIX A

Variables	Definitions
ROA	A financial ratio defined as net income over total assets in the banking industry within the CEMAC region.
ROE	A financial ratio defined as net income over average shareholders' equity in the banking industry within the CEMAC region.
CG	The governance effectiveness, which reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. It also reflects the external components of CG via the legal environment and investors' protection within the region. It ranges from −2.5 (weak) to 2.5 (strong).
INF	The overall rate of price change measured by GDP deflator (annual %) in the CEMAC region.
FDI	The net inflow of capital by either non-resident or foreign companies from another location outside of the CEMAC region. The unit is the percentage of GDP.
UNE	It measures the unemployment rate (5) measured as a per cent of people without job over the total labour force.
CSR	It is measured as a Z-score including three components: renewable energy consumption, population density, and labour force participation rate. The mean value indicates the average performance of the CSR index; values below the mean indicate low CSR performance, while values above the mean signify high CSR performance.