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Towards Embracing Effective Governance in Tanzania Financial Sector: Does Institutional Quality Influence Banking Sector Financial Depth?

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Abstract

This paper aimed at examining the influence of institutional quality on the banking sector's financial depth in Tanzania for a period between 1991 and 2022. In this paper institutional quality is measured by control of corruption, rule of law, government effectiveness, and regulatory quality. The paper employed secondary data from World Bank Governance development indicators and World Bank financial development indicators. A robust regression model was used to analyse data. The paper found that control of corruption, rule of law and regulatory quality have a positive influence on the banking sector financial depth while only government effectiveness influence negatively the banking sector financial depth. The findings imply that improved control of corruption, appropriately following rule of law can lead to a more transparent and accountable regulatory environment, which in turn fosters greater confidence in the banking sector, and also effective government policies attract fast deepening of financial sector. Eventually, to enhance institutional quality towards deepening banking sector depth in Tanzania, the government should focus on enhancing anti-corruption efforts and promoting transparency and accountability in both the public and private sectors. On the other hand, strategies to enhance inter-agency coordination, streamlining decision-making processes, and improving public service delivery in areas affecting the banking sector should be developed and implemented. Finally, the government should focus on strengthening its legal and regulatory frameworks with emphasis on promoting fair and impartial dispute resolution, protecting property rights, and enforcing contracts.

Keywords: Financial Depth, Control of Corruption, Rule of Law, Government Effectiveness, Regulatory Quality

1. Introduction

Financial deepening refers to the expansion of the range of financial services and instruments available to households and businesses, World Bank, (2019). The availability of a diverse range of financial services and instruments, enables savers to allocate their funds more efficiently and enables firms to access a wider range of financing options, Blancher *et al* (2019). By providing credit to the private sector, banks can contribute to financial deepening, which ultimately leads to a more efficient financial system and higher economic growth. The importance of the banking sector's financial intermediation role in allocating funds from savers to borrowers has long been recognized in the economic literature (Vera Martin *et al,* 2018). The banking sector plays a crucial role

in financing economic activities by providing credit to private sector entities which fuels economic growth and development by enabling investment, consumption, and production activities, Poghosyan, (2022).

Governments around the world have recognized the importance of banking to economic development, and they have taken various measures to create a conducive environment that ensures the deepening of financial services, mainly through the banking sector, Sanga & Aziakpono, (2022). Most governments, attempt to design and implement programs and policies which guide their economies to achieving higher financial depth of the banking sector through increasing access to financial services, such as providing incentives for banks to open branches in rural areas or offering financial education to underserved populations or investment in financial technology (Aluko & Ibrahim, 2020).

One of the important segments aligned by many developing countries to foster financial depth of the banking sector through credit is the existence of good and effective governance through institutional quality. Institutional quality refers to the overall strength and effectiveness of a country's institutions, including its government, legal system, regulatory framework, and other formal and informal institutions that shape the behavior of individuals and organizations within the society (Khan *et al,* 2020a). One way to strength the institutional quality is by reforms and strength countries rule of law, government effectiveness, quality of legal system, and control of corruption (Bongomin *et al,* 2018). Through institutional quality, one of the ways that governments have encouraged the financial depth the banking sector is by enacting laws and regulations that govern the sector through regulators or central bankers (Fagbemi & Ajibike, 2018). These laws and regulations are designed to ensure that banks operate in a safe and sound manner, protect the interests of depositors, and provide a level playing field for all players in the sector. In addition, they help to promote competition, innovation, and efficiency in the sector.

In the context of the banking sector, institutional quality plays a crucial role in determining the depth and effectiveness of financial intermediation. When institutions are strong and effective, they provide a stable and predictable environment for banks to operate in, which fosters confidence among depositors and investors (Sanga & Aziakpono, 2022). While the rule of law ensures that contracts are enforced, property rights are protected, and disputes are resolved fairly, government effectiveness provides the ability of the government to deliver public goods and services, regulate the financial sector, and maintain macroeconomic stability (Kwenda & Chinoda, 2019). On the other hand, a well-functioning legal system provides banks with legal remedies to recover their loans, which reduces their credit risk and encourages them to lend more (Sanga, & Aziakpono, 2022).

Despite significant efforts by many developing countries to foster financial depth through institutional quality improvements, the level of banking sector financial depth remained lower than that of developed countries. According to data from the World Bank (2022), the average ratio of total bank deposits to GDP in high-income countries was 121%, while the average for low-income countries was only 25%. Similarly, the average ratio of domestic credit to the private sector to GDP in high-income countries was 126%, while the average for low-income countries was only 29%. These statistics highlight the significant disparities between developed and developing countries in terms of banking sector financial depth.

In Tanzania, the banking sector has been expanding rapidly in recent years, with increased financial inclusion and technological advancements. According to World Bank (2022), most recently, the growth rate of credit to the private sector increased from 3.2 percent in 2021 to 20.7 percent in 2022, and most recent BOT report, (2023) shows that liquidity in banks was maintained at adequate levels, private sector credit growth was high at around 21%, and monetary targets set forth under the Extended Credit Facility (ECF) were achieved. This trend is significant as it indicates an increase in financial inclusion and access to credit for businesses and individuals in Tanzania. Such a banking sector performance, elsewhere in literature, is associated with institutional quality. However, there is no empirical evidence, in Tanzania, of the influence of institutional quality on the banking sector financial depth. Therefore, this paper is conducted to examine empirically, the influence of institutional quality on the banking sector's financial depth in Tanzania.

2. Related Literature

2.1 Theoretical Underpinning

According to Aluko and Ibrahim (2020) institutional quality is "the extent to which formal rules and informal norms and practices promote economic and social outcomes, including sustainable growth, equitable distribution of resources, and poverty reduction. Bongomin *et al* (2018) consider institutional quality as a crucial determinant of economic and social development, and that countries with higher institutional quality tend to have better development outcomes. Effective and efficient institutions can also provide a supportive environment for businesses to thrive and for individuals to access public services, leading to improved social outcomes (Khan *et al*, 2020a).

North (1990) proposed the Institutional Quality Theory, which suggests that the quality of a country's institutions, has a significant impact on its economic performance and outcomes. According to North, (1990), countries with stronger institutions are more likely to experience economic growth and development. The Institutional quality theory posits that the quality of institutions, including the rule of law, voice and accountability, regulatory quality, control of corruption, and government effectiveness, influences economic growth and development (Acemoglu & Robinson, 2012). The rule of law is a crucial component of institutional quality, as it provides a stable and predictable legal environment for economic activity to take place (World Bank, 2019). Voice and accountability are also important for promoting good governance, as they ensure that leaders are responsive to the needs and preferences of citizens (Kaufmann *et al,* 2010). Regulatory quality is another dimension of institutional quality, and it promotes investment and entrepreneurship by providing clear and predictable regulations that are enforced fairly and consistently (World Bank, 2019). Control of corruption is also critical for economic growth and development, as corruption can discourage investment and hinder economic activity (Mauro, 1995). Finally, government effectiveness is necessary for providing basic public goods and services that support economic activity (Kaufmann et al, 2010).

2.2 Empirical Literature

There is a growing body of empirical literature analyzing the effects of institutional factors and financial depth with inconclusive results. Baidoo and Agyapong (2022) investigated the relationship between financial development and institutional quality in emerging economies, and found that institutional quality has a positive and significant effect on financial development and that improving institutional quality, promotes financial development.

Sanga and Aziakpono's (2022) examined the impact of institutional factors on financial deepening in African countries and found that political stability, government effectiveness, regulatory quality, and rule of law have a positive and significant impact on financial deepening, while corruption has a negative and significant effect.

Aluko and Ajayi (2018) conducted a study on banking sector development in 25 Sub-Saharan African countries examining various determinants of banking sector development, and found that institutional quality, as measured by an arithmetic mean of six Worldwide Governance Indicators (WGIs) (government effectiveness, regulatory quality, rule of law, control of corruption, political stability, and voice and accountability), had a positive impact on credit to the private sector as a proxy for banking sector depth.

Ntow-Gyamfi *et al.* (2019) examined the relationship between regulatory quality, financial development, and inclusive growth in 48 African countries and found that regulatory quality, when interacting with financial development, had a positive and significant effect on inclusive growth. The authors used regulatory quality as an indicator of institutional quality and domestic credit to the private sector as a proxy for financial development.

Aluko and Ibrahim (2020) analyzed the impact of financial development on economic growth in 28 SSA countries using WGI institutional qualities namely government effectiveness, regulatory quality, rule of law, control of corruption, political stability, and voice and accountability, as a regime-switching mechanism through threshold

analysis. Their findings show that institutional quality positively affect the financial development of the selected countries

Kebede *et al.* (2021) studied the interaction between foreign banks, institutional quality, and financial inclusion in 17 African countries using principal component analysis (PCA) to construct an institutional index from WGIs, including government effectiveness, regulatory quality, rule of law, control of corruption, political stability, and voice and accountability. The study used financial inclusion as the dependent variable and foreign bank presence and the institutional quality index as the independent variables. The results showed that the institutional quality highly matters.

Khan *et al* (2020) examined the relationship between institutional quality and financial development in 189 developing and emerging economies and found that better institutional quality, as measured by variables such as government effectiveness, regulatory quality, and control of corruption, leads to greater financial development in developing and emerging economies.

Khan *et al* (2020) investigated the impact of institutional quality on financial development in emerging and growth-leading economies, and found that the effect of institutional quality on financial development is greater in countries with higher levels of economic development.

Fagbemi and Ajibike's (2018) examined the relationship between institutional quality and financial sector development in Nigeria using Auto-Regressive Distributed Lag (ARDL) bounds test approach to cointegration. Using two different indicators (Private credit and M2) of financial development, the results consistently show that institutional factors do not have significant effect on financial development in the long – run as well as in the short – run. Furthermore, the empirical evidence indicates that regulatory quality and governance system (institutions) do not necessarily contribute to financial development in a feeble institutional environment like Nigeria.

Sarhangi *et al.* (2021) conducted a study on the impact of effective governance and regulatory quality on financial development in the MENA countries using the Systematic Generalized Method of Moments (SGMM) and found a positive relationship between the rule of law and economic growth with financial development. However, the variables of regulatory quality, government budget deficit, government effectiveness, and financial crisis were found to have a negative relationship with financial development.

Bongomin *et al.* (2018) conducted a study that analyzed the relationship between institutional framework and financial inclusion in rural Uganda using a social network perspective and found that institutional framework, as measured by regulatory quality, rule of law, and government effectiveness, had a significant positive effect on financial inclusion in rural Uganda.

Chinoda and Kwenda (2019) conducted a study to investigate the impact of institutional quality and governance on financial inclusion in 49 countries using a two-step system generalized method of moments approach. The study found that institutional quality and governance have a positive impact on financial inclusion in the region. Additionally, the study showed that there is a significant positive effect of the lagged value of financial inclusion and banking sector size on financial inclusion in African countries. However, factors such as rural to total population and natural resources had a negative impact on financial inclusion in Africa.

Atanga and Seabrook (2022) conducted a study to investigate the impact of governance quality on financial development. The authors used a Dynamic Common Correlated Mean group technique to analyze data from a global sample of 120 countries, including 32 high-income and 88 low-income countries. Political stability and absence of violence, rule of law, control of corruption, regulatory quality, government effectiveness, and voice and accountability were used as proxies for governance quality, while financial institutions depth and credit to private sector were used as proxies for financial development. The study found that regulatory quality and political stability and absence of violence had a positive association with financial development, while voice and accountability and government effectiveness had a negative association with it. Additionally, the degree of impact

of these governance indicators on financial development was found to be relatively greater in high-income countries compared to low-income countries.

Alawi *et al.* (2022) investigated the relationship between financial innovation, institutional quality, and financial development in emerging markets. The study used a sample of 17 emerging markets and found that financial innovation and institutional quality had a significant and positive impact on financial development in emerging markets.

Kombo and Koumou (2021) examined the role of the quality of institutions in the financial development of CEMAC countries and found that the quality of regulation and political stability generally reduces the level of financial development in the CEMAC, and on the other hand, the control of corruption and compliance with laws and regulations contribute positively to the CEMAC's financial development.

3. Data and Methods

3.1 Data and Variables

The study was guided by an archival research strategy, where secondary data for Tanzania covering a 31 years period between 1991 and 2022, was collected from World Bank Governance development indicators database, World Bank financial development indicators database, Fraser Institute database, and Bank of Tanzania (BOT) database.

The dependent variable of the study is the banking sector's depth, while the independent variables are control of corruption, rule of law, government effectiveness, and regulatory quality. These variables are measured using the indicators for each institutional quality aspect as shown in Table 1 below.

Table 1: Variable Measurement

Variables	measurements	references
Banking sector financial depth	Credit to private sector% of GDP	Baidoo and Agyapong's (2022), Khan *et al* (2020)
Control of Corruption	Control of Corruption index	Baidoo and Agyapong's (2022) Aluko and Ajayi (2018)
Rule of Law	Rule of Law index	Sanga and Aziakpono's (2022) Aluko and Ajayi (2018)
Government Effectiveness	Government Effectiveness index	Baidoo and Agyapong's (2022) Aluko and Ajayi (2018)
Regulatory Quality	Regulatory Quality index	Sanga and Aziakpono's (2022) Aluko and Ajayi (2018)
Size of the Economy	GDP per capital	Sanga and Aziakpono's (2022

3.2 Model Specifications

In this study, E-Views software version 12 was used for data analysis applying a robust regression model which is an alternative to ordinary least squares (OLS) regression that is less sensitive to outliers and non-normality in the data. To perform robust regression, the study used the M-estimator, which is robust to outliers. The M-estimator minimizes a weighted sum of the residuals, where the weights are functions of the residuals. This technique gives less weight to the outliers in the data, thus making the regression analysis more robust. The robust regression model for this study is specified as follows:

$$FD = \beta_0 + \beta_1\,CC + \beta_2\,RL + \beta_3\,G + \beta_4\,RQ + \beta_5 SE + \mu$$

Where; The dependent variable is represented by Financial Depth (FD), while Control of Corruption (CC), Rule of Law (RL), Government Effectiveness (GE), and Regulatory Quality (RQ) are the independent variables, and Size of Economy (SE) stands for control variable. The regression coefficients for these independent variables are denoted by β1, β2, β3, and β4 respectively. The intercept is represented by β0 while control variable is β5 and μ represents the error term.

3.3. Regression Diagnostic Tests

3.3.1. Normality Test

A normality test is a statistical procedure used to determine whether a given dataset followed a normal distribution. The study used the Jarque Bera test to check whether the error terms are normally distributed or not. The Jarque-Bera test is commonly used to check for the normality of data based on the skewness and kurtosis of the dataset. According to the rule of thumb, as recommended by Greene (2018), the null hypothesis about normality of data set is rejected as presented in table 2 below where all variables fall within normally distributed pattern as p-value is observed to be greater than 0.05

Table 2: The Jarque-Bera Test
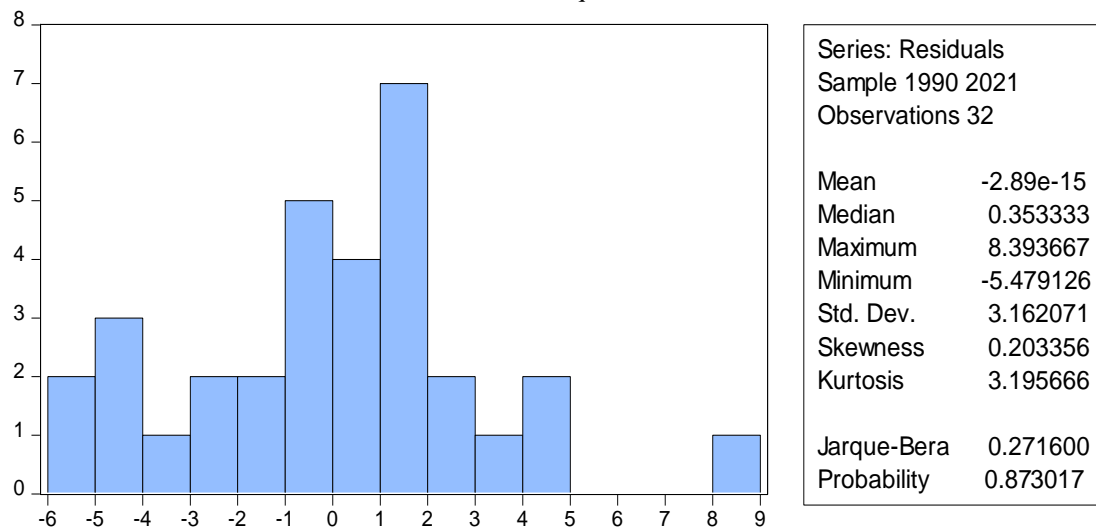
3.3.2. Heteroscedasticity Test

Heteroscedasticity is a common phenomenon in regression analysis which arises when the variance of the errors in a regression model is not constant across all levels of the predictor variable, Greene, (2018). Heteroscedasticity may lead to biased and inconsistent estimates of the regression coefficients, and it can also affect the validity of results. This study used the Breusch-Pagan-Godfrey test to check whether error variances were constant or not. The Breusch-Pagan test is a chi-square test that compares the sum of squared residuals from a model with a constant variance to the sum of squared residuals from a model with a variable variance. According to the rule of thumb recommended by Gujarati and Porter (2019), the p-value of the Breusch-Pagan-Godfrey test is required to be greater than 0.05 to signify the non-existence of a heteroscedasticity problem. Table 3 shows an F-statistic of 7.9 with a p-value of 0.0001. The table further shows the R-squared value of 19.3% with a corresponding p-value of 0.0017 implying the existence of a heteroscedasticity problem, as guided by Gujarati and Porter, (2019).

Table 3: Breusch-Pagan-Godfrey Test

F-statistic	7.902140	Prob. F (5,26)	0.0001
R-squared	19.29979	Prob. Chi-Square (5)	0.0017

3.3.3. Multicollinearity Test

Multicollinearity is a statistical phenomenon that occurs when two or more predictor variables in a regression model are highly correlated, making it challenging to estimate the unique effect of each variable on the outcome variable, Kutner et al., (2005). As noted by Hair et al (2019), multicollinearity can lead to several issues in regression analysis, including unstable regression coefficients, increased standard errors, decreased statistical power, and reduced overall model fit.

To check for multicollinearity the Variance Inflation Factor (VIF) test was conducted in this paper. The VIF is a statistical measure that assesses the degree of multicollinearity among predictor variables in a regression model. It is calculated as the ratio of the variance of the estimated coefficient of a predictor variable to the variance of that coefficient when the variable is not included in the model (Kutner et al., 2005). The rule of thumb is that explanatory variables are virtually linearly dependent when the coefficient is greater than 10% for the VIF test. As recommended by Lotto (2020), an absolute value of more than 10% is preferable to indicate the existence of multicollinearity for the VIF test.

According to the findings of this study, as shown in Table 4, the VIF values for all variables were well below the threshold of 10%, indicating the absence of multicollinearity among the predictor variables. The centered VIF values ranged from 1.49 to 2.55, which are relatively low and indicate that the variance of each variable is not significantly inflated by the presence of multicollinearity. Overall, the results suggest that there is no evidence of multicollinearity in the regression model, which means that the estimates of the regression coefficients are likely to be stable and reliable, and the model fit is likely to be adequate.

Table 4: Variance Inflation Factor

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
Control of Corruption	0.006052	16.39853	1.487687
Government Effectiveness	0.143973	68.55962	2.350607
Regulatory Quality	0.028861	72.54949	2.544848
Rule of Law	0.060952	18.11143	1.735192
Size of the Economy	0.179719	14.79858	1.873568
C	11.91600	31.98518	NA

3.3.4. Unit Root Test

A unit root test was used to determine whether a time series variable is stationary or not. Usually, as opposed to non-stationary time series, a stationary time series variable has properties that remain constant over time, often due to trends, seasonality, or other factors as depicted by Hamilton, (1994). To check for a unit root, we used the Augmented Dickey-Fuller (ADF) test. This popular unit root test involves regressing a time series on its lagged values and testing whether the coefficient of the lagged variable is significantly different from 1. A commonly used rule of thumb for interpreting the results of the ADF test is that if the p-value is less than a pre-determined significance level (usually 0.05), the null hypothesis of a unit root is rejected, and the series is considered stationary (Enders, 2014). The findings presented in Table 5 suggest that all variables are stationary at the first difference as evidenced by the t-statistics of less than the critical values at all significance levels. The null hypothesis of a unit root is rejected for all variables at the 1% significance level, indicating that the time series variables are stationary. Therefore, it can be concluded that the data used in this study is stationary after first differencing, which is a necessary assumption for time-series regression analysis.

Table 5: Unit Root Test

Banking sector depth	t-Statistic	Prob.*
Test critical values:	-4.09	0.00
1% level	-3.67	
5% level	-2.96	
10% level	-2.62	
1st Difference		
Control of Corruption	t-Statistic	Prob.*
Test critical values:	-4.59	0.00
1% level	-3.67	
5% level	-2.96	
10% level	-2.62	
1st Difference		
Government Effectiveness	t-Statistic	Prob.*
Test critical values:	-5.26	0.00
1% level	-3.67	
5% level	-2.96	
10% level	-2.62	
1st Difference		
Regulatory Quality	t-Statistic	Prob.*
Test critical values:	-4.09	0.00
1% level	-3.67	
5% level	-2.96	
10% level	-2.62	
1st Difference		
Rule of law	t-Statistic	Prob.*
Test critical values:	-4.51	0.00
1% level	-3.67	
5% level	-2.96	
10% level	-2.62	
1st Difference		
Size of the Economy	t-Statistic	Prob.*
Test critical values:	-7.26	0.00
1% level	-3.67	
5% level	-2.96	
10% level	-2.62	

3.3.5. Co-Integration Test

Co-integration is a statistical property of two or more-time series variables that indicate a long-term relationship, Johansen, (1995). To test for cointegration, the study used the Johansen test based on the vector autoregression (VAR) model. The Johansen test uses maximum likelihood estimation to test for the presence of cointegration between two or more-time series variables. The test was based on a system of equations in which the variables were modeled as a linear combination of their past values and a vector of random error term." The Johansen test produced two test statistics: the trace statistic and the eigenvalue statistic. A commonly used rule of thumb for rejecting the null hypothesis of no cointegration based on the Johansen test was that if the p-value is less than a predetermined significance level (usually 0.05), then the null hypothesis is rejected and cointegration was said to be present (Enders, 2014).

The findings of the Johansen Cointegration Test, as per Table 6, indicate that there is evidence of cointegration among the variables included in the study. The trace statistic for each hypothesis is greater than the critical value at the 5% significance level, and the corresponding p-values are less than 0.05, except for the last hypothesis (at most 5). This suggests that there is a long-term relationship among the variables. Specifically, the test results suggest that there are at least four cointegrating equations among the six variables: Banking Sector Depth, Control of Corruption, Government Effectiveness, Regulatory Quality, and Size of the Economy. It is ultimately realized that, the test could not reject the null hypothesis of at most four cointegrating equations.

Table 6: Johansen Cointegration Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.761567	135.0898	95.75366	0.0000
At most 1 *	0.744125	92.07979	69.81889	0.0003
At most 2 *	0.492517	51.18778	47.85613	0.0235
At most 3 *	0.473712	30.83902	29.79707	0.0378
At most 4	0.228018	11.58184	15.49471	0.1781
At most 5	0.119502	3.818023	3.841466	0.0507

4. Empirical Results

4.1 Descriptive Analysis

The findings presented in Table 7 indicate that Banking Sector Depth exhibits the mean value of 9.74, with a range between the maximum value of 14.61 and the minimum value of 2.94. This suggests a considerable variation in the depth of the banking sector. The distribution appears to be slightly left-skewed, as indicated by the skewness value of -0.59, and somewhat flatter compared to a normal distribution, with a kurtosis value of 1.85. The Jarque-Bera test returns a p-value of 0.16, which implies no significant deviation from normality.

In regards to Control of Corruption, the mean value is 30.30, with a maximum of 48.29 and a minimum of 11.75. This demonstrates a wide range of corruption control levels. The distribution is approximately symmetrical, as indicated by the skewness value of 0.02. The kurtosis value of 2.17 suggests a distribution shape similar to a normal distribution. The Jarque-Bera test yields a p-value of 0.63, indicating no significant deviation from normality. In terms of Government Effectiveness, the mean value is 26.07, with a maximum of 41.75 and a minimum of 11.58, indicating variation in the effectiveness of the government. The distribution is marginally right-skewed, with a skewness value of 0.17. The kurtosis value of 1.92 suggests a slightly flatter distribution than a normal distribution. The Jarque-Bera test returns a p-value of 0.43, implying no significant deviation from normality.

For Regulatory Quality, the mean value is 30.06, with a maximum of 39.81 and a minimum of 18.11. The skewness value of -0.12 indicates a near-symmetrical distribution, while the kurtosis value of 2.21 implies a distribution shape close to a normal distribution. The Jarque-Bera test yields a p-value of 0.64, suggesting no significant deviation from normality.

When examining Rule of Law, the mean value of 32.74 is exhibited with a maximum of 44.50 and a minimum of 18.62. The distribution is slightly left-skewed, as indicated by the skewness value of -0.19, and flatter compared to a normal distribution, with a kurtosis value of 1.57. The Jarque-Bera test returns a p-value of 0.23 which indicates no significant deviation from normality.

Finally, for the Size of the Economy variable (GDP), the mean value is 5.18, with a maximum of 7.67 and a minimum of 0.58. The distribution is left-skewed, with a skewness value of -0.81, and exhibits a kurtosis value of 2.58, which is somewhat flatter than a normal distribution. The Jarque-Bera test yields a p-value of 0.16, suggesting no significant deviation from normality.

Table 7: Descriptive Results

	Banking Sector Depth	Control of Corruption	Government Effectiveness	Regulatory Quality	Rule of Law	Size of economy
Mean	9.74	30.30	26.07	30.06	32.74	5.18
Median	11.37	28.50	26.72	29.26	33.65	5.74
Maximum	14.61	48.29	41.75	39.81	44.50	7.67
Minimum	2.94	11.75	11.58	18.11	18.62	0.58
Std. Dev.	3.96	9.72	9.04	5.82	8.60	2.00
Skewness	-0.59	0.02	0.17	-0.12	-0.19	-0.81
Kurtosis	1.85	2.17	1.92	2.21	1.57	2.58
Jarque-Bera	3.66	0.93	1.70	0.90	2.91	3.70
Probability	0.16	0.63	0.43	0.64	0.23	0.16
Observations	32	32	32	32	32	32

4.2 Regressions Analysis

Generally, the study was conducted to examine the influence of the institutional quality on the banking sector financial depth in Tanzania. The results were analysed through the lens of institutional quality theory which postulates that the quality of a country's institutions significantly affects its economic performance and development. The results support the institutional quality theory, highlighting the importance of various institutional factors in shaping the banking sector's financial depth.

The results presented in Table 8 show an adjusted R-squared value of 0.344 suggesting that approximately 34% of the variation in banking sector financial depth can be explained by the combined influence of the control of corruption, government effectiveness, regulatory quality, and rule of law, along with the size of the economy as a control variable. The adjusted value accounts for the number of predictors in the model and the sample size, and it implies that, after taking these factors into consideration, approximately 34% of the variation in banking sector financial depth can be explained by the aforementioned variables. Furthermore, the Rn-squared statistic of 70% and the associated probability of 0.00, suggests that the model is statistically significant sending a message that the control of corruption, government effectiveness, regulatory quality, and rule of law, along with the size of the economy as a control variable, have a significant influence on the banking sector financial depth in Tanzania.

Regarding control of corruption, the regression results, in table 8, reveal a statistically significant positive relationship between banking sector depth and Control of Corruption with significance level of 5% and a coefficient of 0.19. This suggests that as corruption control improves, the banking sector depth also increases by 19%, and therefore, addressing corruption is essential for promoting a healthy and robust banking sector. The positive influence of control of corruption supports the idea that reducing corruption leads to a more stable and secure environment for the banking sector. This aligns with the institutional quality theory, which emphasizes the importance of transparent and accountable institutions in promoting economic growth and development.

 Several factors could contribute to these findings. For instance, improved control of corruption can lead to a more transparent and accountable regulatory environment, which in turn fosters greater confidence in the banking sector. This, consequently, may result in increased investments, better access to financial services, and enhanced competition among financial institutions. Additionally, effective control of corruption can reduce the likelihood of fraud and financial malpractices within the banking sector. By minimizing corruption-related risks, banks can operate more efficiently, and focus on providing a wider range of services to their customers. This may lead to the overall growth and development of the banking sector. Furthermore, the reduction of corruption can improve the overall business environment, leading to increased economic stability and growth. This can positively influence the banking sector by providing more opportunities for lending and investment, ultimately contributing to a deeper

and more diversified banking sector. The results are consistent with Bermpei *et al,* (2018) who concludes that control of corruption enhances the positive effect of activities restrictions on stability

As to the influence of government effectiveness on the banking sector financial depth table 8 presents a coefficient of -0.365381, and the p-value is 0.0207 which is less than 0.05, a threshold for accepting or rejecting a null hypothesis. Based on these statistics the null hypothesis is rejected showing that there is no influence of Government Effectiveness on the banking sector financial depth in Tanzania.

 More specifically, the results show that government effectiveness hamper the banking sector depth by 36.5%. The findings, further, imply that lack of government effectiveness negatively impacts the banking sector depth in Tanzania. Explicitly, when government effectiveness is low, the banking sector depth decreases by 36.5%. This suggests that the presence and implementation of effective government policies are essential for a thriving banking sector. The reported negative influence of government effectiveness on the banking sector's financial depth underscores the need for improvements in governance structures and public service delivery in Tanzania. According to the institutional quality theory, efficient and well-functioning government institutions are crucial for fostering economic development. The findings suggest that enhancing government effectiveness in areas affecting the banking sector could help improve the sector's financial depth and contribute to Tanzania's overall economic growth.

Several factors may be associated with these findings; *first,* ineffective government policies or a lack of policy enforcement might result in a weak regulatory environment, which may hinder the banking sector's growth and development. *Second,* inadequate oversight of the banking sector could lead to insufficient competition, limited access to financial services, and increased risk of fraud or financial instability. *Third,* a lack of government effectiveness may also create an uncertain economic environment, which may reduce investor confidence and discourage investment in the banking sector.

When it comes to impact of Rule of Law on Banking Sector Financial Depth. Table 8 returns a coefficient of 0.443 for the variable, rule of law, and the p-value of 0.017, which is less than 0.05, implying that as the rule of law improves, the banking sector depth increases by 44.3%. Thus, the study rejects the null hypothesis that there is no influence of the Rule of Law on the banking sector financial depth in Tanzania. The results imply that there is a positive relationship between the rule of law and banking sector depth in Tanzania.The positive influence of the rule of law on the banking sector's financial depth highlights the importance of strong legal and regulatory frameworks for the sector's performance as advocated by institutional quality theory on the role of a robust legal system in promoting economic development by ensuring property rights protection, fair dispute resolution, and contract enforcement.

The results of this study suggest that a strong legal framework is essential for promoting a healthy and robust banking sector. Some factors could be attributed to these findings. Meanwhile, a strong rule of law can provide a stable and predictable legal environment that is conducive to the growth and development of the banking sector. When there is confidence in the legal system, businesses and individuals are more likely to engage with financial institutions, resulting in increased demand for banking services, higher levels of competition, and a deeper banking sector. Additionally, an effective rule of law can help ensure that contracts and property rights are enforced, which is crucial for the functioning of a healthy banking sector. This can encourage lending, as banks can trust that loans will be repaid and that their interests will be protected by the legal system. Furthermore, a strong rule of law can enhance the overall business environment, attracting both domestic and foreign investments to the banking sector. Moreover, a well-functioning legal system can provide effective dispute resolution mechanisms, which can help maintain trust and confidence in the banking sector. This can contribute to the overall stability of the financial system, reducing the likelihood of financial crises and promoting long-term growth.

Table 8 also reports the influence of the Regulatory Quality on Banking Sector Financial Depth. The analysis returns a coefficient of 0.432893 and a p-value of 0.0007, which is less than 0.05 implying that as regulatory quality improves, the banking sector depth increases by 43.3%. Consequently, the study rejects the null hypothesis that there is no influence of Regulatory Quality on the banking sector financial depth. The findings imply that

there is a statistically significant positive relationship at 1% significant level between regulatory quality and banking sector depth. Specifically, when regulatory quality improves, the banking sector depth increases by 43.3%. This suggests that an effective regulatory environment is essential for promoting a healthy and robust banking sector. These findings may be associated with the following factors; *First*, improved regulatory quality can lead to a more transparent, accountable, and stable financial environment that fosters confidence in the banking sector. This can ultimately result in increased investments, better access to financial services, and enhanced competition among financial institutions. Also, effective regulation can as well help mitigate risks associated with the banking sector, such as credit, liquidity, and operational risks. By ensuring that banks adhere to prudential standards and risk management practices, regulatory authorities can contribute to the overall stability and resilience of the financial system which may, in turn, create a more conducive environment for the growth and development of the banking sector. *Second*, relatively high regulatory quality may promote innovation within the banking sector by providing a clear and supportive framework for the development and implementation of new financial products and services. This can lead to a more diversified and dynamic banking sector that is better able to meet the needs of consumers and businesses. *Finally*, effective regulation can help prevent financial malpractices, such as fraud or money laundering, which can undermine trust in the banking sector. All these factors altogether, highly improve banking sector financial depth.

Finally, the findings presented in table 8 indicate a negative relationship between the size of the economy, measured by GDP per capita, and banking sector depth, with the coefficient of -0.988390 and the p-value being 0.0020. The findings imply that there is a statistically significant negative relationship at 1% significant level between size of the economy and banking sector depth. This suggests that the slow growth of GDP per capita is not sufficient to support the banking sector depth leading to a decrease of 98.8%. Several factors could contribute to this situation. *Firstly*, the slow growth of GDP per capita might not generate enough demand for financial services, limiting the expansion of the banking sector. *Secondly*, a large informal economy, often associated with slow-growing economies, could reduce the share of the formal banking sector. *Lastly*, inefficient allocation of resources within the economy might not direct enough resources towards the development of the banking sector, further exacerbating the negative impact of slow GDP per capita growth on banking sector depth.

Table 8: Regression Results

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Control of Corruption	0.193157	0.058604	3.295954	0.0010
Government Effectiveness	-0.365381	0.157965	-2.313046	0.0207
Regulatory Quality	0.432893	0.127974	3.382656	0.0007
Rule of Law	0.442585	0.185979	2.379766	0.0173
Size of the Economy	-0.988390	0.319348	-3.095021	0.0020
C	-9.709432	2.600354	-3.733889	0.0002
	Robust Statistics			
R-squared	0.448428	Adjusted R-squared		0.342357
Rw-squared	0.765175	Adjust Rw-squared		0.765175
Akaike info criterion	57.15741	Schwarz criterion		66.97152
Deviance	160.2019	Scale		1.862604
Rn-squared statistic	70.19590	Prob (Rn-squared stat.)		0.000000
	Non-robust Statistics			
Mean dependent var	9.738115	S.D. dependent var		3.957733
S.E. of regression	4.308386	Sum squared resid		482.6169

5. A Concluding Remark

This paper mainly aimed at examining the influence of institutional quality on the banking sector's financial depth in Tanzania. The paper has provided valuable insights into the relationship between institutional quality and the financial depth of the banking sector in Tanzania. The findings reveal that control of corruption and rule of law positively influence the banking sector's financial depth, while government effectiveness has a negative impact. Moreover, regulatory quality also contributes positively to the financial depth of the banking sector. These results emphasize the importance of maintaining a strong institutional framework, combating corruption, and ensuring effective regulation in order to promote a more resilient and robust banking sector in Tanzania. The paper

encourages the Government of Tanzania to ensure a transparent and corruption-free environment, which ultimately fosters growth in the banking sector.

More specifically, the paper recommends the government of Tanzania, in collaboration with the PCCB, to focus on enhancing anti-corruption efforts, as control of corruption has a positive impact on the banking sector's financial depth. By adopting international anti-corruption conventions, strengthening the capacity of the PCCB to investigate and prosecute corruption cases, and promoting transparency and accountability in both the public and private sectors, a more conducive environment for the growth of the banking sector can be created.

Regarding the government effectiveness, the paper suggests striking a careful balance between allowing the market to function efficiently and government intervention. This may involve re-evaluating the government's role in the banking sector and identifying areas where intervention can be reduced to encourage market-driven growth. So as to improve banking sector performance, the government should enhance inter-agency coordination, streamlining decision-making processes, and improving public service delivery in areas affecting the banking sector.

Regarding rule of law, the paper insists the government to focus on creating and enforcing clear and consistent regulations that foster a competitive and efficient banking sector while mitigating risks to financial stability. Furthermore, the paper recommends emphasis to be placed on promoting fair and impartial dispute resolution, protecting property rights, and enforcing contracts. By strengthening the judicial system and improving law enforcement, a stable environment for the banking sector to flourish can be fostered. Providing training and resources to judges and law enforcement officers can ensure the consistent application of laws and regulations.

Finally, as regard to regulatory quality policymakers should insist on effective implementation of risk-based supervision frameworks which are apparently adopted in Tanzania, enhancing reporting standards, and fostering cooperation between regulatory authorities, such as the Bank of Tanzania and the Ministry of Finance, to ensure a comprehensive approach to regulation.Some further studies should focus on sub-sector analysis such as commercial banks, micro finance institutions, and non-banking financial institutions. Future studies could also investigate the influence of institutional quality on the financial depth of these different sub-sectors, as their respective roles and responses to institutional quality may vary.

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