

ORIGINAL ARTICLE

The moderation effect of institutional quality on the nexus between migrant remittance and financial inclusion in West Africa

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ABSTRACT

BACKGROUND:

Migrants' remittances are critical in financing the economies of Africa and the West African region, in addition to FDI and ODA. It is also a significant driver of financial inclusion.

OBJECTIVE:

This paper assessed the moderating role of institutional quality on migrants' remittances and financial inclusion in West Africa during 2004–2023.

METHODS:

Secondary data was used for this study, sourced from the World Bank's World Development Indicators (WDI), the World Governance Indicator (WGI), and the IMF's Financial Access Survey (FAS), 2023. This study employed the Panel Fixed Effects (PFE) estimation technique, which accounts for Driscoll and Kraay's (1998) standard error. To ensure the robustness of the findings, the analysis was augmented with the utilisation of feasible generalised least squares (FGLS).

RESULTS:

There was an overall positive impact of institutional quality on financial inclusion (FI), at a significant rate of 120.8%, accounting for deposit-taking microfinance institutions, thereby highlighting that institutions play a crucial part in improving financial inclusion in West Africa. Also, the moderating effect of institutional quality had a more positive impact on microfinance institutions than commercial banks, at a significant rate of 16.2%.

CONCLUSION:

In summary, attention should be given to establishing more microfinance institutions as they serve as a better remittance distribution channel when compared to commercial banks, emphasising enhancing quality in financial services delivery. This also encourages more people to be financially included, thereby making better economic use of the remittance received in West Africa.

KEYWORDS:

migration, remittance, financial inclusion, institutional quality, moderating effects, West Africa

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INTRODUCTION

Over the years, financial inclusion has gained significant attention from nations, governments, and the Maya Declaration.¹ Financial inclusion has been recognised as a primary pillar of the Global Development Agenda at the 2010 G20 Summit in Seoul. This economic advantage benefits underprivileged and disenfranchised individuals, enabling them to earn more money and improve their employment prospects.²

Financial inclusion is an initiative that provides affordable and practical financial products and services to meet people's needs. The World Bank³ highlights the progress in financial inclusion, with 515 million adults globally having financial accounts with financial institutions. The percentage increase from 15% in 2011 to 69% in 2017 is significant, with advanced nations having 95% of adults with bank accounts, while developing countries have 63%. This highlights the need for responsible and sustainable financial services.⁴

As a result, an economy moving towards inclusive growth requires access to money, primarily drawn from the international arena rather than from an economy's domestic financing, driven by commercial banks, microfinance, and credit institutions. Migrant remittances have also become an essential source of income for most African countries, particularly those in West Africa. In 2019, according to the World Development Indicators, it supplements and sometimes exceeds official development assistance (ODA) and foreign direct investment (FDI). As a result, Africa is currently one of the world's areas with substantial migratory dynamics, with around 50 million Africans residing outside their place of birth, according to the United Nations Department of Economic and Social Affairs in 2020.

According to World Bank estimates, financial flows from migration were over USD 548 billion in 2019, significantly above ODA and FDI, totalling USD 166 billion and USD 534 billion, respectively. A 14.1 per cent increase was also observed in remittance inflows to Sub-Saharan Africa to \$49 billion in 2021, following an 8.1 per cent fall the previous year. Even though the

COVID-19 outbreak created some disruptions, remittances remained a crucial and steady source of external income for most African nations.⁵ Individuals and economic actors also save through remittances, providing them with funds to invest. As a result, there are multiplier effects and improved welfare in the economy.⁶

Remittances positively impact (FI) and encourage financial development by increasing access to and demand for various financial products.⁷ Offering remittance transfer services helps banks understand unbanked recipients and solve the adverse selection issue. Remittance channels can offer low-income people financial service packages and track money transfers.⁸ This approach can help address the adverse selection issue and improve FI for all.^{9,10}

Looking at the correlation of the 15 Economic Community of West Africa States (ECOWAS) economies in Table 1, we can observe that remittances or institutional quality do not improve FI independently, as earlier publications stated. This displays an opposing viewpoint to the prevailing ideas⁷ agreeing with this claim. Many studies have also examined the microeconomic and macroeconomic effects of remittances, emphasising their important role in capital accumulation for the economy and financial development.¹¹

This study posits that, despite all attempts to increase financial inclusion, even with increased remittance inflows, there is still a gap, which may be attributed to poor institutional quality in West Africa. Poor institutional quality is characterised by a failure to successfully manage bureaucratic procedures, such as decreasing the quantity of documentation or paperwork and maintaining customer confidence throughout the remittance transactions.⁷ North¹² defines institutions as restrictions that govern social, economic, and political interaction. From this vantage point, institutional quality may impact financial inclusion by distributing financial market resources to finance investments, as good quality institutions can improve financial inclusion by lowering transaction and information costs.¹² As suggested, institutional quality is crucial to people's decisions to use financial institutions' accessible services.⁷

Table 1. Descriptive statistics results of financial inclusion, remittance and institutional quality

| Variables | Obs | Mean | Std.Dev. | Min | Max | p1 | p99 | Skew. | Kurt. |
|-----------|-----|----------|----------|---------|----------|---------|----------|-------|--------|
| DCB | 219 | 6780000 | 2.29e+07 | 6952 | 1.75e+08 | 19977 | 1.28e+08 | 4.946 | 29.346 |
| DAMI | 178 | 1110000 | 1590000 | 544 | 1.13e+07 | 725 | 1.00e+07 | 3.838 | 21.685 |
| OLCB | 249 | 2030000 | 3660000 | 145.25 | 2.38e+07 | 201.28 | 1.72e+07 | 3.014 | 13.148 |
| CBA | 259 | 5.437 | 7.04 | .137 | 42.072 | .388 | 34.088 | 3.266 | 13.301 |
| MIB | 177 | 7.097 | 5.231 | .07 | 28.569 | .073 | 19.68 | .882 | 3.461 |
| ATM | 170 | 8.757 | 12.019 | .084 | 52.068 | .248 | 51.175 | 2.474 | 8.185 |
| PR | 270 | 5.173 | 4.444 | .15 | 26.837 | .24 | 21.81 | 1.458 | 6.091 |
| Ninq | 270 | .376 | .204 | 0 | 1 | .009 | .968 | 1.1 | 4.417 |
| CPI | 265 | 117.99 | 51.123 | 32.263 | 354.296 | 45.537 | 327.371 | 2.339 | 8.902 |
| GDPC | 270 | 1120.498 | 765.355 | 390.425 | 3690.656 | 410.803 | 3376.938 | 1.489 | 4.237 |
| BM | 267 | 30.099 | 17.508 | 9.034 | 113.653 | 9.661 | 92.734 | 2.316 | 8.892 |

Additionally, we have seen institutions' distinctive roles in developing inclusive finance.^{11,13,14,15} The argument is that we should recognise institutions' role in facilitating the distribution of financial goods to families and businesses.¹⁶ Overall, this suggests that individuals may occasionally avoid using certain financial institutions for remittance transactions if there are inconsistencies and subtle barriers to receiving these payments. They might search for other possibilities. Therefore, this study aims to explore how institutional quality moderates the impact of remittances on financial inclusion. The study hypothesises that:

- H₁: Remittances positively impact financial inclusion.
H₂: Institutional quality positively moderates the relationship between remittances and financial inclusion.

Theoretical Framework

Financial inclusion in developing regions and countries like West Africa relies heavily on the institutional quality of both formal and informal institutions. Both institutions are crucial in encouraging individuals to participate in formal financial sectors, thereby enhancing financial inclusion in an economy.¹⁷ This study's theoretical underpinnings used the institutional theory of financial inclusion and the financial intermediation theory.

The institutional theory of financial inclusion highlights the role of institutions in influencing societal financial inclusion levels. Trust in formal financial institutions encourages unbanked individuals to use them, while mistrust arises from high transaction costs, excessive charges, and fraud. These institutions can maintain negative views and discourage unbanked individuals from entering the formal financial sector.¹⁷

The Financial Intermediation Theory explains how financial institutions, such as deposit money banks, insurance companies, investment banks, pension funds, and banking agents, link cash providers and financial capital users in a financial market.¹⁸ The financial markets transfer money from those with excess funds to those who require it,¹⁹ addressing information asymmetry by acting as delegated monitors and disseminating information to market participants.²⁰

Financial intermediation reduces costs for savers and borrowers in financial transactions by utilising financial intermediaries with economies of scale and experience.²¹ These intermediaries can also lower investors' risk by spreading risk among all market participants, supporting families and businesses in joining the financial sector and promoting financial inclusion.²² This approach benefits individual households and the entire market, benefiting all involved.¹⁶

However, in a weak institutional environment where there is little or no check on the activities of the institutions, remittance can be misappropriated. In this case, the desirable goal of financial inclusion needs to

be realised. Thus, poor institutional quality can undermine the influence of remittance on financial inclusion. Figure 1 shows the channels through which the institutions mediate the relationship between remittance and financial inclusion.

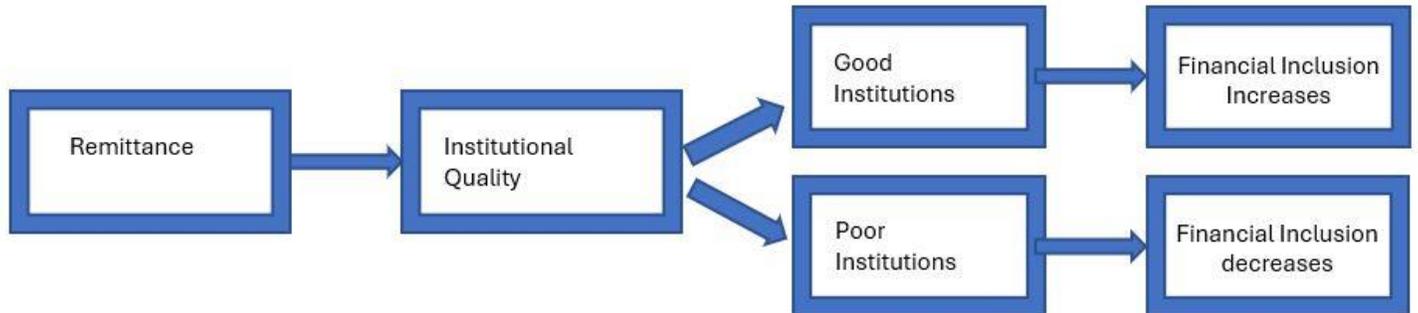


Figure 1. Theoretical link between institutions and the remittance-financial inclusion nexus (Source: Author (Adapted from Raifu & Oladejo, 2024))

METHODS

Data description

The selected counties are the 15 West African countries in the ECOWAS region. In the current study, the dependent variable is FI which was proxied with depositors with commercial banks (DCB), deposit accounts with deposit-taking microfinance institutions (DAMI), outstanding loans from commercial banks (OLCB), number of commercial bank branches per 100,000 adults (CBA), and number of all microfinance institution branches per 100,000 (MIB) and number of ATMs per 100,000 adults (ATM) from the Financial Access Survey (FAS, 2023) of the International Monetary Fund (IMF). Some research^{5,7,23,24} have examined the financial inclusion (fi) proxies mentioned above in the light of financial development (FD), which acts as the explanatory factors since fi in most studies is a sub-set of fd, as noted by Beck & Demirguc-Kunt in Hayot Berk Saydaliyev et al.⁷ Instead of using each of the institutional quality indicators, principal component analysis was used in creating the institutional quality index (ninq).

The components of the institutional quality index are political stability, voice and accountability, government effectiveness, regulatory quality, rule of law, and control of corruption, as sourced from the World Governance Indicator (WGI) of the World Bank. In addition, it has been shown that institutional quality positively

promotes financial inclusion.²⁵ Migrants' remittances (PR) is measured with personal remittance per capita in USD. The institutional quality index (ninq) and migrants' remittances (PR) are the key independent variables. The control variable is the consumer pricing index (CPI), measured with inflation and referred to as the inflation rate. The per capita GDP of the nations that received remittances was used to calculate the income (GDPC), and the expectation is that income is positively correlated with financial inclusion.

It is essential to recognise that in this situation, remittances aid financial inclusion as money being received necessitates the opening of bank accounts and the opportunity to¹⁷ use other bank services.^{8,26,27} Consequently, this strongly implies that the use of bank products may expand due to remittances.²⁸ The per capita GDP is predicted to affect financial inclusion positively. "CPI" stands for consumer price index as a proxy for inflation. Theoretically, remittance is a subset of the general money supply in an economy. A rise in the money supply causes inflation, which lowers the cost of loanable funds and borrowing costs for businesses and individuals.

According to Klapper et al.²⁹, consumers are expected to increase their spending and decrease their desire for savings accounts in this situation. As a result, the connection between inflation and deposits will be

inverse. Empirically, financial development is positively correlated with financial inclusion, and this serves as an explanatory variable. Financial development, therefore, was measured in the current investigation using Broad Money (BM). This is better explained through the concept of intermediation as described by Nsiah & Tweneboah,¹⁶ in the Financial Intermediation Theory, which explains that financial institutions majorly hold a role in holding cash for the surplus public and channelling same to the deficit market participants explain how highly effective intermediaries eradicate financial exclusion. Promoting the creation of financial products helps to meet the needs of the excluded population and thereby bring them into formal institutions.³⁰ It is anticipated that financial development will benefit financial inclusion.

$$lfi_{it} = \alpha_0 + \alpha_1 \ln_{PR}_{it} + \alpha_2 \ln_{ninq}_{it} + \alpha_3 \ln_{CPI}_{it} + \alpha_4 \ln_{GDPC}_{it} + \alpha_5 \ln_{BM}_{it} + \varphi d_{it} + \varphi d_{yt} + \varepsilon_{it} \quad (1)$$

where $i, 1, \dots, 15, t, 1, \dots, 18$

Where α_0 is the constant term, lfi_{it} is the financial inclusion (fi) variables as the dependent variable. There are six proxies for FI in this study, namely the Depositors with commercial banks (DCB), Deposit accounts with deposit-taking microfinance institutions (DAMI), Outstanding loans from commercial banks (OLCB), number of commercial bank branches per 100,000 adults (CBA), number of all microfinance institution branches per 100,000 adults (MIB) in measuring FI. Migrants' remittance is measured with personal remittance per capita in USD represented as (PR), institutional quality index ($ninq$). Other explanatory variables included are inflation (CPI), income and

Model specification

The study specified the model and estimation techniques to address the research questions. The data is organised into panel data. Baltagi³¹ documents that panel data provides a more accurate way of capturing and controlling for individual heterogeneity by allowing for individual-specific variables. Thus, by adopting panel data (the space and time dimensions of the pooled data) estimation in which such heterogeneity can be modelled by including individual country-pair effects, the study can guard against these inherent challenges. The model employed is adapted from Saydaliyev et al.⁷

financial development (FD) measured by GDP per capita ($GDPC$) and by broad money (BM), respectively. Other than that, φ are the dummy parameters to be estimated, d_{it} is the unobserved country specific dummy, d_{yt} is time dummies to account for period specific effects, ε_{it} is the error term assumed to be normally distributed with zero means and constant variance.

The interaction between remittance and institutional quality (PRIQ) on financial inclusion is given in equation 2. The result of this interaction will be able to guide policy formulation.³²

$$lfi_{it} = \alpha_0 + \alpha_1 \ln_{PR}_{it} + \alpha_2 \ln_{ninq}_{it} + \alpha_3 \ln_{PRIQ}_{it} + \alpha_4 \ln_{CPI}_{it} + \alpha_5 \ln_{GDPC}_{it} + \alpha_6 \ln_{BM}_{it} + \varphi d_{it} + \varphi d_{yt} + \varepsilon_{it} \quad (2)$$

Additionally, the overall impact of remittance at the margin may be assessed by looking at the partial derivatives of fd with regard to remittances at the specified levels of $ninq$, as stressed by Saydaliyev et al.⁷ The following equation 3 describes the conditional marginal effects.

$$\frac{d \ln_{fi}}{d \ln_{PR}} = \alpha_1 + \alpha_2 \ln_{ninq} \quad (3)$$

If all derivatives effectively promote financial inclusion, there will likely be complementing trends between remittance and institutional quality. Therefore, improving institutional quality and remittance would

result in greater financial inclusion by creating a bank account. However, only a positive value for each parameter 1 and 2 makes this feasible. On the other hand, if the coefficient 2 is negative, there will be evidence of substitutability between the interacting variables. So long as the level of *ninq* is altered, the derivatives can be assessed inside the model.

This study employed the Panel Fixed Effects (PFE) estimation technique, which accounts for Driscoll and Kraay 's³³ standard error. In order to ensure the robustness of the findings derived from the fixed effects approach, we augment our analysis with the utilisation of feasible generalised least squares (FGLS), pioneered by Zellner³⁴ and Theil,³⁵ and subsequently refined by eminent scholars.^{36,37,38,39} The FGLS method supersedes ordinary least squares (OLS) in virtue of its capacity to address issues of heteroscedasticity, autocorrelation, and cross-sectional correlations

during estimation. By encapsulating or incorporating estimations of the extensive error variance-covariance structure, the FGLS framework not only rectifies these concerns but also culminates in estimates of superior efficiency compared to OLS.³⁹

The fixed effects estimator recognises that each cross-sectional unit might have some unique characteristics.^{40,41} To eliminate the problem of unobserved variables and to overcome the lack of control for the heterogeneous financial inclusion relationships, the study estimates the model in a panel with GLS. In addition, GLS will be robust to heteroscedasticity and correlation in the model's error term. This method helps estimate the unknown parameters in a linear regression model with a certain degree of correlation between the residuals in the regression models.

$$lfi_{it} = \alpha_0 + \alpha_1 yln_fi_{it} + \alpha_2 ln_PR_{it} + \alpha_3 ln_ninq_{it} + \alpha_4 PRIQ_{it} + \alpha_5 ln_CPI_{it} + \alpha_6 ln_GDPC_{it} + \alpha_7 ln_BM_{it} + \varphi d_{it} + \varphi d_{yt} + \varepsilon_{it} \quad (3)$$

Where other variables remain as previously defined. δ_t is the slope for individual country effect. One major challenge with panel methodology is controlling the effects of the unobserved heterogeneity (individual country-specific effects) to obtain valid,⁴² efficient and unbiased estimates for the specified model's structural parameters. Fixed effects estimation accounts for the individual unobserved fixed effects in each country.⁴³

RESULTS

The summary of descriptive statistics is shown in Table 2. Depositors with commercial banks (DCB) have the highest mean of 6780000. This figure highlights the peculiarity of depositors with commercial banks. In the ECOWAS region, we notice low levels of the average number of commercial bank branches (CBA) among the financial inclusion services the financial institutions provide. The institutional quality index (*ninq*) has the lowest standard deviation, whereas Outstanding loans with commercial banks (OLCB) have a high standard deviation, which shows a spread out over a broader range in the ECOWAS region.

Regarding the skewness values, all variables here are positive and greater than one except the number of all microfinance institution branches (MIB). This suggests a highly skewed distribution. It can, therefore, be concluded that depositors with commercial banks (DCB) is the most perfectly skewed of all variables.

As discussed earlier, fixed effects (FE) and generalised least square (GLS) estimators were used to estimate the specific models. These estimators have proven to be good as they work well even when data are imperfect and specific critical assumptions are violated. Following the overview of the estimated results using two different estimators to examine the moderating effect of institutional quality and migrants' remittance on financial inclusion, each estimator is presented in Table 3, and they are fixed effects and generalised least square model. The results for each estimation technique of the financial inclusion variables are in columns 2-7. The first columns showed the lagged variables of the two independent variables (Migrants' remittances and institutional quality index). The remaining variables are the control variables and the interaction term of migrants' remittance and

institutional quality (PRIQ). The selected estimators were applied to the entire data set. There are different observations for each of these estimations, and they all have different behavioural patterns. The coefficients

under the two estimators are quite significant. The result of the fixed effects and generalised least squares in terms of signs and size diverges from each other, with significant coefficients.

Table 2. Pairwise correlation analysis of financial inclusion , remittance and institutional quality

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-------------|---------------------|---------------------|---------------------|---------------------|------------------|-----------------|---------------------|---------------------|-----------------|-------|
| (1) ln_DCB | 1.000 | | | | | | | | | |
| (2) ln_DAMI | 0.765* 0.000 | 1.000 | | | | | | | | |
| (3) ln_OLCB | 0.433* 0.000 | 0.650* 0.000 | 1.000 | | | | | | | |
| (4) ln_CBA | 0.461* 0.000 | 0.137 0.068 | -0.003 0.957 | 1.000 | | | | | | |
| (5) ln_MIB | -0.023 0.766 | 0.660* 0.000 | 0.287* 0.000 | 0.192* 0.010 | 1.000 | | | | | |
| (6) ln_PR | 0.044 0.516 | -0.275* 0.000 | -0.125* 0.049 | 0.450* 0.000 | 0.053 0.481 | 1.000 | | | | |
| (7) ln_ninq | 0.215* 0.001 | 0.468* 0.000 | -0.049 0.445 | 0.426* 0.000 | 0.360* 0.000 | 0.091 0.137 | 1.000 | | | |
| (8) ln_CPI | 0.505* 0.000 | -0.116 0.124 | 0.239* 0.000 | 0.270* 0.000 | -0.256* 0.001 | 0.133* 0.030 | 0.048 0.434 | 1.000 | | |
| (9) ln_GDPC | 0.612 * 0.000 | 0.509 * 0.000 | 0.279 * 0.000 | 0.685 * 0.000 | 0.034 0.649 | 0.107 0.078 | 0.310 * 0.000 | 0.169 * 0.006 | 1.000 | |
| (10) ln_BM | 0.111 0.101 | 0.124 0.101 | -0.020 0.756 | 0.791* 0.000 | 0.229* 0.002 | 0.429* 0.000 | 0.346* 0.000 | 0.186* 0.002 | 0.484* 0.000 | 1.000 |

* Shows significance at the 0.05 level

Notes: The numbers in parenthesis represents standard errors, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

ln_DCB is the log of depositors with commercial banks, ln_DAMI is the log of deposit accounts with deposit-taking microfinance institutions, ln_OLCB is the log of Outstanding loans with commercial banks, ln_CBA is the log of of number commercial bank branches, ln_MIB is the log of number of all microfinance institution branches (MIB). ln_ATM is the log of number of ATMs per 100,000, ln_PR is the log of personal remittance per capita, ln_ninq is the log of institutional quality index, ln_CPI is the log inflation, ln_GDPC is the log of GDP per capita, ln_BM is the log of broad money.

This work reports positive and significant coefficients between migrants' remittance and financial inclusion in the generalised least square (GLS). It was mentioned earlier that there are six (6) proxies for financial inclusion. Out of these six (6) proxies, CBA and MIB seem to have a positive significant effect on migrants'

remittance when compared to the other financial inclusion variables. This means that commercial banks and microfinance institutions can assist in promoting financial inclusion, as this is explained by the fact that the more remittances received, the more people can locate financial institutions to save their money. In

addition, most remittances are received through these financial institutions.⁴⁴ This also tells us that microfinance institution(s) is a good determinant of financial inclusion. The institutional quality index, on the other hand, positively impacts all the financial inclusion variables with the GLS estimator. The moderating effect of institutional quality has a mixed result on migrants' remittance and financial inclusion.

The explanatory variables, which are CPI, GDPC, and BM, are primarily significant and positive coefficients with the financial inclusion variables in the GLS estimator. This shows evidence of the prior expectations of these variables.

DISCUSSION

The results of the fixed effects and generalised least square regression for each of the financial inclusion variables has been presented. The GLS estimates are more robust and significant as compared to the fixed effects estimates; this is because GLS is robust to both heteroscedasticity and correlation in the model's error term, as this method helps in estimating the unknown parameters in a linear regression model where is a certain degree of correlation between the residuals in the regression models.

As shown in the result and evidenced by previous study,⁴⁵ financial development (FD) is more effective in middle-income economies, especially low-middle-income countries like West Africa, and these benefits are widespread, mainly when a low institutional quality index (ninq) is present. Accordingly, we see that the level of institutional quality index in the remittance-receiving nations affects how remittances are used, which afterwards enhances their capacity to boost financial inclusion (fi).⁷

This study reveals a mixed impact of remittance on financial inclusion, dependent on individual variables and perceptions of institutions. This is in line with the debates on how remittance can improve an economy's financial inclusiveness, as one strand of literature noted that remittance does not improve financial inclusion as remittance reduces the demand for credit, which has a negative effect on the credit market.⁴⁶ This is explained by the fact that remittances helps

individuals to build their human capital without depending on credit facilities.^{12,25, 29,47}

On the other hand, some variables are significant and positive, and the majority have seen that remittance positively impacts financial inclusion. This is because remittances will likely improve formal financial access as the unbanked recipient households deposit their money and are exposed to several financial services provided by formal institutions.^{48,49} The effect is conditional and positive, emphasising the importance of financial institutions and other institutions in improving financial inclusion in West Africa. Remittance recipients' trust in financial institutions can enhance the impact of remittances on financial inclusion (FI). Mixed results may be due to people choosing the best financial services, possibly due to the amount or volume demanded by households as most remittances are usually in large sums, and most recipients will normally have a large amount of extra cash saved in the deposit account.^{50,8,51} Another channel is when households have a better awareness of some financial products by virtue of using the financial institution to receive the remittance. Then, the extra cash from the remittance, which is saved in the deposit account, serves as a source of credit demanded by both households and firms.^{8,52}

Also, some authors for instance Aggarwal, Demirguc-Kunt, and Martinez Peria,³⁰ have emphasised the vitality of remittances to financial inclusion in developing the financial sector in most developing countries as it assists in increasing the overall volume of credits and deposits that are accessed by most of the people who have been financially excluded from banking institutions. Transfer services linked to remittance allow most financial institutions to collect data about those who are financially excluded, and this gives evidence for mitigating the situation and allows the sectors to provide adequate services for all. Remittance can also channel can be used to sell financial service packages for low-income individuals.⁹

Table 3. Results of fixed effects and generalized least square of the nexus among financial inclusion, remittance and institutional quality

| Variables | ln_DCB | | ln_DAMI | | ln_OLCB | | ln_CBA | | ln_MIB | | ln_ATM | |
|-------------------------------|---------------------|----------------------|---------------------------|---------------------|---------------------------|--------------------------|--------------------------|--------------------------|---------------------|--------------------------|--------------------------|--------------------------|
| | FE | GLS | FE | GLS | FE | GLS | FE | GLS | FE | GLS | FE | GLS |
| ln_PR | -0.023 (0.042) | -0.669*** (0.105) | -0.063 (0.073) | -0.279* (0.148) | -0.157** (0.060) | - 1.265*** (0.207) | -0.097* (0.055) | 0.109*** (0.036) | -0.078 (0.078) | 0.337*** (0.106) | -0.051 (0.059) | -0.124** (0.052) |
| ln_ninq | 0.046 (0.115) | 1.016*** (0.149) | -0.374*** (0.116) | 1.208*** (0.274) | 0.046 (0.145) | 0.600** (0.254) | -0.046 (0.100) | 0.224*** (0.051) | 0.085 (0.122) | 0.336** (0.156) | -0.027 (0.101) | 0.409*** (0.093) |
| PRIQ | -0.041 (0.061) | -0.649*** (0.094) | 0.210*** (0.063) | 0.037 (0.158) | -0.139*** (0.048) | - 0.568*** (0.141) | -0.112** (0.049) | -0.038 (0.030) | -0.019 (0.054) | 0.162* (0.089) | -0.017 (0.082) | - 0.240*** (0.047) |
| ln_CPI | 0.700*** (0.065) | 1.531*** (0.187) | 1.814*** (0.165) | -0.463 (0.458) | 1.225*** (0.142) | 2.379*** (0.293) | 0.144* (0.071) | 0.244*** (0.055) | 0.571*** (0.171) | - 1.047*** (0.136) | 1.010*** (0.163) | 0.811*** (0.090) |
| ln_GDPC | 1.365*** (0.289) | 1.583*** (0.135) | 2.702*** (0.399) | 1.162*** (0.174) | 2.624*** (0.278) | 1.301*** (0.197) | 0.976*** (0.272) | 0.621*** (0.039) | -0.615 (0.779) | -0.079 (0.091) | 0.667* (0.355) | 0.991*** (0.056) |
| ln_BM | 1.420*** (0.097) | -0.541*** (0.197) | 0.197 (0.293) | 1.090*** (0.246) | 1.025*** (0.080) | - 0.954*** (0.291) | 0.951*** (0.160) | 0.862*** (0.057) | -0.051 (0.374) | 0.564*** (0.142) | 1.244*** (0.334) | 1.178*** (0.070) |
| _cons | -3.659* (1.763) | -1.371 (1.042) | - 14.426*** (2.205) | 5.894*** (2.107) | - 14.404*** (1.592) | -2.202 (1.678) | - 9.340*** (2.067) | - 6.895*** (0.301) | 3.432 (4.559) | 5.584*** (0.680) | - 2.238*** (3.213) | - 3.044*** (0.558) |
| Obs. | 218 | 218 | 173 | 173 | 241 | 241 | 251 | 251 | 172 | 172 | 164 | 164 |
| R-Squares | 0.8596 | | 0.8160 | | 0.8970 | | 0.6423 | | 0.1674 | | 0.7739 | |
| F- Statistics/Wald Test | 502.92 (0.0000) | 391.50 (0.0000) | 1041.46 (0.0000) | 346.04 (0.0000) | 731.48 (0.0000) | 204.29 (0.0000) | 36.98 (0.0000) | 3699.23 (0.0000) | 19.70 (0.0000) | 362.66 (0.0000) | 32.56 (0.0000) | 1963.26 (0.0000) |

Notes: The numbers in parenthesis represents standard errors, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

ln_DCB is the log of depositors with commercial banks, ln_DAMI is the log of deposit accounts with deposit-taking microfinance institutions, ln_OLCB is the log of Outstanding loans with commercial banks, ln_CBA is the log of number commercial bank branches, ln_MIB is the log of number of all microfinance institution branches (MIB). ln_ATM is the log of number of ATMs per 100,000, ln_PR is the log of personal remittance per capita, ln_ninq is the log of institutional quality index, PRIQ is the interaction between remittance and institutional quality, ln_CPI is the log inflation, ln_GDPC is the log of GDP per capita, ln_BM is the log of broad money. F-Statistics is for FE with Discol-Kray Standard Error while Wald Test is for GLS.

Moreover, as the result showed, the relationship between remittances and financial inclusion may not be as strong as it could be if essential economic structures like institutional quality, ethnic makeup, cultural practices, and many other fundamental structures specific to each economy are ignored. Institutional quality is a critical factor that determines individuals' decisions to gain access to financial products and services being provided by financial institutions. Thus, if there is any mistrust about any financial institutions or unfavourable bureaucratic processes involved in the disbursement of remittances, they decide to boycott such institutions.⁷

CONCLUSION

This present study has shown that the moderating effect of institutional quality has a more positive impact on microfinance institutions than commercial banks. This tells us that in order to make the West African region more financially included, attention should be paid to establishing more microfinance institutions with an emphasis on enhancing better quality in financial service delivery.

This also explains the negotiation theory, which states that people would rather venture into economic decisions because of their interests. West African countries must avoid relying on migrants' remittance alone for financial inclusion advancement, as it hinders regional progress. There is, therefore, a need for the West African countries to begin to look inward in order to finance their economic projects and the welfare of the populace. As institutional quality is working just fine in the West African region, the government can even work better by instilling positive perceptions of the financial institutions amongst the citizens.

In terms of policy implication, the findings of this study suggest that it is vital for West African countries to begin to emphasise good governance practices as well as dissemination of positive institutional quality practices in most financial institutions by reducing or removing all bureaucratic bottlenecks, emphasising higher transparency and improving channels of credit allocation are very crucial so that migrants remittance received into these economies will have a better and

positive impact on the financial inclusivity of the West African economy.

Finally, it is necessary to still compare the impact of migrants' remittance in the different regions of Africa, as this will give a better picture of the value of remittance in advancing financial inclusion in these regions. This will also provide an alternative means for the various governments to find substantive avenues for financing their economic projects. As we see that institutional quality seems to be working just fine in the West African region, further research has to be carried out in order to ascertain this impact is also true in other regions of Africa. There is also the need to look at the impact of remittance and institutional quality on the aggregate financial inclusion index as we looked at the individual financial inclusion variables in this study.

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CONFLICT OF INTEREST

The author reports no conflict of interest to this submission.

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