

## **Effect of Diaspora Remittances on Small Medium Scale Enterprises (SMEs) in Nigeria**

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### **Abstract**

*Diaspora remittance flows to Nigeria have been increasing over time. However, the effect of this increase on the performance of SMEs has not been adequately studied. Many researchers have contended that if diaspora remittances are well invested, they could contribute immensely to bridging the SMEs financing gap of N617. 3 billion annually. Thus, this study uses time series data on Nigeria from the World Bank's World Indicators Database for a period to examine the effect of diaspora remittances on SMEs. The study employs robust ordinary least squares (ROLS) to handle issues of outliers. The results show that diaspora remittances have a positive and significant effect on SMEs' performance in all the examined models. Hence, due to their positive effect on the performance of SMEs in Nigeria, the government should formulate policies to leverage the increase of diaspora remittances, which would provide an alternative window for financing SMEs.*

**Keywords:** diaspora, remittances, small scale enterprise, robust ordinary least square

**JEL Classification:** C22, E51, F24, L29

### **1. Introduction**

Investment in the growth of small and medium-scale enterprises (SMEs) promotes economic growth and job creation in any economy because SMEs substitute imported goods for mass consumption, and contribute to exports and employment. At the global level, SMEs represent about 90% of the businesses and more than 50% of employment. SMEs have been a source of innovation with the global platform to showcase their entrepreneurship ideas. Studies by the IFC show that about 96% of Nigerian businesses are SMEs compared to 53% in the USA and 65% in Europe (Oyelaran-Oyeyinkan, 2020). However, according to the National Bureau of Statistics (2019), among the 41. 5 million businesses spread throughout Nigeria, SMEs are about 41. 4 million (99. 8%). These SMEs contributed about 48% of the GDP and 84% of employment in Nigeria in 2019 (PwC, 2020).

Despite these contributions to the Nigerian economy, the SMEs in Nigeria face financial constraints, mainly due to the reluctance of banks to lend to SMEs. On the other hand, SMEs are also reluctant to borrow from banks because of high costs and the bureaucracy involved in obtaining bank credit. Due to this reluctance, the formal financial system provides financial services to only 20% of the economically active population, with the remaining 80% being dependent on the informal

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financial sector (Azad, 2005). This limitation of financial access constrains the performance of SMEs and affects their capacity to contribute to the growth of the economy as anticipated (Ubi & Mba, 2019).

Due to SMEs' limited access to credit in Nigeria, SMEs have an unmet financing gap of N617.3 billion annually (PwC, 2020). However, diaspora remittances to Nigeria have been increasing, which could provide part of such credit, thereby enhancing the performance of SMEs. Yang (2006) posited that diaspora remittances may increase investment-related activities, leading to increased self-employed businesses and allowing for technologically oriented business activities. Issifu (2018) argued that if well managed the remittances could be a promising financial vehicle for African countries to finance some of the domestic investment and for the diaspora to contribute to the development of their countries.

Nigeria is the largest recipient of diaspora remittances in sub-Saharan Africa (SSA) (see appendix 1) and is the sixth-largest recipient of these remittances among low and middle-income countries (LMICs). This substantial amount of diaspora remittances to Nigeria could directly fill the huge SME financing gap if households that receive this foreign income use a good part of it for investment in profitable businesses. Hence, whether diaspora remittances can fill this gap and thereby spur economic growth is an empirical issue.

Thus, this study has examined the effect of diaspora remittances on SMEs' performance in Nigeria. The motivation for the study was that diaspora remittances could be a promising financial vehicle for Nigeria to bridge the huge unmet SMEs financing gap of N617.3 billion annually. Several studies have been undertaken on the effect of SMEs on economic growth and that of diaspora remittances on poverty reduction and economic growth. However, none of these studies has examined the role of diaspora remittances on SMEs' performance in Nigeria. Understanding the effect of diaspora remittances on SMEs' growth may contribute to solving the problem of limited formal credit due to the reluctance of banks to give credit to SMEs and the reluctance of SMEs to solicit credit from the banks. Given that more than 70% of the funds to SMEs are from the informal financial sector, leveraging diaspora remittances for SMEs development could provide a viable financial alternative for funding SMEs' activities, which would lead to employment generation and acceleration of economic growth in Nigeria.

The study has found diaspora remittances to have a positive and significant effect on SMEs' performance in Nigeria. Hence, the Nigerian government could enhance the prospects of SMEs' growth by formulating policies that encourage increased and continuous inflows of diaspora remittances.

## **2. Literature Review**

Finance may be viewed as an indispensable oil of the economic system. With this metaphor, the financial system serves as the container for transporting this oil throughout the economic system; hence, the inability to access finance obstructs

the oil from reaching various parts of the economic system where it is needed (Ackah & Vuvor, 2011). Yet, limited access to finance by SMEs seems to be a common phenomenon. Ackah and Vuvor (2011), for instance, examined the major problems faced by SMEs in obtaining credit in Ghana. The authors focused on 80 SMEs in the Accra and Tema metropolis. Based on convenience sampling, the study found a lack of meeting the collateral requirements and high-interest rates as major obstacles. Aryeetey et al. (1994) similarly found that 38% of the SMEs in Ghana faced credit as a major constraint. Using data on firms in six African countries, Bigsten et al. (2003) found that small firms had substantially worse chances of getting a loan from banks among those firms which applied for a loan. This result is consistent with Bigsten et al. (2000), which found that about 90% of small businesses were denied credit from the formal financial sector as a result of their inability to fulfil conditions for collateral security. Wang (2016) used an enterprise survey of 119 developing countries to investigate the biggest obstacles of SMEs as perceived by enterprise managers and found that the major constraint to SMEs' performance was the lack of access to finance caused by high costs of borrowing. The study's findings were similar to Bigsten et al. (2000) and Ackah and Vuvor (2011). Berg and Fuchs (2013) found that the percentage of SMEs lending in the total credit portfolios of banks in five SSA countries ranged from 5 to 20%. In addition, the study found that many SMEs turned to friends and relatives to finance their businesses, which was consistent with Aryeetey et al. (1994).

The argument that loans and contributions from families and friends are the main sources of funds, prompted Gbandi and Amisssah (2014) to focus on the source of SME financing for new businesses since banks were unwilling to make available funding for start-ups business owing to the risk involved. Gbandi and Amisssah (2014) maintained that credit availability contributes more than 25% to the growth of SMEs and concluded that more than 70% of the credit available to SMEs is from the informal sector, especially families and friends. This finding was consistent with Longenecker et al. (1994), which found that owners' savings, contributions from families, and friends of businesses constitute a major source of funds, especially in the early stages of SMEs in low-income countries. Osei et al (1993), similarly, reported that not less than 95% of SMEs depend on personal funds and loans from families and friends.

Mesnard (2004) observed that loans and contributions from family and friends in the diaspora are now a common source of funds for SMEs. He based his conclusion on the observation that diasporas are aware of the low economic condition of the people they left behind. As a result, they considered remittances to be an obligation to support the consumption and investment activities of the people in their countries of origin.

Issifu (2018) observed that if well-managed, diaspora remittances could be a promising financial vehicle for African countries to grow their SMEs and for diasporas to eventually satisfy their yearning to contribute to the development of

their countries. Based on five SSA countries, Issifu (2018) used the growth accounting methodology and showed that diaspora remittances accounted for a significant portion of the growth in domestic investment in the five selected SSA countries. The researcher concluded that the effect of diaspora remittances on investment is larger in the presence of good financial and political institutions. Urama et al (2017) investigated the household expenditure patterns in the rural and urban areas of Guatemala. The study used data from a survey in 2000 of 7,276 households and compared the share of investment and consumption in the budgets of households receiving remittances and those that did not receive remittances. Their finding was in line with the permanent income hypothesis, which suggests that households are likely to invest if they perceive their income to be transient or uncertain. In particular, households receiving remittances were found to utilize 58.1% of their remittance on education. The study concluded that households prefer to invest rather than spend their remittance earnings.

According to Ramirez and Sharma (2008), an unbiased understanding of the effect of diaspora remittances on an economy is conditional on the financial development dispensation of the countries/region in question. In an environment characterized by a well-structured financial framework, they are expected to create an appropriate incentive structure for investment from remittances proceeds (Ramirez & Sharma, 2008). Accordingly, several studies have studied the role of remittances on domestic investment, some through financial development in the country of origin (Ratha, 2003; Mundaca, 2009; Giuliano & Ruiz-Arranz, 2009; Bjuggren et al., 2010; Gheeraert et al., 2010; Aggarwal et al., 2011; Adams & Cuecuecha, 2013; Ojapinwa & Odekunle, 2013; Dash, 2020). These researchers observed that remittances can improve financial sector development in the country of origin and can help origin firms to mobilize funds for necessary investment (Mundaca, 2009; Giuliano & Ruiz-Arranz, 2009). Ratha (2003) in his study on Mexico, Egypt, and SSA found that remittances have financed the building of schools, clinics, and other infrastructure and those return migrants brought capital that helped finance investment projects. Aggarwal et al. (2011) studied the role of remittances on financial sector development of 99 developing countries from 1975 to 2003. The study examined whether remittances contribute to improving the total amount of credit intermediated by the bank in the country of origin. Based on the panel data method, the authors found that remittances increased the level of credit in the country of origin.

Using time-series data for the period 1977-2010 and based on a two-stage instrumental variable (2SIV), Ojapinwa and Odekunle (2013) found that diaspora remittances had a positive and significant relationship with financial systems by providing complementarities to finance investment in Nigeria, which was similar to the finding by Dash (2020) in the case of South Asia. Based on advanced panel estimation methods, Dash (2020) found that remittances were very important to domestic investment in the country of origin both in the short-run and in the long run. Adams and Cuecuecha (2013) found that remittances to Ghana reduced poverty and increased investment.

On the other hand, Bjuggren, Dzansi and Shukur (2010) in a study of 79 developing countries for the period 1995-2005 found that the marginal importance of diaspora remittances to the country of origin as a source of investment decreased with an improved institutional framework and a more developed credit market. Using the transaction cost approach, Gheeraert et al (2010) developed and estimated a theoretical model that explained the potential effect of remittances on the financial sector and home-country investment in developing countries. Based on a sample of 100 developing countries, using both cross-sectional data and panel-data methodologies, the researchers found that various transaction costs (namely cost of bank deposits and cost of external finance) had a contradicting effect on the marginal effect of diaspora remittances on domestic investment.

Other researchers argue that emigrants in the diaspora contribute to the business of people left behind because they are aware they face credit constraints in financing SMEs (Stark, 1991). He further observed that the emigrants in the diaspora also considered it an obligation to support the business of the people regardless of whether the expected benefit is positive or negative. According to Todaro & Smith (2009), migration is primarily an economic phenomenon, which for individual migrants can be a rational decision on consideration of income maximization and what they perceive to be their expected income streams in developed and less developed countries. Massey et al. (1987) observed that migrants' savings are initially channelled toward the consumption needs of the family left behind, and they later allocate their savings toward investment goals, which include the purchase of land, and the acquisition of a home, or starting small businesses.

Accordingly, remittances from the diaspora can be a great source of funds for households that are interested in small businesses in the country of origin. Apart from being a source of finance for people with low incomes in the countries of origin, remittances have served as smart money that comes with ideas, kin, and friendship networks that shape and sustain internal as well as international migration (Dustmann & Kirkcham, 2002). Diaspora remittances may come with strong networks that lead to the proposition of business ideas and initiatives to recipients in countries of origin. Dustman and Kirkcham (2002) found that the savings of returning migrants may be a major source of start-up funds for SMEs. The study confirmed that not less than 50% of their sample of Turkish emigrants to Germany started a small business within 4 years after returning to Turkey. In Egypt, people who newly came back from abroad in the late 1980s set up several enterprises in greater Cairo (McCormick & Wahba, 2002). A study of self-employed workers and small businesses in urban Mexico confirmed that remittances account for more than 20% of the capital invested in micro-enterprises in urban Mexico (Woodruff & Zenteno, 2007).

The review shows that a considerable number of scholars have investigated the role of finance on the development of SMEs as well as the role of remittances on domestic investment. However, not many studies have focused on the role of diaspora remittances on SMEs despite their increasing flows in developing

countries. Nigeria receives a relatively large amount of diaspora remittances in SSA and the major constraint to SMEs growth in Nigeria is lack of credit. Therefore, this study sought to examine the effect of diaspora remittances on SMEs in Nigeria.

### 3. Methodology

#### 3.1 Model Specification and Data

To examine the effect of diaspora remittances on SMEs, this study applied robust dynamic ordinary least squares. This approach was employed because the commonly employed estimator - ordinary least squares (OLS) assumes that all the generating processes fit well as summary measures. But we have to ask what would happen if the generating process were not normal, or if the data had been gotten via a model that is in a neighbourhood of the assumed model. This is the major assumption in robust estimation that eventually provided a set of robust analyses and a robust goodness-of-fit model. The application of this method requires various assumptions. The OLS estimation gives poor results when the underlying assumptions are violated. As well, outliers in the data can cause violations of the assumptions of the model and result in a negative impact on the estimated results (Begashaw & Yohannes, 2020).

This study employed OLS and the three versions of the robust least squares: M-estimation (Huber, 1973), S-estimation (Rousseeuw & Yohai, 1984), and MM-estimation (Yohai, 1987) to accommodate the sensitivity of the outliers to achieve higher statistical efficiency. Since this study is interested in understanding the effect of diaspora remittances on SMEs performance, based on the hypothesis that increasing diaspora remittances will have a significant effect on SMEs performance, the parametric diaspora remittances – SMEs performance regression model is as follows:

$$SMEs = A + \beta X + \phi rem. \dots \dots \dots 1$$

where *SMEs* are a measure of SMEs' performance; *X* represents the set of explanatory variables (other than that controls for other factors associated with diaspora remittances); and *A* is the constant parameter.

Equation (1) is derived from the widely accepted position in the literature that, finance is fundamental to SMEs' performance. While several studies have established the importance of finances on SMEs' performance, little has been said about the role of diaspora remittances on SMEs' performance. This study is interested in examining the effect of diaspora remittances on SMEs' performance. The econometric model of the study is as follows:

$$SMEs_{g_t} = \beta_0 + \alpha_1 Growth_t + \alpha_2 Int_t + \alpha_3 Credit_t + \alpha_4 Rem_t + \eta_t \dots 2$$

Where the response variable is SMEs performance and the regressors are gross domestic product growth (Growth), domestic interest rate (Int), domestic credit to the private sector by banks (Credit), and Remittances (Rem) and  $\eta_t$  is the stochastic term. Subscript *t* represents the period. Table 1 provides the definition and sources of variables employed and sources of the data.

GDP growth (annual%) is expected to have a positive effect on SMEs. The real lending rate is expected to be negatively related to SMEs' performance. There is no contention in the literature on the importance of the financial system on SMEs' performance. King and Levine (1993) argued that finance played a critical role in igniting industrialization in England by facilitating the mobilization of capital for "immense works". Having access to financial service delivery channels has the implications of cutting down on the cost associated with financial transactions by SMEs (Ubi & Mba 2019). Financial development increases SME investment by providing necessary credit for financing investment activities and the coefficient is expected to be positive (Bontempi, Golinelli, & Parigi, 2010). The coefficient of diaspora remittances is expected to be positive since diaspora remittances are expected to fill a gap in the financing of SMEs, thereby enhancing business/enterprise development (Aggarwal et al., 2011). This study recognizes that diaspora remittances are likely to be underestimated because part of it is through informal channels.

### 3.2 Variables and Sources of Data.

Table 1 summarizes the description of variable and the sources of data for each variable.

**Table 1: Variables, Definitions of the Variables, and Sources**

Variables	Definitions	Sources
Growth	GDP per capita growth (annual %)	World Bank World Development Indicators database
Int	Deposit interest rate (%)	World Bank World Development Indicators database
Credit	Domestic credit to the private sector by banks (% of GDP)	World Bank World Development Indicators database
SMEs	Self-employed, total (% of total employment)	World Bank World Development Indicators database
Rem	Diaspora remittances received (% of GDP)	World Bank World Development Indicators database

Source: Author's

## 4. Results and Discussion

### 4.1 Summary Statistics

Table 2 presents the descriptive statistics of both the explained and the explanatory variables. The table shows that the mean log of remittance is less than that of SMEs. The mean value of diaspora remittance is also higher than that of economic growth, interest rate, and credit to the private sector. The standard deviation of diaspora remittances is lower than that of SMEs, economic growth, interest rate, and credit to the private sector. These statistics imply that diaspora remittances may likely be less volatile than all these variables. That is to say, diaspora remittances are not as high as other variables employed on average but are less volatile. The altruistic role of diaspora remittances may be responsible for the stability of remittances compared to other capital flows (FDI), which are more procyclical. The Jac probability values of all the variables are significant, which implies that variables are normally distributed.

Table 2: Descriptive Statistics

	SMES	REM	GROWTH	INTR	CREDIT
Mean	4.691015	2.605388	3.635044	11.57463	9.818767
Median	4.004040	1.625253	4.230061	10.53250	8.168808
Maximum	11.38343	8.311897	15.32916	23.24167	22.28930
Minimum	-3.799597	0.004883	-10.92409	5.692500	4.957522
Std. Dev.	3.045879	2.605845	4.887879	3.863372	4.371440
Skewness	-0.061056	0.595663	-0.543131	0.922331	1.171224
Kurtosis	3.548627	1.938162	4.316344	3.799475	3.663020
Jarque-Bera	0.487017	3.926248	4.490456	6.231324	9.136927
Probability	0.783873	0.140419	0.105903	0.044349	0.010374
<b>Sum</b>	<b>173.5675</b>	<b>96.39934</b>	<b>134.4966</b>	<b>428.2614</b>	<b>363.2944</b>
<b>Sum Sq. Dev.</b>	<b>333.9856</b>	<b>244.4554</b>	<b>860.0889</b>	<b>537.3233</b>	<b>687.9416</b>
Observations	39	39	39	39	39

Source: Author's calculation

#### 4.2 Parameter Stability Tests

Several stability tests were carried out to validate the potency of the data employed in this study. The study adopted recursive residuals (CUSUM) (Bahmani-Oskooee and Shin, 2002) and the cumulative sum of the residuals to test for the effect of structural changes. Parameters instability most often arise due to regime changes, structural changes and institutional changes in different policy regimes. While the CUSUM statistic is particularly useful for identifying systematic disequilibrium in the regression model, the CUSUMSQ statistic is significant in situations where the regression coefficient leads to sudden inconsistency. To unravel the stability of short-run and long-run dynamics of diaspora remittance's function, CUSUM residuals CUSUM of squares must stay within the 5% critical bound. It can be observed that the recursive residuals CUSUM of squares plots move all through within the 5% critical lines and thus testifies that the model employed is stable (Figures 1a and b).

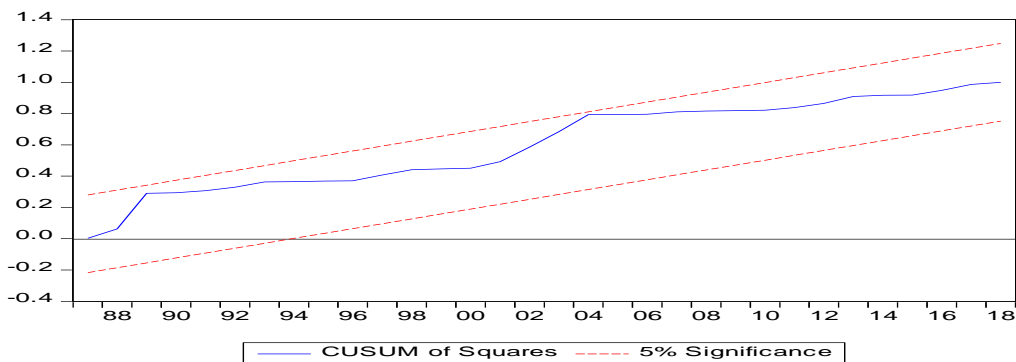


Figure 1a: Stability Tests using CUSUM and CUSUMSQ of Residual Tests



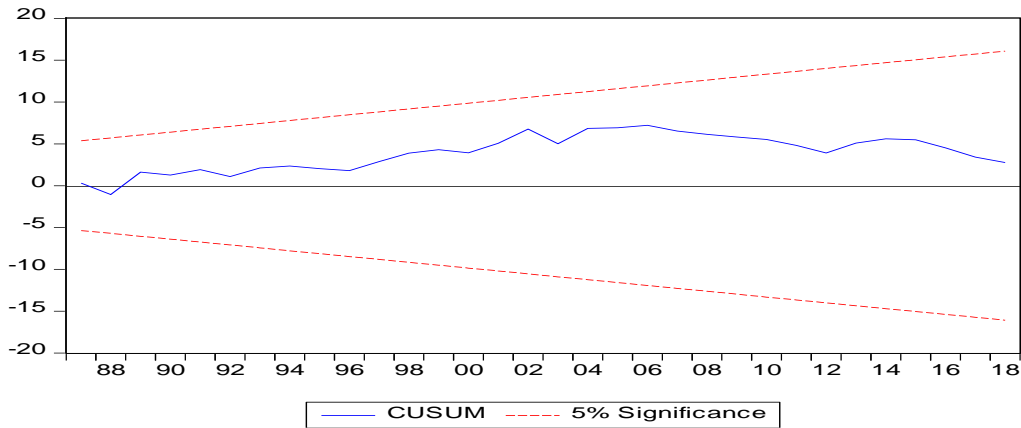


Figure 1b: Stability Tests using CUSUM of Residual Tests

The result from the cumulative sum of squares is also within the 5% significant lines. This suggests that the residual variance is somewhat stable, thereby corroborating the other stability results. The two tests suggest that the model is fairly well-specified and is reliable for robust policy analysis.

4.3 Unit Root Test (Non-Stationarity Test)

Table 3 shows the results of the unit root test using Phillip Perron's value (5% level of significance). This test is based on the argument that the unit root test is very appropriate for stationarity tests in a situation where the null hypothesis is usually that the series is stable.

Table 3: Summary of Unit Root Test (Phillip Perron Statistics)

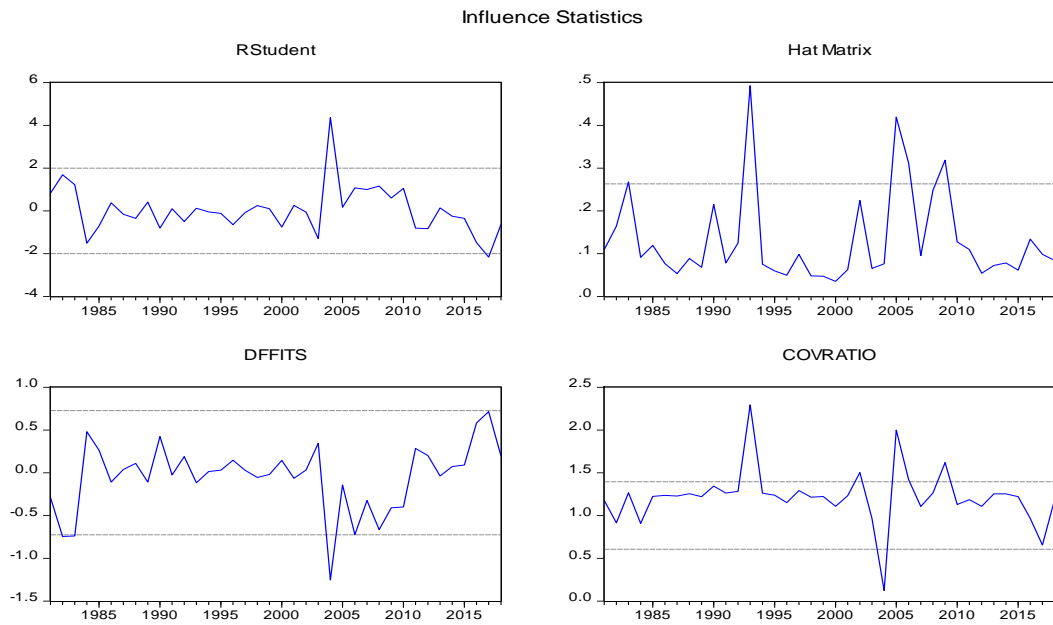
Variables	T Statistics	Order of Integration	Phillip Perron Probability value (5% level of sig.)
SME	-7.231380	I (1)	0.0000
REM	-6.143110	I (1)	0.0000
GROWTH	-9.478102	I (1)	0.0000
INTR	-3.607072	I (1)	0.0112
CREDIT	-5.682139	I (1)	0.0000

Source: Author's computation using data

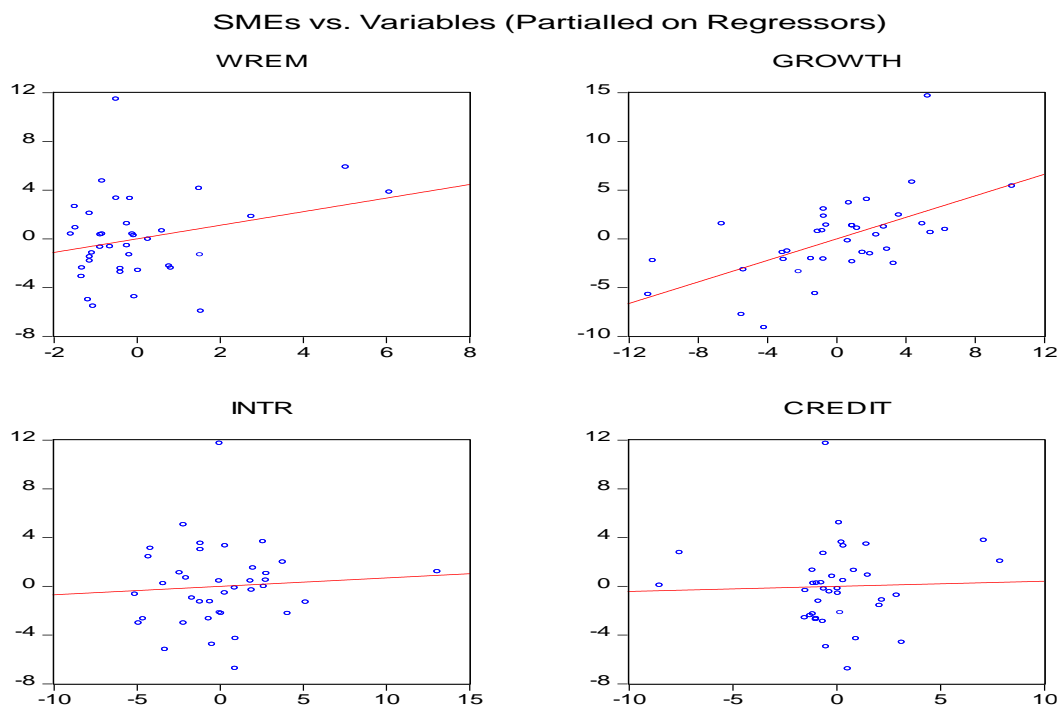
Using Philip Peron, the unit root tests revealed that all the variables are integrated of order 1 at a 5% level of significance.

4.3 Influential Statistics

Figure 2 displays the results for the influential statistics to determine the presence of outliers in the model. The spikes in the graphs in the three influence measures-COVRATIO and Hat Matrix point from 1992 to 1993 as an outlier period while DFFITS, COVRATIO, R student, and Hat Matrix point to the year 2005 as an outlier. These findings are confirmed by the leverage plot view in Figure 3.



**Figure 2: Influential Statistics**



**Figure 3: Leverage Plots**

The graphs support the view that the years 1992 to 1993 and the year 2005 have high leverage, in all the variables employed in this study. Using the mouse pointer to hover over the outlier confirms the identity of the outlier observation. The presence of outliers and the adoption of OLS by the earlier studies might be connected with the controversial results in the literature.

#### 4.4 Empirical Results and Discussions

This study presents both the empirical results of OLS and ROLS but mainly discusses the ROLS- MM result, summarized in Table 4. While the coefficient of determination ( $R^2$  for OLS) adjusted downward, (0. 67% - 0. 62%), that of ROLS represented by *Rw*-squared and Adjust *Rw*-squared recorded no adjustment. The results for the coefficient of determination for all the models explain a very high proportion of variation in the dependent variable by the set of explanatory variables employed. The F-Statistics/*Rn*-squared statistics with its *p*-values of 0. 0000 indicate a strong rejection of the null hypothesis that all non-intercept coefficients are equal to zero. This is corroborated by the F-value of 20. 8 and the corresponding *p*-value of 0. 0000 which is highly significant and passes the significant test at the 1% level. Thus, the relationship between SME performance and the regressors employed is linear and significant.

Table 4: Diaspora Remittances and SMEs Performance

Variable	OLS	ROLS-M	ROLS-S	ROLS-MM
<b>C</b>	1.0608 (1.4919) <i>0.2154</i>	0.4709 (2.3878) <i>0.8436</i>	1.7178 (2.5389) <i>0.4987</i>	0.5199 (2.3660) <i>0.8261</i>
<b>Growth</b>	0.3973* (0.0708) <i>0.0000</i>	0.4234* (0.1175) <i>0.0003</i>	0.3468* (0.1295) <i>0.0005</i>	0.4374* (0.1164) <i>0.0002</i>
<b>Intr</b>	0.0813 (0.0925) <i>0.3855</i>	0.0590 (0.1491) <i>0.6919</i>	-0.0420 (0.1585) <i>0.7909</i>	-0.0568 (0.1477) <i>0.7002</i>
<b>Credit</b>	0.3360 (0.3497) <i>0.3446</i>	0.1150 (0.1807) <i>0.5242</i>	0.1814 (0.1921) <i>0.3451</i>	0.1068 (0.1790) <i>0.5506</i>
<b>Diaspora Remittances</b>	0.5588* (0.1851) <i>0.0050</i>	0.5630*** (0.2995) <i>0.0601</i>	0.8153** (0.3184) <i>0.0105</i>	0.5402*** (0.2967) <i>0.0687</i>
<b>R - Squared</b>	0.6647	0.4059	0.0519	0.4309
<b>Adjusted R -squared</b>	0.6227	0.3360	-0.0595	0.3639
<b>Rw-squared</b>		0.6251		0.6053
<b>Adjust Rw-squared</b>		0.6251		0.6053
<b>F Statistics/<i>Rn</i>-squared statistic</b>	15.86	38.61	45.59	39.06
<b>Prob (F-Stat)/ Prob (Rn-squared stat.)</b>	0.0000	0.0000	0.0000	0.0000
<b>S.E of regression</b>	1.8706	3.6314	4.1127	3.6174
<b>Total Observation</b>	<b>39</b>	<b>39</b>	<b>39</b>	<b>39</b>

Notes: \*denote significant. Std. Error-values are in parentheses and probability values are italic.

As expected, the results show a significant and positive relationship between economic growth and SME performance in all the models. Economic growth was found to be significant at the 1% level. The OLS results indicate that a unit increase in economic growth will lead to a 39% increase in the growth rate of SMEs, the ROLS-M shows 0.42%, the ROLS-S results show 0.35% and the ROLS-MM result shows 0.43%. The results from the ROLS-MM can be observed to be the most responsive (0.43%). On average, the economic growth rate (Gr) over the years implies higher SME investment in Nigeria. This supports the World Bank and the Central Bank of Nigeria's (CBN) argument that economic growth is important to small and medium enterprises (SMEs) in the area of employment opportunities.

As for interest rate, the relationship between the cost of loans and SMEs performance is negative in ROLS-S and MM models and positive in OLS and ROLS-M models. This implies that interest rate is not influencing SMEs' performance on average. The insignificant relationship might not be unconnected with the high cost of accessing financial resources in the formal financial system in Nigeria. This result however is inconsistent with Kisseih (2017) and Amonoo et al. (2003) who found a significant relationship between the interest rate, bank loans, and SMEs performance. According to Amonoo et al. (2003), as the interest rate increases the demand for products is likely to decrease.

Commercial credit to the private sector is positively signed but not significant in all the models. This unexpected result might also be based on the argument that the formal financial system provides financial services to only 20% of the economically active population, with the remaining 80% being served by the informal financial sector. This finding reinforces the observation that the cost of accessing financial resources in the formal financial system in Nigeria is high. This result is in line with Bigsten et al. (2003), who found that small firms had substantially worse chances of getting a loan from the banks. It is also similar to Berg and Fuchs's (2013) finding that the proportion of bank loans to SMEs is negligible in five banks in SSA. The finding is in line with the report of Gbandi and Amissah (2014), which concluded that bank loans to SMEs are fundamental to the success of SMEs in Nigeria, yet more than 70% of the credit available to SMEs is not from the formal financial system.

The remittance variable has a positive and significant effect on SME performance in all the models. The results from OLS show that a unit increase in remittances is expected to generate about a 5% increase in SME performance. ROLS-M indicates that a unit increase in remittances is expected to generate about 0.56 increases in SME performance. A unit increase in the share of remittances suggests around a 0.82%-point increase in the ROLS-S and 0.54% in the ROLS-MM models. On average, the result indicates that increasing remittances to Nigeria are a direct predictor of SMEs' growth. The ROLS models are found to be weakly significant compared to the OLS model. The possible reason for this weak relationship could be a result of the very large percentage of remittances that goes to the informal sector, which cannot be captured through the formal sector but still serve as credit

to the informal sector. This result is consistent with Osei et al. (1993) and Vaaler (2011), who argued that remittances have a positive effect on the venture investment environment in the home/recipient country, including the possible effects of linking remittances to new ventures.

Since one of the largest constraints to SMEs' growth in Nigeria is the lack of credit and given that SMEs have an unmet financing need of N617.3 billion annually in Nigeria (Price Waterhouse Cooper (PwC), 2020 report), a substantial amount of remittances to Nigeria can provide part of such credit, thereby supporting the growth of SMEs. This implies that remittances may increase investment-related activities, leading to self-employment and launching capital-intensive entrepreneurial activities. The result corresponds with Yang's (2006) and Issifu's (2018) argument that well-managed remittances could be a promising financial vehicle for African countries to promote their domestic investment. Therefore, the government should keep on attracting remittances in Nigeria to support SME financing.

### **5. Conclusion and Policy Implications**

This study explored the possibility of linking diaspora remittances and SME development in Nigeria, thereby enhancing their productive uses. The motivation for the study emanated from the observation that banks are reluctant to lend to SMEs. Hence, the study proposed that if the increasing remittances to Nigeria are well-managed, they could foster SMEs' growth. This study assumed that migrants in the diaspora understand the low economic status of the people they left behind and that they are interested in supporting their initiatives to move out of poverty. In addition, it was assumed that households that receive diaspora remittances will invest them in profitable businesses.

This study invoked the robust dynamic ordinary least square because the commonly employed estimator – the ordinary least squares – was sensitive to outliers, which could result in inconsistency in the expected results. The study found the relationship between remittances and SMEs development to be significant, which implied that diaspora remittances are an important driver of SMEs' performance in Nigeria and would lead to increasing the rate of SMEs performance in Nigeria, thereby fostering SMEs' growth and development primarily by generating financial capital.

The study recommends that the Nigerian government may have to introduce financial instruments or strategies for using remittances for specific developments of SMEs. Leveraging the diaspora remittances for SME development will provide a viable option to accelerate economic growth in Nigeria and encourage productive, innovative and employment generation. A pragmatic financial strategic plan to finance SMEs promise to facilitate the engagement of Nigerian youths. Therefore, encouraging remittance inflows is pertinent for enhancing the prospects of SMEs' development in Nigeria.

## References

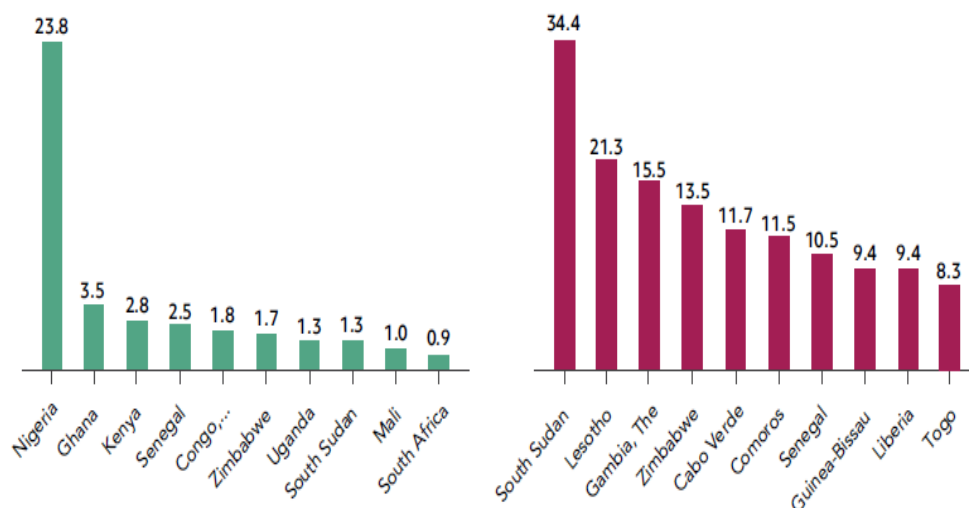
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### Appendix



**Figure A1: Top Remittance Recipients in Sub-Saharan Africa in 2019**  
Source: Migration and Development Brief 32, April 2020