ADFJ ISSN 2522 – 3186.

African Development Finance Journal

VOLUME 7 (V)

Foreign Remittances Inflows, Official Development Assistance and Financial Markets Development in Nigeria

Joel OBAYAGBONA (Ph.D)

Osasogie EDO-OSAGIE

Date Received: July, 06, 2024

Date Published: August, 16,2024

Foreign Remittances Inflows, Official Development Assistance and Financial Markets Development in Nigeria

By: Joel OBAYAGBONA (Ph.D)[1] and Osasogie EDO-OSAGIE[2]

Abstract

The study empirically examined the role of foreign remittances inflows and official development assistance in financial market development in Nigeria for the period 1990 to 2023. The specific objectives of the study were to find out whether foreign remittances inflows (FRMI), official development assistance inflows (ODAI), financial openness (FOPN) and exchange rate (EXRT) significantly affect financial market development, measured by ratio of money supply to GDP and credit to private sector to GDP. To this end, the fully modified least square technique was employed for the analysis of data, and the results obtained indicate that foreign remittances inflows (FRMI) has significant positive impact on financial market development under the two models; while official development assistance inflows (ODAI) has a significant negative relationship with financial market development in the two models also. On the other hand, exchange rate (EXRT) has significant positive impact on financial market development under the M3/GDP model, but was not significant in the CPS/GDP model. Financial openness (FOPN) however had a weak inverse relationship with financial market development in Nigeria. The study recommends among others that government should endeavor to sustain/or enhance current policy on foreign remittances so that it will continue to have the needed positive impact on the financial market development. For instance, they should deliberately reduce the current high cost often associated with remittances inflow into the country, and by so doing large portion of remittances received into the country can then be utilized for innovative financial products to constantly deepen and broaden the Nigerian financial market.

Keywords: *Foreign Remittances, Official Development Assistance, Financial Market Development and Econometric Methods*

Introduction

Foreign remittance inflows (FRM) are money transferred/repatriated to home country by citizens and businesses located abroad as well as government to either assist family members, payment for trade or for investment purposes. On the other hand, official development assistance (ODA) represents government aids received from other countries specifically targeted at promoting economic development and welfare of developing countries (OECD, 2023a). In the last three decades, the role of FRM and ODA in promoting financial market development has been on the front burner of several financial issues across the globe, especially as they are seen to be reliable alternative sources of supplementing domestic savings, improving banks deposits and asset base, promoting stock market activities and economic development in developing

---

[1]Department of Finance, Faculty of Management Sciences, University of Benin, Benin City. P.M.B. 1154, Edo State. Nigeria, Email: joel.obayagbona@uniben.edu, ORCID: 0000-0003-0037-6182

[2]Department of Finance, Faculty of Management Sciences, University of Benin, Benin City. P.M.B. 1154, Edo State. Nigeria, Email: victoria.edo-osagie@uniben.edu

countries (Donaubauer, Meyer & Nunnenkamp, 2016; Adamu, Zasha & Umar, 2022). Although remittances and official development assistance inflows has been on the increase in Nigeria over the past three decades but their impact on the financial system as well as the economy in general have not been felt, and this call for concern among academia and researchers.

For instance, Nairametrics (2024) and Migrant Data Portal (2024), recorded that Nigeria received about $282.61 million as total direct foreign exchange (FX) remittances in the first quarter (Q1) of 2024, as against $2.877 billion foreign portfolio investment inflows in 2023, as well as those of foreign direct investment for 2022 which stood at $-0.19B, representing a 105.64% decline from 2021 figure of $3.31billion (The Nigerian Economic Summit Group, 2024; Vanguard News, 2024). With these figures, Nigeria remains Africa's second largest destination for remittances inflows of about US$20.5 billion, and is behind Egypt with a total sum of US$24.2 billion: and the five main sources of these remittances inflows are the U.S, U.K, Cameroon, Italy, and Niger (Onyango, 2024). Despite these huge amount of REMI and ODAI inflows into the Nigerian economy, one cannot say with any minimal conclusion the extent to which these inflows have impacted financial market development, and by extension economic development in Nigeria. This is so because, till date, the financial market is still underdeveloped, faced with inadequate funds to support productive investment, strengthens banks assets base, and improve the general well-being of the citizens. Hence, this study is carried out in order to determine the extent to which FRMI and ODAI have affect the financial market development in Nigeria overtime.

Moreover, in the empirical literature, a lot of studies (Donaubauer, Meyer & Nunnenkamp, 2016; Sghaier, 2021; Adamu, Zasha & Umar, 2022; Ono and Sekiyama (2024) have been conducted on how foreign remittances and official development assistance affected economic growth, per capita income or FDI; but to the best of the researcher's knowledge, apart from the studies by Omobolanle, Sheriffdeen and Adesoye (2019); Hussaini, Musa and Muhammad (2021); Mustapha-Jaji and Adesina-Uthman (2023); Adewumi et. al (2024); Izuka and Chetachukwu (2019), no other studies have been carried on the effect of FRMI and ODAI inflows on financial market development in Nigeria. These scanty studies in this area in Nigeria created a gap in the empirical literature that this study seeks to fill.

In terms of method of analysis, this study employed the fully modified least square (FMOLS) technique, which to the best of the researcher's ability, no other previous studies used. The uniqueness of this method

over other methods is predicated on its ability to take care of small samples and endogeneity biases such that the specific variables involved are of the same order of integration I(1)] (Philips, 1993).

More specifically therefore, the specific objectives of the study are to:

(i)   Examine the relationship between foreign remittances inflows and financial market development in Nigeria.

(ii)   Investigate the impact of official development assistance on financial market development in Nigeria.

The rest of the paper are in the following order; section two is the literature review, section three is on methodology, section four addresses data analysis and interpretation of results and while conclusion and recommendations are addressed in section five.

Theoretical Review

The Variant Flow of Capital Movement

The theory was advocated by Sachs, Tornell and Velasco (1996). According to them, countries majorly relying on funds flowing from abroad to stabilize economic activities should be able to attract such amount that will in all respect higher than the current domestic funds/offset the domestic price movements; this has been the basis for the sustanance of the international capital movements till date. The idea of the theory in finance is that, movement of funds is usually common from a country that has it in abundance to where it is scarce in an attempt for higher return on investment. Such reallocation of capital often boost investment and attract a lot of social benefits in the recipient country (Summers, 2000). This theory is predicated on the fact that the employment of more machineries reduces overall returns on capital employed, even though new structures are built, and this is not always true in practical reality. Hence, Lucas (1990) argues that in a country that has enough skilled workers, and well established infrastructures is more positioned to having newer productive investments; hence, foreign funds hardly leave the rich countries to poor countries. Empirical evidence have suggested that investors often seeks invest their funds in countries with favourable investment environments (Mody & Srinivasan, 1998), and this account for why today overall inflow of capital to low-income countries are dwindling. However, despite these contrary argument, other form of capital inflows such as foreign remittances inflows and official development assistance are found to have a

significant impact on domestic financial market and, are even currently stronger than those of foreign portfolio investment inflows.

Financial Market Development

The Bank for International Settlements (2020,p.1) sees "financial markets development as a critical part of monetary policy transmission for fostering financial stability, which also aim at improving the financial system ability to raise domestic savings and foreign capital in an efficient risk-sharing pattern for funding investment and consumption". Thus, a well-developed financial market guarantee transparency and ensures efficient assets pricing, thereby attracting various investor to the domestic market. According to World Bank Group (2023, p.1), "financial sector is a combination of various institutions, instruments, markets, as well as the legal and regulatory framework which allow movement of funds among economic agents by way of credits, such that these instruments ease enforcement of information as well as transactions costs in a functioning financial sector.

Therefore, in the context of this study, we defined financial development as a steady increases in the size of capital flows in financial institutions, capital markets as well as foreign direct investment (FDI) such that the market is well position to efficiently deliver its mandate of financial services, pooling of resources for investment purposes, as well as efficient risk-sharing.

However, appropriate measurement of financial market development is critical for its efficient evaluation but in practice, it is very difficult to stick to a single measurement because of the existence of numerous measures for it. For instance, while some empirical studies like Omobolanle, Sheriffdeen and Adesoye (2019), Mustapha-Jaji and Adesina-Uthman (2023), and Ikpesu (2023) employed ratio of financial markets' assets to GDP, ratio of liquid liabilities to GDP, and ratio of deposits to GDP. The World Bank's Global Financial Development Database (2022) developed a comprehensive yet relatively simple conceptual for measuring financial development globally. These include but not limited to private sector credit to GDP, financial institutions' asset to GDP, M2 to GDP, stock market capitalization and outstanding domestic private debt securities to GDP, private debt securities to GDP, public debt securities to GDP and stock market capitalization to GDP among others. Hence, for the purpose of this study, we used two of these well-established framework for measuring financial sector development such: (i) as ratio of broad money supply

to gross domestic product (M2/GDP) and (ii) the ratio of credit to private sector to gross domestic product (CPS/GDP).

Foreign Remittances Inflows (FRMI) and Financial Market Development

Foreign remittance inflow (FRMI) is a transfer of funds from other countries to the home country and families of the individual residing over there. In many countries, remittance constitutes a significant portion of a nation's economic growth as measured by gross domestic product (Chen, 2021). The World Bank (2018) defined foreign remittances as "funds transferred from migrants working abroad to their families in their country of origin, and it is often regarded as the second most steady source of external funding to several emerging and developing countries, besides foreign direct investment (FDI). This definition was also corroborated by Yoshino, Taghizadeh-Hesary and Otsuka (2020) and Omon (2021). On their part, Omobolanle, Sheriffdeen and Adesoye (2019) see foreign remittances as money and goods that a migrant family living in the home country receives from its family member living abroad over a given period of time. According to them, foreign remittances is currently one of the major sources of financial inflow for a lot of developing countries which provide them enough funds to deepens their financial system and by extension economic development.

The link between foreign remittances inflows and financial market development is predicated on its ability to provide steady source of funds for investment that can lead to sustainable economic development, increase family income and in turn reduce poverty level (Adams, 2005; Meyer and Shera, 2017). Foreign remittances are also used by recipients to finance micro, small and medium scale businesses, thereby substituting for limited and/or unavailable funds in the domestic economy due to high cost of borrowing occasioned by the underdeveloped nature of the financial system (Giuliano & Ruiz-Arranz, 2009). However, in an already functional financial system, inflows of foreign remittances can provide alternative source of funds to effectively strengthen and develop the domestic financial market for better performance and sustainable development (Bettin, Lucchetti & Zazzaro, 2011; Sghaier, 2021). This was also in line with the earlier study of Aggarwal, Demirgüç-Kunt, and Martinez Peria (2005) that foreign remittances significantly and positively affect bank deposits and credits to the private sector. Another benefit of remittances inflows is that they often come in to the recipient country through two mediums that eventually forms the component of the financial system, which are the banking system and the capital market. By virtue of the presence of these funds, it has the capacity to strengthen the assets base of banks, increasing

the volume of investment activities and attracts more financial assets innovations. Thus, with these positive development in the domestic financial market, more migrants would be keen and be very willing to repatriate more funds back home, knowing fully well of the existence of a cutting edge financial products innovations in the recipient country capable of enhancing their overall returns on investment.

Official Development Assistance Inflows (ODA) and Financial Market Development

Official Development Assistance is also known as 'global aid', and it represents transfer of money and resources from well-developed countries to developing countries, low income/middle income countries to enable them effectively combat the surge of poverty as well as support economic development. The OECD (2023a) defined official development assistance inflows (ODAI) as government aid used for assisting developing countries to promote their welfare as well as economic development. It all started in form of foreign aid in 1969 as "gold standard" and till date it continues to be a veritable means of funding development globally.

Going by the definition of Levine (1997) on the functions of the financial system in an economy, he identified five (5) primary functions of the financial systems, which includes diversification and mitigation of risk, allocation of resources and information in an efficient manner, monitoring managers and enhancing corporate control, mobilizing and pooling savings, and facilitating the exchange of goods and services. Therefore, in this study, we can emphatically state that, the relationship that exist between financial sector development and official development assistance (ODA), including other forms of aids is that, inflows of ODA are effectively maximized by the financial sector especially where private sector inflows are dwindling, thereby preventing internal financial crisis occasioned by shortage of funds (Kovsted, 2000). Financial marker development also ensures proper regulation of the sector as well strengthens the level of liberalization of the financial system because ODA requires accountability in terms of utilization (Park, 2015). Moreover, inflows of foreign remittances and other forms of aids help to subsidized financial intermediaries (banking sector) by reducing the level of information asymmetry, transaction costs, and other financial costs. Since low savings among economic agents weakens economic growth, therefore, financial sector development can help fill this gap through the ODA it received (Park, 2015). This was also corroborated by the study of Nkusu and Sayek (2004) that "ODA can generate positive growth effects indirectly especially with a well-developed financial market, hence, they concluded that development of

the domestic financial market enhances effectively enhances official development assistance inflows (ODA)".

Exchange Rate and Financial Market Development

According to Thasinul, Rajarshi, Kanon and Sharif (2021), foreign exchange rate affect the development of capital market in various aspects such as; (i) weak local currency leading to high portfolio risk with respect to increasing rate of exchange in the short run, with a corresponding decrease in stock prices; (ii) in the long-run, currency depreciation stimulates the flow of FPI which in turn increases stock price (The Wall Street Journal, 1978); (iii) weak local currency enables domestic shares encouraging to buy by investors, thereby increasing export earnings of the domestic economy, as well as increases in the intrinsic value; (iv) fluctuations in rate of exchange also affect share price of multinational firms; and also, a weak local currency do have detrimental effect on inflation, resulting in uncertainty about the overall performance of the firm (Thasinul, Rajarshi, Kanon & Sharif, 2021).

Financial Openness and Financial Market Development

Financial openness represents the willingness of a country to adopt and utilize friendly policies that aim at liberalizing its financial system for international trade by eradicating any identified impediment and soft pender on control and regulations by state on ownership of the means of production as well as motivating private sector participation (Obayagbona & Igbinovia, 2021). The link that exist between financial openness and financial market development could be positive because of its ability to correctly predict long term economic growth, capital accumulation and productive capacity (King & Levine, 1993). It also has the capacity of broadening and increasing markets liquidity which in turn increase profit incentives, reduces transaction and information costs, among others (Levine & Zervos, 1998).

Stylized Facts about Foreign Remittances Inflows (FRMI) and Official Development Assistance Inflows (ODAI) in Nigeria 1990-2023

In Table 1, Figure 1 and 2, we established a stylized fact as well as a trend analysis of foreign remittances (REMI) and official development assistance inflows (ODAI) to Nigeria over the past 34 years (1990 to 2023). In 1990, total amount of REMI inflows stood at US$0.01852206 billion, while those of ODAI was US$255080001.8 billion. In 1999 REMI increased to US$2.19976986 billion; this increase was sustained until 2005 where there was a sharp increase to around US$8.33382866 billion which was the highest till

2023. Remarkably, REMI continue to grow since 2005 and did not fall below US$3.65720631 billion in 2014, until it begins to pick in 2023 with about US$5.65026328 billion.

On the other hand, official development assistance inflows (ODAI) to Nigeria stood at US$255080001.8 billion in 1990 and has been on the lowest ebb till 2004, and thereafter in 2005 and 2006 sharp increases were experienced, with 2006 alone having the highest ODAI of about US$114, 319,599.61 billion in the entire period (1990 to 2023). However, there was a sharp decline to about US$16, 432,099.61 billion; although ODAI continue to grow but at a very slow pace with the highest figure in 2023 of about US$44,432,597.66 billion.

Table 1: Inflows of FRM and ODA in Nigeria (1990 to 2023)

YEAR	FRMI (B of Dollars)	ODAI FRMI (B of Dollars)
1990	0.01852206	255080001.8
1991	0.11010953	258320007.3
1992	0.1084333	258820007.3
1993	1.39834154	288420013.4
1994	0.68392457	189660003.7
1995	0.17743642	210960006.7
1996	0.15968716	188750000
1997	0.2916292	199839996.3
1998	0.20536335	203339996.3
1999	2.19976986	151990005.5
2000	2.01213946	173800003.1
2001	1.58598267	167820007.3
2002	1.27186424	299549987.8
2003	1.01473305	309850006.1
2004	1.67402423	578770019.5
2005	8.33382866	6401790039
2006	7.10077133	11431959961
2007	6.47393659	1643209961
2008	5.65576312	960679992.7
2009	6.22720228	1163290039
2010	5.38018274	2052360107
2011	4.97428953	1809859985
2012	4.42762234	1916109985
2013	3.99853624	2515659912
2014	3.65720631	2478600098
2015	4.18355591	2431540039

| 2016 | 4.86790574 | 2498189941 |
2017	5.86487484	3356350098
2018	5.76446758	3303270020
2019	5.01757719	3275409912
2020	3.98139546	3375860107
2021	4.41961859	3527699951
2022	4.25868951	4443259766
2023	5.65026328	4443259766

Source: Author's Computation (2024) from World Bank Database

Figure1: Graph of FRMI and ODAI
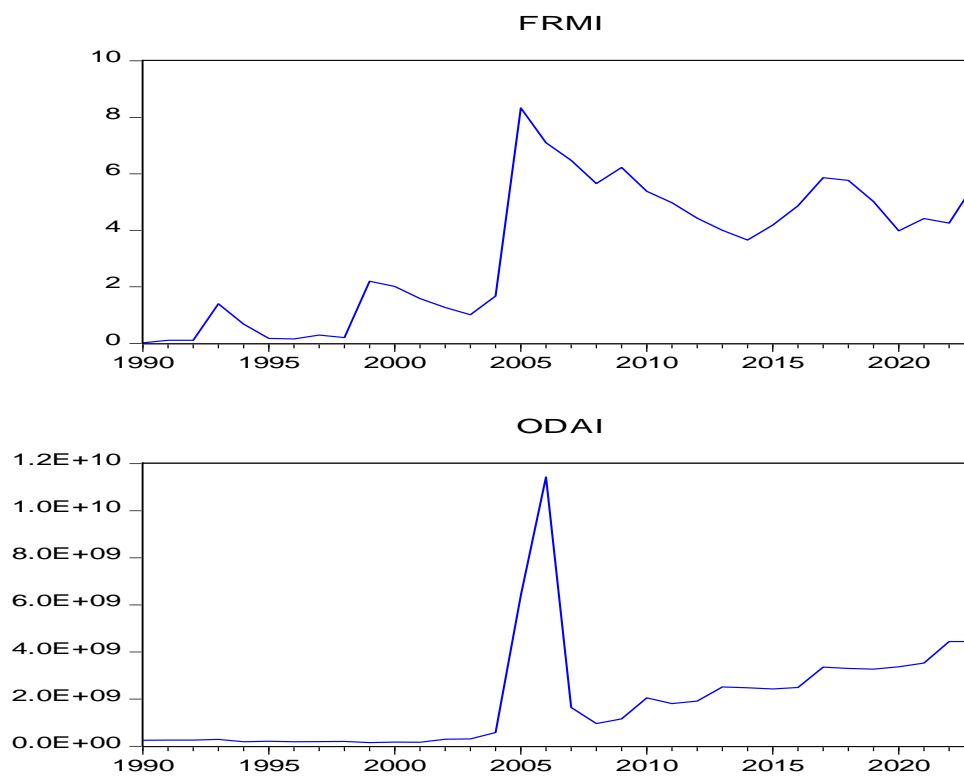
Source: Author's Computation (2024) from Eview 10.0

Figure 2: Bar Chart (FRMI and ODAI)
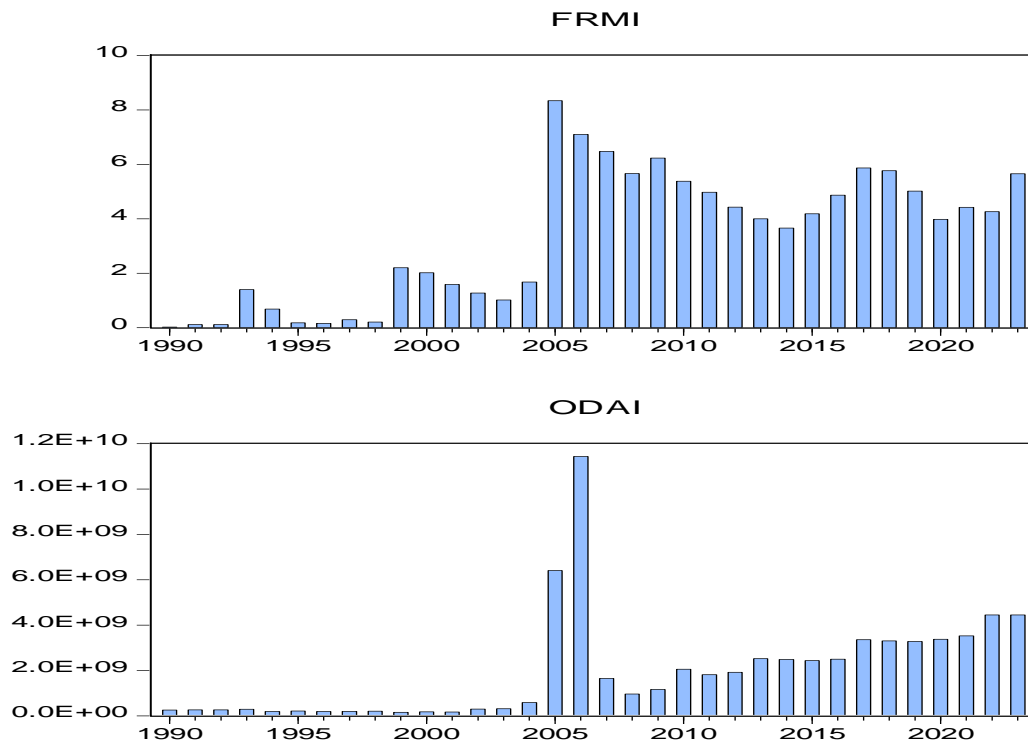
Empirical Review

The empirical review in this section is addressed under two sub-heads namely: foreign remittances inflows and financial market development, and official development assistance and financial market development.

Foreign Remittances Inflows and Financial Market Development

Omobolanle, Sheriffdeen and Adesoye (2019) examined the relationship between foreign remittances inflows and financial development in Nigeria for the period 1990 to 2015. The error correction model (ECM) was employed for the analysis of data and the result indicate that foreign remittances inflows and exchange rate were significant and positively affect financial sector development indicators. Mustafa, Shah and Iqbal (2020) empirically investigate the impact of foreign remittances inflows on Pakistan financial sector development for the period 1976 to 2015 using the ARDL econometric technique. It was observed that the extent to which remittances inflows affect financial market development is a function of what was used to proxy financial development; hence, while the ratio of M2/GDP had significant impact on financial market development, those of the ratio of credit to private sector/GDP had a weak impact on financial market development in Pakistan.

In another related study by Keho (2020) on how foreign remittance inflow affect financial sector development in ECOWAS countries for the period 1980 to 2017, employed the correlated effects mean group (CCEMG) panel technique for the analysis of data. It was discovered that while the ratio of M2/GDP had significant positive impact on financial sector development, the ratio of credit to private sector to GDP had a weak effect on financial sector development in ECOWAS countries. Hussaini, Musa and Muhammad (2021) empirically examined how foreign remittances inflows in Nigeria affect financial market development over the period 1986 to 2020. They employed the ARDL technique for the analysis of data and it was found that remittances inflows significantly and positively affect financial market development; while gross savings and interest rate spread had significant inverse relationship with financial market development in Nigeria.

The study of Mustapha-Jaji and Adesina-Uthman (2023) in Nigeria for the period 1981 to 2021 found that while foreign remittances inflows significantly and positively affect banking sector development, it however had a weak effect on stock market development. Even Ikpesu (2023) and Adewumi et. al (2024) studies on the relationship between foreign remittances inflows and financial sector development in Nigeria demonstrated that foreign remittances inflows, trade openness and exchange rate significantly affect financial sector development.

Official Development Assistance and Financial Market Development

The study by Donaubauer, Meyer and Nunnenkamp (2016) on the effect of official development assistance financial system and by extension economic infrastructure, employed the three stage least square (3SLS) estimation technique, and find that ODA significantly and positively impact infrastructure and financial system; and also effectively drives and attract foreign direct investment (FDI) to recipient economies. Lee and Ries (2016) examined the effect of official development assistance (ODA) on new Greenfield investment in 120 recipient countries for the period 2003 to 2013. The Poisson Pseudo-Maximum Likelihood (PPML) estimator was employed for the analysis of data, and the results demonstrated ODA is a critical driver of infrastructural development which in turn enhances financial development, especially in areas transportation and energy and thus, creating jobs and generating technology transfer.

Dang and Duc (2019) investigated whether official development assistance significantly affect financial system and by extension economic growth in 60 developing countries in Asia, Africa, Latin America and

the Caribbean for the period 1996 to 2016. They employed the panel data analysis technique and the results obtained indicate that official development assistance is significantly and positively related to financial development and economic growth. Izuka and Chetachukwu (2019) examined the impact of international development association (IDA) on the Nigerian economy for the period 1986 to 2016. The study Johansen cointegration and error correction model (ECM) on analysis of data; and it was established that official development assistance significantly impact the economy and a unidirectional causal relationship was found to exist between economic growth and official development assistance.

In another related study, Adamu, Zasha and Umar (2022) examined the impact of foreign aids/foreign remittances inflows on the development of the Nigerian economy and by extension financial development over the period 1999 to 2021. Using the historical method of analysis, it was found that foreign aids/foreign remittances has not impacted positively on the Nigerian economy and financial development overtime. Also, Awino and Kioko (2022) empirically find out whether official development assistance (ODA) significantly drives economic growth and domestic savings in Kenya for the period 1960 to 2019. They employed the simultaneous equation system for the analysis of data and it was found that while ODA has a weak positive effect on the economy but a significant positive impact on domestic savings; while government spending has the most positive impact on economic growth. Ono and Sekiyama (2024) examined the impact of official development assistance on foreign direct investment for 33 Japanese firms in India. Using the regression analysis, it was found that official development assistance had significant positive impact on FDI as well as economic infrastructural development.

Methodology

The expos-facto or longitudinal research design was employed in this study due to the fact that the data has already occurred and the researcher has no ability to manipulate them. The population of the study which is also the sample size is the Nigerian financial system; the final sample size was arrived at using the census sampling technique, where sample equals population.

Sources of Data

The data for this study is an annual times series data covering a period of 34 years (1990 to 2023). These data were sourced from the World Bank Data and the Central Bank of Nigeria Statistical Bulletin (2023).

Theoretical Framework

The theoretical framework for this study is based on the variant flow theory of capital movement advocated by Sachs, Tornell and Velasco (1996). According to the theory, "aggregate stocks of capital in a given economy is given by:

$$KA = \beta(r, r^*) + q \text{…………………………………………………………...........3.1}$$

Where: KA = is the stock of capital, β is the level of capital mobility, r is domestic interest rate, r* is foreign interest rate and q is capital investment not related or independent of interest rate.

Therefore, rewriting equation 3.1 above, we have:

$$KA = \beta r_r - \beta r_* \ r^* + q \text{ …………………………………………………………...3.2}$$

In the context of this study, equation 3.1 is slightly modified to reflect the current reality of variables engaged in the study; hence, KA is replaced by FMDEV; β represents change in foreign remittances inflows and official development assistance inflows (Fo); r in this case is now foreign exchange rate (E); and q is other related factors (M).

The functional form of this modified model is stated as:

$$FMDEV = Fo + E + M \text{…………………………………………………………………….3.3}$$

Where:

       FMDEV = change in financial market development

       Fo = change in capital mobility (i.e, foreign remittances inflows and official development assistance inflows)

       E = change in domestic exchange rate

       M = other related factors that equally impact financial market development.

Model Specification

The final model for this study is flowing from the above variant flow theory of capital movement, such that financial market development (FMDEV) which is the dependent variable is proxied by two variables: (i) ratio of broad money supply to gross domestic product (M2/GDP) and (ii) the ratio of credit to private sector to gross domestic product (CPS/GDP).

$$FMDEV = M2/GDP, CPS/GDP \text{…………………………………………………………...3.4}$$

These two variables are further expressed in two distinct models which are stated in their functional forms as follows:

$$M2/GDP = f(FRMI, ODAI, FOPN, EXRT) \text{………………………………………………….3.5}$$

CPS/GDP = f(FRMI, ODAI, FOPN, EXRT)……………………………………………...3.6

Model 2 and 3 above are restated in their econometric forms as follow:

$$M2/GDP_t = \alpha_0 + \alpha_1 FRMI_t + \alpha_2 ODAI_t + \alpha_3 FOPN_t + \alpha_4 EXRT_t + U_t \ldots\ldots\ldots\ldots3.7$$

$$CPS/GDP_t = \beta_0 + \beta_1 FRMI_t + \beta_2 ODAI_t + \beta_3 FOPN_t + \beta_4 EXRT_t + £_t \ldots\ldots\ldots\ldots3.8$$

Where:

M2/GDP = Money Supply/Gross Domestic Product

CPS/GDP = Private Sector Credit/Gross Domestic Product

FRMI = Foreign Remittances Inflows

ODAI = Net Official Development Assistance Inflows

FOPN = Financial Openness

EXRT = Exchange Rate

U_{it} = is the error term

Apriori Expectations are: $\alpha_1, \alpha_2, \alpha_3 > 0$: $\alpha_4 < 0$: $\beta_1, \beta_2, \beta_3 > 0$: $\beta_4 < 0$

Method of Data Analysis

Three methods are used; these are unit root test, correlation coefficient and the Fully Modified Ordinary Least Squares (FMOLS). While the correlation is used to ascertain the background characteristics among the data set, the unit root test was used to estimate the stationarity properties of the data in order to avoid spurious regression results. We perform the FMOLS since it is a better choice that the OLS estimator because it has the capacity to take care of small sample bias and endogeneity bias by taking the leads and lags of the first-differenced regressors. Also, the FMOLS imposes extra criteria that require the same level of integration of variables [i.e.I(1)], such that even the regressors are not expected to be cointegrated (Philips, 1993).

Measurement of Variables

Table 3.1: Description of Data

Variables	Expressed As	Measurement	Source	Expected Sign
Financial Market Development	M3/GDP	Money Supply/GDP	CBN Statistical Bulletin; Noman (2019); Kabuga (2020)	
Financial Market Development	CPS/GDP	Private Sector Credit/GDP	CBN Statistical Bulletin	
Foreign Remittances Inflows	FRMI	Measured by Transfers from International Migrants to Family Members in their Home Country of Origin	World Bank Data; Graham, Hanlon and Shevlin (2020)	+
Official Development Assistance Inflows	ODAI	Government Aid Designed to Promote the Economic Development and Welfare of Developing Countries	World Bank Data; Sen (1999); Onyeisi (2016); Spenser (2020)	+
Financial Openness	FOPN	Ratio of foreign financial assets plus foreign financial liabilities to gross domestic products (GDP)"	Obayagbona and Igbinovia (2021), Azebi and Dein (2020)	+
Exchange Rate	EXRT	Real Effective Exchange Rate (NEER; CP_{iw}/CP_{home}	Chughtai (2015), Ehigiamusoe and Lean (2019) and Elijah (2018)	-

Data Analysis and Discussion of Results

This section is on the empirical analysis of the data on the role of foreign remittances inflows and official development assistance in financial market development in Nigeria using the methods of analysis earlier stated in section three.

Unit Root Testing

The result of the Augmented Dickey Fuller (ADF) test in Table 4.1 demonstrated that all the hypothesized variables which were not stationary at levels became stationary after the first difference. Indeed, the variables are integrated of order one (i.e. I[1]).

Table 4.1: Unit Root Test for Variables in Levels

Variable	At Level	(Panel 1)		(Panel 2)	At First	Difference
	ADF Test Statistic	95% Critical ADF Value	Remark	ADF Test Statistic	95% Critical ADF Value	Remark
M3/GDP	-1.031946	-2.954021	Non-Stationary	-5.228384	-2.957110	Stationary
CPS/GDP	-1.148238	-2.954021	Non-Stationary	-5.280875	-2.960411	Stationary
FRMI	-1.798481	-2.954021	Non-Stationary	-5.728172	-2.957110	Stationary
ODAI	-2.953572	-2.954021	Non-Stationary	-5.949993	-2.960411	Stationary
FOPN	-1.794845	-2.957110	Non-Stationary	-4.296109	-2.957110	Stationary
EXRT	2.835191	-2.954021	Non-Stationary	-5.516431	-2.963972	Stationary

Correlation Analysis

In order to observe the pattern of relationship among foreign remittances inflows, official development assistance and financial market development in the model, the correlation matrix for the data is computed and presented in Table 4.2. In the result, the ratio of broad money supply to gross domestic product (M3/GDP) has a significance positive correlation values of 0.64272 and 0.73993 with foreign remittances inflows (FRMI) and exchange rate (EXRT) on one hand, and a weak positive and negative correlation values of 0.34761 and -0.04115 with official development assistance inflows (ODAI) and financial openness (FOPN) on the other hand. Also, the ratio of credit to private sector to gross domestic product (CPS/GDP) (a second measure for financial market development) has a significant positive correlation values of 0.65931 and 0.67408 with foreign remittances inflows (FRMI) and exchange rate (EXRT). It also has a weak positive and negative correlation values of 0.30076 and -0.00533 with official development assistance inflows (ODAI) and financial openness (FOPN).

Conversely, foreign remittances inflows (FRMI) has a significant positive correlation values of 0.73048, 0.52229 with official development assistance inflows (ODAI) and exchange rate (EXRT); and a moderate positive correlation value of 0.45291 with financial openness (FOPN). Meanwhile, the correlation between ODAI and EXRT is moderate and positive while those of FOPN and EXRT is weak and negatively

correlated. Thus, on the basis of these correlation results, we can clearly state that there is no indication of multicollinearity problem amongst the variables used in the model.

Table 4.2: The Pairwise Correlation Matrix

	M3/GDP	CPS/GDP	FRMI	ODAI	FOPN	EXRT
M3/GDP	1					
CPS/GDP	0.96425	1				
FRMI	0.64272	0.65931	1			
ODAI	0.34761	0.30076	0.73048	1		
FOPN	-0.04115	-0.00533	0.45291	0.19863	1	
EXRT	0.73993	0.67408	0.52229	0.47878	-0.27800	1

Cointegration Test

The Johansen Cointegration test in Table 4.3 shows that both the trace test and eigenvalue test statistics indicate that there are about two (2) significant cointegrating vectors between foreign remittances inflows, official development assistance and stock market development in Nigeria. This implies that a long run relationship exists among the variables.

Table 4.3: Johansen Multivariate Cointegration Tests Results.

Trace Test				Maximum Eigenvalue Test		
Null Hypothesis	**Test Statistic**	**Critical Value**	**Prob.**	**Test Statistic**	**Critical Value**	**Prob.**
r = 0*	117.0729	95.75366	0.0008*	57.31467	40.07757	0.0002*
r ≤ 1	59.75822	69.81889	0.2428	23.83064	33.87687	0.4680
r ≤ 2	35.92757	47.85613	0.4000	17.58219	27.58434	0.5302
r ≤ 3	18.34538	29.79707	0.5407	12.09692	21.13162	0.5381
r ≤ 4	6.248458	15.49471	0.6662	5.821783	14.26460	0.6362
r ≤ 5	0.426675	3.841466	0.5136	0.426675	3.841466	0.5136

The Fully Modified Ordinary Least Squares Analysis (for M3/GDP and CPS/GDP Models

The results of the estimated fully modified least square (FMOLS) for the two models of financial development (M3/GDP and CPS/GDP) are presented together in Table 4.4 below. The results show a good diagnostic outcome for both models: for instance, in the M3/GDP model, the R-squared value of 0.69 is high and it indicates that over 69 percent of the systematic variation in stock market development (FMDEV)

(as measured by M3/GDP) over the period is explained by movements in the explanatory variables; even the R-Bar squared value of 0.64 is very high. In the case of the second model (CPS/GDP), the R-squared value of 0.70 and the R-Bar squared value of 0.65 are quite similar to those of model one (M3/GDP). Thus, the two models possess good predictive abilities, and we accept the hypothesis of a significant linear relationship between stock market development and all the explanatory variables combined.

For M3/GDP Model

In this model, financial market development in Nigeria was proxied by M3/GDP; and a careful examination of Table 4.4 Panel 1, it is seen that the coefficient of foreign remittances inflows (FRMI) has a significant positive impact on financial market development (FMDEV) in Nigeria. The variable passed the 1 percent significance level, which suggests that a unit increase in the level of remittances inflows to the country enhances financial market development in Nigeria by approximately 2.145800%. This finding is in line with those of Omobolanle, Sheriffdeen and Adesoye (2019), Keho (2020), Hussaini, Musa and Muhammad (2021), Mustapha-Jaji and Adesina-Uthman (2023), and Adewumi et. al (2024) who submitted that FRMI is a significant driver of financial sector development in their respective studies. It however disagreed with those of Keho (2020) who submitted that the ratio of credit to private sector to GDP had a weak effect on financial sector development

The coefficient of official development assistance inflows (ODAI) has a significant inverse relationship with financial market development (FMDEV), as it passes the 1 percent level of significance. The negative sign is suggestive of the fact that any increase in ODAI reduces financial market development in Nigeria by approximately -1.15E-09%. This further buttress the fact that ODAI disbursements amongs developing countries have not truly yielded the much needed positive impact on the people. Hence, current policy needs to be revisited with a view to restructuring it for better performance. This finding indeed disagreed with those of Donaubauer, Meyer and Nunnenkamp (2016), Lee and Ries (2016), Dang and Duc (2019), Ono and Sekiyama (2024), who found that ODA significantly and positively impact financial market development. It also disagreed with those of Adamu, Zasha and Umar (2022), Awino and Kioko (2022) who found that ODAI has a weak impact on financial market development.

The coefficient of financial openness (FOPN) has a weak negative relationship with financial market development (FMDEV); suggesting that it is not a potent factor for determining financial market

development in Nigeria within the period of investigation. Theoretically, it is expected that FOPN should positively promote financial market development due to the fact that it advocates total liberalization of the financial system to allow for foreign investors participation in the financial activities in the domestic economy, and thereby fast tract the overall development of the financial market. However, this finding seems not to align with the submissions of Donaubauer, Meyer and Nunnenkamp (2016), Lee and Ries (2016), Dang and Duc (2019), Ono and Sekiyama (2024) who submitted a significant positive relationship between financial openness and financial market development.

The coefficient of exchange rate (EXRT) passes the 5 percent significance level, indicating that the rate of exchange between the naira and other international currencies is a significant determinant of the level of financial market development in Nigeria. Indeed, as exchange rate rises, financial market development also increase by approximately 0.017925%. Thus, as the naira weakens against the dollars, more foreign investors (more funds) are directly or indirectly attracted to the domestic market for investment which then helps to strengthen and further deepens the financial market, thereby making it more competitive in the global financial flows. The finding agrees with those of Omobolanle, Sheriffdeen and Adesoye (2019), Adewumi et. al (2024) who concluded a significant positive impact of exchange rate on financial market development.

For CPS/GDP Model

The results for CPS/GDP model in Table 4.4 Panel 2 provides similar results with that of M3/GDP model with respect to FRMI and ODAI. Indeed, while foreign remittances inflows (FRMI) has significant positive impact on financial market development (FMDEV), official development assistance inflows (ODAI) has a significant inverse relationship with financial market development (FMDEV) in Nigeria. These finding are also in line with the earlier results for M3/GDP model above. However, the other hypothesized variables such as financial openness (FOPN) and exchange rate (EXRT) do not play any relevant role in financial market development in the country overtime. These findings do not agree with those of Omobolanle, Sheriffdeen and Adesoye (2019), Adewumi et. al (2024) who concluded a significant positive impact of exchange rate on financial market development; as well as those of Lee and Ries (2016), Dang and Duc (2019), Ono and Sekiyama (2024) who found that financial openness is a significant driver of financial market development.
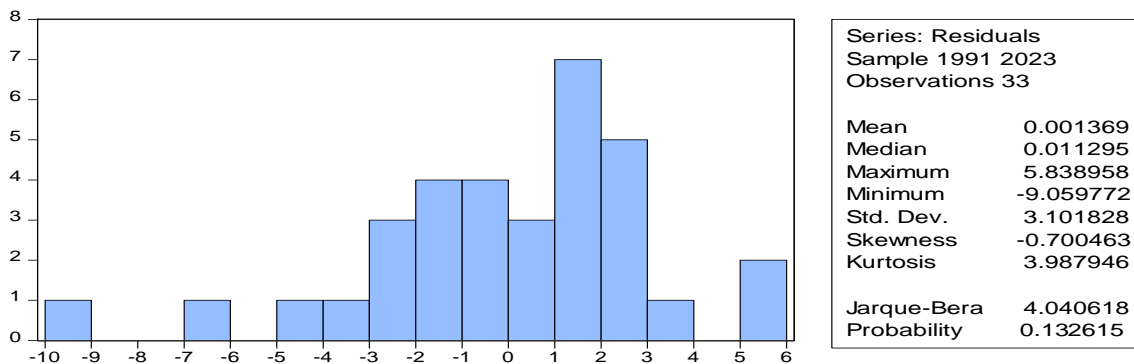
In summary therefore, we can safely conclude that, in the determination of financial market development in Nigeria, foreign remittances inflows (FRMI) and official development assistance inflows (ODAI) are relevant factors that should not be ignored by the government and regulatory authority, because they are very potent to the determination of financial market development in the country.

Table 4.4: Foreign Remittances Inflows, Official Development Assistance and Financial Market Development in Nigeria (FMOLS)
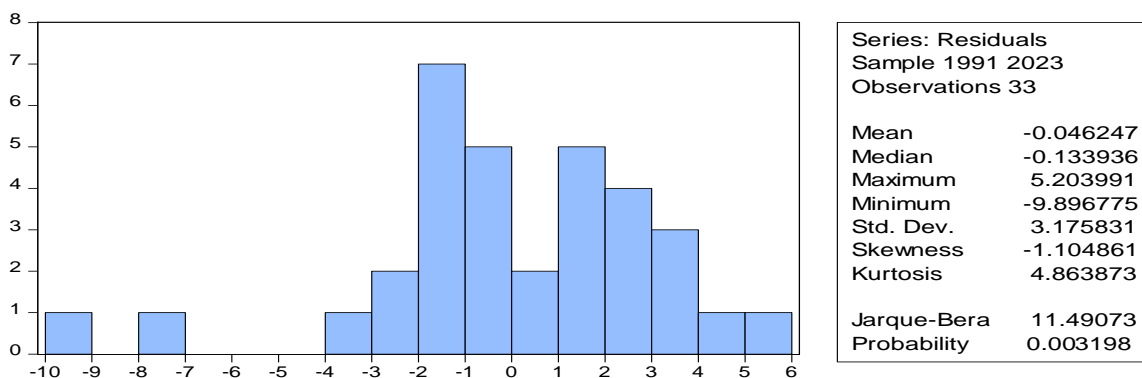
	Panel 1	M3/GDP	Model	Panel 2	CPS/GDP	Model
Variable	Coeff.	T-Ratio	Prob.	Coeffi.	T-Ratio	Prob.
FRMI	2.145800	4.050185	0.0004**	2.793612	5.678512	0.0000**
ODAI	-1.15E-09	-2.894400	0.0073**	-1.49E-09	-4.009290	0.0004**
FOPN	-1.86E-08	-1.217121	0.2337	-2.68E-08	-1.885903	0.0697
EXRT	0.017925	2.376295	0.0246*	0.011939	1.704436	0.0994
Constant	10.74185	6.441978	0.0000	6.986765	4.512311	0.0001
$R^2 = 0.69$	$\bar{R}^2 = 0.64$			$R^2 = 0.70$	$\bar{R}^2 = 0.65$	

Normality Test

To test for normality test, we employed the histogram normality test (HNT) for the two models for the study. Therefore, for M3/GDP model 1, since the probability value (0.132615) of the Jarque-Bera statistics in Figure 1 is greater than 0.05 (5%), we conclude that the data set are normally distributed. However, for M3/GDP model 2, the probability value (0.003198) of the Jarque-Bera statistics in Figure 2 is less than 0.05 (5%), hence, the data set are not normally distributed.

Series: Residuals	
Sample 1991 2023	
Observations 33	
Mean	0.001369
Median	0.011295
Maximum	5.838958
Minimum	-9.059772
Std. Dev.	3.101828
Skewness	-0.700463
Kurtosis	3.987946
Jarque-Bera	4.040618
Probability	0.132615

Figure 1: Histogram Normality Test (For M3/GDP Model 2)

Figure 2: Histogram Normality Test (For CPS/GDP Model 2)

Conclusions

The study so far examined the role of foreign remittances inflows and official development assistance in financial market development in Nigeria. The rationale for the study was predicated on the realization that foreign remittances inflows and official development assistance are often regarded by financial experts in the extant literature as critical factors for stimulating the development of financial markets across the globe. Given the level of foreign remittances and official development assistance inflows to Nigeria over the past three decades, it is necessary to empirically evaluate the extent to which they have impacted the domestic financial market. Hence, the study utilized Nigeria specific data on ratio of broad money supply to gross domestic product (M3/GDP), the ratio of credit to private sector to gross domestic product (CPS/GDP), foreign remittances inflows (FRMI), official development assistance inflows (ODAI), financial openness (FOPN) and exchange rate (EXRT) for the period 1990 to 2023. The fully modified least square technique was employed for the analysis of data and the results revealed that foreign remittances inflows (FRMI) has significant positive impact on financial market development under the two models; while official development assistance inflows (ODAI) has a significant negative relationship with financial market development in the two models also. On the other hand, exchange rate (EXRT) has significant positive impact on financial market development under the M3/GDP model, but was not significant in the CPS/GDP model. Financial openness (FOPN) however had a weak inverse relationship with financial market development in Nigeria. The study conclude that, in the determination of financial market development in Nigeria, foreign remittances inflows (FRMI) and official development assistance inflows (ODAI) are relevant factors that should not be ignored by the government and regulatory authority, because they are very potent to the determination of financial market development in the country.

Recommendations

Based on the findings from this study, the following salient recommendations for policy decisions are brought forward. First, since foreign remittances inflows (FRMI) has proven to be a significant driver of the Nigerian financial market development, government should endeavor to sustain/or enhance current policy on foreign remittances so that it will continue to have the needed positive impact on the financial market development. For instance, they should deliberately reduce the current high cost often associated with remittances inflow to the country, and by so doing large portion of remittances received into the country can then be utilized for innovative financial products to constantly deepen and broaden the Nigerian financial market.

Secondly, appropriate policies to further strengthen current banking activities in Nigeria to safeguard foreign remittances lodgments by citizens abroad to the domestic financial system and subsequent withdrawal of same by families/representatives should be vigorously pursued. The reason being that, it has the tendency of encouraging citizens abroad to remit more money back home which in turn helps to strengthen the domestic financial market activities.

Lastly, there should be proper utilization and management of official development assistance received into the country in order to actualize the very essence it was made for (i.e, promoting economic development and welfare of developing countries). Government should make deliberate effort and be more proactive by engaging funds received in this regard for assets yielding investment, especially in the productive sector of the economy. This action will definitely encourage and attract more ODA inflows into the country. This aligns with the saying, 'one good tongue deserves another'.

References

Adamu, I., Zasha, Z.T., & Umar, S. (2022). Foreign aid and economic development in less developed countries (LDC): Nigeria at glance. *Zamfara Journal of Politics and   Development,*   3(2), 112-125.

Adams, R.H. Jr. (2005). Remittances, household expenditure and investment in Guatemala, Washington, DC: *World Bank Policy Research working paper 3532,* 1-18.

Adewumi, O. A., Obasab, J., Olushola, O., & Nsonwu, M.C. (2024). Impact of remittance on financial sector growth in Nigeria: An econometrics approach. *International Journal of Research and Innovation in Social Science (IJRISS), 8*(4), 1029-1042.

Aggarwal, R., Demirgüç-Kunt, A., & Martinez-Peria, M.S. (2005). Do remittances promote financial development? Evidence from a panel of developing countries. *Policy Research Working Paper NO. 3957, the World Bank:* 1-16.

Awino, O.P., & Kioko, U.M. (2022). The effect of official development assistance aid on economic growth and domestic savings in Kenya. *International Journal of Finance, Insurance and Risk Management, 12*(4), 63-77.

Azebi,O.I., & Dein, B.B. (2020). Foreign capital flows and capital market growth in Nigeria. *International Journal Innovative Finance and Economics Res, 8*(1)*, 201-210.*

Bettin, G., Lucchetti, R., & Zazzaros, A. (2011). Financial development and remittances: Micro-econometric evidence. *MoFir Working Paper no 56*; 1-14.

Bank for International Settlements (2020). Financial market development, monetary policy and financial stability in emerging market economies. *BIS Papers, Bank for International Settlements, 113*, 1-15.

Chen, J. (2021). Foreign remittance definition, benefits, apps used. *Investopedia,* 1-7.

Chughtai, M. M. (2015). Impact of major economic variable on economic growth of Pakistan, *ACTA Universitatis Danubius*, *11*(2), 1-16.

Dang, V.D., & Duc, V. (2019). Evaluating the impact of official development assistance (ODA) on economic growth in developing countries. *Studies in Computational Intelligence 809*, 910-918. DOI: 10.1007/978-3-030-04200-4_66.

Donaubauer, J., Meyer, B., & Nunnenkamp, P. (2016). Aid, infrastructure, and FDI: Assessing the transmission channel with a new index of infrastructure. *World Devevelopment, 78*, 230– 245. doi: 10.1016/j.worlddev.2015.10.015**.**

Ehigiamusoe, K.U., & Lean, H.H. (2019). Influence of real exchange rate on the finance-growth nexus in the West African region. *Economies,* 1-14.

Elijah, N. K. (2018). Influence of exchange rate on economic growth in Kenya. *Journal of Economics and Finance (IOSR-JEF), 9*(6), 34-38.

Giuliano, P., & Ruiz-Arranz, M. (2009). Remittances, financial development, and growth. *Journal of Development Economics, 90*(1), 144-152.

Global   Challenges   Research   Funds   (2022).   *Official   Development   Assistance,*   1-4.
        http://www.oecd.org/dac/stats/34086975.pdf

Hussaini, N., Musa, I., & Muhammad, D. (2021). Impact of remittances on Nigerian financial sector
        development: An ARDL approach. *Gusau International Journal of Management   and   Social
        Sciences, 4*(2), 130-149.

Ikpesu, O.A. (2023). Migrant remittances, financial market development, and per capita real   growth
        in Sub-Saharan Africa. *Journal of Accounting and Taxation, 15*(3), 75-87.

Izuka, U.F., & Chetachukwu, O.I. (2019). Impact of international development assistances (IDA) on
        economic growth in Nigeria (1986-2016). *Saudi Journal of Economics and Finance, 3*(6), 237-247.

Kabuga, N.A. (2020). Foreign portfolio investment and stock market returns: Evidence from Nigeria. *Dutse
        International Journal of Social & Economic Research (DIJSER)*, *5*(1), 71- 80.

Keho, Y. (2020). Impact of remittances on financial development: Revisiting the evidence for ECOWAS
        countries. *Theoretical Economics Letters*, *10,* 169-179. https://doi.org/10.4236/tel.2020.101011.

Kovsted, J. (2000). Financial sector aid, *Foreign aid and development: Lessons learnt and directions for
        the future,* 332-350.

Lee, H.H., & Ries, J. (2016). Aid for trade and greenfield investment. *World Development, 84*, 206-218.
        doi: 10.1016/j.worlddev.2016.03.010

Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of economic
        literature,* 688-726.

Lucas, Jr., R.E. (1990). Why doesn't capital flow from rich to poor countries? *American Economic Review,*
        80 92-96.

Meyer, D., & Shera, A. (2017). The impact of remittances on economic growth: An econometric model.
        EconomiA 18(2), 147-155.

Migrant Data Portal (2024). *Remittances Inflow to Nigeria*. Retrieved on 27/07/2024 from:
        https://www.migrationdataportal.org › themes › remittances.

Mody, A., & Srinivasan, K. (1998). Japanese and US firms as foreign investors: Do they march to the same
        tune? *Canadian Journal of Economics, 31*, 778-99.

Mustafa, G., Shah, S.Z., & Iqbal, A. (2020). Impact of foreign remittances on financial   development of
        Pakistan. *Journal of Accounting and Finance in Emerging Economies, 6*(1), 331-342.
        DOI:10.26710/jafee.v6i1.1096.

Mustapha-Jaji, O. K., & Adesina-Uthman, G. A. (2023). The impact of international remittances on financial development in Nigeria: 1981-2021. *Acta Universitatis Danubius. Economica*, *19*(1), 130–146.

Nairametrics (2024). *Diaspora remittances fall 6.28% to $282.61 million in Q1 2024 amid CBN's reforms.* Retrieved on 27/07/2024 from https://nairametrics.com/2024/05/15/diaspora-remittances-fall-6-28-to-282-61-million-in-q1-2024-amid-cbns-reforms.

Nkusu, M., & Sayek, S. (2004). Local financial development and the aid-growth relationship (EPub). No. 4-238. *International Monetary Fund,* 1-15.

Noman, G.H. (2019). Market capitalization and financial variables. *International Journal of Academic Research, 24*(7), 92-100.

OECD (2023a). *Official development assistance (ODA)*. Available at: https://www.oecd.org/dac/ financing-sustainable-development/development-finance-standards/official-development-assistance.htm (Accessed July 26, 2024).

Omobolanle, Y.R., Sheriffdeen, T., & Adesoye, B. (2019). Effects of remittances on financial development in Nigeria. *Ife Social Sciences Review 27(1), 48- 59.*

Omon, I.J. (2021). Determinants of migrants' remittances in the West Africa monetary zones (WAMZ): An econometric evaluation. *Kardan Journal of Economics and Management   Sciences, 4*(1), 39-56.

Ono, S., & Sekiyama, T. (2024). The impact of official development assistance on foreign direct investment: the case of Japanese firms in India. *Front. Polit. Sci., 6,* 1-16. https://doi.org/10.3389/fpos.2024.1351285

Onyango, C (2024). Top 10 African countries with high diaspora remittance inflows. *The Independent, bird story agency*. Retrieved on 27/07/2024 from   https://www.independent.co.ug/top-10-african-countries-with-high-diaspora-remittance-inflows/

Onyeisi, T. (2016).The failure of development aid.*Cato Journal, 23*(2), 175-188.

Park, Y. (2015). *Can official development assistance promote financial development in developing countries?* Thesis Submitted to KDI School of Public Policy and Management in partial fulfillment of the Requirements for the Degree of Master of Development Policy, 1-61.

Philips, P.C.B. (1993). Fully modified least squares and vector autoregression. *Cowless   Foundation for Research in Economics at Yale University: Cowless Foundation   Discussion Paper No. 1047*, 1-82.

Sachs, J.D., Tornell, A., & Velasco, A. (1996). Financial crises in emerging markets: The lessons from 1995. *Brookings Papers on Economic Activity, Economic Studies Program. The Brookings Institution, 27*(1), 147-216.

Sen, R. (1999). Do stock market development attract foreign capital flows in developing economies? *Journal of Quantitative Finance and Economics, 3*(1), 88-108.

Sghaier, I.M. (2021). Remittances and economic growth in MENA countries: The role of financial development. *Economic Alternatives, 1*, 43-59.

Spenser, T. (2020). Foreign aid and governance in Pakistan. *Pakistan Economic and Social Review, 53*(2), 149-173.

Summers, L. (2000). International financial crises: Causes, prevention, and cures. *American Economic Review, Papers and Proceedings, 90*, 1-16.

The Nigerian Economic Summit Group (2024). *Foreign Investment Inflows into Nigeria weakens* in 2023. Retrieved on 27/07/2024 from https://www.nesgroup.org › *blog › Foreign- Investment*

Vanguard News (2024). *Foreign Portfolio Investors in Massive Return to Nigeria.* Retrieved on 27/07/2024 from https://www.vanguardngr.com>2024/06>foreign portf

World Bank Group (2019). *World Development Report 2019: The changing nature of work.*

World Bank Group (2023). *Global Financial Development Report.* Retrieved on 25/07/2024 from https://www.worldbank.org/en/publication/gfdr/gfdr-2016/background/financial-development

World Bank's Global Financial Development Database (2022). *Financial development.* Retrieved on 25/07/2024 from https://www.worldbank.org/en/publication/gfdr/gfdr-2016/background/financial-development

Yoshino, N., Taghizadeh-Hesary, F., & Otsuka, M. (2020). Determinants of international remittance inflow in Asia-Pacific middle-income countries. *Economic Analysis and Policy, 68,* 29-43.