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Effect of Monetary Policy and Financial Development on Foreign Direct Investment Inflow in Nigeria

Egbetunde Tajudeen[1], Abayomi Muftau Adesina[2]

Abstract: Objectives: The study investigates effect of monetary policy and financial development on Foreign Direct Investment (FDI) inflow in Nigeria. **Prior Work**: The existing literature shows that nexus between monetary policy, financial development and FDI inflow remains bone of contention and this study provides empirical evidence in Nigeria for appropriate policy formulation. **Approach**: The study uses ARDL econometric technique. **Results**: The results show that monetary policy and financial development had long run influence on FDI inflow in Nigeria; and further show that in the long run monetary policy had significant and positive influence on FDI inflow, but had significant and negative influence in the short run. Likewise, financial development had long run positive and significant impact on FDI inflow, but had significant and negative effect in the short run. The study concludes that monetary policy and financial development play a pivotal and substantial role in attracting FDI inflow in Nigeria. **Implication**: The study recommends that monetary authority in the country should put in place appropriate macroeconomic mechanism, efficient monetary policy and strong financial institutions that will attract more FDI inflows into the country. **Value**: The study establishes causal effect of monetary policy and financial development on FDI inflow in Nigeria.

Keywords: Monetary Policy; Financial Development; FDI inflow; Nigeria

[1] Department of Project Management Technology, Federal University of Technology, Akure, Nigeria, Address: Federal University of Technology, Gaga 340110, Ondo, Nigeria, Corresponding Author: tegbetunde@futa.edu.ng.
[2] Department of Entrepreneurship, Federal University of Technology, Akure, Nigeria, Address: Federal University of Technology, Gaga 340110, Ondo, Nigeria.

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1. Introduction

Foreign direct investment (FDI) plays a key role in the growth and development of developing countries, but Nigerian economy is bedeviled with infrastructural deficit and weak institutions which inhibit FDI inflows to the country. According to the world bank's record of 2020, the major determinant of economic development in Nigeria is FDI inflows, while the government of the country has seen FDI as a dynamic way to strengthen the country through diversification and expansion of exports, generation of employment fortunes and improvement of industrial productivity (World Bank, 2020). Ashakah and Ogbebor **(**2020) also assert that FDI serves as a major determinant of growth in developing countries. Tiberto and de Mendonça (2023) argue that developing and emerging economies received huge volume of FDI inflows.

Consequently, Nigeria can attract FDI into the country if and only if the economy put in place effective monetary policy and well-developed financial sector. Generally, foreign investors are optimistic to put their funds in a country with strong financial institution and sound monetary policy that will guarantee the safety of their funds. The developing economy is surrounded with infrastructural deficit, less FDI and financial development attraction and the country is highly enthusiastic to attain economic development (Olorogun, Salami & Bekun, 2020). Karahan and Bayır (2022) opine that increase in interest rate and decrease in worldwide stock market index after COVID-19 period under the regime of contractionary monetary policy would influence change in FDI significantly in developing countries. They also assert that developing countries need policies that will attract inflows of FDI into the region to mitigate negative influence of restrictive monetary policy implemented after COVID-19 pandemic. This paper explores the impact of monetary policy and financial development on FDI in Nigeria.

Empirically, there exists a connection between economic growth, FDI, financial development and monetary policy. Bencharles and Kokumo-Oyakhire (2022) find that there exists short run asymmetric effect of foreign portfolio investment on growth in LICs while short run influence of financial openness was established on growth in HICs. They conclude that impact of financial openness and foreign portfolio investment on output differ in HICs and LICs. Egbetunde and Abayomi (2020) reveal that financial deepening had significant and positive effect on FDI inflow, and conclude that deepening of the financial sector attracts more FDI inflow to the Nigerian economy thereby promoting sustainable development. Pruski and Szpunar (2008) show that efficient monetary policy is an appropriate response to FDI flows that stabilizes the economy against the consequences of FDI flows. Most of the existing studies focused attention on the connection between monetary policy and FDI, financial development and FDI, output and FDI, while attention has not

been shifted to examining the influence of monetary policy and financial development on FDI inflow in Nigeria, hence, this study.

This paper investigates the link between monetary policy, financial development and FDI inflow in Nigeria. The paper is structured into five sections: the second section addresses the literature that surround the study; section three provides methodology; section four presents result and discussion; and section five completes the paper.

2. Literature Review

Scholars have diverse opinion on the theoretical and empirical relationship among monetary policy, financial development and FDI. Karahan and Bayır (2022) examine the impact of pre and post COVID-19 expansionary monetary policies on flows of FDI in emerging economies, using ARDL. They find that pre and post COVID-19 expansionary monetary policy causes low interest rate and soaring worldwide stock market index, and motivate FDI inflows to emerging economies. It was showed in their study that pre and post COVID-19 expansionary monetary policies favour FDI inflows in the study area. They further reveal that transition from expansionary monetary policy to contractionary monetary policy after COVID-19 inhibit FDI to the countries. Tiberto and de Mendonça (2023) investigate effect of sustainable monetary and fiscal policy on FDI inflows in 75 developing and emerging economies, covering the periods 1990 to 2019 and show that sustainable fiscal and monetary policy play pivotal role in driving FDI inflows. They suggest that developing and emerging economies should reduce fiscal imbalance, implement inflation targeting and enhance credibility of central banks to attract reasonable amount of FDI into the region. In the literature, inadequate credibility of central bank decreases its ability to foster monetary policy efficiently and hinder its power to stabilize the economy from shock of FDI inflows (Seelajaroen, Budsaratragoon & Jitmaneeroj, 2020; Bordo & Siklos, 2016).

Pruski and Szpunar (2008) opine, in their contribution to Bank for International Settlements (BIS) papers, that rise in market volatilities arose from growth in capital flows which augmented transmission of shocks as a result of increase in globally long term real interest rate. Consequently, opacity in financial markets restrains policymakers' strength to evaluate risks correctly. Also, they assert that monetary policy regime has been operated on fixed exchange rates in many countries and changed to floating exchange rate regime which became complicated in many dimensions, also encouraging fear of floating. This fear of market uncertainty may discourage foreign investors in any economy. It was further argued in their study that heterogeneous monetary policy regime was conducted in some countries for the purpose of managing exchange rate. However, the approach can be undermined in growing and increasing capital flows. Furthermore, in their study, capital controls

were introduced in some countries to limit financial flows, this measure was ineffective and distort smooth operation of financial markets. In a similar study, Oanh, Van and Dinh (2023) investigate nexus between monetary policy, financial inclusion and stability in twenty-seven Low Financial Development Countries (LFDC) and thirty-one High Financial Development Countries (HFDC) covering the period 2004 to 2020, using Panel Vector Auto-Regressive (PVAR). The result of their study shows that there exits direct connection between financial stability and inclusion, the two variables are negatively related with growth rate of money supply and inflation rate in LFDC. It was also revealed in their study that financial stability is negatively related with growth rate of money supply, financial inclusion and inflation rate while financial inclusion is positively related with growth rate of monetary policy and inflation rate in HFDC. They explained further that financial inclusion surges financial stability which in turn lead to long-term inflation in HFDC, but in contrary financial inclusion surges financial stability which in turn decreases inflation in LFDC.

Aside from relationship between monetary policy and FDI, the relationship between FDI and financial development was also established in the literature. Desbordes and Wei (2017) examine link between FDI and financial development in source and destination countries' financial development, and reveal that financial development had significant and positive effect on FDI. They argue that effect of financial development on FDI had positive influence on accessing external finance and consequently promote manufacturing activities. It was also revealed in their study that influence of financial development on FDI varies due to types and magnitudes of FDI in the countries. Haque, Zhang and Muhammad (2022) study impact of financial development on FDI in middle-income countries covering 1980 to 2020 using panel ARDL. They identify three sources of financial development indexes sourced from International Monetary Fund (IMF): financial market, financial institution and aggregate financial development. They report from their findings that both overall financial development and financial institution have insignificant effect on FDI while financial market has significant and positive impact on FDI inflow in middle income countries. Also, financial development in the middle-income countries contributes to attraction of FDI inflow while the other indexes of financial development fail to attract FDI inflow to the region. Farouq and Sulong (2021) examine dynamic connection between financial development and FDI uncertainty by interactive role of economic growth and financial inclusion in Nigeria between 1970 and 2018 and using non-linear Auto-Regressive Distributed Lag (ARDL). Also, they find that FDI uncertainty Granger causes financial development, financial inclusion promotes financial development and economic growth promotes financial development. They suggest that financial sector of the economy should be strengthened in such a way that it will withstand any internal and external shock.

Scholars also established connection between monetary policy and financial development. Ma and Lin (2016) assess link between financial development and effectiveness of monetary policy in 41 countries and used panel data, they find that impact of monetary policy on inflation and output were negatively and significantly correlated with financial development. They report further that financial system tends to be less developed as effectiveness of monetary policy rises. They reveal that the impact of monetary policy on growth declines more with financial development in developing countries while its impact on inflation is reinforced with financial development in developed countries. They argue that developed countries have more and deeper financial development, more independent central banks and stable and low capital flight than developing countries. Gatsi, Idun and Mensah (2020) investigate nexus between monetary policy and financial development with interaction of governance mechanism for thirty-seven African countries between 2002 and 2015, using General Method of Moment (GMM) and find that monetary policy stimulates higher degree of financial development in Africa. They report further in their results that interaction between effective monetary policy and government effectiveness had robust positive effect on financial development in the region, and also financial development is stronger in good governance.

Consequently, the behaviour of financial development, monetary policy and FDI determine level of growth each economy may experience. Olorogun, Salami and Bekun (2020) investigate interrelationship among financial development, FDI and economic growth in Nigeria covering 1970 to 2018, and used ARDL bound test and Toda-Yamamoto Granger causality. They find that FDI stimulates economic growth in the country i.e. FDI inflow enhances economic growth. Elyas and Masih (2019) also opine that economic boom attract more FDI inflow into an economy. The result of their finding also shows that FDI and financial development promote economic growth; gross capital formation Granger causes financial development in the country. They conclude that financial development, FDI and economic growth have long run connection in Nigeria. Ashakah and Ogbebor (2020) assess effect of FDI on economic growth as well as interaction of financial development on link between FDI and emerging markets economies between 1990 and 2018, using fixed and random effects models and find that economic growth is significantly and positively influenced by FDI in emerging markets' economies. They suggest that policies that will promote investment activities and attract huge FDI inflows should be formulated and implemented in the region. Bencharles and Kokumo-Oyakhire (2022) assess the effect of financial openness and FPI on economic growth, covering the period 1970 to 2020, using Fully Modified Ordinary Least Square. The results of their finding report that economic growth is significantly and positively influenced by FPI in High Income Countries (HICs) while FPI had insignificant effect on economic growth in Low Income Countries (LICs); financial openness had insignificant effect on economic growth in both HICs and LICs. They similarly show that interaction of

financial openness and foreign portfolio investment was significant in HICs but insignificant in LICs. Bila, Khumalo, Nkosi and Arogundade (2023) examine nexus between foreign aid and economic growth in Africa covering 1996 to 2019 and used GMM. They find that rise and improvement in growth has significant and positive impact on foreign aid to neighbouring economy in African countries. They recommend that African countries should improve their interactions and partnerships with neighbouring countries in order to derive optimal benefits from foreign aid across African countries.

Moreover, Finance-led growth hypothesis opines that finance is the key driver of growth in any economy, among scholars in this school of thought are Habibullah and End (2006), Abu-Bader and Abu-Qarn (2005), Akinlo and Egbetunde (2010) e.t.c. Growth-led finance hypothesis postulates that growth plays a key role in financial development (see Odhiambo, 2008; Waqabaca, 2004). Feedback hypothesis asserts that financial development and economic growth promotes each other (Al-Yousif, 2002; Luintel & Khan, 1999). In recent empirical study, Nwagu, Onoriode and Edeh (2023) reveal that banking sector development and economic growth have long run connection in selected G8 and three African countries. They recommend that banking sector development should be further improved in the countries and translate the improvement to economic growth. It was revealed in another study that growth is negatively affected by financial development in emerging market economies due to weak financial institutions] (Ashakah & Ogbebor, 2020).

In the foregoing literature, effect of monetary policy and financial development on FDI inflow is yet to receive attention in Nigeria. Hence, this study for effective policy making in the country.

3. Methodology

The focus of this paper is to examine impact of monetary policy and financial development on FDI inflow in Nigeria. Following Haque, Zhang and Muhammad (2022), the nexus among monetary policy, financial development and FDI inflow is specified as thus:

$$fdi = f(mp, fd) \quad (1)$$

Where fdi = foreign direct investment inflow, mp = monetary policy and fd = financial development

This paper considers three measures of financial development (Ma and Lin, 2016) namely: stock market capitalization as a ratio of real GDP (fd_1), domestic credit as a ratio of real GDP (fd_2) and domestic credit plus stock market capitalization as a

ratio of real GDP (fd_3). The measures of financial development can be explained as follows: the stock market capitalization means the total value of listed shares, and the domestic credit means the value of financial intermediary credits to the private and public sector. Explicitly, fd_1 measures financial/stock market development, fd_2 measures degree of financial intermediary development and fd_3 measures the aggregate development of the financial sector (that is, degree of development of financial/stock markets, nonbanks and banks). Growth of money supply is considered as monetary policy to know how the growth of money stock (or monetary efficiency) is driving FDI inflow into the country. In the existing literature, one of the determinants of FDI inflow is trade openness and real gross domestic product and they are considered as control variables. In order to consider the control variables in the model, Equation 1 is re-written as thus

$$fdi = f(mp, fd, tro, gdp) \tag{2}$$

Where tro = trade openness and gdp = real gross domestic product

Equation 2 can be expressed in econometric form as follows:

$$fdi_t = \alpha_0 + \alpha_1 mp_t + \alpha_2 fd_t + \alpha_3 tro_t + \alpha_4 gdp_t + \varepsilon_t \tag{3}$$

Equation 3 serves as the estimated model for the paper. The measurements of financial development are considered in different model.

The econometric technique of analysis used in this paper was Auto-Regressive Distributed Lag (ARDL). The study used Eviews 10 software to estimate the models. The paper used ARDL in order to capture both short run and long run connection between financial development, monetary policy and FDI inflow in Nigeria. The ARDL equation is hereby specified thus

$$\begin{aligned}\Delta fdi_t = \vartheta_0 + \sum_{j=1}^{k} \vartheta_{1j} \Delta fdi_{t-j} + \sum_{j=1}^{k} \vartheta_{2j} \Delta mp_{t-j} + \sum_{j=1}^{k} \vartheta_{3j} \Delta fd_{t-j} + \sum_{j=1}^{k} \vartheta_{4j} \Delta tro_{t-j} + \sum_{j=1}^{k} \vartheta_{5j} \Delta gdp_{t-j} \\ + \delta_{1j} fdi_{t-1} + \delta_{2j} mp_{t-1} + \delta_{3j} fd_{t-1} + \delta_{4j} tro_{t-1} + \delta_{5j} gdp_{t-1} + \varepsilon_t \end{aligned} \tag{4}$$

The data for all the variables were sourced from secondary data covering the periods 1980-2021. fdi inflow was obtained from United Nations Conference on Trade and Development (UNCTAD, 2022), tro and real gdp were obtained from World Development Indicators (WDI, 2022), and fd measures and mp were sourced from Central Bank of Nigeria (CBN, 2022).

4. Empirical Results and Discussion

This section begins with results of preliminary test such as correlation matrix, cointegration and unit root tests. Result of correlation test for all the variables is offered in Table 1:

Table 1. Correlation Result

	FD1	FD2	FDI	FD3	MP	RGDP	TRO
FD1	1.0000						
FD2	0.7369	1.0000					
FDI	-0.6003	-0.5066	1.0000				
FD3	0.9584	0.8992	-0.6024	1.0000			
MP	-0.0256	-0.1854	-0.0990	-0.0949	1.0000		
RGDP	0.2638	0.1364	-0.4680	0.2283	0.1644	1.0000	
TRO	0.3284	0.1323	-0.4268	0.2684	0.1899	0.3317	1.0000

Source: Computed by the Authors

The result of correlation in Table 1 above shows degree of correlation among the variables. Correlation between the measures of financial development are very high, that is, they are above the bench mark of 0.7. The implication of this is that if they (fd_1, fd_2 and fd_3) are all considered in the estimated model, there will be multicollinearity issue in the model. Therefore, these measures are used in different models to avoid multicollinearity in the result. Correlation results cannot establish direction of causality between the variables, hence ARDL technique was used. Unit root tests were also considered before estimating the ARDL models and results of the test are given in Table 2.

Table 2. Unit Root Results

	Augmented Dickey-Fuller		**Phillips-Perron**		**Order of Integration**
Variables	Level	1st Difference	Level	1st Difference	
FDI	-1.0614	-2.9014*	-3.4646**	-16.1125***	I(0)
MP	-4.2170***		-4.1800***		I(0)
FD1	-1.5875	-7.0950***	-1.3205	-9.3250***	I(1)
FD2	-1.0747	-5.8508***	-0.9570	-6.9289***	I(1)
FD3	-0.8551	-6.5768***	-0.5871	-6.9679***	I(1)
TRO	-2.7397*	-8.0375***	-2.9670**		I(0)
GDP	-3.1421**		-4.2739***		I(0)

****, ** & * show 1%, 5% and 10% significance levels respectively*.

The results of the unit root tests justified the need to reject the null hypotheses for FDI, MP, TRO and GDP at level while the null hypothesis of unit root for fd_1, fd_2

and fd_3 was rejected at first order. Since, the results show a fractionalized blend of level and first order variables, the adoption of ARDL technique was apt. This technique captures dynamic interaction among the variables. The study also considered cointegration test before estimating ARDL models. The cointegration results is presented in Table 3:

Table 3. Johansen Cointegration Tests

	Model 1				Model 2				Model 3			
H_0:r	Trace Statistic	Critical Value	Max-Eigen Statistic	Critical Value	Trace Statistic	Critical Value	Max-Eigen Statistic	Critical Value	Trace Statistic	Critical Value	Max-Eigen Statistic	Critical Value
r = 0	67.85*	65.81	27.61	31.23	66.79*	65.81	25.34	31.23	69.65*	65.81	26.15	31.23
r ≤ 1	40.23	44.49	19.93	25.12	41.45	44.49	20.40	25.12	43.50	44.49	22.03	25.12
r ≤ 2	20.30	27.06	13.01	18.89	21.05	27.06	14.08	18.89	21.46	27.06	15.50	18.89
r ≤ 3	7.28	13.42	5.67	12.29	6.96	13.42	5.07	12.29	5.96	13.42	5.07	12.29
r ≤ 4	1.61	2.70	1.61	2.70	1.89	2.70	1.89	2.70	0.88	2.70	0.88	2.70

****, ** & * show 1%, 5% and 10% significance levels respectively*.

The results show that the variables are cointegrated. To explicitly scrutinize long run association, ARDL technique was used and the results are accessible in Table 4:

Table 4. ARDL Results

	Model 1		**Model 2**		**Model 3**	
Variable	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**
	Long Run Analysis					
C	3.3823*** (6.7553)	0.0001	2.8306*** (4.6633)	0.0007	3.4850*** (7.0847)	0.0000
FDI_{t-1}	-1.2188*** (-6.9342)	0.0000	-1.0227***(-6.1091)	0.0001	-1.3091*** (-7.7674)	0.0000
MP_{t-1}	0.0576*** (4.1322)	0.0020	0.0467*** (3.1775)	0.0088	0.0716*** (4.6778)	0.0009
FD_{t-1}	-0.0187 (-1.358)	0.2041	0.0595 (1.6399)	0.1293	0.0477** (2.8600)	0.0170
GDP_{t-1}	0.0936*** (4.2429)	0.0017	-0.1083*** (-6.7610)	0.0000	-0.1289*** (-8.0796)	0.0000
TRO_{t-1}	-0.1158*** (-7.3017)	0.0000	0.0681* (2.1245)	0.0571	0.0470* (1.9424)	0.0808
	Short Run Analysis					
ΔFDI_{t-1}	0.5535** (2.6656)	0.0237	0.5998** (2.9699)	0.0127	0.6523*** (3.2922)	0.0081
ΔMP_{t-1}	-0.0253** (-2.6976)	0.0224	-0.0279*** (-3.546)	0.0046	-0.0160** (-2.2776)	0.0460
ΔFD_{t-1}	-0.0340* (-2.0366)	0.0690	-0.0595 (-1.640)	0.1293	-0.0477** (-2.8600)	0.0170

$\Delta RGDP_{t-1}$	0.0706** (2.9512)	0.0145	0.0465* (1.8888)	0.0856	0.0650*** (6.1686)	0.0001
ΔTRO_{t-1}	0.0399*** (3.8125)	0.0034	0.0380*** (3.5214)	0.0048	0.0825*** (3.5437)	0.0053
ECT_{t-1}	-1.2188*** (-9.5959)	0.0000	-1.0227*** (-8.925)	0.0000	-1.3091*** (-10.741)	0.0000
F-statistic	14.737		13.691		17.509	
Prob(F-statistic)	5E-05		4E-05		2E-05	
Adj. R^2	0.9246		0.8969		0.9218	
DW stat.	1.7782		2.0044		1.5692	
AIC	0.2178		0.6436		0.3274	
	Residual Diagnostic Results					
Breusch-Pagan-Godfrey	0.5736	0.8742	0.86026	0.6386	0.663809	0.8049
Normality	1.206	0.5471	0.78097	0.6767	1.718692	0.4234
Serial Correlation	0.1358	0.875	0.07748	0.9261	1.546871	0.2704

****, ** & * show 1%, 5% and 10% significance levels respectively. Figures in parenthesis are t-statistic.*

From the results shown in Table 4, the measures of financial development are considered in different estimated models in order to avoid multicollinearity in the results. The study used fd_1, fd_2 and fd_3 in estimated Models 1, 2 and 3 respectively. The short run and long run analysis as well diagnostic results are embedded in Table 4.

Table 4 shows that in the short run monetary policy had significant (t = -2.6976) but adverse influence (β = -0.0253) on FDI inflow in Nigeria. This suggests that when money stock is rising FDI inflow is falling in the country. There is need for the government to ensure efficient monetary policy that attract more FDI inflow into the economy in the short run. Monetary policy in the long run had significant (t = 4.1322) and positive (β = 0.0576) influence on FDI inflow in the country. This indicates that in the long run growth of money stock compliments more FDI inflow to the country. Hence, government should further put in place growth of money stock that stimulates more FDI inflow to the economy. Table 4 also reveals that measures of financial development in the short run had negative (β = -0.0340) and significant (t = -2.0366) impact on FDI inflow in Nigeria, but had insignificant effect (β = -0.0595; t = -1.640) in model 2. This implies that when aggregate development of financial sector and financial/stock market are less developed more attentions were drawn to attraction of FDI inflow in the country in order to enhance economic activities. Consequently, the government of the country should ensure development of financial sectors as

well as attraction of more FDI inflow for the country to attain economic fortune. In the long run, measures of financial development had insignificant effect (β = -0.0187; t = -1.358) on FDI inflow in Model 1 and 2 while the aggregate development of financial sector in Model 3 had significant (t = 2.8600) and positive (β = 0.0477) influence on FDI in the country. Accordingly, government of the country should ensure development of financial intermediary and financial/stock market simultaneously so as to attract more foreign investors. Also, short run analysis depicts that economic growth had significant and positive influence on FDI in the country. This indicates that growth of the economy attracts more FDI inflow to the country. Thus, the government in the country should further encourage growth of the economy in order to boost foreign-investor confidence to invest heavily in the nation. By implication, there will be more attraction of FDI inflow due to increase in economic growth. However, in the long run the result discloses mixed results, that is, economic growth had negative (β = -0.1083) and significant (t = -6.7610) effect on FDI inflow in Model 2 and 3 while Model 1 reveals significant (t = 4.2429) and positive (β = 0.0936) effect of economic growth on FDI inflow in Nigeria. Therefore, government should pursue policy measures that will stabilize and accelerate the growth of the economy in order to sustain foreign investors' optimisim to invest maximally for the betterment of the country. The short run result also shows that trade openness had significant (t = 3.8125) and positive (β = 0.0399) effect on FDI inflow in the economy. This advocates that the more the economy opens to international trade the more the attraction of FDI inflow to the country. Accordingly, Nigerian government should open the economy to international trade and put in place adequate measures that will prevent the economy from any shock of FDI inflow to the country. Long run results show mix results, that is, trade openness had significant (t = 2.1245) and positive (β = 0.0681) effect on FDI inflow in Model 2 and 3, but trade openness had negative (β = -0.1158) and significant (t = -7.3017) effect on FDI inflow in Model 1. Therefore, government in the country should adopt suitable macroeconomic device that will stimulate the economy from adverse effect of FDI and trade openness in the country.

Moreover, Table 4 shows that the variables considered in the study had long run association. Theoretically, ECT must be negative and significant and all the estimated models conform with theoretical proposition. Table 5 shows ARDL bounds test of long run relationship.

Table 5. ARDL Bounds Test

	F-bounds Test		**Null Hypothesis: No Long-run Relationship**		
	Test Statistic	**Value**	**Significance**	**I(0)**	**I(1)**
Model 1	F-statistic	10.23127	10%	2.2	3.09
Model 2	F-statistic	9.127523	5%	2.56	3.49
Model 3	F-statistic	12.81881	2.5%	2.88	3.87
	K	4	1%	3.29	4.37

The result reveals that cointegration exists among the variables because the F-statistic in Table 5 surpasses the upper bound. This implies that monetary policy, financial development and FDI inflow as well as other variables under study have long run relationship. This further affirms the long run association result.

Furthermore, post modeling diagnostic tests namely, Breusch-Pagan-Godfrey, normality and serial correlation are insignificant statistically, that is, the results are not spurious. Also, the stability test shows that the estimated models are stable as depicted in Figure 1:

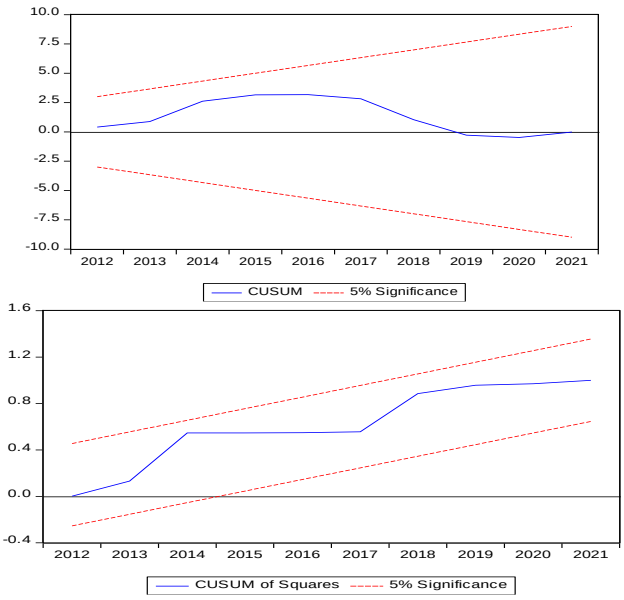

Figure 1. Stability Tests

5. Conclusion

This study examined influence of monetary policy and financial development on FDI inflow in Nigeria using ARDL econometric technique. The findings reveal that financial development, monetary policy and FDI inflow had long run relationship in Nigeria. The results also reveal that monetary policy had short run significant but adverse effect on FDI inflow in the country but in the long run monetary policy had significant and positive effect on FDI inflow. The findings further reveal that financial/stock market development and aggregate development of financial sector had short run significant but adverse effect on FDI inflow in the country, but in the long run aggregate development of financial sector had positive and significant effect on FDI inflow. The study concludes that monetary policy and financial development play a crucial role in attracting FDI inflow in Nigeria. Thus, the first policy implication from this study is that Nigerian government should strengthen and

stimulate monetary policy both in the short run and long run to attract more FDI inflow to Nigeria. Also, monetary authority in the country should encourage growth of money stock that enhances FDI inflow such that both domestic and foreign investments will stimulate economic expansion and prosperity in Nigeria. Nigerian government should motivate strong and developed financial sector that attracts more FDI inflow and protect the economy from adverse effect of FDI inflow in the country. More importantly, financial / stock markets development should be strong enough to withstand any internal and external shocks in order to raise optimism of foreign investors in the country. Therefore, government should put in place appropriate and efficient monetary policies and strong financial institutions that will drive and spur FDI inflows into the economy.

References

*** (2020). *The World Bank.* Retrieved from https://www.worldbank.org/.

Abu-Bader, S. & Abu-Qarn, A. M. (2005). Financial development and economic growth: time series evidence from Egypt. *Discussion Paper* No. 05-14a Monaster Centre for Economic Research. Ben-Gurion University of Negev, Israel.

Akinlo, A. E. and Egbetunde, T. (2010). Financial development and economic growth: the experience of 10 Sub-saharan African countries revisited. *The Review of Finance and Banking*, 2(1), pp. 017-028.

Al-Yousif, Y. K. (2002). Financial development and economic growth: another look at the evidence from developing countries. *Review of Financial Economics*, 11, pp. 131-150.

Ashakah, O. F. & Ogbebor, T. O. (2020). Foreign direct investment, financial development and economic growth in key emerging markets. *Journal of Economics and Allied Research*, 5(1), pp. 57-72.

Bencharles, O. & Kokumo-Oyakhire, G. (2022). Foreign portfolio investment, financial openness and economic growth in low and high income countries. *Journal of Academic Research in Economics*, 14(2), pp. 394-409.

Bila, S.; Khumalo, Z.; Nkosi, P. & Arogundade, S. (2023). Foreign aids and economic growth in Africa: Does third-country effect matter? *Studies in Economics and Econometrics*, pp. 1-20.

Bordo, M. D. & Siklos, P. L. (2016). Central Bank Credibility before and after the Crisis. *Open Economies Review*, 25(5), pp. 981-991.

CBN (2022). *Central Bank of Nigeria, Statistical Bulletin*. Volume 32.

Desbordes, R. & Wei, S. (2017). The effects of financial development on foreign direct investment. *Journal of Development Economics*, 127, pp. 153–168.

Egbetunde, T. & Abayomi, M. A. (2020). Financial deepening and foreign direct investment inflow in Nigeria: implications for sustainable development. *Readings on Financial System, Entrepreneurship and Institutional Support for Inclusive and Sustainable Growth in Africa*, pp. 370-380.

Elyas, R. & Masih, M. (2019). Does environmental awareness determine GDP growth? Evidence from Singapore based on ARDL and NARDL approaches. Munich Personal RePEc Archive, 94683, pp. 1–23.

Farouq, I. S. & Sulong, Z. (2021). The Effects of Foreign Direct Investment Uncertainty on Financial Development in Nigeria: An Asymmetric Approach. *Iranian Journal of Management Studies*, 14(2), pp. 383-399.

Gatsi, J.; Idun, A. A. A. & Mensah, F. (2020). Monetary policy and financial development in Africa: Do governance mechanisms matter? *Journal of Economic and Financial Sciences*, 13(1), pp. 1-13.

Habibullah, M. S. & End, Y. (2006). Does financial development cause economic growth? A panel data analysis for the Asian developing countries. *Journal of the Asian Pacific Economy* 11, pp. 377-393.

Haque, M. A.; Zhang, B. & Muhammad, U. A. (2022). Sources of financial development and their impact on FDI Inflow: A Panel Data Analysis of Middle-Income Economies. *Economies*, 10(182): pp. 1-18.

Karahan, O. & Bayır, M. (2022). The effects of monetary policies on foreign direct investment inflows in emerging economies: some policy implications for post-COVID-19. *Future Business Journal*, 8(39), pp. 1-14.

Luintel, K. B. & Khan, M. (1999), A quantitative reassessment of the finance—growth nexus: evidence from a multivariate VAR. *Journal of Development Economics*, 60, pp. 381-405.

Ma, Y. & Lin, X. (2016). Financial development and the effectiveness of monetary policy. *Journal of Banking & Finance* 68, pp. 1–11.

Nwagu, U. G.; Onoriode, H. & Edeh, C. C. (2023). An Assessment of the Banking Sector Development in Economic Performance: A Case of Selected Countries. *Journal of Advanced Research in Economics and Administrative Sciences*, 4(1), pp. 15-25.

Oanh, T. T. K.; Van, L. T. T. & Dinh, L. Q. (2023). Relationship between financial inclusion, monetary policy and financial stability: An analysis in high financial development and low financial development countries. *Heliyon*, 9 (e16647), pp. 1-16.

Odhiambo, N. M. (2008). Financial depth, savings and economic growth in Kenya: a dynamic causal linkage. *Economic Modelling*, 25, pp. 704-713.

Olorogun, L. A., Salami M. A. and Bekun, F. V. (2020). Revisiting the Nexus between FDI, financial development and economic growth: Empirical evidence from Nigeria. *Journal of Public Affairs*, e2561, pp. 1-10.

Pruski, J. & Szpunar, P. (2008). Capital flows and their implications for monetary and financial stability: the experience of Poland. *Bank for International Settlements (BIS) Papers* No 44 "Financial globalization and emerging market capital flows", pp. 403-421.

Seelajaroen, R.; Budsaratragoon, P. & Jitmaneeroj, B. (2020). Do monetary policy transparency and central bank communication reduce interest rate disagreement? *Journal of Forecasting*, 39(3), pp. 368-393.

Tiberto, B. P. & de Mendonça, H. R. (2023). Effects of Sustainable Monetary and Fiscal Policy on FDI Inflows to EMDE Countries. Banco Central do Brasil. *Working Paper Series*, pp. 1-46.

UNCTAD (2022). United Nations Conference on Trade and Development. *Statistics.*

Waqabaca, C. (2004). Financial development and economic growth in Fiji. *Working Paper 2004/03*. Economics Department Reserve Bank of Fiji.

WDI (2022). *World Development Indicators*. World Bank DataBank.