Research Article

Does Fdi Really Matter to Economic Growth in Niger?: An Autoregressive Distributed Lag Approach

Issoufou Oumarou*

Université de Tahoua, Tahoua, NIGER Faculté de droit d'économie et de gestion, Département d'économie et gestion

*Corresponding Author:
 Issoufou Oumarou

Abstract: Foreign direct investment (FDI) inflows are often seen as one factor contributing to economic growth. Therefore, considerable attention is paid in examining its determinants. Human capital, labor force, macroeconomic stability, infrastructure are often perceived as potential determinants of FDI. However, there is mixed evidence of the relationship between FDI and economic growth in the empirical literature. This paper used time series econometric tests including Augmented Dickey – Fuller (ADF) unit root test, Kwiatkowski-Philips-Schmidt-Shin (KPSS) stationary test, ARDL co-integration test and Granger causality test to analyze the relationship between FDI and Economic growth in Niger. The test results showed a long run-relationship between the variables. Two bilateral relationships and twelve (12) unidirectional causal relationships are found between the variables. The results also revealed that FDI, human capital and macroeconomic stability have a positive relationship with economic growth while labor force, physical capital and trade have a negative relationship with economic growth.

Keywords: Economic growth; Foreign Direct Investment; Unit root test, Granger causality test; ARDL estimation.

INTRODUCTION

Although being a landlocked country, Niger has enjoyed modest economic growth led by minerals exports. Efforts to scale up public investment, particularly investment related to infrastructure and increased security spending have caused Niger's public debt to increase. The financial system remains underdeveloped, weak, and fragmented. Foreign direct investment (FDI) inflows are often seen as one factor contributing to economic growth in a country. Due to the transfer of technology, foreign direct investment is perceived to relatively contribute more to growth than domestic investment.

The objective of this paper is to investigate if foreign direct investment has a significant impact on economic growth in Niger. For this purpose, annual time series data of Niger obtained from the International monetary fund (IMF) is used. The study first checked the stationary of the series used in the study. The augmented Dickey and Fuller unit root test is applied followed by a confirmatory Kwiatkowski-Philips-Schmidt-Shin (KPSS) stationary test. The study went on with cointegration test. In the current study Autoregressive distributed lag (ARDL) cointegration test is applied. Finally, Granger causality test is applied in order to distinguish the direction of the causal relationship among the variables.

The distinction of this study from other studies on foreign direct investment and economic growth in developing countries is that, there are not sufficient writings on Niger. The study therefore also intends to fill this existing gap.

Literature Review

The inflows of foreign direct investment (FDI) are often seen as one of the factors increasing the economic growth of the country. Therefore, considerable attention is paid in examining its determinants. Human capital, labor force, macroeconomic stability, infrastructure are often

perceived as potential determinants of FDI in a country. However, there is mixed evidence of the relationship between FDI and economic growth in the empirical literature.

Abraham [1] in his paper used co-integration and Granger causlity test to examine the relationship between Foreign Direct Investment and Exports from India during the period from 1990-1991 to 2014-2015. They found no long run co integrating relationship between FDI inflows and exports from India. The Granger causality test revealed a bi-directional causality between Foreign Direct Investment and exports.

Tshepo [2] in his article used to determine the nexus between foreign direct investment (FDI) inflows and economic growth in South Africa from 1980 to 2014. The article used vector error correction model to determine and estimate the long-run relationship between the variables in the model. The article found that economic growth shares a positive relationship with both FDIs and the real effective exchange rate, while sharing a negative long-run relationship with government expenditure.

Hasan & Salim [3] employed Johansen multivariate co-integration test and vector error correction model (VECM) as estimation techniques on annual time series data for the period of 1980-2015 to empirically analyze the linkage between foreign direct investment, domestic investment (DI) and economic growth for the case of Nigeria. The study revealed that FDI and economic growth have a long-run equilibrium relationship. Furthermore, Granger causality test reveals a uni-directional causality running from foreign direct investment to economic growth.

Mohamed *et al.* [4] examined the determinants of foreign direct investment (FDI) in Somalia, measured FDI inflow. They used time series data obtained from World Bank and SESRIC for a period of 41 years that is 1970-2010. The authors used Augmented Dickey-Fuller test was used for the unit root test and ordinary least square statistical technique to assess the degree of influence the variables have on each other. They found a negative and significant relationship in exchange rate and FDI, while, a positive and significant relationship is observed between inflation, external debt and domestic investment of FDI. The paper also found a negative but insignificant relationship is observed between lack of government and gross domestic product FDI.

Bagher & Milad [5] used the vector error correction model on data collected during 1995-2015 period to investigate the determinants of foreign direct investment in Cyprus. Their article revealed that rate of capital return, degree of economic openness, liquidity, tax rate; market size, infrastructure, human capital, and economic growth rate have a significant effect on foreign direct investment in Cyprus. The article also revealed that other independent variables such as government expenditure, inflation rate, and exchange rate do not have a significant effect on foreign direct investment.

Petr & Beata [6] analyzed foreign direct investment and its impact on economic growth in the Central and Eastern European countries between 2000 and 2012, with an emphasis on the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. The authors applied in the first part comparative analysis of the trends in foreign investment and gross domestic product and in the other part a growth model based on the Endogenous Growth Model. Their result showed in the first part a great deal of spatial differentiation in the inflow of foreign investment and in economic growth. Estonia, followed by Hungary, the Czech Republic, and Slovakia by margin reports the highest volume of foreign direct investments for production of the gross domestic product and when recalculated to the manpower. The paper also reported a lower influence of the foreign direct investments on the economy. In the second part, a growth model revealed that statistically significant relations exist between economic growth, FDI and investment growth. Growth of foreign direct investment positively demonstrates itself in increasing the level of the gross domestic product. The influence of foreign direct investment on economic growth of the Central and Eastern European countries was more visible in the period of 2009–2012.

Shiba [6] used a series of test including unit root test, stationary test, cointegration test to investigate determinants factors of FDI and how these factors are affecting FDI. The author used GDP as a dependent variable and FDI, Trade Openness and Exchange rate as independent variables.

Arafatur & Sumit [7] used co-integration test and Granger causality test to analyze the causal relationship between foreign direct investment and gross domestic product mainly focused on Bangladesh. The paper also investigated the existence and the nature of the effect of FDI on GDP in Bangladesh from the perspective of developing country. The authors found that in comparison to neighbor Asian countries, FDI inflow is very low in Bangladesh.

Mariam [8] used empirical cross-country growth analysis to investigate the impact over two decades, of foreign direct investment at the

aggregate level on economic growth. The article found that foreign direct investment has a significant and positive relationship with real income per capita, irrespective of any human capital requirements. Furthermore the article found a large and positive relationship between foreign direct investment and economic growth.

Leitão & Rasekhi [9] in their article used panel data approach to examine the link between economic growth and foreign direct investment for Portugal. They found that that there is convergence among Portugal and her trading partners. Their results also demonstrate that foreign direct investment and bilateral trade promote economic growth. The growth is negatively correlated with inflation and the initial level of GDP per capita. As in previous studies taxes plays a minor role on determining the growth.

Mohammad & Mahmoud [10] in their paper reviewed an amount of researches examining the relationships between FDI and EG, especially the effects of FDI on EG, from 1994 up to 2012. The results show that the main finding of the FDI-EG relation is significantly positive, but in some cases it is negative or even null. And within the relation, there exist several influencing factors such as the adequate levels of human capital, the well-developed financial markets, the complementarities between domestic and foreign investment and the open trade regimes.

Gohou & Soumaré [11] used FDI net inflows per capita and the United Nations Development Program's Human Development Index as the principal variables to re-examine the relationship between foreign direct investment (FDI) inflows and welfare or poverty reduction in Africa. Their analysis confirmed the positive and strongly significant relationship between FDI net inflows and poverty reduction in Africa but find significant differences among African regions. They also found that FDI has a greater impact on welfare in poorer countries than it does in wealthier countries. Furthermore, the relationship was found to be ambiguous in West Africa.

Saibu *et al.* [12] adopted the Autoregressive Distributed Lag (ARDL) technique to examine the effects of financial development and foreign direct investment on economic growth in Nigeria. The study used time series data from 1970 to 2009. Their results showed that financial development and foreign direct investment had negative effects on economic growth in Nigeria. Their result further showed that the effect of foreign direct investment differed significantly when different measures of financial market are used. Their result also showed that financial market liquidity but not the size of the financial market that matter for economic growth in Nigeria.

Azman S.H. & A.H [13] used a threshold regression model to investigate the effect of foreign direct investment on economic growth. They found evidence that the positive impact of FDI on growth "kicks in" only after financial market development exceeds a threshold level. Until then, the benefit of FDI is non-existent.

Adams S. [14] used OLS estimation to analyze the impact of foreign direct investment (FDI) and domestic investment (DI) on economic growth in Sub-Saharan Africa for the period 1990-2003. The results showed that DI is positive and significantly correlated with economic growth in both the OLS and fixed effects estimation, but FDI is positive and significant only in the OLS estimation.

Melina *et al.* [15] investigated the causal relationship among foreign direct investment, domestic investment, trade openness and economic growth in Bangladesh over the period 1976–2014. They used unit root tests, co-integration methods and Granger causality tests in Vector Error Correction Model (VECM) framework. They results support a unidirectional causality running from foreign direct investment to growth, domestic investment to trade openness, growth to trade openness and bidirectional causality between domestic investment and growth and foreign direct investment and domestic investment.

DATA AND METHODOLOGY

Data

The study used annual data obtained from the World Bank data set. The data cover the period from 1980 to 2019. All data are expressed in logarithms in order to include the proliferative effect of time series. The variables used for this study are: economic growth (eco_growth), foreign direct investment (fdi), human capital (hum_cap), labor force (labor_force), macroeconomic stability (macro_stability), physical capital (phys_cap) and export (trade). Table 1 shows the descriptive statistics of the variables.

Table-1: Series descriptive statistics

Statistics	eg	fdi	hc	lf	macro	pc	trade
Mean	2.428009	7.575396	16.90816	8.938068	2.648716	1.665728	8.733066
Median	2.444287	7.450498	12.455	8.929668	2.693727	1.69897	8.619311
Maximum	2.631177	9.027671	34.57333	9.230859	2.865104	1.740363	9.239469
Minimum	2.200591	5.44108	8.54	8.675114	2.324282	1.477121	8.400198
Std. Dev.	0.129472	0.887123	8.115915	0.169146	0.139059	0.092198	0.261105
Skewness	-0.166593	-0.167529	0.868221	0.119913	-0.569415	-1.508789	0.735498
Kurtosis	1.76629	2.768726	2.34194	1.774842	2.285669	3.497309	2.066907
Jarque-Bera	2.585668	0.26244	5.459764	2.467669	2.861403	14.80906	4.804608
Probability	0.274492	0.877025	0.065227	0.291174	0.239141	0.000608	0.090509
Sum	92.26435	287.8651	642.51	339.6466	100.6512	63.29767	331.8565
S. Sq. Dev.	0.620228	29.11851	2437.119	1.058589	0.715485	0.314521	2.522498

Notes:
1. eg stands for economic growth (eco_growth); hc (human capital hum_cap); lf (labor force)
2. macro stands for macroeconomic stability (macro_stab); pc (physical capital (phys_cap))

METHODOLOGY

This study used time series econometric Autoregressive Distributed lag (ARDL) approach to determine the relationship between Foreign Direct Investment and Economic growth in Niger. The model has the following form:

$$eg_t = f(fdi_t, hc_t, lf_t, ms_t, pc_t, trade_t) \qquad (1)$$

Our approach is developed using a series of econometrics tests. We begin by checking the existence of unit root in the variables used in the study. The Augmented Dickey Fuller (ADF) is applied for the unit root existence checking. After the unit root test, the study went on with Kwiatkowski –Phillips-Schmidt-Shin (KPSS) test for confirmatory analysis. We proceed with the followings: (a) The selection of an initial model specification; (b) The study of the variables integration order; (c) Detection of co-integration relations; (d) Estimation using ARDL model. (e) Application of Granger causality test.

For the model specification, the choice is between model with a constant term, a trend term, a drift term or a combination of any of them. Information criteria are used to determine the suitable model. The model providing the minimum value of the information criteria is selected. The information criteria suggest a model with a constant and trend term for all the variables.

The number of lags to be considered in the model is selected according to the results provided by the following two information criteria AIC and SIC. In order to avoid spurious regression, we started the lag length selection by including a maximum of 4 lags, and then we compare the suggestions of the two information criteria in regard of the number of lags to be included. Since AIC provided the lowest value it was selected.

The variables integration order is defined by using the Augmented Dickey-Fuller (ADF) unit root test and the Kwiatkowski-Philips-Schmidt-Shin (KPSS) stationary test. The equation of the ADF test and the test hypothesis are presented as below:

$$\Delta y_t = \beta_0 + \beta_1 t + \beta_2 y_{t-1} + \sum_{i=1}^{k} \alpha_i \Delta y_{t-i} + \varepsilon_t \text{ and } H_0 : \beta_2 = 0 \qquad (2)$$

Kwiatkowski-Philips-Schmidt-Shin (KPSS) equation and hypothesis:

$$y_t = \xi_t + \varepsilon_t \quad \text{and} \quad H_0 : \sigma_v^2 = 0 \qquad (3)$$

With: ξ_t random walk and $\varepsilon_t \sim I(0)$

The use of granger causality tests provides the possibility of testing the existence of precedence relationships among export, foreign direct investment and economic growth that represent the variables in study. The number of lags to be considered in the estimation procedure is determined according to the use of two information criteria: AIC and SIC. The equation of the Granger causality test and the test hypothesis are presented as below:

$$y_t = \beta_0 + \beta_1 t + \sum_{i=1}^{k} \gamma_i y_{t-i} + \sum_{j=1}^{k} \delta_i y_{t-j} + \varepsilon_t$$

and   (4)

$$H_0 \quad : \quad "x \text{ does not granger cause } y"$$

RESULTS AND DISCUSSIONS

Unit root and stationary tests

The Augmented Dickey-Fuller (ADF) unit root test result is given bellow in Table 2. The ADF test null hypothesis is stated as follow: H_0 :"*Series has unit root*".

Table-2: Unit root test result

Variables	Level		First differences	
	k	ADF test statistic (p_value)	k	ADF test statistic (p_value)
eco_growth	2	-2.149542 (0.5024)	2	-4.694314* (0.0031)
fdi	2	-3.160214 (0.1085)	2	-8.510787* (0.0000)
hum_cap	2	-0.871081 (0.9485)	2	-4.246349* (0.0097)
labor_force	2	-4.469425* (0.0056)	2	-0.183624 (0.9970)
macro_stability	1	-2.35976 (0.3934)	1	-5.32594* (0.0006)
phys_cap	1	-1.998484 (0.5829)	1	-6.151314* (0.0001)
trade	1	-2.349671 (0.3984)	1	-5.310079* (0.0006)

Notes:
1. In level series, the test equation includes constant and linear trend. Rejection of the null hypothesis: Series has a unit root at the 5% level.
2. In the first-difference series, the test equation includes constant and linear trend. Rejection of the hypothesis: Series has a unit root at the 5% level.
3. Lag length (k) is selected by the minimum AIC with maximum lag = 2. The p-value is in the parenthesis.
4. ADF test CV at series level: 5% level (-3.536601); ADF test CV at series 1st difference: 5% level (-3.540328);
5. * denotes rejection of null hypothesis at the 5% level of significance.

According to the ADF unit root test results, the null hypothesis of unit root in the series can't be rejected at 5% significance level for the following variables: eco_growth, fdi, hum_cap, macro_stability, phys_cap and trade at series level. The null hypothesis is accepted for labor_force. Regarding the series in their first differences, the null hypothesis of unit root in the series is rejected at 5% significance level for all the variables. Therefore the variable labor_force is stationary at series level, that is I(0) and the remaining variables are stationary at series first differences, that is to say that they are integrated of order one I(1).

After the ADF unit root test, a confirmatory test Kwiatkowski-Philips-Schmidt-Shin (KPSS) stationary test is conducted on the variables under study. The null hypothesis of the KPSS test is stated as follow: H_0 :"*series is stationary*". The KPSS stationary test result is given in Table 3.

Table-3: KPSS stationary test result

Variables	Level					First difference			
	KPSS_stat.	1% CV	5% CV	10% CV		KPSS_stat.	1% CV	5% CV	10% CV
eg	0.1960*	0.2160	0.1460	0.1190		0.0729**	0.2160	0.1460	0.1190
fdi	0.5108*	0.739	0.463	0.347		0.2303**	0.739	0.463	0.347
hc	0.1966*	0.2160	0.1460	0.1190		0.1235**	0.2160	0.1460	0.1190
lf	0.1102**	0.2160	0.1460	0.1190		0.0628**	0.2160	0.1460	0.1190
ms	0.1948*	0.2160	0.1460	0.1190		0.142284**	0.2160	0.1460	0.1190
pc	0.1552*	0.2160	0.1460	0.1190		0.0681**	0.2160	0.1460	0.1190
trade	0.1817*	0.2160	0.1460	0.1190		0.1025**	0.2160	0.1460	0.1190

Note:
1. In level series, the test equation includes constant and linear trend for export and eco_growth and constant without trend for fdi. Rejection of the null hypothesis: Series is stationary at the 5% level.
2. In the first-difference series, the test equation includes constant and linear trend for export and eco_growth and constant without trend for fdi. Rejection of the null hypothesis: Series is stationary at the 5% significance level.
3. * denotes rejection of null hypothesis at the 5% significance level.
4. ** denotes failure to reject the null hypothesis at the 5% significance level.. Hence the series is stationary.

According to the KPSS stationary test results, the null hypothesis "series is stationary" is rejected at 5% significance level for all the variables at series level except for labor_force where the null hypothesis is accepted. But the null hypothesis "series is stationary" is accepted at 5% significance level for all the variables at series first differences. Therefore labor_force is stationary at series level and all the remaining variables are stationary in their first differences.

The results obtained from the ADF unit root tests are confirmed by the KPSS stationary tests.

Hence the series are stationary at mixed level: some are stationary at series level, others are stationary at series first differences.

Co-integration test

Having established that the variables are integrated of different order: order zero I(0) and order one I(1), the appropriate integration test is the Auto Regressive Distributed Lag Bounds F_tst. The ARDL Bounds F_test co-integration result. ARDL Bounds F_test co-integration result is given in Table 4.

Table-4: ARDL Bounds F_test co-integration result

Variables		lag length	F_statistic	Test Critical Value 5%	
				Lower bound I(0)	Upper bound I(1)
Dependant	eco_growth	2	6.360398	2.87	4
Independent	fdi	2			
	hum_cap	2			
	labor_force	2			
	macro_stability	1			
	phys_cap	1			
	trade	1			

Notes:
1. The test is conducted at level series
2. The test equation includes constant and linear trend.
3. Lag length (k) is selected by the minimum AIC with maximum lag = 2. The p-value is in the parenthesis.

ARDL estimation

Since ARDL models are least squares regressions using lags of the dependent and independent variables as regressors, we have the following output.

Table-5: ARDL estimation result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.813349	3.317583	0.546587	0.5888
Leconomic_growth	1.087866	0.403883	2.69351768	0.0116
Lfdi	0.4388	0.1699	2.5826957	0.0319
Lhuman_capital	0.38522	0.137773	2.79604857	0.0483
Llabor_force	-0.517847	0.179014	-2.89277375	0.045
Lmacro_stability	0.239262	0.205175	1.16613623	0.2531
Lhuman_capital	-0.261911	0.215731	-1.21406288	0.0776
Ltrade	-0.203641	0.249934	-0.8147791	0.4218

The result showed that foreign direct investment, human capital and macroeconomic stability have a positive relationship with economic growth while labor force, physical capital and trade have a negative relationship with economic growth.

Granger causality test

The Granger causality test was used in order to examine the Granger causal relationships between the variables under examination. The results relating to the existence of Granger causal relationships between economic growth (eco_growth), foreign direct investment (fdi), human capital (hum_cap), labor force (labor_force), macroeconomic stability (macro_stability), physical capital (phys_cap) and trade appear in Table 6.

Table-6: Granger causality test result

Variables	eg	fdi	hc	lf	ms	pc	trade
eg	_	0.29270	2.32511	3.75171	6.92645	4.32043	4.97044
		(0.7483)	(0.1146)	(0.0347)	(0.0033)	(0.0221)	(0.0134)
fdi	1.74282	_	2.29115	0.64761	0.75036	0.56118	0.95706
	(0.1917)		(0.118)	(0.5302)	(0.4806)	(0.5762)	(0.3951)
hc	3.06550	6.71037	_	2.37011	0.27613	0.52075	5.74729
	(0.061)	(0.0038)		(0.1102)	(0.7606)	(0.5992)	(0.0075)
lf	8.11320	4.71939	5.39458	_	3.90575	0.44796	5.97038
	(0.0015)	(0.0162)	(0.0098)		(0.0307)	(0.643)	(0.0064)
ms	2.26686	0.67986	3.62507	2.79983	_	3.02321	3.00050
	(0.1206)	(0.5141)	(0.0385)	(0.0762)		(0.0632)	(0.0644)
pc	0.03631	0.82090	0.48123	8.37146	0.72578	_	0.55447
	(0.9644)	(0.4494)	(0.6226)	(0.0012)	(0.492)		(0.58)
trade	3.26113	4.12587	1.08535	1.71481	3.14972	2.65187	_
	(0.0498)	(0.0258)	(0.3503)	(0.1966)	(0.0498)	(0.0865)	
Obs.	40	40	40	40	40	40	40

Note:
1. The test is conducted at level series
2. Two lags are included in the test
3. The test p_values are given in brackets
4. The test F_statistics are given on the top of the p_values

From the results of Table 5, there are two bilateral relationships between economic growth (eco_growth) and labor force (labor_force) and between economic growth (eco_growth) and trade. The results also show twelve (12) unidirectional causal relationships. The unidirectional causal relationships are: between economic growth and macroeconomic stability with direction from economic growth to macroeconomic stability; between economic growth and physical capital with direction from economic growth to physical capital; between foreign direct investment and human capital with direction from human capital to foreign direct investment; between foreign direct investment and labor force with direction from labor force to foreign direct investment; between foreign direct investment and trade with direction from trade to foreign direct investment; between human

capital and labor force with direction from labor force to human capital; between human capital and macroeconomic stability with direction from macroeconomic stability to human capital; between human capital and trade with direction from human capital to trade; (6) between labor force and macroeconomic stability with direction from labor force to macroeconomic stability; between labor force and physical capital with direction from physical capital to labor force; between labor force and trade with direction from labor force to trade; between labor physical capital and trade with direction from physical capital to trade.

CONCLUSION

The present used Autoregressive Distributed Lag (ARDL) model to study the relationship between Foreign Direct Investment and Economic growth in Niger using annual data for the period 1980 - 2017. The empirical analysis revealed that some variables are stationary at level and others became stationary in their first difference, which means that the variables are not integrated of the same order. On this basis the Autoregressive Distributed Lag (ARDL) co-integration test analysis is used to lead to a long-run equilibrium relationship among these variables. On average, ceteris paribus, the coefficients are found to be statistically significant at 5% level. Finally, the Granger causality test revealed that there are two bilateral relationships between and twelve unidirectional causal relationships between the variables.

REFERENCES

1. Babu, A. (2018). Causality between foreign direct investments and exports in India. *Theoretical & Applied Economics*, *25*(4).
2. Masipa, T. S. (2018). The relationship between foreign direct investment and economic growth in South Africa: Vector error correction analysis. *Acta Commercii*, *18*(1), 1-8.
3. Güngör, H., & Ringim, S. H. (2017). Linkage between foreign direct investment, domestic investment and economic growth: evidence from Nigeria. *International Journal of Economics and Financial Issues*, *7*(3), 97-104.
4. Ali, Y. S., Mohammed, I. I., & Zahir, M. O. (2017). Impact of change in exchange rate on Foreign direct investment: Evidence from Somalia. *Journal of Economics and Sustainable Development*, *8*(8), 25-37.
5. Nouri, B. A., & Soltani, M. (2016). Determinants of foreign direct investment in Cyprus. *Journal of Advanced Research in Law and Economics*, *7*(2 (16)), 341.
6. Pattayat, S. S. (2016). Examining the determinants of FDI inflows in India. *Theoretical & Applied Economics*, *23*(2).
7. Rahaman, A., & Chakraborty, S. (2015). Effects of foreign direct investment on GDP: Empirical evidence from developing country. *Advances in Economics and Business*, *3*(12), 587-592.
8. Mariam, K. (2005). Foreign Direct Investment and Economic Growth: A Cross-Country Analysis. *Global Economy Journal*, *5*(1).
9. Leitão, N. C., & Rasekhi, S. (2013). The impact of foreign direct investment on economic growth: the Portuguese experience. *Theoretical and Applied Economics*, 51-62.
10. Almfraji, M. A., & Almsafir, M. K. (2014). Foreign direct investment and economic growth literature review from 1994 to 2012. *Procedia-Social and Behavioral Sciences*, *129*, 206-213.
11. Gohou, G., & Soumaré, I. (2012). Does foreign direct investment reduce poverty in Africa and are there regional differences?. *World Development*, *40*(1), 75-95.
12. Nwosa, I. P., Saibu, M. O., & Agbeluyi, A. M. (2011). Financial development, foreign direct investment and economic growth in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences*, *2*(2), 146-154.
13. Azman-Saini, W. N. W., & Law, S. H. (2010). FDI and economic growth: New evidence on the role of financial markets. *Economics letters*, *107*(2), 211-213.
14. Adams, S. (2009). Foreign direct investment, domestic investment, and economic growth in Sub-Saharan Africa. *Journal of policy modeling*, *31*(6), 939-949.
15. Dritsaki, M., Dritsaki, C., & Adamopoulos, A. (2004). A causal relationship between trade, foreign direct investment and economic growth for Greece. *American Journal of applied sciences*, *1*(3), 230-235.