

A Panel Data Analysis of the Contribution of FDI Inflows to Economic Well-Being in the West African Monetary Zone (WAMZ)

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ABSTRACT

There is growing interest in the development and international economics literature in understanding the role FDI plays in the host low-income countries. This study contributed to this literature by exploring the contribution of FDI inflows to economic well-being in the West African Monetary Zone (WAMZ). Panel data for the six countries (Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone) in the WAMZ were obtained from the World Development Indicators (WDI) and analyzed using descriptive statistics, IPS unit root test, Pedronico integration test, Hausman's test and random effects model. The unit root test results showed that the variables are all integrated of order one. Evidence of long-run relationship among the variables was also established from the Pedronico integration test results. The estimated random effects model showed that FDI contributed positively to per capita GNI. The significant positive contribution of FDI inflows to per capita GNI highlighted the substantial role played by FDI in improving the economic well-being of the population in the WAMZ. The results further revealed that exports contributed positively to per capita GNI while imports adversely affected per capita GNI. Overall, the findings lay credence to the postulation in extant literature that FDI is an important source of economic development in the host countries. Thus, it is recommended that policymakers in the WAMZ should encourage substantial FDI inflows by improving the ease of doing business and promoting good governance to create more opportunities for improved economic well-being.

Keywords: *Economic well-being, FDI, exports, imports and WAMZ*

1. INTRODUCTION

Attracting foreign direct investment (FDI) has remained one of the policy initiatives used by developing economies in Africa to foster economic growth, and in turn create opportunities for sustainable development. This is based on the assumption that what is good for growth is also good for development. From a theoretical standpoint, FDI is considered by the neoclassical theorists as an important source of income growth. This is because it triggers higher growth levels than would be achieved by relying on domestic savings. Similarly, the endogenous growth theory identifies the growth implications of FDI through innovation and technological transfer. Gohou&Soumore (2012) posit that the development effects FDI in the host countries are mirrored through direct and indirect channels. They further explained that FDI directly

contributes to the development of the host countries through job creation while its impact on growth provides an indirect channel through which FDI fosters economic development. Accordingly, Ebiringa&Emeh (2013) describe FDI as an important precondition for economic development given that it is associated with productive employment, technology transfer and improved managerial skills. This is in accordance with Walsh & Yu (2010) assertions that FDI is more closely linked to long-term growth and development than other forms of international capital inflows.

Furthermore, Dhrifri, Jaziri&Alnahdi (2020) argue that the positive effects of FDI on economic growth can facilitate the process of economic development through poverty reduction. Aside from its contributions to growth and job creation, FDI is equally helpful for improved competitiveness of the host countries (Adams, 2009). There is also a growing recognition that the political economy and institutional quality in the host economies play an important role in the effectiveness of FDI. Anetor, Esho&Verhoef (2020) opine that countries with developed institutional and financial system tend to reap the positive benefits of increased FDI inflows. On the other hand, economic size often measured by GDP growth has been identified in extant literature as important driver of FDI to host countries. Like other regions, West African countries have continued to witness increasing savings-investment gap and other fiscal challenges. This has increased their continued reliance on FDI as a solution to the structural macroeconomic problems, source of wealth creation and structural transformation of their traditional agriculture system for rapid and inclusive growth. Although, the region has remained a notable destination of FDI, Dhrifiet *al.* (2020) describe the level of achievements in terms of wealth creation and standard of living conditions as poor.

As a foremost economic integration in the West African sub-region, the West African Monetary Zone (WAMZ) comprising the Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone has witnessed continued inflows of FDI from the rest the world. However, the development outcomes in these countries in terms of pro-poor growth, employment creation, income distribution and overall economic well-being have been adjudged as sub-optimal. This raises concern on the inclusiveness of the growth process associated with FDI in the region. At the same time, empirical evidence on the development implications of FDI in the region has been mixed. This further generates controversy on the direct and indirect development implications of FDI, especially the inclusiveness of its growth effects in the WAMZ. As the controversy continue to grow, this study deepens the understanding on the spread of the growth benefits of FDI inflows with a focus on the gross national income (GNI) per capita growth in WAMZ.

2. REVIEW OF RELATED LITERATURE

2.1 Theoretical Framework

The neoclassical growth theory assumes that FDI is an important precondition for short-term economic growth. This is because FDI increases the volume of capital in the host country, and in so doing create opportunity for improved economic activities. The theory further predicts that FDI inflow could add to long-run growth if it shows a positive and permanent effect on technology. Similarly, the endogenous growth model credited to Barro (1985) and Grossman & Helpman (1991) underscores the importance of FDI in the development of the recipient economy. Generally, the endogenous growth theory assumes that FDI contributions to GDP growth are more productive than internal investments as they encourage the incorporation of new

technologies in the production function of the host country. Therefore, some countries can develop technology, but others may benefit from the spread of technology that is produced elsewhere. The theory further assumes that FDI contributes to economic growth not only through capital formation and technology transfer but also through the increase of the knowledge level, training of workers and know-how purchasing.

The oligopolistic theory of FDI credited to Knickerbocker (1973) assumes that the oligopolistic behaviour of firms is the principal cause of FDI flows. Aside from the oligopolistic behaviour of firms, other motives outlined by this theory for choosing a particular country as a location for establishing a new facility include firms' desire to seek increased access to the host country's market, firms' desire to maximize relatively abundant factors available in the host country and firms' imitative behaviour in terms of matching a competitor's move. Knickerbocker (1973) asserts that firms in a given industry tend to imitate the location decision of other firms in oligopolistic market conditions. Therefore, the internationalization of competition increases the intention of other firms in the industry to invest in the country to maintain their strategic advantage. Noorbakhsh&Paloni (2001) argue that FDI can have a greater impact on economic growth if developed economic infrastructures and improved human capital are available.

2.2 Stylized Facts on FDI and Per capita GNI growth in the WAMZ Countries

The trends of FDI inflows and GNI per capita growth in each of the member countries of WAMZ are presented in Tables 1-2.

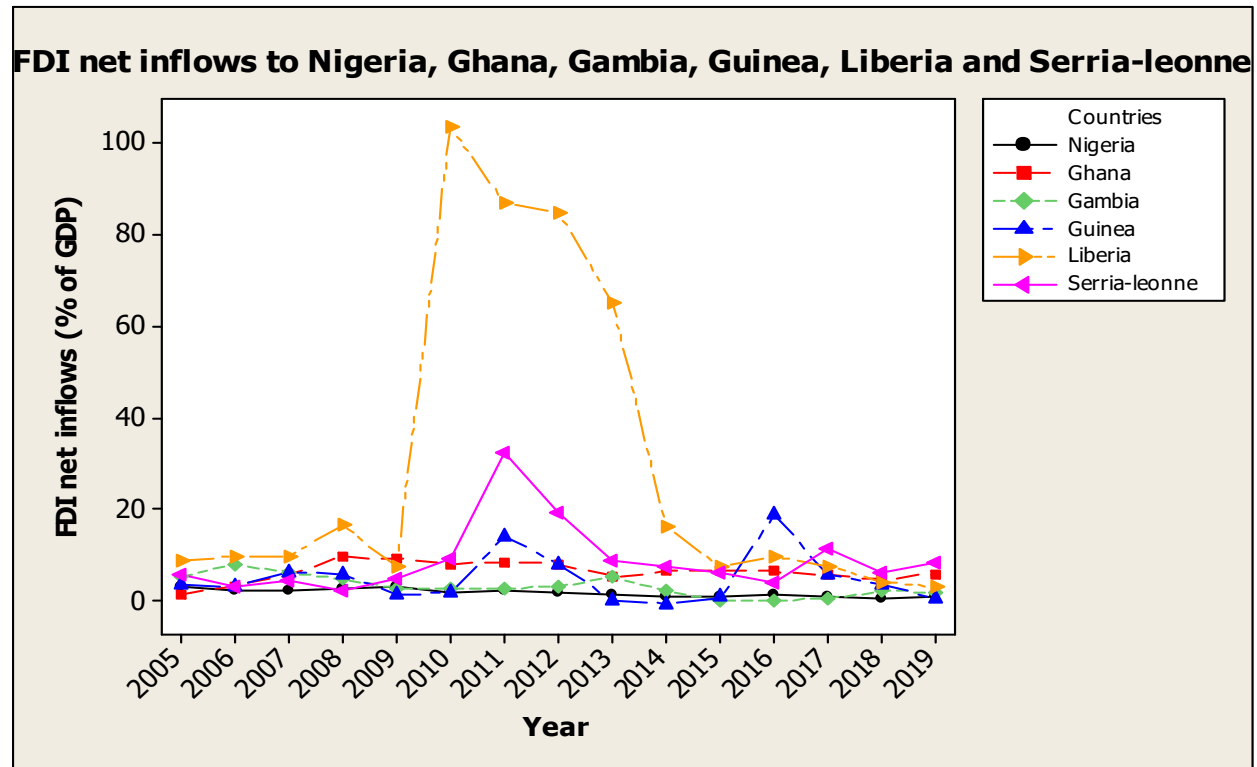


Figure 1: Trends of FDI inflows to WAMZ (2005-2019)

A cursory look at Figure 1 shows that Liberia has large net FDI inflows as it surpassed the other countries (Ghana, The Gambia, Nigeria, Sierra Leone, and Guinea) in the zone. This is a pointer that Liberia has remained a notable destination for FDI in the West African sub-region. It is also

evident in figure 1 that Sierra Leone is second to Liberia in the inflows of FDI as it surpassed to other four countries in the net FDI inflows from 2010 to 2014. Ghana, Guinea and Nigeria equally received a substantial amount of FDI during the study period. Overall, the net FDI inflows into the WAMZ fluctuated during the period covered. This could be linked to the changing dimensions of the policy and non-policy drivers of FDI in the member countries of WAMZ.

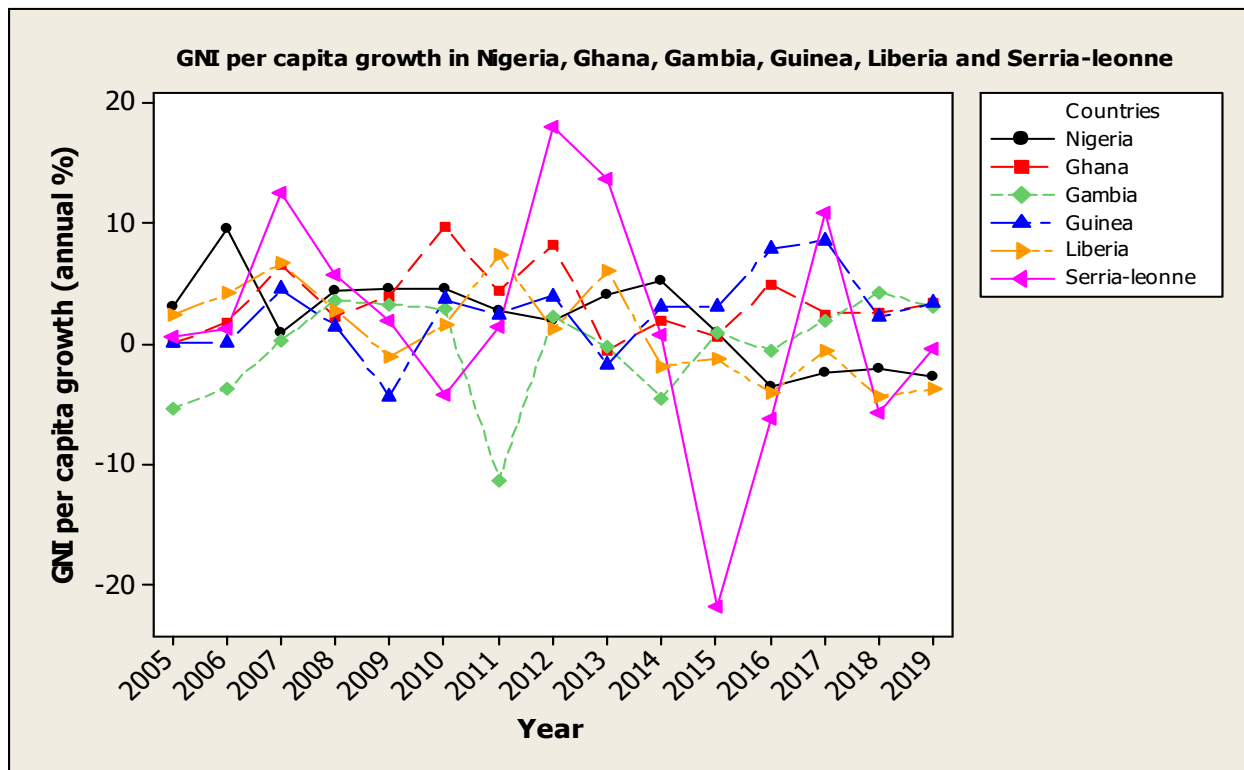


Figure 2: Trends of GNI per growth in WAMZ (2005-2019)

The per capita GNI growth for each of the member states of WAMZ fluctuated over the period covered. This suggests that the inclusiveness of the growth process in each of the WAMZ member states has been unstable. The variation in GNI per capita is more pronounced in Serria-Leone which is associated with an all-time high and low levels of GNI per capita in 2012 and 2015 respectively. Nigeria is equally associated with substantial variations in GNI per capita with a maximum value in 2006 and minimum value in 2016. Additionally, the growth of GNI per capita in the rest of the countries is equally unstable.

2.3 Empirical Literature

Using data from 1980 to 2018 for 43 African countries, Immurana (2020) explored the effect of FDI on life expectancy and the death rate. The study applied panel fixed effects estimator and found that FDI improves health outcomes even after robustness checks using different estimator and specification. Given this finding the study recommended that efforts toward attracting more FDI into Africa as well as making optimum use of the advantages that accompany FDI should be deepened considering the positive benefits it yields to the core indicators of health status. At the same time, Duarte, Kedong&Xuemei(2017) investigated the relationship among FDI and

economic growth and financial development in Cabo Verde for the period 1987-2014. The methodology involves the use of bound test approach to cointegration as well as the ECM-Granger causality analysis. The bound test indicated that there is a long-run relationship when GDP and FDI are used as the dependent variables. Moreover, the results indicated that FDI has a positive effect on the economic growth in Cabo Verde. The causality test reveals that bidirectional causality exists between FDI and economic growth. It further observed that both economic growth and domestic credit to private sector are important predictors of FDI into the country. To this end, this study suggested that it is important for policymakers to take appropriate measures to enhance and improve the condition for FDI inflow to Cabo Verde.

Using panel data for 19 Latin American countries, Alvarado, Iñiguez & Ponce (2017) explored the effect of foreign direct investment on economic growth. The study offered robust empirical evidence that suggests that the effect of FDI on economic growth is not statistically significant in aggregated form. This result varies when the levels of development reached by the countries in the region are incorporated into the model. It was evident in the results that FDI has a positive and significant effect on output in high-income countries, while in upper-middle-income countries the effect is uneven and non-significant. More so, the effect in lower-middle-income countries is negative and statistically significant. Based on the findings, the study concludes that FDI alone is not an adequate mechanism to accelerate economic growth in Latin America, with the exception of high-income countries.

Sindze, Nantharath & Kang (2021) empirically analyze the mean difference for FDI net inflows, GDP per capita, natural resource rents, inflation rate, corruption index, trade openness index, rule of law index, and political stability index received in each Central African Economic and Monetary Community (CEMAC) country. Paired t-test methodology was used to conduct the analysis. Data were collected from the World Bank Group database from 2007 to 2017. It was found that FDI net inflows decreased by an average of two billion dollars in CEMAC when conducting a mean-to-mean analysis from the recession period to the recovery period. The findings showed that FDI net inflows inversely affected the GDP per capita in Congo and Gabon. FDI net inflows may have contributed to the improvement of the GDP per capita in countries such as Cameroon, Chad, Central Africa Republic, and Equatorial Guinea. The study recommended for improvement of economic policies, regulations and laws, as well as the digitalization of public funds management to boost economic development and growth in the CEMAC region.

Rafat (2018) used vector autoregressive (VAR) to identify the relationship between FDI and economic growth in Iran over the period 1991–2014. Result shows that economic growth and foreign direct investment have a positive impact on each other. This is a pointer that there is a reciprocal relationship between the two variables. Additionally, the Granger causality test for GDP growth and foreign direct investment indicate show evidence of a reciprocal relationship between these two variables. In a related study, Worku (2021) explored how the financial sector development, the involvement of human capital resources and the inward flow of FDI affect economic growth in the East Africa. The study followed panel econometric methods and reveal that both financial sector development and FDI have positive and significant effects on economic growth in the panel countries. In addition, the bivariate causality test estimation indicates that both FDI and GDP growth rates have significantly positive contribution to each other and dynamic inter-temporal causal effects on one another in the short, medium, and long-

terms. Based on the findings, the study recommends for favorable environment conditions and conducive economic policies to continue to mobilize FDI to the region.

Joshua, Babatunde & Sarkodie (2021) explored the impact of FDI inflows and external debt on economic growth in SSA. The study used the econometrics methods of data analysis and the mixed order of integration from the stationarity test underpins the adoption of autoregressive distributed lag approach for data covering the period 1990 to 2018. The empirical results found FDI inflows play a crucial role in achieving economic expansion in the region. On average, FDI inflows, external debt, and foreign aids are more useful in expanding the economy compared to trade openness and exchange rate. Thus, this study recommends the need for SSA to open its economic borders for external capital to provide roadmap for sustainable growth of the economy.

Baiashvili & Gattini (2020) deployed a new perspective to deepen the understanding of the effects of FDI on growth mediated by institutional quality whereby we make use of country income levels as the key elements to peer-reference countries in 111 countries, stretching from developed economies to developing and emerging markets starting in 1980. The estimation method followed by the study is the panel GMM techniques robust to sample size, instrument proliferation and endogeneity concerns. It was observed that FDI benefits do not accrue mechanically and evenly across all the countries. An inverted-U shaped relationship between countries' income levels and the size of FDI impact on growth was observed. Moving from low to middle-income countries the effect gets larger. On the other hand, it diminishes again transiting to high income countries. Furthermore, the results showed that institutional factors have a mediating positive effect on FDI within country income groups, whereby countries with better-developed institutions relative to their income group peers show a positive impact of FDI on growth.

3. MATERIALS AND METHODS

3.1 Research Design

This study employed an ex post facto research design to examine the dynamic effects of FDI inflows on economic well-being in the WAMZ. The appeal for this research design is based on the fact the data required for this study were obtained from secondary sources which cannot be manipulated.

3.2 Model Specification

This study closely followed the work of Joshua, Babatunde & Sarkodie (2021) with an improving by incorporating the exports and imports based on their link to economic well-being as documented in extant literature. The functional specification of the model is provided as follows:

$$\text{GNPC} = f(\text{FDI}, \text{EXPORTS}, \text{IMPORTS}) \quad (1)$$

Where: GNPC = GNI per capita, proxy for economic well-being and FDI = foreign direct investments.

The focus on the six member countries of the WAMZ necessitated the use of panel data analysis. Specifically, the differences across the countries in the WAMZ formed the basis for the use of random effect model. The general specification of the random effect model is provided as follows:

$$Y_{it} = \alpha + \beta X_{it} + U_{it} + \varepsilon_{it} \quad (2)$$

Where: Y = vector of the dependent variable (GNI per capita).

X = vector of explanatory variables which include FDI, exports and imports.

U_{it} = individual or within-country error term

ε = between-country error term

i = unit of observation

t = time period covered

3.3 Data Analysis Techniques

The random effects model was employed to analyze the panel obtained for each of the WAMZ countries. The choice of the random effects model was necessitated by the outcomes of the Hausman test. Baltagi (2001) posits that the random effects model is preferable when the cross-sectional units are randomly selected from a large population. In addition, the model takes into consideration the difference between intercepts by accommodating by the error terms of each cross sectional unit. The random effects model is equally considered ideal for this study as it overcomes the problem of heteroscedasticity. Aside from the random effects model, this study employed descriptive statistics to analyze the distribution of the variables over the study period. The Im, Pesaran and Shin (IPS, 2003) panel unit root test was applied to examine the stationary properties of each of the variables. The IPS panel unit root test is based on heterogeneous cross-sectional formation and the null hypothesis assumes individual unit root process. Additionally, the Hausman test was used to test the null hypothesis that the appropriate model is the random effects model against the alternative hypothesis that the fixed effects model is appropriate.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The descriptive statistics for each of the variables are presented in Table 1.

Table 1: Basic statistics for the variables

	GNPC	FDI	EXPORTS	IMPORTS
Mean	1.836978	9.141472	25.58416	50.96130
Median	2.259315	5.171029	23.55096	40.72933
Maximum	18.00785	103.3374	82.44624	236.3910
Minimum	-21.77340	-0.840221	9.218110	10.66634
Std. Dev.	5.254645	17.75316	11.68135	41.33444
Jarque-Bera	80.02402	1136.401	351.1197	252.5478
Probability	0.000000	0.000000	0.000000	0.000000
Observations	87	87	87	87

Source: Authors' computation using E-views 10

The descriptive statistics showed that per capita GNI averaged 1.837 while FDI, exports and imports averaged 9.14 percent, 25.584 percent and 50.96 percent respectively during the study period. The per capita GNI fluctuated between a negative growth of -21.773 percent and

maximum positive growth of 18.007 percent. Similarly, there is a negative growth of FDI to the value 0.8402 percent and positive FDI growth of 103.33 percent during the study. This indicates that the WAMZ countries have been notable destinations of FDI. The standard deviation for each of the variables showed that the observations for GNI per capita and FDI do not cluster around their respective mean values while exports and imports are found to converge around their respective mean values. The probability values of the Jarque-Bera statistics showed that the observations for all the variables are not normally distributed at 5 percent significance level.

4.2 Panel Unit Root Test

The IPS panel unit root test was applied in this study and the results are presented in Table 2.

Table 2: IPS panel unit root test results

Variable	Levels test results IPS W-statistic	First difference test results IPS W-statistic	Order of Integration
GNPC	-1.2876 (0.0990)	-4.4735 (0.0000)	I(1)
FDI	-0.7629 (0.2228)	-2.6439 (0.0041)	I(1)
EXPORTS	-0.8008 (0.2116)	-2.4405 (0.0073)	I(1)
IMPORTS	-0.4673 (0.3201)	-3.7049 (0.0001)	I(1)

Source: Authors' computation using E-views 10

Note: Figures in parenthesis are the corresponding probability values associated with of the IPS statistics

The IPS panel unit root test results showed that all the variables are non-stationary at levels given that the associated probability values of the IPS W-statistic are greater than 0.05. Consequently, the variables were subjected to first difference test and the results showed that they are stationary at first difference. In other words, the variables are all integrated of order one. The evidence of first difference stationary for all the variables provides the basis for the choice of the Pedroni residual cointegration test.

4.3 Cointegration Test

The Pedroni residual cointegration test was applied in this study and the results are presented in Table 3.

Table 3: Summary of Pedroni residual cointegration test results

Series: GNPC FDI EXPORTS IMPORTS					
Null Hypothesis: No cointegration					
Alternative hypothesis: common AR coeffs. (within-dimension)					
		<u>Statistic</u>	<u>Prob.</u>	<u>Weighted Statistic</u>	<u>Prob.</u>
Panel v-Statistic		0.339491	0.3671	-1.081234	0.8602
Panel rho-Statistic		0.557005	0.7112	-0.324555	0.3728

Panel PP-Statistic	-6.505941	0.0000	-8.359664	0.0000
Panel ADF-Statistic	-5.587066	0.0000	-7.250704	0.0000
Alternative hypothesis: individual AR coefs. (between-dimension)				
	<u>Statistic</u>	<u>Prob.</u>		
Group rho-Statistic	0.583342	0.7202		
Group PP-Statistic	-9.999431	0.0000		
Group ADF-Statistic	-8.167072	0.0000		

Source: Authors' computation using E-views 10

The Pedroni residual-based cointegration test results revealed that four out of the seven outcomes are statistically significant at 5 percent significance level given that the associated probability values are less than 0.05. This finding provided the empirical condition for rejecting the null hypothesis of no cointegration. This implies that per capita GNI has a long run relationship with FDI, exports and imports during the study period.

4.4 Model Selection Test

The Hausman's test was applied to decide between the fixed and random effects models. The results are presented in Table 4.

Table 4: Hausman's test results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.128747	3	0.7701

Source: Authors' computation using E-views 10

The results showed that the probability value (0.7701) of the Chi-square statistic (1.1287) is greater than 0.05. Consequently, the null hypothesis that the random effects model is appropriate was accepted at 5 percent level of significance. This finding provided the basis for fitting the random effects model.

4.5 Estimation of the Random Effects Model

The panel generalized least squares (GLS) was applied for estimating the random effects model. The results are presented in Table 5.

Table 5: Summary of the estimated random effects model

Dependent Variable: GNPC				
Method: Panel EGLS (Cross-section random effects)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.768436	1.332713	-2.077293	0.0409
FDI	0.067661	0.032554	2.078424	0.0408
EXPORTS	0.267085	0.066529	4.014577	0.0001
IMPORTS	-0.055851	0.019866	-2.811440	0.0062
Effects Specification				
Cross-section random			0.000000	0.0000
Idiosyncratic random			4.917403	1.0000
Weighted Statistics				

R-squared	0.681936	Mean dependent var	1.836978
Adjusted R-squared	0.652368	S.D. dependent var	5.254645
S.E. of regression	4.837791	Sum squared resid	1942.551
F-statistic	6.153030	Durbin-Watson stat	1.982644
Prob(F-statistic)	0.000790		

Source: Authors’ computation using E-views 10

As observed from the results, FDI has a positive and significant effect on per capita GNI during the study period. The significant positive contribution of FDI to per capita GNI is a pointer that the inflow of FDI creates the opportunity for improving economic well-being in the WAMZ countries. This finding corroborates with the work of Sindze, Nantharath& Kang (2021) and Joshua, Babatunde&Sarkodie (2021) which highlighted the crucial role played by FDI in fostering economic expansion in SSA and promoting the growth of per capita GDP in countries such as Cameroon, Chad, Central Africa Republic, and Equatorial Guinea. The implication of this finding is that increased net inflow of FDI is imperative for improving the economic well-being of the population in the WAMZ countries. At the same time, the results showed that exports have a significant increasing effect on per capita GNI. This finding conforms to the a priori expectation which assumes that the growth of exports is associated with the growing levels of economic well-being. It further highlighted the significant contributions of exports to economic prosperity in the WAMZ. However, the results revealed that imports have a negative and significant effect on per capita GNI during the study period. This finding is consistent with the theoretical expectations as it explains the dampening effect of imports on economic well-being in the WAMZ. The probable reason for the adverse implications of imports on economic well-being could be attributed to the high import-dependent of the economies in the WAMZ which poses a threat to the wellbeing of the population. The R-squared revealed that FDI, imports and exports collectively explained 68.19 percent of the total variations in per capita GNI. Additionally, the highly significant probability value (0.0007) of the F-statistic (6.153) indicates that the explanatory variables are jointly important in explaining changes in per capita GNI. These findings attest to the statistical reliability of the estimated random effects model.

5. Conclusion Comments

The thrust of this study is to deepen the understanding of the contributions of FDI to economic well-being in the WAMZ countries. This was necessitated by the growing recognition of the role in FDI plays in driving economic development in the host economies. The findings showed that FDI contributed positively to the growth of per capita GNI. The significant positive contributions of FDI to per capita GNI explained the substantial role played by FDI promoting economic development in the WAMZ. Similarly, it was found that exports positively affected per capita GNI during the study period whereas imports had adverse effect on per capita GNI. The positive effect of exports on per capita GNI suggests that export growth offers opportunity for improved standard of living in the WAMZ. It is concluded from the findings that FDI inflows have the potential of promoting economic well-being in the WAMZ. The findings, therefore, lay credence to the postulation in extant literature that FDI is an important source of economic development in the host countries. Thus, it is recommended that policymakers in the WAMZ should encourage substantial FDI inflows by improving the ease of doing business and promoting good governance

to create more opportunities for improved economic well-being. The governments of the WAMZ countries should diversify the export base to ensure that each of the countries optimize the benefits of exports growth.

REFERENCES

- Adams, S. (2009). Foreign direct investment, domestic investment, and economic growth in Sub-Saharan Africa. *Journal of Policy Modelling*, 31(6), 939–949.
- Adams, S. (2009). Foreign direct investment, domestic investment, and economic growth in Sub-Saharan Africa. *Journal of policy modeling*, 31(6), 939-949.
- Alvarado, R., Iñiguez, M., & Ponce, P. (2017). Foreign direct investment and economic growth in Latin America. *Economic Analysis and Policy*, 56, 176-187.
- Anetor, F. O., Esho, E., & Verhoef, G. (2020). The impact of foreign direct investment, foreign aid and trade on poverty reduction: Evidence from Sub-Saharan African countries. *Cogent Economics & Finance*, 8(1), 1737347.
- Baiashvili, T., & Gattini, L. (2020). *Impact of FDI on economic growth: The role of country income levels and institutional strength* (No. 2020/02). EIB Working Papers.
- Baltagi, B.H. (2001). *Econometric analysis of panel data (2nd ed)*. New York: John Wiley & Sons.
- Camacho, F. R., & Bajaña, Y. S. (2020). Impact of Foreign Direct Investment on Economic Growth: Comparative Analysis in Ecuador, Peru and Colombia 1996-2016. *International Journal of Economics and Financial Issues*, 10(4), 247.
- Dhrifi, A., Jaziri, R., & Alnahdi, S. (2020). Does foreign direct investment and environmental degradation matter for poverty? Evidence from developing countries. *Structural Change and Economic Dynamics*, 52, 13-21.
- Duarte, L. D. R. V., Kedong, Y., & Xuemei, L. (2017). The relationship between FDI, economic growth and financial development in Cabo Verde. *International Journal of Economics and Finance*, 9(5), 132-142.
- Ebiringa, O. T., & Emeh, Y. (2013). Determinants of foreign direct investment inflow: A focus on Nigeria. *European Journal of Business and Management*, 5(24), 41-52.
- Gohou, G., & Soumaré, I. (2012). Does foreign direct investment reduce poverty in Africa and are there regional differences?. *World development*, 40(1), 75-95.
- Grossman, G. M., & Helpman, E. (1991). Trade, knowledge spillovers, and growth. *European economic review*, 35(2-3), 517-526.
- Im, K. S., & Pesaran, M. H. (2003). On the panel unit root tests using nonlinear instrumental variables. *Available at SSRN 482463*.

- Immurana, M. (2020). How does FDI influence health outcomes in Africa?. *African Journal of Science, Technology, Innovation and Development*, 1-11.
- Joshua, U., Babatunde, D., & Sarkodie, S. A. (2021). Sustaining Economic Growth in Sub-Saharan Africa: Do FDI Inflows and External Debt Count?. *Journal of Risk and Financial Management*, 14(4), 146.
- Knickerbocker, F. T. (1973). Oligopolistic reaction and multinational enterprise. *The International Executive*, 15(2), 7-9.
- Kumar, N., & Pradhan, J. P. (2002). FDI, externalities, and economic growth in developing countries: Some empirical explorations and implications for WTO negotiations on investment. *RIS Discussion Paper No. 27/2002*.
- Mensah, S. O. (2020). *The impact of foreign direct investment on the economic growth of Ghana from 1997 to 2017* (Doctoral dissertation).
- Noorbakhsh, F., Paloni, A., & Youssef, A. (2001). Human capital and FDI inflows to developing countries: New empirical evidence. *World development*, 29(9), 1593-1610.
- Osei, M. J., & Kim, J. (2020). Foreign direct investment and economic growth: Is more financial development better?. *Economic Modelling*, 93, 154-161.
- Rafat, M. (2018). The interactive relationship between economic growth and foreign direct investments (FDI): A VAR analysis in Iran. *Iranian Economic Review*, 22(1), 163-185.
- Raza, A., Azam, M., & Tariq, M. (2020). The Impact of Greenfield-FDI on socio-economic development of Pakistan. *Экономический журнал Высшей школы экономики*, 24(3).
- Sindze, P., Nantharath, P., & Kang, E. (2021). FDI and economic growth in the Central African Economic and Monetary Community (CEMAC) countries: An analysis of seven economic indicators. *International Journal of Financial Research*, 12(1), 1-11.
- Walsh, M. J. P., & Yu, J. (2010). *Determinants of foreign direct investment: A sectoral and institutional approach*. International Monetary Fund.
- Wang, E. Z., & Lee, C. C. (2021). Foreign direct investment, income inequality and country risk. *International Journal of Finance & Economics*. <https://doi.org/10.1002/ijfe.2542>
- Worku, U. R. (2021). The determinants of GDP growth rate in East Africa. *China-USA Business Review*, 20(1), 16-45. doi: 10.17265/1537-1514/2021.01.002