Does Foreign Portfolio Investment Drives Macroeconomic Variables of West Africa? Disaggregated Approach

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Authors' contributions

This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.

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ABSTRACT

The study sought to estimate the causal and dynamic relationship between macroeconomic variables and FPI in West Africa using System GMM techniques over the period of 1990 to 2016. The annual panel data were employed to achieve the objectives of the study. The results are in different form. Using system-GMM, the results provide useful evidence that variables of interest (portfolio equity and bond) do not exert any significant influence on the macroeconomic variables implying the underperformance of FPI. On the side of the short run and long run, portfolio equity and bond are insignificant in influencing real gross domestic product implying the underperformance of FPI. In sum, there is evidence of mixed result in portfolio equity/bond relationship with unemployment and balance of payment respectively. Portfolio equity has negative and statistically insignificant while portfolio bond has positive and insignificant. The policy implication is that the non-causality between FPI and macroeconomic variables could be attributed to poor economic activities among this developing countries and less developed nature of financial market important revelation for policy implication.

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1. INTRODUCTION

Portfolio investment as a component of foreign investment has been useful in filling the large savings gap prevalent in developing countries. Foreign investment in the form of the foreign portfolio is divided into portfolio equity and portfolio bonds. Portfolio instruments are classified into equity instruments and debt instruments [1]. In recent literature, several attempts have been placed on the impact of FPI on economic growth in host countries see, [2,3,4] and [5]. Theoretically, FPI in the neoclassical growth model promotes economic growth by increasing the volume of investment and/or its efficiency. In the endogenous growth model, FPI raises economic growth by generating technological diffusion from the developed world to the host country [6]. As summarized by contemporary scholars, most countries target to draw FPI into their economies, as they expect the long-term economic growth from extra stable assets in host nations. There are other fundamental reasons that help to the allure of FPI, for example, bond, development of capital market and equity to host countries. These intangible resources would be helpful for have nations to empower efficiency and economic growth. FPI may likewise get to foreign market when nations are utilized as a fare stage to convey items in the locale. Consequently, FPI seems to offer great qualities going from a high level of soundness, financial resources, positive efficiency impacts and access to foreign market see [7] and [8].

Unfortunately, the impact of FPI on growth remains most debated in empirical studies than in theoretical studies. While some studies observe a positive impact of FPI on economic growth, others detect a negative relationship between these two variables. The last strand upheld that significant relationship exist between FPI and economic growth especially in African countries see, [2,3,4], and [5]. The controversy has arisen partially due to data insufficiency in either cross-country or time-series investigations. More recent empirical studies, [9] and [4], make use of panel data to correct for continuously evolving country-specific differences in technology, production and socioeconomic factors, thus eliminating many of the difficulties encountered in cross-country estimations.

Another problem with assessing the effects of FPI on growth is endogeneity. FPI may have a positive impact on economic growth leading to an enlarged market size, which in turn attracts further FPI.

Another point of interest to the scholar is foreign portfolio investment (FPI) and diversification. According to international finance theory, foreign portfolio investment (FPI) flows are inevitable outcome of investors wanting to invest across countries in order to diversify the risk of their portfolio and achieve higher returns. Some of the studies that have documented the benefits of diversification across countries include [10,11,12,13], and [14]. From the point of view of the host country, especially the developing countries, portfolio flows are considered to play a pivotal role in bridging the saving-investment gap and providing the much needed foreign exchange to finance current account deficit. The developing countries across the globe have been making conscious efforts to attract foreign financial capital which provides an impetus to economic growth and financial market development in the host country. [15] reviewed the literature related to the benefits of financial flows from the host country perspective. The growing removal of restrictions on the trading of international financial assets has led to a surge in the flow of financial capital across the globe in the past two decades.

However, given the possible interdependency of these two variables, there is a need for a proper test of endogeneity. Unfortunately, many existing studies have focused on the FDI and less attention have been given to FPI. This paper examines whether FPI affects economic growth in the host country. It differs from existing studies in the following aspects. Firstly, it uses a larger cross-country (10 countries) sample over a longer time period (1990-2016). Secondly, it does not simply assume, but actively tests for the endogeneity of FPI and economic growth so that appropriate econometric methods can be chosen. The remainder of this study is structured as follows: section 2 provides a review of existing empirical literature. Section 3 presents the data and methodology of the study. Section 4 presents and discusses the empirical results. Finally, section 5 offers some concluding remarks on the findings.
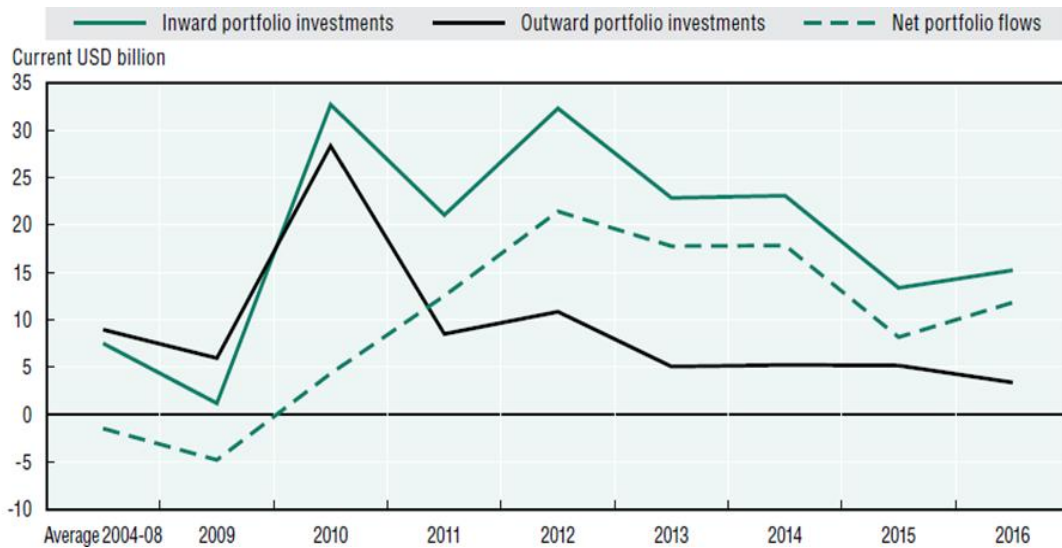
Fig. 1. Africa's inward and outward portfolio flows, 2004–16, USD billion
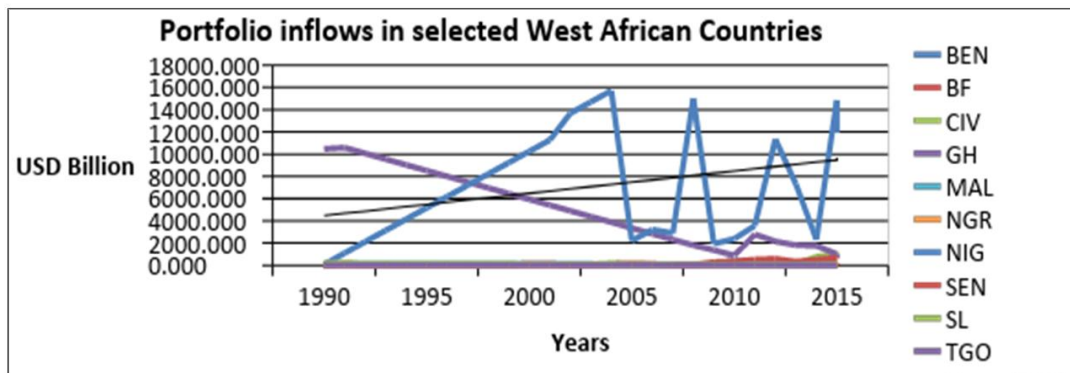*Source: Extracted from African Economic Outlook (2016)*

Fig. 2.
Source: Author's computation using World Bank development data

1.1 Stylized Fact on FPI and Macroeconomic Variables

According to the World Bank (2016a), global investors withdrew about USD 52 billion from emerging market equity and bond funds in the third quarter of 2015. Also during 2008-09 global financial crises, there is a sharp fall in portfolio inflows. But from 2010 gross portfolio inflows to Africa have stayed positive. They attained peak in 2010 and 2012, which was more than USD 32 billion each year. In 2015, gross portfolio inflows to Africa fell by USD 10 billion compared to 2013 and 2014, to USD 13.4 billion.

The chart Fig. 2 shows that portfolio flows in West Africa is highly volatile especially in Nigeria which reached peak 2004, 2008 and 2015.

2. LITERATURE REVIEW

2.1 Theoretical Review

The theory of portfolio investment have always centered on different arguments and strand of literature, among them are *Portfolio Theory of International Capital Flows*: At the forefront of this theory are [16] who presented nominal bonds and the portfolio composition of net foreign assets as an essential element and medium of capital flows between countries in 2006. Their propositions make domestic and foreign currency denominated bonds to differ to the extent which country's specific consumption risk can be hedged. This leads countries to have a distinct composition of currency- denominated

bonds in their national portfolios. By adjusting their gross positions in each currency's bonds, countries can achieve an optimally hedged change in their net foreign assets (or their current account), thus facilitating international capital flows. Moreover, the risk characteristics of optimal portfolios ensure that current account movements are sustainable - net debtor countries pay lower rates of return on their gross liabilities than they receive on their gross assets. This ensures that the distribution of wealth across countries is stationary.

Another strand of argument *follows the* Neoclassical theory of foreign portfolio inflows which predicts that capital should flow from capital-rich countries to capital-scarce countries, and the Lucas Paradox or why private capital doesn't seem to flow from rich to poor countries. It believes in the basic economic argument that capital flows from low return avenues to high returns. However, this is opposite as capital flows from emerging markets (where returns are high) to developed markets (where returns are low).

2.2 Empirical Review

2.2.1 Foreign portfolio investment and Macroeconomic variables in non-Africa

There are a lot research studies on foreign portfolio investment and macroeconomic variables. Notable scholars are [17] who empirically analyzed the impact Foreign Portfolio Investment on the economic growth in Malaysia using quarterly data ranging from 1991 to 2006. The study employed Granger causality and non-causality of Toda and Yamamoto (1995) texts to determine the direction of the relationship between RGDP and FPI as well as the relationship between the volatility of Foreign Portfolio Investment and RGDP. The findings revealed that there is a uni-directional causality running from economic growth to changes in Foreign Portfolio Investment and its volatility.

[18] analyzed the effect of foreign portfolio investment, and other foreign investment on economic growth in 88 developed and developing (OECD) countries from 1977-2000. The variables considered in the study include OFI (other foreign investments), and FINV (foreign investments, FDI, Equity FPI, Bond FPI). Using OLS and dynamic panel model to analyze the cross-sectional data, the result revealed that FPI has no effect in most measures while some showed that OFI has a negative impact on

growth. Also, FPI does not correlate positively with macroeconomic volatility, while the negative indirect effect of OFI through macroeconomic volatility comprises a substantial portion of the gross negative effect of Other Foreign Investments on growth. Finally, Bond FPI does not have any impact on growth. He asserted that the effect of both FDI and portfolio equity is dependent on the financial and institutional development of the recipient country.

[19] analyzed the relationship between economic growth and lagged international capital flows in about 100 advanced and emerging economies from 1990-2010. The capital flows were disaggregated into FDI, portfolio investment, equity investment, and short-term debt. A cross-country regression was used to analyze the panel data. Their findings showed that non-FDI flows (such as portfolio investment and the growth of equity investment) have no effect on the growth of GDP/capita in a cross section of the countries. The relationship between growth and short-term debt was nil before the crisis, and negative during the crisis. Also, a positive and significant relationship existed between FDI – both inflows and outflows and growth.

[20] conducted a study on a panel of 100 developing (69) and developed (31) countries for the period of 1990-2009 on the effect of foreign direct investment and portfolio investment on economic growth. Employing panel data analysis, the fixed effects and the random effects models, the result indicated that FPI does not enhance output growth in developing economies (it had a negative and insignificant impact on growth) while FDI was positively and statistically significant for both developed and developing countries. With the GMM estimator, FPI was positive and significant in developed countries, while with random effects, FPI was positive and insignificant. In all countries, the coefficient of PI is negative and significant.

[21] investigated the effect of FPI on economic growth in 181 countries from 1960-2007. They established that increase in capital inflows of emerging countries is associated with high likelihood of economic and financial crisis.

[22] estimated the importance of portfolio investment flow levels and volatilities as determinants of subsequent economic growth in OECD from 1988-2001. Using OLS and GARCH methodology to analyze a cross-country data, they found that openness to portfolio flows is

statistically conducive to growth. Also, flows involving local equity securities, net sales by locals were most strongly associated with growth for the less-developed countries. The volatility of portfolio flows was, at most, weakly and undependably related to subsequent growth. And volatility does not systematically depress growth.

[9] examined the role of foreign capital inflows and workers 'remittance in the domestic savings of developing countries, paying much attention to likely differential effects of foreign direct investment (FDI), portfolio investment, foreign aid and workers' remittance inflows. The study employed annual panel data set for 63 developing countries over the period of 1971-2010. And the findings revealed that FDI and portfolio flows do not have any positive and significant impact on the domestic savings of the developing countries while ODA and remittances have positive and significant impact on savings.

[23] examined the effects of FDI and Equity Foreign Portfolio Investments (EFPI) on economic growth 83 countries (62 non-OECD [Organization of Economic Co-operation and Development] and 21 high-income countries) with cross-sectional data spanning 1979-1998. Employing at least one absorptive capacity regression, he found out that that FDI and EFPI do not have positive effect on economic growth. Hence he concludes that the effects of FDI and EFPI on growth depend on the absorptive capacity of host countries which in turn depends on the institutional and financial absorptive variables.

2.2.2 <u>Foreign portfolio investment and Macroeconomic variables in Africa</u>

[5] examined the long-run relationship between economic growth and four different types of private capital inflows (cross-border bank lending, foreign direct investment (FDI), bonds flows and portfolio equity flows) on a sample of selected sub-Saharan African countries from 1980-2007. Employing panel data cointegrtaion, their result indicated that both FDI and cross-border bank lending exert a positive and significant impact on economic growth in SSA, whereas portfolio equity flows and bonds flows have been found to have no growth impact.

[3] analyzed the impact of Foreign Private Investment on economic growth in Nigeria from 1970 to 2001. Using the ECM method, the results revealed that both private capital and lagged foreign capital have an insignificant

impact on the economic growth. Their result supports the argument that extractive FPI might not be enhancing growth as much as manufacturing foreign portfolio investment.

[24] investigated the impact of foreign portfolio investment on economic growth and the long run determinants of FPI in Nigeria from 1986-2011. Employing unit root test, co-integration and ECM techniques and considering foreign portfolio investment, inflation rate, market capitalization, trade openness as main variables, they found out that foreign portfolio investment; market capitalization and trade openness have positive long-run relationship with real gross domestic product in Nigeria.

[2] examined the relationship between foreign capital (FDI and FPI) inflows and economic growth (GDP) in Nigeria from 1981-2014. Employing Tada Yamamoto test of causality, a bi-directional causality was discovered running from GDP to FDI and FDI to GDP. On the relationship between foreign portfolio investment and GDP, a unidirectional causality was observed running from FPI to GDP.

[4] analyzed the impact of capital flows on selected Sub-Saharan African Countries (Nigeria, Ghana and South Africa) economic growth from 1980-2010. The study considered RGDP (as dependent variable), and explanatory variables which include; FDI (Foreign direct investment inflows), FPI (Foreign Portfolio investment inflows) ODA (Overseas Development Assistance inflows), EMR (Economic Migrants remittances), OPN (Degree of Trade openness), EXCHr (Prevailing exchange rate), INFL (Level of inflation), and LBF (Labor force consisting of population ages 15-64 (As percentage of total population). OLS, Cointegration test and granger causality tests were employed and the findings revealed that for the granger causality tests; In Nigeria OPN granger caused RGDP) while RGDP granger caused EMR, FDI, FPI and ODA. In Ghana, there existed bi-directional causality between RGDP and FDI. Also, RGDP granger caused EMR, INFL, LBF and ODA. In South Africa, there existed a bi-directional causality relationship between RGDP and FDI, FPI, INFL, ODA and OPN. LBF granger caused RGDP, while RGDP granger caused EMR. However, the long run result showed that there were no significant long run relationships between foreign capital inflows and the level of economic growth in Nigeria and South Africa except for lagged value of GDP (in

the immediate past year). In Ghana, it was same except for FDI and lagged value of GDP which were positively significant.

[25] analyzed the impact of foreign portfolio investment on employment rate in Nigeria from 1980-2014. The study employed single equation and reduced form specification techniques and their result revealed that portfolio has a long term positive and significant impact on employment rate. Hence the outcome supports the general view of positive relationship between FPI and GDP.

[26] examined the effect of foreign portfolio investment on Nigerian economic growth from 1991 to 2014. Employing GDP as dependent variable and portfolio investment, gross fixed capital formation, market capitalization and exchange rates as the explanatory variables in an OLS model, the result revealed that apart from exchange rates, the explanatory variables including foreign portfolio investment have positive and significant impact on growth.

3. DATA AND METHODOLOGY

3.1 Data and Measurement

The selection of the sample period and countries are based on the availability of annual data, spanning the period 1990 to 2016. The selected West African market is classified by World Bank. Thus, this study makes use of a balanced panel data set of 10 West African countries; Benin, Burkina Faso, Cote D'ivoire, Ghana, Mali, Niger republic, Nigeria, Senegal, Sierra Leone, and Togo. The study considered panel data series on output, FPI inflow, trade openness and exchange rate which are obtained from the World Development Indicators (WDI) online database published by the World Bank. Following explanation on [27], the measurement of the variables in this study are as follows:

Gross domestic product (Output): GDP figures are measured in current US dollars by using current exchange rates of domestic currency against the US dollar. The GDP figures are divided by total population of the country to get the per capita GDP measure. Invariably, it based on constant currency unit.

Foreign Portfolio Investment: FPI is measured in constant US dollars and this is the total of equity capital, reinvestment of earnings, and also other long- and short-term capital as indicated in the balance of payments. Hence, FPI is disaggregated into equity and bond.

Openness: A host country's trade openness is an important element for FDI, and its importance increasing specifically with Sub-Saharan African FDI. Openness is essential for foreign investors who target a particular country and planning to operate export-motivated FDI in that country. A high openness degree reflects good connections with the regional and global markets and foreign investors can be confident that they will have accessible channels for their trade. Given that the data sample in this thesis covers the selected African countries, and these countries assumed to have already established effective trade channels, it is expected, therefore, to find a positive impact of openness on FDI inflows in these countries.

Exchange rates: The exchange rate between the host and home country is often used to measure the costs of production inputs. Clegg and Scott-Green (1999) shows that if all things being equal, an appreciation of the home country's currency should increase growth as it becomes cheaper to 'hire' a given amount of labour in that host country. Thus, an increase in the real exchange rate (a real depreciation of the currency of the host country) is expected to have a positive effect on growth in the host country.

Unemployment: It is one the key macroeconomic indicator and captures the level employment in any country.

3.2 Model Specification

Given that the goal is to investigate the dynamic relationship between FPI and macroeconomic variables while controlling for the influence of trade openness and exchange rate. Building on the works of [20] and [18] we exploit the cross section and time series dimension of our data by using panel data estimation techniques. Macroeconomic variables (macroeconomy-ma) depends on FPI (portfolio-y equity and bond- p) while controlling for other exogenous variables- d − vector of control varibles.

$$ma_{it} = \alpha_i \, ma_{it-1} + \beta_{i1} \, y_{it} + \beta_{i2} \, p_{it} + \beta_{i3} \, d_{it} + v_i + \psi_t + \varepsilon_{it} \quad (1)$$

where i denotes the country (i=1,y,……10) and t denotes the time period (t=1990, y, 2016). Eq. (1) is a fairly general specification which allows for dynamic macroeconomic effects, individual

fixed country effects (ν), fixed time effects (ψ), and a stochastic error term (ε).

Eq. (1) is an example of a linear dynamic panel model (Arellano and Bond, 1991). This model contains unobserved panel-level effects which may be either fixed or random. By construction, the unobserved panel-level effects are correlated with the lag(s) of the dependent variable and this makes most standard estimation approaches inconsistent (Arellano and Bond, 1991).

From the aforementioned details, to hand the econometric issues and control for the potential endogeneity of foreign portfolio investment we have applied the dynamic panel estimator of [28] and Blundell and [29]. Although we could use an instrumental variable estimator for this purpose, this dynamic panel estimator also allows us to control for the endogeneity of all the other regressors in the model and at the same time control for the econometric problems that arise from the inclusion of the initial selected macroeconomic variables as an explanatory variable. This estimator involves estimating the equations in levels and in differences.

For the levels equations lagged values of all explanatory variables are used as instruments while for the differenced equation we use the lagged values in levels of all explanatory variables as instruments. The two equations levels and differenced are then combined to give the GMM system estimators. These instrumental variables are called internal instruments because they rely on previous realisations of the explanatory variables and we test their validity using the Sargan test and their consistency using the second-order serial correlation test.

4. EMPIRICAL RESULTS

4.1 Sys-GMM Panel Estimation Regression Results

In column one-specification one which is the real gross domestic product (RGDPC) model, a unit increase in gross fixed capital formation (gfcf), portfolio equity (pe), portfolio bonds (pb) and degree of trade openness (top) will bring about 0.002009, 0.0121849, 0.0201626, and 0.064056 increases in rgdpc respectively. Also a unit increase in exchange rate (exr) will bring about 0.0369635 35.67212 decreases in rgdpc. Statistically, none of the variables is significant in influencing rgdpc in the selected West African countries.

Table 1.

Variables	lnrgdp	Lnbop	lnunr
lnrgdp(-1)	0.5959		
	[0.603]		
lnbop(-1)		0.4160	
		[0.573]	
lnunr(-1)			0.6260
			[0.236]
lngfcf	0.002	-0.0940	-0.0200
	[0.939]	[0.908]	[0.790]
lnpe	0.0121	-0.2080	-0.0170
	[0.0663]	[0.857]	[0.856]
lnpb	0.0200	-0.2050	0.0130
	[0.683]	[0.792]	[0.885]
lntop	0.0640	-3.6860	-0.0060
	[0.673]	[0.658]	[0.885]
lnexr	-0.0370	0.8030	-0.0610
	[0.729]	[0.787]	[0.873]
Diagnostic test			
AR(1)	0.1290	0.189	0.290
AR(2)	0.5670	0.637	0.536
Sargan test	0.2560	0.346	1.000
Hansen test	1.0000	1.000	1.000
Obs	260	260	260

P-values=0.01, p=0.05, p=0.10 The regression coefficients are estimated using the Arellano and Bover (1995) and Blundell and Bond (1998) system GMM estimation approach. AR(1) and AR(2) are Arellano and Bond (1991) tests for autocorrelation indifferences. Sargan is test (Arellano and Bond (1991)) and Hansen test for over-identification restrictions. p values for these tests shown in parenthesis. Estimation uses the xtdpdsys command in Stata14. GMM type instruments for the difference equation include the second, and third, lags of selected macroeconomic variables. Standard-type instruments for the difference equation include the first difference gfcf, trade openess and exchange rate variables. GMM-type instruments for the level equation include the lagged first differences of selected macroeconomic variables

In column two which is Balance of payment (BOP) model; a unit increase in gfcf, pe, pb and top will bring about 0.0944565, 0.2083763, 0.2047288, and 3.686095 decreases in BOP respectively. Also a unit increase in exr will bring about 0.8034312 increases in BOP. Statistically, none is significant in influencing bop in the selected West African countries within the period under review.

In spec. 3 which is Unemployment rate (UNR) model; a unit increase in gfcf, PE, top and exr will bring about 0.019583, 0.0168408, 0.0060001

and 0.0605512 reduction in unemployment. Also a unit increase in pb will bring about 0.01308 increases in unr. Statistically, none of the variables is significant in exacting influence on unemployment.

However, Sargan and Hansen tests of overidentification restrictions indicate p-values are not significant. This implies that we will not reject the null hypothesis and so we conclude that all instruments as a group are pure exogeneous. Hence, the instruments used in the model are desirable.

Finally, the Arellano-Bond tests for AR (1) and AR (2) in first differences first and second order autocorrelation tests are insignificant. This means acceptance of null hypothesis and we conclude that error term of the differenced equation is not serially correlated at both 1st and 2nd order.

4.2 Macroeconomic Variables Elasticity Estimates Calculated Using the Estimates from Table 1

Table 2.

	lnrgdp	Lnbop	lnunr
Short run			
Lngfcf	0.002	-0.094	-0.020
Lnpe	0.0121	-0.208	-0.017
Lnpb	0.02	-0.205	0.013
Lntop	0.064	-3.686	-0.006
Lnexr	-0.037	0.803	-0.061
Long run			
Lngfcf	0.00494	-0.1609	-0.0534
Lnpe	0.02994	-0.3561	-0.0454
Lnpb	0.04949	-0.3510	0.0347
Lntop	0.15837	-6.3116	-0.0160
Lnexr	-0.0915	1.375	-0.1631

4.3 Analysis of Short and Long-run Elasticity

The short-run gross domestic product elasticity is 0.002 indicating that a 1% increase in gross fixed capital formation (gfcf) increases rgdp (real gross domestic product) by a value of 0.002%. Also, the short run portfolio equity and portfolio bonds elasticicies are 0.012 and 0.02 which implies that a 1% increase in portfolio equity (pe) and portfolio bonds (pb) will increase real gross domestic product by a value of 0.012% and 0.02% respectively.

The long-run elasticities are obtained by dividing the short-run elasticities by one minus the estimated coefficient on the lagged rgdpc variable. The long-run gross domestic product elasticity is 0.005 indicating that a 1% increase in gross gross fixed capital formation increases rgdp by a value of 0.005%. The long-run portfolio equity and bonds elasticities are 0.012 and 0.020 which indicate that a 1% increase in portfolio equity and portfolio bonds increase rgdp by 0.012% and 0.02% respectively. The long-run elasticities are a bit larger which are 0.030 and 0.050. This means, that for the case of portfolio equity and bonds, a one percent increase in pe and pb increases rgdp by 0.030% and 0.050%.

For the Balance of payment (BOP) model, a one percent increase in gfcf reduces BOP by 0.094% in the short run and 0.161% in the long run. For the case of portfolios, a 1% increase pe and pb reduces BOP by 0.208% and 0.205% in the short run and by 0.356% and 0.351% in the long run.

Finally for the Unemployment rate (UNR) model, a one percent increase in gfcf reduces UNR by 0.020% in the short run and 0.053% in the long run. For the case of portfolios, a 1% increase pe reduces UNR by 0.017% in the short run and 0.045 in the long run. While a 1% increase in pb increases UNR by 0.013% in the short run and 0.035% in the long run.

5. DISCUSSION OF FINDINGS AND POLICY ANALYSIS

The GMM regression results reported in Table 1 can be used to calculate short-run and long-run elasticities (Table 2). Short-run elasticities are obtained directly from the reported results in Table 1. The short-run gross domestic investment elasticity is 0.002 indicating that a 1% increase in gfcf increases rgdp by a value of 0.002%. The long-run elasticities are obtained by dividing the short-run elasticities by one minus the estimated coefficient on the lagged energy demand variable. The long-run gross domestic investment elasticity is 0.005 indicating that a 1% increase in gfcf increases rgdp by a value of 0.005%. The short-run portfolio equity and bonds elasticities are 0.012 and 0.020 which indicate that a 1% increase in pe and pb increase rgdp by 0.012% and 0.02% respectively. The long-run elasticities are a bit larger which are 0.030 and 0.050. This means, that for the case of portfolio equity and bonds, a one percent increase in portfolio equity and portfolio bond increases rgdp by 0.030% and 0.050%.

The results from this paper show that portfolio equity and portfolio bond do not have as large of an impact on the selected macroeconomic variables especially on balance of payment (bop) where we found positive and insignificant effect. These results have implications for economic growth and unemployment in Africa. Studies have argued that foreign portfolio investment can stimulate economic growth, balance of payment and reduce unemployment through technology transfer and diffusion, spillover effects, productivity gains, and the introduction of new processes, and managerial skills the empirical evidence is far from conclusive and there are many empirical studies that fail to find a strong relationship between FPI (bond and equity) and economic growth. This may partially explain why the findings of this paper show that net FPI had little impact on the selected macroeconomic variables. It may also be the case that while foreign direct investment cannot stimulate economic growth see [27].

6. SUMMARY AND CONCLUSION

The main objective of this study is to estimate the causal and dynamic relationships between macroeconomic variables and FPI in West Africa. To achieve this objective, the present paper employed System GMM techniques over the period of 1990 to 2016. The results provides useful evidence that variables of interest (portfolio equity and bond) do not exert any significant influence on the macroeconomic variables of the selected West African countries implying the underperformance of FPI. On disaggregated level, the variables of interest are negative and insignificant in influencing rgdpc in the selected West African countries implying the underperformance of FPI. Third, there is evidence of mixed result in portfolio bond and portfolio bond relationship with the balance of payment/ unemployment respectively. Portfolio equity has negative and statistically insignificant while portfolio bond has positive and insignificant. The insignificant relationship between FPI and macroeconomic variables could be attributed to poor economic activities among this developing country and important revelation for policy implication.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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