DYNAMIC STOCHASTIC PANEL ANALYSIS OF FDI INFLOWS, EMPLOYMENT GENERATION AND POVERTY REDUCTION IN SOME SELECTED ECOWAS COUNTRIES

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Abstract

Background and aim: over the years, FDI has been positively and significantly contributing towards economic growth and development through job opportunities and technological transfer in many developing nations. However, a persistent decline in FDI inflows to ECOWAS over the last decade has created an investment deficit for employment-enhancing initiatives. In the light of this, dynamic stochastic interaction among FDI inflows, employment generation and poverty reduction in ECOWAS sub region was examined. Scope: The data used in this study spanning from 1990 to 2021. Methods: this study utilizes impulse response and variance decomposition. Results: findings in this study show a high linkage among FDI, employment and reduction of poverty exists in the study, which implies a significant role of FDI in generating employment and consequently reducing poverty ECOWAS. Conclusions:

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it is worth noting that policy shocks to FDI, employment generation poverty reduction in ECOWAS sub region do not respond with an immediate actions in the best direction. Originality: the use of impulse response and variance decomposition in estimating the goals of this study. Practical implications: policy makers should as a matter of necessity consider the time lag it involves in order to ensure appropriateness in the timing of policies when employment generation and poverty reduction are the goals of the policymakers.

Keywords: FDI Inflows; Employment; Poverty Reduction; ECOWAS

JEL Classification: F21; F23; F36

1. Introduction

In the recent times, ECOWAS sub region is locked in a double constraints – insufficient local revenue and foreign aid to support the infrastructural facilities in one hand and these countries have low private-sector capital and investment capacity due to poverty on the other hand (Chea, 2011; Sy & Rakotondrazaka, 2015; Ajagbe *et al*., 2023). In this respect, FDI becomes an inevitable means of private finance. Besides being the prominent source of external capital, the influx of FDI assists also in filling the inadequacies of resources between the planned investment and domestically driven savings in addition to the gap between planned foreign exchange and those revenues net export generated. Due to the strategic roles of FDI in host countries, global FDI sparked off from $158 billion in 1988 to $1 trillion, 39 billion in 2019. Meanwhile, FDI concentrated more in developed countries. As such the inflows of FDI into developed markets rose from 170 billion dollars in 1990 to 712 billion dollars in 2017, which slumped to 643 billion dollars in 2019. In the case of developing countries, FDI inflows rose from 34 billion dollars to 695 billion dollars in 2019. In the context of Africa, FDI rose from 2.80 billion dollars 1990 to 45 billion dollars in 2019. However, African as a region has been lagging behind in attracting FDI comparing to other regions of the world. In the last 37 years, African continent has only been able to attract three (3) percent (%) of FDI inflows in the entire globe. This flow of capital in Africa is extremely far below the performance of other developing regions especially Asian continent (UNCTAD, 2020).

Evidence from the past few years shows that FDI inflows in Africa has not been stable. From 2015 to 2016, there was a decline in FDI from 61 billion dollars to $59 billion dollars, which further declined by 10 percent (%) to $53 billion in 2019 (UNCTAD, 2020). The distribution of FDI inflows across sub regions of Africa has been uneven because five markets, namely Ghana, Egypt, Ethiopia, Angola and Nigeria received the biggest shares of over 57 percent (%) of continent's total FDI in

2016. (UNCTAD, 2018). Over the time, Economic Community of West Africa States, [ECOWAS] sub region has been seen as the best destination of FDI in Africa. From the records of the UNCTAD, it was discovered that countries in ECOWAS accounted for over 91%, 74% and 55% of the African total FDI in 1975, 1973 and 1971 respectively. Similarly, this sub region still received the biggest proportion of Africa`s entire FDI in the 1990s. At sub regional level, between 1971 and 2010, the ECOWAS sub region received 31.3 %. Also, the Northern part of Africa has embraced 29.1%, in that regard, the two regions claimed over 60% of the overall FDI in the continent. However, 23.8% of African FDI inflows went to West Africa from 2011 to 2017 (UNCTAD, 2018).

The impact of FDI as a tool of employment creation in developing economies cannot be undermined (Aderemi *et al*., 2022). Over the years, FDI has been positively and significantly contributing towards economic growth and development through job opportunities and technological transfer in many developing nations. (Ucal, 2014; Adelowokan *et al*., 2023; Aderemi *et al*., 2021; Mohammadvand & Ketabforoush, 2013; Tang & Tan, 2014; Mohammadreza & Arash 2014). Therefore, FDI is presumed to possess features that improve job opportunities that could stimulate regional economic development.

Additionally, a persistent decline in foreign assistance inflows to ECOWAS over the last decades has created an investment deficit for employment-enhancing initiatives. As a result, it is critical for policymakers to allow alternate methods of filling this gap, since most nations in West Africa have low pay levels, high unemployment rates, and a large dependence on the informal sector owing to investment gap difficulties (World Bank, 2020; UNDP, 2019; Ogunleye et al., 2020; Aderemi *et al*., 2020). Investment theories, such as Mundell's (1957) capital movement theory, have suggested that foreign capital inflows, such as FDI projects, may bridge an investment deficit and, as a result, generate a considerable number of jobs in an economy. Despite the fact that academics have recently produced empirical data that supports employment-enhancing spillovers of FDI, it has been recognised that the evidence is now insufficient for policy action in the ECOWAS subregion. (Folawewo & Adeboje, 2017; Olowookere *et al*., 2021; Mkombe *et al*., 2021). This creates a knowledge vacuum in the literature, which this research will attempt to fill.

Moreover, the originality of this research is ascribed to the use of impulse response and variance decomposition in estimating the goals of this study, which no study has investigated for the ECOWAS sub region and beyond in recent times. As a result, our research addressed the stated gap by giving empirical responses to these

particular issues. Therefore, the study provides an empirical answer to this research question. How do FDI, poverty reduction and employment respond to shocks in ECOWAS Sub-Region? This study is very important, because the best strategy to achieve full employment and poverty reduction in investment deficit countries is crucial for policymakers and other stakeholders. The study's results would aid policymakers by offering a better understanding of how FDI inflows may bridge the present investment gap in the ECOWAS sub region. Similarly, unemployment and poverty are the present distinctive development issues facing the ECOWAS sub region. As a result, the primary motivation for this research is the pressing necessity to find the impact of FDI on job creation and poverty reduction in the ECOWAS sub region. As a consequence, the findings of this research give statistically credible data for policymakers and other key development organisations tasked with combating the unemployment and poverty threat in the ECOWAS sub region. Since there is a knowledge vacuum in the literature about the relationship between FDI, poverty reduction, and job generation in the ECOWAS sub-region in recent times, this research would contribute to the existing bodies of knowledge. In particular, the results of this research would serve as a resource for academics, policymakers, investors, and development organisations in the field of development economics literature.

2. Empirical Review

The review was conducted from developing and emerging countries, developed countries and Sub-Saharan countries in order for ease of understanding the historical development of the subject matter.

Jorge and Richard (2018) used ARDL to determine if FDI accelerated Spain's growth between 1984 and 2010. There is no proof, according to the authors, that FDI will boost economic growth in this nation. It is also discovered that the introduction of Spain into the EU and the euro has no beneficial impact on growth. In order to evaluate the linkage that existed among FDI inflows, employment, and wages accrued to low- and high-skilled workers in the real sector of the Mexican economy between 2005 and 2018, Saucedo et al. (2020) used Panel Corrected Standard Errors (PCSE) together with Fixed Effects (FE). The authors made the case that an increase in FDI inflows in the manufacturing sector has a direct impact on both the employment of low- and high-skilled workers. However, conflicting results were found in the service sector. Habibi and Karimi (2017) employed ARDL and Granger causality approaches to investigate the interference of FDI with economic

development in Iran and the Gulf Cooperation Council (GCC) between 1980 and 2014. According to the authors, FDI is a significant propeller of economic prosperity in Iran and the GCC nations. Yet, there is a two-way causal impact between FDI and real GDP growth in Qatar, Saudi Arabia, and the UAE. Yet, the rates of real GDP growth in Iran and Bahrain are only one-way causally connected to FDI. Sukhadolets et al. (2020) estimated the association between poverty reduction, construction investment, and FDI in BRICS and EU countries using the ARDL approach. According to the paper, foreign direct investment mitigated the detrimental consequences of financial crises. Long-term building investments aided the economies of the nations under consideration, and the spillover effects decreased poverty by boosting people's assets. Yunus (2020) utilised the Ordinary Least Squares (OLS) estimator to examine the relationship between Malaysia's manufacturing sector and FDI drivers from 2000 to 2018. According to the research, indigenous direct domestic investment and investments in employer training had a substantial impact on FDI inbound stock in medium-high and low-technology sectors. Moreover, degree holders working in the chemical, machinery and equipment, electrical and electronics (E&E), and other sectors were shown to have a disastrous influence on FDI inwards owing to their evaluated level of absorptive ability. Tsaurai (2020) employed pooled OLS, fixed effects, and Fully Modified Ordinary Least Squares to interrogate if the complementarity between FDI and financial subsector growth aided poverty reduction in BRICS countries between 1994 and 2013. (FMOLS). According to the study's conclusions, financial development has a favourable influence on poverty reduction. The impacts of financial development and FDI on poverty reduction are likewise varied, however it is generally obvious that their complimentary nature increased the effectiveness of poverty reduction measures. Hanim (2021) utilised the Triangular Hypothesis between 2012 and 2016 to investigate how FDI affects poverty reduction in the Indonesian economy. The author argued that FDI had a big direct influence on the growth of the Indonesian economy, and that this expansion had a considerable impact on poverty reduction. Yet, the relationship between the prosperity of economy and income unevenness had a far higher influence on the nation's poverty reduction.

Therefore, using dynamic OLS (DOLS) for the analysis of the study, Brambila-Macia and Massa (2010) investigated the effects of various types of capital flows on growth in a chosen group of nations in Sub-Saharan Africa from 1980 to 2008. Even after adjusting for other growth drivers like government spending and trade openness, the analysis clearly showed that both FDI and offshore bank advances had large,

positive benefits on GDP. Tsaurai (2018) investigated the possibility for complementarity between natural resource availability and FDI in weakling poverty in both Southern and Western African markets between 2002 and 2012. She also assessed the impact of FDI on poverty. The author used dynamic OLS and GMM with fixed effect, random effect, and dynamic OLS to analyse the study's purpose and make this assertion. Natural resources are often abundant in countries that have received FDI. Poverty decreased in the nations under examination as a consequence of the link between natural endowments and FDI.

Poumie and Claude (2021) used the augmented mean group (AMG), dynamic ordinary least squares (DOLS), and common correlated effects means group (CCEMG) to examine how foreign capitals such as FDI and migrant remittances influenced both overall employment and sectoral job creation in 43 African economies between 2002 and 2018. The study's results revealed that FDI and migrant remittances had a direct influence on total employment. Yet, only FDI has a direct and meaningful impact on job development in African nations' industrial, agricultural, and service sectors. Akinlo (2017) investigated the variables that impact FDI in Nigeria using the MarkovRegime Switching Model (MSMs). Discount rates, GDP growth, macroeconomic instability, currency rates, inflation, and financial development, according to the author, are the most influential elements influencing FDI in Nigeria. To achieve the study's aim, Kallon (2020) assessed the interference of FDI with poverty across ECOWAS markets between 1990 and 2018 using a number of econometric approaches, including OLS, FE and RE, and GMM. The study's conclusions on how FDI influenced poverty in the ECOWAS sub region were found to be contradictory. This research indicates that the kind and form of the link between FDI and poverty in the ECOWAS sub region could not be stated more precise Moreover, FDI, poverty alleviation, and job creation are continuous concerns in emerging nations. Notwithstanding the fact that scholars have presented empirical data that supports employment-enhancing FDI spillovers, we believe that the evidence is presently insufficient for policy action in the ECOWAS sub region. In terms of methodology, the empirical evaluation revealed that no regional or country-specific research studied the reactions of FDI, job creation, and poverty reduction to shocks in the ECOWAS Sub-region. An investigation into the future implications of different shocks, as well as the interactive contribution of each kind of shock to the forecast error variance of the variables of interest, will only help us reframe policy and stimulate more research interest in ECOWAS nations and beyond.

3. Methodology

The data used in this study are secondary data spanning from 1990 to 2021. This is because most ECOWAS nations had higher FDI inflows in the late 1980s than in prior years. The research focuses on four ECOWAS nations: Nigeria, Ghana, Côted'Ivoire, and Senegal. The selection of these nations was primarily influenced by the availability of statistics, on the one hand, and the fact that these countries account for more than 90% (%) of the ECOWAS subregional GDP, on the other (AfDB, 2018). Similarly, during the previous decades, the four nations have regularly received more than 70% of FDI inflows in the ECOWAS subregion (UNCTAD, 2020).

3.1 Technique of Estimation

3.1.1 Impulse Response

Given the inter-relationships in economic systems, it is often more informative to undertake an impulse response analysis when short-run and long-run impacts are of key interest. As total derivatives, the coefficients of the impulse response function do not suffer from the ceteris paribus limitation (Lütkepohl and Reimers, 1992). In cases where variables are interrelated, a shock to one variable may set off a chain reaction of knock-on and feedback effects as it permeates through the system. In such circumstances the partial derivatives of error correction model which ignore these interactions by construction, may have limited appeal and may give a misleading impression of the short-run and long-run effects of such shocks. By contrast, impulse response analysis estimates the net effect of the forward and backward effects of a shock, not only in the long-run but at all periods following the shock

$$Y_t = \theta_i Y_{t-1} + \theta_2 Y_{t-2} + \cdots + \theta_p Y_{t-p} + {}_t \quad (1)$$

Consider the simplified VAR from equation. Where Y_t is a (m×1) vector of jointly determined I (1) variables; p is the lag of Y_t in the estimation; θ_i

each (i = 1,…, p) are (m×m) matrix of coefficients, t = 1, . . .T; ${}_t$ is a (m×1) vector of disturbances with zero mean and non-diagonal covariance matrix Σ. The VAR then can be written as a vector moving average (VMA) by the moving average representation ε_i as:

$$Y_t = \varepsilon_i + A_1\varepsilon_{t-1} + A_2\varepsilon_{t-2} + \cdots + A_P\varepsilon_{t-P} + {}_t \quad (2)$$

(p = 1, 2… T)

3.1.2 Variance Decomposition

Variance decomposition divides variation in an endogenous variable into component shocks to the VAR, while impulse response functions trace the impact of a shock to one endogenous variable on the other variables in the VAR. As a result, the variance decomposition informs us about the relative impact of each random innovation in influencing the variables in the VAR. With the moving average representation used by impulse response analysis in equation (1) and equation (2), we have:

$$Y_{t+n} = c + \sum_{i=0}^{p} A_i \, \varepsilon_{t+n-i} = c + \sum_{i=0}^{p} A_i \, \mathrm{P}_{\sigma t+n-i} \quad (3)$$

3.2 Measurement of Variables

Table 1. Variable Description

Abbreviation	Description	Unit of Measurement	Source
FDI	The total of equity capital, reinvested profits, and long- and short-term capital constitutes FDI inflows. Namely, the value of non-resident investors' inward direct investment in the reporting economy. In this analysis, FDI inflows as a proportion of GDP are utilised.	Percentage	United Nations Conference on Trade and Development
EMP	Employment, is the ratio of country`s total annual employment to labour force.	Percentage	International Labour Organization
HDI	The HDI - According to the UNDP, the HDI is a composite index that assesses wellbeing in the form of a country's average accomplishments in three essential dimensions of human development	Percentage	WDI

Source: Authors' Compilation (2023)

4. Results and Discussion

This section focuses on the analysis of data collected in achieving the purposes of this study. And as such, this aspect contains various estimations of the various models utilized in this study. In addition, the discussion of results were presented in this section.

4.1. Pre-estimation Results

Table 2. Descriptive Statistics

Descriptive Statistics	HDI (0-1)	FDI (%)	EMP (%)
Mean	0.470254	2.912560	57.34483
Median	0.470500	1.882150	57.74500
Maximum	0.611000	16.25801	71.45000
Minimum	0.376000	-1.320522	42.58000
Std. Deviation	0.059122	3.124340	8.176057
Skewness	0.386396	2.142114	-0.131584
Kurtosis	2.509217	7.837689	2.013980
Jargue-Bera	0.127420	205.3094	5.120670
Probability	0.5549000	0.000000	0.077279
Sum	55.49000	343.6821	6766.690
Sum Sq. Dev.	0.408962	1142.096	7821.205
Observations	128	128	128

Source: Author`s Computation (2023)

In table 2, the descriptive statistics of the various variables of interest in the selected four (4) ECOWAS countries within the periods of 32 years are presented. These give crucial information regarding the behavior of the series employed for the model estimation. In four selected ECOWAS countries, the human development index (HDI) has a maximum value of 0.61 and minimum value of 0.38 respectively. Its average value is 0.47, meaning that human development index is low in this sub-region. The implication of this is that multidimensional poverty is high in ECOWAS sub region of Africa. This is contrary to the current situation reports in some African countries like Mauritius which has 0.8, Seychelles (0.78), Algeria (0.74), Egypt (0.73), Tunisia (0.73), Libya, South Africa and Gabon which have HDI of 0.71, Botswana (0.69), and morocco 0.68. However, both the minimum and maximum values of FDI inflows as percentage of GDP in ECOWAS sub region are -1.3% and 16.25 % respectively with a mean value of 2.91%. This shows that over the past three decades, FDI inflows in ECOWAS sub region are not expanding. The reason for this might be attributed to unfriendly state of investment climate in this sub region of Africa. Also, other factors such unfavourable ease of doing business, insecurity and deficient

infrastructural facilities that are endemic in ECOWAS countries might be repelling FDI inflows in this sub region.

Consequently, employment rate in ECOWAS sub region ranges between 71.5% and 42.6% with a mean value of 57.3%. This means that on average basis, 57.3% of the working population in ECOWAS sub region is engaged in productive employment while leaving 42.7% of the working population as unemployed and underemployed. The level of unemployment in ECOWAS sub region is far bigger than the situation reports of North Africa and East Africa which recorded 12.56% and 4.7% unemployment rates respectively.

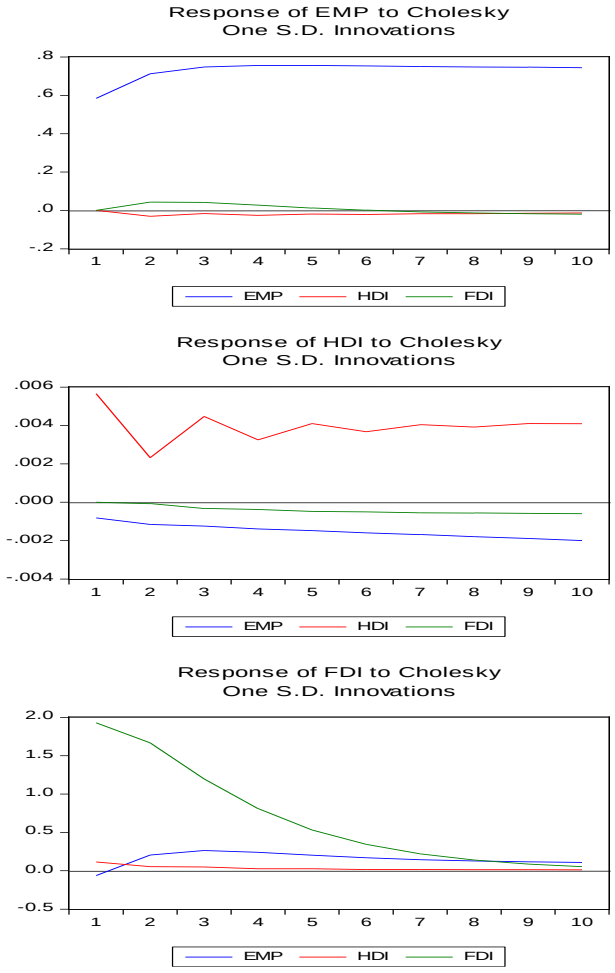

Figure 1. Impulse Response Functions (IRFs) among FDI, Employment and Poverty

Source: Author`s Computation (2023)

Despite its utility in giving important information on the direction of causality that exists between any two variables, the Granger Causality test lacks the capacity to give judgements about the variables of interest outside the scope of the research. As a result, projections are hampered in this aspect. In light of this, the researchers went on to calculate the impulse reactions over a 10-year period when there is a one standard deviation positive innovation to another variable. It was derived using the Impulse Response Functions (IRFs) seen in Figure 1. After a positive shock to itself, the employment rate increases for the first two periods. Nonetheless, it stabilises to the tenth period in the third period. FDI inflows grow initially, then begin to dip in the third quarter and become negative from the fifth through the end of the tenth. This reaction was triggered by employment rate shocks. Yet, as a result of employment shocks, the HDI falls in the first period, which is negative. Until the conclusion of the tenth period, the variable stays in a negative state. As a result, we may argue that the employment rate in the ECOWAS subregion has a significant influence on the subregional economy since a shock to employment is a critical element determining the degree of FDI and HDI-poverty reduction in the subregion. As a result, job creation may be regarded a positive strategy for increasing FDI inflows and HDI in general.

As a result of the shock to FDI and employment rate, HDI experienced a severe drop in the first period to the second period, when it began to vary until the conclusion of the fourth period. It began to rise somewhat in the fifth period and remained pretty constant until the conclusion of the eleventh session. However, the employment response to HDI shocks was negative but consistent from the first to the tenth periods. FDI, on the other hand, responded similarly to employment from the second to the tenth periods. Moreover, in reaction to its own shocks, FDI declines significantly and consistently from the first to the seventh period, following which the variable stabilised in the eighth to the end of the tenth period.

In summary, the results show a strong relationship between FDI, employment, and poverty reduction, implying that FDI plays an important role in creating jobs and, as a result, reducing poverty in an economy. In other words, FDI inflows continue to be a key source of job and poverty reduction in the ECOWAS subregion.

Table 3. Variance Decomposition (VD) of FDI

Period	SE	FDI	EMP	HDI
1	0.931638	100.0000	0.000000	0.000000
2	0.559389	98.95274	1.016204	0.031055
3	2.837935	98.00795	1.961256	0.030797
4	2.961107	97.35286	2.613179	0.033960
5	3.015470	96.91584	3.050962	0.033196
6	3.039837	96.61324	3.353927	0.032828
7	3.051291	96.39130	3.575979	0.032717
8	3.057183	96.21856	3.748550	0.032892
9	3.060671	96.07575	3.890637	0.033614
10	3.063093	95.95205	4.013377	0.034571

Source: Authors' Computation (2023)

After creating the IRFs for FDI, this research went on to calculate its Variance Decomposition (VD). As shown in Table 3, the findings suggest that the variation in FDI is fully attributable to its own shock, since it displays 100% variability in FDI inflows in the first period. Additionally, FDI fluctuation decreased little and gradually from 98.9 percent in the second period to 95.9 percent in the tenth quarter. Nevertheless, employment rate variance increased from 1.01 percent in the second period to 4.01 percent at the end of the tenth period, although HDI attained just 0.031 percent in the second period and 0.035 percent in the tenth period.

Table 4. Variance Decomposition (VD) of Employment

Period	SE	FDI	EMP	HDI
1	0.583782	0.101883	99.89812	0.000000
2	0.922736	0.082579	99.78990	0.127522
3	1.188420	0.069940	99.82727	0.102789
4	1.408565	0.049932	99.84015	0.109920
5	1.598407	0.045467	99.85423	0.100300
6	1.766963	0.056599	99.84719	0.096207
7	1.919784	0.076842	99.83387	0.089286
8	2.060451	0.100893	99.81531	0.083794
9	2.191393	0.125374	99.79666	0.077964
10	2.314314	0.148647	99.77863	0.072723

Source: Authors' Computation (2023)

The Variance Decomposition findings in Table 4 reveal that the employment rate variation is mostly attributable to its own dynamic, as it displays 99.89% fluctuation in employment rate and 0.10 percent fluctuation in FDI in the first period. However, the variance in employment rate marginally decreases to 99.78 percent in the period

two before beginning to climb in the period three to the elapse of the period five, and observed a minor and steady reduction in the period six to till the forecast period elapses. Nevertheless, the variation of FDI begins to drop in the period two and continues to fall until the period five elapses, when it begins to grow regularly until period ten elapses. Similarly, HDI grows by 0.12 percent in the second period and subsequently drops by 0.07% from the third to the tenth periods.

Table 5. Variance Decomposition (VD) of HDI

Period	SE	FDI	EMP	HDI
1	0.005716	0.403428	1.995687	97.60088
2	0.006278	0.357532	5.020666	94.62180
3	0.007812	0.231641	5.768985	93.99937
4	0.008582	0.218936	7.434189	92.34687
5	0.009636	0.211378	8.275157	91.51347
6	0.010448	0.229827	9.394752	90.37542
7	0.011340	0.244643	10.21399	89.54137
8	0.012145	0.263168	11.10988	88.62695
9	0.012969	0.277100	11.89035	87.83255
10	0.013759	0.289682	12.68660	87.02372

Source: Authors` Computation (2023)

The Variance Decomposition findings in Table 4 reveal that the variance to HDI is mostly due to its own shock, with 97.60 percent variation in HDI, 1.99 percent variation in employment rate, and 0.40 percent variation in FDI in the period one. In the period two, however, the percentage of the variation caused by HDI variance to HDI begins to decrease continually until the conclusion of the period ten. The variance in employment rate, on the other hand, increases dramatically in the second period to 5.02 percent and continues to grow to 12.69 percent by the conclusion of the projected period. FDI variation, on the other hand, reveals that it progressively drops from the period two until the period five elapses, before increasing again in the sixth period and steadily rising until the end of the tenth period.

Moreover, the findings of Impulse Response Functions (IRFs) for FDI, employment, and poverty reduction reveal that the employment rate increases for the first two periods after a positive shock to itself. Nonetheless, it stabilizes to the tenth period in the third period. FDI inflows grow initially, then begin to dip in the third quarter and become negative from the fifth through the end of the tenth. This reaction was triggered by employment rate shocks. Yet, as a result of employment shocks, the HDI falls in the first period, which is negative. Until the conclusion of the tenth period, the variable stays in a negative state. As a result of the shock to FDI and employment rate, HDI experienced a severe drop in the first period to the second

period, when it began to vary until the conclusion of the fourth period. It began to rise somewhat in the fifth period and remained pretty constant until the conclusion of the eleventh session. However, the employment response to HDI shocks was negative but consistent from the first to the tenth periods. FDI, on the other hand, responded similarly to employment from the second to the tenth periods. Moreover, in response to its own shocks, FDI declines significantly and consistently from the first to the seventh period, following which the variable exhibits some amount of stability from the eighth to the end of the tenth period. Similarly, Variance Decomposition data suggest that the employment rate variation is mostly attributable to its own dynamic, with 99.89 percent volatility in employment rate and 0.10 percent fluctuation in FDI in the first period. However, the variance in employment rate marginally decreases to 99.78 percent in the period two before beginning to climb in the period three to the elapse of the period five, and observed a minor and steady reduction in the period six till the period ten is completed. Nevertheless, the variation of FDI begins to drop in the period two and continues to fall until the period five, when it begins to grow regularly until the period ten is elapsed. Similarly, HDI grows by 0.12 percent in the period two and subsequently drops by 0.07% from the third to the tenth periods.

The variation in employment rate, on the other hand, is mostly attributable to its own shock, since it demonstrates 99.89% volatility in employment rate and 0.10 percent fluctuation in FDI in the first period. However, the variance in employment rate marginally decreases to 99.78 percent in the period two before beginning to climb in the period three till period five is elapsed, and observed a minor and steady reduction in the period six to the period ten elapses. Nevertheless, the variation of FDI begins to drop in the period two and continues to fall until the period five is elapsed, when it begins to grow regularly until till the period ten ends. Similarly, HDI grows by 0.12 percent in the period two and subsequently drops by 0.07% from the third to the tenth periods. The variation in HDI is mostly due to its own shock, since it demonstrates 97.60% variance in HDI, 1.99% variation in employment rate, and 0.40 percent variation in FDI in the period one. In the period two, however, the percentage of the variation caused by HDI variance to HDI begins to decrease continually until the conclusion of the period ten. The variance in employment rate, on the other hand, increases dramatically in the second period to 5.02 percent and continues to grow to 12.69 percent by the conclusion of the projected period. FDI variation, on the other hand, reveals that it progressively drops from the period two until the period five elapses, before increasing again in the sixth period and steadily rising until the end of the tenth period.

Moreover, it is expedient to point out that FDI, poverty reduction and employment generation are ongoing issues in developing countries. In terms of methodology, it could be pinpointed in the empirical review that neither regional nor country specific study has examined the responses of FDI, employment generation and poverty reduction to shocks in ECOWAS Sub-region via impulse response test and variance decomposition in Africa and beyond. An enquiry into the impacts of various shocks in the future and the interactive inducement of each type of shocks to the predict error variance of the variables of interest can only help us to set new policy and spark further research interest on this subject context of ECOWAS countries and beyond. In addition, the results of the responses of FDI, employment and poverty reduction to shocks show: employment rate rises for the first two periods owing to a direct innovation to itself.

However, in the period three, it becomes stabilize to the period ten. FDI inflows witness an initial rise, which it starts to fall in third period and turns inverse in the fifth horizon to the end of the period ten. This response was due to shocks from employment rate. However, in response to employment shocks, HDI witnesses a fall in the period one which is negative. The variable remains in negative position till the period ten elapses. Accordingly, we could posit that employment rate in ECOWAS sub region has an important impact on the sub regional economy because a shock to employment is a crucial factor that determines the level of FDI and HDI- poverty reduction in the sub-region. Consequently, after a shock to FDI and employment rate, HDI witnessed a sharp fall in the initial period to the period two when it started to fluctuate to till period four elapses.

From the period five, it slightly rose and maintained a relatively stable position till the forecast elapses in the period ten. Meanwhile, the reaction of employment to HDI shocks was negative but continuous from the period one till period ten elapses. Whereas, the response of FDI was similar to employment from the period two to the wind up of the period ten. In addition, in response of FDI to its own shocks, it falls in a very sharp manner and consistently at the first stage to the period seven of the exercise, after which the variable witnessed some level of stability in the period eight till the period ten comes to an end.

6. Conclusion

This study sets to generate discussion on the role of FDI on employment and alleviation of poverty. In summary, the figures infers a high linkage among FDI, employment and reduction of poverty, which implies the significant role of FDI in generating employment and consequently reduce poverty in an economy. In other words, FDI inflows are still remaining as a major factor of employment generation and poverty reduction in ECOWAS sub region. Finally, it is worth noting that policy shocks to FDI, employment generation poverty reduction in ECOWAS sub region do not respond with an immediate actions (responses) in the best direction. Therefore, policy makers should as a matter of necessity consider the time lag it involves in order to ensure appropriateness in the timing of policies when employment generation and poverty reduction are the goals of the policymakers. This calls for a swift response from the policymakers and other relevant stakeholders in ECOWAS sub region.

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