GROWTH AND CAUSALITY BETWEEN FDI AND GDP: AN EMPIRICAL STUDY IN AFRICA

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Abstract

FDI flows to Africa reached $83 billion a record level in 2021, from $39 billion in 2020, due to a large corporate reconfiguration in South Africa. Global FDI flows in 2021 were $1.58 trillion, up 64 per cent from the level during the first year of the COVID-19 pandemic of less than $1 trillion. During 1994-2020, Africa, FDI growth was registered about 1.64 per cent per annum and significant at 1 per cent level. In Africa, all the regions having positive growth rate and statistically significant at 5 per cent level. In this paper, employ Johansen co-integration as well as Granger Causality test' for FDI and GDP during 1994-2020, before examining these two tests we used Augmented Dickey-Fuller (ADF) test for the stationarity. From the ADF test, the tests were carried out for the series LnFDI and LnGDP. The results shows that LnFDI, and LnGDP are non-stationary at level, but the first difference appropriate significant level. Johansen Co-integration test results reveals; FDI and GDP have long run Co-integration in the entire Africa continent, Central and North Africa regions, remaining, there is no co-integration is accepted. From the Granger causality test results indicates Africa and Southern Africa region, LNGDP is LNFDI granger reason, and also LNFDI is LNGDP granger reason, which indicates that there is direct Granger causality relationship between total Africa continent FDI & GDP and also GDP & FDI. In western Africa region, there is direct Granger causality relationship between GDP and FDI, but there is no Direct Granger causality relationship between FDI and GDP.

Key Words: Africa, FDI, GDP, Growth, Stationary, Co-integration, Causality test.

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1. Introduction

Higher investment increases the scope for future economic growth. Investment is a component of aggregate demand. Therefore, if there is an increase in investment, it will help to boost aggregate demand and short-run economic growth. If there is spare capacity, then increased investment and a rise in aggregate demand will increase the rate of economic growth. Particularly in developing and under developed economies Foreign Direct Investment (FDI) plays vital role to the economic development. FDI creates new jobs and more opportunities as investors build new companies in foreign countries. This can lead to an increase in income and more purchasing power to locals, which in turn leads to an overall boost in targetted economies. The main advantage of foreign direct investment is the increase of the country's income. With more jobs and higher wages, the national income normally increases which promotes economic growth.

Capital formation is important for economic development. Still, recent past, the concept of economic development was equated with that of 'economic growth', and was defined as a process whereby an economy's real national income increases over a long period of time. In the 1950s, U.N. economists considered capital shortage the major limitation to LDC economic growth. By capital, they meant tools, machinery, plant, equipment, inventory stocks, and so on. In view of the importance of capital formation, foreign direct investment is one of the key routes for the capital formation of any economy. Technical knowledge acquired from abroad is costly and usually incomplete, so the finest way

to acquired technical knowledge in the roots of FDI. Foreign direct investment could be provided in form of technology. This is an indirect way in which foreign direct investment plays an important part in the context of economic development.

2. Literature review

Akinlo (2004), in this research paper he revealed the impact of FDI on economic growth in Nigeria for the period 1970 to 2001, by using ECM, the result shows that FDI has a statistically insignificant effect on economic growth. A significant reason for this was due to the argument that most of the FDI in the country was concentrated in the extractive sector (oil) which is not much growth enhancing when compared to the other areas like the manufacturing sector etc.

Vijayakumar and Sridharan (2010) study the causal relationship between Foreign Direct Investment and Growth in the BRICS countries (Brazil, Russia, India, China and South Africa). The study used quarterly data. The study employs the Industrial Production Index (IPI) as a measure of economic growth. Johansen's co-integration model and vector error correction model (VECM) were used as estimation techniques. The empirical results found that Growth leads to FDI bi-directionally for Brazil, Russia and South Africa and FDI leads Growth uni-directionally for India and China respectively. *Gui-Diby S. L. (2014),* he analyzed the impact of FDI on economic growth in Africa using panel data analyses for 50 countries for the period from 1980 to 2009. His findings indicate that FDI inflows had a significant impact on economic growth in the region during the whole period. when he considered the period in two folds; firstly from 1980 to 1994, he discovered that there was a negative impact and secondly from 1995 to 2009 FDI had a positive impact on economic growth.

Chabe L. (2015), analyzed the impact of FDI on the economic growth of Cameroon for the period between 1977 and 2010. He concluded that there was a positive impact in the overall growth, but when he analyzed sector by sector, he found that the effectiveness of FDI in the manufacturing sector was negative while there was a positive effect on the service sector. *Bakır, H, Eryılmaz, F. (2015),* in this study, researchers investigate the causality relationship between the inflows of foreign direct investment (FDI) and economic growth as measured by Reel Gross Domestic Product (GDP) per capita in Turkey during the period 1974-2012 by using the Granger causality tests. The causality test indicates that economic growth Granger- causes FDI. This means that there is bidirectional causality from Reel GDP to FDI in Turkey. So, our results support "the growth – driven FDI hypothesis". This demonstrates that in the related time in Turkey, more direct foreign investment entered the economy together with an increase in economic growth.

Surya Kumar and Tesfye Fikadu (2017), the study reveals the growth rate of FDI in Africa and Ethiopia based on the UNCTAD data base. The Africa FDI inflows growth registered 12.1 per cent during 1994-2015, during this corresponding period based on the coefficient of variation Southern Africa was noted highest consistency and Eastern Africa was noted highest variability. The growth rate of Ethiopia FDI inflows has registered 14.9 per cent per annum and statistically significant at 1 per cent level during 1995-2015. African countries were compared with countries from other parts of the world with the focus on inflation and currencies instability and political uncertainty. *Mohamed Mire Mohamed (2017)* After the end of civil war of Somalia, the integration of the country with the global economy increased and Somalia has started to attract with greater inflow of FDI. This paper examines the impact of FDI on economic growth in Somalia using detailed sectoral data for FDI inflows to Somalia over the period 1980-2015. Multiple Regression Analyses were used to measure the relationship between independent (FDI) and dependent variables (macroeconomic indicators). The results obtained in this research signify a negative correlation between FDI and economic growth and may be a concern for the government of Somalia. The government might focus on required reforms and policy implications to make foreign investment more beneficial. The implication of this is that the policy linkage between real GDP and FDI is weak and there is need for policy to ensure provision of adequate infrastructure to maximize the potential benefit of FDI in Somalia.

Ezekiel K. Duramany-Lakkoh et al, (2022), this paper aims to investigate the impact of FDI on economic growth of Sierra Leone economy. As a whole, the period under consideration is a

thirty-seven-year period spanning from 1980 to 2016. Most researchers conclude that there is a positive impact of FDI on Economic Growth of a nation's economy, but in this paper, we discovered that FDI has no relationship with economic growth in Sierra Leone. Empirical methods were used to analyze data and results are based on regression analysis conducted from available data. This paper ascertains that FDI inflow in Sierra Leone has no impact on the economic growth of the nation.

3. Objective of this study

The present study mainly focused following objectives

1. The first objective of the study is to trend and forecast of Global and Africa FDI inflows.
2. The second objective of this study is to calculate FDI growth in all African regions.
3. The third objective of the study is to analyse causality between FDI and GDP in Africa.

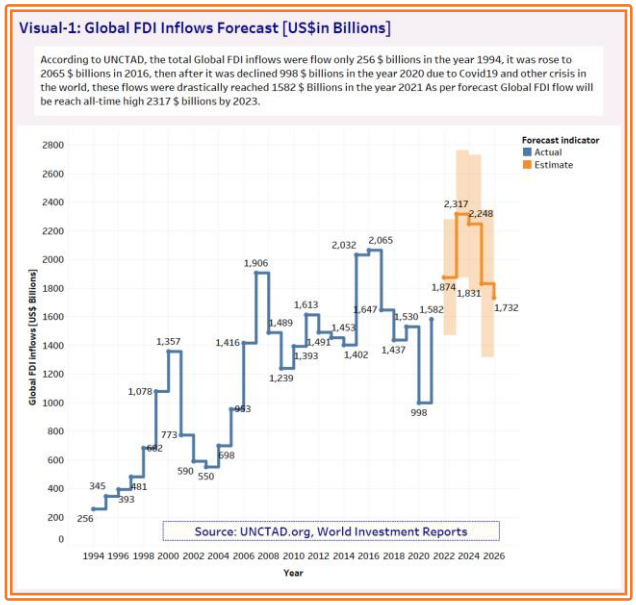
4. Data and Methodology

In this paper we are using FDI inflows and GDP data of Africa regions during 1994-2020. The main source of the data is to collect from the secondary data, such as UNCTAD data base. Primarily analysed growth rate of FDI inflows of Africa using compound trend. Time series properties of FDI and GDP are examined by performing unit root test. Then after the Johansen co-integration test helps to check the existence of the long run association between them. Finally, the Granger causality test helps to determine the direction of causality between FDI and GDP. While the analyse of objectives we are using SPSS and *EVIEWS* software for analysis, for the visualization we are using *Tableau*.

5. Results and Discussions

5.1 Global FDI Trend

Global foreign direct investment flows in 2021 were $1.58 trillion, up 64 per cent from the level during the first year of the COVID-19 pandemic of less than $1 trillion. Visual-1, represents Global FDI inflows during 1994-2021 and also forecast up to 2025 using Tableau software.



FDI flows appeared to have significant momentum mainly because of booming merger and acquisition (M&A) markets and rapid growth in international project finance as a result of loose financing conditions and major infrastructure stimulus packages. However, the global environment for international business and cross-border investment changed dramatically in 2022 with the onset of the war in Ukraine, which occurred while the world was still reeling from the impact of the pandemic. The war is having effects well beyond its immediate vicinity, causing a triple food, fuel and finance crisis, with rising prices for energy and basic commodities driving inflation and worsening debt spirals. Investor uncertainty and risk aversity could put significant downward pressure on global FDI in 2022.

FDI flows to developing economies grew more slowly than those to developed regions but still increased by 30 per cent, to $837 billion. The increase was mainly the result of strong growth performance in Asia, a partial recovery in Latin America and the Caribbean, and an upswing in Africa. The share of developing countries in global flows remained just above 50 per cent. In developing Asia, despite successive waves of COVID-19, FDI rose to an all-time high for the third consecutive year 2021, reaching $619 billion. Asia is the largest recipient region, accounting for 40 per cent of global FDI.

In 2021, most developed countries, saw an increase in FDI. The highest FDI flows was received to the United States more than doubled to $367 billion from the last year, the value of foreign direct investment inflows to China reached approximately

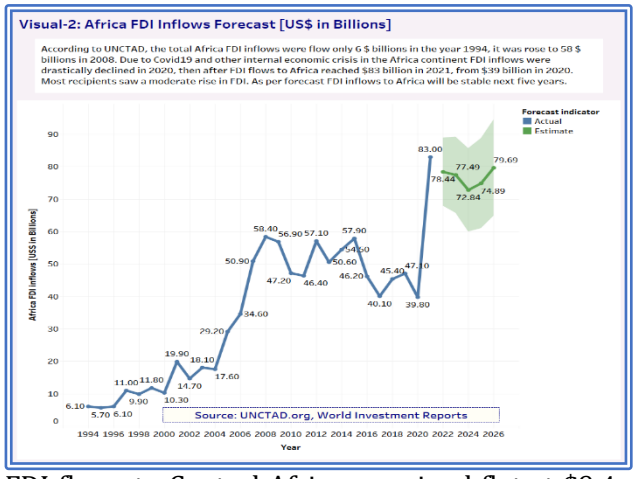
181 billion U.S. dollars in 2021. This was an increase of around 21 per cent compared to the previous year, China is the second largest recipients in the world. Hong Kong attracted to around 141 billion U.S. dollars in 2021, indicating an increase from 135 billion U.S. dollars in the previous year. Singapore, the fourth largest recipient, saw inflows up by 31% to $99 billion, driven by a jump in cross-border mergers and acquisitions (M&As).

5.2 Africa FDI inflow Trend

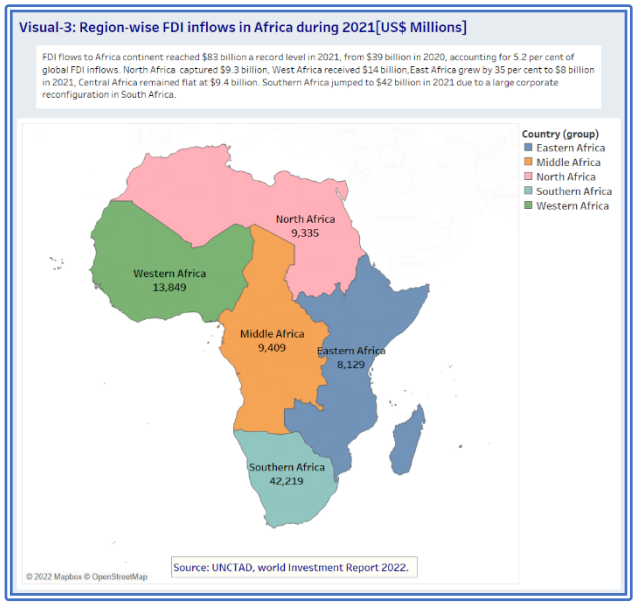
FDI flows to Africa continent reached $83 billion a record level in 2021, from $39 billion in 2020, accounting for 5.2 per cent of global FDI inflows. Most economies saw a moderate rise in FDI after the fall in 2020 caused by the covid19 pandemic. Visual-2, explore Africa FDI inflows during 1994-2021 and also forecast up to 2025 using Tableau software.

From the region-wise FDI: North Africa declined by 5 per cent to $9 billion in 2021 from 10 $ billion in 2020. In this region, FDI flows to Morocco rose by 52 per cent to $2.2 billion in 2021, a large international project finance deal was captured. FDI in West Africa increased by 48 per cent to $13.8 billion in 2021 from the previous year FDI flows 9 $ billions, in this segment Nigeria saw its flows double to $4.8 billion, mainly because of the resurgence in oil investment and expansion in gas. FDI flows to Ghana rose by 39 per cent in 2021.

FDI flow to East Africa grew by 35 per cent to $8 billion in 2021 from the previous year, in this cluster FDI flows to Ethiopia reached $4.3 billion, Chinese investments tripled in 2021. Four, out of five international project finance announcements in the country were in renewables. FDI to the United Republic of Tanzania rose by 35 per cent to $922 million in 2021, and new greenfield project announcements tripled in value.



FDI flows to Central Africa remained flat at $9.4 billion in 2021. FDI to the Democratic Republic of the Congo rose by 14 per cent $1.9 billion in 2021, with investment remaining buoyant because of flows in offshore oil fields and mining. FDI flows to Congo fell by 8 per cent to $3.7 billion in 2021, but two international project finance deals were announced; the largest involves the construction of an oil facility for $166 million, sponsored by China National Chemical and Beijing Fortune Dingheng Investment. FDI flows to Southern Africa jumped to $42 billion in 2021 due to a large corporate reconfiguration in South Africa. The total for the continent was inflated by a single intrafirm financial transaction in South Africa in the second half of 2021. Excluding that transaction, the increase in Africa is moderate, more in line with other developing regions. Visual-3, presents of all Africa regions FDI inflows during 2021 using Tableau software.



5.3 Growth of FDI inflows in Africa: Regional analysis

In this section discussed about the growth of FDI inflows in Africa and all regions in the continent. FDI flows growth pattern were classified into three periods, period-1:1994-2006, period-2:2007-2020, and overall period:1994-2020.

From the analysis, period-1[1994-2006]: in Africa, an average 15 $ billion were flows and the growth were registered 13.68 per cent per annum and statistically significant at 1 per cent level. Region-wise, in North Africa recorded highest average FDI flows about 5.51 billion dollars, the growth noted 19.93 per cent per annum and statistically significant. In this duration, Central and Southern regions registered positive growth, but statistically insignificant. Eastern and Western Africa the FDI flows growth registered positive and statistically significant at 1 per cent level. From the coefficient of variation, the highest consistency of FDI inflows noted in Eastern Africa and highest FDI inflows variation recorded in Northern Africa.

From period-II [2007-2020]: in Africa continent, an average FDI flows captured 49.89 $ billion and the linear growth was registered negative about -1.83 per cent per annum and negatively significant at 5 per cent level. From the Region-wise analysis, Eastern and Central Africa regions FDI inflow growth was recorded positive but statistically insignificant. North and South Africa regions FDI growth registered negative accounting -4.25 and -6.48 per cent per annum and negatively significant at 1 per cent level respectively. In Western Africa region FDI flows growth noted negative and statistically insignificant. The highest consistency of FDI inflows was registered in Western Africa region and the highest variation of FDI inflows were recorded in Central Africa region.

Table-1: Growth of FDI inflows in Africa: Regional analysis [US$ Billions]

Period	*African Regions*	*Average FDI inflows*	*STDEV*	*CV*	*R^2-val*	*Linear Growth*	*t-val*	*p-val*
period-I [1994-2006]	***Africa***	15.00	8.88	59.2	0.811	13.68	6.863	0.000**
	Eastern Africa	1.68	0.81	48.21	0.866	11.49	8.449	0.000**
	Central Africa	2.05	1.88	91.71	0.266	12.15	1.997	0.071^{NS}
	Northern Africa	5.51	5.57	101.01	0.590	19.93	3.98	0.002**
	Western Africa	3.29	1.74	52.89	0.502	9.60	3.328	0.007**
	Southern Africa	2.45	2.29	93.47	0.111	8.00	1.170	0.267^{NS}
period-II [2007-2020]	***Africa***	49.89	6.32	12.67	0.367	-1.83	-2.639	0.022*
	Eastern Africa	11.81	3.22	27.27	0.209	2.98	1.781	0.100^{NS}
	Central Africa	5.21	4.58	87.90	0.001	0.67	0.111	0.913^{NS}
	Northern Africa	14.7	4.24	28.84	0.380	-4.25	-2.709	0.010**
	Western Africa	12.31	2.93	23.80	0.182	-2.43	-1.634	0.128^{NS}
	Southern Africa	5.85	2.47	42.22	0.414	-6.48	-2.909	0.013**
Overall Period [1994-2020]	***Africa***	33.07	19.21	58.09	0.704	6.14	7.715	0.000**
	Eastern Africa	6.97	5.64	80.92	0.785	9.04	9.565	0.000**
	Central Africa	3.70	3.81	102.97	0.173	5.38	2.286	0.031*
	Northern Africa	10.26	6.76	65.89	0.415	5.35	4.211	0.000**
	Western Africa	8.00	5.18	64.75	0.570	6.16	5.752	0.000**
	Southern Africa	4.2	2.90	69.05	0.178	3.67	2.330	0.028*

Source*:* Authors calculations, *STDEV*: Standard Deviation, *CV*: Coefficient of Variation,
**-Significant at 1 % Level, *- Significant at 5 % Level, NS-Not Significant.

From the calculations, overall period [1994-2020]: in Africa continent, an average FDI flows received 33.07 $ billion and the growth was registered about 1.64 per cent per annum and significant at 1 per cent level. From the Region-wise analysis, in this duration all are having positive growth rate and statistically significant at 5 per cent level. From the coefficient of variation, Western Africa recorded highest

consistency and Central Africa having highest variation of the FDI inflows.

5.4 Casual relationship between FDI and GDP

5.4.1 Stationary Test

In order to analyze the present study, we employ Johansen co-integration as well as Granger Causality test' for FDI and GDP during 1994-2020. But before examining these two tests it is essential that the data are examined for stationary or non-stationary (testing the time series properties of yearly data). For this purpose, we used Augmented Dickey-Fuller (ADF) test. The tests are based on the null hypothesis that a unit root exists in the variables. The stationary test is very much helpful to avoid spurious and bias result, which may lead to false conclusions. To avoid this problem, the study conducted the unit root tests for all the variables.

Table-2: Unit Root Test - Augmented Dickey Fuller test [ADF]

Africa Regions	Variables	Unit Root Test	At Level			At First difference		
			Intercept	Intercept & Trend	None	Intercept	Intercept & Trend	None
Africa	LnFDI I(1)	ADF Statistic value	1.841	1.05	1.336	6.358	7.352	5.719
		P-value	0.353	0.917	0.650	0.000	0.000	0.000
	LnGDP I(1)	ADF Statistic value	1.056	0.994	1.363	2.997	2.995	2.308
		P-value	0.716	0.782	0.952	0.042	0.051	0.020
Eastern Africa	LnFDI I(1)	ADF Statistic value	2.901	0.829	2.222	4.608	5.310	4.163
		P-value	0.058	0.949	0.992	0.001	0.001	0.000
	LnGDP I(1)	ADF Statistic value	0.034	3.399	5.916	2.987	3.824	5.856
		P-value	0.946	0.078	0.756	0.041	0.020	0.031
Northern Africa	LnFDI I(1)	ADF Statistic value	1.533	1.303	0.656	5.584	6.075	5.365
		P-value	0.501	0.864	0.852	0.000	0.000	0.000
	LnGDP I(1)	ADF Statistic value	1.140	1.233	1.651	3.103	3.175	2.491
		P-value	0.683	0.880	0.972	0.039	0.011	0.015
Central Africa	LnFDI I(1)	ADF Statistic value	2.931	3.159	0.361	4.431	4.394	4.525
		P-value	0.057	0.118	0.781	0.002	0.011	0.000
	LnGDP I(1)	ADF Statistic value	1.087	0.080	1.342	3.260	3.517	2.844
		P-value	0.705	0.992	0.950	0.028	0.059	0.006
Western Africa	LnFDI I(1)	ADF Statistic value	1.035	2.747	0.856	6.054	6.145	5.708
		P-value	0.724	0.229	0.889	0.000	0.000	0.000
	LnGDP I(1)	ADF Statistic value	1.209	0.756	1.555	3.010	3.881	2.450
		P-value	0.655	0.784	0.966	0.047	0.041	0.016
Southern Africa	LnFDI I(1)	ADF Statistic value	3.948	4.633	0.653	6.157	6.194	8.804
		P-value	0.005	0.005	0.849	0.000	0.000	0.000
	LnGDP I(1)	ADF Statistic value	1.275	1.865	1.144	3.346	3.942	3.231
		P-value	0.624	0.641	0.930	0.023	0.053	0.002

The tests were carried out for the series LnFDI and LnGDP. The Table-2 shows that LnFDI, and LnGDP are non-stationary at level. But, the null hypothesis of a unit root test is rejected in the first difference at the appropriate significant level. Therefore, all variables which we have taken for the present study are following the first order of integration I (1). That means all the variables of the study have achieved stationary after first difference.

5.4.2 Co-integration Test

Co-integration means that despite being individually non stationary, a linear combination of two or more-time series can be stationary. Co-integration of two or more-time series suggests that there is a long run or equilibrium relationship between them (Gujarati & Sangeetha, 2010). The Johansen approach is followed here to check for co-integration which is based on the Trace statistic and maximum Eigen value test statistic. The two tests were carried out for all the two series.

Table-3: Johanson Cointegration test result

Series: LNFDI, LNGDP

Country	*Unrestricted Co-integration Rank Test (Trace)*				*Unrestricted Cointegration Rank Test (Maximum Eigen value)*		
	Hypothesized No. of CE(s)	**Trace Statistic**	**0.05 Critical Value**	**Prob****	**Max-Eigen Statistics**	**0.05 Critical Value**	**Prob****
Africa	None	16.928	15.494	0.031	8.702	14.265	0.3118
	At Most 1	8.220	3.841	0.004	8.226	3.841	0.004
Eastern Africa	None	11.016	15.494	0.037	9.580	14.265	0.241
	At Most 1	1.436	3.841	0.230^{NS}	1.436	3.841	0.230^{NS}
Northern Africa	None	16.329	15.494	0.037	11.106	14.265	0.148
	At Most 1	5.223	3.841	0.022	5.223	3.841	0.022
Central Africa	None	14.847	15.494	0.062	10.480	14.265	0.182
	At Most 1	4.366	3.841	0.036	4.366	3.841	0.036
Western Africa	None	6.521	15.494	0.633	4.223	14.265	0.835
	At Most 1	2.297	3.841	0.129^{NS}	2.297	3.841	0.129^{NS}
Southern Africa	None	18.245	15.494	0.018	15.721	14.265	0.029
	At Most 1	2.523	3.841	0.112^{NS}	2.523	3.841	0.112^{NS}

Trace test and Max-Eigen value test indicates no co-integration at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Cointegration test results are presented in Table-3. The empirical result confirms that the values of the trace tests and those of the Eigen value tests are statistically significant ($p<0.05$) and greater than the critical values (At Most 1) in Africa continent, Central Africa and Northern Regions of FDI and GDP, it means FDI and GDP have long run Co-integration

in the entire Africa continent, Central Africa and North Africa regions during 1994-2020.

Analysis confirms remaining all (East, West and South) regions that there is no co-integration is accepted by both the trace test and Maximum Eigen value test statistics. This indicates the absence of long run relationship between FDI and GDP for during the period 1994-2020.

The direction of causality cannot be traced only through Co-integration tests; therefore, to test the existence of short run causation among the variables. The study focuses on Granger causality analysis to examine the causal impact of FDI on Africa economic growth (GDP). For the empirical analysis, there are two models to be estimated Granger causality tests. The Findings of the causality analysis are presented in Table-4.

5.4.3 Granger Causality Tests

Table-4: Granger Causality Tests

Regions	***Null Hypothesis:***	***Obs***	***F-Statistic***	***Prob.***
Africa	LNGDP does not Granger Cause LNFDI	25	4.512	0.024*
	LNFDI does not Granger Cause LNGDP		3.522	0.048*
Eastern Africa	LNGDP does not Granger Cause LNFDI	25	2.691	0.092^{NS}
	LNFDI does not Granger Cause LNGDP		0.772	0.475^{NS}
Northern Africa	LNGDP does not Granger Cause LNFDI	25	0.704	0.506^{NS}
	LNFDI does not Granger Cause LNGDP		3.226	0.061^{NS}
Central Africa	LNGDP does not Granger Cause LNFDI	25	2.629	0.096^{NS}
	LNFDI does not Granger Cause LNGDP		1.640	0.219^{NS}
Western Africa	LNGDP does not Granger Cause LNFDI	25	6.421	0.007**
	LNFDI does not Granger Cause LNGDP		0.664	0.525^{NS}
Southern Africa	LNGDP does not Granger Cause LNFDI	25	3.471	0.050*
	LNFDI does not Granger Cause LNGDP		6.961	0.005*

**-Significant at 1 % Level, *- Significant at 5 % Level, NS-Not Significant.

From the Granger causality test results of Africa continent, at 5% level of significance LNGDP is LNFDI granger reason, and also LNFDI is LNGDP granger reason, which indicates that there is direct Granger causality relationship between total Africa continent FDI inflows & GDP and also GDP & FDI inflows. There is no direct Granger Causality relationship between GDP and FDI inflows of Eastern, Northern and Central Africa regions. In western Africa region, there is direct Granger causality relationship between GDP and FDI inflows, but there is no Direct Granger causality relationship between FDI inflows and GDP. From the results conclude, in Southern Africa region, there is direct granger causality relationship between FDI inflows & GDP and also GDP & FDI inflows.

6 Conclusion

FDI creates new jobs and more opportunities as investors build new companies in foreign countries. Global FDI flows in 2021 were $1.58 trillion, up 64 per cent from the previous year 2020. FDI flows to Africa reached $83 billion a record level in 2021, from $39 billion in 2020, due to a large corporate reconfiguration in South Africa. During 1994-2020, Africa, received 33.07 US$ billion an average and the growth was registered about 1.64 per cent per annum and significant at 1 per cent level. From the Region-wise analysis, in this duration all the regions having positive growth rate and statistically significant at 5 per cent level. From the coefficient of variation, Western Africa recorded highest

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In this study, employ Johansen co-integration as well as Granger Causality test' for FDI and GDP during 1994-2020, before examining co-integration and causality tests it is essential that the data are examined for stationary or non-stationary. For this purpose, we used Augmented Dickey-Fuller (ADF) test. From the ADF test, the tests were carried out for the series LnFDI and LnGDP. The results shows that LnFDI, and LnGDP are non-stationary at level, but the first difference appropriate significant level. Johansen Co-integration test results, FDI and GDP have long run Co-integration in the entire Africa continent, Central Africa and North Africa regions during 1994-2020, remaining, Eastern Africa, Western Africa and Southern Africa regions that there is no co-integration is accepted. From the Granger causality test results indicates Africa and Southern Africa region, at 5% level of significance LNGDP is LNFDI granger reason, and also LNFDI is LNGDP granger reason, which indicates that there is direct Granger causality relationship between total Africa continent FDI inflows & GDP and also GDP & FDI inflows. There is no direct Granger Causality relationship between GDP and FDI inflows of Eastern, Northern and Central Africa regions. In western Africa region, at 5% level of significance there is direct Granger causality relationship between GDP and FDI inflows, but there is no Direct Granger causality relationship between FDI inflows and GDP.

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