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Exploring the Effects of Foreign Direct Investments on South Africa Economic Growth

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ABSTRACT
Foreign direct investment flows have grown rapidly as the global economy has become more integrated. Developing countries consider FDI as a driving force to economic growth as it contributes to technology transfer, infrastructure improvement, employment creation and trade performance. However, it has been of great concern to many economists on how FDIs affect the economic growth of the host country. The study examines the effect of FDIs on South Africa's economic growth using annual time series data for the period 1980 to 2021. The autoregressive distributed lag model (ARDL) bounds testing approach to cointegration was used to test the long run relationship between economic growth, foreign direct investment, and exchange rate. The study found that FDI has a positive effect on economic growth rate thus validating the FDI-induced growth nexus in the South African economy, while exchange rate had a negative significant impact on economic growth. This study suggests that policymakers adopt policies aimed at infrastructural development that will attract more FDIs and enhance the country's economic growth. Though there is a prime need to attract more foreign investors in South Africa, it is important to concede that attracting inward FDIs alone is not enough for sustainable economic growth and development. The government will have to undertake reforms with clear objectives and commitments.

Keywords: Economic Growth; Foreign Direct Investment; Exchange Rate; ARDL

2. INTRODUCTION

Foreign Direct Investment (FDI) as a growth-enhancing component has received growing attention in developing and developed countries. However, it has been of great concern to many economists on how FDIs affects the economic growth of the host country. In closed economies were there is no access to foreign savings, investments are solely financed from domestic savings (Nyiko et al., 2021). Conversely, in open economies domestic savings do not only finance investment, but foreign capital flows are also involved in the mix. Investments received in the form of FDIs enable host countries to achieve investment levels beyond their capacity to save. In developing countries,

FDIs have remained the largest form of capital flow and they have set out a strategic plan to reach a targeted economic growth and aim to become industrialised. Many developing countries have encouraged FDI in their economies by offering incentives. Baiashvili and Gattini (2020) alluded that as FDI flows increases in the economy, this will ultimately increase the volume of exports. Thus, developing countries consider foreign investments a key source for growth, though it is difficult to measure the economic effects. For developing countries like South Africa, foreign investments are an important channel for transferring capital and technology from developed economies to domestic economies. Hyungsun and Miguel (2017) postulated that FDI is viewed as one of the main channels of transferring technology. Furthermore, Sethi et al. (2019) believed that when FDIs enter a domestic country, that country is bound to receive new knowledge, management, experience and improved ways of production that will result in them having a competitive advantage.

Even though there are significant number of studies that have examined the impact of FDI and economic growth (Akpan and Eweke 2017; Sunde 2017; Haider *et al.* 2021), in South Africa it remains an unresolved issue. There is no agreement on the linkage between foreign investment growth of the economy Ahmad et al. (2021). For example, Sunde (2017) posited that FD results in economic growth and Ahmad *et al.* (2021) asserts that foreign investments promotes the growth of the economy. Makhoba and Zungu (2021) established an interrelationship between South Africa's economic growth and FDI. In contrast, Khobai *et al.* (2018) questioned the efficiency of FDI inflows in South Africa. They found that FDI negatively affects economic growth. In addition, Joshua, Bekun and Sarkodie (2020) established a non-causal effect between FDI and South Africa's economic growth, implying that FDI is not a driver of economic development contradicting their priori expectation.The differences in the research findings on the relationship between foreign direct investment and growth of the economy might be ascribed to variable measurement techniques, time frames, estimation techniques used in the study and the variant in the variables.

The discrepancies in the studies by (Dahir 2017; Sunde 2017; Haris and Danila 2018; Haider *et al.* 2021) Makhoba and Zungu 2021) motivated this study to investigate the effect of foreign direct investments on South Africa economic growth using time series data for the period 1980 to 2021. In doing so, this study attempts to fill the gap on the effect of FDIs to South Africa's economic growth. As such, this study is of great interest to policy makers regarding enabling environment that will attract more FDIs and enhance the country's economic growth. In addition, the results would benefit other researchers by adding value and knowledge to the current body on foreign direct investments and economic growth literature. Furthermore, the study provides insight on how FDI could be valuable in accelerating economic growth. Therefore, it is of vital importance to explore the main factors that promote economic growth, so that significant measures can be taken to stir up the positive influencing factors.

The rest of the study is structured as follows, a review of empirical empirical literature will follow then a discussion of data and model in methodology section. Next, results and discussions and finally, conclusion and recommendation.

3. LITERATURE REVIEW

The relationship between foreign direct investments (FDI) and economic growth has remained a critical issue in the economic literature. Several studies have examined this relationship and most of them were conducted in developed nations (Pegkas and Tsamadias 2016; Hyungsun and Miguel 2017; Ridzuan, Ismail and Hamat 2017; Haider *et al.* 2021; Rehman *et al.* 2021). There is a growing interest in studies that examine the relationship between these two variables in developing countries. Despite some notable increase in literature from developing countries, little empirical research has been done in South Africa on the subject and the available academic literature is scanty. Studies by (Sunde 2017; Sokang 2018; Joshua and Alola 2020; Rehman *et al.* 2021) show that the relationship between FDI and economic growth found controversial results. These differences were attributed to variable measurements technique employed in the studies, the study variables, estimation techniques and time frames (Uwubanmwen and Ogiemudia 2016; Ciobanu 2020; Osei and Kim 2020).

Studies by Ahmad et al. (2021), Joshua, Bekun and Adedoyin (2020) show that the relationship between FDI and economic growth found controversial results. These differences were attributed to variable measurements technique employed in the studies, the study variables, estimation techniques and time frames. The empirical evidence on the relationship between foreign investments and economic growth is decisive, though there is a general belief that FDIs results in economic growth of the host country. The empirical literature found weak support of an exogenous positive effect. Literature indicated that a host country might be limited by the local conditions, that is, absorptive capacities (such as lack of skilled workforce or educational level) for them to be able to take advantage of FDI externalities. Therefore, the host country should ensure that they have skilled workforce, human capital resources, good infrastructure, and financial systems for them to be able to enjoy the benefits of FDIs.

Several studies have been conducted on the empirical relationship between FDI and economic growth in developed countries. Arguments have been noted in the empirical literatures, which suggested that economic growth is directly linked to FDI inflows. Ridzuan et al. (2017) conducted a study in Singapore covering the period 1970 to 2013. The analysis was performed using ARDL estimation technique. The study showed mixed evidence on the relationship between foreign investments and the main pillars of sustainable development. The findings show that FDI inflows only bring favourable effects on growth of economy. These results suggest that policymakers should focus more on the attraction of foreign investors with the hope that they invest in various sectors, alleviate unemployment levels and offer better wages to the local workforce resulting in improved income distribution within the country. The following elements are some shortcomings of Ridzuan et al. (2017) study. The inflation variance factor was not analysed as it could explain the high r squared as there could possibly be the presence of multi-collinearity. In addition, the study did not specify the specific test for serial correlation.

Pandya and Sisombat (2017) used regression analysis to investigate the causal relationship between FDI and Australia's economic growth. Multiple regressions analysis were used to generate conclusions on the significance of FDIs. The study revealed that FDI inflows contributes to the growth of the Australian economy. Vast studies have been conducted in developing country to analyse the impact of FDIs on economic growth (Al-Shawaf and Almsafir 2016; Bermejo Carbonell and Werner 2018; Rafat 2018; Ahmed and Ibrahim 2019; Haider *et al.* 2021; Joshua, Güngör and

Bekun 2022). Bermejo Carbonell and Werner (2018) have indicated that foreign investments do introduce new technology, managerial skills and ideas and new production techniques which tend to increase economic growth.

Studies by (Makhoba & Zungu, 2021; Yeboua, 2021) focused on African countries using different types of estimation techniques like the vector auto-regressive models and VECM. Yeboua (2021) identified a nonlinear relationship between FDI and economic growth. The study suggested synchronisation between policies that attract FDIs and policies that improve African organisations. Makhoba and Zungu (2021) did a more current study on the impact of FDI on economic growth using time series analysis from 1960 to 2019. Vector Autoregression (VAR) approach was used to establish the interrelationship between South Africa's economic growth and FDI. The empirical findings revealed a mutual relationship between FDI and GDP. Positive shocks in FDIs results in increases in economic growth, similarly positive shocks in GDP stimulates FDI inflows. In a related study Joshua, Bekun and Adedoyin (2020) used the ARDL approach to examine the interaction between FDI and economic growth. The empirical findings revealed that FDI inflows results in South Africa's economic growth in the short and long run which was similar to the works of ((Meyer & Habanabakize, 2018).

In contrast, Khobai et al. (2018) questioned the efficiency of FDI inflows in South Africa. The study results indicated that FDI negatively affects economic growth. Joshua, Bekun and Sarkodie (2020) established a non-causal effect between FDI and South Africa's economic growth, implying that FDI is not a driver of economic development contradicting their priori expectation.

The literature reviewed above from the previous studies indicated mixed results on the impact of FDIs to economic growth, furthermore it has shown that benefits of FDIs do not occur automatically and equally across countries. The benefits tend to vary from one country to the other and it is difficult to separate and measure them. Therefore, the government of the host country must play a leading role in attracting FDIs and managing for them to achieve their development goals. Furthermore, the review of literature emphasised that the success of spillover effects is dependent on the host country environment characteristics.

4. METHODOLOGY

3.1 Theoretical framework

The theoretical framework that underpins the methodology is based on the endogenous growth mode. The model assumes primary sources of growth to be physical capital, human capital, labour, and technological change. According to Romer (1986) and Lucas (1988), the equation below reflects the essence of endogenous growth theory.

$$Y = AK \tag{3.1}$$

Where, Y is aggregate output, A denotes technological factors and K includes physical and human capital.

We modified the underlying model by employing real GDP, FDI and exchange rate. The generic regression is specified as follows

$$Y_t = f\left(FDI_{t,}\, EXR_t\right) \quad (3.2)$$

Where, Y_t is change in growth rate in year t, FDI refers to foreign direct investments in year t, and EXR represents exchange rate in year t. The dependent variable is GDP, the dependent variable is FDI is the independent variable, and the moderating variable is EXR.

3.2 Data

To examine the impact of FDI on GDP this study applied the Auto Regressive Distributed Lag (ARDL). The macroeconomic variables used in the estimation process include foreign direct investment (FDI), exchange rate and economic growth (GDP). The time series data ranging from 1980 to 2021 was extracted from the South African Reserve Bank (SARB) database. The study used Stata 17 as a tool to analyse data and undertake estimation process of the regressions for empirical analysis.

3.3 Model

Following the studies of (Cañal-Fernández and Fernández 2018b; Nyiko, Tumelo and Olebogeng 2021) the study employed the Auto Regressive Distributed Lag (ARDL) developed by Pesaran, Shin and Smith (2001) to examine the effect of FDI on economic growth. The ARDL can be applied irrespective of the integration order of the variables and it involves testing whether a long run relationship exists in variables. The ARDL co-integration was employed in this study because it does not need all the variables under study to be integrated of the same order and can be applied when the underlying variables are integrated of order 1(1) or order 1(0) (Pesaran et al., 2001).

The ARDL generalized model with q lags of $\boldsymbol{X_t}$ and p lags of $\boldsymbol{Y_t}$ is as given as follows:

$$Y_t = \beta_o + \beta_1 Y_{t-1} + \beta_2 Y_{t-2} + ...\beta_p Y_{t-p} + \delta_1 X_{t-1} + \delta_2 X_{t-2} + ... + \delta_p X_{t-q} + \mu_t \quad (3.3)$$

Where, unknown coefficients are represented by $\beta_0 \ldots . \beta_p, \delta_1 \ldots . \delta_q$ the error term with μ_t and $\mathrm{E}(\mu_t \mid Y_{t-1}, Y_{t-2}, ..., X_{t-1}, X_{t-2}, ...) = 0$, p and q are lag lengths

In this study, the ARDL model for the impact of FDI on economic growth is as follows:

$$\Delta LNGDP_t = \alpha_0 + \beta_1 LNGDP_{t-1} + \beta_2 LNFDI_{t-1} + \beta_3 LNEXR_{t-1} + \sum_{i=1}^{n} \delta_{1i} \Delta LNGDP_{t-i} + \sum_{i=1}^{n} \delta_{2i} \Delta LNFDI_{t-i} + \sum_{i=1}^{n} \delta_{3i} \Delta LNEXR_{t-i} + \varepsilon_{1t} \quad (3.4)$$

Where, $\Delta LNGDP_{t-1}$, $\Delta LNFDI_{t-1}$, $\Delta LNEXR_{t-1}$ (exchange rate) are the dependent variables, $t-1$ indicates the previous period value called first lag, α_0 represents the equation constants and β_1, β_2 and β_3 represents the model long run relationship $\delta_{1i} \ldots \delta_{3i}$ denotes the model short run dynamics. The logarithm operator is represented by LN, the first difference is denoted by Δ and ε_{1t} is the error terms assumed to be independently and identically distributed.

In equation (3.4) the null hypothesis of no cointegration $H_0 : \beta_1 = \beta_{12} = \beta_{13} = 0$ will be tested against the alternative hypothesis of integration $H_1 : \beta_1 \neq \beta_{12} \neq \beta_{13} \neq 0$. If the calculated F-statistic falls below the lower bound we would conclude that the variables are I(0), so no cointegration is possible.

If the F-statistic exceeds the upper bound, we conclude that we have cointegration and it lies between the bounds, the test is inconclusive. In summary, if the calculated F-statistic for the lagged levels is greater than the upper bound critical value tabulated by Pesaran et al. (2001), this would support the conclusion that there is a long-run relationship between the variables. If the t-statistic is less than the I(0) bound, we would conclude that the data is stationary.

Assuming the results of the F-statistic leads to the conclusion of cointegration, we estimate the long-run relationship between the variables using the following model

$$LNGDP_t = b\sum_{i=1}^{n}\mu_{1i}\Delta LNGDP_{t-1} + \sum_{i=1}^{n}\mu_{2i}\Delta LNFDI_{t-i} + \sum_{i=1}^{n}\mu_{3i}\Delta LNEXR_{t-1} + \varepsilon_{1t} \quad (3.5)$$

To obtain the short-run dynamic parameters by estimating an error correction model (ECM) associated with the long-run estimates, the model is specified as follows:

$$\Delta LNGDP_t = c + \sum_{i=1}^{m}\alpha_i\Delta LNGDP_{t-i} + \sum_{i=1}^{m}\beta_i\Delta LNFDI_{t-1} + \sum_{i=1}^{m}\delta_i\Delta LNEXR_{t-i} + \varphi ECT_{t-1} + \varepsilon_{2t} \quad (3.6)$$

Where ECT_{t-i} is the one-period lagged error correction term, specified as follows:

$$ECT_{t-i} = LNGDP - b - \sum_{i=1}^{n}\mu_{1i}\,\Delta LNGDP_{t-i} - \sum_{i=1}^{m_1}\mu_{2i}\Delta LNFDI_{t-i} - \sum_{i=1}^{m_2}\mu_{3i}\Delta LNEXR_{t-i} \quad (3.7)$$

Where $\alpha, \beta, and\ \delta$ are the short-run dynamic coefficients of the model's convergence to long-run equilibrium and φ is the speed of adjustment.

The existence of cointegration derived from the model equation 3.7 does not necessarily imply that the estimated coefficients are stable. Therefore, Pesaran and Pesaran (1997) and Pesaran *et al*. (2001) proposed assessing parameter stability in estimated models using Brown *et al*. (1975) tests, which are known as cumulative sum (CUSUM) and as cumulative sum of squares (CUSUMQ) (Stamatious and Dritsakis, 2014). If the plots of the CUSUM and CUSUMSQ statistics stay within the critical bounds of a 5% level of significance, the null hypothesis of all coefficients in the given regression is stable and cannot be rejected. To ensure the goodness of fit of the model, diagnostic and stability tests are conducted. Diagnostic tests examine the model for serial correlation, non-normality and heteroscedasticity.

5. RESULTS AND DISCUSSION

4.1 Stationarity Analysis

Time series univariate properties were examined using two-unit root test, Augmented Dickey–Fuller (ADF) and Phillips–Perron (PP). The unit root test results are presented in Table 1. The results of the stationarity test show that all variables are nonstationary at levels but stationary at the first differences. Therefore, we conclude that at first differencing the ADF and PP test confirms stationarity of each variable and depict the same order of integration $I(1)$.

Table 1. Unit root test

TESTS	LNGDP	LNFDI	LNEXR
ADF Test			
Level			
Constant without trend	-3.674	-6.023	-4.824
Constant with trend	-3.667	-5.925	-4.997
1st difference			
Constant without trend	-1.532***	-4.359***	-6.393**
Constant with trend	-2.539**	-1.296**	-6.254**
PP Test			
Level			
Constant without trend	-2.665***	-4.539***	-4.409***
Constant with trend	-2.286***	-4.365***	-4.575**
1st difference			
Constant without trend	-4.284***	-4.359***	-2.194**
Constant with trend	-4.649***	-5.676**	-2.318*

*Note: asterisks ***, ** and * denotes the significance level at 1%, 5% and 10%, respectively*

4.2 ARDL bounds test results

After proving that the series are stationary of 1 order, I(1) autoregressive distributed lag (ARDL) approach is employed to examine the long-run relationships among the variables. The analysis of the ARDL bounds test approach to cointegration is shown in Table 2. The F-static results are shown when each variable is considered a dependent variable in the ARDL-OLS regressions.

The calculated F-statistics for F_{LNGDP} (LNGDP/LNFDI, LNEXR) and F_{LNFDI} (LNFDI/LNGDP, LNEXR) are greater than the upper-bound critical value by (Pesaran et al., 2001). There is a long-run relationship amongst the variables when LNGDP and LNFDI are dependent variable because their F-statistic are (7.682) and (9.521) respectively, are greater than the upper-bound critical value (5.61) at the 5% and 10% significance level. Thus, the null hypothesis that the coefficients of the lagged level of the variables are null (i.e. no long-run relationship) is rejected. The model fulfill the assumptions of normality, autoregressive conditional heteroscedasticity (ARCH), functional forms and serial correlation of models. The bounds F-statistic for F_{LNEXR} (LNEXR/LNGDP, LNFDI) are inconclusive meaning there is no evidence of a long-run relationship among variables. The null hypothesis of no cointegration is not rejected. The analysis suggests that any causal relationship within dynamic ECM cannot be estimated.

Table 2. ARDL bounds test results and F-test Critical values

Estimated ARDL models	lags	F-stat.	Significance level	Bounds critical value (Pesaran *et al.*, 2001) $I(0)$	$I(1)$	Decision
F_{LNGDP} (LNGDP/LNFDI, LNEXR)	(2,1,3,0)	7.682***	1% 5% 10%	4.29 3.23 2.72	5.61 4.35 3.77	cointegration
F_{LNFDI} (LNFDI/LNGDP, LNEXR)	(1,1,0,2)	9.521***	1% 5% 10%	4.29 3.23 2.72	5.61 4.35 3.77	Cointegration
F_{LNEXR} (LNEXR/LNGDP, LNFDI)	(1,1,0,0)	2.861	1% 5% 10%	4.29 3.23 2.72	5.61 4.35 3.77	inconclusive

Note. *, ** and *** denote significance at 10%, 5% and 1% level

Having established cointegration above, we can estimate the conditional ARDL long-run effects of FDI and exchange rate on economic growth. The results reported in Table 3 shows that FDI has a positive impact on GDP. At 5% significance level, an increase in FDI by 1% results in 0.46% increase in GDP. This means that in this study FDI does have a significant impact on South Africa economic growth. The result obtained are in line with the works of and (Sunde, 2017) who all found that FDI does have positive impact effect on economic growth. However, the exchange rate has a negative impact on economic growth. At 1% significance level, the coefficient of exchange rate is statistically significant indicating that if country's exchange rate depreciates by 1% in the long run, economic growth measured as GDP will decrease by approximately 0.39%. At 1% significance level, the null hypothesis is rejected implying that the relationship that exist between exchange rate and economic growth is negative as shown in Table 2. Thus, depreciation of a country's local currency makes the economy more competitive. Theoretically, depreciation of the South African rand would make exports relatively cheaper this would result in increases in demand for exports, which can be extended, to economic growth. Empirically, however, the demand and supply of exports and imports have proved inelastic and therefore, a depreciation in effect hinders growth. In addition, devaluation increases the price of traded goods, which feeds into the general price level rendering a negative real balance effect. This, in turn, would result in lower aggregate demand and output. The results are in line with studies by, and Mwinlaaru and Ofori (2017).

Table 3. Estimated long run coefficients suing the ARDL

Dependent variable= LNGDP			
Variable	Coefficient	Std. Error	t-stat.
Constant	-0.562	0.316	-2.039***
LNFDI	0.464	0.245	2.160**
LNEXR`	-0.389	0.216	-2.030***
Diagnostic tests	**Statistics**		
J-B normality test	0.847654(0.65689)		
LM test	1.128067(0.4584)		
Arch test	0.213486(0.6832)		
Ramsey reset	0.422520(0.98430)		
CUSUM	Stable**		
CUSUMsq	Stable**		

Note (*), (**) and (***) show significance at 10%, 5% and 1% level

Since the variables are cointegrated, the short-run dynamic parameters are estimated using the error correction model and the results are presented in Table 4. The short run results are in line with the prior assumptions since they show that FDIs influence the growth of the economy positively. In addition, the sign of the estimate of the ECT is negative and statistically significant at 1% significance level. This confirms the long run relationship between the variables established earlier. In this model, the coefficient of $ECTt-1$ is -0.825 and is highly significant and implies that 82.5% of disequilibria from the previous year's shock adjust back to the long-run equilibrium in the current year. It also highlighted the 82.5% of shock from precedent period will converge or get back to equilibrium.

Table 4. Estimated short run coefficients using the ARDL

Dependent variable= LNGDP			
Variable	Coefficient	Std. Error	t-stat.
ΔLNFDI	0.416	0.645	4.160***
ΔLNEXR`	-0.264	0.439	-4.365***
ECT(-1)	-0.825967	0.189684	-4.342***
Diagnostic tests	**Statistics**		
J-B normality test	0.476654(0.7842)		
LM test	0.188067(2.9584)		
Arch test	0.478592(0.3657)		
Ramsey reset	0.22684(1.62486)		
CUSUM	Stable**		
CUSUMsq	Stable**		

Note (*), (**) and (***) show significance at 10%, 5% and 1% level

Finally, both models show no evidence of autoregressive heteroscedasticity and misspecification. The estimated ARDL diagnostic test results are presented in Table 5. The results indicate that the estimated model passes the Langrangean multiplier test, heteroscedasticity test and Normality test.

Table 5 Diagnostic test result

S.no	Test statistics	LM version F	F-version
1. 2. 3.	Serial correlation (BG) Heteroscedasticity (White) Normality (JB)	CHSQ (1) =2.793811(0.0946) CHSQ (8) =2.833318(0.9444) CHSQ =0.155924(0.9250)	F(1,13)=1.797447(0.2030) F(8,14)=0.245866(0.9738)

Serial correlation was checked using Breusch-Godfrey Serial Correlation LM Test.The null hypothesis assumed no serial correlation in the residuals and alternative hypothesis assumes the presence of serial correlation in the residuals. In this study, the null hypothesis is not rejected because the p-value (0.2030) is greater than 5% significance level. This shows the non-existence of autocorrelation. Therefore, all explanatory variables are constructed in the model and can be used for prediction. Heteroscedasticity was checked using Whites test and the null hypothesis is not rejected because the p-value (0.944) is greater than 5% significance level. Thus, we accept the null hypothesis and conclude that there is no evidence of heteroscedasticity. It can also be concluded that the errors are not changing over time.

The normality p-value (0.9250) is greater than 5% the critical values. This shows that there is no

apparent non-linearity in the regression equation, and we conclude that the linear model is appropriate. In conclusion, ARDL model is free from any econometric problems like serial correlation, heteroscedasticity, and multicollinearity and the Jarque Bera tests proved the data are normal distribution and model is reliable and functional form is correct by the Ramsey test.

The stability of the model is crucial; CUSUM and the Square of CUSUM test were used to check the stability.Pesaran et al. (2001) suggests that the stability test for parameters using cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMSQ) plots be conducted after the model is estimated. The CUSUM for the estimated ARDL model is depicted in figure 1. Since the plots of all coefficients falls within the critical bound of 5% significance level, the plot suggests the absence of instability. The plot suggests the absences of instability of the coefficients since the plots of all coefficients fall within the critical bounds at 5% significance level. The estimated ARDL model CUSUMSQ plot is depicted in figure 2. At 5% significance level, the coefficients plots fall within the critical bounds indicating the absence of instability. Therefore, the estimated coefficient of the model is stable over the period of study. The model is therefore appropriate for decision-making and policy formulations in South Africa.

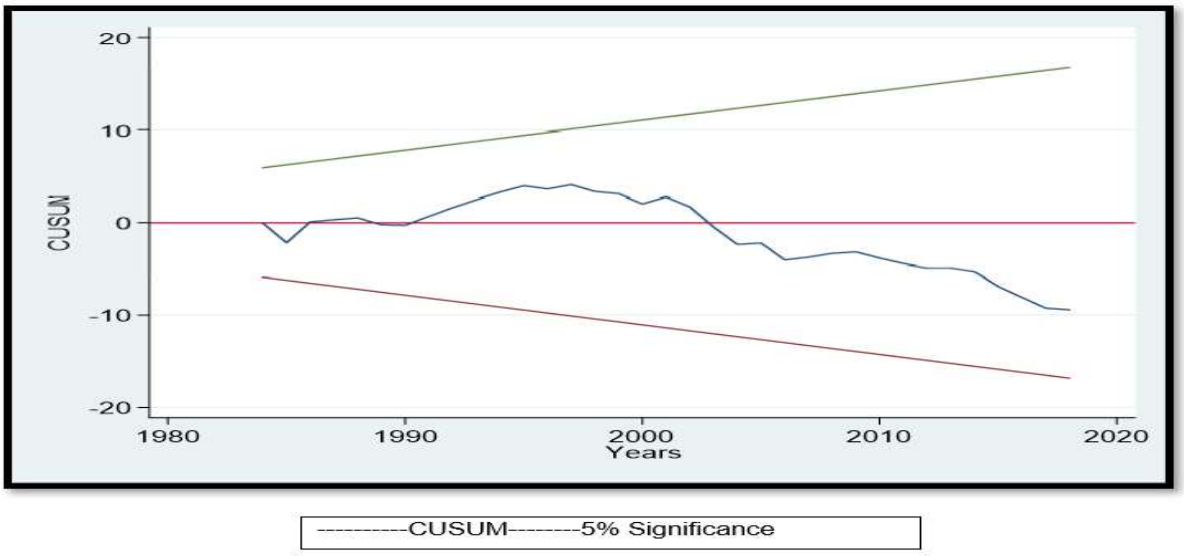

Figure 1. Plot for CUSUM test

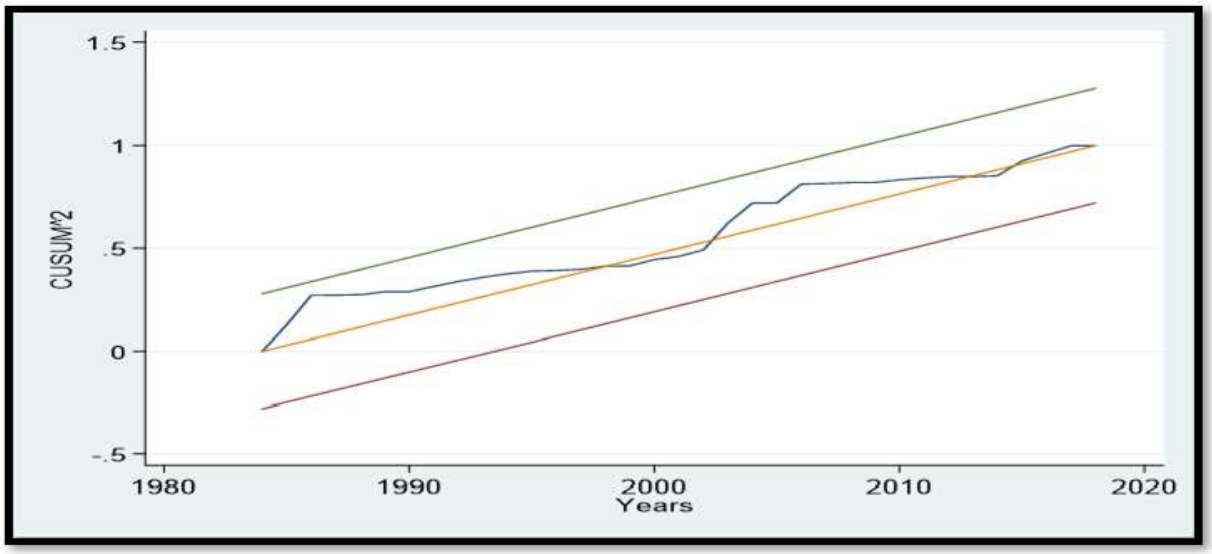

Figure 2. Plot for CUSUMSQ test

6. CONCLUSION AND RECOMENDATIONS

The study examined the effect of foreign direct investments on South Africa's economic growth. We use the autoregressive distributed lag model (ARDL) bounds testing approach to cointegration to test the long run relationship between economic growth, foreign direct investment, and exchange rate. We found that FDI has a positive effect on the South African economic growth rate. While exchange rate had a negative significant impact on economic growth. This study concludes that FDI has a positive impact on economic growth in South Africa. The study established a negative relationship between exchange rate and economic growth. Possible explanation for this results is that, South Africa's free-floating currency is constantly evolving in relation to factors like economic performance, political unrest and outlier events (for example COVID 19). These underpinnings would result in exchange rate volatility of the rand or even depreciation of the rand. There is so much risk attached to exchange rate volatility which affects the exporters negatively by discouraging cross boarder trading. Firms are discouraged to enter into the export markets because they do not want to risk their expected profits. The study recommends that the policymakers adopt policies aimed at infrastructural development that will attract more FDIs and enhance the country's economic growth. Though there is a prime need to attract more foreign investors to South Africa, it is important to concede that attracting inward FDIs alone is not enough for sustainable economic growth and development. The government will have to undertake reforms with clear objectives and commitments, for example, it has to improve its attraction of foreign direct investment through more structural policies. Also, South Reserve Bank should come-up with policies that will help to stabilize the South African Rand exchange rate vis-à-vis the major currencies of the world, like the United States Dollar. This will boost the investors' confidence in the economy. Finally, the attraction of FDIs should be directed towards sources that are involved in the creation of jobs and uplifting of the South African economy. It is important for the government to eradicate corruption within its departments and create environments that tends to promote or favour foreign investments. Thus, this study suggests that South Africa capacity to grow and create employment opportunities depends on the country's performance to enhance GDP and the attraction of FDIs.

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