

An Error Correction Model Analysis Of The Impact Of Foreign Direct Investment On Economic Growth In Saudia Arabia

Abdelrahman Mohamed Mohamed Saeed

Abstract

The aim of this study is to examine the impact of foreign direct investment (FDI) on economic growth in Saudi Arabia by applying the cointegration and error-correction model to annual data for the period 2000-2020. The results of the Auto Regressive Distributive Lag (ARDL) bound test of cointegration show the existence of a long-run equilibrium in the model. The long-run regression results indicate that exports, openness, and government spending are statistically significant, while FDI has a positive impact on GDP, although the influence is not highly significant. However, in the short-run, the study manifested an evidence that FDI, openness, and government spending are statistically significant at 1% level of significance. The existence of a short-term relationship between economic growth (GDP) and FDI, openness, and government expenditure in the model is evident from the results of the error correction model. The calculated adjusted of the model reveals that 97% of variations in economic growth have been explained by variations in FDI, government expenditures, exports, and openness. Stability and Diagnostic Tests showed no serial correlation in the model. The findings of this study are important for Saudi economic policymakers to undertake effective measures that can promote and attract FDI, contribute to the diversity of income sources, and accelerate economic growth.

Keywords: GDP, Kingdom's Vision 2030, ARDL Approach, Cointegration, Saudia Arabia, Fdi

Introduction

Foreign direct investment (FDI) has become an important determinant of economic growth in developing countries, though its impact varies from country to another. During the past two decades, the world witnessed significant increase in the volume of global capital flows. The Kingdom of Saudi Arabia has intended to increase FDI as part of the Vision 2030 plan to end reliance on oil. More recently, the Kingdom has issued new incentives in different fields to attract foreign investors. According to UNCTAD World Investment Report (2022), FDI inflows in Saudi Arabia remained resilient despite the pandemic, increasing by 20% to USD 5.39 billion in 2020. According to Saeed (2023), based on the Kingdom's Vision 2030, the Kingdom of Saudi Arabia acknowledged the importance of FDI in facilitating the growth of the country's economy and diversifying its source of income. The country has become a prominent host to foreign direct investment (FDI) in the last decade, especially when compared to the size of its economy. UNCTAD statistics (2013) indicate that FDI in Saudi Arabia increased from an annual average of \$251 million from 1990-1999, to \$772 million from 2000-2004, then jumped to \$24 billion in the period 2005-2011. This study attempts to examine the

impact of FDI on economic growth in Saudi Arabia by applying the cointegration model on annual data over the period 2000-2020.

Research Problem

The great challenge facing the gulf countries is the fluctuations of oil price. Dependence on oil as a major source of income is one of the greatest challenges facing the Saudi economy. Accordingly, Saudi Arabia has undertaken major reforms to reduce commodity dependency. To confront these challenges, Saudi Arabia is implementing Vision 2030 as strategic framework to diversify its economy, create jobs, and move to more balanced investment.

Research objective

The Importance of undertaking this study stems from the fact that FDI has been considered a prominent tool for the development of the receiving countries. FDI has not only improved the country's GDP growth, but also enhanced the balance of payments and created employment within the host nation.

The main objective of this study are as follows:

- To identify the role of FDI on economic development.
- To identify the incentives and policies that attract FDI.
- The economic importance of foreign investment.
- To help economic policy makers to adopt the necessary effective policies to promote foreign investments and to boost economic growth.

Data and Methodology

The study applied the cointegration model on annual data over the period 2000-2020 to examine the impact of FDI on economic growth in Saudi Arabia, whereas GDP is the dependent variable while FDI, external trade, inflation, government spending, and gross domestic capital formation are the independent variables.

Secondary data on GDP, export and imports, inflation and government spending has been collected from Saudi Arabia Monetary Authority (SAMA), while the data on FDI and gross domestic capital formation collected from World Development Indicator, World Bank, and UNCTAD statistics.

To measure the nature and degree of FDI impact on economic growth, the following empirical model has been selected:

$$GDP = \beta_0 + \beta_1 FDI + \beta_2 EX + \beta_3 P + \beta_4 GOV + \beta_5 K + \mu$$

Where:

GDP represents growth rate

FDI represents total FDI inflow which can be measured by net FDI inflow–GDP ratio.

EX represents the external trade which can be measured by total export/total import/net export.

P represents inflation which can be measured by GDP deflator/change in WPI or CPI

GOV represents government spending

K represents capital investment which can be measured by gross domestic capital formation.

μ represents the error term, which is the residual impact not being captured by any of the explanatory variables.

Literature Review

1774 *An Error Correction Model Analysis Of The Impact Of Foreign Direct Investment On Economic Growth In Saudi Arabia*

In recent years, there has been an increasing amount of literature on the role of FDI on economic development. FDI inflows have in general been recognized as beneficial to economic growth in developing countries in terms of national productivity improvement. According to OECD (2012) FDI triggers technology spillovers, assists human capital formation, contributes to international trade integration, helps create a more competitive business environment and enhances enterprise development. However, there is lack of consensus regarding the impact of FDI on economic growth as several studies argue that FDI has a negative impact on economic growth. In this regard, there are two contrasting views regarding the impact of FDI on growth: First is modernization theories, based on the neoclassical and endogenous growth theories, which argues that FDI has positive impact by providing capital for investment and via knowledge transfer. The second view is the dependency theory which focuses on the negative impacts of FDI on economic growth. The ambiguity in the literature highlights the need for further research on the topic, so as to enhance understanding of the relationship between FDI and economic growth.

Sarumi argues that the contribution of FDI was positive in some countries and negative in others. Najeh Bouchoucha (2019) examined the impact of domestic investment and FDI on economic growth in Tunisia during the period 1976–2017, he stressed that domestic investment and FDI have a negative effect on economic growth in the long run. Al-Sadiq (2013) investigated the impact of FDI on economic growth and concluded that the combination of domestic investment and foreign investment for production purposes could have different effects depending on the motivations of foreign investors. The determinants of FDI in Pakistan were investigated through multivariate regression analysis by Akhtar (2000) who suggested that market size, exchange rates and relative interest rates are the main important factors for FDI inflows in Pakistan. Alshareef (2013) investigated the benefits as well as the costs that foreign direct investment has had on the Saudi Arabian financial sector, he argued that Saudi Arabia has experienced an increased inflow of capital from foreign direct investment, a factor that motivated the economy.

AL-Matari et. al. (2022) emphasized the determinants of FDI in Saudi Arabia during the period 1979 to 2019. The study applied cointegration and ARDL regression to investigate the determinants of FDI. The study confirmed the cointegration of FDI with some variables and revealed that the variables GDP, inflation and external balance have causality effects with FDI in the long run and that FDI affected positively by external balance. The findings of the study predicted acceleration of foreign direct investment flows to Saudi Arabia.

Elimam (2017) conducted a comprehensive review to FDI in Saudi Arabia to identify the determinants of FDI and the significance of these determinants. FDI inflows in Saudi Arabia was considered as potentially beneficial to the country, however, it was also considered as rendering factor towards socio-economic transformation and economic growth of the country. The study pointed out some factors that perceived as contributing to attracting FDI in Saudi Arabia; these include the stability of the exchange rate, dealing with the official institutions of the government, custom exemptions, obtaining investment licenses, and grants to tax investors, as well as the significant impact of trade openness, GDP size, independent judiciary, and infrastructure.

Belloumi and Alshehry (2018) investigated the causal relationships between FDI, domestic capital investment and economic growth in Saudi Arabia over the period 1970 to 2015. The findings of the study reveal that FDI and non-oil GDP growth are subject to negative bidirectional causality in the long run, while non-oil GDP growth and domestic capital

investment are subject to the same causality, whereas, bidirectional causality depicted between FDI and domestic capital investment. The study reported negative impact of FDI on domestic capital investment in the short run, and reversely a long run negative impact of domestic capital investment on FDI. The study has furthermore revealed that trade openness and finance development affect positively on FDI inflows, non-oil GDP growth and domestic capital investment in the long run.

Alfalih and Bel Hadj (2020) explored the factors that determine the FDI inflows in Saudi Arabia as an oil abundant host country. The study compiled variables from various databases in temporal sequence and time series analysis. The findings of the study showed that there is a significant effect of the size of markets, the exchange rate, and regulations effects on FDI over the short and long run. The cointegration analysis showed that FDI inflows in Saudi Arabia are stimulated by a rise in the price of oil price over the short run, and openness over the long run. While Oil exports have no significant effect on both the short and long run on FDI.

1. Data and Specification of the Mode

This study uses annual time series data for the period (2000-2020) for Saudi Arabia, which is taken from Central Bank of Saudi Arabia and International Monetary Fund (IMF). In order to examine the impact of Foreign Direct Investment (FDI) on economic growth in Saudi Arabia, the following Econometric model is developed.

$$\ln\text{GDPt} = \beta_0 + \beta_1\ln\text{FDI} + \beta_2\ln\text{EXt} + \beta_3\ln\text{open} + \beta_4\ln\text{GOVt} + \varepsilon \quad (1)$$

Dependent Variable: GDP = Gross Domestic Product (GDP serves as proxy for Economic Growth.)

Explanatory Variables:

EX= Exports.

FDI = Foreign Direct Investment.

OPEN= openness.

GOV = government expenditure.

β_0 =the constant or the intercept. $\beta_1, \beta_2, \beta_3, \beta_4$ = are the parameters/ coefficients of the explanatory variables.

While, the expected signs of the parameters are: $\beta_1 > 0, \beta_2 >, \beta_3 > 0, \beta_4 > 0$.

The error term (ε) is assumed to be independently and identically distributed. The subscript (t) indexes time.

2. Methodology and ARDL Model Specifications

In order to empirically analyze the long-run co-integration and dynamic interactions among the variables under consideration, we employ the most recently introduced, the autoregressive distributed lag (ARDL) approach to co-integration developed by Pesaran et al. (2001). This procedure is adopted for three reasons: first, the bounds test procedure is simple. As opposed to other multivariate co-integration techniques such as Johansen and Juselius (1990), it allows the co-integration relationship to be estimated by OLS once the lag order of the model is identified. Secondly, the bounds testing procedure does not require the pre-testing of the variables included in the model for unit roots unlike other techniques such as the Johansen approach. It is applicable irrespective of whether the underlying regressors in the model are purely I(0), I(1) or fractionally/mutually co-integrated. Thirdly, the test is relatively more efficient in small or finite sample data sizes as is the case in this study. The procedure will however crash in the presence of I (2) series. The ARDL bounds testing approach is given as follows:

$$\Delta \text{GDP}_t = a_0 + \sum_{i=0}^r a_{1i} \Delta \text{GDP}_{t-i} + \sum_{i=0}^r a_{2i} \Delta \text{fdi}_{t-i} + \sum_{i=0}^r a_{3i} \Delta \text{ex}_{t-i} + \sum_{i=0}^r a_{4i} \Delta \text{open}_{t-i} + \sum_{i=0}^r a_{5i} \Delta \text{gov}_{t-i} + \gamma_1 \ln \text{GDP}_{t-1} + \gamma_2 \ln \text{fdi} + \gamma_3 \ln \text{ex}_{t-1} + \gamma_4 \ln \text{open}_{t-1} + \gamma_5 \ln \text{gov}_{t-1} + \epsilon t \dots (2).$$

And the Error Correction Model:

$$\Delta \ln \text{GDP}_t = \delta_0 + \sum_{j=1}^p \delta_{1j} \Delta \ln \text{GDP}_{t-j} + \sum_{j=0}^q \delta_{2j} \Delta \ln \text{fdi}_{t-j} + \sum_{j=0}^r \delta_{3j} \Delta \text{ex}_{t-j} + \sum_{j=1}^p \delta_{4j} \Delta \ln \text{opr}_{t-j} + \sum_{j=1}^p \delta_{5j} \Delta \ln \text{gov}_{t-j} + \delta_7 \text{ECM}_{t-1} + v_t \dots (3).$$

There are five steps to conduct for ARDL model:

3. Empirical Results

1.3 Descriptive statistics

The results for the main descriptive statistics of the data used in the study are shown in Table 1. The descriptive statistics includes the mean, median, maximum, minimum, standard deviation, Jarque-Bera, and probability of each variable. In terms of Jarque-Bera, the test investigates whether data samples have skewness or kurtosis matching a normal distribution. Relating to the current study, the test statistics for EX, FDI, and trade openness are all greater than zero. This is an indication that the variables are not normally distributed.

Table 1 . Descriptive statistics

	EX	FDI	GDP	GOV	OPEN
Mean	406375.3	11458.86	1567284	656667.5	0.61771
Median	410837	8011.8	1664440	653885	0.6762
Maximum	1103952	39455.9	2751831	1093272	0.8309
Minimum	113240	183	679163	233500	0.0431
Std. Dev.	257770.9	11859.31	622790.1	323844.9	0.239233
Skewness	1.290512	1.153133	0.359054	0.023292	-1.569
Kurtosis	4.519563	3.232785	2.583127	1.476715	4.243564
Jarque-Bera	7.849407	4.70142	0.603279	2.032246	9.969306

Probability	0.019748	0.095301	0.739605	0.361996	0.006842
-------------	----------	----------	----------	----------	----------

Source: Authors' Calculations (E-views 12)

2.3 Unit Root Tests.

Before the data analysis, a less robust unit root test using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were carried out for the variables. These tests were carried out by levels and, in first difference, to formally establish their order of integration. To be sure of the order of integration, a general model with constant and trend was carried out. However, if no trend is detected, a unit root test invariant to the mean will be carried out with only the constant intercept and no time trend, and then with both intercept and time trend in the model. Table (2) and Table (3) show the unit root tests of the variables. On the bases of these results of ADF and P.P test it is stated that all variables are non-stationary at levels. However, they have been become stationary in their first differences. This implies that all the series are integrated of order one i.e. I (1).

Table 2. ADF Test Results

Variable	Intercept				Trend and Intercept			
	Level		First Difference		Level		First Difference	
	t-stat	p-value	t-stat	p-value	t-stat	p-value	t-stat	p-value
GDP	-0.537	0.839	-5.228	0.0005	-2.600	0.283	-5.070	0.006
FDI	-2.081	0.253	-6.216	0.0001	-2.049	0.538	-5.447	0.0001
EX	-1.529	0.498	-4.826	0.0014	-2.201	0.397	-4.803	0.0065
OPEN	-1.512	0.505	-4.848	0.0017	-0.629	0.965	-3.973	0.0351
GOV	-0.911	0.761	-5.363	0.0005	-1.364	0.839	-4.791	0.0088

Source: Authors' Calculations (E-views 12)

Table 3. P.P Test Results

Variable	Intercept				Trend and Intercept			
	Level		First Difference		Level		First Difference	
	t-stat	p-	t-	p-	t-stat	p-	t-stat	p-value

1778 *An Error Correction Model Analysis Of The Impact Of Foreign Direct Investment On Economic Growth In Saudia Arabia*

		value	stat	value		value		
GDP	- 0.27 1	0.91 3	-5.564	0.00 03	- 2.60 0	0.283	-5.363	0.0002
FDI	- 1.59 2	0.46 7	-5.289	0.00 05	- 1.50 2	0.794	-5.120	0.0036
EX	- 1.33 4	0.59 2	-5.940	0.00 01	- 2.92 6	0.175	-4.978	0.0043
OPEN	- 0.11 7	0.93 4	-8.569	0.00 00	- 2.93 0	0.984	-8.569	0.0000
GOV	- 0.31 7	0.90 6	-5.363	0.00 05	- 1.91 0	0.612	-5.897	0.0001

Source: Authors' Calculations (E-views 12)

After finding the integrating order, the two-step ARDL co-integration procedure has been employed. In the first stage, AIC, SBC and likelihood ratio (LR) criteria are utilized to select the optimal lag length of vector autoregressive (VAR). The results are being presented in Table (4). Since the objective is to select optimal order for the VAR, it is important that at this stage we select high enough order to ensure that the optimal order will not exceed it., lags (2) are selected for this study.

Table 4. VAR lag order selection criteria

Lag	Log L	LR	FPE	AIC	SBC	HQ
0	NA	1.62e-05	3.156741	3.405278	3.198803	NA
1	54.4902*	1.73e-09	-6.095544	- 4.604325	-5.843171	154.4902*
2	35.96966	5.45e-10*	-7.960173*	- 5.2262*	-7.497488*	35.96966

Note. * Indicates Optimal lag length.

3.3 F-Bounds Test

Now that has been established that none of the selected series I(2) or beyond and the determination of the optimal order of lag, presence of the long run co-integration has been tested using bounds test. The results of the ARDL bound test of co-integration are displayed in table (5). The F-statistics has a higher value (34.86) than the upper bound critical value, provided by Pesaran et.al (2001), is (3.49) at 5% significance level hence we have sufficient reasons to reject the null hypothesis of no long-run relationship at 5%

significance level and perhaps the existence of co-integration among the studied variables.

Table 5. ARDL Bound Test of Co-integration

Variables	F-Statistics	Decision
F(GDP,FDI,INF,EX,OPEN,GOV)	34.86	Co-integration exist
Critical Value Bounds (significance)	Lower Bound I (0)	Upper Bound I (I)
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Authors' Calculations (E-views 12)

4. 3 Estimation Short-Run and Long-Run Relationships

1-4-3 Long-Run Relationship.

Table (6) states about the long-run ARDL model results in this study. The long-run regression results report that (EX, OPEN, GOV) are statistically significant on GDP while (FDI) has a positive influence on GDP, but the influence is not so significant, the coefficient of export is (0.534385) and it is statistically significant at (1%) which implies that 1% increase in export will lead to (0.5) % increase Economic Growth.) in the long run assuming all other factors unchanged. The coefficient of openness is (0.126795) and it is statistically significant at (1%) which implies that 1% increase in openness will lead to (0.1) % increase Economic Growth in the long run assuming all other factors unchanged. The coefficient of government expenditure is (0.151188) and it is statistically significant at (5%) which implies that 1% increase in government expenditure will lead to (0.2) % increase Economic Growth in the long run assuming all other factors unchanged.

Table 6. Long run Coefficients of ARDL

Dependent Variable: GDP				
Variables	Coefficients	Std .Error	t-stat	P-value
LOG(FDI)	0.018713	0.011716	1.597200	0.1489
LOG(EX)**	0.534385	0.083262	6.418126	0.0002
LOG(OPEN) * *	0.126795	0.024238	5.231306	0.0008
LOG(GOV)*	0.151188	0.061960	2.440085	0.0406

C *	5.122288	0.292719	17.49900	0.0000
-----	----------	----------	----------	--------

Source: Authors' Calculations (E-views 12)

2-4-3 Short-Run Relationship

The short-run ARDL regression results indicate that variables (FDI, OPEN, GOV) are statistically significant at 1%, level the coefficient of ECM (CointEq(-1)) is negative, as expected, and statistically significant. The significance of the lagged error correction term implies a long-term Causality from all variables in the Economic Growth (GDP). The coefficient of error correction term is around (-0.422) and which indicates that around (42 %) of the disequilibrium in the Economic Growth (GDP). in the short-term is corrected annually. To be more specific, it takes less than a year to correct short-term disequilibrium and to restore long-term equilibrium of Saudi Arabia previous year's shock adjusts back to the long-term equilibrium. Existence of a short-term relationship between Economic Growth (GDP) and (foreign direct investment, openness, government expenditure) model is evident from the outcome of the error correction model. Foreign direct investment with lags (1), open and open with lags (1), government expenditure and government expenditure with lags (1) are significant at the 99% confidence level. This shows that there is short-term causality from these variables to the Economic Growth in Saudi

Arabia. In conclusion, the calculated adjusted R^2 of the selected ARDL approach is approximately (0.97), which means the ADRL model is fits well and about 97% variation of Economic Growth (GDP) can be explained by foreign direct investment, government expenditure and openness.

Table 6. Short run Coefficients (Error Correction Model)

Dependent Variable : GDP				
Variables	Coefficients	Std. Error	t-stat	P-value
DLOG(FDI)	-0.004849	0.009613	-0.504424	0.6276
DLOG(FDI(-1))**	0.047846	0.008950	5.345967	0.0007
DLOG(OPEN)*	0.054737	0.019272	2.840173	0.0218
DLOG(OPEN(-1))**	0.142000	0.016794	8.455628	0.0000
DLOG(GOV)*	0.509713	0.056947	8.950695	0.0000
CointEq(-1)*	-0.422070	0.077133	-18.43665	0.0000

Source: Authors' Calculations (E-views 12).

R-squared=0.978. Adjusted-squared=0.970.

5-3 Stability and Diagnostic Tests of ARDL

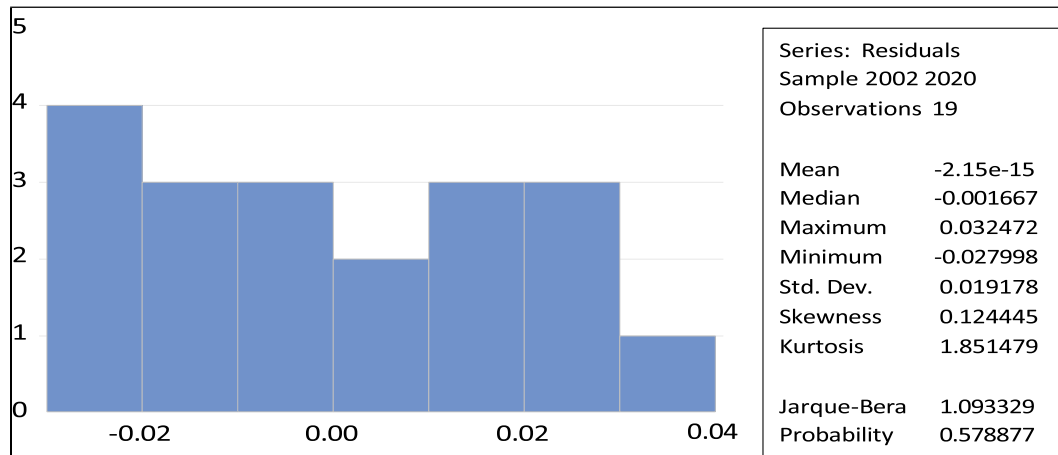
Table (7), Figure (1), Figure (2) generally passes the several diagnostic tests for ARDL model. These tests reveal that the model has achieved desire econometric properties and the model has the best goodness of fit of the ARDL model and valid for reliable interpretation. Breusch – Godfrey (1978) serial correlation LM test which is used to test for the presence of Serial Autocorrelation indicates that the residuals are not serially correlated as we can see in table (7) that the P- Value (0.272) is greater than 5% level of significance so we cannot reject the null hypothesis (There is no serial correlation) and conclude that the model has no serial correlation. White’s test (White, 1980) for Heteroskedasticity (ARCH test, see table 7) shows that the residuals have not heteroskedasticity problem as the P- Value (0.252) is greater than five percent level of significance, the null hypothesis (There is no ARCH effect) is not rejected and we have been known that this model does not have any ARCH effect. Similarly, the Regression Specification Error Test (RESET. see table 7) (Ramsey, 1969) for functional form also confirm no miss-specification and we cannot reject the null hypothesis (No power in non-linear combinations - No miss-specification) as the p – value (0.482) is greater than 5% level of significance. According to (Brooks, 2014) non- normality may cause problems regarding statistical inference of the coefficient estimates such as significance tests and for confidence intervals that relies on the normality assumption. We therefore, use the Jarque-Bera test to know that whether there is normality in the residuals or not. Figure (1) shows the Jarque – Bera normality test because, the P-Value (0.578) is greater than the five percent level of significance we therefore, cannot reject the null hypothesis (that residuals are normally distributed). Finally, the cumulative sum of recursive residuals (CUSUM) test, proposed by Brown, Durbin, and Evans (1975), are employed to investigate the stability of the model. As seen in Figure 2 the plot of the CUSUM line do not break the limits which imply that the coefficients are stable. In the light of all these tests it is, therefore, concluded that in this model there is no serial correlation, no ARCH effect and the residuals are normally distributed and the determination of parameter stability.

Table 7. Diagnostic Tests Results

Statistics	F-statistics	P-value
Serial Correlation	1.625	0.272
Heteroskedasticity	1.410	0.252
Reset Test	0.550	0.482

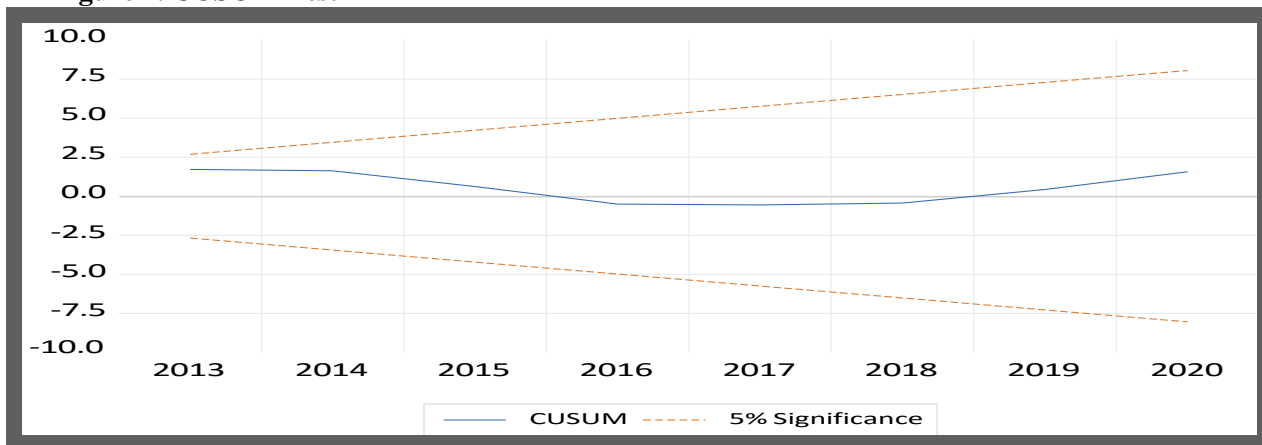
Source: Authors’ Calculations (E-views 12).

Figure (1) shows the Jarque – Bera normality test



Source: Authors' Calculations (E-views 12).

Figure 2. CUSUM Test



Conclusion and Policy Implications

The main objective of this study is to examine the impact of FDI on economic growth in Saudi Arabia by applying a cointegration and error-correction model to annual data over the period 2000-2020. The study tests the time-series variables for stationarity using the Augmented Dickey-Fuller (ADF) unit test and PP unit test. The results confirm that all variables are stationary at the first difference. The results of the ARDL bound test of cointegration reveals the existence of a long-run equilibrium in the mode. The tests for autocorrelation indicate that the model has no serial correlation. The model also passes the Reset Specification and the result implies that there is no functional misspecification in the model. The long-run regression results indicate that exports, openness, and government spending are statistically significant for GDP, while FDI has a positive influence on GDP, although the influence is not highly significant. The short-run ARDL regression results confirm that variables (FDI, OPEN, GOV) are statistically significant at 1% level. The coefficient of ECM is statistically significant. The error correction term is 0.422; this indicates that about 42% adjustment from the short-run to the long-run is made annually. Dependence on oil as a major source of income is remarkably one of the greatest challenges facing the Saudi economy. Therefore, Saudi Arabia must undertake

major reforms and measures to reduce its dependence on oil. That is, an improvement in macroeconomic indicators is a necessary and sufficient condition for attracting FDI. Saudi Arabia must create good environment for attracting foreign investment. Finally, it is worth mentioning that further studies must be taken to better understand the factors that contribute to economic growth.

References:

1. Alfalih A and Bel Hadj T. (2020), Foreign direct investment determinants in an oil abundant host country: Short and long-run approach for Saudi Arabia. *Resources Policy*, Volume 66, June 2020, 101616
2. Al-Matari, E. , Senan M. , Al-Ahdal M., Amaqtari A., Hazaea A. (2022), An Analytical Study of Foreign Direct Investment in Saudi Arabia During 1979- 2019: ARDL Approach. *Research Gate* Vol. 23, No. 187/April 2022.
3. Belloumi M. and Alshehry A. (2018). The Impacts of Domestic and Foreign Direct Investments on Economic Growth in Saudi Arabia. *Economies* 2018, Volume Number 6(1), 18.
4. Eimam, H. (2017). Determinants of Foreign Direct Investment in Saudi Arabia: A Review. *International Journal of Economics and Finance*, 9(7), Vol. 9, No. 7; 2017 ISSN 1916-971X E-ISSN 1916-9728 Published by Canadian Center of Science and Education
5. Saswata, C. Nitya, N. and Bhawna, T.(2020), Impact of FDI on Economic Growth in South Asia: Does Nature of FDI Matters, Volume 12, Issue 1-2, April-August 2020, India Development Foundation.
6. Bouchoucha, N., & Bakari, S. (2019). The Impact of Domestic and Foreign Direct Investment on Economic Growth: Evidence from Tunisia, Faculty of Economic and Management of Sousse (Tunisia)
7. Al-Sadig, A. J. M. (2013). Outward Foreign Direct Investment and Domestic Investment: The Case of Developing Countries (Vol. 2013). IMF Working Paper. <https://doi.org/10.2139/ssrn.2233754>
8. Akhtar, H. M. (2000). The Determinants of Foreign Direct Investment in Pakistan: An Econometric Analysis. *The Lahore Journal of Economics*, 5, 21-22. <https://doi.org/10.35536/lje.2000.v5.i1.a1>
9. Saeed, A. (2023) An Error Correction Model Analysis of the Determinants of Foreign Direct Investment: Evidence from SAUDI ARABIA. *Open Journal of Business and Management*, volume 11, No.3m May 2023. 1216-1226. doi: 10.4236/ojbm.2023.113068. <https://www.scirp.org/journal/home.aspx?issueid=17836#125337>
10. Adewumi, S., The Impact of FDI on Growth in Developing Countries An African Experience ,International businesses school, Master Thesis, JÖNKÖPING UNIVERSITY, 2006.