SCIENTIFIC CULTURE

www.sci-cult.com

SCIENTIFIC CULTURE, Vol. 12, No. 2.1, (2026), pp. 10281-10289
Open Access. Online & Print

DOI: 10.5281/zenodo.20023789

IMPACT OF THE GREEN ECONOMY ON FOREIGN DIRECT INVESTMENT IN SAUDI ARABIA

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Received: 02/04/2026
Accepted: 23/04/2026

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ABSTRACT

Saudi Arabia is making great efforts to move toward a green economy, which is needed with the increase in global crises. This is considered to be one of the mechanisms for achieving sustainable development. The government has reviewed and redesigned policies to stimulate sustainable environmental investments and developed effective strategies to reduce carbon emissions. The Saudi government has allocated investments more than 700 billion riyals to develop the green economy, which will provide job opportunities and huge investment opportunities within the framework of Vision 2030. In addition, significant efforts have been made to improve the investment climate and foreign direct investment. This study focuses on the importance of the green economy to Saudi Arabia. Specifically, it examines the relationship between the green economy and foreign direct investment in Saudi Arabia during the period 1990–2021. This study employs a dual approach based on inductive and deductive methods. Based on an autoregressive distributed lag model, the empirical results indicate that the green economy has a significant positive relationship with foreign direct investment in both the long and the short run. This study contributes to the literature by focusing on the vital role of the green economy in achieving the goals of sustainable development as well as the impact of the green economy on attracting foreign direct investment, both direct and indirect, and its importance for the Saudi national economy.

KEYWORDS: Green Economy, Sustainable Development, Foreign Direct Investment, Sustainability, Saudi Arabia.

1. INTRODUCTION

Several global crises related to food, fuel, and fresh water have emerged in the period since the global financial crisis of 2008. Energy and commodity markets have been characterized by instability while various regions have experienced food shortages and water scarcity. This situation is further complicated by climate change, which exacerbates the impact of global crises. These impacts have been experienced worldwide and have implications for sustainable development and the achievement of the Sustainable Development Goals (SDGs). Meanwhile, governments and the international community face significant challenges.

The United Nations Environment Program (UNEP) defines the green economy as a system of economic activities related to the production, distribution, and consumption of goods and services, which in the long run improve human well-being while at the same time not exposing future generations to environmental hazards or scarcity.

Some believe that the UNEP's Green Economy Initiative, which was launched in late 2008 during the financial crisis, was responsible for a rapid jump in green stimulus funds worldwide, of about 15% to more than $3 trillion (and rising to about 80% in Korea). Such terms as 'the green economy' and 'green growth' have quickly become common at international gatherings, including the G8 and G20.

Saudi Arabia is willing to change its economic structure, such as by shifting its energy mix from non-renewable to renewable sources and establishing a technologically innovative society. Green economic indicators have been debated among policymakers and are regarded as a tool for achieving long-term economic growth. Such green indicators are expected to have a favourable influence on the reduction of ecologically destructive activities. Foreign direct investment (FDI) is important to all Arab countries, including Saudi Arabia. The only way to obtain financing sources is to attract FDI and develop and stimulate domestic investment. Therefore, Arab countries have attempted to foster an environment conducive to attracting FDI by enacting legislation to stimulate investment and remove obstacles. In Saudi Arabia, such legislation includes investment laws to provide guarantees to foreign and local investors. The green economy serves as an important tool for environmental sustainability across economic, social, and environmental dimensions. The green economy helps increase human wellbeing, promote social equity, and reduce environmental risks. In addition to analysing the impact of the green economy on FDI, this study also aims to highlight its broader impact on sustainability in Saudi Arabia.

1.1. Research objectives

This study aims to:

1. Identify the scientific concept of the green economy and sustainable development from an economic perspective;
2. investigate the impact of the green economy on sustainable development in Saudi Arabia; and
3. determine the impact of the green economy on FDI in Saudi Arabia.

1.2. Research Importance

Saudi Arabia requires an economy that is on track to achieve the SDGs by 2030 as well as the pillars of its Vision 2030. This study has practical relevance. To deal with environmental degradation, pollution, and climate change, it is necessary to attract investment, boost economies, and preserve quality. This would move Saudi Arabia toward cleaner and more sustainable path.

The UNEP's Pathways to Sustainable Development and Poverty Eradication report covering 10 industries uses a model-based methodology to compare outcomes of the worldwide transition toward a green economy with benchmarks. The report demonstrates that investing 2% of global GDP could result in economic development, job creation, and social benefits. Simultaneously, it could lower energy usage and resource consumption, increase renewable resource balances, and reduce pollution and greenhouse gas emissions

2. LITERATURE REVIEW

The classical theory of growth was one of the first theories to explain FDI. (Solow 1956) formulated a growth model as an alternative to a simple approach and explored key variables for steady growth rates. Technological progress and labour growth are both external variables, and FDI flows are only an increase in the rate of investment, leading to a further transition in per capita income growth; however, they do not have a long-term impact on growth. Under internal growth theory, FDI flows contribute directly or indirectly to economic growth in the host country through technology transfer.

Wang (1990) argued that FDI activity benefits the local state by increasing output, transferring expertise to local suppliers, and indirectly improving labour force quality. FDI is the most important source of economic growth in LDCs (Barrell and Pain 1997).

A range of studies, such as Feenstra and

Markusen (1994), show that FDI affects economic growth in recipient countries through new inputs, new technology, and subsequent indirect effects on local companies (Krugman, 1979). Mello and Sinclair (1995) observed that FDI affects economic growth through the transfer of knowledges (Romer 1990). Furthermore, the emergence of the theory of internal growth of FDI channels enhances expected growth in the long term (Barro and Sala, 1995).

Khalil (1995) investigated the most important motives for FDI; they were primarily related to the market, followed by profit maximisation if all the conditions of FDI were met. These conditions included creating the right climate for investment growth in terms of the availability of raw materials, labour, and infrastructure. The study revealed that while other countries had similar characteristics, they were severely impacted by FDI, as foreign loans rose. This led to bankruptcy in some cases and rising debt in others. This is the result of laws governing Saudi Arabia's hosting of investment, and the requirement to activate the industrial sector. The latter was targeted by fostering rivalry between domestic and international enterprises and fulfilling the objective of FDI as one of the causes of economic development.

Seo and Chung (2006) analysed the impact of FDI in Spain on the carpentry of Korea during the period 1987–2002. They found that FDI complements or substitutes local state exports. Their results indicated a link between FDI and exports, and did not show that FDI in the ASEAN region affects Korea's exports and imports.

Jayachandran and Seilan (2010) examined the relationship between trade, FDI, and economic growth in India from 1970 to 2007. They reported a relationship between the variables of the study, including economic and financial growth through FDI, noting that these variables reinforce each other through India's open-door policy.

Boulkia and Zatla (2001) referred to the determinants of FDI and its impact on economic growth in countries south and east of the Mediterranean basin. They used the regression model incorporated in this study aimed at identifying the determinants affecting FDI with the following variables: GDP per capita, infrastructure investment, degree of economic openness as a share of GDP, inflation, loans to the private sector as a share of GDP, and deficit to balance as a proportion of GDP. They found a weak the effect of the previously mentioned variables on attracting FDI, except for the degree of economic openness as a share of GDP, which effectively attracted FDI during the period 1976–1997.

Olayiwolaand and Okodua (2013) highlighted the extent to which FDI contributes to export performance in the context of the growth hypothesis. They showed that the bulk of FDI inflow into the country goes to the economic oil sector.

While Anfofum et al. (2013) found a stable relationship between FDI and economic growth in Nigeria. The study confirmed that FDI stimulates and forms fixed capital, and positively affects economic growth.

2.1. Green economy concept

The emergence of prolonged and interconnected global crises over the last four decades has resulted in an in-depth examination of current economic models and their ability to increase economic well-being and social justice. This body of work has also examined the inherent lack of sustainability in modes of thinking that things should remain unchanged. Furthermore, traditional measurements of economic performance focus heavily on GDP and fail to reflect the growing social inequalities, hazards, and environmental obligations associated with present consumption and production patterns. Economic activity now consumes more biomass than the Earth's sustainable production capacity, reducing ecosystem services essential to the existence of the poor, and increasing poverty and economic inequities. This activity has also had external consequences, such as pollution, climate change, and natural resource shortages, endangering the Earth's productive potential and human well-being (E.P.,2012).

In response to these issues, the notion of the green economy has evolved to modify the drivers of economic development, move the focal areas of public and private investments to new green industries, institutionalise existing sectors, and change unsustainable consumption habits. This transition is intended to result in the long-term economic development required to create employment, eliminate poverty, and lower the intensity of energy usage, resource consumption, and production (Nafdi, 2017).

Energy is a critical component of global economic growth and advancement. This is evident in the world economy's strong and determined need for energy bases, such as oil, natural gas, electricity, and coal. The continuous and increasing demand for energy sources implies positive effects and links between energy usage and economic growth. However, there is a continuous debate over the direction of the relationship between these components, which are frequently influenced by the

type of economy (i.e. developing, transition, or developed economies).

According to the Department of Environmental Economics, the green economy increases human well-being and social fairness, while minimising major environmental concerns. The green economy may be characterised as an economy in which processes guide income and employment development in the public and private sectors, leading to increased resource efficiency; reduced carbon emissions, waste, and pollution; and avoidance of biodiversity loss and environmental deterioration. These investments are driven by growing market demand for green goods and services, technical advancements, and rectifying fiscal policies while ensuring that pricing adequately reflects environmental costs.

According to Barbara (2012), the contribution of information technology to decreasing carbon emissions, sustainability, and compliance with emission reduction policies and requirements is as follows:

Energy management uses a technical structure.

IT approaches manage waste and consumables.

Eco-friendly methods are implemented.

It is easier for businesses to obtain internal and external reports from government organisations (gas and carbon emissions data).

Emissions management objectives, activities, and systems are aligned and integrated.

2.2. Characteristics of the green economy concept

The following are the essential aspects of the green economy:

The green economy is a means to achieve sustainable development, not an end.

A green economy facilitates the integration of the four pillars of sustainable development: environmental, social, economic, technological, and administrative.

The green economy needs to be tailored to national interests and conditions.

The idea of shared responsibility must be implemented among state institutions for a voluntary transition to a green economy.

There should be no trade restrictions or limits on help or debt reduction in the green economy. Trade distortions, such as ecologically detrimental subsidies, should be addressed.

The green economy should recognize national sovereignty over natural resources.

The green economy should be based on resource efficiency and sustainable consumption and production patterns.

2.3. Concept and dimensions of sustainable development

Between 1970 and 2010. The United Nations Conference on Environment and Development was held in 2002. Intellectual growth occurred from the human environment in 1972 through the period of environment and development in 1992 and finally to the notion of sustainable development in 2002. In this time, the notion of the environment has changed considerably, and environmental issues have become a worldwide concern.

The human–environment interaction is more than the impact of the environment on human health. The relationship has another aspect: people's surroundings must be translated into wealth. This is the essence of development and constitutes the essence of growth. Consequently, the concept of sustainable development was born along with the transition to green politics: the green economy, green architecture, green cities, and green capital (Ministry of Environment).

Other issues that have emerged for debate include environmental concepts in manufacturing and production, such as environmental impact assessment, clean production, energy conservation, reuse, and recycling, commitment concepts, support for environmental management systems, and the activation of sustainable development policies.

Sustainable development generally depends on a combination of social, economic, and environmental goals. Companies must find a balance between economic and social advancement in the environment so that present economic progress does not jeopardise the ability of future generations to develop using the same resources.

The World Summit on Sustainable Development in Johannesburg in 2000 highlighted three primary dimensions of sustainable development (Steurer et al. 2005).

1. Economic: This is concerned with improving individuals' well-being through their share of necessary goods and services. This requires the optimal use of natural resources to achieve the best possible return at the lowest possible cost.
2. Social: This comprises human components and traits, both individual and collective, as well as institutional interactions, which are the contributions, requirements, demands, and pressures of joint efforts or issues on economic, political, and security systems.
3. Environmental: This is based on environmental protection and safety as well as

good management of natural resources and their use for the benefit of humans. There should be no imbalance in the environmental components of land, water, air, and natural sources that contribute to the survival of humans, animals, and plants, as well as its sustainability and progress, and the prevention of depletion, loss, or pollution.

2.4. Green economy in Saudi Arabia

Saudi Arabia, known for its rapid urbanisation, continual population increase, and economic development, aspires to achieve the goals of sustainable development. To achieve this, the Saudi Arabia economy needs to grow beyond its traditional base in line with the SDGs and Vision 2030. This program, which is based on three pillars—a thriving economy, a vibrant society, and an ambitious nation—sets out Saudi Arabia's transition to a new economy and society. However, it presents a significant challenge by calling for fresh efforts to strike a balance between economic growth and sustainable development. To be successful, several policies and strategies need to be devised based on a framework for implementing environmental and economic sustainability and promoting social well-being. The Saudi Green Initiative, NEOM project, and Saudi MADE program are examples of some projects and activities launched by the government to implement these principles (Kingdom of Saudi Arabia, 2016; A Sustainable Saudi Vision–Vision 2030).

2.5. Saudi Green Initiative

In accordance with Vision 2030, the Saudi Green Initiative aims to increase Saudi Arabia's reliance on clean energy, while reducing emissions and safeguarding the environment. It seeks to raise the standards of living and safeguard the next generations.

As a major energy producer, Saudi Arabia is committed to positively contributing to the global fight against climate change. Although Saudi Arabia has made great strides in addressing environmental concerns since the introduction of Vision 2030, much more needs to be done.

The Saudi Green Initiative coordinates Saudi Arabia's efforts to address climate change and promotes collaboration between the governmental and corporate sectors, as well as the entire population, to scale up climate action quickly.

Project Objectives:

Achieve net zero emissions by 2060.

Reduce carbon emissions by more than 278 million tons per annum by 2030.

Increase domestic generation capacity from renewable energy to 50% by 2030.

Contribute to cutting global methane emissions by 30% as part of the Global Methane Pledge by 2030.

Plant 10 billion trees and rehabilitate 40 million hectares of land over the coming decades.

Plant 450 million trees and rehabilitate 8 million hectares of degraded land by 2030.

Raise protected areas to more than 30% of total land area.

Achieve 20% protected terrestrial, coastal, and marine environments by 2030.

3. RESEARCH METHODOLOGY

The main goal is to investigate the long- and short-run relationships between FDI and investment in the green economy, controlling for other variables, using co-integration analysis and an error correction model (ECM). However, the co-integration test and ECM are used within the autoregressive distributed lag (ARDL) framework, model (Auto Regressive Distributed Lag) (Pesaran et al. 2001), because the Johansen co-integration test cannot be applied directly if the variables of interest are not all I(1). That is, it is not applicable to a mixed order of integration for the variables of interest, or none of them are nonstationary. Therefore, an alternative method is required if the variables are of mixed order or if some of them are non-stationary.

An ARDL model is an ordinary least squares-based model, which can be used if the model has mixed orders or if some are non-stationary. This model takes sufficient numbers of lags to capture the data-generating process in a general-to-specific modelling framework.

Using a simple linear transformation, a dynamic ECM can be derived from the ARDL model (Pesaran and Shin 1998); (Pesaran et al. 2001). In addition, the ECM integrates short-run dynamics with long-run equilibrium without losing long-run information, and avoids such problems as spurious relationships resulting from non-stationary time-series data.

The following simple model illustrates the ARDL modelling approach:

$$y_t = \propto + \beta x_t + \delta z_t + e_t$$

The error correction version of the ARDL model is given by

$$\Delta y_t = \alpha_0 + \sum_{(i=1)}^{p} [\beta_i \Delta y_{(t-i)}] + \sum_{(i=1)}^{p} [\delta_i \Delta x_{(t-i)}] + \sum_{(i=1)}^{p} [\gamma_i \Delta z_{(t-i)}] + \lambda_1 y_{(t-1)} + \lambda_2 x_{(t-1)} + \lambda_3 z_{(t-1)} + u_t$$

where β, δ, and δ characterize the model's short-run dynamics, and λ_s represents a long-run

relationship. The null hypothesis in the equation is that λ_1+λ_2+λ_3=0, which would mean the absence of a long-run relationship (Narayan and Smyth 2005).

3.1. Data

Data for the study were collected for the period 1990–2019, sourced from reports of the Saudi Central Bank. These data were collected annually and converted into quarterly data to increase the sample size using the EViews program and data-generation method.

3.2. Model specification

The following model is estimated

FDI= β_0+ β_1 green economy+ β_2 Co2 emission+β_3 inflation+β_4 GDP growth+ε

where:

FDI = foreign direct investment

Investment in the green economy

Inflation

3.3. Gross domestic product growth (GDP Growth)

The primary goal is to study the long- and short-run correlations between FDI and compensation in the green economy, while adjusting for other factors. Co-integration analysis and the ECM is used for this purpose. The ARDL framework employs the Johansen co-integration test with the ECM, because the co-integration test cannot be used directly if the variables of interest are not all I(1). In other words, it does not apply to a mixed order of integration for the variables of interest, or they are all nonstationary. An additional technique is required if the variables have a mixed ordering or are nonstationary.

4. RESULTS AND DISCUSSION

This section presents the descriptive statistics of the variables. Table 1 displays the descriptive statistics of the study variables. All the variables follow a normal distribution, as the p-value of the Jarque–Bera test is less than 5% in all cases. The Jarque–Bera statistic tests whether the variables are normally distributed by measuring differences in skewness and kurtosis. The Jarque–Bera statistic rejects the null hypothesis of non-normal distribution for all variables. Thus, they are all normally distributed.

Table 1: Descriptive Statistics Of Variables.

	GREEN_ECONOMY	GDPGROWTH	FDI	INFLATIONRATE	CO2 emission
Mean	40.26718	3.636872	122.0717	2.017601	140.1129
Median	33.67500	2.665625	25.07000	1.278125	137.1300
Maximum	105.2497	16.81250	1000.000	10.28438	300.4500
Minimum	0.508299	-4.637500	1.369000	-1.396875	13.00000
Std. Dev.	27.68806	4.776266	201.0855	2.599395	84.73163
Jarque–Bera	9.881777	15.89223	198.5185	23.58199	6.869122
Probability	0.007148	0.000354	0.000000	0.000008	0.032240
Observations	117	117	117	117	117

The first stage in the time-series analysis is to validate the assumption of stationarity. The augmented Dickey–Fuller (ADF) test is used to validate the assumption of stationarity. The ADF test is one of the most frequently used unit root tests in the literature. By computing the corresponding statistics and p-values at the main level, the ADF test determines whether the data series is stationary (has no unit root).

The ADF test results are presented in Table 2. Based on the findings, it is possible to infer that all variables, except for GDP growth and CO2 emissions, are stationary at their current levels, with a confidence level of 95%, as the p-value at their level is less than 5%. The other variables are not stationary at their level but become stationary when taking the first difference with 95% confidence.

Note that the ADF tests involve an intercept. Bayesian (Schwarz) information criteria were used to determine acceptable lag durations. In addition, MacKinnon's (1996) one-sided p-values were used to derive the p-values.

Table 2 Augmented Dickey-Fuller (ADF) test for unit root variable.

Variables	ADF	p-value
FDI	-2.2643	0.1854
GDP growth	-3.54056***	0.0086
$\Delta GDP\ growth$	0.68869	0.5181
$inflation\ rate$	-1.519929	0.5201
Co2 emission	18.2541***	0.000
Green economy	-0.542131	0.8775

****10%, **5%, ***1% significance. The ADF t-statistics are reported.***
Source: Authors based on EViews output.

The results of the bounds test procedure for the co-integration analysis between FDI and its determinants are presented in Table 3.

Table 3: Bounds test for co-integration relationships.

Test Statistic	Value	k
F-statistic	3.51930	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Authors based on EViews output.

Table 3 shows that the f-statistic is between 2.86 and 4.01, indicating that the null hypothesis of no long-run relationship is rejected at the 95% confidence level. This means that a distinctive co-integration relationship (i.e. long-run relationship) exists between FDI and the determinants of FDI. Furthermore, all FDI factors can be treated as 'long-run forcing' variables for the explanation of FDI in Saudi Arabia.

As FDI and its determinants are co-integrated, the ARDL model's long-run parameters are calculated, and the results are shown in Table 4. The long-run ARDL model is estimated using the Akaike information criterion (AIC) with a lag of four because of the quarterly structure of the data and a lag of one for regressors to avoid the very short sample features of the data.

Table 4: Results of the long-run ARDL model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GREEN_ECONOMY	4.011132	0.746782	5.371225	0.0000
GDP GROWTH	12.222322	5.436422	2.248229	0.0267
INFLATION RATE	-7.794081	8.251584	-0.944556	0.3471
Co2 emission	71.783632	30.057787	2.388188	0.0187
C	-51.322092	159.256432	-0.322261	0.7479

Source: Authors based on EViews output

Table 4 yields the following conclusions:

1- Investment in the green economy has a positive significant effect on FDI at the 5% significance level in the long run. Every increase in investment in the green economy by 1 million increases FDI in the long run by 4 million, fixing all other factors.

2- GDP growth has a positive and significant effect on FDI at the 5% significance level in the long run. Every 1% increase in GDP growth increases FDI in the long run by 12.2 million, fixing all other factors.

3. The inflation rate has a significant negative effect on FDI at the 5% significance level in the long run. This means that every 1% increase in the inflation rate decreases FDI in the long run by 7.7%, fixing all other factors.

4- Co2 emission rate has an insignificant effect on FDI.

After estimating the long-run co-integration model, the third stage models the short-run dynamic parameters within the ARDL framework. Thus, the ARDL model retains the lagged values of all level variables (the error-correction component, ECMt-1, represents a linear combination). Table 5 shows the results of the estimated error correction model for Saudi Arabia's FDI using the ARDL approach. The AIC is used to select the model.

Table 5: Results of the short-run ARDL model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (FDI (-1))	0.574801	0.063643	9.031589	0.0000
D(GREEN_ECONOMY)	1.038735	0.215500	4.820112	0.0000
D(GDP GROWTH)	10.122564	3.292362	3.074560	0.0027
D(INFLATION RATE)	-11.965859	6.053249	-1.976766	0.0507
D (*Co2 emission*)	333.774137	61.182487	5.455387	0.0000
Co integ (-1)	-0.258963	0.032447	-7.981031	0.0000
Cointeq = FDI - (4.0111*GREEN_ECONOMY +12.2223*GDP GROWTH				
-7.7941*INFLATION RATE +				

Source: Authors based on EViews output.

According to Table 5, green economy funding has a considerable positive effect on FDI at the 5% significance level in the short run. For every 1 million dollars invested in the green economy, FDI grows by 1.038 million in the short run. After adjusting for all other variables, the impact is less than in the long run. For the same quarter, the projected coefficient value of the ECM suggests that approximately 26% of the long-run FDI imbalance is rectified in the short term.

Tables 6 and 7 show no serial association, because the Durbin–Watson value is close to 2. Furthermore, the p-value is greater than 0.05, indicating that there is no serial association based on the probability of the Q-statistics. Figure 1 confirms this, because the residuals are randomly distributed. Furthermore, the fitted value is nearly identical to the factual values.

Table 6: Model criteria/goodness of fit.

R-squared	0.941382	Mean dependent variable	123.5045
Adjusted R-squared	0.936357	S.D. dependent variable	202.5301
S.E. of regression	51.09325	Akaike information criterion	10.78812
Sum squared reside	274104.6	Schwarz information criterion	11.02681
Log-likelihood	-610.3171	Hannan–Quinn criterion	10.88501

F-statistic	187.3616	Durbin–Watson stat		1.525246
Prob (F-statistic)	0.000000			

Source: Authors based on EViews output.

Table 7: Q-statistic probabilities adjusted for two dynamic regressors

	AC	PAC	Q-Stat	Prob*
1	-0.040	-0.040	0.1063	0.744
2	0.064	0.063	0.3934	0.821
3	-0.029	-0.025	0.4543	0.929
4	0.158	0.153	2.2332	0.693
5	-0.134	-0.123	3.5306	0.619
6	-0.099	-0.129	4.2537	0.642
7	-0.072	-0.059	4.6428	0.703
8	0.023	0.005	4.6848	0.791
9	-0.064	-0.021	5.0055	0.834
10	-0.085	-0.077	5.5830	0.849
11	-0.030	-0.043	5.6575	0.895
12	0.008	-0.021	5.6629	0.932

Source: Authors based on EViews output.

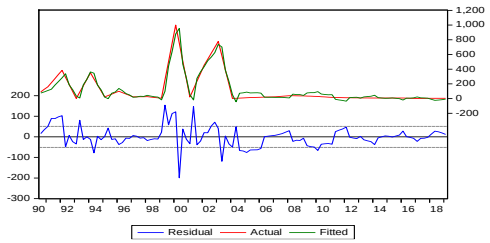

Figure 1: Actual, fitted, and residual plots.

5. CONCLUSION

The study shows that the green economy as a mechanism for sustainable development has a considerable beneficial link with FDI in both the long and the short run. Several links exist between sustainable development and FDI. FDI is significant in establishing a sustainable development mechanism, because private initiatives may supplement official efforts. This study contributes to the literature by emphasising the significance of the green economy to attracting FDI in the Saudi economy. Social effects, which are closely related to economic growth, generate a dynamic economic system that allocates financial resources to social sustainability projects. These include increased employment owing to demand for labour, increased life expectancy owing to improved medical care, and advances in poverty eradication, which is one of China's main goals. This study had some limitations. The impact of FDI on the green economy may be examined more thoroughly using additional data from other industries. The long- and short-term effects of FDI may be evaluated using this new method, which will be provided in future Saudi Central Bank publications.

Declarations: Declaration of generative AI and AI-assisted technologies in the manuscript preparation process: During the preparation of this work the author(s) used [NAME OF TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the published article.

Funding Statement: This work was supported and funded by the Deanship of Scientific Research at Imam Mohammad Ibn Saud Islamic University (IMSIU) (grant number IMSIU-DDRSP2604).

Acknowledgments: This work was supported and funded by the Deanship of Scientific Research at Imam Mohammad Ibn Saud Islamic University (IMSIU) (grant number IMSIU-DDRSP2604).

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