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The Role of Financial Inclusion, Green Investment and Green Credit on Sustainable Economic Development: Evidence from Vietnam

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Keywords: Financial inclusion, green investment, green credit, sustainable economic development.

Abstract: Recently, sustainable economic development (SED) has become an international requirement due to the uncertainty of the environment and needs researchers' attention. Hence, the current article investigates the impact of financial inclusion, green investment and green credit on the SED of Vietnam. The current study has used secondary sources for the secondary data collection such as World Banks Indicators (WDI), State Bank of Vietnam and General Statistics Office of Vietnam and data extracted from 1986 to 2020. The article has used the Augmented Dickey-Fuller (ADF) test to examine the stationarity and autoregressive distributed lag (ARDL) to investigate the association among variables. The results exposed that financial inclusion, green investment and green credit have a significant and positive association with the SED of Vietnam. This article guides future researchers while examining this area and provides directions to the regulators while establishing new policies related to SED achievement using financial inclusion.

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1. Introduction

There is consistent competition among the countries in the international market. The countries compete against one another in terms of their economic development. In serious competition, the countries need higher sustainability in the economic development to stay in the international market and to compete against the rival countries successfully (Chien, Hsu, Zhang, Vu, & Nawaz, 2021; Cvijanović, Ignjatijević, Vapa Tankosić, & Cvijanović, 2020). Sustainable economic development is the performance of the country in terms of financial resources or productivity attained when there is no interruption in the value of financial resources or the average rate of productivity. When a country has successfully achieved superior economic performance, it is necessary for the county to keep it sustainable for sustaining its position in the market. Because of the significance of sustainable economic development for the country's survival on the globe and standing erect before the competitors in the international market, many scholars have paid attention to this subject (R. E. A. Khan, Nawaz, & Hussain, 2011; Kutan, Paramati, Ummalla, & Zakari, 2018).

Sustainable economic development refers to the progress which takes place without harming the environmental quality and social well-being, and economic development of the country in the present, without any compromise on the requirements, needs, and well-being of future generations. Environmental and social relations are considered significant as capital which is impossible to be replaced (Arif et al., 2020). Physical capital, human capital, and natural capital are required to be preserved for sustainable economic development. Sustainable development is defined by the United Nations Conference on Environment and Development (UNCED) as "development which fulfils the requirements of the present generation without jeopardizing future generations' ability to satisfy their own needs." H. P. Le and Bao (2020) states that the financial sector, with its policies and practices, plays a vital role in placing the country on the way to sustainable economic development. The financial institutions' policies regarding financial inclusion (the fair and equitable availability of useful, timely, and affordable financial services like deposits and loans to the individuals and businesses in all areas), green investment (the spending of money on performing ecological friendly practices), and green credit (the issuance of credits to a borrower with the expectation of spending money for ecological friendly purposes) serve all the perspectives of sustainable development (Vo & Zaman, 2020; Xiang et al., 2021).

The present study examines the financial inclusion, green investment, and green credit along with FDI on sustainable economic development in Vietnam. Vietnam is a developing country with a lower-middle-income economy. This economy is considered a socialist-oriented market. It has the 37th rank among the largest economies across the world on account of its gross domestic product (GDP), which purchasing par parity places it at 23rd place in 2021. The GDP for the country is $369.5 billion in 2021 (Hao, Shah, Nawaz, Nawazc, & Noman, 2020; Nguyen & Vo, 2021). The economy of Vietnam has three sectors like Agriculture, Industry, and Service. In Vietnam, the economic growth can be taken as fairly equitable and inclusive when it is compared to the other developing countries. According to WEF, the Inclusive Development Index put the Vietnam economy among the countries which have been doing their best and exceeding in the ranking of the most inclusive countries over the world (Jianjun et al., 2021; T.-L. Le, Huynh, & Quintela-Alonso, 2021). In the Vietnam economy, the role of women participants is quite evident. The women labor-force participation in the economy is ten per cent of that of men, which shows a much smaller gap as compared to other economies as per Word Bank, and the households led by women do not present conditions poorer than men-led households in 2015 (Chien, Kamran, et al., 2021; Tong, Huynh, & Khong, 2021). The GDP growth of the Vietnam is given in Figure 1.

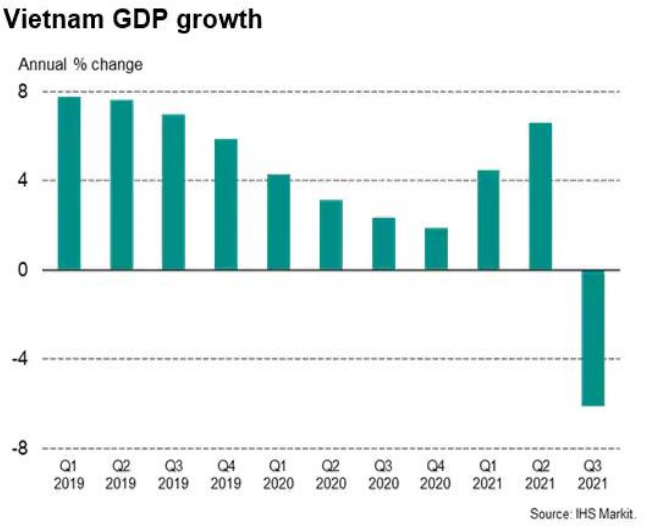

Figure 1: GDP Growth of Vietnam

The Vietnam government is active in reviewing the policies and making adjustments, as is revealed by the Development Strategy Action Plan 2011–2020, which aimed to develop suitable mechanisms for making equitable growth over the country, creating success opportunities for all regions equally, and developing cooperation among the regions, and amplify the advantages of development (Chien, Pantamee, et al., 2021; Ngo, Nguyen, Duong, & Ly, 2021). By 2017, under the guidance of the United Nations, Vietnam officials have started the fundamental work on the achievement of sustainable development by developing the "One Strategic Plan", with the integration of the Sustainable Development Goals with the Socio-Economic Development Plan (2016-2020) and Socio-Economic Development Strategy (2011-2020) (Chien, Sadiq, Kamran, et al., 2021; Huy, 2021; W. Li et al., 2021). The "One Strategic Plan" serves as a guideline to the government officials to execute the SDGs in the most efficient ways, with the focus on the areas of significance, like the investment in humans, prosperity and partnership, resilience of climate and environmental sustainability, and justice and inclusive governance. A National Action Plan has also been developed by Vietnam to reform the growth policies and update them to adapt to the SDGs interests. The ministries, local governments, and the stakeholders have given their suggestions and formed a framework in this regard (Chien, Sadiq, Nawaz, et al., 2021; Hang & Huy, 2021).

The major portion of the economy of Vietnam is covered by the industrial sector, which requires the use of a large number of energy resources, logistics, and other technologies or technological procedures which collectively cause pollution and affect the environment & social well-being of the stakeholders. Though some initiatives have been taken for sustainable development, still the situation is difficult and needs more attention. Our study focuses on sustainable economic development and aims to examine the impacts of financial inclusion, green investment, and green credit along with FDI on sustainable economic development. The present study has a lot of contributions to the literature. 1) The scope of the study is broader in the sense that it does not simply address the economic development of a country, but it talks of sustainable economic development, which covers the social progress, environmental performance, and financial performance of the country. 2) In the past studies, mostly financial inclusion has been discussed apart from green investment and green credit,

which both lie in green finance for determining sustainable economic development. The present study, which examines financial inclusion, green investment, and green credit impacts on sustainable economic development simultaneously, thus, adds to the literature. 3) The authors make initial efforts to examine the financial inclusion, green investment, and green credit and impacts on sustainable economic development in Vietnam. The remaining part of the paper is structured as the 2nd part reviews the past literature on the relationship of financial inclusion, green investment, and green credit along with FDI with sustainable economic development. The 3rd part is to describe the procedures adopted for data collection and the analysis of the nexus among the concerned variables. The study results are supported by the previous studies outcomes through discussions. The paper ends with the study implications, conclusions, and limitations.

2. Literature Review

Sustainable economic development is the economic development of the country in the present time, without placing any harm to the abilities of the future generations to have the same or higher rate of economic development Folqué, Escrig-Olmedo, and Corzo Santamaría (2021). By the term, sustainable economic development seems to refer to the financial development of the country, but if we ponder deeply, sustainability in the financial development of the country is possible only when there is climate resilience, sustainability of environmental quality, and maintenance of the social people progress and property. With the management of physical resources, human resources management, the nature of economic procedures, etc., on the part of individual units of the economy, sustainable development is likely to achieve. But, for all these, the economic entities require financial resources (Hussain, Oad, Ahmad, Irfan, & Saqib, 2021). This study considers the financial inclusion, green investment, and green credit along with FDI, which all are the source of funds to the individuals or businesses in order to struggle for achieving sustainable economic development. The relation of financial inclusion, green investment, green credit, and FDI with sustainable economic development has been part of research by many authors. This study reviews the literary articles about the relationship between financial inclusion, green investment, green credit, FDI and sustainable economic development.

Financial inclusion is the availability or equal chances for individuals and businesses to have access to affordable and useful financial services that can help them meet their needs and are delivered in a sustainable and responsible manner. Pradhan, Arvin, Nair, Hall, and Bennett (2021), the renowned intellectual, defines financial inclusion as a procedure through which individuals and firms can have access to timely, affordable, and appropriate financial products and services. These services may include deposits, equity, and loans. These authors are of the view that financial inclusion aims to remove all the barriers in the way of providing financial services to individuals and businesses in different regions. This provides financial resources in the form of loans or assists to preserve the financial resources with the help of deposits; thus, it ensures sustainable economic development for the country (Arner, Buckley, Zetzsche, & Veidt, 2020; Nawaz, Hussain, et al., 2021). Ade'Soyemi, Olowofela, and Yunusa (2020), investigates the relationship of financial inclusion with sustainable economic development following the notion that financial inclusion is a catalyst for the achievement of sustainable economic development. Both Fully Modified OLS and Error Correction Model (ECM) were taken to ascertain the long- and short-run relationship between financial inclusion and sustainable economic development for the period of 2001-2016. The study implies that both in the short-run and long run, the three indicators of financial inclusion like the number of banks branch, deposits from the rural areas and loans to the rural areas have a significant positive impact on sustainability in Nigeria. The study of Odugbesan, Ike, Olowu, and Adeleye (2020) examines the nexus between financial development, financial inclusion, and sustainable economic development for Sub-Saharan African economies. A panel data technique was applied, and 33 Sub-Saharan African economies for the period of 2004–2018 were the sample of the study. Panel co-integration tests were applied to uncover the existence of a long-run nexus among the factors involved in the framework. The study posits that financial inclusion is the way to facilitate and provide equal opportunities to different individuals or firms to access financial services like deposits and loans. The facility of deposits enables the firms or individuals to save their wealth instead of utilizing them entirely in the present. Thus, the financial resources can be preserved for future use. While the loan facility enables the individuals to strengthen their financial capacity and not only spend on business activities but also try to mitigate the negative impact of their business on the environment. Hence, financial inclusion has a positive relation to Sustainable economic development.

The green investment is to make the investment in the activities identified with the ecological-friendly practices and the preservation of the environment and natural resources. The investors can encourage green practices through the purchase of green bonds, green ETFs, green index funds, green mutual funds, or by having stock in ecological-friendly firms. The green practices which require investment are water stocks, wind power, solar energy, pollution controls, green transportation, waste reduction, organics, aquaculture preservation, etc. (Sun et al., 2020; Wang, Su, Ali, & Chang, 2020). The investment in green practices saves the quality of environmental elements like climate, water, and soil and thus, protects the quality of natural resources and living creatures in the air, on land, and underwater, and maintains the health of humans as well. Mostly, the material and resources come from the natural environment. The green investment encourages green practices and preserves a clean environment, natural resources, and a healthy workforce, which sustain economic growth (Clark, Reed, & Sunderland, 2018; Shair, Shaorong, Kamran, Hussain, & Nawaz, 2021). Through empirical research make an assessment of the impacts of green investment on sustainable economic development. The sample of the study consists of the EU countries for the period of 2008-2016. The databases like European Environmental Agency, the Eurostat, and the World Data Bank were employed for data collection. For constructing the relationship between green investment and sustainable economic development, methods like Pedroni panel co-integration tests, panel unit root test, and panel co-integration techniques FMOLS and DOLS were employed. The study finds that green investment has a positive contribution to sustainable economic development because the green investment provokes the country's GDP, decreases greenhouse gas emissions, and encourages renewable energy in total energy use. In a research article, Shen et al. (2021) identify the influences of green investment, financial development, natural resource rents, and energy consumption on CO2 emissions and sustainable development. The panel data was acquired from a sample of thirty provinces of china for the period of 1995-2017. The CS-ARDL methodology was employed for the short- and long-term analysis of the impacts of the aforementioned variables on CO2 emissions and sustainable economic development. According to CS-ARDL estimates, there is a negative relationship between a green investment with CO2 emissions; thus, green investment has a positive relation to sustainable economic development.

The issuance of green credits refers to the type of financing on the part of banks or financial institutions to motivate the borrowers to carry on green practices like greenhouse gas

emission mitigation activities, waste management, clean water or clean soil practices, and application of green resources. With the availability of green credits, business organizations are able to overcome the environmental concerns protect the environment, natural resources, and health of living beings. This ensures the providing of essentials for sustainable economic development (Atanda & Öztürk, 2020; Nawaz, Seshadri, et al., 2021). Through a comparison between green credit financing and trade credit financing impacts on CO2 emissions, An, Li, Song, and Chen (2021) investigate the relationship of green credit with sustainable economic development. The study reveals that contrary to the trade credits, the green credits help overcome the CO2 emissions as the financial institutions with the issuance of green credits encourage the borrowers also pay attention to the environmental concerns caused by the business activities which they perform and mitigate them. The overcome on the CO2 emissions provides health safety to the stakeholders that are necessary for sustainable development. Many environmental concerns came into existence because of technological advancements. The green finance concept can bring revolution in the situation as it is based on the notion that both the private and public organizations must align innovation and technological advancements with the green of the economy for sustainable economic performance (Mohsin, Kamran, Nawaz, Hussain, & Dahri, 2021; Tran, Do, Vu, & Do, 2020). Mumtaz and Smith (2019), examines the implementation of green credit practices and its impact on sustainability in the economic development of a developing economy in Pakistan. This study explores both the supply side of green credits and the demand side, which requires the firms to comply with green banking practices in the banking sector of the Pakistani economy. The results indicate that green credit has a positive impact on sustainable economic development.

According to Zafar et al. (2019) FDI refers to the investment on the part of the foreign entities into the companies operating in the domestic countries or the projects being carried on within the country. The foreign direct investment shows the foreign entities interest or shares in the domestic companies, projects, and profits. The foreign direct investors have the right to regulate the concerned firms, take initiatives to improve the environmental and social performance of the firms, and accelerate their contribution to sustainable development in economic development. Aust, Morais, and Pinto (2020), raised the question of how FDI enhanced sustainable economic development and did deep research to find the answer to this question. The authors analyzed a sample based on forty-four African economies associating with SDG scores the indicator of sustainable economic development, applied multivariate analysis and an ordered probit framework for the analysis of FDI contribution to the sustainable economic development. The research outcomes show that FDI for ecological friendly infrastructure, clean water, sanitation, and renewable energy has a positive link to the sustainable economic development of the country.

3. Research Methods

The article investigates the impact of financial inclusion, green investment and green credit on the SED of Vietnam. The current study has used secondary sources for the secondary data collection such as WDI, State Bank of Vietnam and General Statistics Office of Vietnam and data extracted from 1986 to 2020. The statistical equation for the study using understudy constructs is given as under:

$$SED_t = \alpha_0 + \beta_1 AOD_t + \beta_2 AOL_t + \beta_3 GI_t + \beta_4 GC_t + \beta_5 FDI_t + e_t \quad \textbf{(1)}$$

Where;

SED = Sustainable Economic Development
t = Time Period
AOD = Assess to Outstanding Deposits
AOL = Assess to Outstanding Loans
GI = Green Investment
GC = Green Credit
FDI = Foreign Direct Investment

The current research has taken sustainable economic development as the predictive construct and measured it as the "gross domestic product" (GDP) growth (annual percentage). In addition, the current article has used financial inclusion, green investment and green credit as the predictors. Financial inclusion is measured as the "assess to outstanding deposit with commercial banks" (% of GDP) and "assess to the outstanding loan with commercial banks" (% of GDP). In contrast, green investment is measured as the investment in pollution prevention (% of GDP), and green credit is measured as the credit for pollution prevention (% of GDP). Finally, the current study has taken the FDI as the control variable and measured as the FDI net inflow (% of GDP). Table 1 shows these measurements.

Table 1: Measurements of the Variables

S#	Variables	Measurement	Sources
01	Sustainable Economic Development	GDP growth (annual percentage)	WDI
02	Financial Inclusion	Assess to outstanding deposits with commercial banks (% of GDP)	State Bank of Vietnam
		Assess to outstanding loan with commercial banks (% of GDP)	State Bank of Vietnam
03	Green Investment	Investment on pollution prevention (% of GDP)	General Statistics Office of Vietnam
04	Green Credit	Credit for pollution prevention (% of GDP)	General Statistics Office of Vietnam
05	Foreign Direct Investment	FDI net inflow (% of GDP)	WDI

The current article results section shows the descriptive statistics that exposed the figures of mean and standard deviation and also exposed the minimum and maximum values of all the constructs used in the study. In addition, the current article also shows the matrix of correlation that exposed the association among constructs and also highlighted the multicollinearity assumption. Moreover, the article used the ADF test to examine the stationarity necessary to apply the appropriate model. The equation is given below:

$$d(Y_t) = \alpha_0 + \beta t + \Upsilon Y_{t-1} + d(Y_t(-1)) + \varepsilon_t \quad (2)$$

The characteristic of the ADF test is that it examines the stationarity of the variables individually. Thus, the equations for the individual variable are given as under:

Sustainable Economic Development

$$d(SED_t) = \alpha_0 + \beta t + \Upsilon SED_{t-1} + d(SED_t(-1)) + \varepsilon_t \quad (3)$$

Assess to Outstanding Deposits

$$d(AOD_t) = \alpha_0 + \beta t + \Upsilon AOD_{t-1} + d(AOD_t(-1)) + \varepsilon_t \quad (4)$$

Assess to Outstanding Loan

$$d(AOL_t) = \alpha_0 + \beta t + YAOL_{t-1} + d(AOL_t(-1)) + \varepsilon_t \quad (5)$$

Green Investment

$$d(GI_t) = \alpha_0 + \beta t + YGI_{t-1} + d(GI_t(-1)) + \varepsilon_t \quad (6)$$

Green Credit

$$d(GC_t) = \alpha_0 + \beta t + YGC_{t-1} + d(GC_t(-1)) + \varepsilon_t \quad (7)$$

Foreign Direct Investment

$$d(FDI_t) = \alpha_0 + \beta t + YFDI_{t-1} + d(FDI_t(-1)) + \varepsilon_t \quad (8)$$

The article has used the ARDL to investigate the association among variables. The ARDL is the best estimation when the constructs are stationary at 1(0) or 1(1). In addition, an appropriate lag length selection while applying the ARDL model is suitable for managing possible "multicollinearity" and "endogeneity" (M. K. Khan, Teng, & Khan, 2019). Moreover, this approach provides short and long-run results of the variables together. The equation is given as under:

$$\Delta SED_t = \alpha_0 + \sum\delta_1\Delta SED_{t-1} + \sum\delta_2\Delta AOD_{t-1} + \sum\delta_3\Delta AOL_{t-1} + \sum\delta_4\Delta GI_{t-1} + \sum\delta_5\Delta GC_{t-1} + \sum\delta_6\Delta FDI_{t-1} + \varphi_1 SED_{t-1} + \varphi_2 AOD_{t-1} + \varphi_3 AOL_{t-1} + \varphi_4 GI_{t-1} + \varphi_5 GC_{t-1} + \varphi_6 FDI_{t-1} + \varepsilon_1 \quad (9)$$

In the above equation (9), "δ_1, δ_2, δ_3, δ_4, & δ_5" represents the coefficients for "short-term" nexus among constructs. On the other hand, "φ_1, φ_2, φ_3, φ_4, φ_5, & ε_1" represent the coefficients of "long-term" nexus. Finally, the researchers run the Granger causality test to examine the association among constructs. Granger causality results exposed the "bilateral, unilateral, and no relationships" among the variables. The equations for the test are as follow:

$$Y_t = \beta_0 + \sum_{j=1}\beta_{1j}Y_{t-1} + \sum_{h=1}\beta_{2h}Y_{t-p} + \varepsilon_t \quad (10)$$

$$X_t = \acute{\alpha}_0 + \sum_{s=1}\acute{\alpha}_{1s}Y_{t-s} + \sum_{t=1}\acute{\alpha}_{2t}X_{t-m} + \varepsilon_t \quad (11)$$

4. Research Findings

The current article results section shows the descriptive statistics that exposed the figures of mean and standard deviation and also exposed the minimum and maximum values of all the constructs used in the study. The figures highlighted that the current article used 35 observations while the mean value of SED was 9.323 and the average value of AOD was 4.434. In addition, the average value of AOL is 3.873, while the mean value of GI was 5.882. Finally, the average value of GC was 3.662, and the mean value of FDI was 6.882. Table 2 shows the descriptive statistics.

Table 2: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
SED	35	9.323	2.228	5.127	14.321
AOD	35	4.434	2.887	2.776	8.936
AOL	35	3.873	1.092	1.827	5.827
GI	35	5.882	2.182	2.663	11.872
GC	35	3.662	1.772	1.942	5.162
FDI	35	6.882	1.621	4.621	12.634

In addition, the current article also shows the matrix of correlation that exposed the association among constructs and also highlighted the multicollinearity assumption. The findings exposed that the AOD, AOL, GI, GC and FDI have positive nexus with SED and no multicollinearity issue among the predictors. Table 3 shows the correlation matrix.

Table 3: Matrix of Correlations

Variables	SED	AOD	AOL	GI	GC	FDI
SED	1.000					
AOD	0.672	1.000				
AOL	0.622	0.572	1.000			
GI	0.538	0.511	0.436	1.000		
GC	0.334	0.423	0.570	0.680	1.000	
FDI	0.492	0.532	0.397	0.422	0.553	1.000

Moreover, the article used the ADF test to examine the stationarity necessary to apply the appropriate model. The results of the ADF test exposed that GI and GC are stationary at a level while SED, AOD, AOL and FDI are stationary at first difference. Table 4 shows the ADF results.

Moreover, the article used the ADF test to examine the stationarity necessary to apply the appropriate model. The results of the ADF test exposed that GI and GC are stationary at a level while SED, AOD, AOL and FDI are stationary at first difference. The current article also runs the ARDL bound test to examine the co-integration among the constructs. The results of the ARDL bound test exposed that "calculated f-statistics" (6.74) is bigger than the "critical values" at a five per cent "level of significance". The results exposed co-integration exist, and the ARDL model could be used. Table 5 shows ARDL bound test results.

The results of the ARDL test exposed that financial inclusion such as AOD and AOL, green investment and green credit have a significant and positive association with SED of Vietnam. The R square value (0.462) indicated that 46.2 per cent of changes in SED are due to all the predictors. Table 6 shows the short-run association among the variables.

Table 4 shows the ADF results.

Augmented Dickey-Fuller Test (ADF)	Level	t-statistics	p-values
SED	I(1)	-7.982	0.000
AOD	I(1)	-4.613	0.001
AOL	I(1)	-6.276	0.000
GI	I(0)	-2.972	0.035
GC	I(0)	-2.948	0.040
FDI	I(1)	-6.167	0.000

Table 5: ARDL Bound Test

Model	F-statistics	Lag	Level of Significance	Bound test critical values	
				I(0)	I(1)
SED/ (AOD, AOL, GI, GC, FDI)	6.74	4	1%	6.80	6.97
			5%	5.37	5.89
			10%	4.23	4.59

Table 6: Short Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(AOD)	0.653928	0.283721	2.304828	0.0340
D(AOL)	0.736201	0.289937	2.539176	0.0323
D(GI)	4.863530	1.476262	3.294489	0.0228
D(GC)	1.192837	0.293832	4.059588	0.0012
D(FDI)	1.452362	0.352722	4.117583	0.0002
CointEq(-1)*	-1.398272	0.298373	-4.686322	0.0000
R-squared	0.462729	Mean dependent var		-0.030852
Adjusted R-squared	0.449282	S.D. dependent var		2.335322

The results of the ARDL test also exposed that financial inclusion such as AOD and AOL, green investment and green credit have a significant and positive association with the SED of Vietnam. Table 7 shows the long-run association among the variables.

Finally, the researchers run a granger causality test to examine the association among constructs. Granger causality results exposed the "bilateral, unilateral, and no relationships" among the variables. Granger causality results exposed no association among FDI and SED while unidirectional association among AOD and SED, AOL and SED and GI and SED. The results also exposed a bidirectional association among GC and SED. Table 8 shows the granger causality results.

Table 7: Long Term Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AOD	1.298374	0.498272	2.605753	0.0122
AOL	4.092623	1.182736	3.460301	0.0039
GI	1.293842	0.287363	4.502466	0.0000
GC	3.392272	0.876627	3.869687	0.0025
FDI	2.472362	0.957638	2.581729	0.0215
C	0.982726	0.287732	3.415421	0.0033

Table 8: Granger Causality Test

Null Hypothesis	F-Statistic	Prob.	Decision
AOD does not Granger Cause SED	4.29837	0.0052	Unidirectional
SED does not Granger Cause AOD	0.43872	0.8650	
AOL does not Granger Cause SED	4.39827	0.0039	Unidirectional
SED does not Granger Cause AOL	0.02330	0.2887	
GI does not Granger Cause SED	6.38726	0.0000	
SED does not Granger Cause GI	1.34272	0.3666	Unidirectional
GC does not Granger Cause SED	4.89282	0.0004	
SED does not Granger Cause GC	5.19827	0.0000	Bidirectional
FDI does not Granger Cause SED	0.6525	0.1777	
SED does not Granger Cause FDI	1.19287	0.1651	No

5. Discussions

The results have revealed that financial inclusion is positively related to sustainable economic development. The results agree with Sulong and Bakar (2018), which states that in the countries where financial inclusion is being implemented effectively, the rate of sustainable development is getting on. In order to serve the three perspectives of sustainable development, which are environment safety, social well-being of country people, and improvement in earnings level, it is necessary that all the areas of the country individuals and businesses must have access to useful financial services. The results match with Ratnawati (2020), under effectively implemented financial inclusion, the economic enterprises can have the facility of acquiring financial resources in the form of loans or investments at the time of need. These enhanced financial resources enable the business enterprises to think beyond just profits and carry environmental-friendly programs whose aim is to mitigate the negative impacts of business activities on the environment and all related elements. The improvement of environmental performance on the part of individual business enterprises helps the country achieve sustainable economic development. These results are also in line with Kim, Zoo, Lee, and Kang (2018), which posits that under financial inclusion, the economic entities have the facility to save their excessive financial resources for future use instead of utilizing them fully right now. This develops consistency in the performance of economic activities and assures sustainable economic growth.

The results have revealed that green investment is positively related to sustainable economic development. The results agree with Yoshino, Taghizadeh-Hesary, and Otsuka (2021), which highlights that the tendency of the economic enterprises to spend money for investment in green programs whose objective is to promote environmental protection and health safety of human beings triggers the opportunities of getting sustainability in the economic growth as this provides the healthy human resources who keep on performing the economic activities effectively. These results are supported by Z.-Z. Li et al. (2021), which analyzes how green investment influences sustainable economic development. This study implies that when the firms spend some amount of equity on the green improvements along with the performance of regular economic activities for-profits earnings, it provides a clean environment to employees for working and the sustainable context where the firms can operate and flourish on a sustainable basis. These results agree with Litvinenko, Tsvetkov, and Molodtsov (2020), which states that the investment in ecological friendly resources like energy-efficient technologies which use the minimum amount of energy and produce no wastes for giving the required amount of production, ensures the safety of associated land fields, water resources, and air quality; thus, it protects the natural resources and the increased resources can

be useful to the future generation for their economic purposes. That is why green investment enhances sustainable economic development.

The results have revealed that green credit is positively related to sustainable economic development. The results match with Alawneh, Ghazali, Ali, and Asif (2018), which states that environmental development is the key factor of sustainable economic growth of the country because of its link to the protection and availability of good quality natural resources, human resources, and many other resources. This environmental development requires large funds, which can be acquired by availing the facility of green credits. The results agree with Taghizadeh-Hesary and Yoshino (2019), who have argued on the association between green credit and sustainable economic development. They have the view that when the financial institutions like banks provide credits for the purchase of some environmentally friendly technologies, clean raw materials, and other environmentally friendly resources, with easy requirements, to the businesses dealing in manufacturing, trading, services, or agriculture, they promote the sustainable performance of these firms which contribute to the sustainable economic development. These results agree with Bhutta, Tariq, Farrukh, Raza, and Iqbal (2022), which enlightens the fact that the policies of the financial institutions which deal in deposits and credits, to grant green credits along with the other sorts of loans, assist the businesses not only to carry economic activities but also pay attention to the environmental concerns associated with their activities. This ensures the quality of the natural environment, which is the basic source of many resources to the economy and its sustainable development.

The results have revealed that FDI is positively related to sustainable economic development. The results agree with Savitska, Zaika, Svystun, Koval, and Haibura (2020), who argue that the role of investment in the economy is as important as the blood in the human body. Sometimes, the investment on the part of domestic entities is not enough for improving or sustaining the economic activities; in this case, the investment from foreign sources is useful, which raises the financial resources and enables the domestic enterprises to focus on sustainable economic development. These results are also in line with Sarkodie and Strezov (2019), which tell that the organizations which have the policy to attract foreign investors for spending their money in large amounts in their resources, activities, and processes show active participation in the practices like health, prosperity, equality, and well-being of the stakeholders along with the environmental protection and climate resilience. These results match with Fan and Hao (2020), which states that when foreign entities have investment and interest in the domestic enterprises, they themselves pay attention to the performance of the enterprises and for sustainable performance and regulate them. Their actions for the improvement of the enterprises' performance contribute to the sustainable development of the economy.

6. Implications

The present study preserves a significant place in the literature on economic development. This study examines the impacts of financial inclusion, green investment, and green credit along with FDI on sustainable economic development. The combination of economic factors simply and the green economic factors, which play a key role in getting sustainability in the economic growth of the country, is an extension to the literature. Financial inclusion is a complete economic concept that has been discussed in the past study as an indicator of sustainable economic development. But, the present study has examined financial inclusion with green investment and green credit for analyzing sustainable economic development. The present study has a number of empirical implications. The government officials, firm management, and financial institutions can have guidance from this piece of literature. As with the growth in the economic activities and energy consumption, many environmental and social problems the countries have to face and the future economic progress is endangered. In this situation, the government must form policies to promote green integration into finance, financial inclusion, and FDI for sustainable economic development. Financial institutions must focus on financial inclusion to raise their own performance and develop sustainability in economic development. The firm management also avails themselves of financial inclusion, green investment, and green credit along with FDI on sustainable economic development and contribute to sustainable economic development.

7. Conclusions

As the environmental and social condition of Vietnam and many other similar countries is getting worse, it was required to pay attention to sustainable economic development. The aim of the study was to check the influences of financial inclusion, green investment, and green credit along with FDI on sustainable economic development. A quantitative research method was applied, and the variables like financial inclusion, green investment, green credit and FDI and their impact on sustainable economic development were examined in Vietnam. The results of the research showed that financial inclusion, green investment, green credit and FDI sustainable economic development. The results stated that financial inclusion provides financial services like deposits, savings, and loans to all individuals and firms in all areas of a region through easy processes and with low costs. Thus, it meets the environmental and social needs, which adds to sustainable economic development. The results stated that green investment is an effective way to facilitate ecological friendly programs which protect the resources for future use and bring sustainability to the economic growth of the country. The results also revealed that the green credit issuance increases the financial resources with the profit-making and non-profit making firms which they utilize to mitigate the polluting influences of their possessions and operations; thus, they contribute to sustainable economic development.

8. Limitations

Some limitations which are linked to the current study gives an opportunity for the future authors to show their intellect, and we expect them to remove these limitations. First of all, the present study addresses only financial factors like financial inclusion, green investment, and green credit along with FDI and as the indicators of sustainable economic development. The technological factors, macro-economic variables, and human resources all have a strong influence on sustainable economic development. These variables have not been addressed by the authors at all. Other authors must trace out this limitation and try to remove this with the analysis of other necessary variables along with financial inclusion, green investment, green credit and FDI for sustainable economic development. The study examines the sustainable economic development in Vietnam with financial inclusion, green investment, green credit, and FDI. Vietnam is a lower-middle-income country that has stepped towards sustainable development, but other countries have different economic, social, and environmental conditions and the growth rate of the economy. Authors must select multiple countries to analyze the role of financial inclusion, green investment, green credit, and FDI in sustainable economic development.

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