

Nexus Between Green Finance & Green Economic Growth in G-20 Economies: Moderating Role of Environmental Governance

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Abstract

Green economic growth is crucial for achieving long-term sustainability, as it promotes resource efficiency, reduces carbon emissions, and fosters investments in environmentally friendly technologies. With climate change and environmental degradation posing significant global challenges, green finance has emerged as a key driver for sustainable economic transitions. This study is essential as it provides empirical insights into how green finance contributes to economic growth and how governance mechanisms shape this relationship, offering valuable policy recommendations for sustainable development. This study utilizes secondary panel data spanning 1995–2021 from G-20 countries to examine the relationship between green finance and green economic growth. A series of statistical tests is applied to analyze this relationship, with a particular focus on the moderating role of environmental governance in shaping the impact of green finance on economic sustainability. The results reveal a significant positive correlation between green finance and green economic growth. Green finance optimizes resource utilization, enhances energy productivity, and fosters investments in environmentally sustainable projects, ultimately reducing carbon emissions and mitigating environmental impacts. However, environmental governance exerts a negative moderating effect, indicating that stringent and inefficient institutional frameworks can hinder the benefits of green finance. The study underscores the need for improved governance mechanisms, transparency in green financial instruments, and policies that encourage sustainable economic behavior. This study contributes to the existing literature by providing empirical insights into the interplay between green finance, governance, and economic growth, offering valuable implications for policymakers and stakeholders in sustainable development.

Keywords: Green Finance, Environmental Governance, Green Economic Growth.

Introduction

Economic growth has long been a priority for nations striving to enhance living standards and economic prosperity. However, this relentless pursuit often comes at the cost of environmental degradation, as industrialization, resource extraction, and pollution increase (Husain et al., 2025). Recognizing these negative consequences, attention has shifted towards green economic

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growth—an approach that balances economic development with environmental sustainability. Green growth emergence has aroused the wide attention of scholars and produced different definitions. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) first introduced the concept of green growth in 2005 to promote a low-carbon, sustainable development model for fast-emerging Asian countries (ESCAP, 2005). Green economic growth is widely recognized as a sustainable development strategy that enhances wealth and progress while minimizing environmental harm. It prioritizes biodiversity protection, efficient resource use, and long-term ecological balance, promoting economic development without compromising natural systems (Stern & Damon, 2011; Zhou et al., 2022). Green growth fosters economic development by preserving natural assets and managing key resources, vital for clean energy and sustainability, particularly in resource-rich regions like Latin America (Hwang et al., 2024; OECD, 2011).

Government investment in environmental projects and R&D is crucial for promoting green economic growth and reducing pollution. Green growth relies on innovation in technologies to lower emissions and enable cleaner production. Experts emphasize technology and sustainable practices as key drivers. Policies supporting low-carbon development, especially in BRICS nations, highlight how economic growth can align with environmental preservation (Li et al., 2024). Public spending on green economic growth varies by country, requiring tailored strategies for maximum impact. Governments should allocate funds to local industries for green energy development, ensuring strict oversight and milestone-based progress. Green growth promotes low-carbon development, resource efficiency, and environmental sustainability across sectors (Hernández, 2020; Shah et al., 2024).

Green economic growth is increasingly seen as achievable through the implementation of green finance, which channels investments toward environmentally sustainable projects, technologies, and businesses. The idea of green finance was initially proposed in Sweden and Germany in the 1970s as people there progressively understood the importance of environmental preservation for long-term economic growth (Irfan et al., 2022). The combination of green finance and fintech optimizes the allocation of resource utilization efficiency and solves some of the existing problems related to green finance's development (Nenavath, 2022). Green finance focuses on integrating financial and environmental goals to drive sustainable development globally. It supports investments in renewable energy, energy-efficient technologies, and projects that reduce environmental impact and combat climate change (Nenavath & Mishra, 2023; Zia et al., 2024). The link between green bonds, renewable energy stocks, and carbon markets underscores green finance's role in reducing risks and supporting ecological sustainability through low-carbon investments (Zhang & Umair, 2023). Environmental governance strengthens the link between green finance and economic growth by setting and maintaining standards that promote sustainable investments. It encourages green initiatives through incentives like tax breaks and subsidies, ensuring transparency and accountability. Governance supports renewable energy investments, mitigates CO₂ emissions, and fosters sustainable development, particularly in BRICS economies (Yadav et al., 2024). Similarly, governance measures such as environment-related taxes and policy stringency have been shown to stimulate a transition toward renewable energy, which is critical for addressing global climate concerns (Niu et al., 2022).

Review of Literature Review and Proposed Hypotheses

Green growth may promote sustainable development provided it involves some kind of investment, even if only temporarily (Jacobs, 2012). Green economic development positively drives renewable energy transformation, emphasizing capital and hydropower's role (Hwang & Diez, 2024). Additionally, green economic growth and renewable energy enhance food security, while industrialization reduces it (He et al., 2024). However, the resource curse

hinders green growth, but technological innovation and reduced resource dependence can overcome it (Cheng et al., 2020). Further, trade openness further boosts sustainable growth and green development by fostering innovation and promoting sustainable practices, but it requires policies to address challenges like resource volatility and inflation (Feng et al., 2024; Halim & Huq, 2024; Tawiah et al., 2021). Moreover, green innovation and clean energy investments drive sustainability and environmental goals by replacing unsustainable practices (Ahakwa et al., 2024; Capasso et al., 2019; Arzova & Şahin, 2024).

Green finance and R&D innovation play a crucial role in promoting clean energy generation and reducing greenhouse gas emissions (Zia et al., 2024; Sadiq et al., 2022). Additionally, green financing and R&D investment significantly contribute to building a sustainable green economy (Zhang et al., 2021; Li & Lin, 2024; Alim et al., 2025). Green finance and fintech greatly encourage sustainable economic growth in China (Zhou et al., 2022; Deng et al., 2019). Further, BRICS countries need innovation in clean energy for sustainable growth and environmental sustainability (Ulucak & Danish, 2020). Green finance not only enhances economic development but also plays a role in pollution reduction (Hang & Zhao, 2023). Furthermore, green finance and renewable energy have been pivotal in reducing CO₂ emissions in BRICS countries (Sadiq et al., 2024; Hailiang et al., 2023). Green investment affects the reduction in CO₂ emissions (Nguyen et al., 2022; Tariq & Hassan, 2023; Ran & Zhang, 2023). Green finance, fintech, and energy improvements have also contributed to environmental enhancement (Udeagha & Ngepah, 2023). Many countries are working towards achieving a carbon-neutral economy by using finance and innovation to combat global temperature rise (Zhang et al., 2022; Meo & Karim, 2022; Saleem et al., 2022).

H1: There is a significant relationship between green finance and green economic growth.

Effective environmental governance and economic complexity promote sustainable energy transitions and the adoption of renewable technologies (Bakhsh et al., 2024). Renewable energy transition contributed to green growth, but its impact was significant only in the presence of strong governance (Murshed, 2024). Stronger policies for ecological governance and green technologies enhance sustainable resource management (Ozturk et al., 2023). Stringent environmental policies, related taxes, technology, financial incentives, and subsidies significantly drive sustainable finance advancements (Niu et al., 2022; Ullah et al., 2024; Muse et al., 2025). Sustainable finance is growing speedy, with ESG-linked debt issuance in emerging markets increasing threefold to reach \$190 billion in last few years (Alim et al., 2025). Governance of the environment and the energy transition notably influence green growth (Razzaq et al., 2023). Sustainable resource management requires effective environmental governance (Shah, 2020; Wang et al., 2023). Green finance policies enhance ESG performance in firms with better internal and external governance mechanisms (Qian & Yu, 2024). OECD member countries should strengthen green energy and environmental innovation policies to promote sustainability and reduce ecological impacts (Sohag et al., 2024). Effective governance supports sustainable development by facilitating environmental spending and reducing air pollution (Omri & Mabrouk, 2020; Hassan et al., 2024). Therefore, enhancing governance and sustainable mining is essential for achieving the highest positive impact of green growth (Hwang et al., 2024).

H2: Environmental governance significantly moderates the relationship between green finance and green economic growth.

Methodology

The current paper collected secondary panel data from 12 countries (the United Kingdom, Australia, Brazil, Germany, Indonesia, Italy, Japan, Russia, South Africa, Canada, China, and France) of the G-20 during the period from 1995-2021. The study used the OECD, WDI, and

World Bank for data collection, which are the most appropriate and authentic sources for data collection.

Variables

Green Economic Growth is treated as a dependent variable, which means the development of an economy that minimizes environmental degradation and promotes sustainability (Sterner & Damon, 2011). It is measured through environmentally adjusted multifactor productivity (Jiang et al., 2023; Feng et al., 2024). Green Finance is an independent variable that is the financial support allocated to investments, projects, and initiatives prioritizing environmental sustainability (Wu et al., 2024). Green finance is measured through expenditure on environmental protection (Uche et al., 2024). Environmental Governance refers to rules, regulations, practices, and policies which is that guide and enforce environmental protection and sustainability. It is measured by the environmental policy stringency index (Bakhsh et al., 2024)

Table 1: Description of variables

Variables	Measurements	Sources	References
Green Economic Growth	Environmentally adjusted multifactor productivity	https://stats.oecd.org	Jiang et al. 2023
Green Finance	Expenditure on environmental protection (percentage of GDP)	https://prosperitydata360.worldbank.org	Uche et al. 2024
Environmental Governance	Environmental Policy Stringency Index	https://stats.oecd.org	Bakhsh et al. 2024
Gross Domestic Product	GDP per capita (current US\$)	World Development Indicators (WDI)	Wang et al. 2023
Inflation	consumer price index (2010=100).	World Development Indicators (WDI)	Wang et al. 2023

Statistical Tools

The correlation matrix is essential for identifying the strength and direction of relationships between variables, helping to detect potential multicollinearity issues. The coefficient varies between -1 and +1, where 0 indicates no relationship.

$$r_{ij} = \frac{Cov(X_i, X_j)}{\sigma_{X_i} \sigma_{X_j}} \text{-----} (i)$$

The unit root test assesses the stationarity of data and ensures the reliability of models. It helps prevent spurious regressions by determining whether variables have a consistent mean and variance over time, essential for robust statistical inference. The current study uses the Im-Pesaran-Shin (IPS) unit root test to check stationarity in panel data.

$$\nabla Y_{it} = \alpha_i + \beta_i y_{i,t-1} + \sum_{j=1}^p \gamma_{ij} \Delta Y_{i,t-j} + \epsilon_{it} \text{-----} (ii)$$

Further, the study uses ordinary least-squares (OLS) regression, Hausman, and the random effect model to analyze the relationship between the dependent and the independent variables. The random effects model treats the constants for each section as random parameters rather than fixed ones, and it assumes that each country has a unique error term.

$$Y_{it} = (a + v_i) + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_k X_{kit} + \epsilon_{it} \text{-----} (iii)$$

$$GEG_{it} = (a + v_i) + \beta_1 GF_{it} + \beta_2 EG_{it} + \beta_3 (GF_{it} \times EG_{it}) + \beta_4 GDP_{it} + \beta_5 CPI_{it} + \epsilon_{it} \text{-----} (iv)$$

Analysis and Results

Table 2: Descriptive Statistics

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
GEG	324	1.334812	2.286877	-13.64663	12.39012
GF	324	0.5837507	0.2687919	0	1.38
EG	324	1.906677	1.271965	0.0555556	4.888889
GF*EG	324	1.332749	1.232769	0	5.084445
LGDP	324	4.161892	0.5300694	2.661994	4.833774
LCPI	324	1.954789	0.1808327	0.8015258	2.29966

Table 2 represents the descriptive statistics. Green Economic Growth (GEG) has a mean is 1.334812, and the standard deviation is 2.286877. GEG ranges from -13.6466 (minimum) to 12.3901(maximum). Further, Green Finance (GF) carries an average value is 0.5837507 and a standard deviation of 0.2687919. The values are between 0 and 1.38. Environmental Governance (EG) is a mean value is 1.906677 with a standard deviation of 1.271965, minimum value (0.0555556, and maximum value (4.888889). The mean value of Green Finance with the moderating role of Environmental Governance (GFEG) is 1.332749 with a standard deviation of 1.232769, minimum value (0), and maximum (5.084445). The mean value of the Consumer Price Index (CPI) is 1.954789 with a standard deviation of 0.1808327; The values range from 0.8015258 (minimum) to 2.29966 (maximum). The Gross Domestic Product (GDP) mean value is 4.161892 with a standard deviation of 0.5300694. The range for GDP is from 2.661994 (minimum) to 4.833774 (maximum).

Figure 1: Green Economic Growth

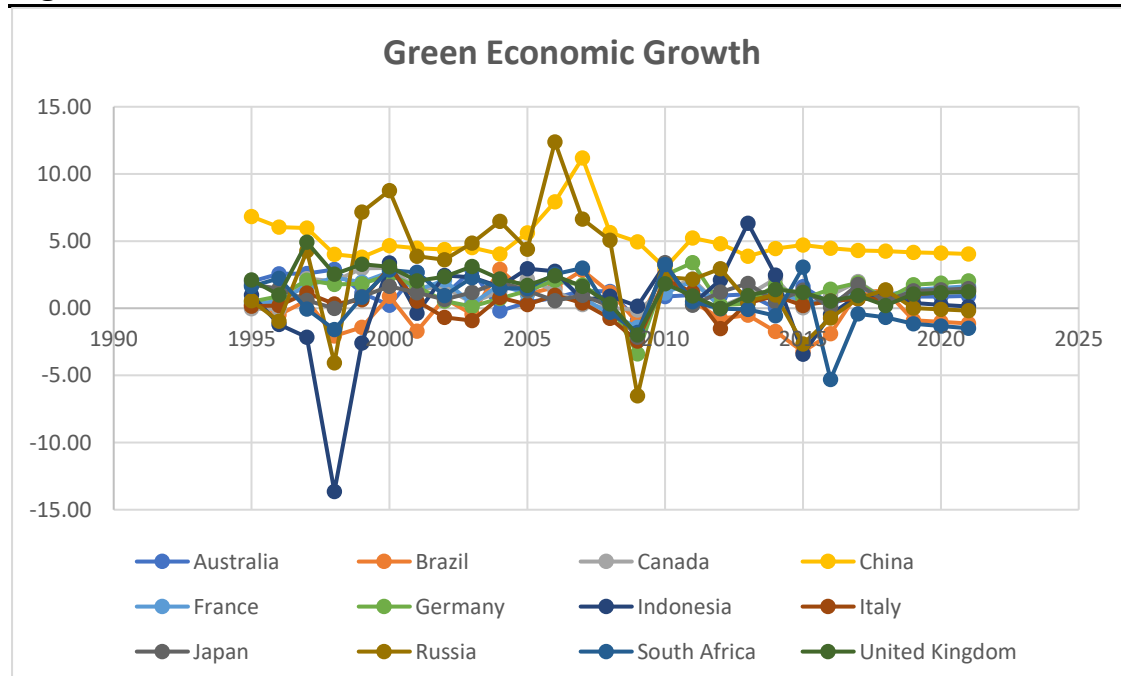


Figure 1 shows that China's performance is high compared to all other countries. China's green economic growth is high due to heavy investment in renewable energy and green technologies. In contrast, Russia's economic growth is attributed to better energy efficiency in its oil and gas sector to reduce waste (Khominich & Nguyen, 2023). The United Kingdom has significantly

shifted towards wind energy, especially offshore wind farms. Canada, Germany, Australia, France, and Japan are the next high-performance countries in green economic growth. Canada's growth is better due to its effective management of natural resources and investments in green technologies. Germany leads in renewable energy with its "Energiewende" policy and strict environmental regulations. Australia's growth is improving due to increased solar and wind energy investments. France's green economic growth is supported by its reliance on low-emission nuclear energy, while Japan focuses on energy efficiency and green technology. The next group with moderate performance in green economic growth includes South Africa, Italy, and Indonesia. South Africa's reliance on coal and governance challenges slows its progress. However, ongoing energy reforms keep its growth steady. Italy has made progress in solar energy but lags in industrial adaptation, maintaining a stable yet moderate performance. Indonesia faces deforestation issues and a delayed energy transition, but its green initiatives in renewable energy provide a foundation for moderate growth. Brazil has low performance in green economic growth due to high deforestation rates in the Amazon and weak enforcement of environmental policies. Additionally, its reliance on agriculture and limited investments in renewable energy hinder its progress toward sustainability

Figure 2: Green Finance

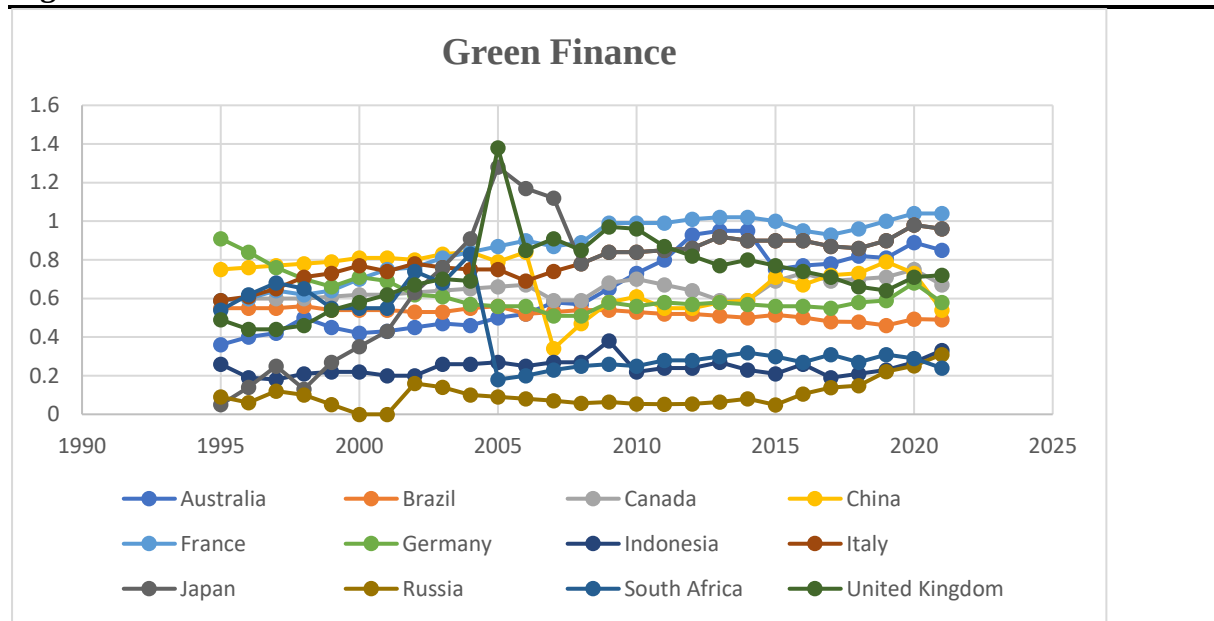


Figure 2 shows the overall trend from 1995 to 2021. France had the highest expenditure on environmental protection. However, in 2005, the United Kingdom noted the highest value for green finance. Similarly, Italy ranks second overall, but in 2005, Japan had the second-highest expenditure on environmental protection. Overall, the United Kingdom ranks third, Japan is in fourth place. China, Canada, Australia, Germany, Brazil, South Africa, and Indonesia follow in descending order. Finally, Russia is at the bottom with the lowest expenditure on environmental protection.

Table 3: Matrix of Correlation

Variable	GEG	GF	EG	GF*EG	LGDP	CO ₂
GEG	1.0000					
GF	0.0066*	1.0000				
EG	-0.0843*	0.6447*	1.0000			
GF*EG	-0.0854*	0.8044*	0.9370*	1.0000		
LGDP	-0.1605	0.5252*	0.7542*	0.6836*	1.0000	1.0000
LCPI	-0.0656	0.2446*	0.4054*	0.3129*	0.4317*	1.0000

In Table 3 correlation matrix shows that green finance with environmental governance (GFEG), which has a moderating effect, has a weak negative correlation with green economic growth (GEG) but a strong positive correlation with both green finance (GF) and environmental governance (EG). Its correlation with the consumer price index (CPI) is strongly positive, and it is also positively correlated with gross domestic product (GDP). Green economic growth (GEG) is strongly negatively correlated with the consumer price index (CPI) and negatively correlated with environmental governance (EG), but positively correlated with green finance (GF). It is inversely related to Gross Domestic Product. As evidence, there is a substantial positive relationship between green finance (GF) and environmental governance (EG). A simple positive relationship exists between the consumer price index (CPI) and gross domestic product (GDP). The asterisk (*) represents the results or values that are significant.

Table 4: IM-Pesaran-Shin Unit root test

Variable	Z-t-tilde-bar	Statistics	P-Value
GEG	Z-t-tilde-bar	-7.3245	0.0000***
GF	Z-t-tilde-bar	-7.1941	0.0000***
EG	Z-t-tilde-bar	-7.8738	0.0000***
GF*EG	Z-t-tilde-bar	-7.8071	0.0000***
LGDP	Z-t-tilde-bar	-10.2315	0.0000***

Table 4 is the IM-Pesaran-Shin Unit Root Test indicates that the result of variables is stationary because p-value is less than 0.05 and the Z-t-tilde-bar value is highly negative, which means that green economic growth, green finance, environmental governance, and moderating effect (GF*EG) are stable in long-term behavior and cannot drift randomly.

Table 5: Ordinary Least Squares (OLS) with Moderation

GEG	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
GF	2.780467	0.9574944	2.90	0.004	0.8966432	4.664292
EG	-0.9963321	0.3947094	-2.52	0.012	0.2197604	1.772904
GF*EG	-1.232929	0.4663439	-2.64	0.009	-2.150438	-0.3154195
LGDP	-1.196804	0.3746104	-3.19	0.002	-1.933832	-0.4597755
LCPI	-0.5360642	0.7976088	-0.67	0.502	-2.105321	1.033193
_cons	5.484073	1.749387	3.13	0.002	2.042238	8.925909

In Table 5, green finance (GF) has a positive coefficient of 2.780467 and p=0.004, which indicates that green finance has a positive and significant correlation with the dependent variable. Environmental governance (EG) also delivers a negative impact, with a negative coefficient of -0.9963321 and a p-value of 0.012. Green finance with environmental governance (GFEG) has a negative coefficient of -1.232929 and a p-value of 0.009, showing a

negative relationship with the dependent variable. Gross domestic product (GDP) and the Consumer price index (CPI) also have negative coefficient of -1.196804, -0.5360642, and a p-value of 0.002, and 0.502 respectively, which means that both have a negative impact. The intercept term is 5.484073 and also statistically significant (p-value 0.002) overall.

Table 6: Ordinary Least Squares (OLS) without Moderation

GEG	Coefficient	Std. err.	t	P> t 	[95% conf. interval]	
GF	0.9115972	0.5494501	1.66	0.098	-.1693937	1.992588
LGDP	-0.9392102	0.2995102	-3.14	0.002	-1.528468	-0.3499523
LCPI	0.0281328	0.770498	0.04	0.971	-1.487749	1.544014
_cons	4.656565	1.467901	3.17	0.002	1.768608	7.544521

Table 6 presents without moderation. Green finance (GF) has a positive coefficient of 0.9115972 and $p=0.098$, which indicates that green finance has a positive and insignificant correlation with the dependent variable. Gross domestic product also delivers a negative impact, with a negative coefficient of -0.9392102 and a p-value of 0.002. The consumer price index (CPI) has a positive coefficient of 0.0281328 and a p-value of 0.971, which means that it has an insignificant impact. The intercept term is 4.656565 and also statistically significant (p-value 0.002) overall.

Table 7: Hausman Test

chi2(3)	6.28
Prob > chi2	0.0778

In Table 7 the findings show that Chi-squared (χ^2) = 6.28 with 3 degrees of freedom, and the p-value is 0.0778. The probability value is greater than the significance value (0.05). The findings of Hausman confirmed that the study's null hypothesis cannot be rejected; hence, random effects are consistent and efficient in the current study.

Table 8: Random Effect Model with Moderation

GEG	Coefficient	Std. err.	t	P> t 	[95% conf. interval]	
GF	2.494871	0.9587329	2.60	0.009	0.615789	4.373953
EG	-0.9186729	0.3780466	-2.43	0.015	0.1777152	1.659631
GF*EG	-1.095903	0.4580909	-2.39	0.017	-1.993745	-0.1980617
LGDP	-1.218592	0.3660159	-3.33	0.001	-1.93597	-0.5012139
LCPI	-0.2142151	0.8745317	-0.24	0.806	-1.928266	1.499836
_cons	5.077775	1.750409	2.90	0.004	1.647037	8.508512

Table 8 with moderation effect shows that the coefficient value of Green Finance (GF) is 2.494871 and statistically found that significant (0.009). This represents that for each unit increase in green finance (IV), the Green Economic Growth (DV) increases by 2.494871 units. Similarly, environmental governance (MV) has a coefficient value of -0.9186729 and is statistically found to be significant (0.015). This means that bad governance is associated with a -0.9186729 unit decrease in the dependent variable (Green Economic Growth). Moreover, green finance with a moderating role in environmental governance has a coefficient value of -1.095903 and is statistically found to be significant (0.017). It represents the moderating effect of environmental governance and green finance rise with green economic growth decrease. GDP and CPI, considered the control variables, have a coefficient value of -1.218592 and -

0.2142151, respectively. GDP was statistically found to be significant (0.001), but CPI was statistically found to be insignificant (0.806) means that with each unit increase in GDP and CPI, the dependent variable (GEG) decreases by -1.218592 and -0.2142151 units, respectively.

Table 9: Random Effect Model without Moderation

GEG	Coefficient	Std. err.	T	P> t	[95% conf. interval]	
GF	0.8741029	0.5223514	1.67	0.094	-1.149687	1.897893
LGDP	-0.9395771	0.2857529	-3.39	0.001	-1.499643	-0.3795117
LCPI	0.500003	0.8449534	0.59	0.554	-1.156075	2.156081
_cons	3.757572	1.627791	2.31	0.021	0.5671601	6.947984

Table 9 without the moderation effect, shows that the coefficient value of Green Finance (GF) is 0.8741029 and statistically found insignificant (0.094). GDP and CPI, considered the control variables, have a coefficient value of -0.9395771 and 0.500003, respectively. GDP was statistically found that significant (0.001), but CPI was statistically found to be slightly insignificant (0.554). The overall result without moderation is insignificant.

Conclusion

This research examines the relationship between green economic growth and green finance and considers the moderating role of environmental governance in this relationship. The correlation matrix shows a strong positive relationship between green finance (GF) and green economic growth (GEG) with a coefficient of 0.0066. At the same time, the OLS regression with moderation further confirms this with a significant green finance coefficient of 2.780467 (p-value = 0.004). Similarly, the random effect model with moderation supports this finding with a GF coefficient of 2.494871 (p-value = 0.009). All these results confirm Hypothesis 1 and support that green finance significantly impacts green economic growth. The moderating role of environmental governance (EG) is validated by the negatively significant interaction term (GF × EG) in OLS regression with moderation (coefficient = -1.232929, p-value = 0.009) and the random effect model with moderation (coefficient = -1.095903, p-value = 0.017). However, moderation is negative because due to avoid regulations, some businesses shift their polluting activities to those areas where governance is weak. However, it highlights the negatively significant influence of environmental governance. Overall, the study provides strong evidence that green finance positively impacts green economic growth, and environmental governance negatively moderates this relationship.

Overusing forest resources has caused severe environmental damage, leading to problems like soil erosion, deforestation, and the loss of plant and animal species. This damage disturbs the natural balance of ecosystems. It also affects people's health by polluting the air and water and increasing natural disasters like floods and droughts. The rapid development of G-20 economies over the past few decades has led to increased pollution and environmental damage, even though these economies continue to grow significantly (Ma., et al 2023; Nenavath & Mishra, 2023). Taking immediate action is important to defend the environment and confirm the health and safety of future generations. The countries have been focusing on applying green innovation plans, which require large financial support (Pang et al., 2024). This is only possible through green finance. If the governments, companies, and the public of G-20 nations spend more on sustainable and environmentally friendly projects, a country's growth will improve and become more sustainable.

The result of this study shows that green finance, such as government spending on environmental protection, enables countries to move toward green economic growth more effectively. Environmental governance is an important factor because it guarantees efficient

fund placements and distribution through frameworks and transparency. However, in this study, environmental governance is negatively correlated. Governance involves the implementation of environmental taxes, subsidies for clean energy projects, and restructuring policies intended to foster sustainable energy. But, in some cases, strict governance (e.g., excessive environmental regulations and complex approval processes) creates a barrier to green finance and green economic growth. To execute the green project, the officer creates hurdles and makes excessive compliance costs. Sustainability and economic growth can be significantly negatively associated with environmental governance. If environmental governance is not strong, then there might be ineffective resource management (Fund misuse, lack of proper planning) and increased material impact (more environmental damage, due to lack of recycling policies waste production is increased and raw material depletion might be going forward to depletion like forest and mineral water). Poor regulatory frameworks might come as the result of resource depletion, environmental degradation, and inefficient utilization of financial investments instead of promoting sustainability.

Recommendations

We suggest that there is the arising of high pollution due to vehicles, industries, etc.; the government needs to put measures in regulations that enhance the protection of the environment. More awareness should be created through seminars to encourage people to use public transport to minimize pollutant cars. To reduce the use of paper as this presents itself as directly proportional to the availability of trees, more paperless working environments should be supported among working offices/industries.

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Appendix-1

12 countries of G-20 Nations

Sr. No.	Countries
1	Australia
2	Brazil
3	China
4	Canada
5	France
6	Germany
7	Italy
8	Indonesia
9	Japan
10	Russia
11	South Africa
12	United Kingdom