ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 10| Issue: 12| December 2024|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2024: 8.402 || ISI Value: 1.188

# A STUDY ON IMPACT ON ECONOMIC GROWTH IN INDIA BY GREEN FINANCE

**Gunjan Sharma[1], Keerti Sharma[2]**
*[1]Asst. Professor, Prestige Institute of Management & Research, Bhopal*
*[2]Research Scholar, CRIM UTD Barkatullah University Bhopal*

**ABSTRACT**
*The purpose of this research paper is to determine how green money affects India's economic expansion. The influence of green finance, including debt financing, green bonds, and green loans, is examined in this study. The Indian government relies heavily on green finance to improve and oversee the nation's financial system. In order to evaluate the variable's hypothesis, the current study used both dependent and independent variables, as well as research tools including arithmetic average, Variance, correlation and T-test. We can draw the conclusion that India's has a favorable effect on the country's economic expansion by use of green finance.*

**KEY WORDS:** *Green Bonds, Green Loans, Debt Financing & Economic Growth*

## INTRODUCTION

The term "green finance" describes investments and loans used to finance ecologically beneficial undertakings, such building green infrastructure or buying eco-friendly products and services. Green financing is becoming more and more popular as a result of consumers' increased awareness of the possible risks associated with environmentally hazardous goods and services.

Green finance is advantageous to all parties involved, both environmentally and economically. By giving more individuals and businesses access to environmentally friendly goods and services, it balances out the transition to a low-carbon society and promotes growth that is socially inclusive. This produces a "great green multiplier" effect that benefits all stakeholders by having a favorable impact on the economy and environment.

### Various forms of Green Finance

**Green Credit**

Homebuyers may receive better terms from green loan lenders if they want to invest in enhancing the property's environmental performance or if the property has a high environmental sustainability rating.

**Green Loan**

Energy-efficient projects, electric vehicles, residential solar energy systems, and other environmental projects are the targets of these loans.

**Bonds with Green Features**

For environmental initiatives, green bonds supply the majority of the funding. Included in these are bond investments, the proceeds from which are used to fund a range of environmentally friendly projects, including conservation, clean transportation, and renewable energy.

**Benefits of Green Finance**

- Enhances Business Value,
- Creates a Comparative Advantage,
- Encourages the Development of Environmentally Friendly Infrastructure, and
- Promotes the Spread of Technologies

## LITERATURE REVIEW

Green finance facilitates sustainable economic development through financial markets. A range of techniques are employed by green finance to bolster the expansion of the green economy. He et al. (2019) recognizes the significance of green credit as a threshold variable and develop threshold effects models to explore the impact of renewable energy investment on China's green economy.

According to **Cigu (2020),** using public policies, green finance could help strike a balance between environmental conservation and economic growth.

**Lee (2020)** looks into how green money is boosting China's sustainable economy.

**Mei and Zhang (2022)** create System Data Mining models and panel in their study look at industrial pollution and green funding levels in 30 Chinese provinces. The findings demonstrate that green funding has a direct detrimental impact on industrial emissions as well as a restraint effect.

**Zhang et al. (2022)** Analyze the connection between green money, digital finance, and environmental preservation in G-20 economies using a panel quantile model. The findings indicate that one way to reduce emissions is through green finance.

A large sample panel model with 44 countries is also examined by **Alharbi et al. (2023).** They emphasize how green bonds, a symbol of green financing, assist the growth of renewable energy.

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 10| Issue: 12| December 2024|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2024: 8.402 || ISI Value: 1.188

The findings show that green finance has a major and advantageous long-term influence on the growth of renewable energy sources.

Employing green policies helps to promote the expansion of the green economy. The impact of policy execution on the green economy has been studied from both a theoretical and empirical perspective.

According to **Campiglio (2016),** monetary policies have a good impact on low-carbon businesses. By creating credit, these industries may receive additional financial backing, and this strategy would work particularly effectively in developing nations.

Monetary policies and sustainable energy output may be related, based on empirical data collected from Iran between 1984 and 2016, **Razmi and Wang et al. (2021)** assert that industrial structure optimization, technical innovation, and green financing reform policies boost the regional level of green growth.

**Muganyi et al. (2021)** develop a semi-parametric Difference-in-Differences (SDID) model using panel data from 290 cities and text analysis. The need of green funding solutions for lowering industry emissions is emphasized in the paper.

**Li et al. (2022)** claim that environmental taxes and other green policies, such as green finance, also greatly boost investment in renewable energy. Moreover, the relationship between investments in renewable energy and green financing is moderated by the extent of green legislation. Ecological financing is critical to economies' decarbonization, as are green financial policies such as carbon taxes, green subsidies, and environmental regulations **(Lee et al., 2023)**

**Research Design:** This study used in descriptive research approach.

**Sample Size:** Five years of data (1-4-2017-31-3-2022) make up the sample size.

**Data Collection:** Data are based on secondary data which is collected from internet (Published by Statistics Research Department).

**Hypotheses testing tools:** Karl Pearson coefficient Correlation & T-test

**Objectives of the study**

- To study about green finance effects on Economic growth in India.
- To know about the factors of green Finance of India (Like green Bonds, Loans, Debt Financing & GDP Growth rate etc.).

**Hypothesis of the Study**

**H01:** The usage of Green Finance (Green Bonds) has no positive impact on economic growth (GDP) of India.
**H11:** The usage of Green Finance (Green Bonds) has positive impact on economic growth (GDP) of India.
**H02:** The usage of Green Finance (Green Loans) has no positive impact on economic growth (GDP) of India.
**H12:** The usage of Green Finance (Green Loans) has positive impact on economic growth (GDP) of India.
**H03:** The usage of Green Finance (Debt Financing) has positive impact on economic growth (GDP) in India.
**H13:** The usage of Green Finance (Debt Financing) has positive impact on economic growth (GDP) in India.

**Limitation of the study**

- Time and money are limited.
- Data spanning only five years is examined
- This analysis only considers green financial factors

## RESEARCH METHODOLOGY

## ANALYSIS AND INTERPRETATIONS OF DATA

**Green Bonds Growth rate**

**Table 1**

| Year | Green Bonds | Growth rate (%) |
|---|---|---|
| 2017-18 | 169.1 | 6.62 |
| 2018-19 | 269.1 | 59.13 |
| 2019-20 | 303 | 12.60 |
| 2020-21 | 582.4 | 92.21 |
| 2021-22 | 487.1 | (16.36) |

**Published by Statistics Research Department**

**Interpretations:** Public and corporate entities can issue green bonds as a means of self-financing. Table No. 1 above shows the annual increase in green bonds, excluding 2022. As of 2020 and 2022, the growth rate has also decreased significantly.

**Hypothesis Testing**

**First Hypothesis**

H01: The usage of Green Finance (Green Bonds) has no positive impact on economic growth (GDP) of India.
H11: The usage of Green Finance (Green Bonds) has positive impact on economic growth (GDP) of India.

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 10| Issue: 12| December 2024|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2024: 8.402 || ISI Value: 1.188

| Year | Green Bonds Growth rate | Economic Growth Rate | Correlation Results | t-test results | Hypothesis Results |
|---|---|---|---|---|---|
| 2017-18 | 6.62 | 3.87 | -0.3199 | P Value: 0.5701 & t-test results: 0.5848 | H01 Accepted & H11 Failed to accept |
| 2018-19 | 59.13 | -5.83 | | | |
| 2019-20 | 12.60 | 9.05 | | | |
| 2020-21 | 92.21 | 7 | | | |
| 2021-22 | (16.36) | 7.85 | | | |

According to the above analysis, there is a low degree negative correlation (-0.3199) between the growth rates of green bonds and the economy, and the results of the hypothesis test show that the calculated t-test value (0.5848) is less than the table value (3.24). As a result, the alternate hypothesis (H11) is rejected and the null hypothesis (H01) is accepted, leading us to the conclusion that green bonds have no beneficial effect on India's economic growth.

**Green Loans Growth rate**

**Table 2**

| Year | Green Loans | Growth rate (%) |
|---|---|---|
| 2017-18 | 1597.58 | 13.42 |
| 2018-19 | 1811.17 | 13.36 |
| 2019-20 | 2107.78 | 16.38 |
| 2020-21 | 2365.22 | 12.21 |
| 2021-22 | 2642.89 | 11.74 |

**Published by Statistics Research Department**

**Interpretations:** Green loans, like green bonds, raise capital for eligible green projects. Conversely, a green loan is based on a smaller loan than a bond that is typically produced in a private operation. Every year, green loans are increasing over Table No. 2. The amount of green loans has increased annually, although during these study periods, the growth rate has slightly changed.

**Hypothesis Testing**

**Second Hypothesis**

H02: The usage of Green Finance (Green Loans) has no positive impact on economic growth (GDP) of India.

H12: The usage of Green Finance (Green Loans) has positive impact on economic growth (GDP) of India.

| Year | Green Loans Growth rate | Economic Growth Rate | Correlation Results | t-test results | Hypothesis Results |
|---|---|---|---|---|---|
| 2017-18 | 13.42 | 3.87 | 0.1249 | P value: 0.8414 T -test results: 0.2180 | H02 Accepted & H12 Failed to accept |
| 2018-19 | 13.36 | -5.83 | | | |
| 2019-20 | 16.38 | 9.05 | | | |
| 2020-21 | 12.21 | 7 | | | |
| 2021-22 | 11.74 | 7.85 | | | |

According to the above analysis, there is a very weak positive correlation (0.1249) between the growth rate of green loans and the growth rate of the economy. The results of the hypothesis test show that the calculated t-test value (0.2180) is less than the table value (3.24), which means that the alternate hypothesis (H12) is rejected and the null hypothesis (H02) is accepted. As a result, we can conclude that there is no positive impact of green loans on the economic growth of India.

**Green Finance (Debt Financing) Growth rate**

**Table 3**

| Year | Green Finance (Debt Financing) | Growth rate(%) |
|---|---|---|
| 2017-18 | 217 | 2.57 |
| 2018-19 | 229 | 5.53 |
| 2019-20 | 258 | 12.66 |
| 2020-21 | 248 | (3.88) |
| 2021-22 | 238 | (4.03) |

**Published by Statistics Research Department**

**Interpretations:** The proceeds of a green debt financing instrument are allocated to assets or projects that can be demonstrated to have a positive, quantifiable impact on the environment, just like any other credit instrument of a similar kind. Table No. 3 above shows an annual increase in green debt

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 10| Issue: 12| December 2024|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2024: 8.402 || ISI Value: 1.188

financing, with the exception of 2021 and 2022. Along with the decline in 2021 and 2022, the growth rate has also accelerated.

**Third Hypothesis**

H03: The usage of Green Finance (Debt Financing) has positive impact on economic growth (GDP) in India.

H13: The usage of Green Finance (Debt Financing) has positive impact on economic growth (GDP) in India.

**Hypothesis Testing**

| Year | Green Finance (Debt Financing) Growth rate | Economic Growth Rate | Correlation Results | t-test results | Hypothesis Results |
|---|---|---|---|---|---|
| 2017-18 | 2.57 | 3.87 | 0.5768 | P value: 0.3087 T -test results: 1.22 | H03 Accepted & H13 Failed to accept |
| 2018-19 | 5.53 | -5.83 | | | |
| 2019-20 | 12.66 | 9.05 | | | |
| 2020-21 | (3.88) | 7 | | | |
| 2021-22 | (4.03) | 7.85 | | | |

The above analysis the relationship between green finance (Debt Financing) growth rate and economic growth rate are moderate degree of positive correlation (0.5748) and the hypothesis testing result are the calculated value of t-test (1.22) are less than the table value (3.24) so Null hypothesis (H03) is accepted and alternate Hypothesis (H13) are failed to accept so we concluded that the green finance (Debt Financing) has no positive impact on economic growth of India.

## FINDINGS, CONCLUSION & SUGGESTIONS

### Findings

- Green bonds rise annually in table no. 1 above, with the exception of 2022. with the exception of 2020 & 2022, the growth rate has also sharply increased.
- Green loans are rising annually in above table no. 2, green loans amount is increase in every year but growth rate slightly change during these study periods.
- Green debt financing rise annually in table no. 3 above, with the exception of 2021 & 2022. with the exception of 2021 & 2022, the growth rate has also sharply increased.

### Conclusions

Green growth relies on green finance as its foundation. Green debt financing, green bonds, and green loans collectively form the ensemble that is green growth. Together, the components should sound harmonious, not discordant. Given that India may currently build its economy in a way that lessens the effects of environmental degradation, the country's finance sector has a lot of potential. Financial institutions ought to engage in sustainable development not just directly but also indirectly, by using their influence over investment and management decisions to encourage the company to set and achieve more ambitious social and environmental goals. According to the results of the current study, green finance components including green bonds, green loans, and green debt financing have no beneficial impact on the economic growth of the country.

### Suggestions

- Firstly, government departments should keep pushing hard in the upcoming years to enhance the green financial market system, encourage businesses to actively research cutting-edge green technologies, and encourage the green economy's transformation and industrial structure optimization. Moreover, the establishment of information-sharing protocols, harmonized regulatory frameworks, coordinated risk management plans, and cooperation between the financial sector and the carbon market will all contribute to the stability of the market during the green transition.
- By passing green development legislation, the government can also impose restrictions on the number of resources used and pollutants released by companies during the production process. In order to increase the overall efficiency of the green economy, these policies may enhance scientific and technological innovation by fostering the development of green technologies, including those for pollutant treatment, carbon capture and storage, and the production, transmission, and storage of renewable energy.

## REFERENCE

1. *Carroll A.B. (1979): A three-dimensional conceptual model of corporate performance. Academy of Management Review, 4: 497–505.*
2. *Chopra K., Kumar P. (2005): Ecosystems and Human WellBeing: Our Human Planet: Summary for Decision Makers. Millennium Ecosystem Assessment, Island Press, Washington D.C.*
3. *Doh G.W. (2009): Low carbon green growth and evolution of finance industry. Economic Focus, 240, SERI.*
4. *Hart S.L., Ahuja G. (1996): Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. Business Strategy and the Environment, 5: 30–37.*
5. *Jeucken M (2001): Sustainable Finance and Banking: The Financial Sector and the Future of the Planet. Earthscan, London.*
6. *Koo J.H. (2010): The Current Status and Future of Green Finance. Finance VIP series 2010-01, Korea Institute of Finance.*
7. *Noh H.J. (2010a): Financial Strategy to Accelerate Innovation for Green Growth. Korea Capital Market Institute.*

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 10| Issue: 12| December 2024|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2024: 8.402 || ISI Value: 1.188

8. *Noh H.J. (2010b): Strategic Approaches to Develop Green Finance. Korea Capital Market Institute.*
9. *Rutherford M. (1994): At what point can pollution be said to cause damage to the Environment? The Banker, January: 10–11.*
10. *Sahoo P., Nayak B.P. (2007): Green Banking in India. Indian Economic Journal, 55: 82–98.*
11. *Climate Group (2010): Climate Change and Finance in India: Banking on the Low Carbon Indian Economy.*
12. *Schmidheiny S., Zorraquin F.J.L. (1996): Financing Change: The Financial Community, Eco-Efficiency and Sustainable development. MIT Press, Cambridge.*
13. *Thompson H.J. (1995): The role of financial institutions in encouraging improved environmental performance. In: Rogers M.D. (ed.): Business and the Environment. St. Martin's Press, New York; Macmillan Press, London:271–281.*