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# Fundamental Backgrounds on the Impact of Green Credit on Sustainable Economy

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**Abstract**

The research aims to investigate the theoretical background concerning the influence of green credit on sustainable economy in emerging countries such as Vietnam. Using the desk research methodology, the content focuses on researching the overview of the concept and the causes of the development of green finance in general, green credit in particular, the context of sustainable economic development in each country, each continent, and find out the significance of green credit in achieving sustainable goals in economic development.

**Keywords:** Green Credit, Green Development Goals, Sustainable Economy

## 1. Introduction

The United Nations has established a broad future vision through the 2030 Sustainable Development Agenda, comprising 17 Sustainable Development Goals (SDGs). Vietnam has the potential to achieve five out of 17 SDGs by 2030, as highlighted in the National Sustainable Development Goals 2022 report. These include SDG 3: Good Health and Well-being; SDG 4: Quality Education; SDG 7: Affordable and Clean Energy; SDG 8: Decent Work and Economic Growth; and SDG 16: Peace, Justice, and Strong Institutions. The 2030 Agenda is being developed and implemented by Vietnam in an active way. With a focus on the development of green credits in support of Sustainable Economic Development and advancing Green Development Goals, Vietnam is promoting an environmentally friendly financial system that will make it possible to develop an efficient and transparent financial system. This is not just about keeping Vietnam's future prosperous, but also contributing to the overall sustainability of development. The main theoretical basis for the impact of green credit on Vietnam's Sustainable Economic Development will be analyzed within this context.

## 2. Theoretical background for the impact of green credit on the sustainable economic foundation

Research on green finance and sustainable economic development in Europe, conducted by Ayesha, Ehsan & Zaki (2022), emphasizes the importance of green finance development for environmental well-being. The findings suggest that the advancement of the sector influences four different indicators of environmental degradation. On the hand Foreign Direct Investment (FDI) and the quality of institutions tend to have an impact

on environmental well-being. To tackle this issue policymakers can propose measures such as implementing policies for finance and establishing robust regulations to minimize future harm to the environment. It can be argued that the financial industry plays a role in maintaining economic health. The efficient utilization of financial resources fosters innovation in finance thus stimulating growth (Furuoka, 2015). However, energy serves as a requirement for both industries and households. Is considered essential for economic activities. With globalization on the rise energy consumption is expected to increase, resulting in carbon emissions (Shahbaz et al., 2018). The study highlights that there exists a unique relationship, between development and environmental well-being. It proposes a U-shaped model to explain this phenomenon illustrating that during stages of development countries often face challenges related to poverty and limited resources which leads them to prioritize policies that fulfill development needs. However, as countries achieve stability their interests gradually shift towards protecting resources and promoting sustainable development. The study presents an opportunity to integrate finance into promoting the growth of the economy.

In the case study of China's development of green finance for sustainable development by Nana and colleagues (2020), it is affirmed that green finance has made significant progress in many emerging economies. The Central Bank of Brazil introduced a new regulatory approach in April 2014, requiring commercial banks to develop strategies and management frameworks for environmental and social risk management, considering them as crucial factors in overall risk management. Currently, about 10% of total loans in Brazilian banks are classified as "green loans." Furthermore, the Central Bank of Bangladesh has identified enhancing comprehensive finance as a clear objective of monetary policy and has provided guidance on credit for commercial banks, including areas such as new energy, pollution control, and energy efficiency. Currently, the proportion of green credit stands at 5%. From this, researchers have pointed out comprehensive weaknesses that need to be addressed in China across its 30 provinces by strongly encouraging investments in green bonds and introducing clean development projects while bypassing unsustainable communication approaches that do not lead to a sustainable economy. The study has highlighted limitations hindering the development of green finance in China and improvement measures in laws and regulations, encouraging market-based operations with long-term optimal mechanisms and green financial funds. These measures, in the long run, will lay a solid foundation for a sustainable economy.

When researching the impact of green credit on economic growth and the intermediary effect of the environment on labor supply, Chen C, Zhang Y, Bai Y, Li W (2021) identified two main types of policies aimed at the environment: those that affect the economy and those that affect the environment. Previous research has found that green credit promotes economic growth by improving the industrial structure and fostering green technology innovation, but it has not thoroughly examined the external positive effects of environmental improvement, even though both environmental improvement and economic growth are requirements of the concept of sustainable development. The study used per capita Gross Domestic Product (GDP) for each province in China as an indicator of each province's economic growth rate. The ratio of interest-bearing debt expenditure of six high-energy industries to the issuance of green credit was chosen to measure green credit, combined with intermediary variables such as air quality, labor supply, labor productivity, and control variables selected based on provincial characteristics such as urbanization, technological innovation, human capital, and foreign direct investment (FDI). The research topic evaluated the effectiveness of green credit, focusing on the synthetic factor productivity, industrial restructuring, and the financial market. The study estimated that since the issuance of green credit in China, in addition to adjusting the industrial structure and promoting green technology innovation, the positive impact of improving air quality can effectively boost economic growth. It also improves the labor supply to achieve an increase in per capita GDP in the region. Because the positive environmental externality is not the primary approach, its effect through the intermediary chain is relatively small compared to the overall effect, but it still exists.

The research team, consisting of Yue Li, Ting Ding, and Wenzhong Zhu (2022), conducted a study on the practical contributions of green credit to sustainable economic development in China. The study affirmed the observations made by foreign scholars regarding the beneficial relationship of green credit policies with financial model innovation, scale effects, green technology advancements, technological progress, and cost reduction. All these variables yielded positive outcomes for sustainable economic development and environmental

improvement. It can be said that green credit represents a sound step towards mitigating the adverse environmental impacts of short-term and long-term economic and industrial development. Currently, the general situation in China and other developing countries shows improvement in the implementation of green credit policies but has not seen remarkable progress in financial accessibility for companies. Specific research is needed to assess the benefits for small and micro-enterprises, instead of primarily focusing on pilot programs aimed at environmental concerns in general. This approach aligns with practical applications for businesses and generates new value in pursuit of sustainable economic development. Green credit aims to promote advancements in green technology, energy efficiency, and reduce industrial redundancy through two primary mechanisms: industrial development and environmental regulations. Green credit in large urban areas, in the context of urbanization, has bolstered sustainable economic growth and human resource improvement. Furthermore, green credit in the industrial production structure contributes to pollution reduction, carbon limitation, and the exploration of new sustainable energy sources. The research conducted by this scientific group aligns with findings from various studies regarding the impact of green credit, following a U-shaped curve. Initially, it decreases due to the allocation of capital for technology and green energy development. However, it later increases as long-term development incentives effectively control negative impacts such as cost-cutting. To support the development of green finance, the research suggests the need for close collaboration and information exchange between banks, businesses, and the government through the creation of integrated information support systems to standardize green credit. In the early stages of development, it is crucial to enhance high-level technological expertise and workforce, such as specialized management, business activity analysis, and risk management, to handle the balance between economic, environmental, ecological, and social interests effectively. The government plays a crucial role by introducing legal frameworks supporting environmental finance, including accountability enforcement, and imposing strict penalties for environmental damages caused by businesses. Conversely, supportive policies like subsidies and tax exemptions for sectors involved in green financial models aimed at sustainable economic development can be considered.

Another study on green credit in China by the research team of Wei Yin, Zheyi Zhu, Berna Kirkulak-Uludag, and Yaping Zhu (2020) conducted risk assessments of green credit for sustainable economic development involving relevant parties such as banks and the state. While green credit is a prevalent method in green finance, environmentally friendly projects require additional support from the government and risk assessments for long-term planning. China has introduced policies encouraging financial organizations (specifically, the banking sector) to shift their credit support away from heavily polluting and energy-consuming industries toward environmentally compliant enterprises, guided by the "Green Credit Guidelines" documents. With an existing ecosystem in place, banks, especially large state-owned commercial banks, can lead in the proliferation of green bonds and green credit. Banks have the potential to reach out to small, new, and specialized business model enterprises. As the government promotes green credit packages, it can reduce the environmental burden on the government budget, thereby fostering sustainable economic growth. Many studies have confirmed that green finance is a long-term investment with a relatively long payback period (Ho, 2018). In practice, long-term loans increase the risk for banks, so the government needs favorable policies to encourage green credit. However, research models exploring the relationship between risk within banks and green credit lending have determined that the likelihood of banks defaulting on green credit loans is relatively low. The conclusion drawn from this research sets a new premise for green credit projects, coupled with the resolute stance of the Chinese government, differentiating China as a nation that prioritizes the environment. In the government's green finance plan, banks take the lead. Green credit, along with government support, opens opportunities for commercial banks and foreign banks operating in China to carve out a secure and efficient niche, making China a leader in green credit within the region. Furthermore, the Chinese government should consider issuing green bonds to reduce reliance on bank loans issued by financial institutions. Green finance can be diversified by promoting green securities and other financial instruments. On the other hand, capital mobilization should be diversified, suggesting selling high-risk green credit loans to suitable investors. Banks can enhance transparency and balanced accounting liquidity to attract new environmental projects without violating requirements. Finally, the financial information system must ensure accurate information, market transaction security, and improvement in credit guarantees for capital providers.

Haiyan Niu and colleagues' research in 2022 on the relationship between green credit and the green transformation of businesses builds upon the accumulated findings of many scholars regarding the impact of green credit across various dimensions such as the economy, businesses, banks, and government. China's economy has made significant strides in recent years to become a leader in production and technology. Environmental protection and the reduction of severe pollution in China have been carefully considered by the government as part of a long-term strategy aimed at developing a high-quality economy (Xing, 2019). From an environmental perspective, this reflects a correct and determined direction of leaders who exhibit a long-term vision, utilizing green credit as a key component of green finance. Green credit serves as an effective tool for the government to encourage businesses to transform and upgrade their operational models to be more environmentally friendly. By utilizing preferential capital for their financial activities, businesses can align their operations and production with the "green" criteria of projects. Enterprises are supported in choosing more sustainable business models while simultaneously reducing financial pressure on green projects due to large-scale and long-term investments. Green credit is often associated with regulations and standards related to environmental and social protection. Implementing green credit projects helps businesses comply with relive (Lu Xing, Minggao Xue, Mingsheng Hu 2019)ant legal requirements and meet sustainability standards, potentially reducing legal risks and enhancing a company's compliance. Additionally, the government has been able to effectively manage corporate responsibility for the environment. For instance, by the end of 2020, the total green credit debt of 21 major banks in China had surpassed 11 trillion Chinese yuan. When considering the proportion of credit capital in total investment for green projects, it can be observed that the "greenness" of these 21 major banks has contributed to saving over 300 million tons of standard coal and reducing over 600 million tons of carbon dioxide emissions annually (Chai, 2022). Green credit and government responsibility have an impact on upgrading and transforming highly polluting green credit businesses. Specifically, government subsidies and corporate debt costs play an intermediary role in this process. Results from intermediary impact models and regulatory effects indicate that government subsidies and debt costs can positively influence the transformation and upgrading of green credit enterprises, as well as highly polluting businesses. Green credit policies are believed to improve micro-management effectiveness through the management of debt costs and government subsidies, while also providing development opportunities for businesses to achieve mutual benefits in pollution control and efficiency enhancement.

According to the research topic by Nguyen Huu Anh and colleagues in 2022, the promotion of green finance has been widely adopted by commercial banks both in Vietnam and abroad in recent years. The research project highlights the significant role of commercial banks in implementing green finance in the transformation of businesses and stakeholders towards an evolving model of sustainable economic development. Based on the findings from a survey conducted on six commercial banks with domestic and foreign capital in Vietnam, the research team points out that the most essential role of these banks in the investigated cases is to complete the necessary financing procedures for projects that promote sustainable development and mitigate the negative impacts of climate change. Additionally, commercial banks also contribute to the formulation of green finance policies and raising awareness of sustainable development. The research also indicates that the initial decision to adopt green finance in Vietnamese commercial banks stemmed from collaboration with international associations and communities. Furthermore, they embrace and promote green finance because it represents a future trend in any economic region. Concurrently, the investigated cases unanimously agree that COVID-19 has directly and indirectly negatively affected the promotion of green financing by foreign-owned banks and domestic banks in Vietnam. Using an empirical research approach to examine the establishment and implementation of green finance in commercial banks, this study can assist standards setters and managers in commercial banks in understanding the dynamics at the time of the research, the challenges posed by COVID-19, and the motivations and obstacles related to green finance.

When researching the role of financial inclusion, green investment, and green credit in sustainable development in Vietnam, Nguyen Van Hoa, and colleagues (2022) have pointed out that Vietnam's economy is a socialist-oriented market economy with three sectors: Agriculture, Industry, and Services. Most of Vietnam's economic sectors require a significant number of resources, energy, and technologies that can have environmental impacts. Despite some initiatives aimed at sustainable development, challenges persist and require more attention. The study utilizes the Augmented Dickey-Fuller (ADF) test to check for stationarity and the Autoregressive

Distributed Lag (ARDL) model to investigate the relationships between variables. Selecting an appropriate lag length when using the ARDL model is crucial to manage the potential issues of "cointegration" and "endogeneity." The research comprises 35 observations for each variable, with green credit and sustainable economic development. The growth rate of Gross Domestic Product (GDP) is used as a proxy for sustainable economic development, while green credit is measured as a percentage of GDP, representing environmental pollution prevention credits. According to the study's findings, after being verified using the ARDL model, comprehensive finance, green investment, and green credit have a positive impact on the development of sustainable economic development in Vietnam. Specifically, concerning green credit, the research emphasizes that environmental development is a key factor in the country's sustainable development, and achieving environmental development requires significant capital, which can be obtained using green credits. Moreover, when financial institutions expand credit to businesses under favorable conditions to acquire environmentally friendly technologies, clean materials, and other environmentally friendly resources, it will promote the sustainable development of businesses, thereby contributing to the overall sustainable economic development of the nation.

## 3. Conclusion

Sustainable development is an inevitable trend in every nation's development process, particularly in developing countries. Focusing on sustainable economic development is of paramount importance, especially in countries grappling with rising inequality and poverty. Economic growth goes hand in hand with financial growth. Therefore, to move towards a sustainable economy, the application of green credit is essential and crucial. However, after reviewing domestic and international studies, our research team has identified several research gaps as follows:

Firstly, most studies on the impact of green finance or green credit, such as those by Ayesha, Ehsan & Zaki (2022), Nana and colleagues (2020), Chen C and colleagues (2021), Wei Yin and colleagues (2020), Nguyễn Hữu Anh and colleagues (2022), have used data from before and during the COVID-19 pandemic. However, before the outbreak of the disease, many economies worldwide were in a period of stable growth. The economies of many developed countries were experiencing growth, and even some developing countries were showing positive signs. The COVID-19 pandemic caused a global economic recession, with business closures, disrupted supply chains, and widespread job losses. This severely affected the economic growth rates of many countries. Therefore, relying solely on data from before and during the COVID-19 pandemic makes the research lack timeliness and updates.

Secondly, research topics are often investigated within either a too broad scope, such as a continent, as seen in Ayesha, Ehsan & Zaki (2022), or within developed countries like China in Chen C and colleagues (2021), Wei Yin and colleagues (2020). However, the objectives of sustainable economic development differ among developed and developing countries. Developed countries typically have a higher level of economic development and the capacity to focus on maintaining and optimizing their existing economic systems while improving environmental and social indicators. Developing countries, on the other hand, are often in the early or middle stages of development, with their primary objectives being rapid economic growth to alleviate poverty and enhance the quality of life. In domestic studies, the research scope of topics is often narrow, focusing only on specific cases like domestic commercial banks in Nguyen Huu Anh and colleagues (2022). Or when studying the impacts on sustainable economic development in Vietnam, Nguyen Van Hoa, and colleagues (2022) not only concentrate on the effects of green credit but also investigate the impacts of various variables on sustainable economic development in Vietnam. Whether the research scope is too broad, or too narrow, or examines impacts from multiple angles on sustainable economic development, this can lead to inaccuracies and lack of objectivity in studying the specific impact of green credit.

Thirdly, when researching the impacts of green finance in general and green credit in particular, research topics often investigate their effects on the overall economy or sustainable development in general, without a specific focus on sustainable economic development. Therefore, our study draws lessons from authors like Nana and colleagues (2020), and Chen C and colleagues (2021).

**Conflicts of Interest:** The authors declare no conflict of interest.

**Informed Consent Statement/Ethics approval:** The purpose of this study is to investigate the fundamental background of the impact of green credit on sustainable economic development. There are no known risks associated with participating in this study.

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