From Profit to Planet: Analysing the Economic Outcomes of Banking Sector's Commitment to Green Energy Investments

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Overview

Global energy investments are set to exceed USD 3 trillion, with two-thirds set to go towards clean energy investments (IEA, 2024). The banking sector is experiencing a transformative period as it enters the green development sector (Liu & Zhao, 2024). Banks have the opportunity to fill a gap within the green financing domain that other sectors are failing to monopolise, which leads to the maximisation of investment opportunities from the banking sector in different industries. Banks can increase efforts to encourage sustainable practices by offering incentives to businesses to access benefits in the banking sector. By offering these incentives, the banking sector further contributes towards the development of green technology and a sustainable transformation for the economy. This paper examines how the banking sector's influence can foster green investment among large companies to persuade them to invest in green development.

Various factors contribute to green development. However, this study uses the German Development Institute's definition of green finance to encompass the characteristics that will guide its approach to green development. The definition encompasses financing of private and public initiatives aimed at promoting environmentally benign goods and services while mitigating current and future environmental and climate risks that fall under the category of Green Finance (GF) (Lindenberg, 2014). The paper uses the Green Growth Index, sourced from the Global Green Growth Institute, as a representation of green finance. Additionally, green finance is proxied by the Green Growth Index as the dependent variable in the analysis. A Two-step System Generalised Method of Moments (Two-Step SYS-GMM) model is used for the period 1995 to 2023 using a global sample. The results are in line with the expectations that higher investment by large companies will cause the level of green development to rise. Furthermore, the banking sector's contribution towards green development will increase the level of accessibility of green technology. More effective incentives by banks will also lead companies to invest more in green development. Identifying these incentives that banks can implement will allow policymakers to develop high-impact strategies that will accelerate the adoption of green technology.

Methods

The study used panel data; it accounts for differing country-specific factors by using a country-fixed effects model and then transitioning to a two-step SYSGMM. The two-step SYSGMM model is employed to address the endogeneity and improve the efficiency of the estimations provided by the analysis. Data used for the study is collected from various economic sources; The World Bank was used to collect data on control variables for the study, Bloomberg provided country-specific data for green bonds issued, the Global Green Growth Insitute has a green growth index that is used for the measure of green financial growth. Data was collected for the period 1995 to 2023 for a global sample. This period was chosen to accommodate for the shortage of green data prior to 1995. However, it still incorporates significant events in recent history, such as the launch of the first green bond market in 2007, when a European investment bank issued the Climate Awareness Bond (UN Awareness Program, 2022).

This study's main equation is based on the work by Qin et al. (2023) that examines the effects of financial institutions on the green energy transition worldwide. Our study's innovation lies in using the banking sector instead of financial institutions as proposed by Qin et al. (2023). This will provide a more specific overview of green finance within financial institutions rather than a wide overview. Hence, our econometric model can be expressed as:

$$GGI_{it} = (\beta_0 + \mu_i) + \beta_1 GreenBond_{it} + \beta_2 GreenTech_{it} + \beta_3 lnGDP_{it} + \beta_4 POP_{it} + \beta_5 TradeOp_{it} + \epsilon_{it}$$

where subscript i represents the country, t represents the year, μ_i accounts for the country fixed effects and ϵ_{it} is the error term of the model.

To account for endogeneity, the study uses a Two-step SYS-GMM model. The model uses a green index (GGI_{it}), as mentioned above, as the dependent variable to account for green financial growth. Green Bonds ($GreenBond_{it}$) is used as a proxy for green finance, and the number of green bonds issued will highlight the growth. The other main variable used is green technology ($GreenTech_{it}$), indicating the level of green development occurring as it will observe the rate at which green technology is developed within an economy. To account for any additional changes

in the data and consist of, we control for Gross Domestic Product per capita (GDP_{it}), Population size used to account for growth levels (POP_{it}), and Trade Openness ($TradeOp_{it}$) to account for technology entering the markets.

Results

We expect a positive relationship between the number of green bonds issued within a country and the value provided by the green growth index. Improving banking policies to promote green technology adoption can result in significant economic growth. The current literature mainly focuses on the impact that financial institutions have on the level of green development. However, this study focuses on a smaller sample that can influence the future of green finance. This will lead to the accelerated adoption rate of environmentally friendly technology as well as the accelerated transition to a greener economy (Pais-Magalhaes et al., 2022). Moreover, this is expected to lead companies to a greater level of corporate competitiveness due to long-term cost savings. Higher levels of employment could be observed due to the increased need for the development of green infrastructure. The advancement of green technology will benefit the economy in the long run by increasing sustainable economic growth, enhancing competitiveness and driving innovation

Conclusion

Global warming is starting to affect every sector of the economy. Thus, the expansion of green technology is vital in counteracting the devastating effects, such as the rising temperature. Reducing CO_2 emissions and improving the quality of life is a priority globally. The United Nations developed the Sustainable Development Goals to ensure global cooperation for a better future. To progress towards this objective, it is important for governments to work alongside the private sector. This remains possible through policies, laws, and cooperation from both sides. Developing new green technology is expensive; however, with further research and development, the costs of green technology can become more affordable, thereby assisting in partially easing pressure put on the supply chain and reducing prices. The study examines the cooperation of the banking sector to leverage companies to further invest in green technology, which plays an important role in the growth of green development. Expanding GF and broadening the understanding of this term could lead to the price of this technology decreasing, leading to new markets with less capital available looking to reinvest their capital into green development. The primary challenge remains in the formulation of policies that can effectively encourage large companies to reinvest capital into the development of green technologies, fostering a sustainable transformation for the economy. This study is necessary as it will provide a deeper understanding of how the banking sector, in conjunction with the public sector, can provide incentives for a sustainable transformation.

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