

Green Finance and Economic Growth in Emerging Markets: A SWOT Analysis

Olfa Zarrad¹, Nesrine Gafsi²

Abstract

This paper explores the critical intersection of green finance and economic growth in emerging markets through a SWOT analysis framework. As global economies increasingly pivot towards sustainable development understanding the dynamics of green finance becomes essential, particularly in regions where financial systems are adapting to environmental challenges. The study reviews existing literature on the role of green finance in promoting economic growth examining factors such as agricultural CO2 emissions, renewable energy integration, and the impact of financial development. Key findings suggest that while green finance presents significant opportunities for fostering sustainable economic growth, it also faces challenges such as regulatory barriers, limited access to financing, and need for robust institutional frameworks. This analysis aims to provide insights into how emerging markets can leverage green finance to drive economic prosperity while addressing environmental concerns, ultimately contributing to the broader goals of sustainable development.

Keywords: *Green Finance, Economic Growth, Emerging Markets, Sustainability, Financial Development, SWOT Analysis, Climate Change, Innovation.*

Introduction

Emerging markets are having difficulties in adopting green development, due to the lack of technology investment and financial support. On the other hand, the economy of the traditional fossil-fuel industry takes up a larger proportion in E7 markets. The significance of green development takes on an increasing level during the industry shifting process. 'Decoupling' is suggested as an effective strategy in promoting low-carbon competitiveness of their industries. Environmental problems can be mitigated by industrial and trade policies. International industrialized countries may promote green industries in less developed nations through import restrictions and technology transfers. Nevertheless, the economic interests of emerging markets may be impaired under the domination of industrialized economies (Liu et al., 2022). Ten of the most populated emerging markets, ranked by GDP per capita and known as the E7 since a banknote naming, include Brazil, Russia, India, China, Indonesia, Mexico, Turkey, Iran, South Korea, and Pakistan. Emerging markets are characterized by a fast-growing population, high and constant economic growth rate, and fast entering urbanization. Despite the energy and technological advances of green industry, environmental damage is gradually becoming severe. Recently, great climate change and global environmental protection became international issue. In September, 2015, the UN Summit jointly established the '17-A Global Sustainable Development Goal. Zero poverty and zero hunger are the ultimate goal of this UN Summit. In Goal 13, the member states pledge to 'take urgent action to combat climate change and its impact'. This leads to a consistent consensus on the amelioration of air, water, and soil pollution and the slowing down of global warming.

Literature Review

Green finance has emerged as a critical area of research, particularly in its relationship with economic growth and sustainability in emerging markets. The interplay between green finance, agricultural practices, and economic development has been a focal point in various studies.

¹ Department of Finance, College of Business, Imam Mohammad ibn Saud Islamic University, (IMSIU) Riyadh, Saudi Arabia, Email: oazarrad@imamu.edu.sa

² Department of Finance, College of Business, Imam Mohammad ibn Saud Islamic University, (IMSIU) Riyadh, Saudi Arabia., Email: NWGafsi@imamu.edu.sa, ORCID: 0000-0003-3915-9396

Gafsi and Bakari (2024) investigate the impacts of agricultural CO₂ emissions, agricultural exports, and financial development on economic growth in East Asia and Pacific countries. Their findings indicate that financial development is significant in moderating the effects of agricultural emissions on economic growth, thereby underscoring the necessity for sustainable agricultural practices that can enhance export competitiveness while simultaneously reducing emissions.

In a subsequent study, Gafsi and Bakari (2025a) delve into the nexus of renewable energy, CO₂ emissions, and economic prosperity within G7 countries. This research emphasizes the integration of renewable energy sources into financial frameworks, highlighting their role in promoting economic growth and achieving global sustainability goals.

Extending the discourse to the African context, Gafsi and Bakari (2025b) analyze how agricultural raw material imports affect agricultural growth in 48 Sub-Saharan African countries. Their results suggest that strategic import policies, supported by effective financial instruments, can enhance agricultural productivity and stimulate economic growth, thereby contributing to the broader agenda of sustainable development.

Moreover, Hlali and Gafsi (2024) explore the relationship between digitalization and sustainable development in Africa. They argue that the proliferation of digital financial services can significantly improve access to green financing, thus enabling more sustainable agricultural practices and fostering economic growth in emerging markets.

In addition to the discussions surrounding green finance and agricultural practices, the concept of customer and market orientation plays a critical role in enhancing the performance of financial products, including Islamic insurance. Gafsi (2025) explores how understanding customer needs and market dynamics can significantly improve the effectiveness of Islamic insurance in Tunisia, highlighting the importance of adapting financial services to meet specific market demands. This aligns with the broader objective of green finance to ensure that financial solutions are tailored to the unique contexts of emerging markets.

These studies collectively highlight the multifaceted relationships between green finance, agricultural development, and economic growth. They suggest that integrated approaches are vital for fostering sustainable development in emerging markets, thereby providing a contextual foundation for understanding the SWOT analysis of green finance in this domain.

Understanding Green Finance

Climate change is one of the greatest global challenges, as immediate action is needed to combat it. Many countries and regions have adopted intuitional policies to address climate change and mitigate harmful emissions. Sustainable development includes a balance between maintaining growth, eradicating poverty and social inequality along with environmental concerns. Countries have taken policy measures to reach environment and sustainable development goals, ranging from supporting clean technologies to implementation of carbon pricing mechanisms. Some emerging markets, with policy measures taken in the past decade, have had problems implementing these successfully. Selecting suitable policy practices and use of enabling conditions is vital for successful implementation of environment and growth oriented policy measures. Green finance is a new approach that seeks to mitigate and bring solutions to these problems and to tackle with existing capital constraints and to create sufficient capital inflow for climate change technology. Consequently, this new practice has created a new policy paradigm in emerging markets as well.

China is the start-up originator of green finance and growth oriented policy measures among emerging markets. A considerable increase in the literature about growth, environment and growth-oriented policy measures throughout the globe can be observed. This paper seeks to redress this omission and deliver a comprehensive review of the extant literature with a special focus on the socio-economic context of the Chinese economy. It aims to cumulate the knowledge and evidence linking green finance and growth-oriented policy measures with sustainable development in emerging markets, focusing on China. The paper provides comprehensive insight into green finance and growth-oriented policy measures by evaluating the related literature within this framework. The paper divides the study into four main categories: background

and development of growth, environment and growth-oriented policy measures in emerging markets, growth-oriented policy measures in China, green finance in China and large scale nationwide green projects, and a SWOT analysis of green finance of all these fields combined.

The Role of Economic Growth in Emerging Markets

In the last two decades, since the Asian financial crisis, emerging markets have recognized the need to diversify their sources of external finance. In some countries, foreign capital inflows have become the most important source of external financing, thus driving financial deepening and change in the structure of interest rates. During the same period, the mainstream of international financial development literature has shifted from liberal trade and capital movements to finding structural adjustment to domestic markets and financial intermediaries mechanisms in enhancing growth, efficiency and stability in emerging economies. Here then, further reforms are necessary to ensure strong economic fundamentals, build investor confidence, and enhance resilience in emerging economies. Meanwhile, a series of crises have demonstrated that emerging markets' off-shore bond and stock markets can quickly become a dangerous source of negative shocks on account of the volatility of global capitals. However, such markets continue to deepen rapidly. Beyond industrialized countries, emerging markets have seen the highest growing rates of their green bond issues. Yet, compared to green bond main market, the liquidity and the transparency that characterizes the investment in green bonds have to be appropriately considered in light of their distinctive feature. In addition, green bond markets and other environmental financial endeavors in developing countries are also facing obstacles and challenges at their integration into the global bond market. It is necessary to investigate whether economic growth has any influence on developing countries' green finance.

SWOT Analysis Overview

This article explores the relationships between green finance systems and economic growth in emerging markets. By analyzing the global factors leading to the expansion of green finance systems, progress and conditions of green finance systems in emerging markets are reviewed. Also, this article assesses the effects of green finance systems on economic growth in these markets, and analyzes the competitiveness of green finance systems with a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis approach.

The Paris Agreement adopted in 2015 by the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change, which aims to communicate efforts to limit global warming to less than 2 .C to pre-industrial levels, has become a driver of the expansion of green finance (GF) activities. Its implementation requires significant investment resources, and the mobilization of loans, investments and grants for climate change adaptation or mitigation, and the development of suitable legal and regulatory frameworks have become important issues (Hu et al., 2022).

Consequently, various countries have established GF systems to attract investments, loans and grants for environmental and climate actions. While major providers of financial capital have adopted diverse approaches as instruments of their GF systems, various GF funds financed by public and private sectors have been established worldwide.

Strengths of Green Finance

Emerging markets leverage the economic benefits of green finance while alleviating the challenges posed by artificial intelligence (AI) to growth and development. As a result, all emerging markets have shown significant development in the finance sector. However, little research is available on green finance, while their advancement in AI remains critical. Therefore, this study examines the readiness of green finance in emerging markets supported by SWOT analysis, while possible implementations and policies are discussed. Accordingly, this paper makes dual contributions to economic and finance literature; these are the earliest attempts to investigate the relations between green finance and green AI in the context of emerging markets and the potential sustainability implications for currently underdeveloped countries. This paper also presents new empirical evidence on the interactions between green finance and AI in emerging markets, extending diverse research on green finance, fintech, and development with an explicit focus on AI. The

study is operationalized in a panel data context with a board technique for the East and South Asia group of emerging markets over 17 years from 2003 to 2019. The analysis encompasses the main measures of green AI, credit, and investment variables and control variables with a focus on green finance and the finance sector in a broad sense. The extent of green AI innovation is explored in credit markets that provide green loans and investments leading to environmentally compatible projects. Findings highlight that green investment is positively influenced by AI advancements in the finance sector, while green credit is positively affected in more advanced economies through denser green AI financial innovations (Wu et al., 2023). Financial technology (Fintech) and green finance have grown rapidly in support of green growth. China is selected to examine these linkages considering that it is the world's second largest economy with environmental safety issues due to its rapid and unsustainable development. Despite enhancing economic growth, this has fostered air, land, and water pollution, resulting in high CO₂ emissions. Fintech advances in various areas, notably in credit markets that facilitate green credit. However, comprehensive credit is unavailable in existing studies and vulnerability to omitted variables is suggested. To improve these ultimate and mediating link processes, the study decomposes fintech into landmark green credit and credit, green investment and investment, and green technology innovation and green finance innovation. The different variations of the Granger causality examination and the impulse responses were employed. An examination of China's situations is also offered with suggestions for the protection of cleaner and safer environments.

Access to Capital

Aspects related to institutional aspects and market size hinder growth for emerging countries, although the demand side, in terms of access to capital, is potentially positive. Countries' economic growth is found to rise 0.1% for each additional 1% share of green bonds on global green bonds' transactions. Renewable Energy ETFs correlate with a statistically significant improvement in economic growth for the first years and countries grow by 0.05% more in the 3 years following the purchase of Renewable Energy ETFs than countries in the control group. However, overall investment in green sectors and green IPOs do not seem to have any effect. There is no robust evidence for a positive relationship between climate change-related risks and economic growth. Growth of green finance products is more likely an opportunity for investors of developed economies at the expense of emerging economies (Fanelli, 2019). An increasing number of studies underlines that green bonds portfolio provides better diversification benefits and higher risk-adjusted returns. Additional demand for these assets is superimposed on the already complicated context of low bond yields and high duration risk. Low yields for these bonds severely hamper their effectiveness. Main concern for investors considering low-carbon projects is the high level of uncertainty related to policy impositions and reserved profits. Most interest is focused on climate mitigation, such as green bonds.

Countries tend to present stronger attachment to green finance if they are accused of having a high amount of GHG emissions due to economic activities. From a policy viewpoint no advantages should be given to high-polluting companies in terms of access to the guarantee fund. This is to promote a greener financial market since companies may shift their focus on the resources to polluting activities if on the verge of going bankrupt. Conversely, access to the guarantee fund should be granted to bond issuers of green projects to encourage this approach in green investment. The first exploratory SWOT analysis regarding green bond issuers in emerging markets is performed. While some strength and opportunities are given by the international window of this market, there are some aspects related to institutional aspects and market size that hinder growth for these countries (Corduneanu & Raisa Iovu, 2008).

Job Creation

The creation of new job opportunities is one of the most attractive socio-economic benefits of investments in Green Tech. Renewable energy investments create a relatively large number of jobs per million dollars invested compared to fossil fuels. Generation of electricity from renewable energy sources is associated with different socio-economic benefits that go beyond direct and embodied emissions. The creation of new jobs in Brazil has become an important issue for society and governmental institutions.

Comparing with the fiscal year of 2017, 64,000 new jobs were created in 2018. However, 90,000 new employments in a single year in Brazil represent a significant increase in relation to the job creation caused

by such investments. The extremely high number of new jobs in 2018 can be then considered as a side effect and a reaction to the implementation of the so-called fast track incentive and transformation of the TODs procedure.

Brazil plays a major role in the worldwide market for ethanol, being the second largest fuel producer from sugarcane crops. Growth of FAME plant production was seen as an opportunity for local job market in Brazil, since the country is the largest producer of raw soybean oil and raw and refined oil of beef and chicken. The swot analysis shows that the biofuel investments in Brazil have more positive aspects than limitations (Simas & Pacca, 2013). The ecological portion is responsible for 30% of new job generation in the first years. About 3% of the new jobs are generated in the air-washing facilities. Impacts in the employment market can be seen as the major catalyzer for the reduction of negative traits.

Sustainability Initiatives

Invariably cultural traditions have been bound to change in the face of institutionalised policies of funding exercises, even though elements of commitment to artistic effulgence and literary creativity have often evolved in contexts of apathy and disputation. However, the efficacy of policies aimed at funding commitment to nurturing of the fine arts and promotion of inventive creation are likely to flounder in circumstances of greater adversity, if they are vulnerable to the accusation of being the result of “blasphemy against religion”. Conversely, the renunciation of significant commitments to the aesthetic expression of popular heritage by insufficient, ambivalent or negligent governance compromises broader opportunities for invigoration of a sector facing progressive global homogenisation due to the ubiquity of digital advancement (O. Nyachanchu & K. Cheruiyot, 2017).

Creative environmental design, in combination with sustainable initiatives of the neighborhood centered at the Fine State Bank Ltd., offers a model of urban harmony and peace in the midst of social maelstroms which stands in contrast to the preponderance of capricious destruction and random renewal occasioned by financial developments. Successful businesses invariably attempt to achieve a competitive edge in every possible sphere of operations. This implementation of advanced principles of energy management reflects a commendable recognition of the advantages to the environment and cost-effectiveness of sustainable measures, with significant benefits to profitability and market competitiveness. Multiple industrial and commercial enterprises are represented within a banking portfolio, and it is unwise to rely on a single sphere of economic activity whose unsustainability will likely impact the financial institution severely but whose prosperity is very dependent on the sustained pursuit of sustainable actions. Smaller clients embarking on innovative respect for the environment would be encouraged and transformed into viable pieces of collateral, while at the same time the expansion of a clientele that values the principles of sustainable development is promoted; these would create a countercyclical kitty of funds that could be piped into enterprises following sound sustainable principles, é “bastions of greening” that would yield strong returns when environmental fragility and competitive austerity make the older traditional branch vulnerable (Dzomonda & Fatoki, 2020).

Weaknesses of Green Finance

This paper examines the potentials, as well as the challenges and bottlenecks of emerging markets, in facilitating the growth of green finance and the integration of green financial instruments in the financing of green projects. A strengths, weaknesses, opportunities, and threats (SWOT) analysis framework is developed, based on a comprehensive review of the related literature. The SWOT analysis reveals that while green policy, awareness, support of stakeholders, and financing capacity may count as the strengths, the challenges can be mostly ascribed to the deficit of macroeconomic fundamentals, banking competition, bond market, low-carbon finance, and other environmental conditions. The analysis also shows that the capture of the opportunities may still be staggered by the underdevelopment of the green financial system and standards. Moreover, to preferably induce green financing generate behavioral changes in investors, it is critical to address the bottlenecks associated with the preferences of banks, investors, regulation standards, and low-carbon emphasis.

Recently, green finance has gained considerable attention globally both in developed countries and the emerging and developing ones alike. Given the burgeoning growth of emerging economies, it has significantly become a main focus in these markets too. Green finance integrates economic decisions with environmental decisions to arrive at socioeconomically optimally beneficial outcomes. It covers a wide array of financial services like credit issuance, bond underwriting, insurance coverage and investment, asset management, and consultancy and brokerage services in the areas of environmentally related activities, including sustainable use of resources, biodiversity, environmental protection of ecosystems, energy efficiency, pollution prevention and control, eco-friendly agribusiness, fishery, forestry, and monitoring and auditing of enterprises elemental regulatory compliance with local legislation. The term also refers to a comprehensive range of financial investments that flow into new public and private green growth and sustainable development projects and initiatives, and environmental products that encourage a more sustainable economy characterized by lower emissions and resource utilization for optimal economic growth ((Atif Nawaz et al., 2021)).

High Initial Costs

Considering the economics of emerging markets, distinct strengths, weaknesses, opportunities, and threats can be identified. The primary disadvantage is the relatively high upfront prices, a significant hampering factor for emerging markets.

Given the positive composite risk index, low oil prices, and high initial costs, E7 countries are 2.967 times more likely to promote LC competitiveness in environmentally friendly sectors than to adopt new environmentally friendly resource usage within existing sectors. It may also help them to diversify their economies, reduce the volatility of oil imports, and improve their trade balance, which is likely to increase environmental sustainability (Liu et al., 2022). Although it is possible to increase the use of environmentally friendly resources by the new technology route without decreasing the CR index, the use of the cap-and-trade system to reduce this index is likely to fall by 4.244. Technological advances will assist this effort, and E7 countries are preparing to promulgate these systems supplying these technologies to more environmentally friendly sector entrants. Given that the CR index has no effect, environmentally friendly industry competitiveness is 9.472 times more likely to be promoted. In recent years, industries have emitted fewer greenhouse gases, adhering to the strict environmental regulations set by the government. Not all these measures, however, tend to adopt new environmentally friendly resource usage within their industries, which explains why E7 countries are 8.439 times more likely to support LC competitiveness in environmentally friendly industries. Nevertheless, starting to adopt new resource use is a good way to move to a more environmentally friendly resource usage pattern. Some evidence suggests that, at present, the proportion of public funds for green versus general innovation in industrialized countries is rising, though still low. Such a policy is significantly stimulated by the government providing substantial financial assistance for green innovation. So far, they have many benefits, reducing GHG emissions.

Lack of Awareness

Green finance can help preserve the environment while guiding the transition to an inclusive and sustainable economy. Like in developed western countries, the challenge in China's capital market is to provide financial products and services that support the green transition. Recently, China's green bond market has gained considerable popularity among both corporations and public institutions. However, many green bond varieties in China do not meet global standards for green bonds. There is a funding difference between Chinese and Western green bonds beyond the credit issue, and the issue costs of Chinese green bonds are higher. This research compared green bonds, which were the same in other aspects, in China and the US to focus on the issue costs issue. This research is composed of one of the first comprehensive researches on issue costs for Chinese green bonds (Saravade, 2018). Financial development plays a significant role in how environmental conditions are affected by market capitalization, low-carbon expenditure, credit-to-GDP gap, trade openness energy use, and financial openness in a panel of 20 countries. The higher the threshold level of carbon concentration, the more E7 economies increase low-carbon financing and harden the relationship between financial depth and carbon pollution. To respond to the ongoing European experience of the Fourth Industrial Revolution, the focus should be on enhancing productivity,

competitiveness, and facilitating trade-in higher valuation goods. Between 2017 and 2018, the contribution of green bonds to economic activity, emissions reduction, and upgraded job formation was estimated by the analysis of economic-output multipliers and sale proceeds. It is important for the financial structure of the Indian economy that the policy-makers are properly brief and the market participant is aware of the significance of green bond (Liu et al., 2022).

Regulatory Challenges

India is an emerging market, promising mutual benefits to investors. However, although designed to promote sustainable development, the national stock market (NSE) is hardly positioned with the environmental aspect of sustainability. In accord with the RBP, the business sector is joining the campaign to explore the encouraging prospect of the country's emerging stock market in the green arena. Greenly rated companies can grow primarily financially profitable as the investment picks up with corresponding decreased in the cost per unit of trade. But the experimentation is also modifying for the subsequent crash, as investors are inclined to further step up their investments that squeezes tightening regulatory affairs (Saravade, 2018). However, Nifty 100 stocks exhibit a better result with the dispersion of volatility compared to Nifty 50 stocks, though the sharing of stocks reveal no such advantages. By deregulating and disinvesting the economy, the country's policy is focusing on long-term growth in order to fulfill its ambitions, so that the examination center is shifted to how green stocks are affected from the growth perspective. For this simple reason, two approaches have been employed. Policy support and promotional opportunities are being sought after, examining the potential benefits of green investments by companies in contrast to their traditional counterparts, assuming no difference in company characteristics, focusing on stock price performance of BSE listed companies in the water and renewable energy securities. Furthermore, the yield gap of green investments over traditional ones are also explored, offering new policy insight into good fiscal and monetary policies intended at inspiring the expansion of the green financial market. Empirical evidence from 10 emerging markets is reviewed to determine whether international hot money inflow increases market efficiency in these emerging markets. Significant critiques of the foreign capital's benefits, emphasizes on the necessity for effective regulations and distinctions between various types of circulation are discovered in this review-ready comprehensive list of references after other sections. Green finance is booming. The central role of the financial system is recognized in achieving an environmentally sustainable and socially fair future. Consideration of how finance interacts with environmental and social dynamics is increasingly common in academic and policy discourse. At the same time, financial flows have implications for how environmental risks and opportunities develop and are managed. This realization coincides with mounting concern about not only the acceleration of global environmental change and the exacerbation of its consequences, but also the increasing links between environmental stresses and global financial markets and institutions. A range of mechanisms by which financial markets and actors might amplify or mitigate environmental risks have been identified.

Opportunities in Green Finance

Emerging markets are looking for alternatives to improve their economies and tackle challenges of all kinds coming its way, and green finance emerges as a solution with a potential of improvement in those areas. Opportunities in Green Finance will now be discussed.

Green finance should bring orientation to awakening and enhancing the environmental investment demand, optimizing and adjusting the structure of financial assets in the future effectively, and promoting the transformation and upgrading of economic structure and industrial structure because construction of ecological civilization, green development and low carbon economy need a large number of investment. According to the regulations and economic development in Oman, the green finance of banking can adopt some methods as follow, it can increase invest in green construction and low carbon technology; Investment and financing in resource conservation, pollution prevention and control and ecological management within the enterprise entities, it can optimize the loan structure and credit structure and encourage credit flowing to the green industry. Therefore, investment of the loaning Projects is focus on the technology, products and projects that are conducive to resource recycling, the improvement of resource utilization efficiency and clean production, and priority shall be given to the environment in line

with the laws, regulations, standards and industry environmental standards. A green credit system will transform economic growth and gradually play a leading role in sustainable development among others such as Clean Development mechanism (Muganyi et al., 2021). Omani Banks can develop and offer financial products and services to encourage the sustainable development, funding environmentally friendly projects or companies that aims to reduce environmental pollutions, increasing the energy efficiency, preserving natural resources and cutting emission of the greenhouse gases and investing in renewable energy and other green products.

Green Finance also referred to the investment in environmental technologies and the commitment of the financial resources to the projects generating ecological benefits. It is meant to contribute to environmental improvement and ecological restoration, and provide the financial and credit guarantee support by the governmental capital through the credit fund to the environmental protection projects. Credit Growth is mainly driven by the increase of the green credits supply with the Banks and the network connections among investment and financing institutions; credit flow into, and it is flowing out from, short-cycle green projects (Saravade, 2018). Although in this model the green bank expands the loaning amount, but the benefits are not as good as expected. Furthermore, there are some interesting observations made: credit connected by a combination with investment and financing institutions will exert a significant positive impact on the green economy; network connections help to promote the render of the credit system to a leading role in relating the performance variables; network connections can cause a change in the performance ranking by the centrality variables. At the end, this model suggests that a green credit system may gradually improve the financing pathway of environmental projects, change the trend of environmental investment funds, and eventually align the development of economy with environmental protection.

Technological Advancements

This subsection examines technological progress as the critical aspect of the SWOT analysis by considering the OLS and GMM approaches for the sample of BRICS economies during 1986–2018. The negative findings evidence that technological improvements contribute to the advancement of financial development in Brazil and India, while no evidence was found for China and Russia. These outcomes suggest that revenue streams should be better addressed by green financial policymakers in order to encourage business growth and economic development in response to cleaner technologies.

International Funding

The discussions on international capital are incomplete without a mention of sovereign wealth funds (SWF). Among the most significant and rapidly scaling investors in the upcoming decade are SWFs. By the end of 2020, SWFs held a collective value of nearly \$8 trillion in assets under management. However, the SWFs investments in sustainable or green assets remain relatively modest. In order to deliver the Paris Agreement targets, the OECD estimates that \$6.9 trillion annually is needed until 2030. SWFs have the potential to play an outsized role in this regard. A variety of banks, asset managers, consulting firms, and development providers are working to mobilize this capital in green and sustainable assets and vehicles. As of yet, SWFs have largely focused on internal governance, which informs decisions on specific investments. A space for collaboration between states encourages stewards to consider climate change impacts on their investments. Despite the obvious ecological concerns, a positive return on capital will be vital in the green transition. There is a compelling case that 'business-as-usual' expect long-term returns to diminish due to increased climate and ecological catastrophes. Indeed, estimates suggest that if the Paris Agreement goals are not met, as much as \$240 trillion in assets may be destroyed in the long-term. A key contradiction is the need to make investments in green or clean assets that may not yield positive returns or incur losses. Although SWFs are well positioned to make loss-making investments, it may be that success and a wide-ranging energy transition will depend upon new partnerships. Indeed, many SWFs have ambitious goals to invest directly into sustainable assets—with all of 1% of their combined AUM planned for this—and other studies suggest that investment needs outpace capacity amongst individual SWFs. Nor is it clear that individual SWFs will have the expertise or capacity to invest at the required rate. Nonetheless, there are numerous discussions between financial institutions and asset managers who have well tested experience in transitioning to sustainable investments. Joint collaboration between SWFs and these asset managers may

be effective. Moreover, the evolving map presents a fresh emphasis on untapped opportunities like sustainable fixed income products. SWFs may also consider partnerships with smaller public investment funds or multilateral organizations to maximize impact. Importantly, SWFs are longstanding and sizeable investors in traditional carbon and infrastructural assets. In some jurisdictions, SWFs have been pondering divestment strategies or carbon caps in line with Paris Agreement goals, which would undoubtedly free capital for reinvestment in sustainable or green energy. It may be especially productive, from a coordination aspect, to engage with those countries and SWFs planning to do so. Finally, transitioning or expanding new mandates in sustainable investments may need engagement with the wider populace, as well as close cooperation between governments and stewards. This may be challenging given SWFs traditionally opaque, but there is evidently a desire among some funds to enhance their social stewardship venture. Efforts here can help align a strong social and economic protection vision which advocates global equity in sustainable investments.

Fifty years on from its inception, environmentalism cannot boast many successes. Most environmental problems (climate change, deforestation, loss of biodiversity, resource depletion, etc.) are on a trajectory from bad to worse. But, as social tipping points gather momentum, environmental issues are changing. Biodiversity appears to have reached the point of no return. Although the climate is also seemingly inexorably collapsing under the weight of rising emissions, there has been a notable societal response. One particular area of strength is a financial institution—more specifically a global moral campaign. A growing number of institutional investors have chosen to divest from coal, oil, or gas and trillions of dollars are escaping carbon extractors. The divestment argument is simple: If the world is to keep within the Paris climate limits, 80% of fossil fuels must remain in the ground, creating a “carbon bubble.” Investments made in these stranded assets will render them worthless. It thus makes no financial or moral sense to support the edifice of fossil fuel capital expenditure when trillions have the potential to impact persons.

More significantly, the pressure has moved beyond divestment campaigns. Policymakers, opinion makers, and influential institutions have increasingly internalized the concept of stranded assets. Public and legal attacks assert that fiduciary responsibility precludes long-term investments in carbon extractors. A recent example is a legal action regarding the inconsistency of climate policies with the international agreements it is party to. The argument maintains that if the Paris Agreement’s “well below 2°C” target is to be taken seriously, investors must decarbonize their portfolios so as to reach net-zero by 2050. There is clear recognition that the finance sector is a critical leverage point, and in this respect large asset managers and insurers mechanically have significant influence.

Public-Private Partnerships

This research explores the prospect of green finance in Argentina, Brazil, and Uruguay. SWOT analysis being a widely used model for assessing the internal and external environment has been applied to analyse the capabilities of green finance and economic growth. Results indicate: all three countries are experiencing difficulties fulfilling financial commitments to climate projects; lack of detailed strategy planning curbs pollutant resources capacity; the economic difficulties and sovereign risk in all countries increase the cost of green finance. Only Uruguay, with the potential for inclusive and sustainable energy, has a vision of clear growth. The government should promote the development of industries that protect the ecosystem and at the same time are environmentally friendly.

Since Europe’s approach to regulation has generated debate over the past ten years, it is time for many countries to adapt to it. Starting with Albania, the research aim is to explore the ability to focus on strengths to maintain competitiveness in the country, both within and outside the Lisbon Strategy. Porter’s framework is employed to examine the status of Egypt. Denmark, Singapore, and the New Development Plan have been developed. Consequently, due to geopolitical changes and new challenges of market policy, the countries have adapted an integration position (DE MARCO et al., 2013).

In the last decade, public-private partnerships (PPPs) have gained increasing attention as an alternative form for expanding and modernizing infrastructure. So this research focuses on its use for the development of industrial cities, on the example of mining. Russia has a significant share of global reserves not being

developed. So strengthening PPP in the development of industrial towns was in the interest of Russia's economic strategy. Since a number of institutions were involved in the involvement of investment support, the implementation of a public-private partnership project was discussed. Given the experience of world practice in public-private partnerships, the benefits of industrial towns for legal entities with state participation, as well as perspectives for their development, were analyzed. As a result of a comprehensive study, based, among other things, on macro and microeconomic analyses of conditions, it was concluded that broadening the coverage of infrastructure facilities could result in attraction of them. Investment in capital and socioeconomic development of company towns, creation of comfortable living conditions, and possibly qualitative changes in the organization of employment of the population.

Threats to Green Finance

With its strong economic growth and market potential, the BRISC-T countries could deliver important contributions to the mitigation of greenhouse gas (GHG). Finance supporting green ventures that are concurrently environmentally-sound and economically advantageous is needed for the community to move towards low-carbon growth, i.e. green growth. However, against this backdrop, green finance having connections with the emergence of green industries, and consequently green growth, may not yet be fully established in the country. Informed by the aforementioned, the main mission of this paper is to accentuate the effect of green business activities on the growth-performance through the lenses of the BRICS-T countries by compiling demand-side considerations. Crucially, it aims to pinpoint direction in which certain policy measures ought to be re-orientated in these economies to ensure their economic growth systemically interlinks with green themes; this is done in three phases. First, potential implications of green industrial activities are outlined that provide reasoning for why demand for green finance has accelerated in recent years. Second, an illustrative SWOT analysis discusses the potential obstacles and advantages to varying degrees for green venture enterprise activities. Third, on the basis of the afore-mentioned, promising policy lessons are drawn for geographically extended performances (Atif Nawaz et al., 2021).

Economic Instability

Economic instability refers to uncertainty about the future and involves business cycles, economic policy changes, and shifts in international economic relations. This is an important finding considering prior studies focused on the relation between structural characteristics and economic instability. Structural characteristics refer to factors that do not fluctuate over time such as the size of the economy, and they were tested in most of the prior studies with the same models used here is the importance of conducting research combining the analysis of time-varying financial development with the investigation of the affect of financial vulnerabilities on economic instability. Up until now, the literature followed two main streams. One line has studied the impact of financial liberalization on economic growth, while the other has scrutinized its impact on economic stability. Similarly, based on the literature, the correlation between economic growth and economic stability is of great importance, though openness to trade, government liability, and reserve over GDP ratio are also crucial determinants of economic instability. With respect to the credit to the private sector over GDP ratio at time $t - 1$, credit provision seems to be the most influential variable inducing future economic instability in the present framework. The negative signs of the estimated coefficients are compatible with financial fragility views that emphasize the damaging consequences of, among others, an extensive but disproportionate amount of credit granted to the private sector relative to the size of the economy. Moreover, credit provision is closely linked to exchange rate liberalization, in a way that currency appreciation may foster credit expansion in the economy, which exacerbates the negative implications of the credit to private sector over GDP ratio for economic stability. In general, the obtained results suggest that financially vulnerable economies face higher levels of future economic instability.

Political Resistance

This section presents empirical evidence of how the green bond markets have developed in the context of China and India. In doing so, the term 'Political Resistance' is utilized to denote examination of the impact of various actors and institutions on climate policy across several scales. Actors and institutions include large financial advisory groups, central banks and security regulators, SIFMA and the Chinese central nodes

to the climate financial framework, the climate bond initiative and western imperialistic forms of climate governance, as well as SMEs and provincial co-ventures. With this in mind, empirical evidence illuminating opportunity structures essential to the analysis of 'Political Resistance' in emerging markets such as China and India is provided. Green bond investors are increasingly seeking value in the debt instruments of emerging markets while the lead polluter exits the Paris Agreement, raising critical questions about the leadership vacuum and the pivotal roll of EU institutions in the domain of international climate action. While the EU is heavily investing in Chinese green technology, and guidelines from the PBC have bound Chinese financial systems to a green agenda, there is a critical emphasis on 'Adaptation' and 'Innovation'. The onus is put on investments in new technologies that either improve the potential for adapting to or remedying the impacts of climate change (Alsagr & van Hemmen, 2021). In China, this means investments in fast-charging stations for electric vehicles, desalination plants, and flood valves for rivers. In India it translates to investments in heat-resistant crops and the construction of flood-resistant roads (Saravade, 2018). In response to this aggressive agenda, the question of meaningful action is levied to these unfunded mandates. Moreover, frequently these targets are built without the fundamental research to scaffold their execution, here so quickly are cities committed to cutting their total fossil fuel consumption by the equivalent of fifteen London's gross per annum. On the other hand, the counter argument is that a supply-side approach to climate policy is merely to pick the low-hanging fruit.

Market Competition

This section focuses on the market structure, as understanding market competition gives insights on how to overcome the threat and weaknesses to green finance. Discussing the current competition, the information includes who the biggest competitors are, the competitiveness of the companies, and what direction the market trends are heading toward. Potentially direct and indirect threats and weaknesses are posed by each competitor. Attempt to discuss the approach or tactics to compete in the market competition. Potential policy implications to overcome the threats and weaknesses are explored (Saravade, 2018).

Several emerging-market economies are currently among the fastest-growing countries in the world and may consider financial innovation as a means of supporting further sustainable growth and a low-carbon economy. But the development level of green finance in emerging markets lags behind that of developed countries. This paper discusses the strengths, weaknesses, opportunities, and potential threats (SWOT) of implementing green finance to address the current analytical gaps. The study focuses on a group of emerging market economies in East Asia—nameese, Indonesia, Thailand, Malaysia, and the Philippines.

Case Studies of Emerging Markets

Emerging markets used in this study are Brazil, China, India, Indonesia, Mexico, Russia, South Africa, South Korea and Turkey. All of these economies are not only systemic important and significant, but they also display high GDP growth. Their compounded annual growth rates were in the range of 4.0 and 7.2 percent between 1991 and 2017 (excluding the Russian economy due to the dissimilar structure). These estimates speak for a rise of emerging markets in the upcoming decades, so that their right direction can moderate global disturbances. The green finance GCI scores are close to the 0.00 turning point indicating its supporting industrial development that leads to environmentally friendly growth. The green development of an economy depends on the environmentally sustainable growth and the conditioning of it with the appropriate financial intermediations, in such as grants, investments, and subsidies. These financial instruments can be implemented depending on the institutional development of the country. The SWOT examination on green financial growth of the selected emerging markets is projected employing the methodology. Hence the Green Finance Grade, in other words GFG scores are harmonized with the Green Finance Condition Index or GCI as well, with considering the Green Financial Development Index or GFDI and the Green Financial Adoption Index or GFAL. The main objectives of the analysis can be listed as; assessing the market potentialities interconnected to Green Finance (SWOT analysis), determining optimum policy directives, and benchmarking the system-based resolution and analysis. On the basis of the findings, the study also provides a set of policy recommendations for stakeholders and the advocates. Smock goals were developed in consideration to green financial growth implementation and integrated regulations to promote the outputs. After the adjustment of the green capital market understanding and its

supportable expansion, the suggested energy development fund was established to confront the external instabilities and energy impacts. Additionally, the inclusion of a “carbon import tax” was worked in response to the encouraged strategic occupation and the change in carbon energy consumption societal injuncts. Further decisions were also made course to the already existing polices goals, such as different industrial motivation instruments and the modification of the “Agreement with Developing European and US Economies”, for more harm reduction (Atif Nawaz et al., 2021). On the grounds of the publication, it can be argued that green financial growth models and methodologies have developed visibly chiefly in emerging economies over recent years (Saravade, 2018). However, this improvement did not occur at the same level within all financial sectors, resulting in a clear difference in elementHSion. Almost all the procedures of EU have experienced simultaneously progress in the implementation of green financial growth dissemination and financial services to the environment; whereas, an exact lag can be spatially identified at the appointment as the east. This paper emphasizes that each financial sector has its component feature, and the precondition for fruitful green financial growth implementation is the well-apprehended SWOT examination of it. Efforts were made to progress this examination within the different sectors with the formulation of system-based methodologies. Moreover, the study can also be a guiding point for documents and studies planned by financial denationalizations conducting the SWOT analysis on greening of their finance sectors with a comparative analysis to its peers. Nonetheless, one should bear in mind the restrictions it as well, largely connected to the benchmarking method, aggregated data and estimation results.

Brazil

This chapter offers an assessment of the potential economic growth effects of greening the Brazilian financial system. The discussions, analysis, and forecasts are inspired by a country workshop organized by various institutions on “Sustainable Finance”. The workshop includes the presentation of a draft study on Green Finance in Brazil, a Q&A with representatives of the Brazilian Central Bank and the Brazilian securities and exchange commission, and brainstorming on follow-up research.

Brazil has been committed to sustainable development, as demonstrated by the Brazilian Development Bank’s environmental and social policy framework, which was already implemented in the 1970s. The Brazilian Central Bank set up a comprehensive set of regulations to incentivize and monitor the financial system’s support for green investments. According to the central bank, this regulation aims to develop a sustainable financial system in Brazil, “that allows investments and access to credit for green and socially responsible projects”. Brazil is a founding member and hosts the Latin American Reserve Fund to promote financial stability, preserve the region’s economies and protect them against external shocks. However, this chapter reflects the current debate, prospects, forecast and analysis of Green Finance in Brazil. On this subject, all information is based on public data and literature. The chapter extends apologies for potential inaccuracies due to the substantial government secrecy in Brazil, and for unintentional bias due to the utilization of English when covering Brazilian policy and studies, except certain documents.

India

Overview of Green Finance and Economic Growth in Emerging Markets Policy Issues and Market Dynamics

Comparing economic growth potential across different emerging markets is quite difficult to evaluate given the numerous economic, social, and environmental risks. As a proxy, a SWOT analysis is undertaken based on primary and secondary information. This method has the potential to identify specific strengths and weaknesses of emerging markets in terms of green growth, as well as describing external opportunities and threats. This analysis is based on existing literature around the determinants of economic growth in the case of green growth, as well as on empirical research looking at the potential of Indian.

Emerging markets face multiple constraints in terms of economic growth, societal resilience, and cope migrations, among which relatively poor infrastructure, lack of investments, and high capital costs are refrains. They also have challenges regarding the improving air, water, and soil conditions, reducing the risk

of disasters, life protection, and health improvement. The transition to a more sustainable mode of agricultural and industrial production in view of generations faces acute barriers. Although it is broadly recognized that the financial system plays a critical role in addressing the challenges of greening economies (Saravade, 2018), the development of green finance that supports these transition efforts, especially in emerging markets, has been slower, and more recent, than the broader acceptance of the necessity of a “green” transformation.

South Africa

South Africa is a classic case of high growth, monstrous energy-related emissions, and a strong financial base. The economic growth in terms of GDP showed an upward trend after the advent of democracy in 1994 until the financial crises hit in 2007. After 2007, the economy experienced a recession in 2008, followed by the global financial crisis in 2009. During this period, South Africa experienced large capital outflows, a sharp decline in the stock market and a humble economic activity. A further financial sector shock came in June 2010 with a decline in the rand and a series of wage disputes that led to large strikes throughout the country. Further volatility was seen in the rand as the US Federal Reserve started tapering its bond buying and a further strike interrupted the mining activity. The South African Reserve Bank subsequently raised interest rates twice. South Africa avoided recession in 2010 and the GDP grew by 3%. The growth before the 2007 crisis is particularly interesting in the light of the majority of the existing literature on EKC (Muhammad et al., 2011). Emissions in South Africa are carbon based with large levels of CO₂ and to a small extent CH₄. South Africa is one of the major emitters of CO₂ (1% of the world emissions) due to the use of coal in energy production. Almost 77% of the primary energy needs are provided by coal, with 53% used in electricity generation. Renewable energy currently accounts for only 2% of total consumption. The financial system in South Africa is highly developed with an outstanding banking regulation, placing it at a comfortable position in the global ranking. These characteristics make South Africa a compelling candidate to investigate the EKC and the effects of economic growth, financial development, and coal consumption on CO₂ emissions. The table combines topics within the “Support” section of the SWOT analysis and presents few extra papers where South Africa features as one of the BRICS countries.

Policy Recommendations

This study provides a SWOT analysis of the potential for green finance to enhance economic growth in four emerging markets of South Africa, Brazil, Turkey and Malaysia. Based on the findings, we suggest a number of policy recommendations.

An extensive policy relevant literature on green finance and industries is narrowed to the four selected emerging markets. The potential for green finance to contribute to economic growth in emerging markets may be explained by three main mechanisms. First, green finance can address the finance gap issue in green industry and companies. Second, with stringent green standards and guidelines, green finance can promote the shift of resources and investment towards green sectors. Third, green finance can help emerging economies to leapfrog and develop new industries as green technologies and markets expand globally (Xu & Xu, 2022).

Lessons on the development of green finance in emerging markets are learned from three major international financial centers, i.e. New York, London and Singapore. On the one hand, these hubs attract large global investment and have a remarkably high level of green finance capabilities (Muganyi et al., 2021). In this process, the collaboration between government and financial industry is of pivotal importance. On the other hand, with large-scale innovative financial products in green bonds and asset management, these hubs have a profound impact on the healthy global spread of green finance. Despite the success of these three hubs namely in developed countries, the research emphasizes that this experience may not be directly copied by emerging markets realizing the different institutional capacities and finance expertise exist. Instead, for emerging markets, there are other sources from which to draw inspiration. The article suggests that such emerging markets should learn from these hubs while being sensitive to their endowments.

Measuring the Impact of Green Finance

In light of the topic of planetary crises, the development of specific financial systems and products that can demonstrate a partnership between economics and environmental objectives appears prominently. From when the first Earth Summits were held by the United Nations to recent years, the issues surrounding green public expenditure, green financial markets, and the models of green bonds have passed through the findings of relevant ethical committees. It is possible to say that, even if with some fluctuation, clear progress had been made on what green economics requires of the political, financial, private, sector. However, it is difficult to say the same about the part that has been private financial institutions and systems. Despite the issuing of certain financial products by the EBRD and other financial intermediaries, no adequate common and financially significant instruments in global terms have been proposed by any effective green growth brain. Furthermore, on the contrary, during the recent financial crises green instruments have been constrained and sometimes annulled, to an extent. The green possible research on the evaluation of the impact of green finance systems has now been provided through SWOT analysis (Li et al., 2021). Two main fields of it are to be presented: the first focusing on approaches adopted by the emerging market countries, and the second on the complexities of SWOT analysis. On this basis the green conclusions are provided, revealing recommendations about possible future developments of the green finance and green financial systems.

Future Trends in Green Finance

This article has for the first time synthesized the most fundamental SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis regarding the relationships between green finance and economic growth in emerging market economies, such as the BRICS. Special attention is paid to highlighting an integration of three sectors—financial institutions (FIs), green governance, and industry—into its analysis given that these components have rarely been jointly considered in doing the country-level SWOT analysis of the economic system in extant studies. As a summary, an assessment provides policy implications of economic systems in question. Discussions on future trends in green finance and directions for further studies are made in detail. On the one hand, financial institutions between developing countries and developed ones are different in terms of financial sophistication. While financial markets are well-developed and capable of attracting sustainable capital in the latter, those in the former are unable to play such a role due to underdeveloped institutional infrastructures (Muganyi et al., 2021). The mechanism in which global financial markets spur economic growth might be inapplicable to the green finance context wherein financial institutions (FIs) have been poorly evolved. As a consequence, green finance might stimulate the economies with great difficulties due to lack of vibrant FIs and markets (Saravade, 2018). Thus, the critical challenge is how to maximize the advantage of domestic FIs by complementing effectively with the international support of green finance.

Challenges in Implementation

The green bond criterion was met when an energy company, managing coal-fired power plants as part of its project portfolio, issued such a certification in 2015 (Saravade, 2018). The green bond in question was still deemed a “positive development” enabled by the voluntary market, even though \$13,000,000 had been issued to build two kilns that would sequester 1 tonne of CO₂ for every 5 tonnes of cement produced. Although most pronouncements, industry associations and research on green finance eschew naming or defining it relative to “brown” finance, the brown to green certification of green bonds brought focus to the environmental legitimacy of investments outside such certified financial instruments. Other “brown to green” issuers can be identified in the market that have seen their issuance met with greater support relative to those brown assets that are not eligible for issuance by issuers who have garnered green certification. Brown issuers in the latter group who have, for example, issued unsecured “green bonds” in the US municipal market have seen their issuance met with outright mockery by “industry insiders”.

Role of International Organizations

In light of the current initiatives taken by international financial institutions (IFIs) and UN agencies aimed at promoting instruments for green investment, a discussion on the role that international organizations can play in fostering this new trend can be useful. This theme is scarcely represented in the literature. Furthermore, the text is set up as an overarching discussion, dealing with the issue in a cross-cutting way, by surveying the tools that organizations may exhibit for greening financial flows, rather than focusing on a single institution. A SWOT analysis is used as an interpretative device for a discussion on the main role that IFIs and UN agencies can play in stimulating green investment ground. Among main conclusions, there is that IFIs and UN apparatuses can definitely stimulate the growth of green finance in emerging market economies (EMEs); however, for becoming better effective in this direction, improvements in coordination and an increased capacity in the partners involved are needed (Fanelli, 2019). There are vast potential development gains from the promotion of “green finance”. The latter term conventionally refers to those financial activities and instruments aimed at funding environmentally sustainable projects and sectors. In the literature, the “green” is construed as a synonym of environmentally sustainable. The stimulus to green financial flows should be first grounded on the full fruition of the new international commitments taken by industrialized countries in the environmental realm. Since climate change became an international priority there has been a proliferation of funds established by donors for reducing such an environmental risk through investments in mitigation and adaptation measures in developing countries. Most of these funds are channeled through multilateral development banks (MDBs) and other IFIs. Emerging market economies (EMEs) have large environmental problems to address, and thus receiving the highest part of such funding.

Public Perception of Green Finance

Green finance refers to financial capital mainly targeted at enterprises, institutions, and other economic entities or economic activities that benefit the ecological environment. Green finance projects involve economy-instructing sectors, such as environment protection, energy conservation, clean production, ecological construction, circular economy, new energy, new materials and environmental & energy technology, and products development and manufacturing. Raising funds through green finance means that the financing entities or projects have performed well on various aspects of economic benefits, environmental benefits, energy consumption benefits or resource utilization benefits. There are four main sources of green finance, including fiscal support and subsidies, banking financial loans and discounts, listing companies, issuance of green corporate bonds and equity, and green securities acquired by enterprises and banks or issued by private funds, trusts, insurance, leasing and commercial. Green financial bonds created by Special Purpose Vehicle (SPV) are subject to the state, and have corresponding green industry guidance directory and industry classification rules issued by the state or industrial authorities.

Green finance is an important part of the capital market. While encouraging traditional mature industries to develop, the Chinese government has given green light to the growth of newly emerging strategic industries such as the high-end equipment manufacturing, new-type information industry, and energy-saving and environmental protection. The green industry is listed as a top-priority to encourage and develop industries under the national industrial policy of improving industrial structure facilitation. Specific policies are carried out by Macro-Economic Regulatory Control Measures (MERCMS) and guided the directs by fixing the exchange rates, interests, and industry licenses. The economic incentives of provinces and cities have been gradually transferred from administrative means to economic means. The development zone, hi-tech development zone, export-oriented economy improvement zone, and green funding zone all implement various preferential economic incentives and economic measures (Muganyi et al., 2021). Meanwhile, some industries, enterprises, and projects in underdeveloped or key-economic-supported districts obtain support funds in the form of toll rebates, taxes, and subsidies for the protection of environmental resources.

Investment Strategies for Green Projects

The broad objective of this article is to explore diversities in investment strategies for green projects (GP) across regions, industries, and firms by focusing on the rapidly expanding Chinese market, where green investment is emerging. A literature review, with a focus on the costs and benefits of green projects to public and private entities from different perspectives, is discussed, resulting in the development of three corresponding research hypotheses and a research framework. Using ordinary least squares modeling, the hypothesis testing is carried out with the 2007 sample of Chinese listed firms, with statistical results providing novel empirical evidence in an emerging market drawing on the original analytical perspective.

The significant increasing workload and regulatory requirements for corporate environmental and social responsibility since the 1980s enhance firms' efforts on developing green projects to mitigate potential environmental costs and risks (An & Rasool Madni, 2023). Amid the global problem of climate change, the need for GHG reduction has encouraged a surge in green investment in the context of the EU's expectations for a leadership role. From a post-Keynesian viewpoint, a qualitative wealth effect, as an important incentive to private green investment, is generated by the crowding-in impact of public GP. However, BE models that ignore corporates' protective and propensity competition in applying for limited public GP resources tend to exaggerate public policy prescriptions. While no general understanding is available, a more balanced dark side perspective is lacking, particularly in addressing negative intangible effects from the misallocation of public funds and risk involvement.

Emerging economies are mostly located in Asia and Africa, the 'East Asian Miracle', associating them with a policy of intervening heavily in foreign trade, is nothing new. Prior to the financial crisis, the lion's share of export growth was driven by industrial policies in a few emerging markets, in which China accounted for the most remarkable development (Stepanenko, 2010). Early studies of the interventionist trade policy were divided between debates over its effectiveness and driving forces. The IMF and critics, including Western nations and mainstream economists, criticized East Asian emerging markets for robustly protecting and supporting key state-owned enterprises (SOEs) by discriminatory practices in the form of subsidies and trade policy.

The Intersection of Green Finance and Technology

As we approach 2025, China continues to implement a series of green economic policies and establish a system of institutional mechanisms, such as green GDP accounting, green credit policy, green securities program, and energy-saving subsidy. These trends play a constructive role in the development of green technology and industry and foster a green competitive advantage at the national and regional levels. In particular, the green financial system in China has been initially established. However, green technology innovation and green economic growth remain to be further promoted due to weak green finance investment. In 2014, environmental protection investment is only 0.59% of China's GDP, which is calculated as 1.68% of GDP of 97.37% of green industry energy consumption. On the other hand, the fast increase of high-skill low-skill employment intensity significantly influences the use of green capital and green finance and the quality of green development.

Conclusion

This article aimed to perform a SWOT analysis of green finance and economic growth in emerging markets in that context, particularly examining the opportunities and threats by the case of India and China, the two key emerging markets in Asia. Based on this case analysis, some generic policy implications are provided for others who also wish to utilize international green capital for their transitions into green economies or for the development of a green industry. Efforts in attracting green fund inflows should be combined with structurally fostering green industries to develop, and with counteracting possible threats before the opening of economies to international green investments. Politics needs to find a way to sustain consistent long-term green industrial developments at the same time, that are compatible with the nature of global financial markets. Emerging markets need to set and upgrade mandatory legal and regulatory standards to make long-term bonds, that are suitable for the long-term nature of many green projects. Concerted efforts

by both fiscal and monetary measures should be taken to ensure that green fund inflows do not create unsustainable bubbles and do not increase disruptive country risks. To attract a wider base of not only finance professionals but also civil society, transparency and information disclosure in green projects should be upgraded at the same time as the efforts to further develop green industries.

References

- Alsagr, N. & van Hemmen, S. (2021). The impact of financial development and geopolitical risk on renewable energy consumption: evidence from emerging markets. ncbi.nlm.nih.gov
- An, Y. & Rasool Madni, G. (2023). Factors affecting the green investment and assessing sustainable performance of firms in China. ncbi.nlm.nih.gov
- Atif Nawaz, M., Seshadri, U., Kumar, P., Aqdas, R., Karim Patwary, A., & Riaz, M. (2021). Nexus between green finance and climate change mitigation in N-11 and BRICS countries: empirical estimation through difference in differences (DID) approach. ncbi.nlm.nih.gov
- Corduneanu, C. & Raisa Iovu, L. (2008). Multiplying financing choices through capital markets. [PDF]
- DE MARCO, A., CALDERINI, M. A. R. I. O., MANGANO, G. I. U. L. I. O., & VALERIA MICHELUCCI, F. A. N. I. A. (2013). A Framework to Use Public-Private Partnership for Smart City Projects. [PDF]
- Dzomonda, O. & Fatoki, O. (2020). Environmental Sustainability Commitment and Financial Performance of Firms Listed on the Johannesburg Stock Exchange (JSE). ncbi.nlm.nih.gov
- Fanelli, J. (2019). Aspects of Institutional Finance in Sustainable Development. [PDF]
- Gafsi, N. (2025). The Role of Customer and Market Orientation in Enhancing Islamic Insurance Performance: Evidence from Tunisia. *Journal of Ecohumanism*, 4(2), 2429. <https://doi.org/10.62754/joe.v4i2.6636>
- Gafsi, N., & Bakari, S. (2024). Impacts of agricultural CO₂ emissions, agricultural exports and financial development on economic growth: insights from East Asia and Pacific countries. *International Journal of Energy Economics and Policy*, 14(6), 136-153.
- Gafsi, N., & Bakari, S. (2025a). Unlocking the Green Growth Puzzle: Exploring the Nexus of Renewable Energy, CO₂ Emissions, and Economic Prosperity in G7 Countries. *International Journal of Energy Economics and Policy*, 15(2), 236-247.
- Gafsi, N., & Bakari, S. (2025b). Analyzing the influence of agricultural raw material imports on agricultural growth in 48 Sub-Saharan African countries. *International Journal of Innovative Research and Scientific Studies*, 8(1), 2876-2885.
- Hlali, A., & Gafsi, N. (2024). Analysis of Digitalization and Sustainable Development in Africa. *Perspectives on Global Development and Technology*, 22(5-6), 415-428.
- Hu, S., Zhang, P., & Wei, T. (2022). Financial Measures to Reduce Carbon Emissions in Britain, Japan and the United States: A SWOT Analysis. ncbi.nlm.nih.gov
- Li, L., Wu, W., Zhang, M., & Lin, L. (2021). Linkage Analysis between Finance and Environmental Protection Sectors in China: An Approach to Evaluating Green Finance. ncbi.nlm.nih.gov
- Liu, G., Arshad Khan, M., Haider, A., & Uddin, M. (2022). Financial Development and Environmental Degradation: Promoting Low-Carbon Competitiveness in E7 Economies' Industries. ncbi.nlm.nih.gov
- Muganyi, T., Yan, L., & Sun, H. (2021). Green finance, fintech and environmental protection: Evidence from China. ncbi.nlm.nih.gov
- Muhammad, S., Tiwari, A., & Muhammad, N. (2011). The effects of financial development, economic growth, coal consumption and trade openness on environment performance in South Africa. [PDF]
- O. Nyachanchu, T. & K. Cheruiyot, T. (2017). Role of Leadership Behaviour in Sustainability: Financial Services Sector Players. [PDF]
- Saravade, V. (2018). A Comparative Analysis of the Institutional Impact on the Green Bond Markets in India and China. [PDF]
- Simas, M. & Pacca, S. (2013). Socio-economic Benefits of Wind Power in Brazil. [PDF]
- Stepanenko, B. (2010). Фінансування зеленого бізнесу у контексті забезпечення сталого розвитку. [PDF]
- Van Biljon, J. (2016). Development informatics research and the challenges in representing the voice of developing country researchers: A South African view. [PDF]OK TR
- Wu, G., Liu, X., & Cai, Y. (2023). The impact of green finance on carbon emission efficiency. ncbi.nlm.nih.gov
- Xu, L. & Xu, C. (2022). Does green finance and energy policy paradox demonstrate green economic recovery: Role of social capital and public health. ncbi.nlm.nih.gov