



GREEN FINANCE'S IMPACT ON SUSTAINABLE DEVELOPMENT: INSIGHTS FROM DIVERSE PERSPECTIVES A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

This comprehensive literature review examines the impact of green finance on corporate sustainability performance. The synthesis of diverse research methodologies reveals a consistent narrative of green finance's positive influence on sustainability. Green finance, encompassing digital finance and green financial policies, emerges as a driving force behind green technology innovation, enhanced energy efficiency, and environmentally responsible practices. Beyond economic benefits, it extends its positive impact to social and environmental dimensions, aligning with broader sustainable development objectives.

Financial constraints and regional variations are acknowledged challenges, prompting the consideration of policy interventions, such as green finance pilot policies, to mitigate these hindrances. The implications extend to policy development, business strategies, investment decisions, and further research, emphasizing the need for holistic approaches to integrating environmental considerations into financial practices. China's experiences with green finance offer valuable insights for addressing global environmental challenges while promoting sustainable economic growth and responsible financial development.

KEYWORDS: Green Finance, sustainable development, systematic literature review

INTRODUCTION

In recent years, the intersection of finance and sustainability has emerged as a critical area of study, driven by the global imperative to address environmental challenges. Green finance, which encompasses financial mechanisms aimed at supporting environmentally sustainable projects and initiatives, has gained prominence worldwide. China, as one of the world's largest economies and a significant contributor to environmental issues, has been at the forefront of this transition towards a more sustainable future. This literature review delves into several studies conducted on the impact of various aspects of green finance on environmental sustainability and technological innovation in China.

In particular, this review explores the multifaceted role of digital finance, smart territories, green financing policies, and technological innovation in promoting sustainability. Additionally, it investigates the implications of green finance for industrial structure, energy efficiency, carbon emissions, and economic development. This comprehensive analysis aims to provide insights into the intricate relationship between finance, technology, and sustainability in the context of China's evolving economy (C. Yang & Masron, 2022).

LITERATURE REVIEW

Literature Review

In recent times, the significance of digital finance, financial technology, and green financing policy has surged, capturing the attention of researchers from various angles. Regarding this interest the study of examined the influence of digital finance on corporate green technology innovation in Chinese A-share public businesses over the past decade. (W. Wang & Bian, 2023; Zhu et al., 2023).



Moreover, Ashta (2023) explored the impact of fintech on financing climate change and its theoretical and policy implications. Another study conducted in Chinese urban area focused on the impact of digital finance and environmental regulation on local green technology innovation (Hu et al., 2022). Similarly, N. Zhang et al. (2023) studied the relationship between green finance, technology innovation, environmental regulation, and industrial structure upgrading in the Yangtze River Economic Belt.

When green financing policy comes to practice, implementing renewable energy sources, carbon free technology and reduced carbon emission take considerable position. As such, critical role of green financing in driving sustainable development, especially in accelerating the growth of renewable energy sources (Belgacem et al., 2023), industrial transformation, and green technology innovation (C. Zhou et al., 2023), innovation in pollution-intensive industries (Ling et al., 2020), the relationship between energy efficiency and digital finance in Chinese cities (Wu et al., 2023), a strategy for coal-electric power supply chains, emphasizing the role of green financial policies in reducing carbon emission (X. Chen & Chen, 2021; Da et al., 2019; Liu et al., 2023), the role of green finance and water resource utilization efficiency (R. Wang et al., 2022) are among others.

Agricultural sector is also another focusing area in green financing policy. The study of Shen et al. (2023) examined the role of digital inclusive finance in improving agricultural productivity and sustainability. Moreover, Green Finance in Agricultural Sector has been studied by focusing the potential of green finance in reducing carbon emissions in China's agricultural sector (Mo et al., 2023). Furthermore, the study of Afzal et al. (2022) explored the impact of financial development on environmental degradation in European countries and emphasized the importance of green finance policies.

Impact of green finance policy and FinTech on overall economic development hold attention of some researchers. For example, the research work of (Xu, 2023; T. Zhou et al., 2022) investigated the coupling coordination and spatial correlation effects of green finance and high-quality economic development in Chinese provinces. Furthermore, the relationship between green finance, FinTech, and sustainable growth in South Asian countries has been studied by (Y. Q. Zhang, 2023). The other study focused on how green investment can promote environmentally friendly industries and technological advancements (M. Chen et al., 2023). Similarly, Cui et al., (2023) investigated the influence of green finance on economic development, highlighting potential thresholds in its effectiveness.

The study documented by W. Zhang & Dong (2023) analysed the impact of Green Finance Policy on green innovation and polarization among enterprises in China. The other study conducted by F. Yang & Li. (2023) explored the impact of corporate financialization on Environmental social and Governance performance in China, focusing on the role of green technology innovation. The significance of green finance in enhancing export technology complexity, particularly in the eastern region of China was investigated by (Xiong et al., 2023). The other basic study conducted by Zhao (2023) examined the role of green finance in supply chain management, emphasizing its impact on green financial risk management.

RESEARCH GAP

The research gap in this study pertains to the lack of comprehensive investigations into the nuanced dynamics of green finance's impact on corporate sustainability performance, specifically regarding the mediating role of financial constraints. Prior research has explored the general relationship between green finance and sustainability but has not sufficiently delved into the underlying mechanisms and variations in this relationship, leaving a critical knowledge gap. This study aims to bridge this gap by providing a deeper understanding of how green finance interacts with financial constraints to influence corporate sustainability outcomes, thereby contributing to the existing body of knowledge in this field

RESEARCH QUESTIONS

- 1: How does green finance influence corporate sustainability performance, and what are the key mechanisms driving this influence?
- 2: To what extent do financial constraints mediate the relationship between green finance and corporate sustainability, and how does this mediation vary across different types of businesses and regions?

OBJECTIVES

- 1: To investigate the impact of green finance on corporate sustainability performance.



2: To analyze the mediating role of financial constraints in the relationship between green finance and corporate sustainability.

METHODOLOGY

Data Collection: The data for this research was collected from various scholarly sources special form Scopus database in the subject areas of economics, econometrics, finance, social sciences, and business management and accounting. The data collection period spans from the year 2015 to 2023.

Access Date and Access Count: The access date for data retrieval was September 19, 2023. A total of 558 data records were accessed during the research process, with each record representing a potentially relevant document.

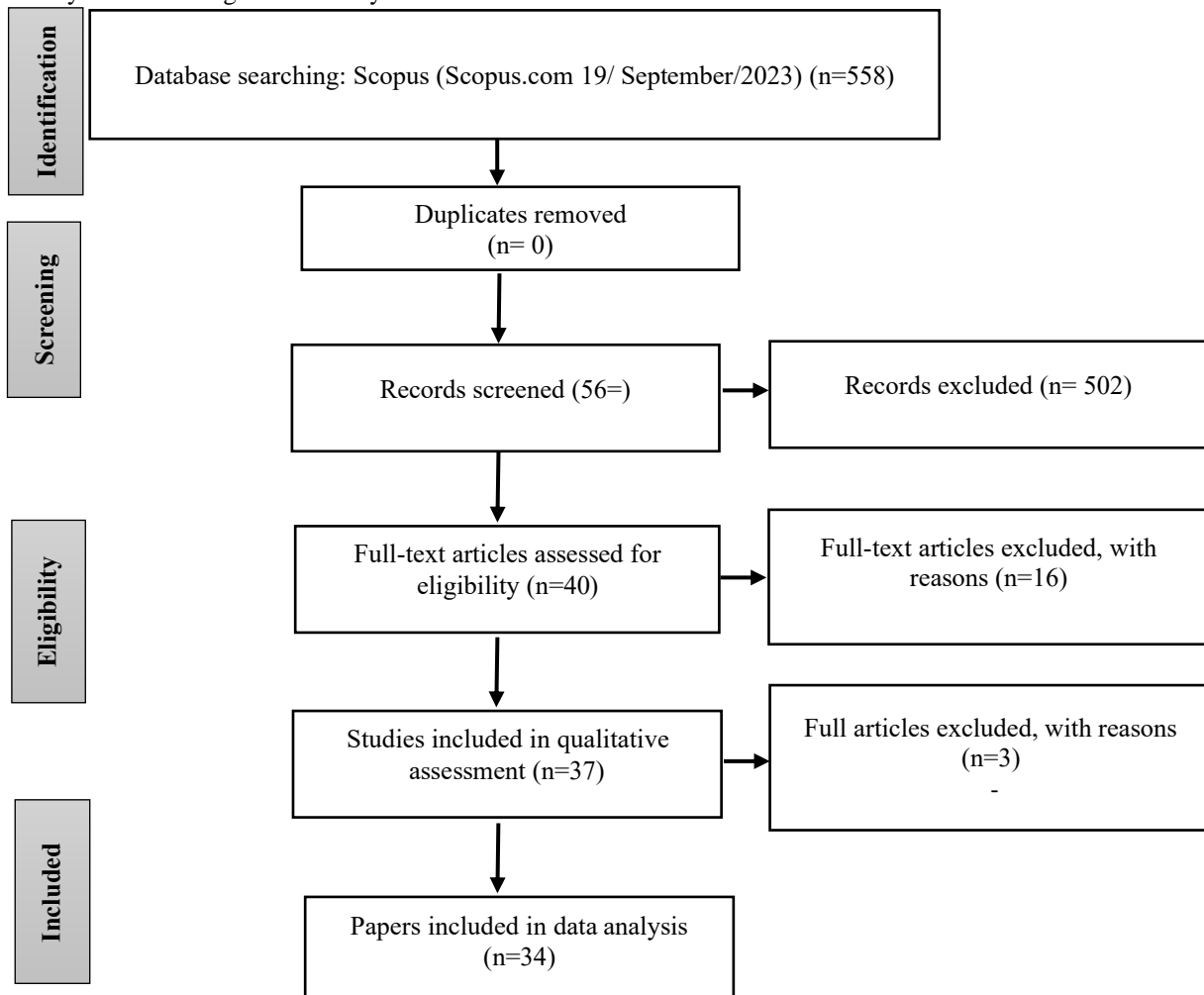
Document Type: The primary focus of data collection was on academic articles. Specifically, articles published in scholarly journals were selected as the main document type for inclusion in this research.

Publication Stage: The documents considered for this research were limited to those in their final publication stage. This ensures that the information analyzed is based on completed and peer-reviewed research.

Source Type: The source type primarily comprised journal publications. Journal articles are recognized as credible and authoritative sources of academic information, making them suitable for rigorous research and analysis.

Language: All the selected documents were published in the English language to ensure consistency and comprehensibility in data analysis and interpretation.

Final Filtered Documents: Following the application of the specified criteria and filters, a total of 56 documents were deemed relevant and included in the research dataset. These documents form the basis for the subsequent analysis and findings in this study.



Search query and data collection

The data extracted on September 19, 2023, through Scopus academic search engine data (<https://www.scopus.com>). Furthermore, advance search terms such as [TITLE-ABS-KEY(development of Green Finance AND technology) AND PUBYEAR > 2014 AND PUBYEAR < 2024 AND (LIMIT-TO (OA,"all")) AND (LIMIT-TO (SUBJAREA,"ECON") OR LIMIT-TO (SUBJAREA,"BUSI") OR LIMIT-TO (SUBJAREA,"SOCI")) AND (LIMIT-TO (DOCTYPE,"ar")) AND (LIMIT-TO (PUBSTAGE,"final")) AND (LIMIT-TO (EXACTKEYWORD,"Finance") OR LIMIT-TO (EXACTKEYWORD,"Sustainable Development") OR LIMIT-TO (EXACTKEYWORD,"Green Finance") OR LIMIT-TO (EXACTKEYWORD,"Innovation")) AND (LIMIT-TO (SRCTYPE,"j")) AND (LIMIT-TO (LANGUAGE,"English"))] have been followed in order to find appropriate articles so as to answer the research question. Thus, a total of 56 papers that were published between 2015 and 2023 were retrieved. The PRISMA diagram has been used to depict the data identification and screening process (see figure 1).

Figure 1: PRISMA diagram

Analysis

Document by years

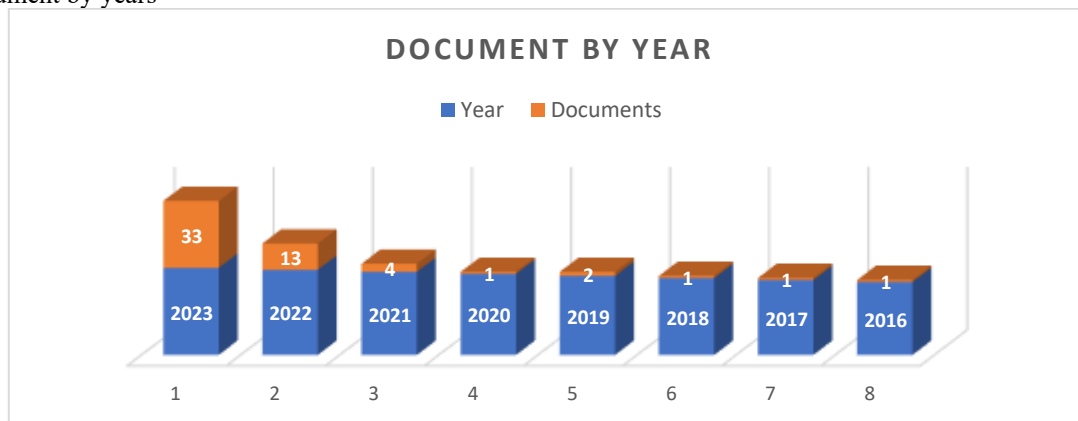


Figure 2: The bar graph illustrates the number of documents produced each year from 2016 to 2023. In 2023, there was a significant surge in document production, reaching 333 documents, following a dip in 2022 with only 13 documents. The years 2020 and 2021 experienced minimal document production, with only one and four documents, respectively. The data shows fluctuating patterns in document generation over the years, with 2023 standing out as a peak year. Further context is necessary to understand the reasons behind these variations and any underlying trends.

Objective 1: To investigate the impact of green finance on corporate sustainability performance:

Numerous studies in the reviewed literature have examined the first objective, seeking to understand how green finance influences corporate sustainability performance. The findings across these studies consistently point to the positive impact of green finance on sustainability outcomes. This impact is observed through various channels, such as increased investment in green technologies, improved energy efficiency, and enhanced environmental protection measures.

For instance, research by Wang & Bian (2023) indicates that digital finance facilitates green technology innovation and contributes to corporate sustainability, particularly in state-owned and eastern regions of China. Similarly, Ben Belgacem et al. (2023) highlights the role of green financing in accelerating renewable energy growth and balancing the innovation-energy-environment-climate nexus, reinforcing the connection between green finance and sustainability.

Furthermore, studies like Xu (2023) emphasize the significant contributions of green finance to green total factor productivity (GTFP) and the spatial spill over effect on sustainable economic growth in Chinese provinces. This aligns with the broader consensus in the literature that green finance plays a crucial role in driving positive environmental and economic outcomes.

**Objective 2: To analyze the mediating role of financial constraints in the relationship between green finance and corporate sustainability:**

Several studies have also delved into the second objective, exploring the mediating role of financial constraints in the relationship between green finance and corporate sustainability. These studies aim to uncover whether financial constraints hinder or moderate the impact of green finance on sustainability outcomes.

One example is the work of C. Zhou et al. (2023), which analyzes the impact of China's green finance pilot policy (GFPP) on energy efficiency. Their findings suggest that GFPP effectively improves total factor energy efficiency (TFEE) by promoting industrial structure optimization and green technology innovation, hinting at the mitigation of financial constraints through policy interventions.

Moreover, research by Tan et al. (2021) examines the role of green financial loans in enabling technological innovation and environmental governance. While the study emphasizes the importance of environmental policies, it suggests that green financial mechanisms do not significantly affect decision-making, implying that financial constraints may persist (Tan et al., 2021).

In summary, the literature review reveals a general consensus that green finance positively impacts corporate sustainability performance. However, the mediating role of financial constraints remains a nuanced area, with some studies indicating potential moderation effects through policy interventions. Further research may provide deeper insights into the complex interplay between green finance, financial constraints, and sustainability outcomes, ultimately guiding more targeted and effective policies and practices in the realm of sustainable finance.

CONCLUSION

In conclusion, the extensive literature review on the relationship between green finance, technological innovation, and environmental sustainability in the context of Chinese businesses and regions has yielded several key insights and findings. The reviewed studies collectively contribute to our understanding of how green finance influences corporate sustainability performance and its broader implications for sustainable development.

First and foremost, the majority of the reviewed literature consistently highlights the positive impact of green finance on corporate sustainability performance. This impact manifests in various ways, including increased investment in green technologies, improved energy efficiency, and the promotion of environmentally responsible practices. Notably, digital finance and green financial policies emerge as crucial drivers of green technology innovation and the transition to more sustainable business practices.

Furthermore, the studies emphasize that green finance extends beyond economic benefits to encompass social and environmental outcomes. It plays a pivotal role in achieving sustainable development goals, reducing ecological pollution, and enhancing the overall quality of economic growth. This underscores the multifaceted nature of green finance as a catalyst for holistic sustainability.

While the literature is generally consistent in highlighting the positive link between green finance and sustainability, it also acknowledges the presence of financial constraints that can potentially hinder progress. Some studies suggest that policy interventions, such as green finance pilot policies, can mitigate these constraints and enhance the impact of green finance on sustainability outcomes. This implies that targeted regulatory and policy measures can play a crucial role in optimizing the effectiveness of green finance initiatives.

In summary, the reviewed literature underscores the significance of green finance in driving corporate sustainability performance and broader sustainable development goals in China. It emphasizes the need for continued research to explore causality, sector-specific effects, spatial variations, and the nuanced role of financial constraints. These insights are invaluable for policymakers, businesses, and stakeholders seeking to harness the potential of green finance to address pressing environmental challenges and promote sustainable economic growth. As China and other nations strive for a greener and more sustainable future, the findings from these studies offer important guidance for shaping policies and practices that align financial development with environmental protection and technological innovation.



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