

# The Influence Factors of Green Finance Development were Analyzed Based on the Bank's Perspective

Chonglang Zou<sup>1</sup> Sanitdech Jintana<sup>2\*</sup> and Chaimongkhon Supromin<sup>3</sup>

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## Abstract

Against the background of increasingly severe environmental pollution, circular economy and sustainable development have been strongly advocated worldwide. Green economy and green finance will be the correct way to promote economic and environmental development. The purposes of this study are 1) to study the implementation of green finance; and 2) to analyze the influencing factors of the implementation of green finance from the perspective of banks. The sample size is 400 senior executives and credit personnel of banking institutions in Zigong. The tool used in this study was a questionnaire. The statistical data used in data analysis include frequency, percentage, average value, and standard deviation. Multiple Regression Analysis (MRA) with the coefficient of determination (R<sup>2</sup>) at a statistical significance of 0.05 was used for the hypothesis test. The results found that Effectiveness, Efficiency, and Sustainability together constitute the implementation effect of green finance. When considering various aspects, it was found that Efficiency

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<sup>1</sup> Student, Master of Arts Program in Public Management Innovation, Faculty of Liberal Arts, Rajamangala University of Technology Thanyaburi; e-mail : chonglang\_c@mail.rmutt.ac.th

<sup>2</sup> Faculty of Liberal Arts, Rajamangala University of Technology Thanyaburi; \*Corresponding Author, e-mail : sanitdech\_j@rmutt.ac.th

<sup>3</sup> Faculty of Liberal Arts, Rajamangala University of Technology Thanyaburi; e-mail : chaimongkhon\_s@rmutt.ac.th

and Sustainability can better explain the implementation effect of green finance, but Effectiveness is the lowest, which can explain the implementation effect of green finance. Thus, the influence of the Policy design, Policy justifications, Policy logic, Feasibility, Stakeholders and their Engagements, the Institutional and Societal Context, Repayment capacity, Security risk, Industry characteristics, External supervision, and the impact of Implementation Strategy on green finance is significant. It was concluded that (1) the implementation of green finance demonstrates effectiveness, efficiency, and sustainability; (2) key determinants influencing green finance encompass external regulations, repayment capacity, stakeholder involvement and agreements, security risks, as well as other pertinent factors.

**Keywords :** Green Finance, Policy Implementation, Influencing Factors toward Green Finance Implementation

## Introduction

In recent years, green and low-carbon emission reduction has always been the focus of international attention, and it is also one of the research hot spots of public management research. The World Economic Forum (WEF) has released the Global Risks Report 2023, which pointed out that failure to mitigate and adapt to climate change, natural disasters extreme weather events, and loss of biodiversity are the three major risks facing the world in the next decade. Thus, it can be seen that green emission reduction has become an important part of current social public affairs and a hot research topic of current public management. As a financial means, green finance can not only serve public affairs but also make important contributions to improving the environment and effectively utilizing resources. Therefore, green finance attracts the attention of public management. As a discipline studying the law of social public affairs management, the essence of public management is to serve society, and the study of green finance can not only effectively serve society, but also enrich the research content of public management.

Previous research shows that the development level of green finance is influenced by many factors. To explore this aspect, some scholars have made relevant studies on different influencing factors. Jiang Zaiyong and Wei Changjiang (2017) studied the important role, methods, and efficiency of the government in promoting the development of green finance in China from the perspective of the government. Zheng Lichun (2020) and Niu Haipeng et al. (2020) separately studied the influence of specific green policies on the level of green finance development. Ren Chenxi (2019) pointed out that strengthening government subsidies and paying attention to practical results can enhance the enthusiasm of private capital to help the industry green.

Although previous studies have confirmed that the influencing factors and development level of green finance is affected by external influencing factors such as the government, the process, and mechanism of such influence have not been further clarified. Due to the typicality and representativeness of the study of green finance, this study can explore the main factors affecting the development of finance, so as to provide a reference for promoting the development of Chinese finance.

Whether from the perspective of environment or economic development, green finance is a hot topic in current social affairs, and it is also a hot topic of public management research in recent years. Studying the influencing factors of green finance can not only clarify the connotation of green finance, but also point out the direction for its development. In China, green finance has made some achievements, among which the green credit scale is the highest. Therefore, based on the perspective of banks, the influencing factors of green credit are studied and analyzed. The research content can provide theoretical support and development suggestions for improving green finance and developing high-quality green economy.

## Research Objectives

1. To study green finance implementation based on a bank perspective.
2. To Analyze the influencing factors toward green finance implementation based on bank perspective.

## Literature Review

### Green Finance Policy and Development Status

The government has realized the importance of green development, and China is also actively implementing low-carbon emission reduction. The report to the 18th National Congress of the Communist Party of China pointed out that green development is an important means to building ecological civilization. The report to the 19th National Congress of the Communist Party of China regards "upholding harmony between man and nature" as an important content of upholding and developing Socialism with Chinese characteristics's basic strategy in the new era. He stressed that it is necessary to speed up the reform of the civilized system, build a beautiful China, and realize "high-quality economic and social development". In September 2020, the action concepts of "carbon peak" and "carbon neutrality" were put forward, and it was promised that carbon dioxide emissions would peak before 2030 and carbon neutrality would be achieved before 2060. The report of the 20th CPC National Congress called for green development and harmonious coexistence between man and nature. These policies have played a crucial role in promoting green development.

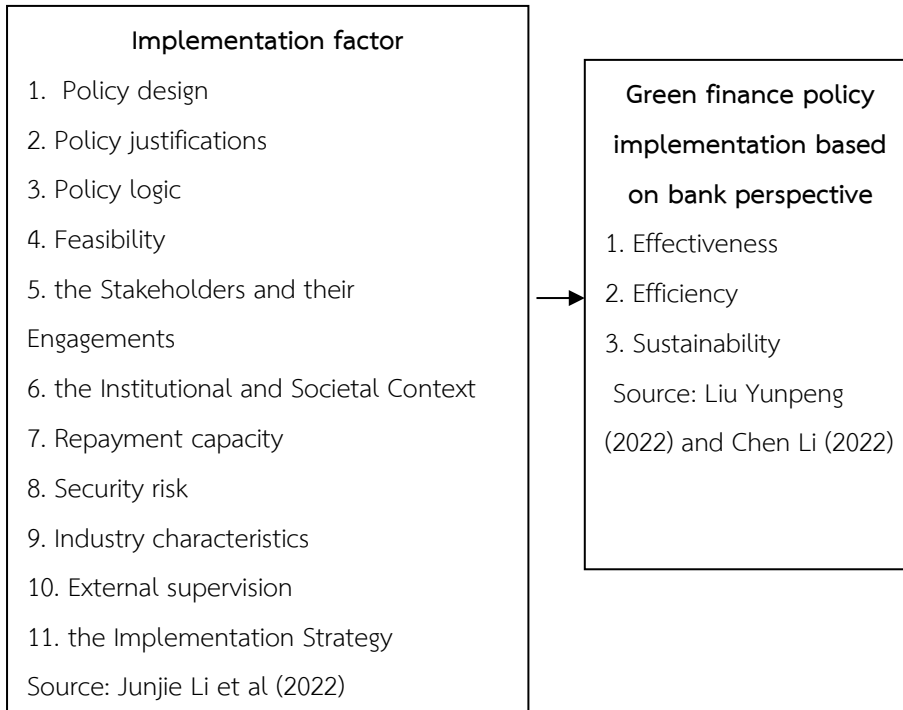
However, Li Jian and Dou Erxiang (2020) pointed out that the overall efficiency of green finance in China's banking industry is not high. Zhang Yue and Zhou Yingheng (2021) pointed out that "greenwashing" has gradually become a huge obstacle to the development level of green finance, and the lack of information has opened a gap called "greenwashing", and the lack of awareness of green development has amplified the risk of "greenwashing".

## **The Concept of Green Finance**

Green finance refers to economic activities that support improving the environment, coping with climate change and effectively using resources. Green finance originated in Europe in the last century. It is a new financial model created based on the traditional finance, to cope with the environmental problems brought by industrial development, and combined with the concept of low-carbon environmental protection. Based on the traditional financial model, this model takes into account the concept of low carbon and environmental protection. Green finance aims to promote low carbon, environmental protection, and sustainable development. In a narrow sense, the subject of green finance is financial institutions such as banks. These financial institutions seek economic benefits to promote their development while introducing green, low-carbon, and environmental protection into their business philosophy. The financial innovation based on this principle is known as green finance. Green finance in a broad sense refers to all financial activities and management activities that are conducive to environmental protection, ecological construction, and sustainable economic development. It has a wide range of subjects, including not only financial institutions but also governments, enterprises, and other subjects. Environmental financing to protect the environment and enrich biodiversity; Sustainable finance aimed at optimizing the allocation of natural resources and improving utilization efficiency.

### **Conceptual Framework**

The conceptual framework for research is as Figure 1.



**Figure 1** Conceptual Framework

### Research Hypothesis

H1: Implementation factor significantly influences Green finance policy implementation.

According to research in relevant literature, in terms of policy design, green financial policies are conducive to the sustainable development of environmental protection, and it is also conducive to the mainstream position of green finance in traditional financing (Peterson K. Ozili, 2022) In China, the actual implementation of green finance is inseparable from the governance logic of the policy (Junjie Li et al., 2022). Ding Ye (2023) found that it is feasible to affect ecological efficiency through green finance. From a practical point of view, when green finance is implemented, internal environmental stakeholders will also influence green finance policies (Wu Yilun, 2022). For green credit, solvency has a significant impact, and the influence of

industry characteristics and external supervision can not be ignored (Setiawan, 2018). According to Chen Li (2022), security risk is one of the factors that determine whether green credit can develop. The impact of policy debate on green financial policy is also remarkable (Muhammad Irfan, 2022).

## Research Methods

This research is carried out by quantitative research method. The sample group of this study includes bank executives and credit personnel, and the number of enterprises is 400. The time for collecting information is from June until July, 2023. As for the research tool, the research was conducted by using questionnaires, which passed the evaluation of the content validity and tested the reliability of the tool. The  $\alpha$  coefficient of the tool was equal to 0.957.

The research area was Zigong City. There are several standards for recruitment in this area. 1) The GDP of the region is 163.842 billion yuan. 2) The development of green finance is good. 3) Local governments actively participate in and cooperate with the implementation of the green financial policies.

Descriptive and inferential statistical methods were used to analyze the research, and instant software was used to process the research results. Statistical data used in data analysis are composed of frequency, percentage, average, and standard deviation. T-test, Homogeneity Analysis of Variance, Normality Analysis and Multiple Regression Analysis (MRA) with a coefficient of determination ( $R^2$ ) at a statistical significance of 0.88 was used for the hypothesis test to conclude that influence guidelines for the development of green finance.

## Research Results

1. Research the implementation of green finance from the perspective of banks.

Table 1 describes the implementation of green finance from the perspective of banks. Researchers consider the findings of projects from the perspective of

"dependent variables". "sustainability" has the highest consistency, i.e. mean = 4.08, standard deviation = 0.80; The second is Efficiency (mean = 4.08, standard deviation = 0.87). "Effectiveness" has a minimum agreement level, i.e. Mean=4.07 and S.D. = 0.85.

**Table 1** Descriptive analysis overall of green finance implementation based on bank perspective

Green Finance Implementation	$\bar{X}$ (Mean)	S.D.	Meaning	Ranking
1. Effectiveness	4.07	0.85	High	3
2. Efficiency	4.08	0.87	High	2
3. Sustainability	4.08	0.80	High	1
Averages	4.08	0.84	High	-

2. Analysis of the factors influencing the implementation of green finance based on the perspective of banks.

As can be seen from the linear regression results, the four independent variables with the highest standardized regression coefficient are IV10 (External supervision), IV7 (Repayment capacity), and IV5 (The Stakeholders and their counterparts) Engagements), IV8 (Security risk). The standard regression coefficient of IV10 is 0.412, which is the highest. The standardized regression coefficient of IV7 was 0.216. The standard regression coefficient of IV5 was 0.180. The standardized regression coefficient of IV8 was 0.172. Therefore, the four independent variables that have the greatest influence on dependent variables have a significant positive effects on green finance.

IV3 (Policy logic), IV6 (The Institutional and Societal Context), IV9 (Industry characteristics), and IV11 (The Implementation) Strategy) standardized regression coefficients are -0.009, -0.069, -0.079, and -0.058, respectively, indicating that the influence of these four independent variables on the dependent variables is negative.

The standardized regression coefficients of IV1 (Design of the policy), IV2 (Policy Justifications), and IV4 (Feasibility) were 0.095, 0.086, and 0.057, respectively, suggesting that these three independent variables had positive effects on the dependent variables.

**Table 2** Analysis of the factors influencing the implementation of green finance based on the perspective of banks

Model	Nonnormalized coefficient		Standardization coefficient		Sig
	B	Standard error	Beta	T	
1 (constant)	.091	.094		.964	.336
IV1	.095	.040	.071	2.355	.019*
IV2	.086	.043	.070	2.019	.044*
IV3	-.009	.033	-.009	-.259	.796
IV4	.057	.035	.056	1.614	.107
IV5	.180	.038	.148	4.692	.000*
IV6	-.069	.033	-.063	-2.098	.037
IV7	.216	.043	.226	5.055	.000*
IV8	.172	.046	.178	3.728	.000*
IV9	-.079	.054	-.079	-1.472	.142
IV10	.412	.041	.413	10.047	.000*
IV11	-.058	.022	-.071	-2.573	.010*

\* Significant .05

This study demonstrates 11 factors influencing green finance through research. 1) Policy design 2) Policy justifications 3) Policy logic 4) Feasibility 5) the Stakeholders and their Engagements 6) the Institutional and Societal Context 7) Repayment capacity 8) Security risk 9) Industry characteristics 10) External supervision 11) the Implementation Strategy; Secondly, it proves the feasibility of the multiple linear regression model. The results of this model are as follows.

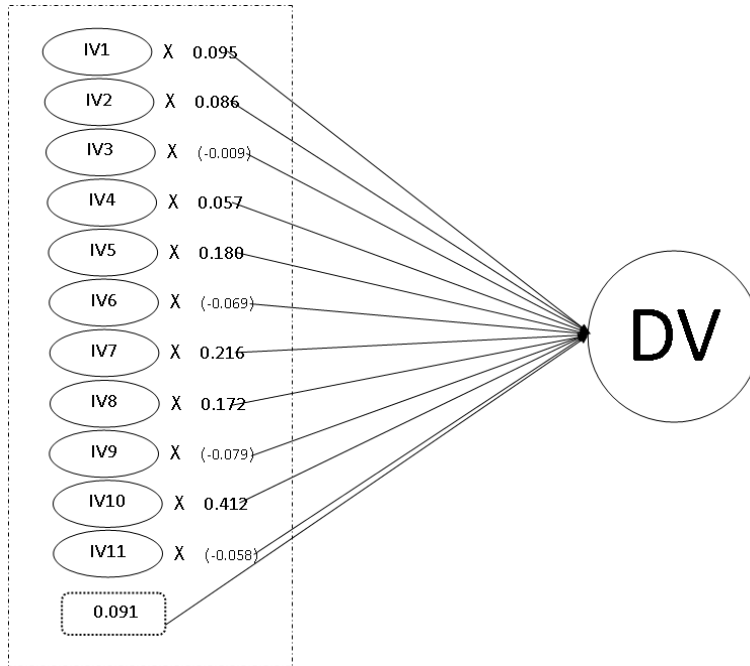


Figure 2 Diagram of model validation results

## Research Discussion

According to the research results, the implementation effects of green finance include effectiveness, efficiency, and sustainability. Moreover, the effect of these three aspects is highly consistent and can explain the implementation effect of green finance well. The result is consistent with the theory of sustainable development. While advocating sustainable development, this theory also emphasizes high quality and high efficiency (Lian Bo, 2019). Therefore, this study applies the theory of sustainable development to green financial policy to illustrate the implementation effect of green finance.

This study developed a total of eleven hypotheses, namely Policy design, Policy justifications, Policy logic, Feasibility, Stakeholders and their Engagements, the Institutional and Societal Context, Repayment capacity, Security risk, Industry characteristics, External supervision, the Implementation Strategy hypothesis on the impact of green finance. Finally, the empirical study proves whether the original

hypothesis is true. It also explains the policy design, policy reasons, policy logic, feasibility, stakeholders, and their participation, as well as the policy's institutional and social background, repayment ability, security risks, industry characteristics, external supervision, and the implementation strategy of green finance.

In this study, the contents of influencing factors of green finance are perfected and verified, and a model of influencing factors of green finance is put forward. Compared with previous studies on the influencing factors of green finance, the influencing factors of green finance discussed in this article are more comprehensive. The conclusion of this study meets the expected requirements and is consistent with previous studies. In the past, scholars' research on the influencing factors of green finance roughly presented two categories. First, it analyzes the influencing factors of green finance from the perspective of finance and credit. For example, analyze the impact of enterprise-scale on green bonds (Kidney S, 2015) and analysis of the Impact of Credit Rating and Information Disclosure on Green Debt (Han Fengxia et al. 2017). The second is to discuss the influencing factors of green finance from the perspective of policy and mechanism. For example, Qian Taihong (2017) thinks that macro-policy support has a direct impact on the development of green finance. Simon (2021) runs a green financial enterprise, which is influenced by the policies implemented by the national central bank. Although this research is based on previous studies, it is of great social significance to conduct a complete and systematic study on the influencing factors of green finance.

The research results indicated that the most influential factors on green finance are External supervision, Repayment capacity, The Stakeholders and their Engagements, Security risk, and other factors. This is the same as what scholars have done before. According to the historical data of listed companies in China, Wang Dianwu (2020) found that although China's green policies can significantly improve the efficiency of resource allocation provided by China's green finance, the efficiency of resource allocation of funds provided by China's green finance is still low. Pauline Deschryver (2020) thinks that the development of the green bond market is limited

due to the lack of global uniform standards and transparency of information disclosure. Measures such as formulating uniform standards and improving information transparency should be taken to fully promote the development of the green bond market. However, there are some limitations in this study, such as whether some independent variables, such as policy logic, which have little influence on empirical research, affect green finance through other means. Whether there is an influence of intermediate variables is also something that we need to explore further.

From the conclusion of the research, all the influencing factors of green finance have been recognized by the respondents. In addition, respondents believe that these factors have a positive impact on green financial policies. The conclusion also shows that the average of the survey results of green financial policies is "high", which shows that green financial policies have been recognized by the public. The future research direction must be based on present research, thinking, and development. The limitation of current research is the first issue to be considered in future research directions. In other words, for the study of green finance, we can further explore whether other models are more suitable for the study of green finance influencing factors. Of course, the value of green finance lies in promoting environmental protection and improving the effect of environmental governance. Therefore, future research direction should pay more attention to the effect of green finance.

Synthesize the results of the empirical study here and compare the previous hypotheses. It is found that some hypotheses are valid, while some hypotheses are not. Finally, these verification conclusions are summarized in Table 3.

**Table 3** Test results of hypotheses

Serial Number	Null Hypothesis Content	Result
Hypothesis 1	The Design of the policy has a significant positive impact on Green finance policy implementation	Hypothesis is true
Hypothesis 2	Policy Justifications have significant positive effects on Green finance policy implementation	Hypothesis is true
Hypothesis 3	Policy logic has a significant positive impact on Green finance policy implementation	Hypothesis is not valid
Hypothesis 4	Feasibility has a significant positive impact on Green finance policy implementation	Hypothesis is true
Hypothesis 5	The Stakeholders and their Engagements have a significant positive impact on Green finance policy implementation	Hypothesis is true
Hypothesis 6	The Institutional and Societal Context has a significant positive impact on Green finance policy implementation	Hypothesis is true
Hypothesis 7	Repayment capacity has a significant positive impact on Green finance policy implementation	Hypothesis is true
Hypothesis 8	Security risk has a significant positive impact on Green finance policy implementation	Hypothesis is true
Hypothesis 9	Industry characteristics have a significant positive impact on Green finance policy implementation	Hypothesis is not valid
Hypothesis 10	External supervision has a significant positive impact on Green finance policy implementation	Hypothesis is true
Hypothesis 11	The Implementation Strategy has a significant positive impact on Green finance policy implementation	Hypothesis is true

## Research Suggestions

From the research results, the researchers believe that the main policy recommendations of the relevant research institutes are as follows.

1. government agencies should be good at using supervision to promote the implementation of green finance, while enterprises should pay more attention to external supervision to ensure their stable development.

2. it is suggested to accelerate the green transformation of enterprises, limit industries with high pollution and high energy consumption, and advocate the development of green and low-carbon industries.

3. when implementing green finance policies, the policy or green finance related functional institutions should first consider sustainability, and then be green.

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