

Development of Green Finance and Sustainable Investment: A Case Study of the Issuance and Operation of SF Holdings' Green Bond Financing Project

Cai Gao *

School of Human Ecology, University of Wisconsin-Madison, Madison, WI 53706, United States

*Corresponding Author: cgao83@wisc.edu

ABSTRACT

In recent years, an increasing number of companies have embraced Environmental, Social, and Governance (ESG) principles as a driving force for sustainable development. ESG investment concepts, with green finance as a representative, have gained widespread acceptance. This paper utilizes the event study method, using SF Holdings as a case study, to analyze the issuance costs and economic effects of its green bonds. This analysis aims to provide insights for similar enterprises engaging in green finance and further enrich the theoretical research related to green finance.

KEYWORDS

Green finance; ESG concept; SF Holding; Event research method

1. INTRODUCTION

With increasingly stringent environmental policies in China, the ESG investment philosophy—centered on reducing environmental pollution, fulfilling social responsibilities, and enhancing corporate governance capabilities—has gradually become a consensus in socio-economic development. In September 2021, the "Opinions on Completely, Accurately, and Comprehensively Implementing the New Development Concept and Doing a Good Job in Carbon Peaking and Carbon Neutrality" proposed actively developing green finance, establishing a "dual carbon" foundation for the development of ESG and green finance.

As a logistics company that impacts the atmosphere, it is even more imperative to enhance environmental information disclosure and implement the ESG philosophy. Green financing, as an important means of implementing ESG principles, plays a significant role in promoting the green transformation of logistics enterprises [1]. Currently, scholars' research on green financing mainly focuses on its drivers, pathways, and effects [2]. Although extensive studies have been conducted on green financing across various industries, research specifically targeting logistics enterprises remains insufficient, with only a few relevant findings.

Therefore, to gain a deeper understanding of green financing and sustainable investment in logistics enterprises, this paper takes SF Holdings, a leading domestic company, as a case study. From the ESG perspective, it explores the development of green financing in logistics enterprises and comprehensively evaluates the various effects of green financing from environmental, social, and governance aspects. This not only provides a reference for other companies in the industry but also further enriches the theoretical research on green financing.

2. GREEN FINANCING INTRODUCTION

Green finance, proposed with environmental protection in mind, aims to achieve sustainable development for enterprises. Green financing, as one of the micro-level effects of green finance, is its main product. The most common forms of green financing include the issuance of green loans and green bonds [3]. Green financing benefits both corporate and environmental development. Under the ESG philosophy, the effects of green financing are primarily reflected in reducing financing costs, promoting corporate green transformation, enhancing corporate social image, and influencing stock prices [4]. Green loans can broaden a company's financing channels and promote its green transformation. Issuing green bonds not only lowers financing costs but also encourages green innovation, influences stock prices, and enhances the overall social image of the company [5].

2.1. The ESG Concept Promotes Green Financing

In 1993, SF Express was founded in Shunde, Guangdong. After years of development, it has become a leading comprehensive express logistics service provider in China and the fourth largest express company globally. Leveraging its express network that covers major countries and regions worldwide, SF Express provides customers with integrated supply chain solutions that span procurement, production, distribution, sales, and after-sales service. In 2022, SF Express made its debut on the Fortune Global 500 list. SF Express has consistently published sustainability reports for four consecutive years and is committed to building its ESG framework. In 2022, SF Express was included in Fortune's inaugural China ESG Impact List, becoming the only logistics company to be listed. In 2023, SF Express received a BBB rating in the Huazheng ESG ratings, actively fulfilling social responsibilities and achieving significant results.

SF Holdings integrates the ESG philosophy into its development strategy, building a scientific and professional ESG management system with a clear and transparent ESG governance structure, fully implementing ESG-related strategies to support the sustainable development of its business. SF Holdings opted to issue green bonds to deploy new energy vehicles, develop the industry's first self-developed waybill-level carbon calculation model, accurately calculating the carbon emissions of each package in various transportation stages using different modes of transport based on actual business data, and establish 14 photovoltaic projects in industrial parks. This not only broadens financing channels and reduces financing costs but also provides green energy for logistics development, achieves carbon reduction, and helps the company achieve its sustainable development goals sooner.

2.2. The Issuance of the Green Bonds Volume

From April 23, 2021, to April 26, 2021, SF Holdings completed the issuance of the first tranche of its 2021 publicly offered green corporate bonds (specifically for carbon neutrality). These bonds were issued through an offline book-building process targeting qualified investors. The issuance scale was RMB 500 million, with an issuance price of RMB 100 per bond. The coupon rate was 3.79%, with a bond term of three years. The bond is abbreviated as "21 SF G1" and the bond code is "149466".

3. ANALYSIS OF THE COST AND ECONOMIC EFFECT OF THE GREEN BONDS ISSUED BY SF EXPRESS HOLDINGS

3.1. Cost Analysis of Issuing Green Bonds

The cost of green bond financing is a key issue that issuers need to focus on. Issuing green bonds requires consideration of a series of related indicators, such as the pricing, interest rates, and credit of

green bonds. Conducting an in-depth study of the costs associated with issuing green bonds from a cost perspective helps to better understand the advantages of green bonds.

Analysis of Green Bond Interest Rates. The carbon-neutral green bonds issued by SF Holdings have a relatively lower interest rate compared to similar bonds, providing a certain cost advantage in issuance. As shown in Table 1, four bonds were issued in 2017, 2018, 2019, and 2022, with coupon rates of 4.6%, 4.29%, 3.69%, and 2.79%, respectively. The green bond "21 SF G1" issued in 2021 had a coupon rate of 3.79%. It is evident that the coupon rates of green bonds are generally lower than those of regular bonds, indicating a certain interest cost-saving advantage for green bonds. Additionally, comparing the data from the China Green Finance Report, it can be seen that the coupon rates of SF Holdings' issued bonds are lower than the average loan interest rates during the same period, indicating that the green bonds issued by SF Holdings have a certain cost advantage.

Table 1. SF Holding issued bonds

Debt roll name	Release time	Issuance scale (RMB 100 million yuan)	nominal interest rate (%)	The average loan interest rate for the same period is (%)
17 SF 01	In October, 2017	5.3	4.6	4.82
18 SF 01	In August, 2018	8	4.29	4.35
19 SF 01	In September, 2019	3	3.69	4.10
21 SF G1	In April, 2021	5	3.79	3.90
22 SF 01	In September, 2022	5	2.79	3.65

Moreover, when comparing the interest rates of green bonds issued by SF Holdings with those issued by other companies, SF Holdings' green bonds have a coupon rate of 3.79%, which is lower than the coupon rates of most green bonds issued by other enterprises, as shown in Table 2.

The issuance spread reflects the interest rate cost of green bonds. Therefore, introducing the formula for calculating the issuance spread of green bonds, which is Issuance Spread = Weighted Average Rate of Comparable Bonds - Research Green Bonds, can further clarify this aspect. A larger issuance spread indicates a lower interest rate cost for the bond issued. In this study, four similar green bonds were selected, and the weighted average rate was calculated to be 3.7975%. SF Holdings' coupon rate is 3.79%. Therefore, SF Holdings' issuance spread = 3.7975 - 3.79 = 0.0025, while the issuance spreads for the other green bonds are 0.0025, -0.2025, -0.0025, and 0.2475, respectively. In comparison, SF Holdings' issuance spread ranks among the top, indicating a certain interest rate cost advantage in the issuance of similar bonds.

Table 2. Issuance of similar green bonds

The name of firm	Green debt roll name	Issuance scale (RMB 100 million yuan)	Debt years (years)	nominal interest rate (%)	Issue spreads
Chongqing rail transit	21 Chongqing rail transit GN 001	10	3	3.79	0.0075
Shaoxing city rail transit	GC shao rail 01	7	5	4	-0.2025
Nanjing traffic	21 Nanjing Metro green debt 01	30	5	3.85	-0.0025
Chongqing airport	21 Chongqing Airport MTN001 (green)	5	3	3.55	0.2475
SF Holding	21 SF G1	5	3	3.79	0.0075

3.2. Analysis of the Economic Effect of Issuing Green Bonds

The green bonds issued by SF Holdings not only have a good cost effect but also demonstrate a certain economic impact. Economic effects can be divided into financial economic effects and non-financial economic effects, with non-financial economic effects including the impact of green bonds on the environment and their influence on corporate brand value.

Financial economic effects: (1) Improve debt-paying ability. The quick ratio is the percentage of a company's quick assets to its current liabilities, reflecting the company's ability to quickly repay debts. The current ratio represents the overall ability of the enterprise to repay current liabilities with current assets. Therefore, analyzing the debt-paying ability of SF Holdings from 2017 to 2021 (as shown in Table 3), we can see that the quick ratios were 1.194, 1.1795, 1.3561, 1.1364, and 1.179 respectively. The quick ratio declined at the end of 2020 but recovered slightly in 2021. The debt ratio decreased from 63.24% in 2019 to 53.35% in 2021, a decrease of about 9%. Although the pandemic had some impact on the company, with the issuance of SF Holdings' green bonds, it provided a "green channel" for the express delivery industry, making the operations of SF Holdings more environmentally friendly, in line with market trends. This helped SF Holdings increase business volume and net profit, thereby improving its debt-paying ability. Moreover, looking at the interest coverage ratio, it declined from 2017 to 2019 but rose to 12.63 in 2021, indicating a relatively high degree of coverage and strong debt-paying ability for the issuer, especially after issuing green bonds, the coverage level further improved. In summary, SF Holdings' issuance of green bonds has positively impacted various debt-paying ability indicators of the enterprise, enhancing its debt-paying capacity.

Table 3. 2017-2021 SF Holding debt repayment index

project	2017	2018	2019	2020	2021
quick ratio	1.194	1.1795	1.3561	1.1364	1.179
liquidity ratio	1.225	1.2106	1.3846	1.236	1.238
Interest protection multiple	12.18	7.87	7.9	10.35	12.63
asset-liability ratio	62.17	62.33	63.24	54.82	53.35

(2) Stock Price Increase. The stock market, as an important component of the capital market, reflects the value of listed companies mainly through the prices of their stocks. Therefore, the stock price of a listed company can reflect the expectations of investors and the market. As shown in Table 8, taking the three trading days before and after SF Holdings' official issuance of green bonds on April 26, 2021, as an event window, it is observed that SF Holdings' stock prices reached their highest values on the day of issuing green bonds, with opening and closing prices at 65.54 and 66.09, respectively. The three-day stock price volatility after issuing green bonds was 3.47, 2.27, and 2.96, all higher than the volatility in the days before issuing bonds, indicating that issuing green bonds can send positive signals to the market. SF Holdings' stock turnover rate was as high as 1.16 on the day of issuing green bonds, indicating that the issuance of green bonds sparked investors' willingness to buy SF Holdings' stocks. Comparing the changes in SF Holdings' stock prices before and after issuing green bonds, it can be concluded that the issuance of green bonds has had a positive impact on the increase in the company's stock price.

Table 4. SF Holding share price related indicators in April 2021

index	4.20	4.21	4.22	4.26	4.27	4.28	4.29
The opening price	64.97	64.00	63.80	65.54	65.20	64.50	65.94
The closing price	64.11	63.67	63.18	66.09	64.87	65.48	64.08
The percentage change or price change (for stocks)	-0.45	-0.69	-0.77	0.85	-1.85	0.94	-2.14
swing	2.28	1.39	1.54	5.55	3.47	2.27	2.96
The turnover rate or trading volume ratio	0.71	0.43	0.41	1.16	0.57	0.38	0.49

Non-financial economic effects: SF Holdings actively fulfills its environmental protection responsibilities, with greenhouse gas emissions decreasing year by year. In 2022, the reduction in CO2 emissions reached 1,557,816.4 tons, representing significant efforts toward climate protection. Additionally, SF Holdings has developed a smart carbon management platform that integrates environmental management with digitalization. From 2018 to 2022, the company continuously increased its own and leased new energy vehicles, facilitating green transportation through the deployment of new energy vehicles. In 2022, green transportation reduced greenhouse gas emissions by 304,000 tons. Furthermore, measures such as SF Forest and green packaging have reduced the company's greenhouse gas emissions, contributing to environmental protection in a unique way. In terms of resource utilization, SF Holdings uses green packaging, promotes biodegradable packaging materials, and adopts recyclable packaging. In terms of environmental friendliness and management, SF Holdings has built green industrial parks and established property systems, making significant efforts toward achieving the "dual carbon" goal in the environmental aspect.

4. CONCLUSION

The above analysis shows that SF Holdings has achieved satisfactory results after issuing green bonds, with positive cost effects, financial effects, and environmental effects. These positive feedbacks indicate market recognition of green financing methods and support for the country's green finance development strategy. Therefore, other companies in the same industry can refer to the ideas of this green financing to expand their financing channels, actively engage in green transformation, achieve sustainable development, and contribute to environmental protection.

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