

Does Green Bond Issuance Help Firms Attract Institutional Investors: Evidence from China

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Abstract: This paper examines the influence of green bond issuance on institutional shareholdings in the Chinese market. Green bonds are fixed income securities whose proceeds are earmarked to finance environmentally friendly projects. This study reveals that issuing green bonds can positively affect the number of shares owned by institutional investors of issuers.

1. Introduction

Over recent decades, there has been increasing external pressure on corporations to behave responsibly towards the environment[1]. Green bonds are one of the main elements of green finance. Although there has been increasing interest in green bonds in the literature in the past decade, the influence of green bond issuance on the issuing firm's institutional shareholding has received less attention, especially in China[2]. Green bonds refer to the fixed income securities whose proceeds are earmarked to finance environmentally friendly projects. As one of the important parts of green finance, green bonds can efficiently support the green projects of green bond issuers, mitigate climate change risks, and contribute to the sustainable development of the society[3]. China's green corporate bond market has begun to thrive since 2016, the scale of green bonds has grown fast. Since the market of green bonds has gradually entered a period of stability, we should pay more attention to the influence of green bond issuance on firms[4].

Chinese firms are encouraged to take green management strategies due to pollution resulting from past development. Particularly, under the background of the "dual carbon" goal, enterprises are under increasing pressure from government and society to act responsibly to the environment. Many businesses alter their production model in order to meet the green development goals. However, it is unclear whether firms' environmentally responsible activities impact institutional investors' investment decisions. This paper tries to answer this by examining the impact of the issuance of green bonds on the institutional investors' decision-making.

This paper offers the following contributions to the literature. Firstly, finding the answers to the above question can help us deeply understand the investment behavior of institutional investors in China, and have important theoretical and practical significance for regulators to better guide the institutional investors. Secondly, this study complements current research that studies green bonds in China. Thirdly, the emergence of green bonds has given companies a new way to solve financing problems in green transition. This paper studies the specific economic consequences of green bonds

issuance on the company level, paying attention to the role of this innovative financial tool in attracting investors for company.

2. Literature review and Hypothesis development

The issuance of green bond signals enterprises' engagement to the environment[5]. This signal can reduce information asymmetry between investors and green bond issuers. Because investors usually lack sufficient information concerning the company's environmental performance and commitment[6]. Besides, Freeman's (2015) stakeholder theory showed that firms should consider the interests of stakeholders[7]. As an environmentally responsible behavior, the act of issuing green bond is in line with the interests of stakeholders to a certain extent, thus helping enterprises obtain key resources from various stakeholders. Firms surely need this kind of stakeholders' support for their own development. It can help them achieve long-term sustainable development. As professional investors, institutional investors attach importance to firms long-term sustainable development.

On the other hand, the proceeds from green bonds can help enterprises collect money for projects that intended to protect environment and a growing body of survey studies find that institutional investors increasingly care about environmental issues. For example, a survey study which is conducted by Krueger et al.(2020) finds that the professional institutional investors deem that climate risks have financial implications for their portfolio firms[8]; Baker et al. (2018) surveyed senior investment professionals from mainstream investment institutions and finds that the most of these managers use ESG information because it is financially material to investment performance[9]; An interview of top managers from global institutional investing companies conducted by Eccles and Klimenko (2019) finds that ESG is a priority for these executives[10]; Nofsinger(2019) shows that institutional investors avoid stocks with negative environmental indicators[11];A survey conducted by Sangiorgi and Schopohl (2021) also finds that some institutional investors tend to buy a security of green bond issuer over a security from an organization that don't have a green bond issuance record[12].

Furthermore, a number of scholars have used the event research method to study the impact of green bond issuance on the stock price of companies. Studies based on a global sample mostly suggest that issuing green bond has a positive influence on the stock prices of bond issuers[13]. Therefore institutional investors may generate returns for themselves by investing in companies that issued green bond.

Finally, institutional investors are intermediaries that invest on behalf of others[14]. Institutions may find that pro-environment activities of firms are in line with their private objectives[15]. Recently, Asset managers are facing increasing demand for sustainable investing strategies from asset owners. This has led to growing Socially Responsible Investment funds and their assets under management [16-17]. Some investors are willing to forgo financial performance when they invest in mutual funds that are in accordance with their social preference [18].Accordingly, stocks of green bond issuers are expected to become more attractive for institutional investors who value the environment. Thus, issuing green bond may result in increased number of shares owned by institutional investors.

Collectively, this paper conjecture that firms that issued green bond will have an positive impact on institutional investors' decision-making.

Here comes Hypothesis 1:

H1: Issuing green bond would lead to increased number of shares owned by institutional investors.

3. Research Methodology and results

3.1 Data selection

I first collect data on all Chinese A-share non-financial firms that issued green bonds for the period from 2016 to 2020. My sample period begins from 2016 for the reason that the green bond market of China has begun to grow fast, and the scale of the market of green bond has flourished since 2016. While an enterprise may issue green bonds multiple times from 2016 to 2020, this article only focuses on the effect of the issuer's first issuance of green bond on the institutional shareholdings. This paper finds that there are 34 green bond issuers that meet the above criteria, which I refer to as treatment group. To address the endogeneity concern, I choose to utilize coarsened exact matching method. Specifically, I match each of the 34 green bond issuer with a non-financial listed company that is similar to it before the issuance of green bond, thus forming the corresponding control group.

3.2 Difference-in-differences specification

To explore the influence of issuance of green bond on the the amount of shares owned by institutional investors, drawing on Flammer's (2021) [4]methodology, this paper uses the difference-in-differences specification. Specifically, I uses the following regression specification for my analysis:

$$Y_{it} = \alpha + \mu_i + \lambda_t + \theta \text{ green bond}_{it} + \beta X_{it} + \varepsilon_{it} \quad (1)$$

where Y is the the number of shares owned by institutional investors for firm i in year t, μ_i is firm fixed effect, λ_t is year fixed effect, green bond is the core explanatory variable. If company i issues a green bond in year t, it will have a value of 1 for that period and beyond, or zero otherwise. ε refers to the error term. X are control variable. Based on earlier studies, I control for firm characteristics (Leverage, Tobin's Q, Leverage).

3.3 Empirical Results and Analyses

Table 1: the number of shares owned by institutional investors following the issuance of green bonds.

| | |
|------------------------------------|---|
| green bond | the number of shares owned by institutional investors 0.198*** (2.74) |
| firm fixed effect | YES |
| year fixed effect | YES |
| Leverage | 0.709 (1.02) |
| Tobin's Q | 0.0842* (1.71) |
| Return on assets | -1.192 (-1.22) |
| _cons | 19.84*** (47.65) |
| N | 527 |
| t statistics in parentheses | |
| *p < 0.1. **p < 0.05. ***p < 0.01. | |

Table 1 reports the DID estimates of the effect of green bond issuance on the amount of shares owned by institutional investors. We can see from Table 1 that the core coefficient is 0.198 and it is significant at 1% level, implying that the issuance of green bonds by companies can help enterprises attract more institutional investors. Therefore, this result supports hypothesis H1.

4. Conclusion

In this paper, I am interested in whether institutional equity investors consider firms' issuance of green bonds in their investment decisions. Our research is motivated by prior literature examining the relation between institutional investors' shareholding and CSR, which refers to corporate social responsibility. Specifically, I try to understand how environmental aspect of CSR are reflected in institutional investors' decision-making by examining the influence of green bond issuance on institutional shareholdings. Using difference-in-differences specification, this study find that the issuance of green bonds will lead to an increased number of shares owned by institutional investors. This evidence is consistent with the signaling argument—by issuing green bonds, companies can signal their commitment towards the environment.

The act of issuing green bonds can demonstrate firms' dedication towards the sustainable development, which would attract institutional investors who value the environment. Furthermore, actively participating in environment-friendly projects meet the environmental protection demands of stakeholders and help firms fulfill social responsibilities. As a result, companies gain support from internal and external stakeholders and improve their operating environment, thereby attracting institutional investors. Moreover, Green bonds are in line with the principle of sustainable development and can contribute to the green transition. The Chinese market of green bond has broad prospects. The use of green bonds by enterprises is conducive to enhancing firms green reputation and their long-term core competitiveness. This can further help firms achieve long-term sustainable development.

In view of the above research results, this paper puts forward following suggestions for the development of green bond. First, enterprises should be guided to actively participate in the green bond market. Local government should improve the construction and supervision of the green bond market, and actively guide enterprises to issue green bond. The government should also work on further optimizing the process of issuing green bond. Secondly, it is necessary to implement the incentive policy for green bond issuance. Third, we should encourage companies to issue green bonds and participate in major national environmental protection investment projects.

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