

Hong Kong as an ESG Financial Hub: Mechanisms through Which International ESG Capital Supports China's Green Transition

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Abstract. This paper examines the role of Hong Kong in the allocation of ESG capital. The article constructs mechanism framework of "institutional compatibility, market infrastructure, asset pricing and information identification", and analyzes how financial centers can reduce institutional and market frictions in cross-border green investment. Taking the example of Goldwind Technology issuing green bond in Hong Kong in 2015 as a case study, the research finds that Hong Kong promotes the entry of international ESG capital into China's green projects through its regulatory system align with international standards, mature bond market and green certification mechanism. Research shows that Hong Kong plays a significant connecting role in ESG capital and China's green transformation.

Keywords: Hong Kong; green bond; ESG; China's green transition.

1. Introduction

1.1. ESG investment trends and China's green transformation goals and limitations.

ESG investment has become increasingly significant worldwide in recent years [1]. Also, with the increased acceptance of sustainable development, long-term capital and investors are paying more attention to how environmentally friendly the companies and their social responsibility are. This trend reflects growing concerns about non-financial risks in capital markets and a strategic shift towards sustainable development. At the same time, China is actively promoting green economic transformation and the development of a green financial system [2]. However, the World Bank's Country climate and Development Report suggests that although China has clear aims in green transformation, the transition faces certain challenges [3]. On the one hand, it requires substantial long-term investment in green transition. Therefore, many Chinese firms still face challenges in information disclosure, project design and risk management. This limits ESG capital inflow in Chinese green projects.

Table 1. Estimated investment requirements for China's green transition by sector.

Sector	Investment (USD billion)
Electricity generation and grid	4,282
Transport electrification	7,403
Low-carbon transport infrastructure	187
Total investment	13,800

Source: Adapted from World Bank (2022) [3].

1.2. Hong Kong financial mediator between global ESG capital and green transformation in China.

In this respect, the relationship between the international ESG investments and China green activities has become an important research topic. One such significant financial centre is Hong Kong. Hong Kong not only has a legal system, market structure as well as regulatory environment aligned with the international society but also maintains close financial connection with the mainland China. Hong Kong has also improved its sustainable finance institutional framework in recent years. To align the

local markets with the sustainable standards, regulators have developed green financial products and strengthened the criteria of ESG report. The concerned documents have put Hong Kong as a key point of contact among mainland China and the global green capital [4].

1.3. Framework of research path and analysis.

This study examines the effect of the China's green finance policies and financial roles of Hong Kong. The role of Hong Kong's green finance mechanisms in supporting China's green transformation has not been extensively studied. The article will address financial market infrastructure and green financial products in Hong Kong and how they facilitate the flow of international ESG capital to mainland China projects. By referring to real-world cases of Hong Kong and builds an analytical framework to examine how Hong Kong can become a financial intermediary and how this role supports green transformation of China. The framework focuses on three mechanisms: institutional compatibility, market infrastructure, and asset pricing and information identification.

1.4. Literature Review: ESG Disclosure and Capital Allocation

Early studies have examined the question of whether the corporate social responsibility (CSR) can influence the capital pricing or not. Dhaliwal et al. (2011) posit that voluntary disclosure of the companies CSR activities can reduce the cost of equity capital of companies and attract long-term investors [5]. This is in accordance with the theory of information asymmetry and non-financial information influences the activity of investors in the evaluation of long-term risks and this influences the capital pricing. Thus, the capital pricing has involved the issue of CSR disclosure. The first studies done were mainly concerning CSR. The focus gradually developed the ESG structure over the recent years when the research was progressing. ESG provides more quantitative signals in comparison to CSR. Besides the disclosure mechanism, other studies have also revealed that the capital pricing is also affected by the risk factors. Chava, S. (2014) has argued that companies with environmental issues have high cost of equity and debt capital than ones that do not [6]. The concept is aided in this paper to explain that the environmental risks are influencing the capital prices independently.

Nevertheless, ESG impact on a capital cost is not a fixed process. ESG disclosure might reveal dynamic attributes with time. The paper by Khanchel, I. , and Lassoued, N. (2022) examines the firms within the United States S&P 500 index and reported that the impact of the three dimensions of the ESG on capital costs differs: governance disclosure lowers capital costs at the beginning but decreases over the years; social disclosure increases capital costs with the passage of time, and environmental disclosure produces a significant negative effect on capital costs, which declines over time. This study also shows that ESG impacts the pricing process, which varies with time [7].

Other than the voluntary disclosure of enterprises, the mandatory ESG disclosure at the institutional level continues to have the pricing implication on capital costs. Krueger et al. (2024) also indicated that the development of a mandatory system of disclosure by the government can further harmonize the ESG disclosure framework and aid in the investment in minimizing the risks costs [8]. The study indicated that the liquidity will be significantly better in a strict implementation setting of obligatory disclosure conditions. As one can observe, the regulatory environment and system also contribute to influence the effect of ESG on capital costs.

In general, the ESG will influence the capital cost of businesses and information disclosure mechanism, risk premium mechanism and institutional mechanism thereby impacting the way capital is allocated. The capital market has a higher propensity to invest on enterprises that have risk-identifying and transparent governance structure, which is the essence of the ESG affecting capital flows.

While existing studies mainly examine ESG disclosure and its impact on the cost of capital at the firm level, relatively little research has explored the role of financial centres in facilitating cross-border ESG capital allocation. This paper will shift the focus from individual firms to the intermediary

role of financial centers, particularly in connecting international ESG capital with mainland China's green investment.

2. Hong Kong Mechanism Analysis

2.1. Institutional compatibility mechanism

This mechanism primarily reduces institutional risks encountered by international ESG investors. Friction often exists in cross-border capital flows because of institutional differences. Various countries have different legal systems, implementation of property rights protection and supervision. Such institutional risks increase uncertainty for investors and require more returns to cover risks when entering a new legal environment [9].

The issues that international ESG investors can encounter with in the financing of green projects in China include inability to recognize the legal rules, lack of transparency of information and other regulatory requirements. Financial center of international standards is within close proximity to the institutional environment, and it can contribute to it.

Hong Kong follows the common law system and abides by the international financial standards of regulations. Hong Kong securities market adheres to global accounting practices. Its ESG disclosure regulations are also bordering on the international mainstream framework. Legal uncertainty and compliance risks can be mitigated by this institutional environment. Investors are able to invest according to rules that are more familiar to them.

The risk premium demanded by the investors would also be reduced when the institutional risk is reduced, and capital is in a better position to flow into the mainland market. Thus, Hong Kong minimizes institutional friction brought about by the cross-border movement of green capital by institutional compatibility mechanisms thereby facilitating the reallocation of ESG capital to the green businesses in mainland China.

2.2. Market infrastructure mechanism

This mechanism primarily reduces liquidity risk and transaction costs in capital allocation. When it comes to cross-border allocation of capital, the efficiency of capital flows is also dictated by the quality of the Market Infrastructure. The Market Microstructure Theory suggests that transaction cost and market liquidity play a key role in determining asset pricing. High transaction costs or lack of sufficient liquidity will often demand higher risk payment by investors hence raising finance costs and averting capital inflow [10].

In the case of international ESG capital, there are other challenges that can arise when entering the mainland green projects directly which can include, the difficulty of the process involved in transactions, variation in the settlement system, lack of market liquidity and exchange rate. Such reasons will lead to high implicit costs and uncertainty.

Hong Kong as an international financial hub has developed a fairly mature system of cross-border market infrastructure and has effectively mitigated the frictions in the above.

To begin with, the Bond Connect and Stock connect systems have created a direct capital flow linkage between the mainland and global capital market. These mechanisms reduce technical barrier to cross border investment and enhanced the efficiency of the transaction. The investors can invest in the distribution of the mainland assets through the well-known market rules and trading mechanisms, thereby minimizing operation risks and compliance expenses.

Secondly, Hong Kong has built a fairly developed Green Bond Market. It has a very good alignment of the market with the international practice relating to the information disclosure standards, rating system and structure of issuing the green financial products offer ESG investors a range of green

products that can be identifiable and standardized. This product structure is standardized to facilitate more liquidity of assets and the cost of searching information to the investors.

Moreover, the Offshore RMB Market in Hong Kong also offers a financial assistance system to the green financing across borders. Investors can minimize the risk of converting their currencies to the RMB as well as uncertainty in relations to settlement with the help of offshore RMB clearing and financing, thereby reducing the friction of transactions at the level of money.

Overall, Hong Kong has minimized the transaction costs in international capital flows and enhanced the asset liquidity with a flawless market infrastructure. And the cost of financing green projects also goes down. Hong Kong, therefore, has been instrumental in supporting infrastructure at the market level and facilitating the efficient deployment of international funds on ESG towards the area of green transformation in the mainland.

2.3. Asset pricing and information identification mechanism

Once the institutional environment and the market infrastructure have become better, whether the green projects in the mainland receive the international ESG capital, also depends on the judgment of asset risk and value by the investors. Although the regulations are relatively stable, and the channel of trade is free, therefore, when investors do not have a complete picture concerning the actual performance of the green assets themselves, it is likely that they would raise expectations regarding risks as a result of uncertainty.

The Asset Pricing Theory and Information Asymmetry Theory indicate that an extra risk premium will be introduced in cases where investors base their uncertainty regarding the quality of an asset [11]. The source of this premium is not the institutional defects and transaction costs, rather cognitive deviations with regards to the stability of the future income of assets, the dependence of policy and the genuineness of long term performance.

In the context of the background of cross-border investment, the risk perception of international investors in green enterprises in the mainland usually depends on the disparities in the information interpretation model. As an illustration, the various markets interpret sustainability of policy support, stability of regulation of industries and reliability of data of enterprise environmental performance differently. The undervaluation of assets may stem out of this cognitive difference.

Being an intermediary market between mainland and international capital market, Hong Kong has created a relatively stable price discovery in asset pricing exercise. On the one hand, global institutional investors intersect with international analytical institutions that are conversant with the economic environment of China, which help improve the consistency of risk evaluation. Alternatively, there is some international reference worth of the price signal in the Hong Kong market. When the valuation of green assets in the Hong Kong market is more reasonable, it will contribute to the international investors gradually changing their risk expectations.

When risk awareness gradually converges, this reduces the information risk premium attached to assets and the financing cost will approach a sensible level, thereby facilitating the enhancement of efficiency in capital allocation. Hence, besides being compatible with the institutional levels and market infrastructure, the role of Hong Kong based on the asset pricing and information identification level helps to explain how international ESG capital facilitates China's green transformation.

3. Case Evidence - Goldwind Technology

3.1. Case Background

Goldwind Technology is among the foremost clean energy business manufacturing and wind power equipments in China. The key operations of it are manufacturing of wind turbine sets, wind farm development and operating new energy. The company as an influential resourcing enterprise of the

new energy industry has its business development directly linked to the goal of green transformation in China.

The nature of wind power projects is normally that of large scale investment and long recovery period and that long term stable funds are very required. As a result of the rapid growth in the new energy sector, there is an ever-increasing demand of enterprise funding. Meanwhile, the interest of the international capital market to green investment is constantly growing, and the ESG concept is becoming a significant foundation of investment decision making gradually.

It is against this backdrop that Goldwind Technology decided to implement the green financing practice by using the Hong Kong market. Hong Kong being a global financial hub has a developed system of bond issues as well as international investors which give overseas financing options to new energy enterprises in the mainland. Goldwind Technology have also issued green bonds within the Hong Kong market, which is thus a realistic case using which the further analysis of the role of Hong Kong in the cross-border green finance would be made.

3.2. Financing Structure: Green Bond Issuance in Hong Kong

The first international financing done by Goldwind Technology in Hong Kong is a green bond that was issued in July 2015. The bond was listed on Hong Kong Stock Exchange and issued to international institutional investors. Wind power projects and other renewable energy projects are always constructed by using bond funds [12].

In the issuance, the company developed the Green Bond Framework to explain how the funds will be used, how projects will be screened and the how follow-up disclosures will be provided. The bond has received the green certification opinion given by a third-party institution as a way of demonstrating that it satisfies the international Green Bond Principles. Goldwind's Hong Kong green bond raised US\$300 million and reportedly received US\$1.4 billion in investor orders, indicating strong demand from international investors [13]. This system will boost transparency and compliance of bonds in the international market.

According to the issuance form, the green bond had a fixed coupon rate, international investment banks underwrote the bonds, and marketed them to international investors.

After issuance, the bond was traded in the Hong Kong market, and investors mainly overseas institutional and professional investors.

The Goldwind Technology financed green bond by the Hong Kong market as a whole and this has not only funded the company but also expanded its international investor base. The financing practice is useful case for analysing of the follow-up of the Hong Kong's role in the cross-boundary green financing.

Table 2. Key features of Goldwind Technology's green bond issuance in Hong Kong.

Item	Evidence
Bond type	U.S. dollar-denominated credit enhanced bond
Investor type	Offered only to professional investors
Listing venue	Hong Kong Stock Exchange
Third-party review	DNV GL independent assessment
Green standard	Green Bond Principles (ICMA)
Joint lead managers	Bank of China, Deutsche Bank, Société Générale

Source: Xinjiang Goldwind Science & Technology Co., Ltd. (2015).

3.3. Mechanism in Practice

Goldwind Technology has applied to be listed on Stock Exchange of Hong Kong. This structure implies that the bond issue should have vindicated the provisions of the disclosure regulations and applicable regulatory parameters of the Hong Kong market. Simultaneously, the bond is verified by

an independent third-party DNV GL and is defined as the conformity to the Green Bond Principles adopted by the International Capital Market Association. The issuance of green bonds by Hong Kong platform compared to the direct issuance of the bonds in the mainland market puts the issuance behavior within a more global institutional framework. The international investors are able to evaluate the bond risks in a known regulative and disclosure environment thereby lowering the risk premium generated by institutional uncertainty.

Only the professional investors can enjoy this green bond. Throughout the issuance process, the French Foreign Trade Bank, Deutsche Bank and the Bank of China played the role of the JLO. This arrangement enables the bonds to get into the subscription system of international institutional investors via the Hong Kong market and not restricted by the provision of mainland investors in the scope. The issues of bonds made in the Hong Kong market help Goldwind Technology to enjoy mature mechanisms of issuing bonds internationally, one of them being international underwriting networks, international clearing and professional investor markets compared to when it has to do it through direct financing in the mainland market. This infrastructure provision in the markets lowers the institutional cost and operating cost of overseas investors to participate in the transactions allowing them to invest in a familiar market.

To global investors, such a unified format offers a verifiable information foundation, as opposed to what the company itself had stated. Bonds are issued and traded in the Hong Kong market therefore, their disclosure documents could be publicly accessed, via the Hong Kong Stock Exchange and the investors could carry out risk assessment in a comfortable legal and information setting. Third-party authentication combined with public disclosure mechanism is what renders the green attribute verifiable and therefore eliminates cynicism of investors regarding authenticity of the fund's utilization.

Thus, the case illustrates how Hong Kong offers not just a formal issuance platform, but it also creates a pricing and allocation, as well as a pleasant atmosphere of international capital involvement in green financing by instituting the synergy of institutional compatibility, and market infrastructure and information disclosure mechanisms. Specifically, this process introduces the working path of the framework of mechanism suggested above.

3.4. Implications for Hong Kong as an ESG Financial Hub

Goldwind Technology issued green bonds at its Hong Kong subsidiary and listed it on the HKSE which demonstrated that Hong Kong could act as an intermediary between foreign investors and green business in the mainland. In a more global view, the Hong Kong market has an international rule system and a mature system of issuing bonds and therefore, it is a significant place where mainland-based enterprises can implement green financing. Hong Kong can take advantage of the situation with international green bond standards and third-party certification mechanisms, which have increased transparency and acceptability of green assets and hence its role as an ESG financial hub.

As such, besides confirming the presence of the above-advocated mechanism framework, this case also demonstrates the strategic location of Hong Kong in facilitating the distribution of green capital across the nations.

4. Conclusion

The current paper evaluates the role of Hong Kong in the cross-border ESG capital allocation and develops three-level mechanism model of the institutional compatibility, market infrastructure, and information and asset identification to explain how the role of financial centers can minimize institutional and market friction in the incentive of cross-border green investment. In this article, the case analysis involving the issuance of green bonds in Hong Kong in 2015 by Goldwind Technology revealed that Hong Kong not only offers a financial sphere, but also incorporates the overall activities

of green financing into the global capital market framework through the global regulations system, a mature bond market system and standardized green certification.

It has been found that the interaction of the Hong Kong institutional capability, professional investor network and information disclosure system is the main role of Hong Kong in cross-border green financing. Such a combination of mechanisms can contribute to the greater transparency and marketability and thereby offer a more stable institutional and market environment in which international capital will be able to contribute to the green transformation of the mainland.

Naturally, this article still has some drawbacks. To begin with, this paper is an analysis of one individual case and does not involve a general comparison of the samples. Secondly, the study does not quantitatively test the difference in bond basis pricing or even the yield level. Therefore, the discussion of the pricing impact remains largely inferences that form the mechanisms. Future research can implement the empirical analysis on the grounds of a larger sample and compare the functions of various financial centers to further test the mechanism framework which is proposed in this paper.

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