
GREEN BOND: A WAY TO SAVE HUMANITY THROUGH MAKING AN AWARENESS REGARDING CLIMATE CHANGE

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Abstract

This paper explores the potential of green bonds to mobilise adaptation and mitigation finance in developing countries. It discusses the main drivers of the green bond market in recent years and the barriers preventing developing countries from seizing it, on the basis of a theoretical approach. The results indicate that green bond growth is a reality in both developed and developing countries, backed by increasing environmental consciousness among investors. Nonetheless, demand remains incipient in developed countries and its full capacity seems to be undervalued. The lack of appropriate institutional mechanisms to deal with green bonds, the question of a minimum size and the high transaction costs associated with the issuance of green bonds are main obstacles to the growth of green bonds in developing countries. This paper suggests the effective use of multilateral and national development banks as intermediary institutions for local green bond management in order to resolve these challenges. In addition, municipal governments are expected to give local green bond issuers guarantees to offset the borrowing costs associated with issuing green bonds.

Keywords: *Green bonds, minimum size, transaction costs, development banks, developing countries.*

I. INTRODUCTION

Green bonds offer an opportunity, as creative financial tools, to explore new private capital markets in order to fund sustainable projects. The word 'green bonds' applies to bonds that are used to support environmentally sustainable projects such as recycling, water and energy conservation, bioenergy, and low carbon transport [1]. There is no universal definition of green bonds at present, but a growing consensus has been reached about what they are intended to do. For the purposes of

this paper, a green bond should be defined as a fixed income financial instrument to raise capital for the purpose of funding or refinancing qualifying green projects.

Green bonds were a term of limited interest for investors during the financial crisis of 2008, as traditional investors considered environmental projects risky and unprofitable [2]. Surprisingly, since then, the issuance of green bonds has risen exponentially due to a growing knowledge of the advantages of green investment and the possible effects of climate change on the financial assets of traditional investors. Therefore, investors' appetite for green bonds has risen steadily, realizing that climate change is a new factor in investment returns that requires tremendous attention [3]. Many investors, especially those in the economy's carbon-intensive sectors, are now very sensitive to climate-related technologies, such as carbon capture and sequestration (CCS) (Fig. 1). More significantly, an increasing number of investors have begun to use climate change risk assessments in their investment strategies.

The European Investment Bank (EIB) became the first multilateral development agency to launch a climate awareness bond worth USD 1 billion in 2007. A year later, in its countries of operation, the World Bank launched a second green bond to finance climate mitigation and adaptation programmes. Municipalities, commercial banks, and some of the world's largest businesses have stepped in the same direction, too [4]. For example, green bond issuance increased significantly from USD 1 billion in 2007 to USD 895 billion in 2017, of which USD 674 billion were self-branded green bonds and USD 221 billion of certified green branded bonds, according to the Climate Bond Initiative.

II. THE KEY DRIVERS OF THE GREEN BOND MARKET

While this paper aims to be comprehensive, it discusses many forces that have been critical in recent years for the growth of the green bond market in developed and emerging countries. First, green bonds are essentially similar in nature to traditional bonds, with a few variations. Our deals bear the same risk / return profile as any fixed income traditional bond offered on the market. Indeed, the price and yield of green bonds at maturity are equivalent to conventional bonds [3]. Recent empirical studies have shown that there is a strong link between green bond yield and traditional bond yield to maturity (YTM). Firstly, green bonds are essentially close in form to traditional bonds with few exceptions.

Their bonds bear the same risk / return profile as any conventional bond issued on the market for fixed income. Indeed, at maturity, the price and yield of green bonds is comparable to conventional bonds. A powerful correlation between green bond yield (YTM) and traditional bond yield has been shown in recent empirical studies. The relation between green and conventional bonds issued by Apple and the German Development Bank (KfW). In some extent, the fact that green bonds are ranked with conventional bonds in terms of maturity yield is a key factor that stimulates investor appetite for green Links. In addition, investors realized that investing in projects related to the environment does not necessarily jeopardize investment returns [5].

The key difference between green bonds and traditional bonds is that, unlike the latter, the proceeds of the former must be dedicated exclusively to projects which are environmentally friendly. Moreover, a more complicated issuance process is also expected for green bonds, since their deal normally needs at least three market participants whose positions will be discussed in the next paragraph. Indeed, investors and policy-makers have become increasingly aware of the possible threats to companies and the financial system as a whole presented by climate change [6]. This climate-consciousness has contributed to preventive implementation Measures, such as climate risk stress tests to determine financial institutions' vulnerability to the risks of climate change.

The key aim of these reviews is to ensure that the entire financial system is immune to the effects of climate change. Therefore, some authors encourage investors to shift from a shareholder model that focuses solely on revenue maximisation to a stakeholder model that aims to generate not only financial interest, but also social and environmental values [7]. The implementation of voluntary codes of conduct for sustainability has been suggested to help create a more sustainable financial system in which the society understands and handles risks well. Through doing so, investors will sensibly reduce their exposure to climate change threats, thus reducing their future capital losses as a result of climate change impacts due to stranded properties.

This unprecedented political support for climate change has given investors positive signals, thus increasing the Green Development of the bond markets, especially in advanced and emerging countries. For example, highlights the financial markets' positive reaction to ratification of the environmental deal in Paris [8]. This increased awareness of the economy and the low interest rate climate that prevails in most developed countries and has accepted green bonds as a portfolio machine diversification by institutional investors. The fact that green bonds are listed with conventional bonds in terms of yield to maturity is to some degree a key element that increases the investor's appetite for green bond.

III. TYPOLOGY AND THE FUNCTIONING OF GREEN BONDS

It is currently possible to differentiate between four different types of green bonds, all compliant with the Green Bond Principles, depending on the use of the proceeds: regular green use of proceeds bonds, green income bonds, green project bonds, and green securitized bonds. In the case of default on interest payment or return of principal, a regular green use of proceeds bond is a debt obligation with recourse to the lender. Following an internal mechanism that connects the issuer's lending and green investments [4], the proceeds of such a bond should be tracked with a different subaccount or by the issuer. When buying such a bond, it is recommended that the issuer make the expected types of qualifying investments available to investors for the balance of unallocated proceeds [9].

For example, it may be the fee paid by customers for using the infrastructure created by the proceeds of the green bond. Failures to comply with these requirements can result in the issuer

being excluded from the green bond market [10]. The applicant is permitted to issue a certified branded green bond to raise funds on the debt capital market when the second opinion attests to the green quality of the project to be financed. For a specified period of time, green bond underwriters then provide the issuer with capital at a fixed or variable interest rate. Some major transaction costs may be involved in this tripartite green bond issuance process.

IV. CONCLUSION

Green bonds offer a historic opportunity, as creative financial instruments, to channel private equity into low-carbon investments. In the yield term system between green and traditional bonds on the U.S. municipal bond market, differences were studied. There's an average spread between conventional and green bonds that is positive and statistically significant. This spread can be clarified by variations in the basic features of both conventional and green bonds. In general, emitters of green bonds are more creditworthy and have more stable economic fundamentals. Such results have important consequences for further expansion of the green bond market and of global finance more generally. The issue is of particular concern because a significant part of the funding needs for mitigation, and even more so for adaptation, involves developing countries and small-scale projects, which appear to be more risky to the market.

V. REFERENCES

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