GREEN BONDS - FORM OF ECOLOGICAL PROJECTS FUNDING

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Abstract
In the context of an increased emphasis on climate change and sustainability, the funding of environmentally-friendly projects has become an important alternative to attract funds for responsible entities both in the public and private areas. Globally, green bonds are currently the most developed form of funding for major projects with considerable impact on the environment. The present study aims to present an analysis of the evolution of the global green debt market. Since its inception in 2007, the green bond market has grown rapidly both in terms of scope, average size of issuance and diversity of issuers. The development of the green bond market will be influenced by the diversification of issuers as well as by the value of the issues.

Keywords
green bonds, green investment funding, Green Bond Principles, "Green" Bond Market

JEL Classification
G23, M14, E00, F41

Introduction

Green funding is a phenomenon that combines the world of finance with the business environment. It is an arena for many participants, including for individual and business consumers, manufacturers, investors and financial creditors (Wang & Qiang, 2016). Ecologic funding places more attention on ecological or environmental issues and also on the funding of green investments.

Financial instruments are the most essential tools for green investment funding. Globally, green bonds are currently the most developed form of funding for environmentally-friendly projects.

Considerations on green bonds

Green Bonds are a "simple" fixed income product that gives investors the opportunity to participate in financing green projects, that helps diminishing the effects of climate change and helps countries adapt to the climate change (Reichelt, 2010).

Green bonds are an important financial instrument used to fund projects with a positive impact on the environment and / or society and help issuers having a smooth transition to a more sustainable economy. They have the basic function and characteristics of the usual bonds. The main difference between green bonds and any other type of bond is the destination of funds attracted, which should be used exclusively to fund or refund projects with clear environmental benefits (green projects). Eligible green projects that can be funded by green bonds include renewable energy projects, energy efficiency, pollution prevention and control, or projects related to products, technologies and production processes, ecological transport, or any other projects meant to conserve the biodiversity of terrestrial and aquatic ecosystems.

According to the International Capital Market Association (ICMA), "Green" bonds represent a type of bond whose funds will be used exclusively to finance or refinance, partially or wholly, new and / or existing Green Projects that comply with the four basic principles (Green Bond Principles).

In order to qualify as green bonds, debt securities issue must follow a set of four core principles - the Green Bond Principles (GBP) issued for the first time in 2014 and updated annually by the International Capital Market Association (ICMA):

1. Use of funds
2. Project evaluation and selection process
3. Fund management
4. Reporting

Fig. no. 1. The Green Bond Principles (GBP)

Source: Green Bond Principles (GBP), 2017. Ghidul pentru Emisiunile de Obligatiuni "Verzi". https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/

Even though the principles published by the Climate Bond Initiative also meet in literature, they are less used than those developed by International Capital Market Association (ICMA). The Green Bond Principles are useful to all market participants, either issuers, investors or investment banks because they require a set of values and standards generally accepted by market players. Although there are no mandatory criteria on what is "green" or what type of green shades respect the threshold, these principles catalyzed the issuance and interest of investors (Kochetygova & Jauhari, 2014):

Green bonds bring a number of significant benefits to issuers (Oncu, 2018):

- Issuing green bonds can attract responsible investors interested in supporting sustainable projects;
- The issuer can broadly expand and diversify its investor base;
- Strengthening the brand and image of the issuer concerned, due to the social responsibility actions undertaken through the development of green projects. These advantages, on the other hand, are also a source of challenges for the respective issuers.

A further challenge is the ongoing change in the general legislative framework and the principles governing green bonds as well as the regular occurrence of new valuation criteria that issuers have to pursue to meet investors' requirements.

For investors, in comparison with bank deposits, green bonds tend to provide greater profitability, liquidity and stability, which are responsive to diversification of investors (Wang & Qiang, 2016). There are also opinions of other authors (Paranque & Revelli, 2019)who argue that there are many advantages for investors. Investors who will place funds in such financial instruments will know the exact project where the funds are invested and will therefore be able to analyze the quality of the issuer through the various green bond valuations.

The issuance of green corporate bonds has become more widespread lately, especially in industries where the natural environment influences financial issues. Caroline Flammer analyzed the yields of green corporate bonds and the results of the study indicate that green bonds are effective - companies invest their income in projects that improve the company's environmental conditions and contribute to long-term value creation. At the same time, research findings show that these bonds are attractive to environmentally sensitive investors who seek to improve them and protect the environment (Flammer, 2018). This finding contributes to literature showing that better environmental, social and governance performance (ESG) improves access to finance (eg Cheng, Ioannou & Serafeim, 2014; El Ghoul et.al., 2011) as well as emerging literature exploring investor preferences for the implementation of ESG factors (eg Barber, 2007; Dimson et.al., 2015; Dyck et.al., 2018; Starks et.al., 2018).

Analysis of the global evolution of the green bond market

The "Green" Bond Market aims to develop the key role that capital markets can play to fund projects that contribute to environmental sustainability.

At present and in the same way as responsible investments, the green bond market is concentrated in the hands of institutional investors and asset management companies.

The first green bonds issue was originally launched in 2007 by the European Investment Bank and World Bank. Since then, the green bond market has world-wide experienced the initial development stage (2007 ~ 2012) and in 2013 the green bond market get involved in a rapid development, as the first private sector companies have begun to issue green bonds starting with 2013 (fig. no. 2). In 2016, the first issue of sovereign green bonds (GB) launched by Poland, followed by other countries in Europe (France, Belgium, Ireland) or the world (Fiji, Nigeria).

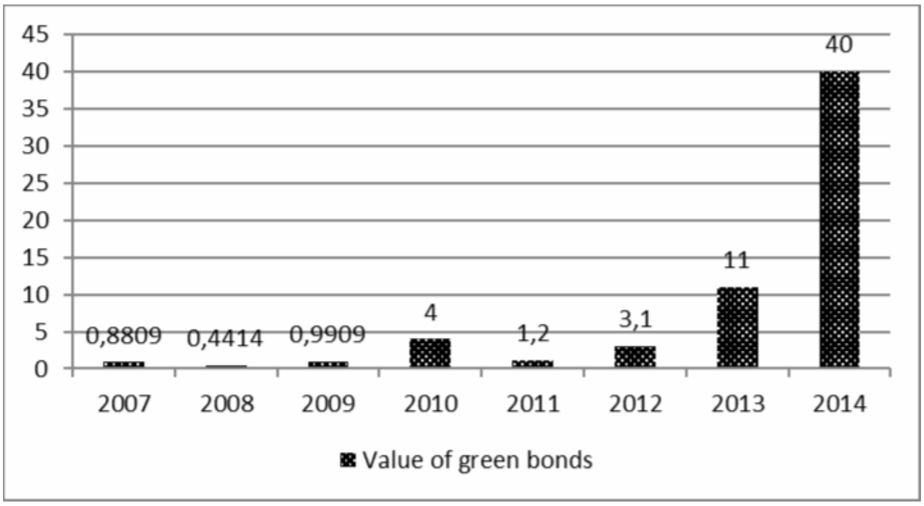

Fig. no. 2. The evolution of the green bond market value 2007-2014

Source: Kochetygova, J. and Jauhari, A., 2014. Climate Change, Green Bonds and Index Investing: The New Frontier. http://asia-first.s3.amazonaws.com/researches/web_link/5a4dc41ddd1a74ae782d8900f5a3a63c.pdf.

The green bond market grew rapidly and first surpassed the $ 100 billion threshold in 2017, reaching $ 170 billion in 2017 and over $ 200 billion in 2018 (fig. no. 3). Early in 2017, France announced its own launch of the green bonds, the first "green" bond issue in France (Oncu, 2018).

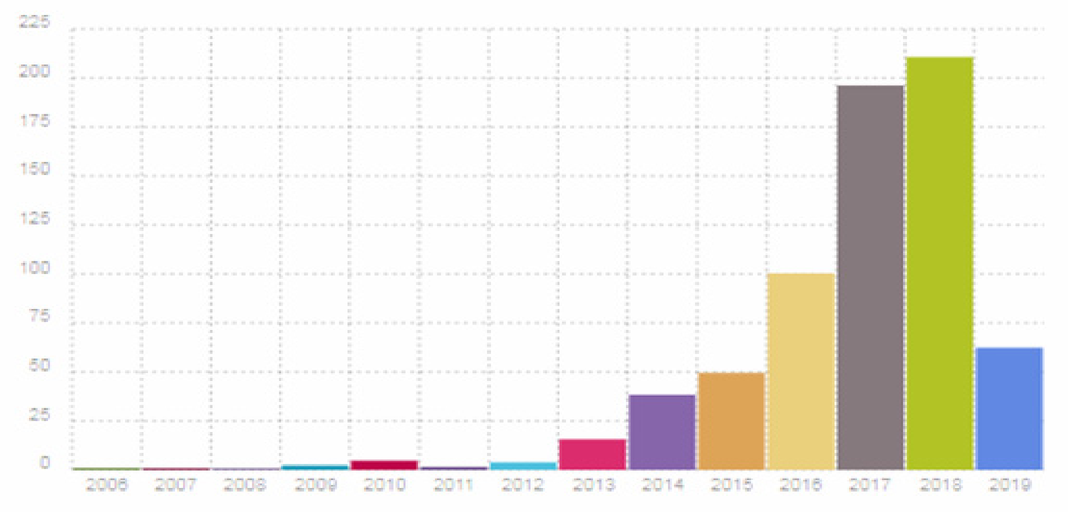

Fig. no. 3. The evolution of the green bond market value 2007-2019
Source: www.bonddata.org

The interest of investors in the World Bank's green bonds captured the attention and imagination of other issuers - including governments - who recognize that green bonds are a compelling way to reach private capital to support their own efforts to mitigate and adapt to climate change. Private capital can be concentrated if green bond products would be designed to respond to the risk / profitability ratio, would provide portfolio diversification opportunities, would provide liquidity, and would provide investors with opportunities to benefit from the success of climate change approaching projects (Reichelt, 2010). Green bonds are particularly attractive for investors who incorporate environmental, social and governance factors (ESGs) into their analysis, which is specifically pursuing environmental strategies.

According to a study published by the Climate Bond Initiative in 2018, 145 entities issued green bonds in Europe (about one-third of the global number of issuers) from various sectors of activity, including energy sector, real estate sector, financial institutions, but also municipal and national authorities (Oncu, 2018)

Bernard Paranque & Christophe Revelli (2019) have identified in a recent study that most of the green bonds (GB) are issued by the Chinese market, accounting for almost half of the 2016 issue. Since the Chinese market is reserved for local investors, this does not allow for real market expansion. The authors of the same study show also in their research in 2019 that taxation can create problems for investors. Thus, American bonds will not be attractive to European investors from a fiscal point of view, as they have tax advantages only for US investors. (Paranque & Revelli, 2019).

The following chart shows a distribution of green bond issues on funded sectors. The 30 June 2018 data from the World Bank's Green Bond Report highlights that green bonds have been leveraged to 44% to finance renewable energy and energy efficiency projects, followed by the green transport sector (fig. no. 4).

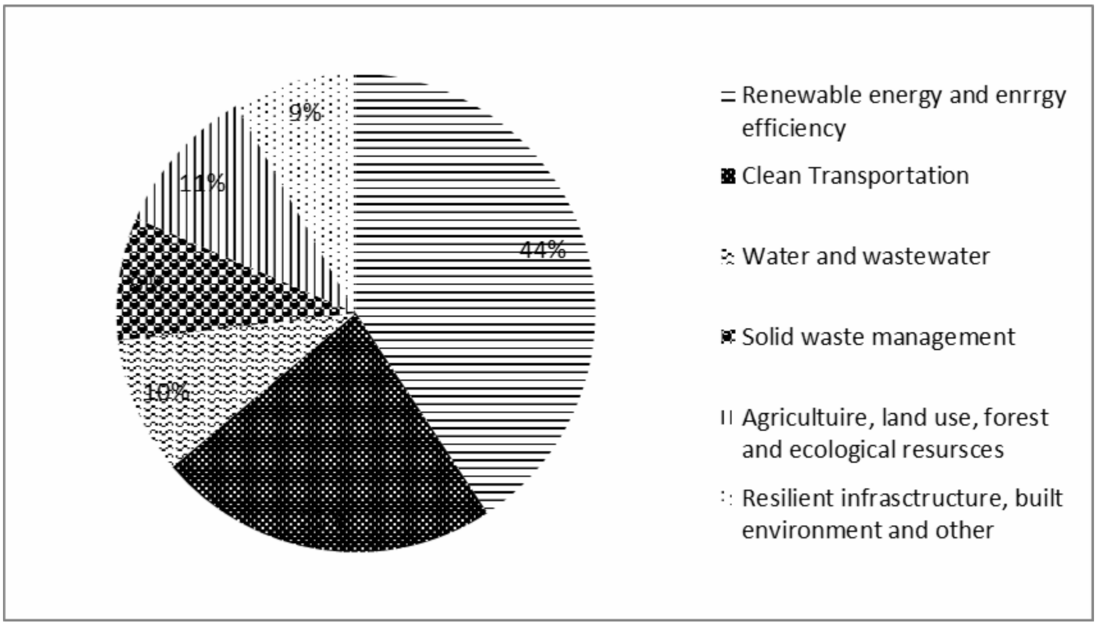

Fig. no. 4. Distribution of green bonds by sectors
Source: World Bank, 2018. Green Bond Impact Report, 2018, Available at:
http://pubdocs.worldbank.org/en/632251542641579226/report-impact-green-bond-2018.pdf

Regarding the development of a green bond market in Romania, there are some barriers, such as the fact that Romania is a small global market, the need for financial incentives, strict regulation of institutional investors, European Union funds that compete with the capital privacy and lack of awareness of this product. As a solution, the government and municipalities in Romania should raise awareness through the issue of Green Bonds (Talking of Money Magazine, 2018)

In 2007, no one believed in the viability of green bonds. Romani, EIB Financing Manager, says that this market is one of the most successful in financing climate change (EIB, 2017). The recent rise in the green bond market reflects a series of converging tendencies (Kochetygova & Jauhari, 2014):

- Increasing awareness of climate change by investors and the public area;
- Recognizing that capital markets can offer solutions to meet the huge capital needs of a climate-sensitive infrastructure; and
- Investor demand for fixed income instruments that respects environmental mandates and sustainability without compromising returns.

Conclusions

At its core, the concept of green bonds is a market innovation that allows for efficient capital arbitration between investors and green or climate projects.

Although it is still considered a niche market, the potential for developing the green bond market is huge and has increased in recent years following the conclusion of the Paris Agreement. Since its inception in 2007, the green bond market has grown rapidly both in terms of scope, average size of issuance and diversity of issuers. Although the first issuers were represented by supranational entities such as the World Bank, the European Investment Bank (EIB) and the International Financial Corporation (IFC), the green bond market has matured and expanded globally and now includes corporate bonds, asset backed securities (ABS), active for projects and infrastructure, as well as sub-national and municipal issuers (regional and local governments). These aspects will lead to the expansion and future change of this market, a welcome change as the market evolves to meet a variety of risk / profitability requirements.

The development of the green bond market will be influenced by the diversification of issuers as well as by the value of the issues. The distribution area is world-wide expanding from Europe to developing countries especially. It is estimated that the green bond market will continue to expand greatly with China's involvement.

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