

Green Bonds and Socially Responsible Investments: Catalysts for Sustainable Growth

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ABSTRACT

A growing interest has been paid to the green bonds and SRI funds as the instruments that help financial sustainable development. This paper, titled "Green Bonds and Socially Responsible Investments: The main theme of the "Catalysts for Sustainable Growth," such financial instruments as stocks will be discussed.

The approach applied in this review focuses on the evaluation of secondary data collected from journals, grey literature, business news, and policies. To gather information all sorts of literature were included in the study with an intention to take view from all around the spectrum with regard to the subject. In the process of the review the main features, trends, and gaps in the existing literature were identified, and the especial attention was paid to the assessment of green bonds' and SRI funds' performance in terms of sustainability and financial returns.

The study findings indicate that green bonds and SRI funds remain some of the key pillars of sustainable growth with positive effects on environmental status and generous returns on investment. Green bonds in particular they have found success especially in the channeling of capital to renewable power, efficiency and other environmentally friendly projects. On the same note, SRI funds have also exemplified how investors' financial objectives and personal ethics can be integrated, thus enhancing the flow of capital from other sustainability oriented sectors. However, several limitations have been also noted in the course of the review, such as problems connected with fake sustainability, the lack of comparable indicators of impact, and the scarcity of good-quality sustainable investments. Thereafter, this paper comes up with the following recommendations should be taken with a view to strengthening the part played by green bonds and SRI funds in facilitating sustainable advancement. . First off, it can be stated that there is a lack of adequate disclosure and comparability of environmental and social effects which makes it difficult to avoid falling under the shadow of green washing and increase investors' trust. Second, the government and relevant authorities should adopt measures aimed at improving the conditions in which sustainable finance can operate as effectively as possible; these include incentives for green bonds issuance, the promotion of SRI funds, etc.

In conclusion, the green bonds as well as SRI funds are considered by many analysts to be the key weapons in the fight for the sustainable development of the global economy; nevertheless, the problem is that the given instruments are still in the process of developing and thus, to bring these tools to a new level, the global community must overcome some essential challenges in the sphere of sustainable finances. Thus, this paper supplements the existing discourse on the field of sustainable finance, identifies the relevant gaps in the literature, and proposes strategies for improving the effectiveness of green bonds and SRI funds in the development of sustainable initiatives.



## 1. INTRODUCTION

Towards the close of the 20th century, the awareness of social and environmental issues intensifies; likewise, Environmental, Social, and Governance (ESG) factors are included in the businesses' strategic plan. However, the classic conception points out that the firm's main goal is to create the highest possible value for the shareholders. On the contrary, Magill et al. (2015), for the purpose of a stakeholder view, hold that to ultimately facilitate sustainable growth firm must aim at attaining the greatest amount of value of all stake holding parties of the firm. Hence, the academia has not come to a consensus, and different studies present mixed evidence regarding the effect of ESG policies on the firms' value.

The area of study concerning with sustainable development and the environmental concern is of significant importance for the academicians and practitioners to fulfill the set goal for sustainable developmental goals (SDG) under the United Nations Development Program (UNDP). The environmental challenges require scrutiny by the global leaders for the improvement of sustainable development; one of the causes of ecological degeneration is the release of CO<sub>2</sub> gasses into the surroundings by industries (Sarkodie and Strezov, 2018). Sustainability bonds are one type of asset used to finance projects that are environmentally conscious. The security's principal purpose is evident in its name. Therefore, in order to contribute to the goal of sustainable development, it is necessary to promote the issue and acceptance of green bonds. The proceeds from the issuance of ecological bonds help institutions fund these kinds of initiatives and are crucial to the long-term creation of sustainable development. However, there are expenses associated with managing these bonds, and buyers are reluctant to put money into them due to the risky nature of the associated initiatives.

One of the most well-liked investments with fixed income within the group is the environmental bond, which has been growing significantly in value recently. Humans are faced with the renewable bond. Green bonds have been defined by Green Bond Principles (GBP, 2018) whence they are "any bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and /or existing eligible green projects." Green bonds are per Bloomberg financial security to fund projects that mitigate GHG emissions. The money raised through green bonds has to support technological interventions for sending the negative impacts of globalization around the world. The world requires application of capital in the most productive manner possible. However, its means to achieve more adequate use of resources is necessary to enhance the quality of the community's life and to initiate the welfare of the society. This means that the spheres of activities of the financial industry have to learn how SDG goals alter the parameters of the world economy and for this, there has to be introduced the peculiar instruments for the funding of projects that would be safe for the environment (Gianfrate and Peri, 2019). In theory, the green receipts are used for green bonds receipts with reference to the green technologies. Preferred, they are known as green projects to emphasize that usage of the above technologies will help in conserving environment. These projects are mainly at a very infantile stage and most of them are not ready for the market (Sachs et al. , 2019). Thus, green bonds are different from other conventional (brown) bonds in this sense. The latter is applied to fund conventional activities, which are more suitable for generating profits for the enterprise (Taghizadeh-Hesary and Yoshino, 2020). Basically when a software development is related with green project always require more investment and the return of this green project is always in risky and compared with normal project, the return is always in uncertain. In view of the above observation, it can be said that there is a great scarcity of funding in green projects financing. Therefore, green bonds are to be one of the tools that can help to narrow down the gap between needs and demand for these finances and reduce the damaging impact on the environment. Ehlers & Pecker (2017) opined that there should be a possibility of sustainable market that increases the volume of green bonds. EIB issued the first green bond to finance the energy project in 2007 to support the renewable sources of power.

## 2. OVERVIEW OF THEORETICAL FACTORS REGARDING SOCIALLY RESPONSIBLE INVESTMENT

It is pertinent to the given focus of this part of the review paper to summarize the theoretical construct and definition of social Responsible Investment then the concept of Green Bonds and its characteristic is described providing theory on other practical or actually realized element of social responsible investment.

Sustainability has been explored thoroughly by both organizational and academic groups with creation of terminologies relating to sustainability. Evolved over the last decade (Galvic P., Lukman R. 2006) Sustainability terminology is getting popular as more terms are being introduced and the knowledge on sustainability is on the rise. According to UCLA, sustainability is described as a multifaceted idea, thus, the United Nations Brundtland Commission for the world. Commission on environment and development define it as "sustainability development meets the need of that which is present without excluding the future utility knowing that which is current and will not be necessary in the future must be met with in the present. Sustainability is not just a vein of environment protectionism. As already pointed out, most definitional frameworks of sustainability contain the following key elements.

Also contain consideration for socio-political justice and economic upliftment. Sustainability is on three pillars; Environmental sustainability, social sustainability as well as economic sustainability categories (Purvis, B., Mao, Y. & Robinson, and D. 2019), which are organization culture and sustainability, environmental being one of the sub pillars. As far as the analyzed definitions of sustainable concepts are concerned, all of them revolve around those.



Three pillars which, in turn, directly or indirectly, translate into creating genuine framework for the humans and nature can co-exist and work for the benefit and presentation for the generations to come. (EPA, 2019) the definition provided by UNDP, OECD, EEA, EPA, enable us to get further to comprehend the definition on the border scale or the terms can be ambiguous. Sustainable investing is a modern method of investing with regard to environmental, social, and governance factors ,aspects of governance (Environmental, Social and Governance – ESG) when it comes to the selection of the portfolio and the management of the entity. Sustainable genuine investing is investing in development and searching for a company to meet the world's problems opportunities and issues that can be positioned best for growth (GSIA, 2012).

Sustainability investing is one of the charting new approaches to the achievement of the business, and in the process it also helped to develop a pace. According to Blackrock (2018), this calls for more and more people to invest on Fintech. This can be done through investment for example buying materials for the construction of dams, employing youths in the construction companies and buying food products from youths' animal stock comes to the table with Environmental, Social, and Governance (ESG) understanding.

### **2.1. According to GSIA Sustainable investment involves seven influential strategies of which are as follows:**

1. Negative/exclusionary screening – the process of excluding specific areas of business from a fund or a portfolio.
2. Positive/best-in-class screening – focusing on the investment in those companies as well as projects which are positive Compares ESG against their Peer companies.
3. Norms based screening is carried out on the basis of business norms developed and published solely by OECD and ILO, UN, and UNICEF.
4. Sustainability principles related to the firm's consideration of environmental, social and governance factors, financial analysis by Managers.
5. Investing focusing on sustainability themes – the particular asset that is connected to sustainability (Clean energy, green technology).
6. Impact/community investing.
7. Corporate involvement and shareholder activity.

Thus, generalizing from a large number of articles, several definitions of Responsible can be identified capital (Roberts & Sydow, 2009), investment (Bostrom & Sandberg, 2009). In their absence, a universally agreed view of what they are missing it can be said that there are many terms that are used and understood by media and experts for example the 'ethical investments,' 'socially responsible investments,' "impact investments" and "ESG investments" With reference to (Dumas and Louche ,2015) . The succession of different Evident from the historical phases, such a concept might possibly have different meanings, each equal to its declination of responsible investing: from the ethical view characteristic of the "civil rights" years to professionalism on RI from the environmental purpose of "green niche years" and the relatively abstract impact investing on the achievement of positive impacts on the social life of the people. As for its definition in the recent years, experts state that RI is the overall sum of social and ethical, social, economic, and political surrounding within the process of making investment decisions (Sandberg, 2009). Sustainability rendered in three postulates, typically known as 'environmental, social, and governance (ESG) factors' (UNPRI 2019).

### **2.2. Green bonds**

- 2.3. Green bonds are a worthy addition to the sustainable investment arena because green bonds constitute financial innovation intended to advance sustainable investment for institutional clients like pension funds, insurance-related institutions, mutual funds, and sovereign wealth funds. For instance, Green bonds are sometime described as product innovation, which could be used to mobilize institutional investors for increase sustainable infrastructure investment through increasing the liquidity of infrastructure assets (Merk et al. 2012; Della Croce and Yermo 2013; Bhattacharya, Oppenheim, and Stern 2015; OECD 2016). Thus, until green bonds issued in China and India, what makes a bond green has to date not tended to be regulated, but promoted. However, a typical approach that has been used in defining the 'greenness' of a bond has been the Quality of the bond – use of proceeds of the bond – Green Bond Principles (GBPs) or other related voluntary standards. These GBPs have been drawn and approved by financial actors by using the Institution of International Capital Markets Association abbreviated as ICMA. There is a list of the types of the projects that a green bond can finance and included renewable energy and energy and resource efficiency, pollution reduction, water and waste management, conservation and climate adaptation (ICMA 2018). More than 90% of green bonds are of investment grade issuances (Tiftik, Mahmood, and Nozema 2019) which imply that they are issues that score high to medium on credit quality rating which ranges from AAA & AA or A & BBB. A study carried out on green bonds issued in the period 2013 to 2017 shows that the green bonds have on average 2 bps lower yields than the benchmark conventional bonds (Zerbib 2019). The high yield in green bonds can be explained at least by the fact that there must be a high demand for green bonds and, conversely, a relatively



low supply of such OFZi. But even if it exists, any pricing difference and its level remain issues that empirical researchers continue to discuss (Larcker and Watts 2019).

### 2.3 DIFFERENT TYPES OF GREEN BONDS

Types of Green Bond	Definitions	Features
Standard Green Use of Proceeds Bonds	Securities whose revenues are allocated to environmentally friendly initiatives.	Not reliant on project outcomes and supported by the issuer's whole financial statement.
Green Revenue Bonds	Securities whose payback is dependent on the profits of particular environmental initiatives.	More risky since the project's financial performance will determine whether it succeeds.
Green Project Bonds	Securities produced by a single project or portfolio with a focus on environmental initiatives.	Payment is directly correlated with program achievement and profitability.
Green Securitized Bonds	Securities secured by energy efficiency initiatives, such as rentals or mortgages.	Integrating environmentally friendly resources to produce a fresh investment offering for consumers.
Green Covered Bonds	Investments that offer greater safety because they are protected by various securities.	Those who dislike risk find the greater security resulting from asset diversification desirable.
Green Sukuk	Sustainable funding for projects through the use of Islamic loans.	The adherence to Sharia adheres to Islamic finance principles, which are widely accepted in the countries of the Middle East and the Southeast Asian region.
Climate Bonds	Centered on initiatives aimed at reducing or adjusting to the impacts of climate change.	Frequently approved by the Climate Bonds Initiative after fulfilling particular requirements for climate effect.
Sovereign Green Bonds	Given out by national governments to finance initiatives that protect the planet.	Showcase the country's dedication to conservation by implementing massive building initiatives.

SOURCE: OWN CREATION



### 3. GREEN BONDS AND SOCIALLY RESPONSIBLE INVESTMENT FUNDS AS THE OBJECT OF INTEREST

This assignment proves it as Green bonds and the Socially Responsible Investment or SRI funds have become the largest in efforts for the new global sustainable development attempt. Its importance is derived from the role it plays to support sustainable investments which enables environmental as well as social projects to be financed; relating the realms of finance and sustainability.

#### 3.1. Increase of Funds for Sustainable Investments

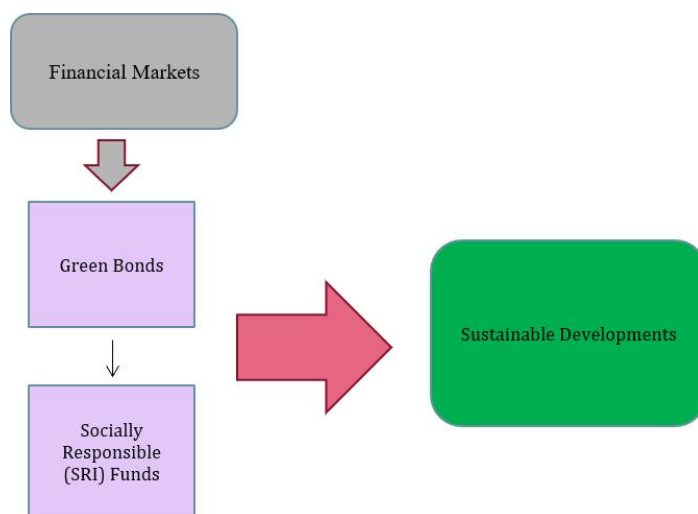
Green bonds are securities that are issued for the express objective of financing environmentally sustainable projects. Typically, such projects may include generation of clean power and energy saving, resource use efficiency in agriculture, wildlife/ forest protection etc. In the past ten years, because of the investors' increasing consciousness of climate risk and sustainable investment, the quantity of green bonds has increased year after year over the period.

Still, based on the Climate Bonds Initiative, the global green bonds' market has grown to \$269. Over 160,000 in 2020 it increased by 45% compared to 2019 and still, there is a great demand urged by the green finance market (Climate Bonds Initiative, 2021).

ES Funds, on the other hand, invest based on environmental, social and governance factors or SRI factors. These funds seek to both earn a financial profit and have a social and/or environmental benefit. This expansion shows changing investors' demands to orient towards SRI funds, meaning that investors seek to invest with ethical and sustainable policies. According to Friede, Busch, and Bassen (2015), meta-analysis of more than 2,000 empirical studies demonstrated that most ESG factors had a positive correlation with companies' financial performance, which underpins the operational profitability of sustainable investments.

In fact, it can be described as the enhancement of the principles of the corporate sustainability. Listing and trading of green bond together with the SRI funds have made pressure on corporate to acts responsibly. Green bonds make firms finance their ecological initiatives, which, in turn, make an organization get a better reputation among those investors who care about the ecological state of the world. It can therefore give a boost to the current corporate sustainable performance and at the same time raise disclosure on environmental effects. And also, SRI fund puts pressure on the firm to have better corporate governance and thus social responsibility. Therefore, SRI fund owners can also engage in shareholder activities and voting to force change to errant firms. To illustrate, a growth of SRI contributed to the enhancement of the improvements of corporate disclosure and performance as for ESG questions (Eccles et al., 2014). Concerning the contribution to global sustainability goals, the nation has made some efforts with the following responsibility allocations. Green bonds and SRI oriented funds are extremely large and meaningful in the international sustainability especially in fulfilling United Nations Sustainable Development Goals agenda. These financial instruments guarantee that projects that are to be funded lead towards the goals in clean energy, sustainable cities and climate change. Connection of investment solutions to the achievement of the SDGs a can provide some changes toward a better world that is sustainable. In conclusion it is proper mentioning that green bonds and socially responsible investment funds have many purposes. Beside they invest millions of dollars towards sustainability efforts, they are also involved in betterment of business, performance and support towards sustainable outcomes globally. Hence it can be deduced that the same as the global demand for these financial instruments increases, so does the relevance of these linkages with sustainable development.

#### CONCEPTUAL FRAMEWORK



Source: Developed by researcher



#### 4. NEED OF GREEN BONDS AND SRI INVESTMENT FUNDS

The demand for green bonds and SRI funds will grow as the current global and labor environmental, social incentives/concerns, and economic realities dictate. Green bonds involve lending especially towards the project that was identified as having an impact towards climate change solutions through intensification of greenhouse gas emission cut and use of renewable energy as dictates IPCC 2018. Green bonds and SRI funds integrate investment plans with United Nations Sustainable Development Goals (SDGs) namely; energy, communities, and clean climate which enhance sustainability agenda across the globe (UN, 2015).

Also, SRI funds compel corporations to practice superior or enhanced ESG standards, which engulf superior CSR and sustainability metrics (Eccles, Ioannou, & Serafeim, 2014).

Environmental risks can be constrained through the use of green bonds since such bonds promote the development of projects that limit pollution, conserve the flora and fauna, as well as manage the natural resources in efficient techniques (Shishlov, Morel, & Cochran, 2016). This has led to the identification of social and environmental impact investing as being on the rise and having been requested by investors for viable investment solutions. Other research, for instance, the meta-analysis by Friede, Busch, and Bassen (2015), have established that traditionally “ESG investing” performs at least as well or even better than conventional investing.

Global governments and various regulatory authorities are also extending policies and incentives on green bonds and SRI funds (European Commission, 2018). Implementation of ESG factors in investment processes assists investors in the risks concerning environmental and social aspects (Clark et al., 2015). They also reported improvements in reporting and disclosure practices in the financial markets due to green bonds’ issuance and the development of SRI funds, including international and regional cases (Reboredo, 2018). Moreover, these financial instruments contribute to innovation since they help fund new technologies and sustainable business solutions for various challenges; this strengthens economy’s dynamism in facing future problems (Flammer, 2021).

##### 4.1. Investment decisions and risk

As it has been clearly noted, risk is a multifaceted concept, and thus it should be subjects to analysis and understanding in the process of investment. Investment decision especially the foreign investment decision should never be undertaken without risk analysis.

Therefore, in my opinion, both the theoretical and empirical analyses and understanding are similar. This is true for the study of risks of investments” Therefore closing a loop, the structure can be stated as follows: The theory of risk is quite helpful in gathering data, comprehending the risks associated with an investment.

Thus, it can be noted that without existent theory, there would be a lack of efficient practical analysis as well. Thus, empirical evidence collected form empirical researches may support the theoretical assumptions but in some cases it deviates from it. In the latter cases the analyst can examine such derivations and use such results to fine tune the risk theories relating to that subject. Economic analysis of investment is used to develop and to choose the investment projects, which will have an acceptable level of risk for the potential economic analysis of risk defines different variables which are based on the costs and the benefits of the project and, this analysis can identify the elements which are creating the main risk for the investment project. Risk is ingrained in investment if that investment has more than one likely economic result and that is probability of loss or uncertainty.

According to Belli (1996), this is uncertainty and risk which should be both identified and analyzed. Incoming uncertainty means that an investor can decide what to do depending on the results of his analysis of risks, he can decide on how these risks are to be managed and therefore whether or not to invest. In the economic theory risk and uncertainty are different; as for the differentiation and relation between these two concepts, there are several approaches. Certainty on the other hand is where there is full details of the future expected result; in certainty, the investment decision would be easy. In risk however, the risk factor gets involved within the investment decision, this entails that the return on an investment is a probability distribution. (Forbes, 2009). Such an idea indicates that there is uncertainty which is the definition of the future and yet if such a concept do exist then it is possible to determine the result of a future event. It can be additional or less intensely depending with the volume of information that is accrued relating to similar or the same kind of performance or incidence. In order to influence the range of the error within which the identified forecast may fall to a minimum it is necessary to uncover the degree of uncertainty accepted with regards to a certain variable in much greater detail.

#### 5. LIMITATIONS

Nevertheless, it is worthy to state some limitations of this review paper regarding green bonds and SRI funds according to the concept of sustainable development. First of all, the selection of articles and reports might be problematic in the framework of systematic reviewing approach. This may leave out some articles which could otherwise be useful, though they may not belong to the determined classification. in turn, the review may cover only limited time and therefore may not have taken the latest trends in green finance which is dynamic field with innovation in technology as well as changes in policies. Third, the paper has drawn samples mostly from developed nations, especially in Europe and North America, which



limits the transferability of the study's findings to developing nations where financial systems and sustainability interests are unique. For the same reasons, limitations arising from data quality or lack of reporting standard conformity, or scarcity of sophisticated data containing information on green finance efforts may limit the reliability and richness of the review. Finally, although the review focuses on the possibility to apply green bonds as well as SRI funds, it has been claimed that empirical evaluation of these financial tools' genuine contribution to achieving the sustainable development goals is a challenge since there are no common key performance indicators and approaches to its assessment. Such limitation suggest directions in which the future research and policy interventions could be directed in making green finance instruments more effective and relevant in the global context.

## 6. FUTURE PERSPECTIVE

In the future and due to the increasing concern in the international community towards sustainable development, green bonds and SRI funds are projected to expand greatly. New technologies like the use of block chain to enable transparency in green finance and artificial intelligence likely to improve risk assessment are set to transform green finance to be more effective. In addition, ESG factors are to become even more ingrained into conventional investment decisions, thus directing more money into sustainable initiatives. From the paper, it can be concluded that the integration of green bonds and SRI funds with the United Nations' Sustainable Development Goals will be critical since these instruments are well positioned to deliver the required funding to effectively execute these goals. The governments and financial authorities are expected to introduce more stringent rules and actions aimed at the promotion of the green bonds and SRI funds' emissions and purchases. Also, expanding awareness and request from the shareholders who consider sustainability as their main priority will force the corporations to look for better corporate governance and, therefore, the advancement of the general welfare. Further research areas include: assessing the conventional and steady effects that green bonds as well as SRI funds have on the growth of the economy and sustainability, developing sound theoretical models, frameworks, and novels ways for financing sustainable development.

## Conclusion

Therefore, the analysis of green bonds and SRI funds emphasize their significance for financing development initiatives in the sphere of sustainable development. These financial instruments are also useful in the macroeconomic growth as well as contribute a lot in the enhancement of corporate governance and welfare of society. From the critical evaluation of literature from the fields of finance, economics, and environmental science it emerges that green bonds as well as SRI funds raise development.

This study points out the lack of adequate theoretical framework wanted to coordinate the financial processes to sustain the sustainability objectives, thereby probably pointing out the need for co-ordinate integration of policies, investors and company executives. Thus green finance should emerge as one of the leaders in achieving the environmental goals of the world by solving these problems and applying such technological breakthroughs as block chain for the transparency of the activities of organizations and AI for the evaluation of the risks.

## CRedit authorship contribution statement

Shikha, Dr.Sunil Kumar Roy,Dr. Mona Sharma, Ashok Garg: **Conceptualization, Writing – original draft.**

Shikha, Dr.Sunil Kumar Roy,Dr.Mona Sharma, Ashok Garg – **contributed towards the writing the initial draft and preparing the revision.**

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