INNOVATIONS AND TRENDS IN FINANCIAL SYSTEM

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Preface

This edited book '*Fedha*'—A Light in to new ways of Finance, aims to present the real picture of the research in the field of Finance in Rural Kerala. The major findings of articles in the book lead to the knowledge of real world of investment in the eyes of rural population. It involves a great effort of more than fifty research minds in different subthemes of Finance like Behavioural Finance, corporate finance and Banking services.

The expected audience of the book consists of researchers, research students, Practitioners and investors.

We would like to convey our appreciation to all the contributors including the authors of the Chapters in this book.

Our special thanks to our Head of the department Prof. Bindu T. for her continuous support and great effort to bringing the book in to fruition. We expresses here our sincere gratitude to Dr. E. Jayan principal of our institution who motivated us for this endeavour.

This book - Fedha - is to be published as part of a national seminar on Financial Derivatives and the meaning of Swahili word Fedha is FINANCE...

Foreword

It makes immense pleasure that a new academic horizon is being opened up for the enrichment and refinement of the knowledge base, offers a new realm of academic excellence to meet the challenges in the contemporary global scenario of Commerce & Management. Since it is a quality oriented endeavor in the form of a Research publication as a part of the National Seminar on 'Financial Derivatives', this can provide a valuable academic base, culture and uality among the teachers, research scholars and seekers in the concerned field. The selection of research articles pertaining to such a vibrant and dynamic area could transform the beneficiaries by a new academic experience and exposure. It is really a valuable and remarkable academic contribution of the Department of Commerce to bridge the gap to a certain extend in the related academic space. Hope that let it be a mile stone in the glorious academic path of the institution leading to the highest goal and fulfillment in the field of higher education.

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Message from Principal

“Fedha (finance) is always considered as wealth and knowledge. Here I appreciate the cordial spirit of the department of Commerce for achieving new destination.”

Dr. E. Jayan

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34 The Growth and Development of Green Bonds in India

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Introduction

Green bonds are the fixed income bearing financial instruments that are linked to promoting and implementing climate change and environment solutions to various issues. With this instrument, the issuer of the green bond gets the capital which will help to implement green projects while the investors receive fixed income in the form of interest. When the bond matures, the principal is repaid. In India green bonds are the same as the corporate bonds but the only difference with the use of proceeds in fact they are a subset of corporate bonds, where the use of proceeds is pre-allocated to a green activity. In India the green bond markets are emerged since 2015. So it can be understood that the markets are in its infancy stage. But there are many green bonds issuers in India like YES bank, Axis bank, EXIM bank etc. which will help to boost the environmental sustainable investment of ethical investors.

Review of Literature

Green bonds currently do not qualify as mainstream investment vehicles since they lack thebenchmarks and evaluation instruments and the standardized processes that makes high-volume investing possible (S&P Global Ratings 2017). Despite the absence of the kind of reliable market tools needed to progress into mainstream investing, the green bond market continues to grow. Theenvironmental commitments made by countries at the United Nations Climate Change Conferencein Paris in 2015 are one of the factors driving this growth, as well as the need for investments associated with the 2030 Agenda and the sustainable development goals.

Olivier David Zerbib (2018) examines issue of green bond at premium and also trying to find the yield difference between convention group of bonds and green bonds by using matching methodsfollowed by a regression procedure by taking data for four years. The study found that the yield ofthe green bonds are comparatively lower than the return from conventional bonds and the issue ofgreen bonds mainly correlated with the factors such as issuers type and the credit rating of theinstrument. **Louis William Wagner Ley (2017)** studied the financial performance of green bonds with theirconventional peers based on a dataset of 359 Green Bonds and 1291 conventional bonds, the analysis is conducted over the period between 2011 and 2017 and uses an extended Fama-Frenchmodel in a Fama-Macbeth regression procedure. The author found that the fact of a bond being green does positively influence its expected financial performance. **Flammer (2015**) investigated green bonds adds psychological benefits for investors, brand value and other indirect gains and the author strongly believed that the investing in green bonds makes ethical and responsible citizens **Bernard Paranaque (2014)** the discussion of the paper based on ethical and social values in terms of economic, social and environmental development. The authors argue that the investor awareness is necessary for tracking the progress of the projects. As per **Greening India's Financial Market Report,** green bonds can provide low cost, stable funding for various energy conservation projects and it offer attractive return with reasonable amount of risk to the investor. The findings of the study lie upon the need to develop strategies that strengthen the green bond market and issuers base. **Yvette Klevan (2017**) examines green bonds are an important component of ESG investing. They align investors with environmentally friendly projects and provide crucial social benefits. As the global economy shifts to a low-carbon footprint, portfolios that have proactively reduced their carbon exposure may be better positioned to outperform the broad market. The authors believe in integrating ESG factors and green bonds into a portfolio may lead to better returns. **Dragon Yongjun Tang** (2018) presented the first empirical study on the announcement returns and real effects of green bonds by corporations in 23 countries during 2007-2017. The authors concluded that stock market investors respond positively to green bond issuance. In addition to that ESG scores and CSR having great role in green bond investments

Boone and White (2015) have an opinion that not only institutional investors' attention was drivenby the green bond issuance; their trading activities could also increase because theyoriginallydidn't focus on green issuers stocks. And higher institutional ownership is associated with higherstock market liquidity.

Objectives

- To examine the growth and development of green bond market in India.
- To understand whether the green bond market is oversubscribed or undersubscribed.
- To analyze the use of proceeds by green bond issuers.

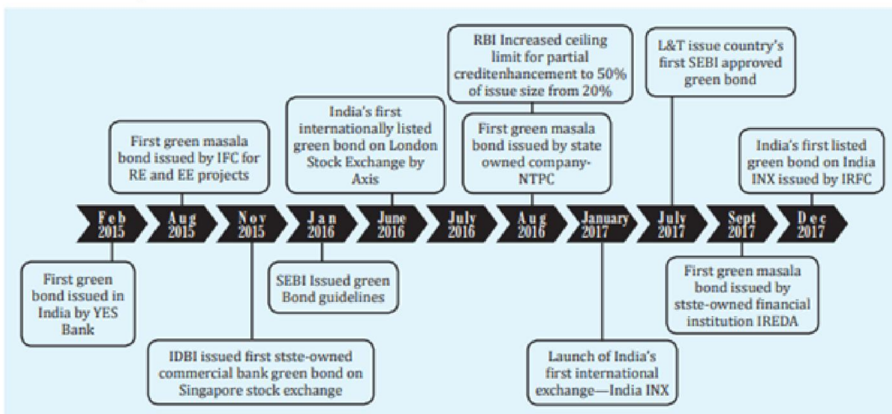
Growth and development of green bond market in India

The Indian Green Bond Market India entered the green bond market in 2015 with the YES Bank with the issuance of the first green bond for financing the renewable and clean energy projects. Gradually, the green bond market has expanded its presence to several public sector undertakings, state-owned commercial banks, state-owned financial institutions, corporates, and the banking sector. The Climate Transparency's Brown to Green Report 2017, made a comparison across the G20 countries in terms of their green bond issuance as a

Figure 1: Green Bond Issuance of the G20 Countries (*as of 2017*)
Source: Climate Transparency Group, G20 Brown to Green Report, 2017

share of the country's overall debt market. According to them, among the G20 countries, India ranks fifth out 0f 20 countries. This study highlights the existing scale and future scope in the country to develop and grow green bonds as an instrument to accelerate green market penetration for ESG investment.

From it is clear that there is an optimistic attitude from the part of green bond issuers in India. Even though it is at in its infancy stage, showing a good positive sign toward the future growth and development of Indian corporate debt market.



Timeline of green bonds in India

Oversubscription of green bonds in India

COMPANY	OVERSUBSCRIPTION PROPORTION
Axis Bank	2.2
EXIM Bank	3
REC	3.9
NTPC	1.45
YES Bank	2
Greenko Group	*1.5*
IREDA (2016)	*5.1*
IREDA (2017)	1.74
AZURE POWER	2
IRFC	3

The interest in issuance in green bonds is not only visible in terms of the growth of the Indian green bond market, it is also reflected in the oversubscriptions of some of the bonds issued by the various companies in India. This shows that not only are the issuers are showing active interest and involvement but the investors are also attracted towards green bonds. The tax-free bond issued by the Indian Renewable Energy Development Agency Limited (IREDA) in 2016 was oversubscribed by more than 5.1 times is the highlighting factor.

	Renewable Energy	Energy Efficiency	Low Carbon Transport	Low Carbon Buildings	Sustainable Water Management	Sustainable Waste Management	Energy Sector-Technologies	Sustainable Land Use
Axis Bank	Yes		Yes	Yes				
NTPC	Yes							
REC	Yes	Yes			Yes	Yes		
SBI	Yes	Yes	Yes	Yes		Yes		
Greenko	Yes							
PFC	Yes	Yes	Yes			Yes	Yes	
IDBI	Yes	Yes	Yes		Yes	Yes	Yes	Yes
CLP	Yes							
EXIM Bank	Yes		Yes					
Hero Future Energies	Yes							
IRFC (Indian Railways)			Yes					
PNB				Yes				
L&T	Yes							
Azure Power	Yes							
YES Bank	Yes							
ReNew Power	Yes							
IREDA								
IL&FS	Yes							
EESL		Yes						
Jain Irrigation					Yes			

Source: TERI analysis

An analysis of the stated use of proceeds of Indian organizations, who have issued green bonds, shows that of them issued the bond solely to fund projects in renewable energy, while 80% of them included renewable energy as the primary sector for use of funds from the issuance of bonds. Also, just 25% of these organizations have started investing in energy technologies and energy efficiency technologies and equipment as part of their use of proceeds. Only four bond issues included sustainable water management projects as part of its use of proceeds, three mentioned sustainable waste management and just one used in sustainable land use among its various other focus sectors.

Conclusion

It can be seen that the total volume of the green bond market is less important than the variety of bonds being offered, the increased transparency around connecting the source of funding with the expected impact, and the role green bonds are playing in the overall transition to more sustainable and developed responsible fixed income markets. In sum, green bonds are not a "magic solution" to the climate finance challenge, but they are definitely taking market participants in the right direction to make wise investment. To reach meaningful scale and contribute to abating climate change, active public policy and continued private engagement will help green bonds reach their full potential level.

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