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Corporate Green Bond Market in Egypt: Barriers to Market Development

Aya Aly
aya.aly@aucegypt.edu

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The American University in Cairo
School of Global Affairs and Public Policy

CORPORATE GREEN BOND MARKET IN EGYPT: BARRIERS TO MARKET DEVELOPMENT

A Thesis Submitted to the
Department of Public Policy and Administration
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Master of Public Policy

Under the Supervision of Dr. Ghada Barsoum

By
Aya Aly Mohamed Aly

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Acronyms:

CIB	Commercial International Bank
EBRD	European Bank for Reconstruction and Development
EIOD	Egyptian Institute for Directors
FRA	Financial Regulatory Authority
EGX	Egyptian Commission Exchange
GBP	Green Bond Principles
ICMA	International Capital Market Association
OECD	Organization for Economic Co-operation and Development
SDG	Sustainable Development Goals
UNCTAD	United Nations Conference on Trade and Development
WB	World Bank
IFC	International Finance Corporation
NCCA	Egypt National Climate Change Agenda 2050
SDGs	Sustainable Finance Goals
MOE	Ministry of Environment – Egypt
GSS	Green, Social and Sustainability
GB	Green Bonds
CB	Conventional Bonds
ESG	Environmental, social, and governance

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Acknowledgement

My master's journey has been a transformative and life-changing experience. It has challenged me to push beyond my limits and to grow both personally and professionally, not to mention the accumulated gorgeous experience that occurred from spending a whole semester abroad on all possible scales.

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Abstract

Green bonds have risen as a crucial financial tool for mobilizing capital for environmentally sustainable projects, aiming to address climate change and promote sustainable development. In Egypt, despite being a pioneer in issuing sovereign green bonds, the corporate bond market remains in its early stages, with relatively low issuance of corporate green bonds compared to other emerging economies. This study focuses on identifying the challenges facing the domestic corporate green bond market. Through interviews with eleven market participants, the analysis revealed general challenges that encompass the entire bond market, including lack of awareness, limited engagement of retail investors, lengthy and complex issuance processes, high costs, challenges in the secondary market, and the impact of the current economic situation on the debt market. Additionally, specific challenges regarding the green bond market were identified. These challenges included insufficient awareness and mislabeling of green issuances, issuer unpreparedness and lack of internal capacity, absence of clear guidelines and local taxonomy, limited pool of eligible assets, high costs of verifiers and additional reporting requirements, regulatory constraints, and lack of incentives. The study concludes with a set of policy recommendations, including designing capacity-building programs for all market participants', involvement of local verifiers to reduce third-party verification costs, and developing incentive packages for green bond issuers.

Keywords: Sustainable Finance, Sustainable Debt Market, Corporate Green Bonds, Challenges.

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1. Chapter One: Introduction

Climate finance plays a crucial role in addressing the challenges of climate change by facilitating the mobilization and allocation of financial resources to support climate mitigation, adaptation, and sustainable development projects globally (UNFCCC, 2021). As the world is currently suffering from the escalating impacts of climate change, the availability and effective utilization of climate finance have become essential for implementing climate actions and achieving the goals set under international agreements like the Paris Agreement (Edenhofer et al., 2014). Climate finance encompasses a diverse range of funding mechanisms, investments, and financial instruments, including green bonds, which all aimed at driving transformative actions to combat climate change, foster low-carbon economies, and uplift vulnerable communities.

As a main climate finance tool, green bonds have emerged as a significant financial instrument to address these challenges, allocating funds, and encouraging investment in green projects with environmental and ecological benefits. They have rapidly become mainstream investment tools, supporting sustainable growth and portfolio resilience against climate risks while generating returns (World Bank, 2021). Green bonds are considered a critical green investment tool, facilitating the transition from traditional to green economies by financing climate change mitigation and adaptation initiatives where governments, corporations, and organizations, among other issuers, issue green bonds to fund projects promoting environmental sustainability, such as renewable energy, energy efficiency, green buildings, and sustainable agriculture.

Accordingly, understanding the climate finance landscape in both the global and local scales is pivotal to understand the whole ecosystem that affect the green investments and the challenges

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that are associated with the expansion of the green tools' growth including mainly the green bonds in the local market.

1.1. Climate Finance in the Global Context

In 2015, the Paris Agreement was ratified and signed during the Conference of Parties (COP21), with 195 countries committing to intensifying actions and investments to develop a global low-carbon economy (UN, 2015). This was an historic moment as it shifted the conversation to how countries are expected to finance the execution of climate targets and the Sustainable Development Goals (SDGs) Agenda from "billions" to "trillions," signifying a significant funding shortfall (Doumbia & Lauridsen, 2019). Following Prasad et al. (2022), in order to meet the SDGs within the set timeframe of 2030, there is a need to invest from 5-7 trillion dollars annually on the global basis. Furthermore, the UNCTAD (2014) indicated an annual global investment gap of at least $ 2.5 trillion, where developing countries face a wider gap between $3.3 trillion and $4.5 trillion annually.

Moreover, the recent global pandemic has had a profound socio-economic impact worldwide, particularly in emerging economies. According to an OECD report (2022), following the surge of the COVID-19 pandemic, there has been a 56% rise in the disparity towards attaining the Sustainable Development Goals (SDGs) in developing nations, equating to a total of USD 3.9 trillion in the year 2020. As stated by Shulla & Leal Filho (2023), the global financial gap to attain the SDGs has risen from USD 2.5 trillion to USD 3.5 trillion as a consequence of the pandemic. Similarly, the OECD report (2020) indicated that developing countries are confronted with a shortfall of 1.7 trillion USD in the financing required to remain on track for the

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2030 SDGs as the health and socio-economic consequences of the COVID-19 crisis have posed challenges for governments and investors alike.

To bridge the investment gap and accomplish the SDGs, alternative climate financing channels was created that included grants to low-carbon and climate resilient-related activities, low-cost project debts, guarantees, capital instruments and private equity and finally result based payments (Celikyilmaz & Arguello, 2021). The capital instruments and private equity related financial tools, including green bonds, are gaining prominence, given that the necessary investments exceed the limits of existing development funding.

1.2. Climate Finance in the Local Context:

The urgency of green bonds is derived from the criticality of the UN 2030 and its localized Egyptian version, "Egypt National Climate Change Agenda 2050 (NCCA)". The cost of green transition in Egypt is massive and requires $211 billion to implement the mitigation program and $113 billion for the adaptation program (MOE, 2022). The agenda recognizes five main goals with twenty-two objectives, each containing several directions and enabling policies and tools that will contribute to achieving the objectives, besides several KPIs that serve as performance measures. The strategy is established in a way that recognizes the first and second goals as the primary goals that contribute significantly to the mitigation and adaptation of climate change, where the other three goals serve as implementation guidance to achieve the first two goals. However, the fourth goal of the strategy is the one that discusses the green finance structure in Egypt and the role that the financial tools can play in financing the NCCA agenda. This goal focuses on enhancing the climate financing infrastructure, particularly within the local context as well as outlining five key objectives, with the initial two objectives aimed at showcasing climate

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financing mechanisms within both the banking and non-banking sectors. These objectives encompass:

1. Promoting the adoption of local green banking and green credit lines.
2. Advocating for innovative financing mechanisms, with a focus on prioritizing adaptation actions, such as the **utilization of green bonds.**

A noteworthy aspect of the second objective is the recognition of green bonds as a vital financial tool, essential for funding the climate change agenda. Green bonds are seen as pivotal in involving all stakeholders and directing attention towards vulnerable sectors, primarily emphasizing renewable energy, energy efficiency, waste management, clean transportation, climate change adaptation, and other projects linked to environmental, social, and governance concerns.

However, in alignment with this strategy which underscores the role of the private sector in climate finance as a key player in the Egyptian market, the Financial Regulatory Authority in Egypt (FRA), has created the regulatory landscape for corporate green issuances to support the private sector's contribution in achieving the national agenda.

1.3. Significance of The Study

The significance of green bonds lies in their ability to secure financing for environmentally friendly projects and stimulate private-sector investment in sustainable development. By providing transparent and standardized investment opportunities, green bonds unlock new sources of capital and promote the transition to a low-carbon economy (Wang et al., 2022). Furthermore, green bonds, as conventional bonds, also can have a significant impact in achieving a lower rate of the weighted average cost of capital (WACC) for Low carbon and

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climate resilience (LCR) infrastructure projects financed or re-financed by green bonds (OECD, 2015) and thus, provide a financing method that is exclusively targeting LCR projects.

Accordingly, and given the global commitment to the sustainable development agenda and the need for financing, countries worldwide are increasingly accelerating green bond issuances to secure the necessary funds, primarily via the private sector where the role of the private sector as a leading green bond issuer has increased significantly and become a key market player on the global scale in the last few years (CBI, 2023).

However, in the national context, although the thrive in the green bonds market worldwide and the urgency of this market, Egypt has had only two green bond issuances since becoming a signatory of the Paris Agreement in 2015. Notably, only one of these issuances is a corporate bond issuance, occurring in 2021, two years after the establishment of the regulatory framework. Thus, understanding the green bond market in Egypt and the main challenges will result in fostering the green bond market in Egypt and supporting the national agenda and helping transform the Egyptian economy into a more sustainable one.

1.4. Research Problem

Ever since the inception of green bonds to the global market, nations have been progressively issuing these bonds to fund their pursuit of more environmentally sustainable economies. However, Egypt has shown an intermediate level of green bond issuances compared to other regional and global emerging markets if the Egyptian commitments towards the 2030 agenda are to be considered. According to the IFC report (2022), Egypt ranked 24th among all emerging economies in terms of green bonds issuance, with $850 million total issuance for both

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sovereign and corporate green issuances. This rank is led mainly by sovereign issuance, which comprises 88.2% of the total Egyptian issuance, with corporate bonds comprising only 11.8%.

Table one: Emerging Market Green Bond Issuance Cumulative Issuance, 2012-21 (US$ million)

Country	Volume (US$ million)	Country	Volume (US$ million)
China	221,267	Georgia	750
India	17,750	Guatemala	700
Chile	13,584	Slovak Repu	520
Brazil	10,207	Costa Rica	504
Poland	7,374	Pakistan	500
Czech Republic	7,318	Uruguay	361
Indonesia	5,462	Morocco	356
Mexico	3,599	Panama	315
Hungary	3,354	Latvia	314
Philippines	2,946	Vietnam	227
South Africa	2,828	Nigeria	155
Thailand	2,778	Ecuador	150
United Arab Emirates	2,554	Slovenia	100
Russian Federation	2,552	Lebanon	60
Romania	1,926	Kenya	58
Malaysia	1,838	Estonia	56
Peru	1,686	Armenia	50
Turkey	1,440	Fiji	48
Saudi Arabia	1,300	Bangladesh	29
Ukraine	1,183	Dominican R	20
Serbia	1,174	Barbados	19
Argentina	1,165	Côte d'Ivoire	18
Colombia	1,067	Seychelles	15
Egypt, Arab Rep	850	Namibia	5
Lithuania	822	Kazakhstan	0.5

Author: IFC - Emerging Market Green Bonds Report 2021 (2022).

The total green bond volume in Egypt is comprised of only two green bond issuances. The first was a sovereign issuance, which took place in September 2020 and establishing Egypt as the inaugural nation in the Middle East and North Africa region to issue a sovereign green bond. The initial announcement for a five-year green bond was set at US$500 million, carrying

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an interest rate of 5.75 percent. Due to overwhelming demand, the bond was oversubscribed, prompting the government to raise the bond's size to US$750 million and reduce the interest rate to 5.25 percent. This rate is even beneath the level of Egypt's benchmark traditional bonds (World Bank, 2022). The second issuance is a corporate green bonds issue that was announced in 2021, where the CIB Bank cooperated with the IFC to issue USD 100 million in green bonds (Enterprise, 2021). To date, this marks the only corporate green bond issuance in the Egyptian market.

Although the legal and regulatory framework of the green bond had existed since 2019, when green bonds and green *sukuk* were considered as debt financial tools, the CIB issuance is the only corporate green bond issuance in the Egyptian market to this date. Given the importance of the private sector as a key player in financing the green transition and securing the required funds to finance green projects, the low level of corporate bond issuances opens the door for questioning the obstacles that companies face in issuing green bonds. It is essential to understand these issues from the perspectives of market participants to accurately identify the exact policies to incentivize and accelerate the issuance of green bond in the Egyptian market. In this light, this paper discusses the obstacles that face corporate green bond issuance in the Egyptian market.

1.5. Research Objective

The study intends to provide a substantial addition to the current understanding of the green bond market, particularly in emerging markets. It is evident from the literature review that there are prominent gaps in various aspects of the global green bond market, emphasizing the necessity for further research to enhance our understanding of this innovative financial instrument and its overall impact on the economy. Therefore, this research addresses a crucial void in the literature by providing a comprehensive analysis of the Egyptian bond market, with a specific focus on the green bond market, and by identifying the barriers that impede the expansion of the local market from the perspective of market experts. To the best of our knowledge, this research represents one of the early attempts to examine the corporate green bond market in the Egyptian context, making it a significant milestone for future studies. Accordingly, understanding the corporate green bond market mechanism and identifying the expansion barriers will be essential for policymakers to identify the most critical parameters affecting green bond issuance volume. This would help the Egyptian market to accelerate issuances in Egypt, which, in turn, will serve as a driving force for the green transition of the local economy. Accordingly, this study holds significant importance in relation to the current global and national agendas, which are interconnected with boosting the issuance of green bonds and facilitating the shift towards environmentally friendly initiatives.

1.6. Research Question

Since 2021, the private sector has started to play a critical role in the global bond market, and its participation in 2022 contributed to more than 54% of the total global issuances (CBI, 2023). According to the same report of the CBI, the same trend is taking place on the emerging market scale, with the private sector taking the lead in green issuances, where financial and non-financial corporations comprise 73% of total issuances. However, this case is not the same for the Egyptian market. Considering Egypt's commitment to the sustainability agenda and the urgent need to fund the 2030 agenda, the low level of corporate green bond issuance is a concerning issue that requires immediate attention. Corporate green bonds play a crucial role in driving Egypt's green transition, making addressing the challenges hindering their issuance imperative.

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The primary focus of this study is to develop an extensive comprehension of the Egyptian corporate bond market while identifying the principal hurdles encountered within the realm of the green bond market.

The main research question guiding this study is:

- "What are the challenges encountered by corporations when issuing green bonds? And what policies are needed to overcome those challenges?

The sub-questions to be explored include:

- What are the structural challenges affecting the overall corporate bond market?
- Why does the Egyptian corporate green bond market have lower issuances than other emerging economies? What are the policy and implementation gaps that need to be addressed?
- What factors influence green bond issuance from both the issuers' and investors' perspectives?

Through the exploration of these research inquiries, this investigation seeks to offer valuable understandings into the challenges the corporate green bond market faces in Egypt and propose policy recommendations to foster its growth and development.

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1.7. Organization of the Study:

This study is organized into eight chapters, which focus on the following matters:

Chapter One, which gives an overview of the topic and its background. It also explains the problem statement and the significance of the research and highlights the main and sub-research questions that will be discussed throughout the research. Furthermore, the section demonstrates the corporate green bond issuance and the related regulations from a domestic lens.

Chapter Two discusses the background of the green bond and its main concepts and framework. This section provides an international overview of the green bond market and its recent growth trends to demonstrate the importance of the tool on a global scale.

Chapter Three demonstrates the conceptual framework used to evaluate and assess the thesis topic and explain the relationships between the study variables.

Chapter Four discusses the literature review of green bonds. The literature review section comprises three main themes. The first theme demonstrates green bonds' impact on the economic growth of the issuing countries. The second theme discusses the determinants of green bond issuances. The third theme scans the global challenges facing the green bond market expansion.

Chapter Five presents the research methodology and design, where the data collection methodology is explained, ethical considerations and research limitations.

Chapter Six demonstrates the analysis of the collected data. The data is presented into two main themes; the first discusses the general challenges they face in the corporate bonds market in Egypt, which directly impacted bond issuance. The second theme demonstrates the green-specific challenges related to the green element that the green bond requires to satisfy the unique requirements of green bond issuances.

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Chapter Seven discusses the conclusion of the thesis. It concludes the entire study by providing a general concluding overview of the main findings of the analysis.

Chapter Eight is the closing chapter that presents analysis-based policy recommendations based on the previous chapter's findings. These recommendations are applicable solutions to address the gaps and alleviate the green bond market in Egypt.

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2. Chapter Two: Background

2.1. What are Green Bonds?

There exists a multiplicity over the definition of a green bond, in the sense that The **International Capital Market Association** ICMA (2021) defines green bonds as: "Green Bonds are any type of bond instrument where the proceeds or an equivalent amount will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green Projects and which are aligned with the four core components of the GBP". Whereas the World Bank (WB) defines the green bond as a debt security issued to raise capital specifically to support climate-related or environmental projects (World Bank, 2015). Meanwhile, the Egyptian Financial Regulatory Authority defines green Bonds as "A fixed-income instrument explicitly designed to support specific climate-related or environmental projects (FRA, 2021). Ultimately, The WB definition is preferred due to its comprehensiveness and because it specifically earmarks the collected proceeds to the specific account, allowing more control over the green proceeds.

Therefore, green bonds differ from regular bonds in being labeled as "green" by the issuer of the bond. This label entails a specific and certain commitment from the issuer to use the proceeds exclusively to finance or refinance, in part or in full, new and/or existing eligible green Projects, which are aligned with internationally acknowledged standards such as the four core components of the Green Bond Principles (GBP) and or the Climate Bonds Initiative (CBI) (Kaminker, 2015; OECD, 2015).

Nevertheless, the CBI functions as a global non-profit entity with a focus on investors. Established in 2010, the CBI introduces a systematic framework that underlies the specifications regarding the projects and assets that align with the attainment of the Paris Climate Agreement

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objectives. This framework serves as the basis for determining the eligibility for inclusion in a Certified Climate Bond, Certified Climate Loan, or Certified Climate Debt Instrument.

The Green Bond Principles (GBP) were introduced in 2014 as a set of voluntary guidelines for best practices. This initiative was spearheaded by a consortium of investment banks, including Bank of America Merrill Lynch, Citi Bank, Crédit Agricole Corporate and Investment Bank, JPMorgan Chase, BNP Paribas, Daiwa, Deutsche Bank, Goldman Sachs, HSBC, Mizuho Securities, Morgan Stanley, Rabobank, and SEB. Subsequent supervision and refinement of these guidelines have been transitioned to an autonomous secretariat under the oversight of the International Capital Market Association (ICMA).

However, it is noteworthy that green bonds are classified based on the type of issuers including Sovereign bonds, Supranational, sub-sovereign and agency (SSA) bond, Municipal bond, and corporate bonds. **Only sovereign bonds, which are bonds issued by the governments, and corporate bonds, which are bonds issued by corporates, exist in the Egyptian context.**

2.2. Green Bonds Principles:

According to the green bonds principles (2021), four core components are identifies:

1. ***Use of Proceed:***

   The use of proceeds to be used to finance specific green projects is a cornerstone for green bonds where all the designated projects should demonstrate clear, assessable, and quantifiable (when possible) environmental benefits. The categories of eligible green projects encompass a range of areas, including

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renewable energy, energy efficiency, pollution prevention and control, sustainable management of natural resources and land use, preservation of terrestrial and aquatic biodiversity, clean transportation, responsible water and wastewater management, adaptation to climate change, products and processes aligned with circular economy principles, and environmentally friendly building initiatives.

2. ***Project Evaluation and Selection Process:***

The issuer of green bonds is required to transparently declare:

- The sustainability objectives linked to environmental concerns for the green projects.
- The methodology employed by the issuer to ascertain the alignment of the project with the predetermined categories.
- Supplementary details pertaining to the methodologies utilized by the issuer for recognizing and addressing environmental and social risks associated with the projects.

3. Management of Proceeds:

Green bonds proceeds are recommended to be credited to sub-account or to be moved to sub-portfolio or any other manner to ensure a transparent manner to track the proceeds. During the duration of the Green Bond, it is necessary to regularly adjust the balance of tracked net proceeds to align with allocations towards eligible Green Projects made within that time frame. The issuer is

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responsible for informing investors about the planned temporary placement options for the remaining unallocated net proceeds.

4. ***Reporting:***

Issuers are required to provide and maintain up-to-date information on the utilization of proceeds, which should be renewed annually until full allocation. Additionally, in the event of significant developments, issuers should promptly disclose relevant information in a timely manner.

These core principles are widely adopted across the world and present a set of principles that ensure high-quality green bonds issuances and reduced possibility of greenwashing. However, the greenwashing phenomena was identified according to the International Organization of Securities Commissions (IOSCO) as “the practice by asset managers of misrepresenting their own sustainability-related practices or the sustainability-related features of their investment products” (IOSCO, 2021). This definition is mainly specific to the financial markets, which make it of high relevance to the topic of the study.

2.3. The Rise of the Green Bond Global Market:

In 2007, the inaugural issuance of green bonds took place through collaborative efforts between the World Bank and the European Bank for Reconstruction and Development (EBRD). This initiative was initiated from a consortium of Swedish pension funds advocating for their investments to be directed toward climate change initiatives. This pioneering concept served as the catalyst for the establishment of the global green bonds market. Subsequent to this groundbreaking issuance, numerous similar offerings emerged worldwide, leading to a

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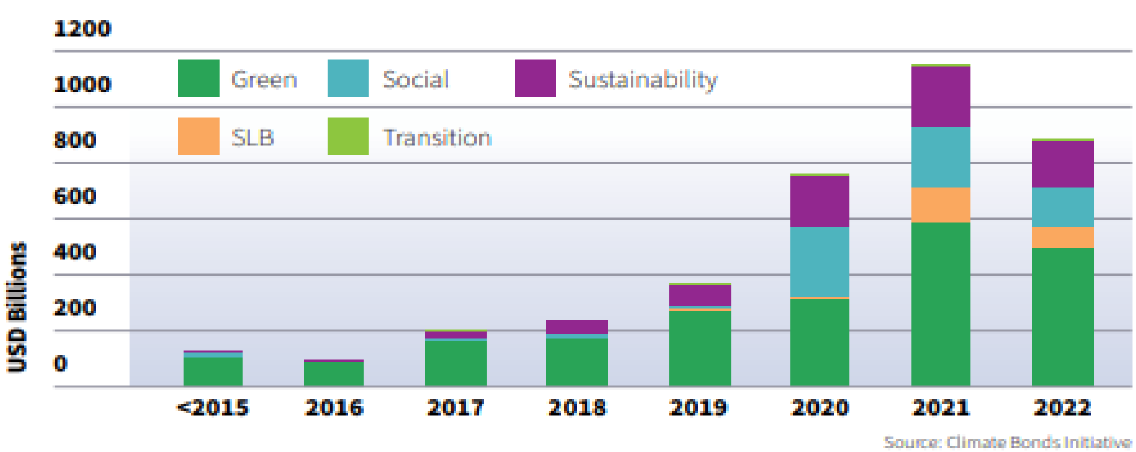
substantial and sustained growth of the green bonds sector (World Bank, 2021). In 2012, a total of USD 2.6 billion worth of green bonds were issued on a global scale. By 2015, the cumulative value of the green debt capital market had escalated to USD 104 billion. Fast forward five years to 2020, the market achieved a significant milestone, surpassing the cumulative USD 1 trillion mark in early December, culminating the year with a total of USD 1.05 trillion. Furthermore, the cumulative sum of green, social, and sustainability (GSS+) issuances collectively reached USD 3.7 trillion by the close of 2022. Despite the increasing prominence of other bond categories such as social, sustainability, socially linked, and transition bonds, green bonds continue to maintain their prominent position as the predominant financial instrument, constituting 58% of the overall total issuances and amounting to USD 487.1 billion on a global scale.

Figure Two: GSS+ Issuance Volumes (2015-2022).



Author: Climate Bond Initiative https://www.climatebonds.net/files/reports/cbi_sotm_2022_03d.pdf

The above chart shows the gradual increase of the green bond volumes over the years since 2015 and reflects the attractiveness of the green bonds and the high global demand for it as a major financial tool.

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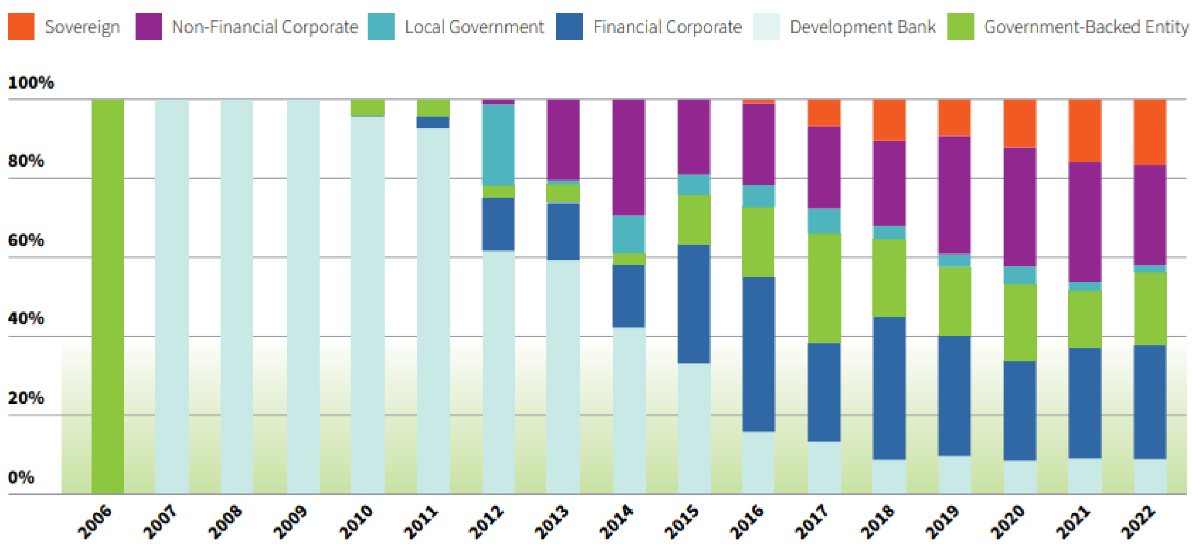
2.4. *Green Bond Issuances by Issuers' Type:*

According to the latest report by the CBI (2023), the private sector issuers continued to dominate the market and comprised 54% of total issuances. Financial corporations made the largest contribution with 29% of volumes, while 25% originated from non-financial corporations. Only about 19% are issued by government-backed entities.

Figure Three: Issuance Volumes Per Issuers (2015 - 2022).



Author: CBI - SUSTAINABLE DEBT GLOBAL STATE OF THE MARKET 2022 (2023)

The same trend occurred in the emerging markets, where financial and non-financial institutions comprise 73% of total issuances based on the latest analysis conducted by the CBI (2023). This indicates the importance of the private sector as a key player in the green bonds market in the emerging economies and also poses the question of the role of private sector issuances in the domestic market.

This section gave an overall idea about the main concepts behind the green bonds, with an indication of the tools' history and a glimpse at the latest international market trends.

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Nevertheless, the following section discusses the conceptual framework of the study and draws the line between the status of the green bond market and the associated challenges that face this market.

2.5. Why Focusing on green Bonds on the local context?

While the climate finance landscape is undeniably diverse, encompassing various bond types like social, sustainability, sustainability-linked, and transition bonds, it's evident that green bonds remain the prevailing force in the global financing universe. According to the Climate Bonds Initiative's recent report (2023), green bonds maintain a remarkable stronghold, constituting a substantial 58% of the overall issuance volumes on a global scale. This steadfast prominence underscores their pivotal role in channeling funds towards environmentally impactful projects.

It's important to highlight that on a local level, the regulatory landscape of the green bonds has undergone a transformative journey. The emergence of the regulatory framework for green bonds in 2019 marked a significant stride forward, acknowledging these bonds as a potent instrument within the realm of debt finance. However, the tides of progress surged even higher towards the end of 2022. The Financial Regulatory Authority (FRA) catalyzed a remarkable transformation by enacting Decree No. 3456 of 2022. This forward-looking decree wielded the power to reshape the climate finance landscape by expanding its horizons to encompass a comprehensive array of climate finance-related bonds. These new entrants, including sustainability bonds, sustainability-linked bonds, social bonds, women empowerment bonds, climate bonds, and even transition bonds (also known as brown bonds), have been ushered into the fold. However, it's noteworthy to acknowledge that despite these exciting developments, the

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Egyptian market has yet to witness the issuance of these newly introduced climate finance instruments. In this dynamic landscape, green bonds not only maintain their status as the dominant player but also underscore the complex nature of market adoption. Their longevity and efficacy as a tried-and-true mechanism for climate-related financing are a testament to their relevance and reliability.

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3. Chapter Three: Conceptual Framework

The conceptual framework section in this thesis focuses on exploring the challenges related to green bonds in the context of Egypt and visualizing the relations between the dependent and independent variables. This section aims to identify the specific challenges that face issuers, investors, and policymakers in indorsing and adopting green bonds as an effective tool for sustainable finance in Egypt.

However, it may be of a critical important to identify what are the bonds as a financial tool and their types, issuers and how they differ from other equity financial tools such as shares. Bonds are identified as debt instruments utilized by entities seeking financial resources to fund their diverse needs associated with their core activities, or to finance a specific operation. Consequently, bonds represent debt certificates issued by the entity, through which it commits to fully repay the bond's nominal value to the bondholders after a specified period, along with regular payments such as the accruing coupons (yield) due on the bond during a defined time frame. They also constitute tradable or redeemable financial instruments, subject to early redemption or any bond-specific optional provisions. These bonds can carry either a fixed or variable yield and may be convertible into shares according to the terms specified in the prospectus or offering memorandum, in alignment with the legislative regulations governing such bonds (FRA, 2021). Bonds Can be issued by states / governments, supernational institutions which are ranked below states including European Investment Bank, European Financial Stability Facility etc., and finally enterprises and corporations (Quintet Luxembourg Private Bank, 2020)

The main types of bonds are:

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- Fixed rate bonds: The entity issuing a fixed-rate bond will compensate the holder consistently at an unchanging rate that is predetermined upon issuance, continuing until the bond reaches maturity. Upon maturity, the issuer will repay the bondholder the borrowed principal amount.
- Variable (or floating) rate bonds: In contrast to fixed-rate bonds, the coupon for these bonds fluctuates based on the benchmark rate, which could be the inflation rate, the money market rate, or the bond rate. Similarly, the borrowed principal amount is also repaid upon reaching maturity.
- Zero coupon bonds: This type of bond does not provide interest payments throughout its lifespan. Instead, the initial issuance price is notably lower than the redemption price upon maturity, which includes the accrued interest.

However, the conceptual framework encompasses various interconnected factors that influence the development and growth of this market. These factors revolve around three main variables:

- corporate bonds issuance volume
- the regulatory framework
- the general challenges facing the bond market as a whole.
- the green bonds' specific challenges attributed only to the green bonds in the market.

All of these dimensions include one or more variables that create the conceptual framework of this research.

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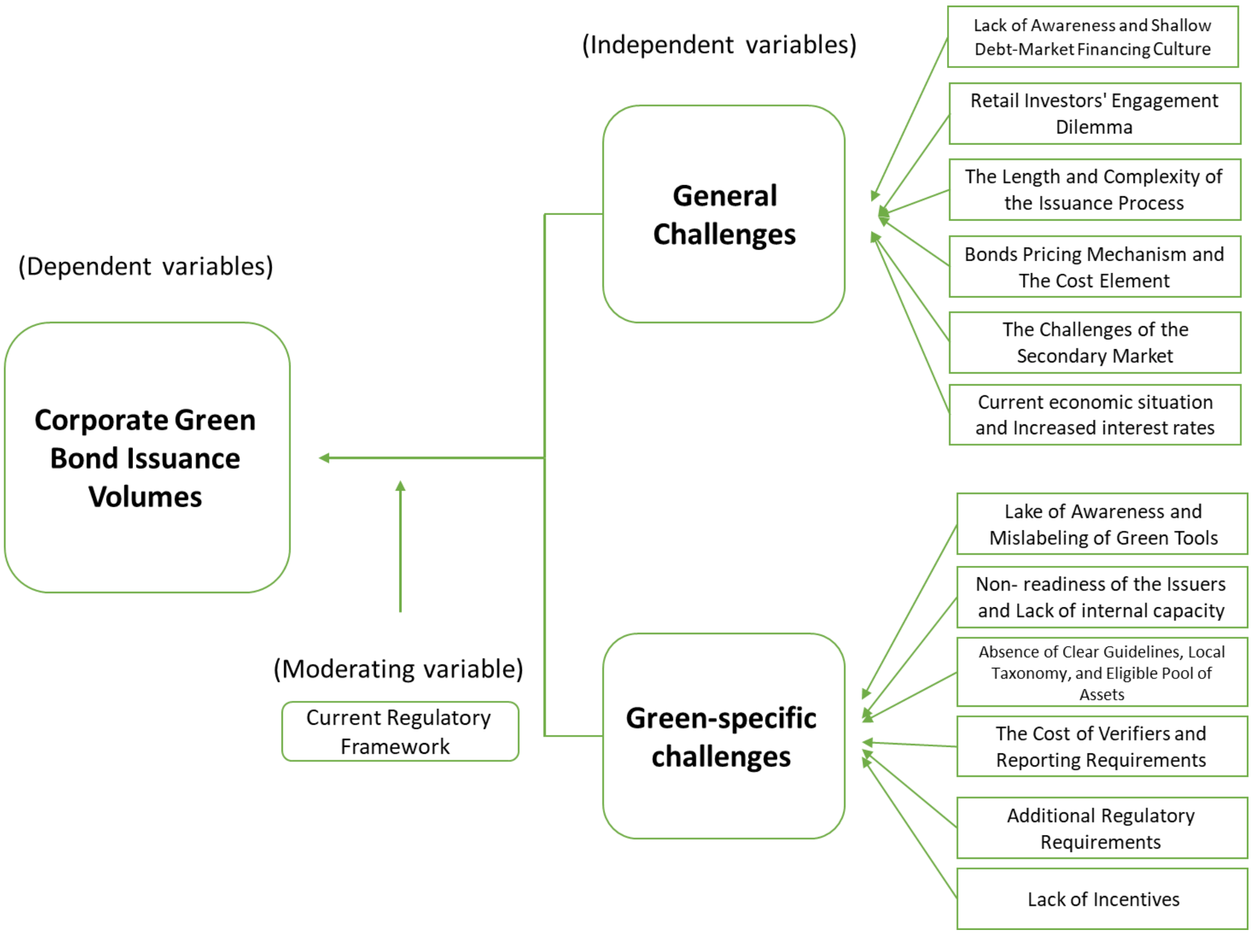
The following graph shows the underlined variables and the relationship between them.

Figure Four: Conceptual Framework Figure.



Source: The Author – Based on the literature review and the study field findings.

1. **Corporate Green Bond Issuance Volume**: This is the dependent variable of the study as the primary research question tries to identify what factors and challenges contribute significantly to the low volume of green bonds. This variable discusses the volumes of corporate green bond issuance in the Egyptian market.

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2. **The regulatory framework**: This dimension is perceived to be a moderating variable for the study as it has a significant impact on both the dependent and independent variables. The regulatory framework is a foundational and cornerstone element of the green bond market.

   2.1 Corporate Green Bonds National Regulatory Framework in Egypt: As a moderating variable that significantly impacts both the dependent and independent variables, the green bonds issuance falls under the regulatory landscape of the Financial Regulatory Authority (FRA). However, the regulatory framework and all the related decrees that govern corporate green bonds are summarized as follows:

   a. The FRA has established regulations recognizing green bonds and sukuk as debt financial tools in the Egyptian market. The Capital Market Executive Regulation was amended in 2018 through Prime Minister Decision No. 2479 of 2018, providing the legal framework for issuing green instruments. According to Article 35 bis 3 of the executive regulations, green bonds are considered a type of bond, and their proceeds are allocated to financing and refinancing environmentally friendly projects.

   b. To ensure the credibility of green projects, the FRA introduced Board Decree No. 113 of 2019, which lists international third-party verifiers authorized to verify green projects in the Egyptian market. This initial list includes 11 globally recognized and prominent institutions, with the possibility of adding additional institutions upon the approval of the FRA.

   c. Furthermore, FRA Board Decree No. 127 of 2019 establishes registration requirements for **local third-party verifiers** in the FRA's registry. This decree

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aims to develop the local market and create a list of efficient verifiers to support green bond issuance with lower costs.

d. FRA Board Decree No. 141 of 2019 exempts green bond issuers from 50% of the total cost of FRA's inspection services to incentivize the local green bond market.

e. In 2022, and based on the FRA drafts, Prime Minister Decree No. 3456/2022 introduced amendments to the executive regulation of the capital market law. These amendments include introducing six new financial instruments: Social-linked Bonds, Sustainable Development Bonds, Sustainable Development-linked bonds, Climate Bonds, Women's Empowerment Bonds and Transition Bonds (Brown Bonds). The proceeds from these instruments are designated for financing and refinancing sustainable development, social causes, women's empowerment, eco-friendly projects, and transition projects.

These decrees construct the legal and regulatory landscape for corporate green bonds in the Egyptian context.

3. The general challenges are considered the first independent variable that incorporates a set of sub-variables, each affecting the corporate green bond issuance volume. These variables include:

1. *Lack of Awareness and Shallow Debt-Market Financing Culture:* This discusses the impact of the level of awareness among market participants on the bonds’ issuance in the domestic market.
2. *Retail Investors' Engagement Dilemma:* This variable indicates the importance of the diversified investors' base and the engagement of the retail investors in the debt market and its relationship with corporate bonds issuances.

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3. *The Length and Complexity of the Issuance Process:* This variable demonstrates the impact that the duration and the level of complexity of the issuance process have on the issuers' decision to issue corporate bonds.
4. *The Challenges of the Secondary Market:* This variable explains the challenges on the secondary market in relation to bonds trading and the associated impact on bond issuance.
5. *The current economic situation and increased interest rates:* This variable discusses the macroeconomic indicator's impact on the debt market, specifically the corporate bond market.

4. The Green-specific Challenges: This is the second independent variable that embraces the second set of sub-variables that directly impact the corporate green bond issuance volume. These following variables are a green-specific set of challenges that exist only due to the additional requirements of the green bonds. These underlined variables include:

1. *Lake of Awareness and Mislabeling of Green Tools:* This variable discusses the impact of the low level of green bonds'-related awareness for and its impact on the green bond issuance in the domestic bond. Furthermore, it illustrates the associated risk of mislabeling eligible projects and assets resulting from the lack of awareness.
2. *The unpreparedness of the Issuers and Lack of internal capacity:* This variable expresses the impact of the level of readiness of the issuers and their previous familiarity with the green investment mechanism and the ESG-related governance and its impact on the green corporate bond issuances.

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3. *The Absence of Clear Guidelines, Local Taxonomy, and Eligible Pool of Assets:* This variable demonstrates the importance of the clear definition and the existence of a local taxonomy on paving the way for green issuances, along with the importance of creating a diversified pool of eligible green projects and assets that fits the green bond financing criteria.
4. *The Cost of Verifiers and Reporting Requirements:* Discuss the cost element associated with the rigorous reporting process required for green bond issuance.
5. *Additional Regulatory Requirements:* This variable discusses other regulatory requirements that oblige the issuers it keeps the green bonds' proceeds in sub-account and the impact of this regulation on the market from the issuers' point of view.
6. *Lack of Incentives:* This final variable indicates the impact of the lack of intensive bundles on green bonds issuance from the market perspective.

However, this conceptual framework provides a structured approach to understanding the challenges facing the green bond market in Egypt by considering the interplay between the green bond issuance volumes, regulatory framework, general challenges and green-specific challenges from market participants' perspectives. It helps identify the key barriers and opportunities within each dimension and their interconnections, guiding further research and analysis to develop strategies for overcoming challenges and fostering the growth of Egypt's vibrant and sustainable green bond market.

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4. Chapter Four: Literature Review

The green bonds market has experienced exponential growth in recent years, with issuances reaching 500 billion since its inception in 2007 (Kumar & Chaturvedi, 2020). This growth is initially supported by investors' demand for environmentally friendly investments and the recognition of green bonds as an effective financing instrument that facilitates green transitions. Thus, there has been a growing interest in understanding the impacts of green bonds from many angles. The literature review section delves into the dynamic landscape of the green bond market. This section critically examines a range of scholarly works, industry reports, international institutions' reports to provide a comprehensive understanding of the current state and future prospects of the green bond market.

Accordingly, the literature review address four main themes including the association between green bonds and economic expansion in order to understand the macro effect of the green bonds' issuances, the impact of corporate green bonds on the issuing corporations, green bonds issuances determinants from both demand side, supply sides, and finally, the macroeconomic factors, and finally barriers to green bonds market expansion from a global point of view.

4.1 Green Bond and Economic Growth:

Extensive research within the realm of sustainable finance and economics has illuminated the potential for green bonds to wield a considerable and multi-faceted impact on the overall economic growth of the countries that issue them. On the economic and investment levels, countries that are recognized with their green bond issuance abundance are proven to experience faster GDP growth than those with lower issuance levels (Kumar & Chaturvedi, 2020).

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Additionally, green bonds can have a notable long-term economic and social impact (Lichtenberger et al., 2022) by providing additional financing for sustainable development projects. Besides, green bonds can help to reduce poverty and inequality, which are key drivers of long-term economic growth Blanchard et al. (2017). Green bonds also serve as a portfolio stabilizer, contributing to overall economic stability through reduced volatility and enhanced Sharpe ratios[1]. This characteristic helps safeguard investors and portfolios against fluctuations in oil prices and the business cycle. (Lichtenberger, 2022). Furthermore, the green bond offers an alternative avenue for funding risk-free securities, replacing high-interest debt schemes that come with unpredictable equity expenses. This positions green bonds as an appealing financing instrument that fosters the expansion of sustainable growth (Maltais & Nykvist, 2019).

On the other hand, green bond issuances may significantly impact specific sectors of the economy, which spells over on real economic growth of the countries issuing these bonds. The energy and technology sectors have dragged the researchers' attention and comprised a sizable portion of the studies connecting green bond issuances to economic growth through channeling investments in those sectors. In the research undertaken by Karras et al. (2020), the researchers confirmed the positive relationship between green bond issuances and a higher level of private investment in the renewable energy sector, which led to a notable increase in the overall GDP growth rate. Similarly, Pindyck & Rubinfeld (2012) argued that investments in clean technology can increase productivity, leading to higher economic growth rates over time. Furthermore, green bonds exert a notable influence on broader economic green growth, facilitating the funding and oversight of environmental and growth-oriented dimensions, thereby aiding economies in

[1] The Sharpe ratio compares the return of an investment with its risk. It's a mathematical expression of the insight that excess returns over a period of time may signify more volatility and risk, rather than investing skill. http://web.stanford.edu/~wfsharpe/art/sr/sr.htm

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maintaining and expanding their growth through environmentally sustainable means, particularly within the energy sector (Ning et al., 2021). Moreover, issuance of the green bond also is claimed to hold a significant influence on the employment rate growth of the renewable energy sectors, including wind power and solar generation (Zhang et al. 2019). Besides, it also has a noteworthy effect on the issuing country's increased foreign direct investments (FDI) into specific sectors related to green transition, including clean technology industries such as electric vehicles and smart grids (Huang et al. 2018). These findings imply that green bonds can exert a substantial impact not just on overall economic expansion but also on specific sectors within the economy.

On the national level, a recent study was conducted aiming to identify the impact of green bonds on the Egyptian green economy and the quest to the transition to greener economy. The study recognized set of indicators including the GDP per capita, employment rate, poverty level, and inflation. The results showed a significant potential for the Egyptian economy to transform to a greener economy with the acceleration in addition to the continuous rise in the volume of green investments including green bonds. Furthermore, the study also may shed the light on one of the reasons of the low level of green bonds issuances which is the external financing which hurts green bonds and the Egyptian green economy (Mohamed, et al. 2023).

However, the forthcoming section of the literature will engage in a detailed exploration at the firm level, delving into the intricate relationship between the corporate green bond issuance and the associated outcomes that is realized due to this green issuance.

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4.2 The Impact of Corporate Green Bonds on the Issuing Corporations

Private green bond issuance is becoming more and more present on the global scale and on the regional scale as well. On the African level, many corporate green bonds issuances are being issued by private institutions in the recent years and showed notable success. In Kenya, the first corporate green bonds took place in 2019. The 40 million USD issuance was a Climate Bond Certified and aimed to construct ecologically conscious 5000 student housing (Ngwenya & Simetale, 2020). The issuance for very successful and indicated the potential of the private sector to participate in the green transition in the African continent. Furthermore, both Nigeria and South Africa also have a successful corporate green bond issuance and are (FSD Africa; Ngwenya & Simetale, 2020). These corporate green bond issuances marks the significance of the private sector engagement and its important in the green transition.

However, as studying the impact of the green bonds issuances on the issuing countries is important, it is also significant to shed the light on the importance of the green bonds on the firm levels and how it is impacting the overall issuing corporations on different scales. The corporate green bonds may have a several impacts that may affect the issuer companies.

In her study of the corporate green bonds, Flammer (2018) highlighted the impact of the corporate green bond issuance on the public corporations. The results of the study showed that issuing corporate green bonds have multiple positive impacts including the improved environmental performance of the issuer corporations post the issuance where the companies have scored improved environmental rating on Thomson Reuters' ASSET4 and also companies decreased their CO_2 emissions. Other realized benefits are related to ownership equity where issuer companies experienced an increase in long term investors as well as green investors. The study also draws a relationship between the green bond issuance and positive financial

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performance in sectors where natural environment is material on the financial scale. However, the same researcher expanded her study (Flammer, 2020) by adding the third-party accreditation as an additional factor to the bonds issuance and showed that companies that release green bonds demonstrate superior financial performance compared to their counterparts issuing non-green bonds. The same results were also reported by Yeow & Ng (2021) examining corporate issuances from different sectors and countries, where green bonds were also reported to improve the environmental performance of the issuer corporations. The study also examined the association between green bond issuance and financial performance where no significant association between both variables was stated. The difference in results between Flammer (2018) and Yeow & Ng (2021) is that the first and the later studies may be attributed to the different corporate issuer type (public Vs private) and the sectors under the study.

Additionally, the announcement green bonds were recognized as being galvanizing factor that resulted in better financial performance for the issuing companies, better stock prices, profitability, and operational performance for the Chinese listed companies. Furthermore, the green bonds issuance was also reported to have a positive effect on the innovation capacity and the corporate social responsibility performance of the issuing companies (Zhou & Cui, 2019). Another study by Khurram, et al. (2023) also focused on the Chines market also showed the same results in terms of enhancing the corporate innovation. In addition, the study suggests a significant positive relationship between corporate green bond issuance and perceived corporate value.

In conclusion, the collective analysis of the literature underscores the intricate relationship between green bond issuance and the performance of issuing corporations. The

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studies reviewed consistently highlight the potential positive outcomes that arise from green bonds issuance and the whole corporate performance.

However, it is critically imperative to recognize the determinants of green bonds issuance decision and the factors that stimulate this decision. Accordingly, the following section discusses the green bonds issuance determinants from both the demand and the supply sides and throughout the macroeconomic lens.

4.3 Green Bonds Issuance Determinants

Green bonds issuance determinants have been analyzed through different lenses in the literature. The demand side, the supply side and other macro and institutional factors. Understanding what influences green issuance size from both the demand and supply sides is vital to encourage green bond issuances, especially corporate issuances.

4.3.1 Demand Side Analysis

Studying the demand side is vital in terms of understanding the green bond determinants as well as the market dynamics to understand what incentivizes the market profoundly.

Pricing is a primary element that affects the green bonds investing decision, where different scholars have identified it as a primary factor. However, mixed results have been reported on the association between green bonds issuance and the pricing element. The HSBC report (2016) and the Climate Bond initiative (2017) both examined the variance in yields during issuance between conventional and green bonds through samples comprising 14 and 30 bonds, respectively. Both studies showed no disparity in terms of premiums at issuance between these two types of bonds, indicating that investors are not inclined to pay an extra amount to acquire a green bond. However, the outcomes of the HSBC report further indicated a positive performance

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factor associated with green bonds in comparison to conventional bonds, tighter pricing, and a higher ability to attract a broader spectrum of investors. However, conventional and green bonds performed similarly in average oversubscription and spread performance factors. The study also suggested that many green bonds are underpriced at issuance, which may lead to tighter pricing in the future. The same results were identified by Zeribab (2016), confirming the lack of significant green bond premium.

Conversely, Nanayakkara & Colombage (2019) discussed the pricing difference between conventional bonds and green Bonds in capital markets globally and how these factors affect the demand side. the findings indicated that green bonds are traded at a premium when compared to conventional bonds within the same timeframe. Additionally, the outcomes underscored that a distinct green label on the bonds acts as a catalyst for investors, encouraging them to secure funds through green bonds. This approach not only aids investors in diversifying their investment returns but also contributes to the overall appeal of green bonds as a sustainable financial instrument. This suggests that investors are inclined to pay an additional amount to acquire green bonds, attributed to the advantages associated with investments tied to green bonds. The same results were reported by Ehlers & Packer (2017) regarding green bond pricing at negative premiums of 18 basis points at issuance for green bonds between 2014 and 2017 across a selection of 21 Euro- and USD-denominated bonds. Besides, the findings indicated that despite the observed premium, the performance of green bonds in the secondary market aligns closely with that of other bonds when currency risks are effectively hedged. Barclays (2015) demonstrated a negative premium of 17 basis points (bps) between March 2014 and August 2015 at the secondary market level. Correspondingly, Bloomberg's report (2017) presented a negative premium of 25 bps for Euro-denominated green bonds related to government entities.

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In addition, other factors may affect the demand side. The sector and the green bond rating are among the main factors affecting investors' investment decisions and result in higher pricing of green bonds. Furthermore, the investor type also affects the pricing of the bonds, where institutional investors are more concerned with environmental performance than individual investors (Zeirbab, 2019). However, the results suggest that although investors can absorb a yield slightly lower than the conventional curve at issuance, reconsidering pricing methods is still needed. The data quality is the study's primary limitation, requiring additional research.

This section has illuminated the factors impacting the demand side, encompassing the green bonds' pricing model, bond ratings, and investor types. The subsequent section, however, will dive into the aspects influencing the supply side, thus offering a well-rounded perspective of the market dynamics. This section showed the elements that are affecting the demand side, including the pricing model of the green bonds, the rating of the bonds, and the type of investors. However, the next section will discuss the factors affecting the demand side to provide a comprehensive view of the market.

4.3.2 The Supply-side Analysis

Comprehending the development pattern of the green bond market facilitates a deeper insight into the significance of the supply side and its pivotal role as a driving force within the market. The green bonds market is mainly “supply-pushed than demand-pulled” type of market. Though the investor’s increased demand for green bonds, yet the traded volume mostly resulted from issuers' need to finance green projects (Barua & Chiesa, 2019). Thus, understanding the dynamics of the green bond supply side is just as, if not more, crucial than understanding the demand side (Kidney, 2012).

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The supply side, measured by issuance volume, is mainly sensitive to many factors, including coupon offered, bond and issuer rating, sector of the issuer, financial health, and collateral availability. These factors are all positively associated with higher issuance volumes, besides the merging market material effects where emerging markets that are globally oriented and denominated in the EURO currency have a larger size which led by currency effects (Chiesa & Barua, 2019). Additionally, the bond issuer's attributes can exert a notable influence on the premium associated with green bonds. Notably, green bonds issued by institutional issuers tend to have greater liquidity and a negative premium in comparison to their conventional bond counterparts. Conversely, green bonds originating from private issuers display a positive premium and a narrower liquidity advantage, a discrepancy that can potentially be offset through the implementation of green verification measures for the bonds (Bachelet et al., 2019).

In their study, Barua & Chiesa (2019) studied the supply side by studying both bonds' issuers and market characteristics and their impact on bond issuance volume. Among all the bond-related parameters', coupon rate (with adverse effects), security collaterals (positive effect), and bond credit rating (positive effect) showed significance. On the issuer-related characteristics level, growth rates measured by the revenue growth rate (positive effect) and the profitability of the firm, measured by "the return on assets ROA" are the most significant. Conversely, issuer rating has an adverse impact on both high and medium-grade bonds, which the financial independence can justify that highly rated issuers have. Regarding market-related characteristics, bonds with higher credit ratings issued in emerging markets tend to exhibit a greater issuance volume compared to those issued in non-emerging markets. The same results are proved by Chiesaa & Baruab (2019). The difference between the two studies is that the first

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conducted a year-wise estimation analysis to profoundly understand the development and enduring nature of the impacts across various time periods.

4.3.3 The Macroeconomic Factors

On the national scale, state-level macroeconomic factors also examined the green bond issuance volume determinants. ESG index, Credit rating, inflation rate, population, and fiscal balance play a significant role in influencing and contributing to an increased level of green bond issuances (Dan & Tiron-Tudor, 2021). In addition, some institutional factors that directly affect the macroeconomic factors have indirect positive effects on green issuances, which include the openness of the capital account, quality of the regulatory framework, and the rule of law. Moreover, the "National Determined Contributions NDCs" also profoundly influences the green bond issuance volumes. Finally, capitalization of the stock market, the economy size, and the degree of trade openness also drive green bond market growth and, therefore, the green bond market (Tolliver et al., 2019).

Nevertheless, as understanding the market mechanism and the factors that affect the supply and demand sides, along with the impact of the macroeconomic factor, is essential to perceive the complete picture of the green bonds market determinants, as the full realization of the market obstacles is also fundamental to comprehend this market.

4.4 Obstacles to the Expansion of the Green Bond Market

As a green-oriented financial instrument, green bonds endorse specific characteristics and require certain imperatives that may be perceived by issuers as hindering elements and may hinder numerous issuers from participating in this market, thereby intensifying supply shortages.

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Reviewing the growing literature on green bonds showed four main barriers and risks associated with green bonds that may hurdle the market's future expansion.

4.4.1 Green Bond Conformity and Standardization Barriers

Conformity barriers arise from the lack of universal conformity around the main terminologies and definitions of green financial tools. The absence of a global agreement on what is green serves as an investment blocker and opens the door for greenwashing phenomenon where the lack of a consistent definition among investors regarding the concept and scope of green investing represents a significant obstacle (Chiange, 2017; OECD, 2017; G20, 2016). The absence of a standardized reference framework has led to the emergence of various guidelines and best practices, each with distinct definitions, being issued by different stakeholders in the global market. Moreover, different issuers are issuing their own tailored green bond frameworks with no unified standards being followed, where developing their own methodology is recognized by issuers as the most common and convenient approach (Deschryver & Mariz, 2019). On the investors level, investors in green bonds suffer from the inconsistency of the certification system compared to the vanilla bond's (conventional bonds) credit rating system. ESG ratings and scoring vary significantly between different data providers. Each data provider uses a different unannounced methodology that prevents investors from reconciling the differences between the different scoring and rating systems. The work of Deschryver & Mariz (2019) stands out for its comprehensive approach, which integrates in-depth literature review, thorough market data analysis, and interviews with a diverse range of participants in the green bond market.

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Furthermore, although the importance of reporting to the green bond structure, there are no legally binding standards for disclosing how proceeds are used or reporting on the environmental impact of green bond projects on a global basis. (Berensmann et al., 2018: Chiange, 2017). The lack of an enforceable code makes the proceeds hard to track and increases the risk of greenwashing, which remains a major concern for investors. Besides, the fragmentation and fragility of the third-party verifiers and second-opinion providers, given the absence of precise identification of the green concepts, also consider a critical challenge to the green bond market (Chiang, 2017).

4.4.2 Integrity and Legal Risk Barriers:

The market of the green bond is basically based on the ability to offer a methodology by which green transition can be financed, which requires a high level of market integrity and credibility. The reputational and integrity risks arise primarily from the potential of greenwashing. Greenwashing can take place when generated proceeds from green bonds are channeled into channels that do not align with environmentally friendly objectives. This can be observed when core business practices are deemed unsustainable, the utilization of proceeds lacks proper monitoring and transparent reporting, and there is inadequate substantiation that the projects have genuinely contributed to environmental enhancement. (Shishlov et al., 2016).

Furthermore, greenwashing is a phenomenon that has been gaining a global snowballing attention over the past few decades. Jay Westervelt first introduced the concept in 1986 (Westervelt, 1986), and lately was defined as "the practice of making unsubstantiated or misleading claims about the environmental benefits of a product, service, technology or company practice" (García & Ballester, 2017). Since its inception, a growing number of literatures has

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discussed its implications and associated risks especially investigating the legal and reputational risks as it can have a destructive impact on the organizations' reputation and leads to serious legal consequences in the longer term once realized (Srivastava et al. 2019; Hahn et al. 2016). Greenwashing can cause investors to be skeptical about a company's actual commitment towards sustainability (Köhler et al. 2016), which can undermine their efforts by creating confusion among consumers about what constitutes genuine sustainability initiatives, thus making it difficult for them to differentiate between true progress and false claims made by companies (Wilcox et al. 2018). However, Jansen et al. (2020) investigated how governmental interventions can mitigate the greenwashing phenomenon through enhancing the existing regulatory frameworks can offer greater protection against deceptive marketing practices against violators.

Legal risk is interconnected with integrity risk and presented by what's called "green default", where issuers provide inadequate or deceptive information that is significant to investors' choices to invest in green bonds. When an investor purchases green bonds that fail to meet their environmentally sustainable criteria, this could potentially lead to a legal situation where the customer is misled through the use of inaccurate information and may require a full payment of the bonds by the issuers (Shishlov et al., 2016).

However, the lack of enforcement mechanisms towards green bond verification systems that hold the issuers accountable for green bond framework application and provide guarantees for investors leads to aggravating the asymmetric information and greenwashing risks. Third-party verification systems can have an essential influence on enhancing green bond performance and may result in a positive premium (Bachelet, et al. 2019).

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4.4.3 Complexity Risk Barriers

On the opposite side, the complexity of the issuance process is a double-edged weapon. While this process may ensure the integrity of the market, it is also considered a deterrent to the market in the long run. Before the issuance, issuers need to get prepared by hiring expert teams in "Environmental, social and governance issues", developing a solid green bond framework that is aligned with the GBP, obtaining a third-party verification / second opinion to analyze the ESG risks associated with the issuer and their strategies to mitigate these risks, assess and endorse the selection of projects and allocation of funds, and review the reporting procedures before and after the issuance. All these processes have to be closely combined with a robust and comprehensive sustainability and ESG profile of the issuer to achieve a successful green bond issuance (Deschryver & Mariz, 2019). This complexity risks are aggravating the obstacles that green bonds still face in the market.

4.4.4 Financial and Structural Barriers.

Improving green bonds' financial performance is claimed to support and enhance their environmental impact and expand their effects. For green bonds to be effective in green transition, it has to achieve additionality, which entails financing new projects that would be funded more expensively otherwise (Jones et al., 2020). Thus, three elements have been identified for green bonds to achieve additionality and avoid the acquisition of "repackaging" the conventional bonds and still be able to financially compete with regular bonds. The first is ***lowering the cost of borrowing for the issuers***, which is a core issue that needs to be recognized (Chiang, 2017; Shishlov et al., 2016). The green bonds are commonly perceived to come with elevated costs resulting from additional external verification, underwriting, monitoring proceeds,

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and reporting requirements, which add to the expense and administrative burden of issuing green bonds. These additional costs are not reflected in the pricing processes by having price benefits but rather are reflected in requiring additional interest rates in some markets for green bonds (Bachelet et al., 2019) with mixed evidence of realizing green bonds premium (Chiang, 2017). This means that issuers face elevated transactional costs and higher interest rates in return for ensuring green bonds' integrity which may result in increased cost of capital, which hinders achieving the additionality that green bonds aim to achieve (Jones et al., 2020). These factors may drive investment decisions towards financing even climate-friendly projects with unlabeled bonds to avoid the associated risks. However, lowering capital cost is tricky due to some existing contradictions between attracting new investment, lowering interest rates, and safeguarding bond integrity, which may increase the pricing of green bonds and prevent it from being as attractive as conventional bonds (Jones et al., 2020). Nevertheless, in the absence of higher returns, as of the green bonds case, investors' demand would be supported by ***higher bond liquidity*** that allows investors to buy and sell the bond with no change in its price (Chen, 2020). Liquidity risk in some markets is tied to small issuances that do not rise to attract institutional investors with a "hold to maturity" mandate. The offering size needs to reach $ 250 - 500 million for green bonds to be able to achieve acceptable liquidity in the US market (Chiang, 2017). If bonds are traded at small volumes, liquidity risk persists and making it challenging to buy or sell them during favorable market conditions. The restricted secondary markets for green bond trading, which reduce liquidity for investors and complicate the selling process, are therefore recognized as a constraint on demand and contribute to the perception of this issue (OECD, 2017). Finally**,** the lack of green bonds rating, indices, listings, and ***the necessity of incorporating environmental risk into credit ratings and fixed-income indices*** are among the most critical financial barriers.

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Green credit rating can help investors to identify the effect of "Environmental, Social and Governance (ESG)" on the issuers' risk profile as well as help investors to identify bonds that meet their investment criteria which may potentially result in higher demand for green bonds and subsequently lower the associated financing expenses (OECD, 2017). Until recently, although the existence of many ESG-based indices aims to capture many sustainability and climate considerations, yet the penetration of green bonds and ESG indices into conventional portfolio allocation remains insignificant (HLEGSF, 2018). In addition, the lack of reliable ESG data prevents credit rating agencies from considering ESG elements in their analysis and blocks fixed-income investors from integrating climate change in their investment strategies (Hurley, 2019).

4.5 Research Gap:

The literature review analyzed the four main themes that identify the importance of green bonds on the macro level of the countries issuing these bonds, understanding the impact of the green bonds on the issuing corporations, recognize the determinants of green bonds issuances from both demand and supply sides and finally identify the challenges that face the market of the green bond from a global angle. Given that the green bond is still a comparatively novel financial instrument, additional research needs to be undertaken to further realize the real effect of green bonds and the opportunities and risks associated with them.

However, by reviewing **the literature on the local scale** focusing on the corporate green bond market, the research results identified limited academic studies that cover either the structure or the obstacles that face the **corporate green bond market in Egypt**. This reveals a significant gap in literature in the domestic level that discusses the Egyptian market in particular. Accordingly, this research significantly contributes to the current literature that addresses "the

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corporate green bond market” in the Egyptian context and adds to the current literature about the conventional corporate bond by explaining the main obstacles that face this market. Furthermore, the research can add to the literature on green bonds in relation to emerging economies where similar challenges may also persist.

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5 Chapter Five: Research Methodology & Design

5.1 Research Methodology

This research is based on qualitative analysis methodology (Marshall & Rossman, 2011). This methodology is mainly needed when researchers aim to understand how a system works or why it fails. Therefore, the research topic decided for this project depended on qualitative research methodology. Qualitative methods were identified to be more suitable for examining the low level of corporate green bond issuances phenomenon in Egypt due to the existence of only one corporate issuance, especially given that the research scope aims to review the obstacles that face the market expansion, which entails market experts' engagement. The questions raised in this research demand analysis that goes beyond numerical data as shown in the literature review, which uses both methods to analyze the topic.

In-depth interviews were conducted with eleven relevant stakeholders, which involved Egyptian and International key players in the financial sector in Egypt.

5.2 Research Design and Data Collection

5.2.1 In-depth interviews:

The information presented in this article is based on comprehensive interviews conducted using semi-structured methods. These methods were employed to facilitate open and insightful discussions with the interviewees, allowing them to share their perspectives and ideas. The statements obtained from these interviews were carefully analyzed using coding and decoding techniques to address the research inquiries. The semi-structured approach to questioning was designed to avoid simple 'yes' or 'no' responses and instead encouraged participants to provide

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detailed insights, covering various dimensions of the interview subject. The interviews were conducted over the course of four months, from February to May 2023, with a total of eleven interviewees. The sample choice was based on an experience-based selection approach rather than random sampling due to the research need for policy-making and managerial-level regulators along with market experts with a certain level of experience. Accordingly, the sample included bank managers, underwriters, international institutions participants, regulators from the Financial Regulatory Authority and the Egyptian Commission Exchange, and finally, the executive manager of the Egyptian Institute of Directors (EIOD) training center. The main aim behind this endeavor was to achieve a diversified database of interviewees allowing for the collection, analysis, and comparison of the insights from as many related and affected layers as possible.

The interviewees from the non-banking financial sector included three underwriters with managerial levels specialized in the debt market as well as an investment Bank board CEO. In comparison, the participants from the banking sector include three sustainable finance department heads and strategy managers. Furthermore, the interviewees' sample included the head of the Egyptian Institute Of Director, one of the most prominent training centers in the financial sector to gain insights into their organization's perspective and role in shaping and overseeing the debt market, including green bond policies and issuances. The participants were a total of three participants. Two participants were from the Financial Regulatory Authority, and two were from the Egyptian Exchange. Finally, participants from international institutions included one participant from the “European Bank for Reconstruction and Development (EBRD)”, who has previous experience working for development banks, including International Finance Corporation (IFC).

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The following table demonstrates the interviewees' titles along with their main job descriptions:

Figure Five: Interviewees’ Titles and Job Descriptions

No.	Interviewee’s Title	Main Job Description
1.	Corporate Finance Head - Regulatory Body	- Monitor and supervise the capital market for the non-banking financial sector. - Suggest and formulate related financial market policies and regulatory
2.	Debt Market Head - Regulatory Body	- Supervise the debt market for the non-banking financial sector. - Monitor issuance processes of debt financial tools.
3.	Sustainability Head - Regulatory Body	- Design all sustainability-related strategies. - Embeds sustainability imperatives within the business model to manage its risks and exposure to business impacts and opportunities.
4.	CEO - Investment Bank	- Provides guidance to the Executive Board regarding matters related to investment management and holds the responsibility of offering thoroughly substantiated and documented recommendations on the comprehensive investment strategy of the fund, as well as other facets of investment management, to the Executive Board.
5.	Debt Capital Markets Head - Investment Bank	- Conduct an evaluation and assessment of the debt capital market. - Take charge of initiating, designing, and carrying out bond offerings, encompassing the creation of materials, documentation, due diligence, and the execution process.
6.	Debt Market Head - Investment Bank	- Examine and analyze the debt capital market. - Take on the role of initiating, designing, and completing bond offerings, encompassing tasks such as preparing materials, documenting, conducting due diligence, and managing the execution process.
7.	Sustainable finance Department	- Executing strategies and procedures related to

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	Head - Bank	Environmental, Social, and Governance aspects. - Creating tools for managing sustainable finance risks and establishing frameworks for ESG risks. - Ensuring the effective incorporation of ESG data and tools throughout wealth and asset management, insurance, banking, and capital markets.
8.	Strategy Manager - Bank	- developing long-term business strategies to support growth and revenue.
9.	Sustainable finance Department - Bank	- Executing strategies and procedures related to Environmental, Social, and Governance aspects. - Creating tools for managing sustainable finance risks and establishing frameworks for ESG risks. - Ensuring the effective incorporation of ESG data and tools throughout wealth and asset management, insurance, banking, and capital markets.
10.	Financial Institutions Manager - International institution	- Design programs to support the financial markets in the Emerging Economies. - Cooperate with stakeholders to implement the designed programs
11.	Executive Manager - financial training center	- Design and offer a wide set of training offered for the financial sector institutions including ESG training courses.

The interviews were designed to be predetermined and theme-based manner, where each set of interview questions are individually tailored to optimize the desired outcome from each participant's particular sector. Each interviewee was allowed to express his/her full opinions and perspectives. These interviews functioned as a primary data source to trace and respond to the research question. The study also is data-driven and follows the grounded theory in building the study structure and the presented outcomes (Glaser & Strauss, 1967). Furthermore, the data

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collection and analysis processes systematically followed two main phases: interviews and content analysis. Thus, the triangulation of that data ensured the validity and reliability of this research. While interviewing the participants, identifying common themes, and analyzing literature are considered to be the backbone of the research.

5.3 Research Timeframe

Egypt did not start to formulate the regulatory landscape of the corporate green bonds until 2019, when the Financial Regulatory Authority (FRA), in cooperation with the IFC, amended the capital market executive regulations to recognize green bonds and green sukuk as financial tools and to create the regulatory framework. Accordingly, the research time frame covers the period since 2019 and incorporates the progress of the domestic policies represented by legislation and ministerial decrees related to the capital market. Furthermore, the interviews were conducted within a timeframe of four months. From February to May 2023.

5.4 Ethical Consideration:

Following the classification presented by Ghaniem (2023), this research process involved all ethical considerations discussed in Babbie (2012).

1. **Voluntary participation**: The participants were explicitly made aware of the voluntary character of their participation and had the full right to accept or reject the participation without any related consequences.
2. **Clarity and Transparency:** The interviews were conducted in simple Egyptian-Arabic language with some English expressions in accordance with the interviewee's choice to ensure a high level of understanding.

3. **Confidentiality:** All participants signed the consent forms. In addition, before any interviews took place, the interviewees were clearly informed that their interviews would be recorded, and if rejected, the researcher settled for taking notes. The anonymity of the participants' identities was prioritized unless otherwise approved by the participants both verbally and via the consent form.
4. **Causing No Harm:** During the interviewees, it was fully committed not to cause any harm to any of the participants. The researcher was keen to stop and withdraw from any particular interview if the interviewee showed rejection at any stage.
5. **Institutional Review Board:** IRB approval on the research proposal and research question was obtained before the study's inception to safeguard the rights of participants and to ensure that the research adheres to the ethical standards set by the university and the academic community.

5.5 Research Limitation:

The present study has key limitations that need be recognized. First of all, this study follows a primary data collection methodology to obtain the needed information about the green bond market in Egypt since secondary sources were not available owing to the singularity of corporate green bond issuance took place the Egyptian market. While interviews provide valuable insights from industry professionals, they represent a limited sample size and may not capture the perspectives of all relevant stakeholders in the market. Therefore, the findings may not represent the entire bond market perspective and should be interpreted cautiously. In addition, the study's duration of four months for data collection may impose limitations on the comprehensiveness of the collected data. Market dynamics and challenges can evolve over time,

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and a longer study duration could have provided further inclusive comprehending of the challenges faced by the bond market in Egypt.

Furthermore, the researcher has been a full-time employee of the financial regulatory authority for four years as a sustainable finance specialist. These years of professional experience added to the researcher's knowledge about the market limitation regarding the green bond in the domestic market. Although all the ethical considerations to ensure the voluntary participation of the interviewees were considered and unbiased content analysis was conducted, the interviewees might have been affected by the professional background of the researcher.

Lastly, the limited available literature **specifically focused on the corporate green bond market in Egypt poses** a limitation to this study. The absence of literature review that focuses on the local status limits the ability to compare the findings to existing knowledge in the field. Future research should aim to bridge this research gap by conducting a more extensive review of relevant studies and reports to provide a stronger foundation for understanding the challenges of the corporate green bond market in Egypt.

Overall, while this study offers insightful perspectives regarding the challenges facing the bond market in Egypt, the limitations outlined above suggest the need for further research with larger sample sizes, longer study durations, and a more comprehensive literature review on the local level if available. These steps will significantly contribute to create a profound understanding of the challenges and potential solutions for developing and enhancing the green bond markets in Egypt.

6 Chapter Six: Research Findings:

First and foremost, green bonds, same as any other bond, is a type of fixed-income financial tool utilized to raise capital from investors within the debt capital market. Accordingly, what is applied to conventional bonds is also applied to green bonds as green bonds are conventional bonds, in essence, with additional requirements that ensure the use of the proceeds is allocated to finance or refinance only green projects and with additional requirements to ensure the transparency of reporting. Exploring the green bond market entails a profound comprehending of the structures and unique features of the bond market in Egypt from a holistic point of view, as the green bond market is severely affected by the debt market health as a whole. The data analysis followed two main themes in discussing the research question to further understand and present a reflective image of the market's current status. The first theme is the characteristics and obstacles that face the bond market in Egypt in general, which affect the green bond market by association, and the second theme discusses the obstacles that are green-specific to the green bond market.

6.1 General Challenges and Observations:

6.1.1 General Observations -Fluctuated Growth Model:

The characteristics of the bonds' growth model was one of the main highlights of the analysis, where the historic and current status of the market are displayed to give a full picture of the current market and the expected future trends.

A main observation of the Egyptian corporate bond market is the ***volatile performance***, where it has had a fluctuating growth model in the last two decades. Many ups and downs in terms of issuance volumes, issuance models, and active trading were identified over the years.

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Historically, the bond issuance model was diversified and embraced both public and private placements. Many bond issuances were offered for public subscriptions, which allowed individuals and retail investors to invest in the issued bond. However, in the last decade, corporate bond issuances have been severely affected by the socioeconomic circumstances that took place during this decade. The macroeconomic indicators' volatility and the increased interest rates combined with the unstable political scene resulted in investors being reluctant to use the fixed-income debt market tools. However, since the inception of the comprehensive economic reforms in 2016, the market started to show growth, and more issuers were eager to issue corporate bonds. The CEO of one of the leading investment banks in the market explained:

> *"If we go back in time to 2010, we will find that the corporate bond market was very promising. Where from 2011 to 2015, companies refrained from issuing corporate bonds due to the economic and political situation. Starting from 2016 with the starting of the IMF program and the associated economic growth, investors became more interested, and we received more requests from the clients for corporate bonds, then, Covid-19 took place and again resulted in declining the bonds market again." (Interview, CEO, Investment Bank 1, March 2023)*

The quote explains the historical growth patterns of the corporate bond market in the last decade where it goes through a fluctuated growth model due to many market-related factors along with macrolevel factors including the comprehensive economic reform and the emergence of Covid-19 pandemic. However, the aftermath of the Covid-19 pandemic had an adverse impact and led to slow the growth rate of the debt market and led the central bank of Egypt to heavily intervene offering credit facilities initiatives, especially for the growing sectors. These interventions shifted issuers' attention towards the banking system as a primary source of funds. An investment banks' CEO in the market added:

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“I am an investment consultant and all i care about is the best interest of my clients, so when the central bank announced those initiatives, we advised our clients to prioritize it when applicable” (Interview, CEO, Investment Bank 1, March 2023)

The quote explained how the Central Bank of Egypt credit facilitating initiatives during the pandemic influenced the investment banks to direct the issuers to address the banking sector as a main source of fund. However, the impact of these socioeconomic factors in the last decade and the vast waves of uncertainty regarding the future of business and even humanity, caused by the pandemic outbreak, affected the bond market and the willingness of issuers to issue bonds and participated in creating the volatile theme of this market. Currently, although corporate bond is witnessing a notable growth rate, the current market momentum and accelerated growth rate are mainly derived by securitization[2] bonds issuances’ volume. Although corporate bond issuance volume is expected to grow in the near future and flourish even more, securitization bonds are expected to grow much faster in the upcoming years. This distinctive growth of the securitization bonds and the comparison between the corporate bonds issuance and securitizations issuances was highlighted by a regulator as follows:

“The main focus now is on the securitization field, which considers being a structured debt market product recently. As for the corporate bond issuances, it is nearly three to four issuances per year in comparison with 26 securitization issuances for the same period of time.” (Interview, Corporate Finance Department Head, FRA, February 2023)

The expert shed light on the remarkable growth that the securitization market is experiencing and show the differences between the growth of bond market to the securitization market explaining that although the superiority of the securitization bond market. This booming

[2] Securitization is the process in which certain types of assets are pooled so that they can be repackaged into interest-bearing securities. The interest and principal payments from the assets are passed through to the purchasers of the securities. https://www.imf.org/external/pubs/ft/fandd/2008/09/pdf/basics.pdf

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may be achieved due to many reasons, including the companies' aspiration to support the institution's financial position and achieve higher liquidity via off-balance-sheet financing among other factors.

However, the fluctuating growth model of the bond market poses questions about the possible factors that may challenge the market growth and the obstacles that this market may be facing. The following section will shed light on the main challenges that face this market from market stakeholders' viewpoints.

6.2 Corporate Bond General Obstacles:

The debt market, generally and the corporate bond specifically, is facing multidimensional challenges. Some challenges are related to the issuance processes; others are related to the issuers of the bonds, and others are related to the secondary market and trading. Additionally, other specific challenges are tangled with the green element of the bonds posed in the case of green bond issuances. However, the following challenges highlight the general challenges facing the whole bond market with its conventional and green types.

6.2.1. Lack of Awareness and Shallow Debt-Market Financing Culture:

The lack of awareness was highlighted as a significant market setback in the local context, which is wider than one stakeholder and extended to embrace almost all market players. A key characteristic of the local bond market is that it is a "supply-pushed market" where issuers are the main drivers, and the demand is minimal. This dynamic means that issuers are the market drivers, and investors play a minimal role in stimulating the issuance decisions. On the issuers' scale, many of the market potential issuer companies are not very familiar with the debt

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market financial tools, especially the corporate bond, and most issuers do not know its regulatory framework and the associated incentive bundles that include the tax exemption for the listed corporate bond, which significantly reduces the cost of issuance. This lack of knowledge from companies turns their focus on the banking sector as a primary fund source and deprives their institutions of a diversified credit portfolio.

On the investors' scale, the low level of awareness regarding the importance of the debt market financial tools and the associated financial returns of the debt market financial tools creates a sort of reluctance from investors to invest in tools unfamiliar to their best knowledge. The investors do not know much about bonds and the advantages of being bond investors, which deprive them of potentially higher returns investments and diversified investment portfolios. However, the banks, both financial intermediaries and investors, are currently the primary bonds investors due to the banks' extensive credit management experiences, which leads the corporate bond market to be a "banks-dominant" sector. Nevertheless, other potential investors, including both corporates and individuals, may not have the same experience, which keeps them away from accessing the debt market. Accordingly, the lack of awareness is a critical factor that has an adverse impact on the growth of the bond market. The impact of this factor on the market was elaborated by investment bank's CEO saying:

> *"One major factor is increasing the companies' awareness about the capital market. Companies need to shift to the capital market as an alternative finance for many reasons including a cheaper finance, which will reduce their cost besides reasons related to the profitability as well. There are many reasons why corporations should shift to the capital market as a financing channel, and it should be well communicated to the companies. To be honest, the regulator is cooperating in building the capacity of the market and enhancing the market participants' awareness level in a way that I have never witnessed from a regulator before. Yet, much more needs to be done in terms of awareness spreading. The awareness exists in the banking sector because they are credit masters, I will be honest, but other investors, including private insurance funds, pension funds*

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and all other players, are not credit experts, which deters them from being bond issuers" (Interview, CEO, Investment Bank 1, March 2023)

The quote discussed the urgency of the companies to expand their knowledge about the debt market along with other market participants show, the lack of knowledge from both issuers and investors is a setback towards the more expanded market. Potential investors, whether institutional or retail investors, are in great need of awareness regarding debt market investment opportunities due to the many advantages that the debt market is able to offer. Even with the regulatory initiatives, a lot needs to be done.

Furthermore, the lack of awareness may also be considered from another angle based on the issuers' geographic bases. Most of the bond issuances are issued by only Cairo and Alexandria-located issuers. The corporations in other governorates in Egypt are even more poorly familiar with the capital market mechanism and especially the debt market financial tools. There is a pressing need for intensive awareness campaigns regarding the other finance channels, including debt market financial tools, bonds and sukuk, that target other governorates. The geographical distribution of the awareness campaign is also an essential element to be considered when designing the awareness campaigns. These campaigns will increase and diversify the issuer's pool away from the traditional issuers. A debt market regulator in the FRA highlighted the importance of such classification explaining:

"Geographical bases awareness is very important. We need awareness campaigns in the governorates other than Cairo and Alexanderia where most of the issuers are located. Do you remember how microfinance started when awareness campaigns from the regulator targeted the governorates? We need to do the same for the bonds." (Interview, Debt Market Manager, FRA, March 2023)

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The regulator emphasized the significance of geographical-based targeting in capacity-building programs and cited the inception phase of the microfinance industry in Egypt as an illustrative example. The interviewee highlighted the importance of replicating the geographical-based capacity-building model of microfinance, which is one of the fastest-growing financial sectors, specifically regarding the design and implementation of awareness campaigns for the whole debt market financial tools, especially corporate bonds. However, the lack of awareness was not only limited to the issuers and investors but also largely relegated to the brokerage firms as well. Most brokerage firms' experience in the market is equity-tied and not debt-related, where their experience in trading debt market financial tools is minimal. Brokerage firms are critical market players, and being fully aware of the debt market's essentiality and regulations is critically important to the debt market expansion and the diversification of its investors' pool. The CEO of a leading investment bank indicated that:

> *"Most of the brokers, no not most of them, let's say 99.999% are only equity*-*experienced brokers, not debt-experienced, which of course affects the bond market investments." (Interview, CEO, Investment Bank 1, March 2023)*

The quote shows the unbalance of the brokerage firms' knowledge base in regard to the equity financing and debt financing which is mostly oriented towards the equity financing. Accordingly, the brokerage firms' lack of awareness is a timely and essential problem that considered a market barrier. The disproportionate experience of both equity and debt markets and the equity-related accumulated experience of the brokers directs a considerable portion of investors away from investing in debt market tools, including corporate bonds, which resulted in a lower and minimally diversified investors' pool.

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6.2.2. Retail Investors' Engagement Dilemma

The issuance model can have two forms, whether to be public or private placement. Private placement involves a predetermined set of institutional investors that do not include retail investors, whereas public placement is open to any investor to invest in the bonds. The type of issuance model is significant to the market diversity and severely affects the level of investors' engagement in the market. Public subscription resulted in the flourishing of the secondary bond market and diversified the investor pool, which consequently positively impacted the secondary market's activeness, but it entails a longer issuance process. However, recently, most of the issuances in the market are privately subscribed where the investors are mature institutions with a "buy-and-hold" mandate, which results in a sluggish secondary market for the bond issuances. The secondary market is where the investors are trading the securities after the initial buying occurs in the primary market. Accordingly, the institutional investors' "buy-and-hold" mandate severely affects the secondary market activity. However, the current market is mainly private placement oriented, with banks being the dominant player. It is worth mentioning that a healthy debt market should have both issuances based on the issuers' business needs and not be dominated by a single type of placement.

However, the minimal engagement and the slight presence of retail investors in the debt market were interpreted differently across market participants based on their role in the market. From financial institutions' and underwriters' perspectives, the bond market is a more "financial institutions" oriented universe than retailer investors' universe for many reasons. Bonds are high-scale financial tools that are used to finance countries and other financial and non-financial institutions. Thus, the engagement of retail investors in the local context exists through financial

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institutions such as asset managers. The FRA's corporate finance department head added the following:

> *"All along, bonds are mainly financial institutions' financial tool. Not in our market nor other developed ones will you find a significant engagement of retail investors. This is due to the nature of the bonds as a bulky financial tool used for large-scale finance, starting from financing countries until we reach the financial institutions. Thus, it is not a retail investor-targeting tool." (Interview, Corporate Finance Department Head, FRA, March 2023)*

The quote underlines the nature of the bond as a financial tool as a large-scale financing tool used to finance different stakeholders, where the engagement of retail investors is not a common practice in many well-developed and emerging markets across the globe. However, from the issuer's point of view, retailer investors' engagement is applicable. However, it requires a public placement issuance model, which entails a longer process and additional regulatory requirements than that of a private placement issuance model, which is not favorable for most issuers. Thus, adopting a private placement issuance model shortens the issuance time frame and results in fewer regulatory requirements than a public placement. These insights were demonstrated by the debt market manager in the FRA:

> *"The first problem is the private placement. In the last decade, the bond market was robust market with multiple public placements taking place in the market. However, recently and starting from 2014, maybe, I cannot remember the exact dates, all the debt tools issuances, whether sukuk or bonds, became private placement where the bond investors are institutions with strong financial solvency profiles, including Banks as a primary investor, investment funds, insurance companies etc. All these institutions will buy the bond and wait till the maturity date and do not actively trade the securities. In contrast, when there was a public subscription with the engagement of retail investors, they had a different mandate, and they tended to buy and sell and actively trade the bond in the secondary market". (Interview, Debt Market Manager, FRA, March 2023)*

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The quote shed light on the historical bond issuance using the public placement model and how the market moved to be a private placement dominant market with specific investors including the banks as key players in the market. It also demonstrated how having a single model market may negatively affect the market and results in eroding the investors' base. However, the choice of the financing model may comprise many factors including the length of the issuance and the complexity of the process among other factors and given the length and uncertainty of the public subscription issuance model, private subscriptions where institutional investors are pre-identified themed better options for issuers The debt market manager in the FRA indicated:

> *"The issuers want the money as fast as possible; they want to avoid going through the lengthy process of public issuance and the related regulatory requirements, including publication maturity of at least two months and additional fifteen days' time lag to start the issuance. This is almost two months and a half to issue the bonds." (Interview, Debt Market Manager, FRA, March 2023).*

The quote highlighted the priorities of the issuers and how the duration of the issuance is a critical factor when choosing the issuance model by the investors. The public subscription requires additional regulatory requirements that aim mainly to protect the retail investors that may not have the required knowledge and needs more time to assess the investment decision and to rigorously read the memorandum of information. Although the logic behind the additional regulatory requirements for publicly subscribed issuance, the long process is perceived as a market barrier.

However, to avoid this barrier, the FRA tried to find a solution to engage the retail investor by issuing board decree no. 57 of 2021 to allow at least 10% of the private subscriptions to retail investors to underwrite with no threshold for underwriting. Although the importance of this decision, no retail investors have invested in corporate bonds so far. The reason may be associated with the delinquency and the lack of experience of the brokers to disseminate the

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knowledge to the investors regarding the corporate bonds' issuances and the investment opportunities of it or related to the first challenge related to the low level of knowledge of the debt market tools specifically corporate bonds. The brokerage firms have a substantial corporate client base, which they can use to channel the investors' focus towards debt market financial tools, and thus, these firms are to play a substantial role in the market. The debt market manager in the FRA explained:

> *"We tried to solve the retail investor issue by issuing a facilitating decree. We said fine, if the problem is the lengthy process of the public subscription, then we will allow the issuers to issue private subscriptions while allocating 10% at least for any investors to underwrite, including retail investors, without the minimum requirement for underwriting Issuers will still have their shorter issuance cycle, and we open for retail investors. Yet, no retail investors showed up! Why? Because the brokers are lazy!"* (*Interview, Debt Market Manager, FRA, March 2023).*

The quote underlined the regulator's efforts to engagement retail investors throughout issuing a decree that allow issuers to issue private issuance while being able to involve retail investors simultaneously. However, the failure to communicate a complete data about the investment opportunities throughout primarily debt market financial tools, primarily bond investments, whether caused by laziness or unfamiliarity, is a significant market liability resulting in an inefficient primary market. This combined with the lengthy process of public placements, may lead many issuers to refrain from adopting this model and instead focus on private placement issuances. Consequently, the market is deprived of a diversified pool of investors, and the retail investors need to be more engaged in the process. Although regulators justify the lengthy nature of the public subscription as a protection layer for non-experienced investors to have the time to read the prospectus and to have financial consultancy if needed, market participants marked the lengthy process of public subscription timeframe still to be considered as a market barrier.

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However, the length and complexity of the issuance process are not limited only to public placement expressly but also expanded to include private placement. Although having relatively more relaxed regulations and issuance processes than public placement, it is still a complicated process from the market perspective.

6.2.3. The Length and Complexity of the Issuance Process

The length of the issuance process for debt securities, in comparison with other sources of finance, is identified as a significant market barrier that has a multidimensional effect. The required time frame is too long and may cause significant harm to both issuers and investors, given that this tool's nature depends on calculating the daily-accrued interest rates of the bond. Thus, any additional delays may be of decisive impact. The reasons for the complexity and the delays may embrace many factors, including the regulatory requirements and the credit rating agencies' related delays as the fatal causes, among other factors.

Firstly, **the regulatory requirements** to issue bonds are fairly complicated for both the public and private placement issuance models, although being more complicated for the public subscription. Investors mostly need the fund as fast as possible, while the issuance process may extend to six months or more for first-time issuers and at least two months for the regular issuer. Those lengthy issuance processes delay the required funds, which may not be in the best interest of the issuers, especially if the fund is urgently needed. However, it is worth mentioning that although public subscriptions are available for any investors to invest in, whether institutions or retailers involve more regulatory requirements and more time for the issuance to take place than private placement, yet both were identified as lengthy. This was noted by a CEO of investment bank operating in the Egyptian market:

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> *"There was many project finance that might fit the bond and sukuk or bonds issuance requirements and can be financed through bonds or sukuk perfectly, but companies refrained from issuing it due to the length of the process, and companies needed the fund in a time frame that is shorter than the issuance cycle timeframe, especially for a first-time issuer which may take about six month, and this is too long." (Interview, CEO, Investment Bank 1, March 2023)*

The quote showed how the length of the process is resulting in shrinking the bond market in Egypt and how it considers to be a critical and leading factor in financing decision. Bond issuers require faster access to the funds that are offered by the bond issuance model. The same point was raised and explained by another interviewee. A debt market manager in investment bank added:

> *"The most important element for companies is the time element. It is not logical to keep the company waiting for three or four months to get the funds. In some cases, the issuer is willing to pay a premium of 1 -2 % to get the fund fast" (Interview, Debt Market Manager 2, Investment Bank 2, March 2023)*

The interviewee demonstrated how the length of the funding process is a critical factor that directs the issuer funding decision where a lengthy process may result in issuers being reluctant to issue bonds even with financial preferences that offered by the bond if compared to other faster funding channels. However, the second main challenge that results in expanding the issuance time frame is the **scarcity of credit rating agencies.** This is another factor that contributes to increasing the issuance process and distorting the market dynamics. The existence of only one credit rating company, which significantly increases the processing time and causes additional delays to the bond issuance process. Increasing the number of credit rating agencies will have multiple benefits, including reducing any delays that may be caused due to lack of competition in the market. A debt capital market of an investment bank indicated:

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> *"For sure, having only one credit rating agency for the whole market slow down the issuance process significantly due to the business rush, it causes significant additional delays." (Interview, Debt Capital Market Manager, Investment Bank 1, March 2023).*

The quote shed light on the scarcity of the credit rating agencies and the impact on the local market. The existence of only one active credit rating agency required to serve the whole market efficiently was identified by many market participants as one factor adding significantly to the length of the issuance process. However, in addition to the scarcity of credit rating agencies, the methodology that credit rating agencies use and comparing all issuers to the top tier issuers in term of firm size are considered to be limiting to the market and does not allow small issuers to grow given the consistent comparison to the top performers in the market. A debt market manager in an investment bank shared the following:

> *"Sometimes we have clients that are fairly new to a specific industry and have operated for only 3 to 4 years, and they are doing an excellent job and have good numbers, but they still have to be compared to the industry's top tier institution in terms of rating. Unfortunately, a crucial factor of the issuers' rating is based mainly on the size of the firms." (Interview, Debt market manager, Investment Bank 1, March 2023)*

The quote showed how the regular credit rating methodology allows top-tier institutions to remain market leaders. It does not give the other industry participant a chance to have a healthy growth pattern by being compared to the top tier institutions which deprive these smaller companies from obtaining a strong rating that opens the doors for more fund opportunities. Thus, classifying the market firms and having firm size-related evaluation criteria may result in more firms with different sizes being encouraged to issue more bonds.

However, the issuance process's length and complexity are tied closely to bond pricing, where time is a critical factor in determining bond pricing.

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6.2.4. *Bonds Pricing Mechanism and The Cost Element:*

However, the lengthy process not only affects the issuers in terms of delaying the required fund, but it also has a noteworthy impact on the efficiency of the **pricing model** adopted by the issuer, especially in the presence of unstable economic status and changing monetary policies. The prolonged duration of the process can potentially result in fluctuations in the corridor interest rates or lending pricing, which are key factors that issuers rely on when determining the bond yields, they offer. Consequently, this extended timeframe between the issuance announcement and the bond's actual offering can lead to inefficiencies in bond pricing. Ultimately, this can make the bond yields less attractive for investors compared to the prevailing banking interest rates, resulting in the failure of the issuance. A debt market manager in an investment bank explained:

> *"Pricing is very critical. Given the long period that it takes for the issuance to be launched and the acceleration of the interest rates in the whole world as well as the local situation, the issuance may be priceless when it is issued. It is extremely hard to be marketed because of distorted pricing and other tools may be more financially viable for investors." (Interview, Debt Capital Market Manager, Investment Bank 2, March 2023)*

In this quote, the expert discusses how the long issuance duration and pricing are interconnecting and how this duration may affect the pricing and result in adding additional risks to the issuers. Given the changing monetary policies and the accelerated increase in the interest rates as well as the associated uncertainties regarding the future of the businesses, the long process of bond issuance can have more fatal financial consequences on the issuers in the recent times and may lead to the failure of the issuance due to the non-appealing prices to the investors compared to other investment opportunities once the issuance is launched. Furthermore, this long duration results in channeling the focus of corporations to the banking system as the primary

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source of funds and reducing the debt securities issuances volumes in general. A CEO of an investment bank explained:

> *"Many large corporations were bond issuers before. But now, given the long process and the cost of bond issuance, it is easier for corporations to get funds from the banks, especially corporations with strong financial solvency. Say the corporation needs one billion, with all the regulations and the costs related to the issuance of bonds, the issuer finds it easier to go to the bank to get the finance."* *(Interview, CEO, Investment Bank 1, March 2023)*

The quote explained how the cost and time elements are crucial for the companies in deciding the funding channel and how the banking system is offering a faster funding source which affects the debt market in the local domain. Accordingly, facilitating the issuance of the bonds and significantly reducing the issuance time frame can be a critical step in activating the debt market and creating a substitute funding channel for corporations. However, in addition to the process length, the cost element was also recognized by market participants as a key challenging factor to be considered.

Costs of corporate bond issuance are divided to include many items, which include the following as the main items. However, some of these costs can be avoided based on the issuance model:

- Credit Rating for the issuance, which involves annual reporting cost.
- Stamp tax.
- Central depository and Clearing fees.
- Risk insurance fund fees
- EGX listing fees.
- FRA Inspection Fees.
- Brokerage, Auditing and Underwriters fees.

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These are the required costs to issue the bonds and trade them in the secondary market. The costs associated with bond issuance are high variable costs that are calculated based on the public or private issuance model and based on the trading of bonds. A financial institution manager in the EBRD added:

> *"To simplify the issuance process and mainstream it is the most important element, thus, any issuer wants to issue bonds, one week should be enough time to kick the issue, not in 6 months which may be extended to reach one* ***year and without these costs as well!****" (Interview, FIs Manager, EBRD, April 2023).*

The quote highlighted many challenges that face the bond market and underlined the importance of shortening the issuance process along with decreasing the associated costs as a main solution for supporting the bond market. However, besides the issuance model, costs also may be variable based on the issuer type. The local market comprises two types of bonds based on the issuers. Corporate bonds are issued by corporations, and treasury bonds, which governments issue. Although being the same asset class, corporate and treasury bonds in the national context are not on the same footing regarding trading and the associated costs in the secondary market.

The issuing cost of the corporate bonds is significantly higher than the issuing costs of the sovereign bonds. The transactional cost is also significantly higher, which reduces the realized accrued interests realized to the corporate bonds' investors, and thus, results in corporate bonds becoming an unappealing financial tool to be traded efficiently in the secondary market and direct most of the investors' finance towards the governmental channels. The cost elements for the treasury bonds comprise the following elements:

- Stamp tax (which is lower than the corporate bond).
- Clearing fees.

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Comparing the fees of the corporate and treasury bonds, additional elements that are only specific to the corporate bonds issuance and trading are identified, which significantly result in increasing the cost of the corporate bonds in comparison to the treasury bonds and result in corporate bond to be in a less competitive position than that of treasury bonds. Furthermore, given that treasury bonds are issued by the Ministry of Finance, which means that they are governmentally collateralized bonds, they have a minimal credit risk associated with them. This risk-free nature of treasury bonds should result in lower yields compared to other corporate bonds, as per the principle of "the higher the risk, the higher the return.". Accordingly, in order for the corporate bond to compete with the treasury bonds and to be an attractive financial tool for investors, considerably higher yields that reflect the corporate bonds' credit risk premium should be provided by the issuers. However, the domestic debt market has a different functioning mechanism where treasury bonds are traded in a high interest, competing fiercely with corporate bonds. Accordingly, the current market status of the high-interest rates that are offered on investing treasury bonds, along with the low transactional costs of treasury bonds, serve as a blocker for investors to consider investing in corporate bonds and leads to directing their investments to treasury bonds. The CEO of a leading investment bank explained:

> *"Theoretically, risk-free products must have the lowest interest rate and the more the risk, the higher the return. This is what we have learnt in the economic books, but this is not the case in our market, where risk-free products rates are among the highest in the market. The equation is distorted."* (Interview, CEO, Investment Bank 1, March 2023)

The interviewee indicated that the interest rate associated with treasury bonds is supposed to be among the lowest in the market as the risk associated with treasury bonds is minimal, given that risk is one major factor in bonds pricing, while corporate bonds' Interest rates should reflect the market risk premium, which is higher in the corporate bonds' case. Thus, the pricing of

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corporate bonds should be higher than any risk-free financial products in the market. This distortion in the pricing mechanism results in treasury bonds being of a significant competitive advantage over corporate bonds and weakens the investors' interest in investing in this tool.

In addition to the cost element, treasury bonds are also advantaged over corporate bonds by the trading system that is specific only to Treasury bond trading. *The Primary Dealers System* is characterized by being linked electronically to the primary dealer's custodians and Misr for Central Clearing, Depository and Registry (MCDR) Company. This connected system results in much easier trading of the treasury bonds and gives the treasury bonds an additional market advantage not offered to the corporate bond. The corporate finance department head in the FRA demonstrated:

> *"The problem of the bond market is the secondary market where the transaction cost in the secondary market for treasury bonds is different than that of the corporate bond due to many reasons including the utilization of The Primary Dealers' System." (Interview, Corporate Finance Department Head, FRA, March 2023)*

The quote discusses the obstacles that face the bond market due to the challenges related to the secondary market and specifically the cost of transaction which is affected by the trading system used. The absence of a parallel system for private traders capable of automatically calculating the traded bonds or sukuk prices, yields, and accrued interest, is a significant setback in the market. Addressing this issue is crucial to create a level playing field and achieve parity between the two financial instruments.

However, all the challenges mentioned above are issues that need to be addressed, especially if combined with the long duration of the issuance process, which doubles the risks for the issuers. These issuance-related challenges need to be addressed to help the debt market

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thrive. However, in addition to the issuance-related challenges, the trading-related challenges related to the secondary market also stand as a substantial challenge according to the market participants' perspectives.

6.2.5. The Challenges of the Secondary Market:

The secondary market, often referred to as the aftermarket, is where financial instruments are exchanged among various investors. However, the main challenge that was reported by the market participants in relation to the secondary market is ***the inactive trading*** of the debt financial tools as a whole and the corporate bonds in particular. Poor liquidity in the bond market generally and green bonds specifically reinforce the bond market's toward buy-and-hold investors and away from active traders (Chiang, 2017), which was identified as a central challenge in the domestic context. The interviewees used the "Dead trading" term to demonstrate the inactive status of the secondary market in terms of buying and selling, where the trading is minimal. The inactive trading status hardens the resale of the bond. It results in a higher commission for the selling process and market exit, which reduces the accrued interest for the investor, and leads investors away from investing in the debt financial tools. A debt market manager in an investment bank shared:

> *"Do you think that the companies operating in the market currently do not want additional finance and don't have expansion plans? Of course, they do, but the lengthy process and the issues cost, plus the "dead trading" and the inactivity of the secondary market, kill the debt market. And for retail investors, CDs and the current interest rates provided is also killing the bond market."* (Interview, Debt market manager, Investment Bank 2, April 2023)

The quote explained some of the major challenges that faces the secondary market including the cost and inactive trading and their impact on the bond market as the inactive secondary market is a market risk that overlaps with other challenges, including the investors'

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base and the pricing of the bonds. It significantly exacerbates the challenge of an undiversified investor base in the debt market, as it restricts investor participation mainly to institutional investors with a "buy-and-hold" approach. To diversify the investor base, it is crucial to activate the secondary market, enabling retail investors to engage in the market actively.

Furthermore, the inactive status of the secondary market may also overlap with the pricing process of the corporate bonds and alter the offered interest rates. To be an attractive financial tool for investors, given this inactive status, notably higher yields should be offered by the issuers to reflect the inability of investors to actively trade the bonds and exit the bond market if needed and sell the bonds at good reasonable prices. This is an additional risk that is linked directly to the secondary market and results in an increase in the cost of funds to the issuers. The FRA’s corporate finance department head explain that:

> *“The problem of the bond in the secondary market is that the pricing should reflect also the market risk premium due to the inability of the investors to exit the market and resell the bonds without realizing losses” (Interview, Corporate Finance Department Head, FRA, March 2023)*

The quote highlighted how the secondary market activity status impact the bond pricing where inactive secondary market is considered to be additional risk that is should be reflected in the bond pricing and result in bonds to be offered to investors with higher yields. This may significantly increase the cost of capital to the issuer and present the bonds as a high-cost financial tool.

6.2.6. Current economic situation and Increased interest rates

The current economic situation and interest rate volatility is a macro-level policy. It may not be perceived as an issuance-related or market-related challenge, yet it significantly impacts

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the capital market and the corporate bonds' issuance. Increased inflation, slower economic growth, and unstable progressive interest rates resulted in increasing the cost of funds. It resulted in companies being more hesitant to commit to long-term debts and to issue long-term bond issuances, given the high level of uncertainty and the future of businesses. Unstable economic status leads to slower lending growth which in return affects all capital market dynamics, including bond issuances. The FI manager in the EBRD and the sustainability managers of the EGX refer to these points as follows:

> *"It's a tough time now. The current economic situation is translated into slow GDP growth, interest rate hikes, volatility in foreign exchange, etc., which translates to slower lending, shrunk investments and lower numbers of projects. No projects mean no demand. No demand means no bonds, whether green or conventional. It is a cycle!" (Interview, FI Manager, EBRD, April 2023).*

> *"Given the current local economic situation and the global scale as well, many companies refraining from taking the risk of debt financing in the first place, let alone green finance with additional requirements." (Interview, Sustainability Manager, EGX, April 2023).*

The two quotes are together explaining how the economic status affects the whole market and results in decreasing the companies' appetite to expand and to be involved in long-term debts that they may be unable to fulfil where the second quote further explain that more complicated requirements harden the financing decision specially for long term debt tools. The current debt market status faces many challenges that are related to the market structure, yet the macroeconomic policies have a significant impact on the demand and supply of the bonds, which significantly affect the issuance volumes. A more stable economic scene will result in more company expansion plans and more demand for additional funding.

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However, all the challenges that have been discussed so far are considered to be general challenges that face both conventional and green bond markets. In the next section, green-related challenges specific to green bonds will be demonstrated. These challenges are unique to the green bond market and require special attention and consideration.

6.3 Green Bonds Market Observations:

Green bonds draw their strength mainly because they finance the global green transition trend as among the most groundbreaking financial instruments (World Bank, 2021). The green bonds specify the bonds proceeds to be allocated only to green projects, with additional reporting required to ensure the implementation of the green framework set by the issuers. However, the domestic green bonds market is subject to all the challenges of conventional bonds besides the setbacks that are merely specific to the green element of the bonds and the associated requirements of this element. Besides the mentioned challenges, a specific observation that is related specifically to the green bond market was also highlighted within the analysis framework as a main finding.

6.3.1. Issuance Motive: Recognition and Realized Brand Value:

Despite the green bond significance and the urgency for financing green projects, this importance is not the main driver for local issuers to issue corporate bonds. Many interviewees stressed that green issuances in the current market status and given the higher cost associated with it, issuances are derived mainly from the aspiration of the issuer to be a market leader in the green investment field, utilize it to enhance brand value, and to realize the national and international recognition that would be obtained from issuing green tools. The sustainability manager in the EGX added:

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> *"Currently, what motivates issuers to issue green bonds, given the lack of incentives and the high cost, is being market leaders, having a brand value, and comprising a market share of a new financial product even if it is not very rewarding as a business model right now; eventually it will."* *(Interview, Sustainability Department Manager, EGX, April 2023).*

The quote shed light on the motivations that may push the green bond issuers to issue green bonds given the lack of incentives. Being a market leader and possessing a market share of a green products stands among the most prominent motivations of the green bond issuances. These were the same views offered by strategy manager in a local bank adding:

> *"To be frank with you, green issuance is not financially viable given the extra costs associated, i wanted to go through this issuance for the publicity and to be the first bank and a market leader in a fairly new field."* *(Interview, Strategy Manager, Bank 2, May 2023).*

The quote also explained that the positive publicity behind the green bond issuances is the main driver for green bond issuances. However, the motive of being a market leader is not enough driving force to be of a critical mass to incentives and to create a momentum for the green bond issuances in Egypt. The willingness to invest in green projects needs to be accompanied by realized financial gains in order to create sustained market moves towards higher scale green investments and green finance.

Conversely, the green bond market faces a set of unique constraints that some of them are uniquely attributed to the local market and others are shared with other emerging markets.

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6.4 Green Bonds-related Challenges:

6.4.1 Lack of Awareness and Mislabeling of Green Tools:

The lack of awareness was mentioned to be a problem that persists and affects both the conventional and green corporate bonds market in equal measures, not only on the local market but also on the international level as well. According to a survey conducted by the G20 Green Finance Study Group (2016), the delayed green bonds issuance may be attributed to two key factors: lack of awareness and bias. The survey revealed that 74% of participants were unaware of the benefits associated with green bonds, while 41% perceived an additional cost burden associated with green issuances. It themes that the same challenge may linger in the local context. Although the regulatory foundation has been created since 2019, the awareness of green bonds in 2023 is almost the same as in 2019, where most investors lack basic knowledge about corporate green bonds. A debt market manager in the FRA explained:

> *"People don't know. Again, the lack of awareness problem keeps on popping up continuously. Investors don't know much about the green bonds and don't know how it how it works." (Interview, Debt Market Manager, FRA, March 2023)*

The quote explained how the lack of awareness persists as being among the top challenges that faces the green bond market and how this challenge affects the demand and supply of the green bond. This challenge is not only limited to a specific group but extends to embrace all market players. The managing director of the Egyptian Institute of Directors, one of the most prominent training centers added:

> *"Awareness for the different investors, traders, asset managers and brokers are especially critical for the green bond market in Egypt. For all levels, I don't see anyone who is less important than the others." (Interview, Managing Director, EIOD, May 2023).*

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The quote highlighted the fact that the lack of awareness is a challenge that face the whole market and not limited to specific segment of the market as it poses a significant obstacle to the market, not only leading to a low level of green issuances but also causing mislabeling of existing issuances that qualify for green classification. The limited understanding of green investing principles and financial tools in the green debt market further contributes to misclassifying products as conventional instead of recognizing their alignment with green requirements. Many issuers lack the knowledge needed to properly classify their issuances as green, resulting in the issuance of bonds and sukuk as conventional instruments rather than as green issuances. A corporate finance department of the FRA explained:

> *"Let me tell you something, many of the issuers do not even know that their investments are coping with green investments criteria, and the only thing they need to do is to label their investments as green."* (Interview, Corporate Finance Department Head, FRA, March 2023).

The quote explained the association between the level of awareness and the right labeling of the investments where accurate labelling of green investments requires issuers to be aware of the green tools and the requirement of green issuances. However, the lack of awareness endures as a primary barrier that faces the local market and results in low levels of green issuances in the local market as well as mislabeling for eligible green issuances.

6.4.2 Unpreparedness of the Issuers and Lack of internal capacity:

Green bonds issuance requires a specific level of awareness about the green investment mechanisms and the identification of the ESG standards within the issuer's governance structure. Corporations issuing green bonds typically exhibit elevated environmental ratings, reduced CO_2 emissions, boards with increased female representation, and established sustainability

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committees. (García et al., 2023). This indicates the criticality of the ESG full integration within the organizational structure that led the corporations to issue successful green bonds. These considerations and ESG-related expertise are significant for the issuers to be able to commit to the green bond framework that the issuer identified to finance or refinance certain green projects. The more the issuer is committed to the green investments standards and endorses a high level of experience among its staff, the more the issuer is ready to issue green bonds and able to reduce the needed time to be ready for the green issuances. A sustainable finance head of a bank added:

> *"One of the main advantages that the CIB had that qualified the bank to be the issuer of the green bond issuer in Egypt is the existence of green governance within the bank. The bank originally endorsed ESG-related governance as a core value and has a pool of qualified assets financed by the green bonds' proceeds." (Interview, Sustainable Finance Head, Bank 1, May 2023)*

The quote cited the CIB bank green bond issuance experience and explains how some elements such as the level of green-related governance and ESG consideration that the institutions adopt have a significant impact on the and institution's ability to issue green bonds. Furthermore, having appropriate pool of eligible assets or projects in the pipeline that fits the green bond criteria and fall into the taxonomy, as well as ESG-related lending criteria, all together determine the level of readiness that issuer have and consider to be one of the critical factors that enable the issuers to maintain a successful issuance and avoid the greenwashing practices. These prerequisites require a profound understanding of the green investment standards, which is not the case for many potential issuers in Egypt, whether within or outside the financial sector. The financial institutions manager in the EBRD explained:

> *"Enhancing the capabilities of the financial sector, including the banking sector is still under development, and we are still working on it. However, with the new regulations, whether from the CBE or the FRA, I believe the financial sector in Egypt will acquire the required experience soon." (Interview, FI Manager, EBRD, April 2023).*

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The quote shed the light on the urgency of the capacity building within the financial sector in Egypt and how the regulator of this sector is working to disseminate the knowledge about the green investment mechanisms within the sector by issuing a set of supporting regulations in cooperation with the international financing institutions. The financial market' regulators in Egypt; the Central Bank of Egypt and the Financial Regulatory Authority, both have identified the lack of awareness as a major challenge and issued a set of regulations requiring the financial sector companies and banks to recognize the ESG factors and to report on these factors. These regulations are expected to support the financial sector in Egypt to move towards a more sustainable business model and to acquire the required expertise in this scope. However, the lack of awareness is closely tied to the absence of clear definitions of green terminologies and national taxonomy, a significant barrier to green financial tools in the national domain.

6.4.3 Absence of Clear Guidelines, Local Taxonomy, and Eligible Pool of Assets and Projects

The absence of clear and unified definitions of what constitutes "green" and what green investment entails is not only a local barrier but persists to be a global concern, as highlighted by the OECD (2015) and the G20 report (2016). The lack of global agreement on what is considered green poses challenges in both global and local markets. Within the national context, there is a dearth of clear guidance and definitions regarding green investments and their requirements. The FRA's corporate finance department head explained:

> *"A clear guideline and definitions that clarify the investment nature under any green or sustainability-related labels are the most important to Egypt's green bond and sustainability-related market. In addition, green bonds issuances require additional transparency and reporting, but how will you trace what you barely identify?"* (Interview, Corporate Finance Department Head, FRA, March 2023)

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This quote emphasizes the critical need for transparent and well-defined guidelines to facilitate green bond growth and sustainability-related market growth. Furthermore, among the central challenges facing in the Egyptian market in relation to the standardization challenge is the lack of a national taxonomy. The absence of a national taxonomy identifying the qualified sectors and economic activities for green investments hinders progress towards aggregating resources for sustainable projects. The taxonomy refers to a classification system that identifies a set of economic activities that is considered green. A sustainable finance manager in a local bank shared:

> *"Of course, one of the central challenges is the absence of national taxonomy. This is a serious block to green investments and reduces the eligible assets and projects to be financed through green investments.'' (Interview, Sustainable finance Manager, Bank 1, May 2023).*

The quote expressed how the absence of a clear national taxonomy that identifies the green projects and precise definition of what constitutes "green" holds significant relevance in the local context, where clear distinctions between green and conventional investments are not apparent. However, due to the absence of a local taxonomy, a limited number of eligible assets and projects meet the criteria for green investments. This lack of a concrete pool of eligible green assets and projects, which fulfil the requirements for the proceeds distribution to green projects, poses a significant barrier in the market that needs to be addressed. The sustainability manager in the EGX explained:

> *"The lack of a pool of eligible assets is a critical setback. If I am a bank or any issuer, and I have eligible investments, and I have the potential, what will prevent me from investing? The lack of such a pool is a hindrance element for sure." (Interview, Sustainability Manager, EGX, April 2023)*

The quote shed light on the importance of having an eligible pool of green investments and assets that allow investors to be able to identify their best green investment opportunities.

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However, creating this pool is identifies to among the responsibilities of the Egyptian government to support green transition within the Egyptian economy. A debt market manager of an investment bank explained:

> *"The Egyptian government is the only institution capable of creating the green project. And here I don't mean only the ministry of finance, I mean all the economic government institutions in all economic sectors" (Interview, Debt market manager, Investment Bank 2, April 2023)*

While the current economic situation and sluggish economic growth may contribute to the absence of a pool of eligible green assets for investments, it is vital to prioritize the creation of such a pool. The Egyptian economical governmental institutions' identification of a list of eligible green projects is decisive for the development of the market and to the successful implementation of the green transition agenda. The Ministry of Environment should be heavily engaged in the identification process and should coordinate with all the related governmental institutions in this regard. This endeavor requires a concerted effort from all governmental entities to cover all the economic sectors and to ensure that the absence of a green assets pool no longer hampers investors and issuers and instead fosters opportunities for green investments.

6.4.4 The Cost of Verifiers and Reporting Requirements:

The green bonds issuance usually involves additional costs due to the additional reporting and regulations required to satisfy the bonds' green element and ensure the transparency and proper allocation of the proceeds. These additional costs involve the cost of third-party verification, which is assigned as an independent body to ensure that green bonds proceeds' usage are to be used in financing green projects and also provide annual reports on proceeds until the bonds' redemption. This process increases the cost of issuance compared to the conventional

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bonds and adds an additional burden on the issuers' shoulders. Even with the FRA reduction of the green bonds' inspection and service fees to green instruments' issuers, the cost is considerably higher than the conventional bonds, given the absence of a local verifiers market that would lower the cost for third-party verification. The cost issue was frequently persisted as a major market barrier by many interviewees. The FRA's debt market manager explained:

> *"Green bonds require additional verification, which leads to cost increase. The solution is to create a local market to reduce verification costs. Till now, no local verifiers have been registered in the FRA's registry." (Interview, Debt market manager, FRA, April 2023).*

The quote showed that although third-party verification is a pivotal step in the green bond issuance process, it involves a considerable additional cost, especially with the absence of local verification firms to conduct the verification process, which in return direct the issuers towards international verifiers and significantly increase the cost of verification processes. These third-party verification costs can be significantly reduced if the assigned verifier is a local verifier and not an international one. Accordingly, establishing a local verifiers' market in Egypt is recognized as a pivotal step to bolster the market. The EGX's sustainability manager indicated:

> *"Creating a local market of third-party verifiers is a must to activate the green bond market in Egypt. FRA has started already by providing the requirements of local third-party verifiers, yet, a lot needs to be done, and many elements need to be considered simultaneously." (Interview, Sustainability Manager, EGX, April 2023).*

The quote stressed on the importance of creating a local market for verifiers and further explained that although the FRA has already set the regulations governing the green bond verifiers requirements for individuals and corporations, no local verifier has been recognized by the FRA so far. This indicates that issuing the related regulations is not the only supporting action that the local market needs to incentivize the local firms to be registered. Raising the

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awareness of the market, among other factors can create a demand for these firms and thus help in creating a robust pool of local verifiers.

Nevertheless, in addition to the third-party verification and the associated costs, other additional regulatory requirements regarding the proceeds keeping may also result in a more complex and costly issuance process, which is also recognized as one of the reported challenges.

6.4.5 Additional Regulatory Requirements

While reporting is recognized as a challenging aspect of green bonds, it is not the sole bottleneck. Green bond issuance involves additional regulations prohibiting issuers from reinvesting the proceeds in non-green investments throughout the bond's duration. Essentially, the funds must be held in a sub-account and cannot be reinvested in any non-green investment until it is allocated to the outlined green projects. Although being a globally recognized best practice (ICMA, 2021), this poses a problem in the context of Egypt, where the level of green investments is fairly low. This implies that the proceeds are confined in the sub-accounts, which results in increasing the cost of capital for the issuer. Furthermore, the establishment of a sub-account introduces an additional reporting requirement. The financial auditor is additionally responsible for monitoring every transaction within the sub-account to ensure compliance with the Green Investments regulation. This monitoring process incurs additional costs for the bond issuers. These complications tied to the issuance process and the associated costs often make issuers more hesitant to issue green bonds. The financial institutions manager in the EBRD indicated:

> *"Green bond issuance is a very hectic process. Dr. Omran, the former FRA's chairman, helped a lot in the solo corporate green issuance that took place in Egypt. I doubt it would ever have been launched if it was not for his assistance. For example, one of the bottlenecks was conditioning to*

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> *allocate the green proceeds in a separate account that must be reinvested in only green projects. It was a barrier given the low level of eligible assets.” (Interview, FI Manager, EBRD, April 2023)*

The quote discusses one of the requirements of the green bond issuance which is creating a subaccount for the green bonds’ proceeds. Although these regulations are mainly compliant with the best practices were framed to guarantee the credibility of the green bond market, which is an integral pillar of this market and to mitigate the greenwashing risks, it is still perceived as a market barrier as it hardens the reinvestment of these proceeds given the low level of green investments that is qualified to be green and the absence of a eligible pool of assets. The highlighted challenges are considered market challenges in terms of complexity level, cost and time. Accordingly, issuers may prefer to issue conventional bonds even with the project's eligibility to be financed through green bonds to avoid the extra costs of verifiers and reporting requirements (Jones et al., 2020), which is a common practice on both international and domestic levels. However, there is a crucial need for a balanced regulatory framework that ensures the market's credibility while maintaining the process as quickly as possible.

6.4.6 Lack of Incentives:

A final barrier that is reported to be associated with green bonds issuance and identified as a primary barrier is the lack of incentives. Currently, there is an absence of motivation for issuers to issue green bonds and for also for investors to invest in these green issuances at the domestic level. These incentives serve as a form of compensation that helps issuers offset the extra expenses linked with green bonds, thereby motivating issuers to prioritize green financing and incentivizing the investors to know more and invest in green bonds. While the Financial Regulatory Authority (FRA) has taken a further step by reducing its service fees by 50% for

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green issuances, this measure alone is insufficient to reconcile all the additional costs that the issuers bear. A CEO of an investment bank explained:

> *"There is no incentive for issuers to issue green bonds. FRA has done a good job reducing its service fees by 50% to green issuances. However, FRA fees are already minimal and are not a bottleneck in the first place. Additional incentives are still urgently needed to make green issuances appealing for bond issuers." (Interview, CEO, Investment Bank 1, March 2023).*

The quote showed how the market is in a great need for a high scale incentive bundle to incentivize the issuers to issue green bonds as market participants highlighted the lack of incentives as crucial hinder for the green bond market development even with the latest FRA's incentivizing decrees. However, as a direct result of the lack of financial support, issuers may not be able to provide competing interest rates with conventional bonds. Although some impact investors may pay any premium for green bonds due its importance and the morals behind them, as reported in the literature, yet, if green bonds are traded at a considerably lower rate resulting from the additional associated costs of capital, no investor will be willing to invest in such a tool. A debt capital market of an investment bank indicated:

> *"Green bonds are great, but when it comes to offering considerably lower yields, investors will say, "give me the higher yield now and let us discuss the green economy latter on." (Interview, Debt Capital Market Manager, Investment Bank 2, March 2023)*

The quote showed how the investors will react if the green bonds are traded in a lower rate than of the market and it shows again the importance of financial incentives to the green bond market. A bundle of incentives to the issuers of the green bonds and any other green tools that will allow the issuers to offer green tools with a competing interest rate is essential element

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that is required to support the market and to lead to more active green financing mechanisms in the domestic level.

However, having explored the multifaceted challenges and intricacies surrounding the development of the green bond market in Egypt, it becomes clear that tackling these challenges holds paramount importance in realizing the complete potential of sustainable finance within the nation. The challenges identified have shed light on the areas that require concerted efforts and strategic interventions. However, it is important to recognize that these challenges should not overshadow the immense opportunities and benefits that lie within the realm of green bond market development.

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7 Chapter Seven: Conclusion and Policy Recommendations

Green bonds have appeared as a significant green financing instrument that plays a vital role in advancing “sustainable development” and addressing the pressing environmental challenges outlined in “the 2030 Agenda for Sustainable Development”. In pursuit of attaining the Sustainable Development Goals (SDGs) by 2030, green bonds have gained prominence as an effective mechanism to mobilize capital for environmentally friendly projects (World Bank, 2021). These bonds empower issuers to secure financing for initiatives with favorable environmental effects, such as renewable energy projects, energy-efficient buildings, sustainable transportation, and climate change mitigation initiatives (ICMA, 2017).

The urgency of green bonds lies in their potential to bridge the gap between financial markets and sustainable development objectives. By channelling investments towards climate-friendly and socially responsible projects, green bonds aggregate the transition to a low-carbon and more sustainable economy. They offer an avenue for investors to align their portfolios with environmental goals while generating financial returns. Furthermore, green bonds facilitate the mobilization of private sector capital, leveraging additional funding sources for sustainable projects that participate in attainment of the SDGs.

On the national level, green bonds are of a special importance as a primary funding mechanism to support the financing of Egypt's 2030 agenda (MOE, 2022). However, despite their critical need, green issuances in Egypt have remained at a low level compared to other emerging economies. Till now, Egypt has only issued one corporate green bond, raising concerns about the challenges hindering the development and acceleration of green issuances in the

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domestic market. The limited number of green bond issuances prompts further examination of the obstacles that impede market growth and the facilitation of increased green bond issuance.

However, this paper aspires to inspect the challenges faced by the green bond market in Egypt and highlighting the essential areas that require attention to foster its development. The analysis has revealed several key general challenges in relation to the whole bond market in Egypt that affects both conventional and green bonds alike. These challenges include the low level of awareness of the bond market, low level of retail investors' engagement, length and complexity of the bond issuance process, Bond pricing and cost of issuance-related, trading and secondary market challenges, besides the effects that the current economic situation poses to the debt market generally and bond market specifically. On the other hand, the analysis revealed a set of green bond-related challenges that are specific to the green element in the bond. These challenges included a lack of awareness and mislabeling of green issuances, the unpreparedness of the issuers and lack of green investment-related internal capacity, reporting and verification complexities, the need for a robust green project pipeline and assets pool, regulatory barriers, and severe lack of incentives.

Addressing these challenges requires a comprehensive approach involving collaboration among various stakeholders, including policymakers, regulators, issuers, investors, and financial institutions. Our findings indicate that a balanced regulatory framework is needed to ensure market transparency and credibility while minimizing complexity and costs. Furthermore, enhancing market awareness and perception through targeted educational initiatives and communication campaigns can play a pivotal role in driving demand for green bonds.

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However, these challenges, although significant, should not overshadow the immense potential and benefits that the green bond market may convey to Egypt's sustainable finance landscape. It is essential to recognize that overcoming these challenges and realizing the complete potential of the green bond market will require sustained efforts and long-term commitment. However, the benefits are vast, including the mobilization of capital for sustainable projects, the promotion of environmental and social responsibility, and the positioning of Egypt as a leader in sustainable finance within the region.

Nevertheless, shifting our focus from the comprehensive analysis of the existing framework and the concluding remarks, we now delve into the heart of this thesis: to develop and propose meaningful and original policy recommendations. However, in order to addressing the market challenges, creating a robust market infrastructure is critical for the growth of the green bond market in Egypt. The proposed policy recommendations are intrinsically linked to the recognized challenges within the market landscape. Collectively, these recommendations form a cohesive strategy aimed at enhancing market stability and curbing the volatility that has been a recurring theme in the market. Their combined implementation strives not only to mitigate current market uncertainties but also to establish a more resilient environment that is better equipped to navigate volatile theme of the market and ensure more stable trajectory for the market. Accordingly, policymakers should consider implementing measures to enhance market infrastructure, including:

a. Intensive capacity-building programs to be provided by regulators, market federations and associations about debt market financial tools and specifically green bonds for all market participants, including tailored-made awareness sessions for all market players comprising all investors, including institutional investors, asset managers, and individual

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investors, and brokers on the benefits of investing in green bonds. Furthermore, a customized capacity-building program for the board levels of the issuers and the CFOs is crucial to disseminate knowledge about the importance of different debt market tools, including corporate green bonds as a financing channel. Regulators and policymakers can collaborate with relevant institutions, such as industry associations and academic institutions, to develop training programs and provide technical assistance to build capacity in the green bond market. This recommendation was also suggested by the G20 report (2016) in their aspiration to mitigate the low awareness level of the green bond market in the emerging economies and Egypt is no exception.

b. To enhance the efficiency and effectiveness of the bond issuance processes, expediting and streamlining the overall procedures is imperative. This entails reducing the time required for the completion of various stages involved, enabling issuers to access the market and raise funds promptly. By shortening the issuance processes, issuers can capitalize on favourable market conditions and respond swiftly to emerging financing needs.

c. It is crucial to foster a competitive environment by promoting the presence of multiple credit rating agencies within the local market. By encouraging the entry of additional credit rating agencies, issuers would have more options to choose from, leading to increased competition and potentially lower costs for obtaining credit ratings. This would expedite the issuance process and provide issuers with greater flexibility and affordability in meeting the credit rating requirements for their bonds.

d. All asset classes should be treated consistently from a financial perspective, ensuring equal treatment and efficient pricing mechanisms for both corporate and treasury bonds.

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It is imperative to establish a standardized approach that does not differentiate between any asset classes based on the issuer, regardless of whether they are issued by corporations or the government. This consistency in financial treatment helps to create a level playing field and fosters a more efficient and effective bond market.

e. Develop the local market for third-party verification and certification of green bonds by developing domestic accredited organizations that provide investors with independent assurance of the environmental integrity of the projects financed by green bonds. This could reduce the cost of reporting in terms of green verification and create a local market for verifiers that would enhance the competition and reduce the costs. This recommendation was also highlighted by the G20 report (2016) as one of the channels that could be used to support and enhance the green bond markets.

f. Developing Incentives' Bundles and Subsidies: Policymakers can introduce tax incentives or subsidies, such as reduced taxes or fees, to incentivize investors to invest in green bonds. Furthermore, creating a subsidized fund that will finance the extra costs, including the third-party verification costs of issuing green bonds in the inception phase of the market until the market is mature enough to create a business model that reconciles the additional costs. These incentives have the potential to motivate institutional investors, such as pension funds and insurance companies, to allocate a proportion of their portfolios towards green bonds, thereby increasing demand and liquidity in the market. Furthermore, Incentives may take other forms than financial incentives. Creating a sustainability related or ESG index by regulators that is used to recognize issuer companies and use this index as a reference for a better credit profile would also be considered as a market incentive. Furthermore, initiating a green investment fund that

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subsidizes the green issuances at least in the inception phase of the market to allow the market to be mature enough to endure efficiently. This recommendation was also highlighted by the G20 report (2016) and by Ngwenya & Simatele (2020) that offering green bond issuers' incentives may catalyze the market and support its overall growth.

In conclusion, by addressing the challenges outlined in this paper and implementing the policy recommendations, Egypt can create an enabling environment that supports the expansion of the green bond market. This, in turn, will contribute to the country's sustainable development goals, attract green investments, and position Egypt as a regional hub for sustainable finance. It is imperative that all stakeholders come together, align their efforts, and seize this opportunity to foster positive transformation and contribute to a more sustainable future for both Egypt and the global community.

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8 References

Bachelet, M. J., Becchetti, L., & Manfredonia, S. (2019). The green bonds premium puzzle: The role of issuer characteristics and third-party verification. Sustainability, 11(4), 1098.

Barua, S., & Chiesa, M. (2019). Sustainable financing practices through green bonds: What affects the funding size?. Business Strategy and the Environment, 28(6), 1131-1147.

Blanchard O., Cerutti E., Summers L., & Furceri D., 2017: The macroeconomic effects from government spending: A review . International Monetary Fund Working Paper No 17/213 . Retrieved from https://www . imf . org / external / pubs / ft / wp / 2017/wp17213 . pdf

Celikyilmaz, G., & Arguello, C. (2021). *Climate Finance Toolkit for Europe and Central Asia*. Food & Agriculture Org. https://www.fao.org/3/cb6933en/cb6933en.pdf

Chen, J. (2017). Nonconvertible Currency. Investopedia https://www.investopedia.com/terms/n/nonconvertiblecurrency.asp

Chiesa, M., & Barua, S. (2019). The surge of impact borrowing: The magnitude and determinants of green bond supply and its heterogeneity across markets. Journal of Sustainable Finance & Investment, 9(2), 138-161.

Climate Bonds Initiative (2017). Green Bonds Highlights 2016. URL https://www.climatebonds.net/files/files/2016%20GB%20Market%20Roundup.pdf

Climate Bond Initiative (2022). Sustainable Debt Market Summary H1 2022 https://www.climatebonds.net/files/reports/cbi_susdebtsum_h1_2022_02c.pdf

Dan, A., & Tiron-Tudor, A. (2021). The determinants of green bond issuance in the European Union. Journal of Risk and Financial Management, 14(9), 446.

Dailami, M., & Hauswald, R. (2003).The emerging project bond market: Covenant provisions and credit spreads. The World Bank.

Deschryver, P., & De Mariz, F. (2020). What future for the green bond market? How can policymakers, companies, and investors unlock the potential of the green bond market?. Journal of risk and Financial Management, 13(3), 61.

Doumbia, D., & Lauridsen, M. L. (2019). Closing the SDG financing gap: Trends and data. EMCompass, 73, 1-8.

Ehlers, T., Packer, F., (2017). Green bond finance and certification. Bank for International Settlements Quarterly Review . URL https://www.bis.org/publ/qtrpdf/r_qt1709h.pdf

`

Enterprise (2021, 4 July). Its official: CIB confirmed to be our first corporate green bond issuer. https://enterprise.press/stories/2021/07/04/its-official-cib-confirmed-to-be-our-first-corporate-green-bond-issuer-46406/

Flammer, C. (2021). Corporate green bonds. *Journal of financial economics*, *142*(2), 499-516. columbia.edu/~cf2870/PDFs/Corporate-Green-Bonds_Flammer_JFE2021.pdf

Flammer, C. (2020). Green bonds: effectiveness and implications for public policy. *Environmental and Energy Policy and the Economy*, *1*(1), 95-128. https://www.journals.uchicago.edu/doi/full/10.1086/706794#:~:text=Overall%2C%20the%20results%20of%20this,only%20when%20they%20are%20certified.

FRA. (2021). Guideline about the bonds. https://fra.gov.eg/wp-content/uploads/2021/12/Sandat.pdf

FSD Africa. (2020). Africa Green Bond Toolkit. https://www.fsdafrica.org/wp-content/uploads/2020/08/Africa_GBToolKit_Eng_FINAL.pdf

García, C. J., Herrero, B., Miralles-Quirós, J. L., & del Mar Mirallles-Quirós, M. (2023). Exploring the determinants of corporate green bond issuance and its environmental implication: The role of corporate board. Technological Forecasting and Social Change, 189, 122379.

Ghanem, N. (2023). National Policies to End Female Genital Mutilation/Cutting in Egypt: An Analytical Review.

Glaser BG and Strauss AL. The discovery of grounded theory: strategies for qualitative research. New York: Aldine de Gruyter, 1967.

González-García S., & Delgado-Ballester E.(2017). Green Washing: Definition And Analysis Of Its Effects On Consumers. International Journal Of Market Research, 59(1), 3–20 . https://doi-org/10/1177/1470785315621531

Green Finance Study Group. (2016). G20 Green Finance Synthesis Report. G20 Green Finance Study Group. http://www.g20.utoronto.ca/2016/green-finance-synthesis.pdf

Gupta, V., & Banerjee, R. (2019). Green bonds: A financial innovation for sustainable development. Journal of Cleaner Production, 220, 1250-1261. doi: 10.1016/j.jclepro.2019.02.010

IOSCO (2021). Environmental, Social and Governance (ESG) Ratings and Data Products Providers. https://www.iosco.org/library/pubdocs/pdf/IOSCOPD690.pdf

Hahn T., White K., & Johnson D.(2016). Legal And Reputational Risks Of Corporate Greenwash. Business Lawyer , 71(3), 859–873 . https://doi-org/10/2139/ssrn2628235

`

HLEGSF. (2018b). Financing a Sustainable European Economy. https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf

Hurley, M. (2019). Sustainability bond labels can be a case of 'splitting hairs. 'Environmental Finance. https://www.environmentalfinance.com/content/news/sustainability-bond-labels-can-be-a-case-of-splitting-hairs.html

Huang L., Li Y., Liu X., Zhang H., 2018: Green Bonds And Foreign Direct Investment In Clean Technology Industries: Evidence From China . Sustainability 10(8), 2845; doi:10 . 3390/su10082845

HSBC (2016). Green Bonds 2.0. Fixed Income Credit Report

Investing, I., & Plan, A. A. (2014). WORLD INVESTMENT REPORT2014.

International Capital Market Association. (2021). Green Bond Principles—Voluntary Process Guidelines for Issuing Green Bonds—June 2021.

Jansen, M. J., Scholtens, B., & Boersma, K. (2020). Greenwashing: A systematic review of the literature. Journal of Cleaner Production, 257, 121695. https://doi.org/10.1016/j.jclepro.2020.121695

Jones, R., Baker, T., Huet, K., Murphy, L., & Lewis, N. (2020). Treating ecological deficit with debt: The practical and political concerns with green bonds. Geoforum, 114, 49-58.

Kaminker, C. (2015). Green bonds. Mobilising the debt capital markets for a low-carbon transition. OECD Policy Perspectives.

Karras G., Kotsogiannis C., & Tsekouras G., 2020: The Impact Of Green Bonds On Economic Growth And Renewable Energy Investment: Evidence From Europe And Central Asia . Sustainability 12(11), 4452; doi:10 . 3390/su12114452

Köhler, J., van Dijk, M., & de Bakker, F. G. A. (2016). Greenwashing: A review and research agenda. Business Strategy and the Environment, 25(6), 545-561. https://doi.org/10.1002/bse.1827

Kumar A. & Chaturvedi S., (2020): Green Bond Issuance And Economic Growth : Evidence From Emerging Markets . Journal Of Sustainable Finance & Investment 10(2), 108–128; doi:10 . 1080/20430795 . 2020 . 1764897

Lichtenberger, A., Braga, J. P., & Semmler, W. (2022). Green Bonds for the Transition to a Low-Carbon Economy. Econometrics, 10(1), 11.

Maltais, A., & Nykvist, B. (2020). Understanding the role of green bonds in advancing sustainability. Journal of Sustainable Finance & Investment, 1-20.

`

Martin, P. R., & Moser, D. V. (2016). Managers' green investment disclosures and investors' reaction. Journal of Accounting and Economics, 61(1), 239-254. https://www.sciencedirect.com/science/article/abs/pii/S0165410115000610

Marshall, C., & Rossman, G. B. (2011). Designing qualitative research

Ministry of Environment (2022). Egypt National Climate Change Strategy (NCCS)

2050. https://www.eeaa.gov.eg/Uploads/Topics/Files/20221206130720583.pdf

Mohammed, M. (2023). The impact of green bond financing on the Egyptian green economy. *Aswan University Journal of Environmental Studies*, *4*(1), 24-37.

Ngwenya, N., & Simatele, M. D. (2020). Unbundling of the green bond market in the economic hubs of Africa: Case study of Kenya, Nigeria and South Africa. *Development Southern Africa*, *37*(6), 888-903.

Nanayakkara, M., & Colombage, S. (2019). Do investors in green bond market pay a premium? Global evidence. Applied Economics, 51(40), 4425-4437.

Ng, A. W. (2018). From sustainability accounting to a green financing system: Institutional legitimacy and market heterogeneity in a global financial centre. Journal of cleaner production, 195, 585-592.

Ning, Y., Cherian, J., Sial, M. S., Álvarez-Otero, S., Comite, U., & Zia-Ud-Din, M. (2022). Green bond as a new determinant of sustainable green financing, energy efficiency investment, and economic growth: a global perspective. Environmental Science and Pollution Research, 1-16.

OECD. (2017). Mobilising Bond Markets for a Low-Carbon Transition. https://www.oecd-ilibrary.org/docserver/9789264272323 en.pdf?expires=1556842207&id=id&accname=ocid177592&checksum=804F3AF743A33AEBDA8E6A47474ED740

OECD. (2022). Global Outlook on Financing for Sustainable Development 2023. https://www.oecd-ilibrary.org/sites/fcbe6ce9-en/index.html?itemId=/content/publication/fcbe6ce9-en

Prasad, M. A., Loukoianova, M. E., Feng, A. X., & Oman, W. (2022). Mobilizing Private Climate Financing in Emerging Market and Developing Economies. International Monetary Fund.

Pindyck R., Rubinfeld D., 2012: Microeconomics 7th edn , Pearson Education Inc , Upper Saddle River , NJ

Shishlov, I., Morel, R., & Cochran, I. (2016). Beyond transparency: unlocking the full potential of green bonds. Institute for Climate Economics, 2016, 1-28.

`

Russo, A., Mariani, M., & Caragnano, A. (2021). Exploring the determinants of green bond issuance: Going beyond the long-lasting debate on performance consequences. Business Strategy and the Environment, 30(1), 38-59.

Shulla, K., & Leal Filho, W. Achieving the UN Agenda 2030: Overall actions for the successful implementation of the Sustainable Development Goals before and after the 2030 deadline.

Sieghart, L. C., & Betre, M. (2018). Climate Change in MENA: Challenges and Opportunities for the World's most water stressed region.

Srivastava, A. K., & Goyal, S. (2019). Greenwashing: An empirical study of consumer perception and its antecedents. International Journal of Research in Business Studies and Management, 6(2), 17-25.

Tolliver, C., Keeley, A. R., & Managi, S. (2020). Drivers of green bond market growth: The importance of Nationally Determined Contributions to the Paris Agreement and implications for sustainability. Journal of cleaner production, 244, 118643.

UNCTAD, W. (2014). United Nations Conference on Trade and Development World Investment Report. UNCTAD website. https://unctad.org/system/files/official-document/wir2014_en.pdf

United Nations (2015). Paris Agreement - Status of Ratification https://unfccc.int/process/the-paris-agreement/status-of-ratification

Wang, T., Liu, X., & Wang, H. (2022). Green bonds, financing constraints, and green innovation. Journal of Cleaner Production, 381, 135134.

World Bank (2015). What is green bonds?.

World Bank (2019, December 8). What You Need to Know About IFC's Green Bonds. https://www.worldbank.org/en/news/feature/2021/12/08/what-you-need-to-know-about-ifc-s-green-bonds

World Bank (2022, March 15). Supporting Egypt's Inaugural Green Bond Issuance. https://www.worldbank.org/en/news/feature/2022/03/02/supporting-egypt-s-inaugural-green-bondissuance#:~:text=Egypt%20became%20the%20first%20country,issuance%20under%20the%20GDRM%20Program.

Westervelt T.(1986). Environmental Spin: The Case For Corporate Counterattack Against The Ecological Preachers [Electronic Version] Retrieved From Http :// Findarticles Com / P / Articles / Mi_M0EIN / Is_N86_V19 / Ai_5423809

`

Wilcox, S. P., Arnold, K. D., & Linder, J. R. (2018). Greenwashing: A review of causes, consequences and solutions. International Journal of Management Reviews, 20(3), 521-542. https://doi.org/10.1111/ijmr.12179

Yeow, K. E., & Ng, S. H. (2021). The impact of green bonds on corporate environmental and financial performance. *Managerial Finance*, *47*(10), 1486-1510.

Zerbib, O. D. (2016). Is there a green bond premium? The yield differential between green and conventional bonds. Published in the Journal of Banking and Finance, 98, 39-60.

Zhang J., Zhou Y., Wang B., 2019 : The Impact Of Green Bond Issuance On Employment In Renewable Energy Sectors : Evidence From China's Pilot Programmes For Green Bonds And Solar Power Generation Projects , Environmental Science & Policy 96 , 1 – 9 ; doi : 10 . 1016 / j . envsci . 2019 . 05

Zhou, X., & Cui, Y. (2019). Green bonds, corporate performance, and corporate social responsibility. *Sustainability*, *11*(23), 6881. https://www.mdpi.com/2071-1050/11/23/6881

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9 Appendix one:

The following are the main remarks of the NACC strategy with a focus on the fourth goal.

Goal Number One: Achieving Sustainable Economic Growth and Low-Emission Development in Various Sectors.

The goal includes four objectives:

1. Energy transition by increasing the share of all renewable and alternative energy sources in the energy mix.
2. Reducing emissions associated with the use of fossil fuels.
3. Maximizing energy efficiency
4. Adopt sustainable consumption and production trends for the reduction of greenhouse gas emissions from other non-energy activities.

Goal Number 2: Enhancing Adaptive Capacity and Resilience to Climate Change and Alleviating the Associated Negative Impacts.

This goal embraces the following seven objectives:

1. Protect citizens from the negative health impacts of climate change.
2. Minimize loss and damage to country assets and ecosystems by preserving them from the impacts of climate change.
3. Preserving the country›s resources from the impacts of climate change
4. Resilient infrastructure and services in the face of climate change impacts
5. Implementation of disaster risk reduction concepts.
6. Preserving and expanding green spaces
7. Strengthening women›s response considerations to help them adapt to climate change.

Goal Number Three: Enhancing Climate Change Action Governance

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The goal recognizes objectives:

1. Defining the roles and responsibilities of the different stakeholders in order to achieve the strategic goals.
2. Improving the rank of Egypt in the international profile of climate change actions to attract further investments and climate finance opportunities.
3. Sectoral policy reform to capture the required climate change mitigation and adaptation interventions.
4. Enhancing institutional, procedural, and legal arrangements such as Monitoring, Reporting and Verification (MRV) systems.

Goal Number 4: Enhancing Climate Financing Infrastructure

This goal is the most relevant to the climate-related financial system in the local context. The goal comprises five objectives, where the first and second objectives are to demonstrate the climate financing mechanisms of the financial sector for both the banking and non-banking sector.

1. Promoting local green banking and green credit lines.
2. Promoting innovative financing mechanisms prioritizing adaptation actions, e.g., green bonds.
3. Private sector engagement in climate finance and promotion of green jobs.

The second objective recognizes the importance of green bonds as a primary financial tool that is crucial for financing the climate change agenda and ensures the engagement of all stakeholders and drawing more attention to the most vulnerable sectors with a main focus on renewable energy, energy efficiency, waste management, clean transportation, climate change adaptation and other ESG-related projects. Furthermore, the third objective recognizes the role of the

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private sector in supporting climate finance structure and values its engagement. However, the other objectives include:

1. Compliance with Multilateral Development Banks (MDB) guidelines for climate finance.
2. Building on the success of the current climate finance programs.

The fifth and final goal: Enhancing Scientific Research, Technology Transfer, Knowledge Management, and Awareness to Combat Climate Change.

This goal incorporates the following objectives:

2. Strengthening the role of scientific research and technology transfer in climate change mitigation and adaptation.
3. Facilitating disseminating climate-relevant information and knowledge management among government institutions and citizens.
4. Raising awareness on climate change among different stakeholders (high-level policy/decision makers, citizens, and students).

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10 Appendix Two:

Interview Main Questions

1. How do you see the maturity level of the debt market and specially the corporate bonds market in Egypt?
2. What is needed for this market to expand?
3. Does the maturity of the bond market affect the green bond market in Egypt?
4. Why do you think corporations depend heavily on the banking sector for debt rather than addressing the bond market given the relatively low cost of bond market?
5. Do you see any regulatory hurdles that may cause the bond market to shrink?
6. What are the determinants that stimulate issuers to issue green bonds?
7. How could the newly issued regulations by both the Financial Regulatory Authority and the Central Bank of Egypt regarding sustainable finance to stimulate the green bond market and assist in accelerating the issuances volume?
8. How is accelerating green bonds issuances expected to impact the financial markets?
9. How will the issuance of green bonds help in achieving the Egyptian agenda 2030?
10. What are the obstacles that face green bond market expansion?
11. Do the issuance costs could affect the decision to issue green bons? If yes, what else can be a significant factor?
12. Given that the green bond market is small in Egypt, what could regulators offer to assist the market and help in its growth?
13. What incentive bundles could be offered to accelerate the green bond issuance?
14. Where is the expected next big growth area in fixed income environmental investing? Could low carbon investing approaches be the next?