

Effat University

Jeddah, Saudi Arabia

Deanship of Graduate Studies and Research

This thesis, written by Hettaf Mansour AlQattan under the direction of his/her thesis supervisor and approved by his/her thesis committee, has been presented to and accepted by the Dean of Graduate Studies and Research on 'The Role of ESG Responsible Investing to Attract Investments from GCC Sovereign Wealth Funds', in partial fulfillment of the requirements for the Degree of Master's of Science in Finance.

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The Role of ESG Responsible Investing to Attract Investments from GCC Sovereign Wealth Funds'

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A Thesis Submitted in Partial Fulfilment of the Requirements
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Thank You All,

DECLARATION OF AUTHENTICITY

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Abstract

Environmental, social, and governance (ESG) factors are at the forefront of global asset management. Due to the long-term financial returns and positive social effects of ESG responsible investing, they have been incorporated into the investment decision-making and risk management of Sovereign Wealth Funds (SWFs). This study examines the impact of ESG-responsible corporate investments on the investment scope of GCC sovereign wealth funds. Additionally, we investigate the various implications of ESG factors in garnering the investment of GCC SWFs, which has some bearing on the discussion of GCC SWFs' investment preferences. According to the study's findings, ESG-responsible investing is a significant factor in recruiting GCC SWF investments, particularly in terms of social and governance factors. The analysis reveals a positive correlation between ESG ratings and GCC SWF investments. Therefore, GCC SWF investment strategies progressively incorporate ESG factors. Incorporating environmental, social, and governance factors into investment strategies necessitates integrating ESG metrics and analysis into decision-making as part of an integrated approach, not as an add-on, and that there are significant value-creation opportunities in doing so. The connection between environmental, social, and governance factors and sovereign wealth fund investments should encourage managers to implement appropriate strategies to attract GCC SWF investments and accomplish coordinated development.

Keywords: Sovereign Wealth Funds, ESG, Environmental, Social, Governance, Corporate Finance, GCC, Finance.

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Chapter 1: Introduction

1.1 Background

International markets and sizeable investors have a substantial impact on the success of sustainability. Sustainability is defined as satisfying the requirements of current generations without compromising the needs of future generations, while maintaining a balance between economic growth, environmental protection, and social welfare. Large-scale investors may invest in an unsustainable manner for the sake of short-term financial returns, thereby reducing sustainability. On the other hand, because they have the financial resources to advocate actively for specific sustainability goals, significant investors could potentially serve as a catalyst for the transition to sustainability. To actively promote sustainability, large-scale investors must incorporate sustainability concerns into their investment decisions and actively seek out relevant investment opportunities. It is anticipated that the active pursuance of sustainable investment opportunities will be articulated in these investors' publicly accessible official documents.

This study focuses on the consideration of Environmental, Social, and Governance (ESGs) sustainability criteria in the investment decisions of GCC Sovereign Wealth Funds (SWFs), which are government-owned and -controlled large institutional investors with \$8 trillion in assets under management, exceeding the global sum of assets managed by hedge funds, private equity funds, and exchange traded funds combined.

The question of whether SWFs consider ESG factors when investing to promote sustainability has been raised for several years. However, it has gained momentum since the United Nations (UN) launched the Sustainable Development Goals in 2015, promoting the concept of responsible

allocation and investment. The concept of sustainability incorporates a number of sustainability criteria, which can be interpreted as numerical indicators of its various facts. The United Nations' Sustainable Development Goals (SDGs) are frequently cited as a set of sustainability standards. Given their role as long-term investors responsible for preserving wealth for future generations, Liang and Renneboog argued in 2020 that it is logical to expect SWFs to promote sustainability.

1.2 Overview of Sovereign Wealth Funds (SWFs)

SWFs are institutional entities owned by the government with political and financial investment objectives. They have more assets than hedge funds, private equity funds, and exchange-traded funds combined. SWFs are large money pools; their assets grew at a compound annual growth rate of 12.2% from \$830 billion in 1999 to \$8.3 trillion in 2020, with 41.1% allocated to listed securities (SWFI, 2020). This growth exceeds that of other large traditional institutional proprietors, such as insurance companies, pension funds, and hedge funds (Megginson et al., 2021). SWFs are therefore viewed as emergent global power actors (Drezner, 2008).

According to the International Monetary Fund (IMF), sovereign wealth funds must meet the following four conditions: (I) minimize commodity price volatility, (II) create wealth for future generations, (III) pursue a higher rate of return, and (V) contribute to the growth of the domestic economy (IMF, 2008).

SWFs have been developed for three primary reasons, or a mix thereof:

- Stabilization: prevent and stabilize the economy from excessive fluctuations in revenues or exports;
- Future generation fund: raise savings for future generations;

- Government investment arm: support the country's social and economic growth and diversification.

The overwhelming majority of assets held by SWFs are structured to maximize investment returns. In the past decade, both the magnitude and number of SWFs have grown significantly. As shown in **Table 1**, global SWFs will collectively manage approximately USD 8.3 trillion in 2020, an increase of 12.2% annually since 1999, with 41.1% of SWF assets allocated to listed securities (SWFI 2021). Nearly half of the world's top 10 SWFs are from the Gulf Region. The increase in oil prices provided these Gulf States with vast quantities of income, which they invested via SWFs. This growth exceeds that of other large traditional institutional investors, such as insurance companies, pension funds, and hedge funds (Megginson et al., 2021).

Chapter 1 - Table 1: The Top 10 Largest SWFs in the World

Rank	Profile Name	Total Assets	Region
1	China Investment Corporation	\$1,350,863,000,000	Asia
2	Norway Government Pension Fund Global	\$1,136,144,193,600	Europe
3	Abu Dhabi Investment Authority	\$790,000,000,000	Middle East
4	Kuwait Investment Authority	\$750,000,000,000	Middle East
5	GIC Private Limited	\$690,000,000,000	Asia
6	Public Investment Fund	\$607,418,895,000	Middle East
7	Hong Kong Monetary Authority Investment Portfolio	\$588,903,442,872	Asia

8	Temasek Holdings	\$496,593,722,700	Asia
9	Qatar Investment Authority	\$461,000,000,000	Middle East
10	National Council for Social Security Fund	\$447,358,000,000	Asia

Source: SWF Institute

History of Sovereign Wealth Funds

First established in the 1950s, sovereign wealth funds (SWFs) have only recently garnered significant national attention. SWFs were conceived by the British colonial government and were initially established by commodity-rich nations that had amassed substantial foreign currency reserves through exports of commodities. According to (Loh, 2010) and (Shemirani, 2011), the Kuwait Investment Fund was the first sovereign wealth fund to be established in 1953 in order to invest the country's substantial hydrocarbon revenues. The Kiribati Revenue Equalization Reserve Fund and the Abu Dhabi Investment Authority are two early examples from commodity-rich nations.

Over time, however, a country's budget surpluses and foreign currency reserves, which are primarily derived from the accumulation of enormous current account surpluses, were used to produce additional money. As the quantity of foreign reserves grew beyond what was required to defend their currencies, Asian central banks began transferring a portion of their reserves to SWFs in an attempt to generate potentially superior returns. SWF is distinguished by its state ownership and control, as well as its investments in global real and financial assets, including stocks, bonds, real estate, precious metals, etc.

Globally, the quantity of assets managed by SWFs has increased at a rapid rate. Since 2000, the number of sovereign wealth funds has increased significantly. According to the SWF Institute, the assets managed by SWFs reached a record high of \$5.86 trillion in September 2013. 59% of the SWFs' income is derived from commodity exports, primarily oil and gas, whereas the non-commodity SWFs are primarily supported by the transfer of assets from official foreign currency reserves and, in certain cases, government budget surpluses and privatisation proceeds. The four largest SWFs, with total assets of USD 4 trillion, are primarily associated with commodity-exporting nations, including China (China Investment Corporation), Norway (Government Pension Fund—Global), the United Arab Emirates (Abu Dhabi Investment Authority), and Kuwait (Kuwait Investment Authority). The preponderance of the top 10 SWFs are Asian funds that do not invest in commodities.

Investment Strategies Adopted by Sovereign Wealth Funds

Regarding their investment strategies, SWFs are frequently vague. (Chhaochharia and Laeven, 2009) demonstrate that sovereign wealth funds (SWFs) invest to diversify away from domestic sectors, but favour financially constrained businesses in countries with a similar culture. This indicates that investment decisions made by SWFs are not solely motivated by profit maximisation objectives. Fotak et al. (2008) discovered that SWFs typically acquire minority ownership directly from target firms, approximately half of which are unlisted and headquartered in the SWF's native country. (Fernandes, 2009) demonstrates that, in terms of country emphasis, SWFs invest primarily in large, profitable corporations with broad analyst coverage that are located in nations with strong investor protection and corporate governance. Moreover, he believes that SWFs spend

disproportionately more in countries with higher economic growth, larger and more liquid financial markets, institutions that provide better protection of legal rights, and a more stable macroeconomic environment. According to (Kotter and Lel, 2008), there is a bias in the investments of SWFs toward companies in financial distress. In terms of sector preference, (Mohseni-Cheraghlou, 2017) shows that the financial and real estate sectors, due to their increased liquidity, and the energy sector, due to its strategic significance, are the sectors in which SWFs invest the most.

In 2021, sovereign wealth fund direct investments reached \$71.6 billion, up from \$69.8 billion in 2020. The number of transactions illustrates the intensity of investment activity: it rose from 316 deals in 2020 to 429 deals in 2021, a rise of 50% year-over-year and a rise of 60% compared to the average number of transactions in any of the preceding five years.

There is no distinction between sovereign wealth funds and capital markets, and their activity is the result of a larger trend as new records for global mergers and acquisitions are set in 2021. According to the consulting firm PwC, publicly reported transaction values reached an all-time high of \$5.1 trillion, with 130 megadeals exceeding \$5 billion. This is 57% higher than in 2020 and surpasses the 2007 record of \$4.2 trillion. Due to the pandemic in 2020, demand for technology, digital assets, and data-driven assets increased in 2021.

In 2021, sovereign wealth funds expanded their investments in both digital technology and physical assets. In 2021, sovereign wealth funds invested \$15.5 billion directly in infrastructure, nearly doubling the \$8.1 billion invested in 2020. The Abu Dhabi Investment Authority (ADIA) published a spotlight on infrastructure in July 2021 that detailed how the Emirati investor planned to increase its exposure to certain growing sub-sectors, including renewables and digital

infrastructure, while pursuing fewer but larger acquisitions and managing the overall number of positions in its portfolio. Several other sovereign funds have adopted a comparable strategy.

1.3 Overview of Environmental, Social and Governance (ESG)

Environmental, social, and governance (ESG) measurements reveal the environmental, social, and governance issues that are believed to influence corporations' investment decisions (IFAC, 2012). Environment refers to the comprehension of climate change, population growth, and their detrimental impacts on the natural environment. The term "Social" includes Corporate Social Responsibility (CSR). CSR is a response to issues such as climate change and population growth, as well as the impact of corporate operations on the communities where they operate. There are different definitions of corporate governance depending on the context in which it is used. It focuses predominantly on the role of the board of directors in guiding and controlling a company.

External governance mechanisms pertain to variables that affect a corporation but are beyond the board of directors' direct control, such as laws and regulations and the actions of various stakeholders. Internal governance systems are the structures and processes designed to maintain board independence and accountability via reporting and transparent disclosure, risk management, and the prevention of bribery and corruption. These include the composition of a board and its committees, their independence, and the board's reporting and accountability procedures. Governance issues include executive compensation and incentives, bribery and corruption, shareholder rights, business ethics, board diversity, board structure, independent directors, risk management, whistle-blower programs, stakeholder communication, lobbying, and transparency.

Chapter 1 -Table 2: Measures of ESG Performance

• Environment	• Social Responsibility	• Corporate Governance
<ul style="list-style-type: none">• Whether to disclose the concept of environmental protection• Whether to disclose the completion of environmental protection objectives• Whether to disclose the environmental management system• Whether to disclose the environmental protection related to education and training• Whether to disclose the special environmental protection activities• Whether to disclose the emergency mechanism of environmental emergencies• Whether to disclose honors related to environmental protection• Whether to disclose the implementation of the "Three Simultaneities" system• Whether to be a key monitoring unit of environmental protection• Whether environmental violations have occurred• Whether environmental petition events occur• Whether it has passed the ISO14001 certification	<ul style="list-style-type: none">• Social donation amount (logarithm)• Whether to disclose the protection of the safety of employees• Whether to disclose the protection of rights and interests of employees• Whether to disclose the protection of the rights and interests of shareholders• Whether to disclose the protection of the rights and interests of consumers	<ul style="list-style-type: none">• Whether the share capital structure has changed• Whether the top ten shareholders are related• Whether the chairman of the board and the general manager serve concurrently• The proportion of independent directors• Frequency of strategic committee meetings• Frequency of audit committee meetings• Frequency of meetings of salary and assessment committee• Frequency of meetings of the nomination committee

Source: (Guifu Chen, June 2022)

Overview of ESG Investing

ESG Investing (also referred to as "socially responsible investing," "impact investing," and "sustainable investing") is an investment strategy that emphasises environmental, social, and governance outcomes. Typically, ESG investing is viewed as a form of sustainable investing in which investments are made with consideration for the economy, the environment, and human welfare. It is predicated on the notion that environmental and social concerns increasingly influence the financial success of enterprises.

The ESG Investing Boom

As firms and individuals become more aware of the interdependencies between social, environmental, and economic challenges, there has been a significant increase in ESG investment globally over the past few years. This trend was substantially accelerated by the COVID-19

pandemic. The pandemic-induced market volatility and uncertainty in 2020 prompted many investors to pursue enhanced resilience via ESG funds. During the first three months of 2020, international investors invested \$45.6 billion USD in these funds. Globally, there are currently \$30.7 trillion in sustainable investment funds, and it is anticipated that this amount will rise to nearly \$50 trillion over the next two decades. An increasing number of investors seek to finance organizations and businesses that support and promote sustainability and comply with evolving regulations, such as climate change regulations. This need has been met by increasing corporate action on environmental, social, and governance (ESG) issues, as well as consistently rising returns on investment for ESG funds due to their resistance to traditional market disruptions.

Diverse stakeholders, investors, and concerned parties exert increasing criticism and pressure on industries hesitant to implement these reforms. These industries are also anticipated to experience a progressive tightening of regulations. Royal Dutch Shell was ordered by a Dutch court in May 2021 to reduce its greenhouse gas emissions by 45% by 2030. During the same week, ExxonMobil and Chevron confronted shareholder pressure to reduce their contributions to climate change. It is likely that these innovations will spur transformations in other industries.

1.4 Overview of SWF and ESG in GCC Region

Overview of SWF in GCC Region

The sovereign wealth funds of the GCC are among the world's largest and have a high demand for direct investments, especially in infrastructure initiatives. However, three obstacles prevent GCC sovereign wealth funds from investing in Mediterranean infrastructure. First, SWFs pursue equity investments (rather than debt investments). Second, SWFs prioritize investments in developed and select developing economies, which offer more stable revenue flows and fewer

regulatory and political obligations (for example, Asia and Latin America). Thirdly, the majority of GCC SWFs require an internal rate of return (IRR) of 15% and a minimal equity investment of \$50 million. Even though Egypt, Jordan, Tunisia, and Morocco have a robust portfolio of infrastructure-related projects, only a few meet GCC SWF standards. This third difficulty is exacerbated by the fact that there are investment opportunities with comparable returns and more stable investment environments in both developed and developing economies.

Since the early 2000s, the frequency of SWFs in the Gulf region has increased dramatically. The rise in crude prices brought the GCC nations enormous wealth. In addition, the relatively small size of their economies and fears of inflation necessitated that a substantial portion of their revenues be invested abroad and managed by SWFs.

Investment Strategies by GCC Sovereign Wealth Funds

The investment strategy of GCC SWFs is to maximise investment returns and, in some cases, to conduct synergies and/or acquire skills that can be used to develop new industrial capabilities in the native nation. Mubadala and the International Petroleum Investment Company (IPIC) frequently consider cross-country portfolio synergy in addition to investment return and risk.

The portfolio composition of GCC SWFs is heavily skewed toward equities and fixed income, which make up an average of 73% of total assets deployed. Up to one-third of the portfolio is comprised of real estate, making it the third largest asset type. Alternative investments, such as private equity fund participations, hedge fund investments, commodities, and infrastructure, make up a growing portion of the portfolio, which is now just below 10%.

The GCC governments have been active in Arab nations for a long time, frequently through their sovereign wealth funds, due to their strong relations with local governments. Kuwait Investment Authority (KIA) was the first GCC sovereign wealth fund to establish a joint fund with a non-GCC Arab nation, Morocco, in 1976. The mission of the Consortium Maroc Koweïtien de Développement (CMKD) was and still is to invest in the real estate, tourism, and finance sectors of Morocco. Real estate, tourism, and finance remain the primary GCC SWF investment industries in Arab nations nearly forty years later.

There are only a handful of significant direct investments made by GCC SWFs: The Abu Dhabi Investment Authority (ADIA) was the most active GCC SWF in 2007-2008, with a focus on Egypt. It invests in the energy, construction, and financial services industries. Few direct GCC SWF investments in Arab nations are infrastructure-related. For example, Invest AD participated in the Queen Alia International Airport initiative in Jordan in 2007.

The involvement of GCC sovereign wealth funds in infrastructure projects in Arab nations have been restricted by two major constraints:

- GCC sovereign wealth funds favor established infrastructure markets. The primary causes are threefold: First, there is a greater availability of assets. Second, infrastructure investments in developed countries provide more steady cash flows with less risk. Lastly, the legal and economic landscape is more stable, and the political risk is lower compared to Arab nations;

- GCC SWFs prefer to invest with equity (rather than debt) in infrastructure projects, since the majority of SWFs have return targets for infrastructure investments that are comparable to those for equity investments.

Overview of ESG in GCC Region

A strategy based on ESG incorporates a wide range of activities and objectives. It is a comprehensive and methodical approach for public institutions and private companies to evaluate, plan for, and conduct sustainably and ethically with regard to people and the natural environment.

Middle East, North Africa (MENA), and Gulf Cooperation Council (GCC) ESG-related advancements accelerated in 2021, mirroring global trends and shifts. Prepare to hear more about ESG in 2022, both locally and globally, as authorities and the private sector increase their commitments to meet the 2030 deadline for the SDGs and mitigate the effects of climate change.

During the preceding year, various governments in the MENA / GCC region established net zero carbon emission goals, enacted personal data and privacy legislation, and issued guidelines on sustainable financing, ethical use of enabling technology and outsourcing, mandatory ESG reporting, and female board membership for publicly traded companies. The United Arab Emirates (UAE) established a Human Rights Institute with a broad mandate to develop a national human rights action plan and passed a law mandating greater accountability from ministers and officials.

Given that the next UN Climate Summits (COP 27 and 28) will be conducted in the region, it is anticipated that ESG-related concepts will acquire greater significance in accordance with

global tendencies and pressures. This may highlight regional solutions to the conflict between protecting the environment and achieving economic development goals, such as the Saudi Arabian Green Initiative's endorsement of a circular carbon economy and pledge to plant 10 billion trees in Saudi Arabia and 40 billion more in the Middle East. It could also aid countries that are currently falling behind. Given that the majority of governments in the region lack complex political structures, they are able to mobilize rapidly and seize lost opportunities.

The shifting sediments must settle prior to evaluating the new legal and regulatory environment. Nonetheless, it is encouraging to observe that the three ESG segments appear to be advancing at roughly the same rate, which provides cause for optimism. Together with policymakers, scientists, inventors, investors, and financial institutions, the legal community is equipped to deal with such challenges.

Looking Back 2021: Steady Growth

Numerous regulatory initiatives, headed by the capital markets regulator (SCA) and the financial free zone regulators in Abu Dhabi (ADGM) and Dubai (DIFC), have enabled the UAE to become the region's sustainable finance juggernaut. The regulatory measures of the UAE included mandatory ESG reporting, the appointment of female board members, and webinars and seminars on public awareness and capacity building. In addition, the UAE government established a Climate Change Special Envoy, disseminated a comprehensive Sustainable Finance Strategy through its Ministry of Climate and Environment, and introduced a Net Zero 2050 Strategic Initiative with \$163 billion in financing commitments for investment in renewable energy. In its fourteenth year, the Zayed Sustainability Prize continues to offer three million dollars in prize

money to support grassroots solutions. Expo 2020 Dubai supported hundreds of social impact initiatives by Global Innovators and hosted the first UN SDG Global Goals Week outside of New York.

Additionally, regional government led and/or public-private partnerships for green finance, investment in renewable energy, and sustainability-related sovereign issuances such as Saudi Arabia's Red Sea tourist project's green financing, Oman's green power investment, and Abu Dhabi's sovereign fund Mubadala announcing the development of a separate ESG Unit increased substantially.

Private sector sustainable financing commitments and transactions were also on the rise, led in part by international and regional banks in the region, such as Standard Chartered, HSBC, and First Gulf Bank, as well as by multinational corporations and asset managers, Engie Consortium and EFG Hermes, and by local corporations in the retail and aviation sectors, such as Majid Al Futtaim, Emirates, and Etihad.

Alongside these government and corporate initiatives, the advisory sector (banks, attorneys, consultants) made significant investments in educating clients about ESG through public and private webinars and conferences for capacity development, transactional, and advisory mandates. In response to the pandemic, advisory firms educated themselves and their clients on the challenges and opportunities posed by the global ESG mainstreaming issue. This was also reflected in an increase in ESG-related recruitment across all industries.

Looking Forward 2022: Beyond Announcements Towards Greater Integration and Impact

It is projected that the following will occur in 2022:

- More climate change-related commitments, such as intensive carbon collection, recycling, and offsetting, to satisfy development demands while shifting from present energy sources;
- Persistent demand from the private sector and governments for proven sustainable finance products, along with adoption of increasingly sophisticated supply chain and trade solutions, voluntary carbon offset trading, structured products, and derivatives (including Islamic finance counterparts);
- Growing private sector voluntary compliance (namely for MNCs, multinational FIs, and big regional corporates) in ESG risk assessment and reporting according to international or industry standards to fulfill net zero objectives, gender parity, and to a lesser degree human rights; and
- Some regional authorities are upgrading or introducing new frameworks for sustainable financing and broader ESG integration and reporting. These rules may be aligned with worldwide norms (the "GDPR Effect"), but with a local/regional relevance and speed that may provide a model of compatibility with US, European, or Asian standards, rather than their wholesale acceptance. The emphasis will be on achieving net zero goals and gender equality (although strict enforcement strategies will remain absent or unclear).

1.5 Problem Statement

Experts have sought to gain a deeper comprehension of the investment decisions made by this new class of investors as a result of the explosive growth of SWFs. However, the process of making investment decisions is complicated due to the interaction of multiple factors.

This study will answer the question of "The Role of ESG Responsible Investing to Attract Investments from GCC Sovereign Wealth Funds ?" by examining the connections between ESG investing businesses and the attraction of GCC Sovereign Wealth Funds.

However, as ESG investing gained global acceptance, the subject of whether it could influence the investment decisions of GCC SWFs became interesting and significant. As a result, this study focuses on GCC SWFs and investigates whether countries, as investors, take firms' ESG engagement into consideration when making investment decisions.

1.6 Aims and Objectives

By conducting this research, the study is going to provide an answer to whether environmental, social, and governance investing companies attract GCC SWFs investments. This evidence will narrow the gap in the previous literature and extending the previous work conducted in this area.

This study aims to:

- Analyze top 10 SWF in the GCC region and its investments in environmental, social and governance firms.
- Investigate the relationship linking the high ESG score firms to the attractiveness of GCC SWFs investments.

The objectives of this research include:

- To find whether highly scored ESG firms attracts more GCC SWFs investments.
- To analyze the effects of environmentally responsible firms on the attractiveness of GCC SWFs investments.
- To examine the impact of socially responsible investing firms on the attractiveness of GCC SWFs investments.
- To test the impact of highly governance firms on the attractiveness of GCC SWFs investments.

1.7 Research Questions

There remains a question about whether ESG responsible investing firms can attract GCC SWFs investments.

The following research questions are expected to be answered in the research:

- Can ESG responsible investing firms attract GCC SWFs investments?
- Can environmentally responsible firms attract GCC SWFs investments?
- Can socially responsible firms attract GCC SWFs investments?
- Can highly governance firms attract GCC SWFs investments?

1.8 Significance

ESG-responsible investment reduces risk and generates value for investors and businesses alike. 79% of 325 investors surveyed by PwC said that ESG is an essential factor in their investment decisions, and 49% said they would contemplate divesting from companies that fail to take meaningful action on ESG issues. In addition, 75% of respondents said it was beneficial to sacrifice short-term profits to address ESG concerns.

This study investigates specifically the relationship between GCC SWF investment and the ESG engagement of the target business. ESG practices enable management to adopt a long-term perspective and optimize inter-temporal earnings in accordance with the interests of universal shareholders (large institutional investors, such as sovereign wealth funds) (Benabou and Tirole, 2010) SWFs have incorporated ESG principles into their investment decision-making due to the long-term financial rewards and positive social benefits of ESG responsible investing (Reiche, 2010; Gilson et al., 2017; Yin, 2017; Spencer et al., 2021). Academics are keenly interested in whether and how SWFs incorporate ESG factors into investment decisions (Liang et al., 2020; Bischoff et al., 2019; Bischoff et al., 2020). Velayutham et al. (2021) demonstrate that Norway and Abu Dhabi sovereign wealth funds consider corporate social responsibility when making investment decisions; however, due to the availability of data, they do not consider other sovereign wealth funds.

1.9 Scope and Limitation

This study investigates the impact of robust ESG performance on the investment attractiveness of GCC sovereign wealth funds. A sample of the top 10 sovereign wealth funds in the GCC

investing in 80 different firms is used to collect data for the period 2013-2022. To our knowledge, this research is the first study focusing on SWFs investment behavior in GCC region.

1.10 Organization of the Study

This investigation contains five chapters. The first chapter provides a brief explanation of ESG and SWFs, an overview of the study, a problem statement comprising the study's primary objective, research questions, significance, scope, and limitations, as well as a study outline. The second chapter provides a concise review of the relevant literature. The third chapter presents the data and methodology for the research. The study's findings and discussions are presented in the fourth chapter. The concluding chapter examines the results and summarises the findings.

Chapter 2: Literature Review

2.1 Literature Review Overview

This section discusses the literature review and prior studies relevant to the research topic. The Role of ESG Responsible Investing to Attract Investments from GCC Sovereign Wealth Funds.

Global sovereign wealth funds have emerged as a major participant in the global financial system; they are one of the investment instruments used by nations to implement their economic and strategic policies. Additionally, the investments of these funds contribute to the economic recovery of the recipient nations. It is difficult to discuss a unified strategy that regulates the investment directives of sovereign wealth funds due to the various categories of sovereign wealth funds and the reasons for their establishment, as well as their vast and limitless investment areas. To engage in global financial markets, the organization faces challenges in determining the most efficient means to exploit them as effective forces. The Saudi public investment is regarded as one of the world's most significant sovereign funds. (Habak, 2020) It is necessary to consider ways to enable gulf sovereign funds to meet the requirements imposed on their investments, as they now play an important role in the global financial system as a result of their increasing growth and investment activity in the wake of the financial crisis, as confirmed by a report issued by the organization for economic cooperation and development in April 2008; this gives them some influence. In addition, urgent action is required to improve the management of its funds in order to avoid the precautionary measures taken by countries receiving its investments. (Farahat, 2014)

It is evident that the increasing wealth of sovereign funds was the result of higher oil prices, which has led to a rise in the reserves of foreign currency held by oil-exporting nations. This, in turn, has led to a rise in funding opportunities, as the evolution of these nations became dependent on the large surplus of their balance of payments. As a result, sovereign wealth funds, which are investment funds established by governments or posses, have emerged. (Ali, 2017)

From the perspective of international financial markets, Sovereign Wealth Funds can help increase the distributional efficacy of revenues derived from commodity surpluses in various countries and boost market liquidity in general, even during times of global financial stress. These funds rely on a limited number of resources that enable them to withstand market pressures during times of crisis and reduce volatility. Nonetheless, recipient countries and private commentators are concerned about sovereign wealth funds, depending on their size, investment strategies, and the concerns of their originating countries, which are concerned about the dangers of rising protectionist sentiments. Multiple economic and financial benefits are associated with sovereign wealth funds. They are useful for avoiding boom-and-bust cycles in their originating nations and facilitate the preservation of surplus revenues generated by public finances from commodity exports and privatization operations, which can then be transferred to future generations. Additionally, sovereign wealth funds permit greater diversification of portfolio assets and a greater emphasis on returns than would normally be the case with reserve assets managed by the central bank, thereby reducing the opportunity costs of holding reserves. In the case of economies with abundant foreign reserve assets, increased diversification and a more circumspect approach to accomplishing it are indicative of sound and responsible asset management. But the rise of sovereign wealth funds also raised a number of other concerns. In addition to the concerns of official commentators and individuals regarding the extent of the impact of these funds, including

their size and investment strategies, it also raises the issue of the expanded role that governments play in international markets and industries, where it is feared that it is the driving force behind investments. In some instances, the wealth fund is politically motivated. (Ben lakhal, 2013)

The rise in oil prices contributed to the emergence of a new phenomenon represented by sovereign wealth funds, where the accumulation of large financial surpluses in oil-exporting countries led to the formation of these entities, which have become managing very large assets, and with the economic and geopolitical events witnessed on the global stage, contributed to a decline in oil prices. (Masifah, 2019)

Financial markets are becoming increasingly fascinated by sovereign wealth funds. Analysts, policymakers, and national legislative bodies due to its ongoing controversy. When the recipient state harbours concerns about sovereign funds due to the expanding scale and scope of activity and the diversity of investment strategies. The significance of these funds has grown within the international monetary and financial system. Even the newest and most significant polarity in the field of money and finance has become global, particularly after its success in accumulating large capitals in European and American banks. (Al-sabti, 2017)

The relationship between investment and the environment is one of the most important contemporary economic issues, particularly in light of the expansion of the concept of globalization and its environmental effects as a result of the change in the behaviour and patterns of production and consumption in the countries of the world, particularly in developing countries, as investment in its various forms is the primary cause of environmental damage. This relationship between the environment and investment differs by country. (Ajaoud, 2020)

2.2 The Influence of ESG Responsible Investing on Sovereign Wealth Funds

This study examines the sustainability of sovereign wealth funds (SWFs) in Gulf Cooperation Council (GCC) nations and monitors the pressures that may have a negative impact on SWFs' sustainability. In addition, the difficulties associated with the future of these funds are discussed. As hydrocarbon revenues fluctuate and decline and foreign direct investment declines, the study concludes that there are numerous threats to the sustainability of these funds. Complex bureaucratic procedures, a lack of transparency, and feeble Gulf SWF governance are additional concerns.

Chen G., Wei B., and Dai L. (2002) published a study titled *Can ESG-Responsible Investing Attract Investments from Sovereign Wealth Funds? Evidence From Chinese Listed Firms* investigates the impact of firms' ESG-responsible investments on the investment scope of sovereign wealth funds (SWFs). Using a sample of Chinese publicly traded companies from 2008 to 2020, the study investigated whether ESG performance positively impacts SWF investments. This study discovered that ESG performance attracts investments from SWFs by increasing ROA and decreasing risks.

Dai, L., Song, C., You, Y., & Zhang, W. (2022). This article examines whether sovereign wealth funds value ESG engagement. It investigates whether Sovereign Wealth Funds place a premium on the ESG engagement of target firms when making investment decisions. This study's sample comprises all enterprises in the KLD database from 2003 to 2018, totalling 36,482 observations. Strong evidence suggests that SWFs are more likely to invest in companies with a

higher Corporate Social Responsibility (CSR) score, according to the study. Moreover, firms with higher CSR scores garner a greater number of SWF investments.

Wurster, S.; Schlosser, S.J. (2021) this study titled *Sovereign Wealth Funds as Sustainability Instruments? Disclosure of Sustainability Criteria in Worldwide Comparison*. The objective of the study was to cast light on the sustainability disclosure mandate of SWFs and conduct a systematic analysis of explanatory factors for their behaviour. In the study, they presented the sustainability disclosure index (SDI), an original new dataset for a sample of over 50 SWFs (year 2020) to determine whether SWFs disclose sustainability criteria (19 concrete sustainability criteria) covering environmental, social, economic, and governance aspects into their mandate. The study found no significant evidence for the effects of a country's economic development level, resource abundance, and degree of democratisation, as well as the fund's size and structure.

This study examines whether and how sovereign wealth funds (SWFs) incorporate environmental, social, and governance (ESG) considerations in their investment decisions in publicly listed corporations, as well as the subsequent evolution of target firms' ESG performance (Liang, Hao, & Renneboog, Luc., 2020). Global 24 SWFs, which represent 83.75 % of the total Asset under management by SWFs globally, and which have invested in 7,693 listed firms from 2009 to 2018 comprised the study cohort. When acquiring ownership interests in publicly traded companies, SWF funds take past ESG performance and recent ESG score improvement into account, according to the study.

2.3 The Role of ESG in Attracting Investments

Bouhbel (2021) This study attempts to identify the role of legislative and legal reforms in attracting foreign direct investment by focusing on the law of 16/09, and to discover the deficiencies in the legal environment by benefiting from the UAE experience. This study concluded that the Algerian legal environment is less effective than the UAE legal environment at attracting foreign direct investment, as Algerian legislation excessively protects the national economy at the expense of openness to foreign direct investment, in addition to the deterioration of the remainder of the Algerian investment climate's constituent elements, particularly the economic, political, and technological environments.

The objective of Nasser's (2020) research is to identify responsible social investment as a modern investment, its significance and its lessons in promoting sustainable development, using descriptive and case study approaches, and to present the leading experience in responsible social investment in Sidi Belabbas (Algeria). The national economy benefits from the agid project, which integrates environmental and social concerns into its programs and strategies and promotes sustainable development. In recent days, the study has concluded a series of findings, including that responsible social investment has become the primary concern in implementing development programs and plans, and it has become a concern for officials and decision-makers, taking a clear lead in the decline of Algeria's oil revenues and hard currency income.

The purpose of this paper is to examine two types of social investment instruments, namely socially responsible investment (SRI) from Islamic finance and social impact bond (SIB) from conventional finance, according to Sassi (2019). In addition to presenting the perspectives of

proponents and detractors and emphasizing the inherent risk and difficulties of the instruments, the study seeks to identify the main differences and similarities between these instruments. The study demonstrated the foundation of these instruments, which ties the investment returns of social investors to the success of social programmers and the expansion of accomplishing social objectives. In addition, the actual amount allocated for social investments on the capital market should be presented. In addition to using comparative methodology, the study employs descriptive analytical methodology.

This study by Ben Dbeish (2017) aims to measure the impact of governance and institutional climate on the flow of foreign direct investment into Algeria from 1996 to 2015. The dependent variable was foreign direct investment, while the independent variables were indicators of governance and institutional environment, including economic freedom, property rights, political stability, regulatory quality, and control of corruption. The results demonstrated that the majority of these indicators are statistically significant, as there is a positive correlation between the index of economic freedom, property rights, and political stability and foreign direct investment flows to Algeria, whereas there is a negative correlation between the index of regulatory quality and these flows. The results indicated that there was no correlation between FDI and Algeria in terms of corruption control.

The objective of study was to identify social investment as a variable in Egypt's strategic health planning (Al-rashidi, 2015) The study employed the comprehensive social survey methodology, as the social survey methodology is one of the most suitable methodologies for a descriptive study and its subject. The study's sample consisted of "75" individuals accountable for health care at the directorate of health and population in the governorate of Buhaira, according to

distributions of academic qualification, specialization, and occupation. The study instruments comprised of a questionnaire for government health directorate health care officials. Examining theoretical writings, research, studies, and questionnaires related to the subject of the study, the questionnaire was developed within the framework of a series of methodological steps. In conclusion, the study yielded a number of findings, including the contribution of strategic health planning to identifying future opportunities and hazards by continuously and methodically considering the future.

Strategic planning is the process of developing the mission, objectives, plans, and future policy of health institutions, followed by social investment. Social investment as a health planning variable In order to achieve strategic development for effective health care, the strategic plan contributes to establishing the principles of equality and social justice, improving the quality of life, building human capital, building the capacities of workers in the health sector, the need to support follow-up and evaluation mechanisms for the goals of health planning, and the sustainability of investment in the health sector. Supporting the philosophy of social investment in sustainable health systems in order to develop a health care strategy, invest in the welfare of the population, and cultivate human capital.

The objective of the research was to disclose the actual contributions of civil society organizations' programs in attaining social investment for youth. Using case study and social survey methodologies (Sorour's 2014). The research group consisted of (80) young males and (15) Misr El Kheir foundation economic program administrators. The research instruments included a questionnaire for young beneficiaries regarding the contributions of civil society organizations' programs to achieving social investment for youth, as well as a questionnaire for officials regarding

the same topic. The results of the study indicated the presence of statistically significant differences between the demographic variables of the beneficiary youth, in terms of the contributions of civil society organization programs to achieving economic investment for youth as a form of social investment, due to the improvement of the standard of living and the economic situation, the satisfaction of the various needs of youth, and the expansion of their sources of income. The study recommended a redistribution of social welfare by investing in human capital. And work to assess the training requirements of young people and expand project-based training programs.

2.4 Previous Literature Reviews on Sovereign Wealth Funds

The study by Farahat (2020) demonstrates the ability of Arab sovereign wealth funds to develop a sustainable Arab agricultural sector by serving as a modern mechanism to reduce the financing deficit of the Arab agricultural sector, based on the implementation of agricultural investments in Arab countries with a high agricultural potential. In addition to reducing the financing gap for the agricultural sector, which has widened in recent years, particularly since the Arab countries approved the implementation of the Arab agricultural development strategy, the financing deficit for the sector will also be reduced. Sustainable for the next two decades (2005-2025) and other factors that contributed to this gap widening. Arab sovereign wealth funds are able to make investments without the need for external sources of funding, a benefit that the majority of other investors presently lack. Additionally, it can attract Arab financial surpluses within the Arab nation, thereby promoting Arab economic cooperation.

This study aims to emphasize the significance and function of sovereign wealth funds in contemporary economies, as stated by Dahan (2019). Prior to May 2007, only a small portion of the world's public attention was focused on sovereign wealth funds (SWFs). However, since the May 2007 publication of the renowned "Morgan Stanley" report, which predicts that SWF assets will reach \$12 trillion by 2015, the public's interest in SWFs has shifted dramatically, as they will be a growing financial force from which we should profit in the future. And the study concluded that the number of sovereign wealth funds has increased, their income has increased substantially, their investments have become more diversified, and they have assumed a crucial role in contemporary economies, particularly during times of crisis. And protect against the future.

This study by Al-Sabti (2017) aims to define sovereign funds and highlight their significance and the most important investment strategies for the future to provide access in the case of this entry into force from the sources as well as the effects of these funds on the owner and the host countries. The study has reached a number of conclusions. In addition to money markets and bonds, sovereign wealth funds invest in real estate, energy, significant industrial enterprises, and banks. Thus, sovereign wealth funds pursue a diversity of objectives. Including the financing of social and economic development in the sovereign states and contributing to the development and future states of the investment funds that financed the development of grassroots structures. These sovereign funds are predominately supported by hydrocarbon revenues. The economic proprietor of sovereign wealth funds, as well as the state and states that have it, are negatively impacted by sovereign wealth funds.

The objective of the study was to identify "gulf sovereign wealth funds and their governance requirements" (Ben Aichouba's, 2014). The research utilized descriptive analytic

methodology. The research focused on three areas: first, the concept of sovereign wealth funds, which included the definition, characteristics, and categories of sovereign wealth funds. Second, "oil booms and their role in the emergence of sovereign wealth funds", which included "the three oil booms, the emergence of sovereign wealth funds, the reality of sovereign wealth funds of the GCC countries, the most important investments of sovereign wealth funds of the GCC countries, and the impact of the recent global financial crisis on the gulf sovereign wealth funds." Third, "requirements for the governance of sovereign wealth funds," which included "the concerns of western countries regarding the growth of gulf sovereign wealth funds, the efforts of the international monetary fund, the organization for economic cooperation and development, the institute of sovereign wealth funds, and Edwin Truman in collaboration with the Peterson Institute of International Economics, and the extent to which transparency standards were successful in making gulf sovereign wealth funds more accountable. First, "Sovereign Wealth Funds can assist in increasing the distributive efficiency of state surplus revenues." Second, "sovereign wealth funds of some GCC countries are among the oldest global experiences, and the continued activity of these funds over a long period of time is evidence of the success of these experiences in adapting to the various changes and crises in the global economy, as time contributed to the maturation of the gulf experience and the accumulation of diverse experiences that these funds exploited in managing their investments. The study concluded with a number of recommendations, including the following: "The GCC Sovereign Wealth Funds should be based on a more comprehensive investment strategy that takes into account the long-term financial needs of their societies, achieving development, diversifying sources of income, and transferring knowledge and technology."

Chapter 3: Data and Methodology

This chapter describes the methodology employed to assess the research objectives, as well as the hypotheses and elements described in the literature review. On the basis of solid evidence, it assists in determining the most effective method for enhancing and advancing objectives. Due to the fact that the technique utilized in this methodology requires a combination of skills, statistical analysis, and various models to deal with numerical and statistical data, it requires a set of necessary skills, analysis, and models.

3.1 Research Design

The research employs a quantitative approach supported by secondary data. This study drew all of its information from the Sovereign Wealth Fund Annual Reports, the "Financial reports" of the top 10 listed companies (both domestic and foreign) in which sovereign wealth funds invest, and "Bloomberg" for the period spanning 2013 to 2022. The data compiled to analyze the hypotheses and objectives of the study.

This study selected and analyzed the most prominent and well-known Sovereign Wealth Funds in the GCC region and a-share listed companies from 2013 to 2022 in which they invest in. Due to the scarcity of data for the majority of GCC Sovereign Wealth Funds, the data for the variables originate from the Bloomberg database. Due to the fact that financial reports do not contain all information. As a result, I conducted the majority of my research on Bloomberg, which is extremely user-friendly, saved significantly more time than financial reports, and contained all the data and information required to evaluate the process. The sample for this study consists of the top ten Sovereign Wealth Funds from the GCC region, as ranked by the Sovereign Wealth Fund

Institute (SWFI): Abu Dhabi Investment Authority (ADIA), Saudi Arabian Monetary Authority Foreign Holdings (SAMA), Kuwait Investment Authority (KIA), Public Investment Fund (PIF), Investment Corporation of Dubai (ICD), Qatar Investment Authority (QIA), Mubadala Investment Company (Mubadala), Emirates Investment Authority (EIA). As for the listed companies we have selected 80 domestic and foreign companies in which these SWFs own shares in.

3.2 Quantitative Method

The quantitative method used to test the relationship between factors mentioned in the literature review, which includes several statistical techniques such as descriptive statistics, unit root test, correlation analysis, and different methods of regression analysis and technique, is used to determine the relationship between environmental, social, and governance investing firms to determine which factors influence the attractiveness of GCC Sovereign Wealth Funds.

3.3 Hypotheses of the Research

The hypotheses that formulated for this research:

- H1: There is an evidence for strong effects of the environmental development level on GCC SWFs investments.
- H2: There is positive relationship between social factors on GCC SWFs investments.
- H3: Governance factors has positive relationship with the investments of GCC SWFs.

- H4: GCC SWF funds do consider the level of recent ESG performance as well as future ESG score improvement when taking ownership stake in companies.

3.4 Model Specification

Several methodologies are employed to assess the hypotheses, establish the objectives, and establish the relationship between environmental, social, and governance responsible investing firms and the attractiveness of GCC Sovereign Wealth Funds' investments. At a significance level of 0.05, the model used to measure the relationship between ESG, and the attractiveness of Sovereign Wealth Fund investments is an Autoregressive distributed lag (ARDL) model. The ARDL permits the estimation of relationships between a dependent variable (Ownership) and multiple independent variables, including dynamic regressors, while taking lagged values of the dependent variable into consideration. The general formula used for the ARDL model in this analysis is:

$$Ownership_{i,t} = \beta_0 + \beta_1 Score_{E_{i,t-1}} + \beta_2 Score_{S_{i,t-1}} + \beta_3 Score_{G_{i,t-1}} + \delta^T \sum X_{i,t-1} + \varepsilon_{i,t}$$

And,

$$Ownership_{i,t} = \beta_0 + \beta_1 Score_{ESG_{i,t-1}} + \delta^T \sum X_{i,t-1} + \varepsilon_{i,t}$$

Where;

Ownership: represent the percentage of total shares in each firm i in the year t ¹

Score $E_{i,t-1}$: represent the scores of environment

Score $S_{i,t-1}$: represent the scores of social responsibility

Score $G_{i,t-1}$: represent the score of corporate governance

Score $ESG_{i,t-1}$: represent the overall ESG score

X_{it} : represent the firm's return on assets (ROA), cash ratio (Cash_Ratio), the growth rate of sales (Growthrate_Sales), intangible asset ratio (Intangible_Ratio), the price-earnings ratio (P/E), and the leverage ratio (Lev), return on equity (ROE), the price-book ratio (P/B), Market capitalization (Market_Cap), size (Total_Assets), and dividend payout ratio (Divd_Payout_Ratio), which can be proxy variables of corporate knowledge and technology level

$\varepsilon_{i,t}$: represents the random error term

Using the ARDL model, we can estimate the long-run and short-run effects of the independent variables on the dependent variable, as well as test for the existence of cointegration, which indicates the existence of a long-run relationship between the variables; hence, we performed 1 lag and 2 lags analysis using the ARDL model. We therefore delay all independent variables by one year to account for endogenous issues.

Generalized Method of Moments (GMM) is another model we've employed. GMM is a statistical technique for estimating model parameters by minimizing a function of moments, which are data population characteristics. GMM is an efficient method that can resolve multiple issues in

a regression analysis and produce more trustworthy results. The last model used was the Generalized Linear Model (GLM), which is a statistical method for analyzing non-normally distributed data. GLM is an extension of linear regression that can be applied to both categorical and continuous response variables.

3.5 Variables

In this investigation, the dependent variable was Ownership (the percentage of total shares in various firms that each GCC SWF owns). As for other variables, such as ROA, Cash ratio, Intangible ratio, and others listed above, they are regarded as independent variables that will reveal the true relationship between environmental, social, and governance factors, as well as the overall ESG score or performance, and the attractiveness of GCC sovereign wealth fund investments.

The study used the below variables to measure SWFs ownership which is:

First, Dependent Variable (Y):

- Ownership: the percentage of total shares in various firms that each GCC SWF owns.

Second, Independent Variables (Xs):

- Score ESG: represent the overall ESG score.
- Score E: represent the scores of environment.
- Score S: represent the scores of social responsibility.
- Score G: represent the score of corporate governance.

- ROA: means value of return on assets.
- Cash Ratio: a liquidity measure that shows a company's ability to cover its short-term obligations using only cash.
- Intangible Ratio: this ratio complements the tangible fixed assets turnover ratio.
- Growth rate of Sales: a measure of the change in revenue over a fixed period of time.
- P/B ratio: is the ratio for valuing a company's stock relative to its book value.
- P/E ratio: is the ratio for valuing a company that measures its current share price relative to its per-share earnings.
- Leverage ratio: the ratio that measures the total liabilities to total shareholder's equity.
- Market Cap: is a measure of the total value of a publicly traded company's outstanding shares of stock.
- ROE: mean value of return on equity.
- Total assets: represents the size.
- Dividend payout ratio: reflects the percentage of net income a company pays out to its shareholders as dividends.

3.6 Sample Selection

This part explained and classified the selected top 10 SWFs in which their top ownership (both local and international companies) was selected for analysis. Shares of 80 publicly traded businesses were chosen for our sample, which was examined in the study, based on the ownership percentages disclosed by SWFs. Some of these firms are shown in **Table 3** below along with the top 10 SWFs that were chosen.

Chapter 3- Table 3: Top 10 Sovereign Wealth Funds in GCC Region with Selected Three Ownership Companies

SWF Name	Short Name	Region	Asset Under Management (\$B)	Ownership in Top Selected Companies
Abu Dhabi Investment Authority	ADIA	UAE	697	<ul style="list-style-type: none"> - Advanced Micro Devices - BP plc - Royal Dutch Shell - JPMorgan Chase & Co
Saudi Arabian Monetary Authority Foreign Holdings	SAMA	KSA	537	<ul style="list-style-type: none"> - Citigroup Inc. - Bank of America - Meta Platforms - Alphabet Inc.
Kuwait Investment Authority	KIA	Kuwait	533	<ul style="list-style-type: none"> - Kuwait Finance House - Agility Public Warehousing Co. - National Bank of Kuwait - TotalEnergies SE
Public Investment Fund	PIF	KSA	430	<ul style="list-style-type: none"> - Saudi Basic Industries Corp - Saudi Telecom Co. - Uber Technologies - Lucid Motors Inc.
Investment Corporation of Dubai	ICD	UAE	306	<ul style="list-style-type: none"> - Emaar Properties - Emirates NBD - Dubai Islamic Bank - General Electric
Qatar Investment Authority	QIA	Qatar	300	<ul style="list-style-type: none"> - Qatar National Bank - Volkswagen Group - Barclays plc - Siemens AG
Mubadala Investment Company	Mubadala	UAE	243	<ul style="list-style-type: none"> - First Abu Dhabi Bank - Emirates Integrated Telecommunication - Abu Dhabi Commercial Bank

				- Advanced Micro Devices
Emirates Investment Authority	EIA	UAE	58	- Emirates Telecommunications - Emirates NBD - Emirates Integrated Telecommunication - DP World
Oman Investment Authority	OIA	Oman	22	- Oman Telecommunications Co - National Bank of Oman - Bank Muscat
Bahrain Mumtalakat Holding Company	Mumtalakat	Bahrain	17	- Aluminum Bahrain (Alba) - Bahrain Telecommunications Co - National Bank of Bahrain - S&P Global Inc.

Source: SWF Institute as of 2021 and Companies Annual Reports

Chapter 4: Results and Discussion

This chapter presents the findings of an investigation into the role of ESG responsible investing firms on attracting investments from GCC Sovereign Wealth Funds’.

This chapter is divided into two major sections. The first section demonstrates the preliminary analysis, which consists of descriptive statistics, the unit root test, and the correlation analysis. Comparing the results of ESG regression estimation with separate results for each component (Environmental, Social, and Governance) constitutes the second section.

The statistics covering the entire cohort of the top ten sovereign wealth funds in the GCC region. These examples illustrate the impact of ESG-responsible investing firms on the attraction of GCC sovereign wealth fund investments, as a result of a number of previously cited factors in the literature review. Cash ratio, Dividends payout ratio, Growth rate of sales, Intangible ratio, Leverage ratio, Market capitalization, Number of outstanding shares, Ownership, P/E, P/B, ROA, ROE, ESG overall score, Environmental score, Social score, Governance score, Total assets and Total equity are estimated using Excel and Eviews software and analyzed using descriptive statistics, unit root test, correlation analysis, and regression analysis.

4.1 Preliminary Analysis

4.1.1 Descriptive Statistics

The purpose of descriptive statistics is to summarize, describe, and present the primary characteristics of a dataset, including the frequency and distribution of values based on the variables used in our study, which are Cash ratio, Dividends payout ratio, Intangible ratio, Leverage ratio, Growth rate of sales, Market capitalization, Number of outstanding shares, Ownership, P/B, P/E, ROA, ROE, Score ESG, Score E, Score S, Score G, Total assets, and Total Equity. The descriptive statistics of various firm variables owned by the top ten GCC sovereign wealth funds are provided in **Table 4**.

Chapter 4 - Table 4: Descriptive Statistics

Table (1/2)	Cash Ratio	Dividends Payout Ratio	Intangible Ratio	Leverage Ratio	Growth Rate (Sales)	Market Cap	No. of Outstanding Shares	Ownership	P/B	P/E	ROA	ROE
Mean	0.7	105.8	0.1	11.9	13.5	149930.1	9928.9	3647.5	41.3	29.5	4.5	17.8
Median	0.3	34.9	0.1	3.3	6.0	49433.4	4070.0	1652.9	1.4	12.3	2.4	11.8
Maximum	15.8	13468.0	0.9	1601.3	2143.3	2413423.0	349983.0	41318.3	29479.0	5070.0	37.8	1048.6
Minimum	0.0	0.0	0.0	0.0	-74.8	0.0	0.0	-1841.8	0.0	0.0	-59.9	-110.3
Std. Dev.	1.4	699.5	0.2	97.2	83.5	293949.7	37099.8	5742.6	1035.9	194.2	7.8	58.1
Skewness	5.6	13.5	1.9	16.2	21.3	4.3	8.5	3.6	28.4	22.4	0.8	10.9
Kurtosis	42.8	211.0	6.6	265.2	528.0	25.6	75.9	20.1	807.2	564.9	15.0	159.5
Jarque-Bera	57700	1484310	923	2356229	9363336	19772	188888	11586	21937271	10723170	4967	842788
Probability	0	0	0	0	0	0	0	0	0	0	0	0
Sum	600	85700	97	9632	10917	121000000	8032506	2954474	33433	23894	3611	14442
Observations	810	810	810	810	810	810	810	810	810	810	810	810

Table (2/2)	Score ESG	Score E	Score S	Score G	Total Assets	Total Equity
Mean	34.6	46.6	76.0	29.3	414204.1	68968.8
Median	38.8	51.4	85.3	30.1	120805.0	37585.5
Maximum	76.8	79.2	100.0	69.4	4918000.0	387680.3
Minimum	0.0	0.0	0.0	0.0	0.0	-18075.0
Std. Dev.	23.2	19.1	24.9	16.8	791300.8	77403.4
Skewness	-0.1	-0.7	-1.6	0.0	2.7	1.2
Kurtosis	1.8	2.7	4.8	2.2	9.8	3.7
Jarque-Bera	51	66	466	23	2558	211
Probability	0	0	0	0	0	0
Sum	27999	37784	61532	23700	336000000	55864694
Observations	810	810	810	810	810	810

I will analyze the most significant information, including Mean, Maximum, Minimum, and Standard deviation. I will begin by analyzing the mean or average, which is used to represent the central value or trend of a dataset. The mean is calculated by adding all the values in a dataset and dividing them by the total number of values. The Maximum represents the greatest values in a dataset, while the Minimum represents the smallest. As for the standard deviation, it quantifies the amount of variation or dispersion within a dataset and indicates how dispersed or clustered the data is in relation to the mean. It aids in quantifying the degree of uncertainty or risk associated with a specific dataset.

According to descriptive statistics, the average Cash ratio is 0.74. Maximum value was 15.81, minimum value was 0.00, and standard deviation was 1.39. The average dividend payout ratio is 105.80, with a maximum of 13468.01 and a minimum of 0.00, while the standard deviation was 699.50. In contrast, the Intangible ratio had a mean of 0.12, a maximum of 0.86, a minimum of 0.00, and a standard deviation of 0.15. The average leverage ratio is 11.89, the maximum was 1601.25, and the minimum was 0.00, while the standard deviation was 97.22.

The mean P/B ratio was 41.28, with a maximum of 29479.03 and a minimum of 0.00, and a standard deviation of 1035.87. The average P/E ratio was 29,50, with a maximum of 5,070.00 and a minimum of 0.00, and a standard deviation of 194,24. Regarding ROA, the mean was 4.46, the maximum was 37.76, and the minimum was -59.86, with a standard deviation of 7.82. The average ROE was 17.83, the maximum was 1,048.62, and the minimum was -110.26, with a standard deviation of 58.07.

In addition, the mean ESG Score is 34.57, with a maximum of 76.77 and a minimum of 0.00, and a standard deviation of 23.20. The mean Environmental Score was 46.65, with a reported

maximum of 79.18 and a minimum of 0.00, and a standard deviation of 19.06. The average Social Score was 75.97, with a maximum of 100.00 and a minimum of 0.00, and a standard deviation of 24.88. Lastly, the average Governance Score was 29.26, with a maximum of 69.41 and a minimum of 0.00, and a standard deviation of 16.83.

Based on the skewness, the symmetry or lack of symmetry is measured. In other words, it defines the degree to which the distribution's tails deviate from the mean. If the skewness value is positive, it indicates that the distribution's tail is longer on the right side, or the positive side of the axis, and the data are said to be positively skewed. As indicated by the aforementioned skewness analysis, the Cash ratio, Dividends payout ratio, Intangible ratio, Leverage ratio, Market capitalization, Number of outstanding shares, P/B, P/E, ROA, ROE, Total assets, and Total Equity are positively skewed to the right. In contrast, if the skewness value is negative, as it is for Scores E and S, this indicates that the distribution's tail is longer on the left side, or the negative side of the axis. The distribution is perfectly symmetrical if the skewness value is zero for Score ESG and Score G. In this case, variables such as P/B with a value of 28, P/E with a value of 22, and Growth rate of sales with a value of 21 deviate significantly from normality.

4.1.2 Unit Root Test

Whether a time series variable is stationary or not may be determined with the use of the unit root test. The statistical characteristics of a stationary time series do not change during the course of the series. In contrast, a non-stationary time series is characterized by dynamic changes in its statistical features. A unit root test is a statistical procedure for determining whether or not a

time series has a unit root. There are numerous forms of unit root tests, including the Augmented Dickey-Fuller test (ADF) used in this study for panel data.

The null hypothesis, and the alternative one of ADF test for the data are:

H_0 : data series has unit root and is non-stationary.

H_1 : data series does not have unit root, and stationary.

The null hypothesis of non-stationary (data has a unit root) is rejected when the p-value is less than 0.05 and accepted when the p-value is more than 0.05.

Chapter 4 - Table 5: Unit Root Test

Variables	t-Stat	P-Val
Cash Ratio	0.02	0.02
Dividends Payout Ratio	0.70	0.00
Growth Rate (Sales)	0.11	0.02
Intangible Ratio	0.00	0.00
Leverage Ratio	0.03	0.05
Market Cap	0.32	0.03
No. of Outstanding Shares	0.66	0.65
Ownership	0.89	0.94
P/B	0.06	0.02
P/E	0.04	0.00
ROA	0.14	0.13
ROE	0.26	0.19
Score ESG	0.04	0.03
Score E	0.03	0.01
Score S	0.08	0.06
Score G	0.01	0.02
Total Assets	0.04	0.04
Total Equity	0.01	0.02

The results of ADF unit root test from **Table 5** above indicates that the p-value of Cash ratio, Dividends payout ratio, Growth rate of sales, Intangible ratio, Leverage ratio, Market cap, P/B, P/E, Score ESG, Score E, Score S, Score G, Total assets and Total Equity are all less than 0.05 therefore the null hypothesis is rejected, indicating that those data series are stationary.

On the other hand, the p-value of the highlighted variables (Number of shares outstanding, Ownership, ROA and ROE) are greater than 0.05 as a result the null hypothesis is accepted, indicating that those data series have unit roots and non-stationary.

4.1.3 Correlation Analysis

Next, we used Eviews to do a correlation analysis. The intensity and direction link between two variables may be measured through correlation analysis, a statistical technique. A perfect positive correlation occurs when two variables move in the same direction, a perfect negative correlation occurs when two variables move in opposite directions, and a correlation coefficient of 0 indicates that there is no relationship between the variables.

Chapter 4 - Table 6: Correlation Analysis between Variables

	Cash Ratio	Divid. Payout Ratio	Growth Rate (Sales)	Intangible Ratio	Leverage Ratio	Market Cap	No. of Outstanding Shares	Ownership	P/B	P/E	ROA	ROE	Score ESG	Score E	Score S	Score G	Total Assets	Total Equity
Cash Ratio	1.0	0.0	0.2	0.2	0.0	0.2	-0.1	-0.1	0.0	0.0	0.2	0.0	0.0	0.0	-0.1	0.1	-0.1	0.0
Divid. Payout Ratio	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.9	-0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0
Growth Rate (Sales)	0.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.1
Intangible Ratio	0.2	0.0	0.0	1.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.3	0.2	0.1	0.2	0.0	0.2	-0.3	-0.2
Leverage Ratio	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Market Cap	0.2	0.0	0.0	0.0	0.0	1.0	0.0	-0.1	0.0	0.0	0.4	0.1	0.3	0.3	0.1	0.3	0.1	0.4
No. of Outstanding Shares	-0.1	0.0	0.0	-0.1	0.0	0.0	1.0	0.2	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.1	0.5	0.3
Ownership	-0.1	0.1	0.0	-0.2	0.0	-0.1	0.2	1.0	0.0	0.2	-0.1	-0.1	0.0	0.0	0.1	0.0	0.3	0.3
P/B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0
P/E	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0
ROA	0.2	-0.1	-0.1	0.3	-0.2	0.4	-0.1	-0.1	0.0	0.0	1.0	0.3	0.1	0.1	0.0	0.1	-0.2	0.0
ROE	0.0	0.0	0.0	0.2	0.0	0.1	0.0	-0.1	0.0	0.0	0.3	1.0	0.0	0.0	0.0	0.1	-0.1	-0.1
Score ESG	0.0	0.1	-0.1	0.1	0.0	0.3	0.0	0.0	-0.1	0.1	0.1	0.0	1.0	0.9	0.9	0.9	0.3	0.5
Score E	0.0	0.0	-0.1	0.2	0.1	0.3	-0.1	0.0	-0.1	0.0	0.1	0.0	0.9	1.0	0.8	0.6	0.1	0.4
Score S	-0.1	0.1	-0.1	0.0	0.0	0.1	0.0	0.1	-0.1	0.1	0.0	0.0	0.9	0.8	1.0	0.6	0.2	0.4
Score G	0.1	0.1	0.0	0.2	0.0	0.3	0.1	0.0	-0.1	0.1	0.1	0.1	0.9	0.6	0.6	1.0	0.3	0.5
Total Assets	-0.1	0.0	-0.1	-0.3	0.0	0.1	0.5	0.3	0.0	0.0	-0.2	-0.1	0.3	0.1	0.2	0.3	1.0	0.8
Total Equity	0.0	0.0	-0.1	-0.2	0.0	0.4	0.3	0.3	0.0	0.0	0.0	-0.1	0.5	0.4	0.4	0.5	0.8	1.0

Table 6 shows correlation coefficient between variables. Cash ratio has a negative relationship with Number of shares outstanding, Ownership, Score S and Total assets with a negative value of (-0.1) while there is positive relationship with Growth rate of sales, Intangible ratio, Market cap, ROA, and Score G.

The dividend payout ratio is negatively correlated with ROA and positively correlated with Ownership, P/E, Score ESG, Score S, and Score G. The sales growth rate is negatively correlated with ROA, Score ESG, Score E, Score S, Total assets, and Total equity. In contrast, it exhibits a positive correlation with Cash ratio. Intangible ratio is negatively correlated with Outstanding shares, Ownership, Total assets, and Total equity, while it is positively correlated with Cash ratio, ROA, ROE, and Score G. The leverage ratio has a negative correlation with only ROA and a positive correlation with only Score E.

Ownership has a negative correlation with Cash ratio, Intangible ratio, Market capitalization, Return on assets and Return on equity, while it has a positive correlation with Dividends payout ratio, Number of outstanding shares, P/E, Score S, and both Total assets and Total equity. P/B has a negative correlation with ESG Score, E Score, S Score, and G Score. The P/E ratio has a positive correlation with the dividend payout ratio, ownership, Score ESG, Score S, and Score G. ROA and ROE exhibit a negative correlation with Ownership and Total assets, whereas they exhibit a positive correlation with Intangible ratio, Market capitalization, and Score G.

Finally, as for Score ESG variable it shows a negative relationship with both Growth rate of sales and P/B and shows a positive relationship with other variables such as Dividends payout ratio, Intangible ratio, Market cap, P/E, ROA, Total assets and Total equity. Also, it shows a significantly positive (0.9 correlation coefficient) with Score E, Score S, and Score G. Score E shows a negative relationship with Growth rate of sales, Number of outstanding shares,

and P/B. Score S also show a negative relationship with Cash ratio, Growth rate of sales, P/B. While Score G show a negative relationship only with P/B. As for Total assets and Total Equity they both shows a mix of both negative and positive relationships but the most significant was a negative relationship with Intangible ratio and a positive relationship with Number of outstanding shares, Ownership, Score ESG, Score E, Score S and Score G.

4.2 Regression Analysis

This analysis provides an extensive overview of the influence of each variable on other dependent and independent variables, as well as their interrelationships. In addition, the correlation between the explanatory variables should not be sufficiently high to avoid the multicollinearity problem, which occurs when one or more explanatory factors have a strong correlation with other explanatory variables.

To estimate our model, we utilized distinct approaches for the analysis of both the ESG as a whole and the Environmental, Social, and Governance variables separately in order to confirm our results with alternative tests. We used the Autoregressive Distributed Lag (ARDL) method to estimate the long-run relationships between variables for Table 7. It is used to analyze the relationships between non-stationary variables. The ARDL method estimates a dynamic regression model that incorporates both lagged dependent and independent variable values. The primary advantage of the ARDL method is its ability to manage situations in which the variables are not necessarily stationary and trend toward long-term equilibrium. The Generalized Method of Moments (GMM) is an additional statistical technique used to estimate the parameters of a nonlinear model based on moment conditions. This technique is beneficial when the model is nonlinear. Generalized Linear Model (GLM) is a statistical framework that

extends the conventional linear regression model to accommodate a broader range of response variables, such as binary and continuous data.

In **Table 7** the estimated coefficients in the regression analysis using **ARDL method (1 lag)** with the dependent variable of Ownership. The coefficient for Ownership lagged (-1) suggests a strong positive and statistically significant relationship between the previous ownership percentage and the current ownership percentage. In other words, SWF's tend to hold onto their ownership stakes in the firm over time. However, most of the other independent variables have coefficients that are not statistically significant at 0.05 such as ROA, ROE, Cash ratio, Leverage ratio, P/B, Growth rate of sales, Market cap and Dividends payout ratio. Score ESG for example measure of the firm's environmental, social, and governance (ESG) score, while it is not statistically significant in this method, firms with higher ESG scores usually attracts SWF's who prioritize sustainable business practices. As for Score ESG (-1) it has a negative and statistically significant relationship with Ownership, this indicates that changes in a firms ESG score can affect SWF's decision-making regarding Ownership but is lagged by 1 period. ROA (-1) has a negative and statistically significant relationship with Ownership, this indicates that past profitability impact current SWF's ownership decisions. As for Intangible ratio, while it is statistically significant in this model it is negatively correlated with Ownership indicating that SWF's prefer firms with more tangible assets. The variable Intangible ratio (-1) which is the lag of intangible ratio has a positive and statistically significant relationship with Ownership, indicating that SWF's place greater importance on changes in firm's asset composition over time. The variable P/E (price to earnings ratio) has a positive and statistically significant relationship with Ownership, indicating that SWF's place a greater weight on firm's growth opportunities and earning potential. Also, Total assets variable has a positive and

statistically significant relationship with Ownership, indicating that SWF's prefer investing in larger firms.

From the regression estimation of **ARDL method (2 lags)** also with the dependent variable of Ownership. The Ownership (-1) has a coefficient of 0.15 which is statistically significant with a p-value of 0.00 which indicates that the lagged value of Ownership has a significant impact on the current value of Ownership.

The Score ESG (-1) variable on previous period has a negative correlation with the current Ownership and is statistically significant where as Score ESG (-2) two period lags is positively associated with the current value of Ownership indicating that SWF in the first year will have a negative relationship with Ownership, then this relation will improve to a statistically significant and positive relationship in willingness of SWF's to invest in such firms with high ESG score.

Intangible ratio is statistically significant with negative correlation with the current value of Ownership. Intangible ratio (-1) which is one period lag is positively associated with the current value of Ownership. On the other hand, Intangible ratio (-2) two period lags is statistically significant with negative association with the current value of Ownership. While both P/E and P/E (-1) are not statistically significant, P/E (-2) is statistically significant with a positive correlation with the current value of Ownership, the same as Growth rate of sales (-2) variable. Market cap and Market cap (-2) are both statistically significant and negatively associated with the current value of Ownership. As for Total assets and Total assets (-2) they are both statistically significant with a positive correlation with the current value of Ownership.

However, Score ESG, ROA, ROE, Cash ratio, Leverage ratio, P/B, P/E, P/E (-1), Growth rate of sales, Growth rate of sales (-1), Market cap (-1) and Dividends payout ratio are not statistically significant at the 5% level. R-squared value have improved comparing to the

previous method used with a value of 0.44 which means that 44% of the variation in Ownership is explained in the model by our independent variables.

Moving on to the third estimation of the **GMM regression model** with Ownership as the dependent variable. The results indicate that the majority of independent variables are statistically associated with Ownership. Specifically, the variables Score ESG, P/B, P/E, Sales growth rate, and Total assets that have a positive relationship with Ownership. Therefore, the higher the ESG score, the value of assets on the company's balance sheet, earnings per share, and sales growth, the greater the SWF's ownership.

In contrast, Cash ratio, Intangible ratio, Leverage ratio, Market capitalization, and Dividend payout ratio have a significant negative relationship with Ownership. Other variables, such as ROA and ROE, are not statistically significant and therefore have no relationship with the dependent variable.

We estimated our dependent variable, Ownership, using the **GLM regression model**. The results indicate that the majority of independent variables are statistically associated with Ownership. For instance, the variables Score ESG, P/B, P/E, and Total assets have a positive correlation with Ownership. A coefficient of 59.46 for ESG Score indicates that an increase in ESG Score correlates with a substantial increase in the level of SWF ownership. The coefficient of 0.33 for the P/B variable indicates that an increase in the price-to-book ratio correlates with an increase in the level of ownership by SWFs, which is also true for the P/E variable, which displays a coefficient of 7.80.

In contrast, the Intangible ratio, the Leverage ratio, the Market capitalization ratio, and the Dividend payout ratio have a significant negative association with Ownership. The coefficient of -3,447.62 for the intangible ratio indicates that as the proportion of intangible assets in a company's total assets rises, the level of SWF ownership falls. Additionally, the

coefficient of -1.97 in the Leverage ratio variable indicates that an increase in the leverage ratio is associated with a decrease in the level of SWF ownership. However, other variables such as return on equity, cash ratio, and sales growth rate are insignificant, and thus have no relationship with the dependent variable.

Chapter 4 - Table 7: Summary of Estimation Results for Overall ESG

Variables	ARDL - AIC 1 Lag	ARDL - AIC 2 Lags	GMM – HAC	GLM - Chi Square
	Coefficient (P-value)			
Ownership (-1)	0.13 (0.00)	0.15 (0.00)		
Score ESG	9.34 (0.44)	3.46 (0.69)	46.8 (0.00)	59.46 (0.00)
Score ESG (-1)	-52.51 (0.00)	-38.21 (0.00)		
Score ESG (-2)		39.08 (0.00)		
ROA	26.36 (0.45)	-11.92 (0.66)	7.41 (0.70)	
ROA (-1)	-187.47 (0.00)			
ROE	-2.26 (0.74)	-0.45 (0.92)	-1.8 (0.13)	0.13 (0.93)
Cash ratio	18.73 (0.90)	-179.3 (0.08)	-241.83 (0.00)	169.05 (0.09)
Intangible ratio	-4191.84 (0.00)	-3969.19 (0.00)	-1616.85 (0.05)	-3447.62 (0.00)
Intangible ratio (-1)	3788.78 (0.01)	3204.16 (0.01)		
Intangible ratio (-2)		-2973.77 (0.01)		
Leverage ratio		-1.2 (0.58)	-1.33 (0.00)	-1.97 (0.00)
Leverage ratio (-1)	-1.34 (0.49)			
P/B	-8.15 (0.62)	-4.87 (0.67)	0.32 (0.00)	0.33 (0.00)
P/E	7.82 (0.00)	-0.8 (0.79)	8.51 (0.00)	7.81 (0.00)
P/E (-1)		0.13 (0.85)		
P/E (-2)		1.49 (0.02)		
Growth rate of sales	-0.34 (0.86)	1.41 (0.37)	3.02 (0.01)	0.74 (0.44)
Growth rate of sales (-1)		-1.4 (0.37)		
Growth rate of sales (-2)		3.2 (0.03)		
Market cap	-0.00 (0.59)	0.0 (0.03)	0.00 (0.00)	0.00 (0.00)
Market cap (-1)		0.0 (0.48)		
Market cap (-2)		0.0 (0.01)		
Total assets	0.00 (0.00)	0.0 (0.00)	0.00 (0.00)	0.00 (0.00)
Total assets (-1)		0.0 (0.13)		
Total assets (-2)		0.0 (0.00)		
Dividends payout ratio	-0.98 (0.09)	0.09 (0.84)	-1.02 (0.01)	-0.81 (0.04)
C	4819.98 (0.00)	1901.68 (0.00)		

Chapter 4 - Table 8: Summary of Estimation Results for Environmental, Social and Governance

Variables	GMM	GLM
	Coefficient (P- value)	
Score E	-11.73 (0.44)	-2.65 (0.85)
Score S	23.44 (0.20)	52.3 (0.01)
Score G	32.34 (0.00)	14.88 (0.07)
ROA	16.93 (0.37)	56.29 (0.01)
ROE	-2.99 (0.02)	-1.56 (0.16)
Cash ratio	-218.24 (0.01)	152.35 (0.18)
Intangible ratio	-3070.76 (0.00)	-3500.63 (0.00)
Leverage ratio	-1.25 (0.00)	-0.91 (0.01)
P/B	0.31 (0.00)	0.32 (0.00)
P/E	8.42 (0.00)	7.71 (0.00)
Growth rate of sales	1.89 (0.11)	1.45 (0.18)
Market cap	0.00 (0.00)	0.00 (0.00)
Total assets	0.00 (0.00)	0.00 (0.00)
Dividends payout ratio	-0.99 (0.02)	-0.81 (0.06)

As for **Table 8** which summarizes the estimation results of using two methods GMM and GLM for examining separate Environmental, Social and Governance scores. The estimated coefficients in the regression analysis using **GMM regression model** with the dependent variable of Ownership indicates that most independent variables have a statistically significant relationship with the dependent variable. Moreover, the variables that have a significant positive relationship with ownership are Score G, P/B, P/E, and Total assets. On the other hand, the variables that have a significant negative relationship with ownership are Intangible ratio, Leverage ratio, Cash ratio and Dividends payout ratio.

The coefficient value of Score E -11.73 indicates that there is a negative relationship between this variable and Ownership. However, the p-value suggests that this relationship is not statistically significant. As for the Score G the coefficient value of 32.34 indicates that there is a positive and statistically significant relationship between this variable and Ownership. This

suggests that companies with better governance practices tend to have higher levels of SWF's Ownership. Score S shows a coefficient of 23.44 which indicates that there is a positive relationship between this variable and Ownership, but it is not statistically significant.

Moving on to the second estimation of the **GLM regression model** with Ownership as the dependent variable. Based on a significance level of 0.05, the variables that have a statistically significant relationship with Ownership are Score S, which has a positive and statistically significant relationship with Ownership, indicating that companies with superior social performance tend to have higher levels of SWF's Ownership. ROA has a positive and statistically significant relationship with Ownership, indicating that companies that use their assets more efficiently to generate profits are more attractive to SWFs; the same holds true for P/B, P/E, and Total assets.

In contrast, the Intangible ratio variable has a negative and statistically significant relationship with Ownership, indicating that companies with a higher ratio of intangible assets are less appealing to SWFs. Similarly, Leverage ratio has a negative and statistically significant relationship with Ownership, indicating that companies with high levels of debt are less attractive to SWFs. The same holds true for the Market capitalization variable, which also has a negative and statistically significant relationship with Ownership.

Chapter 5: Conclusion and Recommendations

5.1 Summary of the Results and Implications

In recent years, ESG (Environmental, Social, and Governance) responsible investing has garnered significant attention as investors seek to align their investments with their values and contribute to positive social and environmental impact. Incorporating ESG factors into their investment decisions, sovereign wealth funds (SWFs) are not an exception. The Gulf Cooperation Council (GCC) region, which consists of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates, is home to some of the world's largest sovereign wealth funds (SWFs). In recent years, however, SWFs in the region have shown a growing interest in ESG investing, driven by a desire to diversify their portfolios, enhance risk management, and contribute to sustainable development.

The primary objective of this study was to determine whether highly scored ESG firms attract more investments from GCC SWFs and whether other factors, such as environmentally responsible firms, socially responsible firms, and highly governed firms, have an impact on the attractiveness of GCC SWF investments. In addition, I concentrated on resolving the primary research question of the study, which was whether ESG-responsible investment firms can attract investments from GCC sovereign wealth funds. Thus, yearly data (from 2013 to 2022) were collected from Bloomberg on the top local and international companies in which each of the top 10 SWFs in the GCC region holds an ownership stake. The data were then analyzed using descriptive statistics, the unit root test, correlation analysis, and multiple regression techniques.

The findings section addresses the research query and tests the hypothesis. The study demonstrates that the ESG score variable has a significant effect on the Ownership structure of

GCC-based SWFs. Therefore, ESG-responsible investing can attract GCC sovereign wealth fund investments. In addition, financial variables such as the Intangible ratio, Leverage ratio, P/B, P/E, Market capitalization, Total assets, and the Dividend payout ratio have a substantial impact on Ownership. This will strengthen the case for ESG-responsible investing to attract GCC sovereign wealth fund investments. Particularly, ESG-responsible investing may be essential for attracting GCC SWF investments, as it has a substantial influence on Ownership structure at all levels of significance. This study also highlights a positive relationship and impact between Score S (relating to social responsibility) and Score G (relating to corporate governance) on the Ownership and attractiveness of GCC SWF investments.

In conclusion, the results suggest that financial factors and ESG factors particularly related to corporate governance and social responsibility play a crucial role in shaping the Ownership structures of GCC SWF investments. Therefore, it is a useful strategy to be adopted by companies for the long term who wants to attract GCC SWF investments.

5.2 Limitations of This Study

The availability of data is the first limitation of this study, as the majority of sovereign wealth fund investments and strategies are confidential and not publicly disclosed. However, this issue was resolved by examining the most recent available annual reports of GCC sovereign wealth funds or companies in which they hold shares, which disclose their top shareholders in their annual reports and filings. Due to the unavailability of ESG scores for some local companies in the GCC region that are not publicly disclosed, we excluded these businesses from our analysis. Moreover, there is limited availability of literature on this topic, predominantly pertaining to the GCC region.

5.3 Recommendations for Future Research

Since the finding of this study showed a strong relationship between ESG responsible investing in attracting investments from GCC SWF's, I recommend companies to invest more in ESG to attract investments from GCC SWF's. Companies should focus on improving their financial performance to attract SWF's investments, they also should particularly focus on improving their social and governance elements of ESG investment. I would also advice governments in the GCC region to enhance regulatory structure to improve ESG investment by companies.

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Appendices
