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Assessing the Impact of Sustainable Finance on Economic Growth: Evidence from India, the UAE, and Oman

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Abstract: The influence of sustainable finance on foreign direct investment (FDI), economic development, financial market stability, and economic stability in India, the United Arab Emirates, and Oman is investigated in this paper using a quantitative methodology. The study intends to evaluate the impact of sustainable finance on these factors via the use of standardized questionnaires that are distributed among participants in the financial industry. Structural Equation Modeling (SEM) using SPSS and AMOS was used for the investigation, which shows a favorable relationship between sustainable financing and both FDI inflows and economic development. The results show that the model fits the impacts of FDI well (CFI=0.973, RMSEA=0.069) and the effects of economic growth somewhat (CFI=0.946, RMSEA=0.102). Sustainable finance and economic growth are considerably mediated by financial market stability, while the connection between sustainable finance and foreign direct investment (FDI) is significantly moderated by economic stability (interaction path estimate = 0.075, p = 0.035). In order to maximize the advantages of sustainable finance on investment and growth outcomes, the research emphasizes the critical role that financial and economic stability plays.

Keywords: Sustainable Finance, Economic Growth, Foreign Direct Investment (FDI), Structural Equation Modelling (SEM), Corporate Social Responsibility (CSR)

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INTRODUCTION

Sustainable development is facing difficulties as a consequence of significant industrialization and economic growth, which have increased energy consumption and negatively impacted the environment. The world's use of primary energy increased by 1.3% in 2019. Energy consumption and greenhouse gas emissions are the main contributors to environmental degradation and are necessary for economic development. Climate change is also linked to energy use gases (GHGs) released. It is imperative that all governments comprehend the causes of increasing carbon dioxide emissions and create appropriate policies for reduction. This is especially true of the Gulf Cooperation Council (GCC) members because of their distinct characteristics(Baydoun & Aga, 2021). Among the world's wealthiest nations, the GCC has 19.8 percent of its natural gas reserves. Saudi Arabia, Kuwait, Oman, Bahrain, UAE, and Qatar are all part of this group of countries.

Immediate action is required to address several critical social, economic, and environmental concerns, such as reducing economic inequality, fighting climate change, alleviating global poverty, and minimizing the effects of pandemics. To achieve the Sustainable Development Goals (SDGs), annual spending from the public and commercial sectors should range from $5 trillion to $7 trillion. Fundraising and allocating

resources to initiatives with a long-term impact are challenging but crucial endeavour's. Sustainable finance and investment (SFI) initiatives are being promoted by many stakeholders, including governments, corporations, and financial institutions, in an effort to tackle these concerns.(Cunha et al., 2021). Research on sustainable finance has expanded our understanding of the topic, with academics primarily concerned with measuring the bottom lines of sustainable investment firms.

Because of the vast scope and relevance of sustainable finance in accomplishing sustainability goals, several research have been conducted to improve knowledge and application. The most recent study completed by (Cunha et al., 2021) is an excellent example of this result, since the authors discovered that the present body of research on sustainable finance is overly split. Because of this dispersion, it's difficult to pinpoint the field's distinguishing characteristics and how it differs from traditional finance.

Agenda 2030, often known as the 2030 Agenda for Sustainable Development, is a set of seventeen Sustainable Development Goals (SDGs). In other words, there is a relationship between the SDGs and the success of the policies put in place to accomplish each target. In order to lessen the harmful effects of human activities, the phrase "SDGs" embraces a broad range of regulations and policies that prioritize social, ecological, and relational inclusiveness(Ziolo et al., 2021). Meeting the SDGs will need funding. A study by the International Monetary support [IMF] revealed that developing nations must close an average yearly budget deficit of almost USD $2.6 trillion to support investments in roads, power, water, sanitation, health, and education. This suggests that higher yearly expenditure for emerging nations with low incomes might account for as much as 15% of their GDP.

Overview of Sustainable Finance

When anything is termed financing restricted, it means that financial resources cannot be used. A lack of awareness about the many funding options available, competition, rate of interest policies, inadequate accounting, financial, and regulatory systems, and other factors may all contribute to financing limits for small and medium-sized enterprises. In addition to raising transaction costs, these variables may raise credit risk. It is challenging for small and medium-sized businesses (SMEs) to secure the required funding via these channels due to the collateral requirements set by lenders(Rao et al., 2023). Because of their significance to the world economy, SMEs must have better access to financing, thus it's essential to comprehend the funding challenges they confront.

The European Union (EU) has passed a slew of legislation in an attempt to hasten the shift to a greener economy and reach zero emissions by the year 2050. Adopting the Non-Financial Reports Directive was an early step; it mandates that certain big EU-based corporations report on sustainability-related matters. Financial market participants are now legally obligated to provide information on the social and environmental effects of their products, as per a rule passed by the European Parliament in November 2019.

The EU Taxonomy intends to encourage the dissemination of transparent and comparable data in order to accomplish all-encompassing sustainability and climate objectives, as well as to steer financial flows towards more environmentally friendly endeavours. These main objectives align with the literature's discussion of the effects of sustainability reporting requirements. A recent assessment of the literature made

the case for more thorough investigation to fully comprehend these effects. They specifically request that researchers take into consideration the unique structure of the reporting obligation, expand their study to include additional stakeholders, and investigate the causes behind the observed shifts in corporate behaviour and company performance. ask for more study to strengthen our understanding of the "causal chain from firms' responses to the release of [sustainability] information."

The increasing number of rules and regulations around sustainable finance is another proof of its increasing relevance. The International Monetary Fund (IMF) and the G20 are two examples of the many international organizations (IOs) that have worked together with national regulators and governments to try to collect and disseminate information on the topic(Dimmelmeier, 2023). In addition, the Network for Greening the Financial System (NGFS) has only been around for three years, but in that time it has already published its first findings and suggestions, and 83 central banks and regulators from five continents have become members.

Another tactic is to impart knowledge. There are a number of approaches that may be taken to incorporate sustainability-related ideas into current courses or modules in higher education, while other approaches may need a whole rethinking of the curriculum. Environmental Sustainability Goal 4 and ESD are the two most visible SDGs. Students are inspired to learn about sustainability and develop their problem-solving abilities in the process. The SDGs also allow managers, instructors, course organisers, and students an opportunity to think about the skills necessary for educating and learning of sustainable development(Leal Filho et al., 2023). Higher education institutions (HEIs) may evaluate their programs and look for opportunities for internal and external cooperation by considering how can we achieve the SDGs.

Since the financial crisis, the relationship between stock ownership and a company's capacity to survive has become more important from the standpoints of science, law, and business practices. Many categories of equity ownership exist, such as management ownership, institutional ownership (IO), family ownership, and governmental ownership(Velte, 2023). For the reasons that follow, we focus on IO in our study. First, institutional ownership (IO) is thought to influence corporate strategy because it has more resources and expertise than non-institutional ownership (such as individual investors). Among the many groups out there are owners who keep an eye on investment company boards of directors and put pressure on management to do more to promote corporate sustainability. Most of these banks manage a very complex portfolio of firms that they oversee internationally. The worldwide extent of sustainability challenges is reason enough to assume that institutions are cognizant of stakeholder concerns(e.g., gender diversity as well as climate change).

The GCC3 nations are anticipated to have strong GDP and population growth over the next ten years, according to the Economist Intelligence Unit (EIU 2010)2. The GCC is expected to have a population of 53.5 million by 2020, up 30% from 2000 levels. During the same time period, experts anticipate a real GDP increase of 56% in the region. Nominal gross domestic product is projected to soar from $341.60 billion in 2000 to more than $1 trillion in 2010 and $2 trillion in 2020. Nonetheless, the rise in nominal GDP and population has two effects(Abdel-Gadir, 2020). Firstly, a 30% increase in population over the next 10 years will put additional strain on the labour market and local job prospects. Second, a lack of diversification as well as reliance on oil as the only source of economic development are reflected in the

rise in oil income, which is primarily responsible for the nominal GDP and therefore the growth in the economy.

Sustainable Finance in India

A nation's ability to expand economically is dependent on its current economic circumstances, which include the elimination of poverty as well as the creation of job opportunities, both of which have a direct impact on economic growth. Furthermore, conventional practices have resulted in substantial climate change and environmental exploitation, which makes it harder for us to satisfy the demands of coming generations(Philip, 2020). Development that is ecologically responsible and sustainable must thus be given top priority if sustainability is to be achieved. Implementing climate change laws will cost a lot of money. To show its dedication to the sustainable development objectives, India submitted its IMDC and established and executed 17 targets as part of the Paris Agreement.

The tangible consequences of global warming are now becoming apparent on a global scale. Along with other effects such as storms becoming more frequent and intense, devastating floods, and heat waves, the polar ice caps and glaciers are melting at a quicker rate. Despite current IPCC predictions on the repercussions of 1.5°C global warming over preindustrial levels and the consequences of climate change of land and sea, there is sufficient evidence to determine that human activity is altering the planet's climate and ecosystems. These reports highlight not only the dire consequences that unchecked warming of the globe poses for the environment and humankind, but also the crucial roles that particular sectors play in raising the necessary funds to keep warming in "well below 2°C" along with safe guarding the planet's natural environment(Schumacher et al., 2020).

Businesses, especially those that accept eco-tourists as customers and are flexible enough to meet their needs, might benefit from green finance, which encourages sustainable tourism. Investors and other interested parties may evaluate the tourism industry's impact on society and the environment via improved ESG reporting and certification processes. In the tourist sector, green financing also promotes collaboration between businesses, banks, communities, and governments. In addition to developing more meaningful destinations, the stakeholders may address environmental issues like climate change(Kumar et al., 2023). Furthermore, the money supports the promotion of ecologically responsible tourist practices that honor and preserve the histories, cultures, and landscapes of the surrounding people. By directing investment funds toward initiatives that protect ecosystems, lessen carbon emissions, and empower local populations at famous tourist sites while generating economic benefit, tourism green financing basically propels good change in the travel and tourism sector.

Subnational income has dropped and subnational deficits have widened over the world due to the COVID-19 epidemic. India's state debt and deficits were made worse by rising expenditure commitments and declining revenue. The COVID-19 pandemic's surge in global public debt as well as deficit started to decrease in fiscal year 2022. Research investigating the impact of geopolitical concerns on fiscal sustainability indicates that these risks intensify fiscal instability. In terms of state debt, the fiscal strain brought on by policy reactions to macroeconomic uncertainty for Asia throughout the 2010s increased. The fact that oil price shocks now have a significant impact on Asian economies just makes the situation worse. The underlying reasons of the subsequent financial hardship were more government spending, reduced

income, and a larger primary deficit.

Sustainable Finance in the GCC: UAE and Oman

Sustainable finance has grown substantially in the United Arab Emirates (UAE) in recent years, thanks to the government's initiatives to include ESG factors into financial decision-making. Announced in 2021, the UAE Sustainable Finance Framework seeks to enhance the enabling environment for sustainable finance while also strengthening public-private partnership.(Rusydiana et al., 2022).The framework identifies three main pillars:

1. Integrate sustainability into financial decision-making and risk management.
2. Green investment initiatives and sustainable financial solutions should be more widely available and sought after.
3. Collaborate with partners in the real and financial sectors to improve the enabling environment for sustainable finance practices. "Climate Change Laws of the World" (UAE Sustainable Finance Framework, n.d.).

The UAE has implemented the framework by incorporating sustainability considerations into policies, regulations, and directives for both public and private financial activity(Richardson, 2020).

Creating stress testing tools for the financial services industry - Developing guidelines for the assessment and handling of ESG risks in financial organizations' lending and investment activities (Birindelli et al., 2022)

The UAE Sustainable Finance Working Group (SFWG), formed in 2019, is actively promoting sustainable finance practices throughout the country. In 2022, the SFWG released its second public statement, reiterating the government's commitment to enabling the UAE's economic transition and encouraging national adoption of sustainable finance (binti Adnan, I. H., binti Misman, S. N., binti Mohd Yusof, S. S., binti Hassan, R., & binti Che Basir, N. A. (2022, March). ESG Policies for Financial Institutions: Comparative Studies Between Malaysia, United Arab Emirates and United Kingdom. In International Conference on Business and Technology (pp. 375-388). Cham: Springer International Publishing.)(Alareeni et al., 2022)

While the literature on sustainable finance in Oman is scarce, the country has made efforts to encourage sustainability in the financial sector. In 2021, the Central Bank of Oman (CBO) announced the Sustainable Finance Regulatory Guidelines, which aim to establish a framework for incorporating ESG issues into financial institution operations [The recommendations address issues like as governance, risk management, product development, and disclosure obligations. The CBO has also initiated measures to increase knowledge and capacity for sustainable financing among financial institutions and stakeholders. (Meesaala, K. M., Subramani, V., Al Farsi, R. I., & Kumar, R. V. Customer Awareness and Knowledge on Green Finance Activities Towards Sustainable Environment of Banking Sector in Oman-A Study.

LITERATURE REVIEW

(Akomea-Frimpong et al., 2022) The study surveyed prior work on the subject of green finance as it pertained to the banking sector, with a focus on the factors and products that impact this phenomenon. Forty-six (46) relevant studies had been taken and critically analysed using the content analysis technique. Financial institutions' most popular environmentally friendly loan and investment options were green infrastructure bonds, green investments, green insurance, and green loans, as detailed in the research.The research discovered that social inclusion and justice, interest rates, risk, religion, the environment, and banking laws are important factors affecting banks' green financing practices. The work offered guidance for future research, theoretically. Banks will benefit from the study's findings about the important factors to take into account while implementing, creating, and approving green financing.

(Al-Roubaie & M. Sarea, 2019) Recently, there has been a lot of discussion on how human actions affect sustainability in the long run. Ethical investing, sometimes known as "green investment," pushed for better environmental management and more long-term economic stability. Investments in the Islamic economy must be in line with Sharıah principles in order to ensure sustainability, justice, and preservation of the environment for all parties involved. The study explored how the Islamic financial system aligned with the Islamic worldview, emphasizing ethical investigated as a means of managing the environment and ensuring human existence. Green investment helped safeguard the environment while still addressing fundamental human needs. Additionally, it made better use of the society's assets. By supporting environmentally conscious investments that fuel growth and new ideas, Islamic finance has the potential to make a big splash in environmental management.

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(Barua, 2020) examined the primary obstacles in funding Sustainable Development Goals (SDGs) and proposed alternative solutions to address them, with a specific focus on poor nations. The report critically examines the current body of research and practitioner materials, identifies the main obstacles, and presents a proposed framework of viable solutions to address them. The paper contends that, considering the present state of development and funding for the Sustainable Development Goals (SDGs), urgent measures are required to gather sufficient financial resources in order to accomplish the SDGs within the designated timeframe of 2030.

(Brescia et al., 2021) This article will provide a foundation for future study in the topic of Islamic finance and sustainability by analysing a number of publications in the subject. This research aims to test the premise that it is feasible to understand the many contributions made in the fields of social, economic, and environmental sustainability. Using 73 papers that were taken from Scopus, the study performed an organized literature review. The primary themes and descriptive statistics for the area were also made clear

by the bibliometric analysis using the authors' keywords. The diversity of viewpoints demonstrated how the subject is multicultural and not only something that Islamic nations deal with.

With its potential to boost economic development, the massive Belt and Road Initiative (BRI) infrastructure project across the globe has garnered a lot of attention. On the other hand, more energy use and environmental degradation have resulted from this expansion. Because of this, the BRI has proposed a new concept called green BRI in an effort to reduce its environmental effect. Findings from a study that using the Generalized Method of Moments approach indicate a robust negative relationship between environmental degradation and economic development. This finding emphasizes the need for green finance to mitigate environmental degradation and boost economic development. To reach the Sustainable Development Goals by 2030, this partnership between public and commercial organizations is crucial.

(Cunha et al., 2021) The literature on sustainable finance and investment (SFI) is disjointed, which makes it hard to define what SFI is and how it differs from conventional FI, despite the fact that SFI is essential for world development. A comprehensive literature analysis of 166 articles defines SFI, identifies important participants, and details their profiles, tactics, and results. It also identifies the essential features of SFI. In order to better comprehend the SFI subject, this study presents a research agenda that organizes research issues and offers suitable methods. The members of SFI have come together to make a good difference in society and the environment by using their substantial financial and economic resources. But there are issues with conventional, short-term financial thinking, with no SFI theory, and with no proof of how SFI affects humans and the environment.

(Falcone, 2020) Efforts to wean the planet off fossil fuels are attracting the attention of national governments throughout the globe. The investment initiatives involved in making the shift to a sustainable economy are complicated and fraught with uncertainty, and there are many obstacles to overcome. By leveling the playing field between the green and conventional economies, green financing may hasten this shift. It is crucial to address the complexity and uncertainty associated with transitioning to a green economy.

(Khan et al., 2022) This article looked at how the Gulf Cooperation Council (GCC) area's banking industry is using access control systems based on artificial intelligence to protect their data. Using web-enabled remote access with applications scattered across numerous networks presents challenges for businesses due to sophisticated security rules for access control. These rules add operational complexity and make monitoring more onerous. In order to guarantee their company, organizations spent a substantial amount of money. With the rise of intelligent internet-based enterprises, researchers are faced with the problem of finding solutions to cyber threats. In order to cover the gaps in the existing literature, a comprehensive search was conducted utilizing the four study areas as a guide. By scouring four authoritative online databases, we were able to extract 126 of the highest quality research publications.

(Kumar et al., 2022) Using AI and big data analytics, this study aims to compile prior studies on sustainable finance. According to studies conducted on the subject of sustainable finance, seven primary areas have emerged: issues related to climate change, environmental protection, socially responsible investment, carbon finance, impact investing, and the regulation of these sectors. The study also suggests regulating profits and returns, developing new sustainable financing tools, making laws and frameworks

more standardized, and making sustainable finance more self-sustaining. Also discussed are the ways in which behavioural finance has an effect on sustainable finance and how new technology like AI, blockchain, the IoT, and machine learning may help with things like fighting greenwashing and improving corporate sustainability reporting. In order to fill a need in the current literature, this research will survey sustainable finance from a state-of-the-art perspective.

(Lagoarde-Segot, 2020) proposed that identifying financing paths for the Sustainable Development Goals (SDG) agenda necessitates reconsidering implicit assumptions about how financial institutions work. We utilize a history of economic thinking to highlight problems in the loanable fund hypothesis, which is used in SDG financing initiatives. Within a unified theoretical and accounting framework, they provide an alternative to exogenous money theory. By doing so, we may discover and investigate several financial options that might help us reduce the SDG budget shortfall. Sovereign green bonds, capital adequacy criteria, changes to the collateral framework of the European Central Bank, a market for Sustainable Development Goal loan certificates, and rediscounting regulations are all part of these efforts.

(Madaleno et al., 2022) From July 31, 2014, through October 12, 2021, this study follows the relationships between green technology, clean energy, environmental responsibility, green financing, and a novel time-varying causality test. Although the importance of the bidirectional causalities decreases throughout the COVID-19 era, they are still visible in the data. Green financing's impact on clean energy is less noticeable overall, with the exception of some times, most notably when the epidemic first begins. There is more evidence of causality and increased volatility along the whole shift from green energy to green finance. In order to achieve sustainable development objectives and a smooth energy transition, the study suggests a comprehensive strategy to increase green finance and promote environmental responsibility.

(Magazzino, 2022) took a look at the budgetary stability of the six GCC member nations between 1990 and 2017. Mixed findings are obtained using panel unit root tests when cross-sectional dependency is present for government income, spending, the primary balance, and debt. Even though people can't agree on how the primary deficit relates to debt, cointegration tests reveal that government revenue and expenditure are linked over the long run. The fiscal synchronisation hypothesis is supported by the findings of causality tests, which suggested that the GCC governments make choices about their income and spending at the same time.

(Mateev & Nightingale, 2020) The UAE government stressed the significance of innovation in every industry, through the National Innovation Strategy (NIS) aimed at creating an innovation-friendly climate and prioritizing industries. Technology and sustainability are stressed in programs such as The Smart Government and The Smart City. This architecture had recently been used to develop the Dubai Blockchain Strategy. This study looked at the possible uses of blockchain technology in the UAE's banking sector, exchanges, including marketing, and also its role in sustainability. Blockchain is recognized as one of the most significant new technologies, and greater strategic investment in blockchain technology would be advantageous.

(Reyad et al., 2022) The overarching purpose of this research is to assess the effectiveness of corporate governance and risk management practices used by Islamic banks (IBs) located in GCC nations. Despite the expansion, Islamic banks still had to deal with problems including capital adequacy ratio, governance,

and Shariah noncompliance threats. Senior risk managers provided qualitative data, while financial reports provided quantitative data, as part of a mixed-method strategy. The findings demonstrated that GCC IBs, with the exception of asset quality and liquidity management, effectively manage business risks. The government, chief executives, regulators, and upper management may all benefit from the results when it comes to risk assessment, mitigation, and management.

(Sadiq et al., 2022) The research finds green fund techniques and components that Southeast Asian national and local governments may use in their post-COVID-19 plans. By performing sophisticated force calculations at the classification level, the ARDL technology provides reliable results while simultaneously lowering latency. Data monitoring and the establishment of connections between energy emissions and ecological sustainability may both benefit from the pooled mean group (PMG) approach. The research concludes that firms developing eco-friendly sophisticated technology demonstrate a beneficial relationship between creativity and a sustainable planet. When it comes to the competitive economic climate, stakeholders and legislators value environmental sustainability and social responsibility. One of the most important places to find innovative products and services is at SMEs, or small and medium-sized businesses.

(Salih et al., 2019) This article looked at how conventional banks fared in comparison to Islamic banks during the Great Recession of 2008. Using four financial performance metrics—efficiency, profitability, liquidity, and solvency—the article analysed the pre-, during-, and post-2008 financial crisis performance of both kinds of banks. This study deviated from others conducted in the GCC nations. The time frame of the investigation was broader than that of earlier research on the GCC region. The paper used mixed-effect linear regression to show that between 2006 and 2012, traditional banks were more efficient and had a higher return on assets than Islamic banks. Both the GCC governments' complicity in the financial crisis and the shortcomings of Islamic banks' institutional frameworks were brought to light in the study.

RESEARCH GAP

Research shortages exist in sustainable finance and green investment in the UAE, Oman, India, & the GCC. Poor nations and SDG finance hurdles are not supported on frameworks established for these areas. Challenges to financial theory often overlooked in practice. Sustainable finance needs more AI, blockchain, IoT, and machine learning case studies. A unifying theoretical framework is needed since sustainable finance literature is fragmented. Assessments of Islamic finance's compatibility with green projects lack empirical evidence on Green Sukuk. In bank green finance appraisals, global standards is not explained. Green money economic change requires comprehensive policies. Green funding post-COVID-19 must be assessed for long-term sustainability. Sustainability's impact on fiscal stability is not studied in GCC budgetary sustainability. AI's potential for the GCC financial sector must be investigated, and Islamic institution governance assessments require strong sustainability standards.

METHODOLOGY

Research design

This quantitative study surveyed several financial institutions in Oman, the UAE, India, and the GCC

(Reference UAE&OMAN) to learn more about their approaches to sustainability financing. The first data collection method will include the use of structured questionnaires that will be mailed to the. The study's overarching goal is to identify the variables that constitute a sustainable financial ecosystem: foreign direct investment (FDI), economic development, stability of financial markets, stability of the economy, sustainable finance, and FDI targeting Oman, the UAE, and India. Both descriptive and analytical methods are included in the study methodology. An important part of our work is analysing the intricate interrelationships among several latent variables using Structural Equation Modelling (SEM) analysis, a dependable statistical tool. Using structural equation modelling (SEM), the research adds to what is already known about the topic by providing a thorough analysis of the ways in which organizational dynamics affect teachers' happiness on the job.

Research objectives:

- Analyze the impact of sustainable finance on foreign direct investment (FDI) inflows in India, the UAE, and Oman.
- Evaluate the effect of sustainable finance on economic growth in India, the UAE, and Oman.
- Examine the mediating role of financial market stability in the relationship between sustainable finance and economic growth in India, the UAE, and Oman.
- Investigate the moderating effect of economic stability on the relationship between sustainable finance and FDI inflows in India, the UAE, and Oman.

Study Area

This study delves at sustainable finance in the GCC and India, specifically examining the UAE and OMAN. The research, being conducted in many places, aims to assess the extent to which sustainable financing enhances people's self-confidence, independence, and ability to achieve personal and professional goals. For the purpose of understanding Sustainable in its general and specific circumstances, data from a variety of demographic categories will be collected. The research intends to provide insight on how inclusive practices created by Sustainable Finance in India, the United Arab Emirates, and other OMAN nations may ultimately boost individual finance for a range of socioeconomic contexts via an examination of these processes.

HYPOTHESIS

H1: Sustainable finance has a positive impact on foreign direct investment (FDI) inflows in India, the UAE, and Oman.

H2: Sustainable finance has significant impact on economic growth in India, the UAE, and Oman

H3: Financial market stability mediates the relationship between sustainable finance and economic growth in India, the UAE, and Oman.

H4: Economic stability moderates the relationship between sustainable finance and FDI in India, the UAE, and Oman.

Sampling Technique

The investigation of how Sustainable Finance in INDIA and GCC (Reference UAE&OMAN) would be randomly selected from the target population would be best served by a stratified, random method. By first dividing the population into these relevant strata and then selecting participants at random from the Finance sector, the study may get a representative and balanced sample.

Sample design

The present investigation used the Simple Random Sampling approach to gather data from several financial departments, with a sample size of 280.

Data Collection

India and the GCC's sustainable finance will be examined utilizing a quantitative analytical approach (Reference UAE&OMAN). Participants in the Sustainable Finance program will be asked to complete structured questionnaires with Likert scale questions in order to gather quantitative data. These polls will assess foreign direct investment, economic development, and sustainable finance. With these methods, the relationship between sustainable finance, economic development, and foreign direct investment will be completely recognized.

Tools and Techniques for Data Analysis

Tools

In this study SPSS (Statistical Package for the Social Sciences) and AMOS(Analysis of Moment Structures) tool will be utilized for Data Analysis

Techniques

SEM Analysis

Researchers might utilize statistical tools like structural equation modeling (SEM) analysis to look at complicated interactions between several factors all at once. By combining factor analysis with multiple regression, structural equation modeling (SEM) is able to evaluate the direct and indirect impacts of a theoretical model. It is particularly useful to test ideas on correlations between latent (unobserved) and observable variables because it illuminates the structural relationships that underlie data. In behavioral research, the social sciences, as well as other fields where understanding the relationships between several categories is essential, social science methodology, or SEM, is often used. This approach also allows for the assessment of model fit to ensure that the proposed theoretical model appropriately describes the data.

RESULTS

H1: Sustainable finance has a positive impact on foreign direct investment (FDI) inflows in India, the UAE, and Oman.

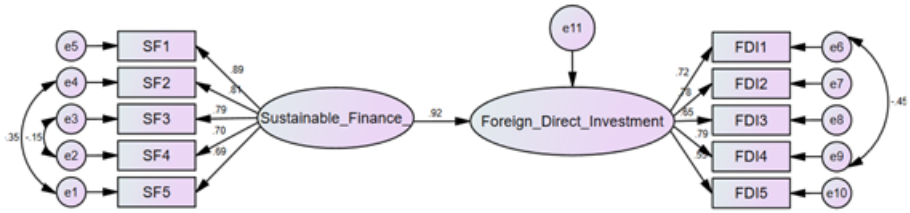


Table 1 Regression Weights

Path			Un Standardized estimates	S.E.	Standardized estimates	C.R.	P
Foreign_Direct_Investment	<---	Sustainable_Finance_	.877	.083	.923	10.588	***
SF5	<---	Sustainable_Finance_	1.000		.692		
SF4	<---	Sustainable_Finance_	1.026	.094	.701	10.884	***
SF3	<---	Sustainable_Finance_	1.141	.094	.791	12.197	***
SF2	<---	Sustainable_Finance_	1.051	.097	.808	10.853	***
SF1	<---	Sustainable_Finance_	1.615	.120	.886	13.508	***
FDI1	<---	Foreign_Direct_Investment	1.000		.723		
FDI2	<---	Foreign_Direct_Investment	1.145	.093	.776	12.296	***
FDI3	<---	Foreign_Direct_Investment	.841	.081	.653	10.402	***
FDI4	<---	Foreign_Direct_Investment	1.246	.118	.790	10.527	***
FDI5	<---	Foreign_Direct_Investment	.845	.097	.545	8.699	***

In this hypothetical structural equation model, two variables—Sustainable Finance and Foreign Direct Investment—are shown to be interdependent in the table. This model uses Sustainable Finance as an independent variable and FDI as a dependent variable. A favorable and statistically significant correlation between Sustainable Finance and Foreign Direct Investment was found in the research (β=.923, P<0.05).

The standardized coefficient of 0.923 indicates a strong relationship between Sustainable Finance and Foreign Direct Investment, as indicated in the path linking these two variables. The statistical significance of the linked connections is shown by the enormous magnitudes of the C.R. values. Because every component is statistically significant (Table 13: p-values > 0.05), the fit indices show that the model is well-fitting. When looking at the overall model fit, seven different fit indices showed that Sustainable Finance and FDI were positively and statistically significantly related.

Table 2 Model fit summary

Variable	Value
Chi-square value(χ^2)	72.415
Degrees of freedom (df)	31
CMIN/DF	2.336
P value	0.000
GFI	0.951
RFI	0.933
NFI	0.954
IFI	0.973
CFI	0.973
RMR	0.035
RMSEA	0.069

The quality of fit was acceptable representation of the sample data (χ^2 = 72.415), NFI (Normed Fit Index) =0.954; IFI (Incremental fit index) = 0.973, GFI (Goodness of Fit) = 0.951, RFI (Relative Fit Index) = 0.933 and CFI (Comparative Fit Index) =0.973 which is much larger than the 0.90. Similarly, RMR(Root Mean Square Residuals)=0.035 and RMSEA (Root mean square error of approximation) = 0.069 values are lower the 0.080 critical value**.** Results indicated a good fit for the model presented including RMSEA of 0.069, RMR of 0.035, GFI of 0.951, and CFI of .973.

H2: Sustainable finance has significant impact on economic growth in India, the UAE, and Oman

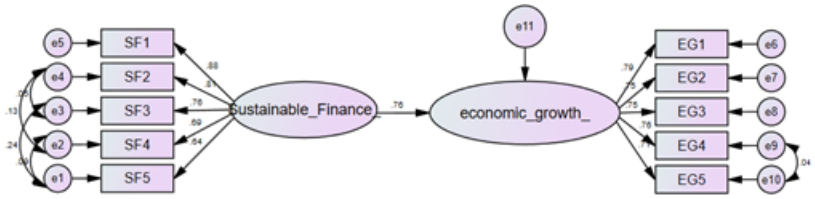


Table 3 Regression Weights

Path			Un Standardized estimates	S.E	Standardized estimates	C.R.	P
economic_growth_	<---	Sustainable_Finance_	.948	.106	.756	8.977	***
SF5	<---	Sustainable_Finance_	1.000		.637		
SF4	<---	Sustainable_Finance_	1.098	.109	.690	10.054	***
SF3	<---	Sustainable_Finance_	1.193	.101	.762	11.824	***
SF2	<---	Sustainable_Finance_	1.139	.106	.808	10.764	***
SF1	<---	Sustainable_Finance_	1.742	.153	.881	11.383	***
EG1	<---	economic_growth_	1.000		.786		
EG2	<---	economic_growth_	.983	.076	.754	12.911	***
EG3	<---	economic_growth_	.981	.077	.747	12.766	***
EG4	<---	economic_growth_	.931	.073	.757	12.777	***
EG5	<---	economic_growth_	.878	.074	.714	11.904	***

In this hypothetical structural equation model, two variables—economic growth and sustainable finance—are shown to be interdependent in a table. Here, sustainable finance serves as the independent variable,

while economic growth serves as the dependent one. The results indicate that Sustainable Finance and Foreign Direct Investment have a positive and statistically significant association (β=.756, P<0.05).

According to the path between these two variables, Sustainable Finance is positively associated with economic development (standardized coefficient = 0.756). The found connections are statistically significant, as shown by the substantial magnitudes of the correlation coefficient values (C.R. values). Table 13, together with the fit indices, shows that the components are statistically significant (p-values > 0.05), suggesting that the model fits the data well. Seven other fit indicators were used to assess the overall model fit, and all of them indicated that sustainable finance does, in fact, contribute to economic development.

Table 4 Model fit summary

Variable	Value
Chi-square value(χ^2)	112.826
Degrees of freedom (df)	29
CMIN/DF	3.891
P value	0.000
GFI	0.925
RFI	0.890
NFI	0.929
IFI	0.946
CFI	0.946
RMR	0.059
RMSEA	0.102

There is strong evidence from the quality of fit metrics that the sample data was adequately verified, as

they are all more than 0.90. The value of $\chi 2$ is 112.826, the corresponding F-indices are 0.929, 0.946, 0.925, RFI, and CFI, respectively. Discoveries include an RMR of 0.059 and an RMSEA of 0.102. All of these numbers are lower than the critical value of 0.080. The provided model was found to match the criteria with metrics such as RMSEA of 0.102, RMR of 0.059, GFI of 0.925, and CFI of.946.

H4: Financial market stability mediates the relationship between sustainable finance and economic growth in India, the UAE, and Oman.

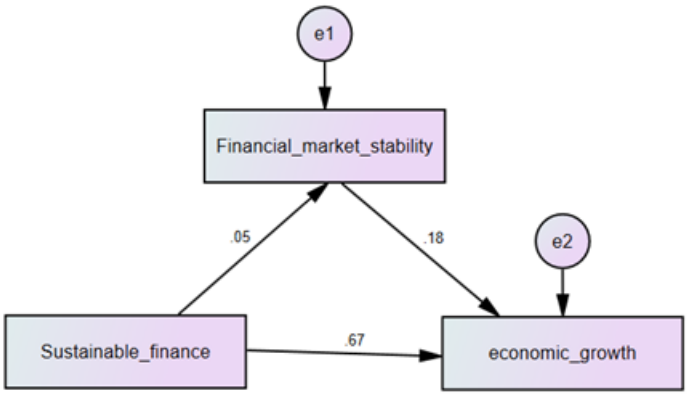


Table 5Regression Weights

Path			Un Standardized estimates	S.E.	Standardized estimates	C.R.	P
Financial_market_stability	<---	Sustainable_finance	.041	.050	.049	.818	.413
economic_growth	<---	Financial_market_stability	.214	.049	.184	4.339	***
economic_growth	<---	Sustainable_finance	.653	.041	.673	15.874	***

This table displays the results of a structural equation modeling research that looked at the relationships between sustainable finance, stable financial markets, and economic growth in three different countries: Oman, the United Arab Emirates, and India. With a critical ratio (C.R.) of 0.818 and a standard error of 0.050, the direct path from sustainable finance to stable financial markets has a coefficient estimate of 0.041 and is not statistically significant ($p = 0.413$). Financial market stability has a considerable influence on economic growth (estimate of 0.214, standard error of 0.049, standardized estimate of 0.184, and very significant C.R. of 4.339, $p < 0.001$). Sustainable financing has a considerable direct influence on economic growth (estimate of 0.653, standard error of 0.041, standardized estimate of 0.673, and C.R. of 15.874; $p < 0.001$). These results support the mediating hypothesis, showing that although sustainable finance does influence economic development directly, stable financial markets also mediate this relationship, making sustainable finance's effect on growth in the economy much more pronounced.

Table 6Standardized Indirect Effects

	Sustainable_finance	Financial_market_stability
Financial_market_stability	.000	.000
economic_growth	.009	.000

The table shows the p-values for the correlations between sustainable finance, financial market stability, and economic development. The association between sustainable finance and financial market stability has a p-value of 0.000, suggesting a strong direct influence. Similarly, the influence of financial market stability on economic development has a p-value of 0.000, indicating its high importance. Furthermore, the association between sustainable finance and economic development is substantial (p-value = 0.009). These findings imply that sustainable financing greatly improves financial market stability, which in turn boosts economic development, emphasizing the critical role of financial market stability in this dynamic.

H4: Economic stability moderates the relationship between sustainable finance and FDI in India, the UAE, and Oman.

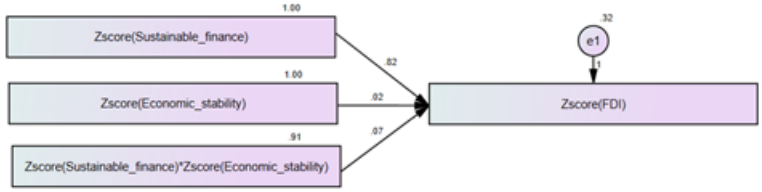


Table 7*:* Regression Weights

Path	Un Standardized estimates	S.E.	Standardized estimates	C.R.	P
ZFDI <--- ZSustainable_finance	.823	.034	.821	24.298	***
ZFDI <--- ZEconomic_stability	.022	.034	.022	.641	.021
ZFDI <--- interaction	.075	.035	.071	2.113	.035

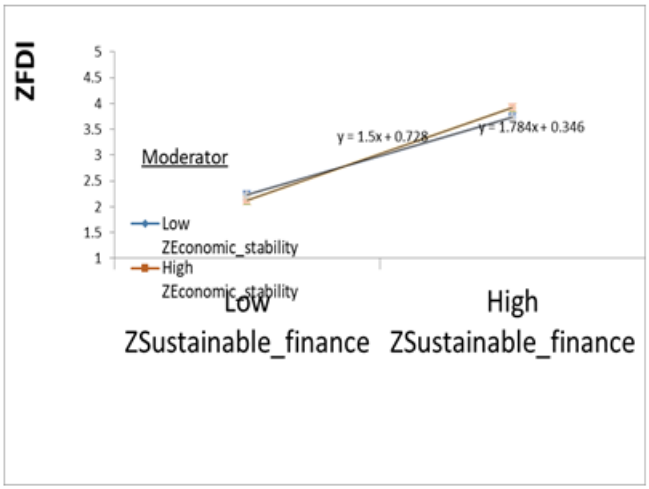
Tabulated in Table 7 is the SEM that examines the connection between Zscore (Sustainablefinance) and Zscore (ZFDI), with Zscore (ZEconomic_stability) serving as a moderator. This exhaustive study allows testing of all relevant paths by accounting for measurement errors and in-model feedback. Zscore(Sustainablefinance) and Zscore(ZFDI) have a positive and statistically significant link (β=0.821, P<0.05), according to the path analysis-based hypothesis.The relationship between Zscore(Sustainability) and Zscore(ZEconomic Stability) is positive and statistically significant (β=.022, P<0.05).

Moderation testing:

While Zscore(ZEconomic_stability) moderates the relationship between ZFDI and sustainable finance, Zscore(Sustainablefinance) is the independent variable in this moderation study. To get the numbers, we use SPSS to make interaction terms out of the standardized scores of the variables.

Table 8Regression Weights

Path	UnStandardizedEstimate	S.E.	Standardized estimates	C.R.	P
ZFDI <--- interaction	.075	.035	.071	2.113	.035



The Zscore(ZEconomic_stability) was evaluated for its moderating effects. The results show that the Zscore(ZFDI) is positively and significantly impacted by the interaction term of Zscore(ZSustainable_finance) and Zscore(ZEconomic_stability) (H= 0.071, P<.05). Our data provide statistical evidence that Zscore(ZEconomic_stability) acts as a moderator.

DISCUSSION

The research concluded that sustainable financing has a substantial impact on foreign direct investment (FDI) and GDP growth in three countries: India, Oman, and the UAE. Projects that meet global environmental, social, and governance (ESG) standards are more likely to attract investors, which is why sustainable financing has a positive impact on FDI. Additionally, sustainable financing promotes economic growth by providing support for long-term and stable development. The stability of the financial market is essential in facilitating the efficacy of sustainable financing in promoting economic development. Nevertheless, the presence of economic stability does not have a large impact on the connection between sustainable finance and foreign direct investment (FDI). This implies that while stability is crucial for overall investment appeal, it does not considerably influence the particular interactions between sustainable finance and FDI inflows. These results emphasize the significance of incorporating sustainable finance into economic plans and guaranteeing the stability of financial markets in order to optimize growth and investment advantages.

CONCLUSION

Sustainable finance positively affects FDI inflow to India, the UAE, and Oman, according to the study's results. With 31 degrees of freedom, a p-value of 0.000, and a chi-square value of 72.415, this finding is supported. With RMSEA = 0.069 and CFI and IFI = 0.973, we have a model that fits the data nicely. Sustainable financing has a substantial effect on GDP growth, according to an analysis of variance (DF) with a chi-square estimate of 112.826 and a p-value of 0.000. An RMSEA of 0.102 and a CFI of 0.946

indicate that the fit indices are rather excellent. The link between sustainable finance and economic development is influenced by financial market stability, as shown by statistically significant associations (p=0.000) with both variables. The link between sustainable finance and FDI is influenced by economic stability. There is a significant interaction path estimate of 0.075 (SE=0.035, C.R.=2.113, p=0.035). These findings highlight the positive effects of sustainable financing on FDI and economic growth. Nonetheless, these consequences will be amplified to a greater extent depending on the stability of financial markets and economic conditions.

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