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Sukuk and Sustainable Development Goals in Selected Arab Countries: Empirical evidence from ARDL approach

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Abstract

This study examines the relationship between sukuk financing and the achievement of Sustainable Development Goals (SDGs) in selected Arab countries: Saudi Arabia, the United Arab Emirates (UAE), Oman, Jordan, and Sudan. Using the Autoregressive Distributed Lag (ARDL) approach with quarterly data from 2013Q4 to 2022Q3, we assess whether Islamic banks' investment in sukuk contributes to SDG progress. The findings reveal a significant positive relationship in Saudi Arabia and the UAE, where robust sukuk markets and national sustainability visions have facilitated alignment with SDG objectives. In contrast, sukuk investment in Oman and Jordan shows potential but remains statistically insignificant, likely due to limited sovereign sukuk issuance and the absence of national sustainability frameworks. Sudan's sukuk market appears disconnected from SDG progress, reflecting structural economic and regulatory challenges. These results highlight the role of well-developed sukuk markets in driving sustainable finance and underscore the need for policy interventions to integrate Islamic financial instruments into national SDG strategies.

Keywords: Sukuk investment, Islamic banking, Sustainable Development Goals, ARDL approach, sustainable finance

JEL Classification:F65, O16,G28, G23, Q56

1. Introduction

In the 70th session of the United Nations (UN) General Assembly held in 2015, the UN member states convened a special summit for the adoption of the post-2015 development agenda. During this summit, the UN introduced the *Sustainable Development Goals*, and concluded with the adoption of the declaration *"Transforming Our World - the 2030 Agenda for Sustainable Development"*- a universal call to action for the advancement of human development, planet, prosperity, and global peace, which is unprecedented (United Nations, 2015a).

In order to catalyze the action of this new range of developmental goals on the international scale, the UN has determined 17 main objectives to be achieved by 2030, namely: no poverty; zero hunger; good health and well-being; quality education; gender equality; clean water and sanitation; affordable and clean energy; decent work and economic growth; industry; innovation and infrastructure; reduced inequality; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on land; peace and justice strong institutions; and partnerships to achieve the goals (United Nations, 2015b).

All the above objectives known as *Sustainable Development Goals* (SDGs) have replaced the *Millennium Development Goals* (MDGs) since 2015, and are larger in their scale and wider in their ambition[1]; This expansion raises the biggest challenge to the universal implementation of the SDGs, and thereby their success, which is: How they could be financed?

[1]In sharp contrast to the MDGs, the SDGs are uniformly universal- covering every country in the world, and no longer applicable only to developing countries- removing the "developing" versus "developed" dichotomy that left the MDGs open to criticism (Melorose et al., 2015). And, while there are similarities regarding the format of the MDGs and the SDGs – each framed the international development agenda for a 15-year period – the SDGs have significantly expanded on the scale and content of the MDGs.

The achievement of SDGs requires indeed a financial investment on an unprecedented scale, using all available sources - private as well as public financing[2]. The least developed countries still need support to build the capacity for SDGs achievement. The current projections of the UN estimate the need for financing their implementation and monitoring to be around US$5 - 7 trillion per year between 2023 and 2030[3](Vorisek & Yu, 2020). Re-allocating just 1% of global capital to the SDGs would be sufficient to fill the gap, but this requires the effective use of available resources and the exploration of innovative sources of funding for the SDGs.

Islamic Finance[4] appears to have the potential to face this challenge. With global assets of US$2.2 trillion in 2022 expected to reach US$3.69 trillion by 2024[5], Islamic Finance represents an important non-traditional and unexploited source of financing for the SDGs[6](OECD, 2020).

Sukuk is particularly one of the most prominent sectors of the Islamic finance industry and a flagship instrument of the Islamic capital market (Aassouli et al., 2018; Ahmed & Mohieldin, 2019; Araminta et al., 2022; Boukhatem, 2022). Since the 2008 financial crisis, having positioned itself as the second-largest asset class after Islamic banking with 19% in 2022, the global *sukuk* market is expected to continue to grow considerably (Boukhatem, 2022; Chapra, 2011;

[2] World Bank & International Monetary Fund Development Committee Discussion Note, From Billions to Trillions: Transforming Development Finance Post-2015 Financing for Development: Multilateral Development Finance, retrieved 23 April 2023.

[3] Before the COVID-19 pandemic, a recent costing exercise by the World Bank estimates many governments were facing a US$1.5 - 2.7 trillion annual financing gap for achieving SDGs. The pandemic exacerbated this financing gap, especially for developing countries. According to the OECD's latest estimate, the annual SDG financing gap in developing countries increased to US$4 trillion (UNCTAD, World Investment Report 2022, (https://unctad.org/publication/world-investment-report-2022), retrieved 23 April 2023).

[4] Islamic banking and financial institutions emerged during the mid of 1970s as 'commercial banks' to fulfill the religiously constructed financial needs of individual Muslims. They are considered value-oriented financial institutions shaped by the principles, morals, and ethical norms of Islam.

[5]Standard &Poor's Global Ratings, Islamic Finance Outlook, 2022 edition. spglobal.com/ratings/en/research/pdf-articles/islamic-finance-outlook-2022-28102022v1.pdf)

[6] World Bank and Islamic Development Bank Group, 2017, Global Report on Islamic Finance: Islamic Finance: A Catalyst for Shared Prosperity, Washington, DC: World Bank.

Hasan & Dridi, 2011; IMF Research, 2010; Nurdianawati Irwani Abdullah & Asyraf Wajdi Dusuki, 2004).

The *sukuk* market continued a steady upward growth trajectory in 2021 despite the emergence of fast-spreading variants of COVID-19. *Sukuk* outstanding reached US$ 765.3 billion in 2022, representing a year-on-year growth of 7.6%[7]. The overall issuances by end 2022 also maintained momentum, reaching US$ 155.8 billion[8].

The majority of *sukuk* issuers are in the Middle East particularly within the Gulf Cooperation Council (GCC) region. According to the Arab Monetary Fund (AMF) *sukuk* issuance by Arab countries related to sustainable activities, whether publicly or privately offered, amounted to approximately $5.5 billion in 2022. Total GCC green and sustainable bond and *sukuk* issuances reached $8.5 billion in 2022 compared to $605 million in 2021. *Sukuk* made up 23% of total bond proceeds raised in the region during Q1 of 2023, amounting to $6.3 billion, a 57% increase year-on-year and a three-year high[9].

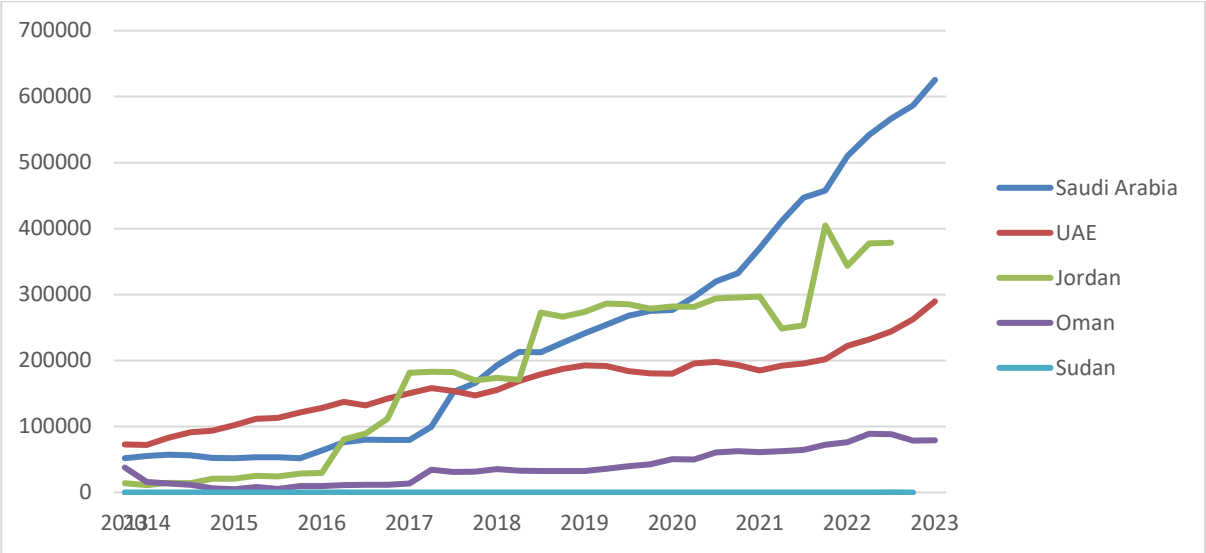
A sizeable number of *sukuk* was issued in January and February 2023, including that by Dubai Islamic Bank, First Abu Dhabi Bank, and Emirates Islamic bank, with the issuance pipeline further building up. Particularly, UAE and Saudi Arabia are aiming to be the main drivers of change within the Arab region.

Figure 1: The trend of Islamic banks' Sukuk Investment in the Selected Countries (USD Million)

[7] Data from Global Sukuk Outlook Dashboard: 2023, Fitch Ratings

[8] Standard & Poor's Global Ratings, Islamic Finance Outlook, 2022 edition (spglobal.com/ratings/en/research/pdf-articles/islamic-finance-outlook-2022-28102022v1.pdf)

[9] Data from Bloomberg Capital Markets League Tables FY 2022



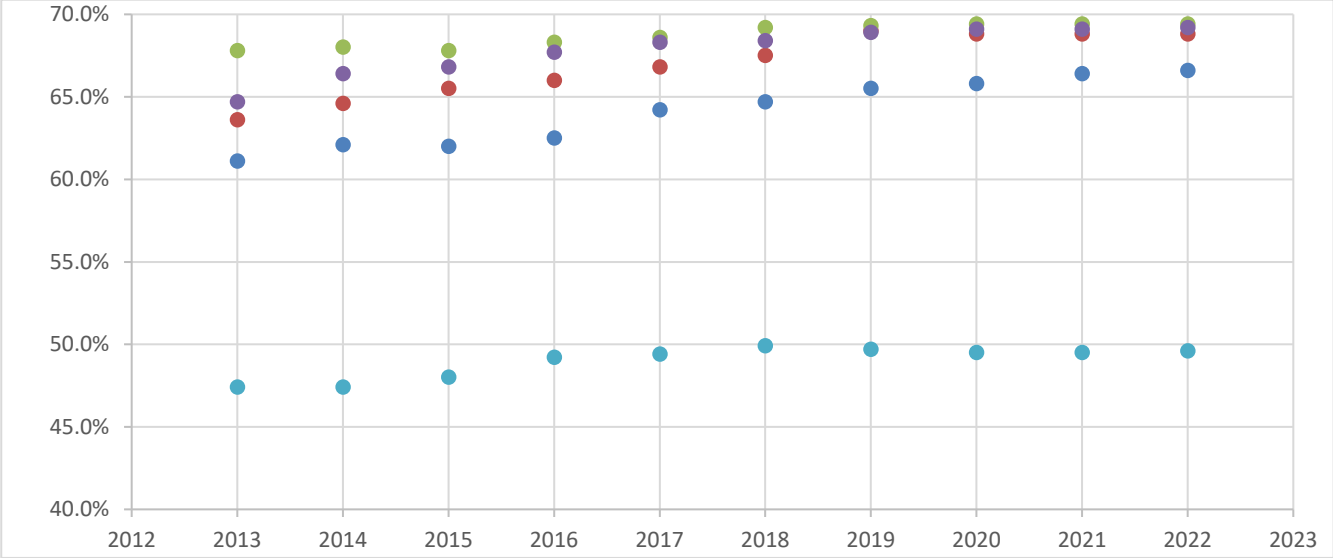
Source: The authors based on the IFSB database

As part of the Saudi vision 2030, Saudi Arabia is the leading issuer within the region, accounting for more than half of the total volume, with the UAE accounting for the remaining issue volume. In 2021, new *sukuk* issuances were US$ 93 billion, with strong issuances from the GCC countries, including the UAE, on both the sovereign and corporate sides. In March 2023, the Saudi-based Islamic Development Bank's was the largest MENA *sukuk* issuer raising US$ 2 billion with its first public *sukuk* issuance of the year. In October 2022, Saudi Arabia's sovereign wealth fund, the Public Investment Fund, listed its debut US$3 billion green bond on the London Stock Exchange. The transaction was more than eight times oversubscribed, with orders exceeding US$24 billion. The listed value of *sukuk* in Dubai recently reached US$77.56 billion, maintaining the UAE's status as one of the largest centers for *sukuk* listings globally.

As we entered the decade of action, many Arab countries have integrated the *2030 agenda* of SDGs into their national plans. The selected countries in this paper, namely: Saudi Arabia, United Arab Emirates (UAE), Jordan, Oman, and Sudan are showing engagement in the Islamic capital market. An international

score called SDG index[10], used to measure the level of SDGs achievement by country, shows that those countries reached a satisfactory score ranging from 66% to 69% in 2022, except Sudan who scored about 49% (figure 2).

Figure 2: Level of Sustainable Development Goals Achievement in Selected Countries



(Same legend as figure 1)

Source: The authors based on the IFSB database

When observing the value of *sukuk* holdings by Islamic banks in the selected countries from 2013 to 2022, the outstanding growth year-on-year is evidence (figure 1). Indeed, in Saudi Arabia and UAE *sukuk* continued to receive most public attention from corporates, sovereigns, and financial institutions as an alternative to raising and expanding funds, with greater emphasis on environmental, social, and governance (ESG) related issuances. The issuances and the investments in both Saudi Arabia and UAE are aimed to support their liquidity management or, in some cases, investment requirements (IIFM, 2022).

[10]Countries are ranked by their overall score. This score measures the total progress towards achieving all 17 SDGs. It is presented by a yearly percentage of SDG achievement attributed to each country. A score of 100 indicates that all SDGs have been achieved, (https://dashboards.sdgindex.org/rankings).

However, although Saudi Arabia and UAE are the leading issuers, we notice that Oman outperformed them in terms of investment in *sukuk* and has placed itself as an outstanding *sukuk* holder with US$ 597.3 Million in the end of 2022. Sudan follows them US$ 50.5 Million, and Jordan comes at the bottom ladder with US$ 0.53 Million. It is worth to mention that *sukuk* issued in both Oman and Jordan are issued by their respective governments. Then, Islamic Banks in these countries made the choice to invest in sovereign *sukuk* without making any *sukuk* issuance during our study period.

A recent study of Le et al., (2022) may furnish an explanation to this investment choice. This study argues that *sukuk* investments generate higher returns for Islamic Banks. The major reason for Islamic Banks preference for *sukuk* investing is that the overall cost of issuance is a concern for Islamic Banks. Also, risks of *sukuk* instruments are relatively low when they are generally issued by governments or trusted enterprises to fund their projects. In the same study, the findings indicate that as *sukuk* investments have shown greater stability, especially during the COVID-19 pandemic, they are considered as an essential tool in income diversification by Islamic Banks. For these very reasons, *sukuk* are gaining much attention from Islamic Banks who in the case of Oman and Jordan orientate their strategy toward benefitting from investing in *sukuk* market without engaging in issuances.

This implies that a greater level of *sukuk* holdings can improve the profitability of the Islamic banking, suggesting that *sukuk* holdings in the portfolios of the Islamic Banks not only further promote the development of *sukuk* financial markets but also generates higher earnings as many of the *sukuk* issued are considered safe as qualified as Tier 1 (or Tier 2) capital (Smaoui & Ghouma, 2020). Accordingly, given the inherent impactful feature of *sukuk* and their suitability for investing in sustainable developmental projects (Aassouli et al.,

2018; Araminta et al., 2022), we may suggest that the portfolio benefits of *sukuk* investment, makes Islamic banks a great contributor in SDGs achievement.

However, despite this encouraging development of *sukuk*, compared to research on Islamic banking, the empirical research on the relationship between *sukuk*, Islamic banking, is relatively limited and thinly in the literature. On the other hand, the linkages between the Islamic banking sector and sustainable development have not yet been studied. Therefore, studying the correlation between them seems of great interest.

Numerous studies such as Nik Abdullah & Haron (2022), Ali Aribi & Arun (2015), Kamla & Rammal (2013), Sairally (2007) using principally content analysis of the disclosures reports, conclude that Islamic financial institutions do not contribute significantly to environmental and societal goals.

In fact, Prior studies mainly focus on the impact of Sustainability reporting i.e., ESG and CSR on various aspects of bank performance. Most of them, considered thorough analysis of disclosure reports in order to examine the compliance of sustainability reporting (ESG) or *maqasid al-Shari'ah*[11] in the Islamic banking industry (Mohammed et al., 2008; Antonio et al., 2012; Asutay & Harningtyas, 2015; Hudaefi & Noordin, 2019; Rahman & Haron, 2019; Alhammadi et al., 2020).

Contrary to prior studies, we shed light on an important exogenous factor - *Sukuk holdings* that might reflect Islamic Banks' investment orientation. This factor has been largely ignored so far. What makes this factor important is that IBs have much control over it.This paper aims to empirically investigate the contribution of Islamic Banking *sukuk* investments in achieving SDGs.It contributes to the literature in an important way because it examines the

[11]Higher objectives of Islamic values and teachings

capacity of the Islamic Banking sector to influence sustainable development which is, to the best of our knowledge, still unexplored by previous studies.

Our findings shed light on whether the Islamic bank's practices -particularly *sukuk* investment- is aligned with the United Nations SDGs objectives. By doing so, we elucidate if Islamic banks take into consideration the sustainability aspect in their *sukuk* investment strategy.

As for the remainder of this paper, it is organized as follows: after providing the overall articulation of the current context, presenting the aims and objectives in this introduction, a literature review providing a brief illustration on *sukuk* related impact on SDGs to situate this study in context, is provided in Section 2. Section 3 describes the methodological approach. After analyzing the collated data, the empirical results per country are presented in Section 4. Finally, Section 5 provides conclusion whilst explaining the study limitations and recommendations for future research.

2. Related literature

In recent years, research on sustainability practices has expanded globally. However, the banking industry received less attention from the academics since banks are generally not considered the main contributor to sustainability problems. Contrary to this, *sukuk* markets and Islamic finance are under increasing academic attention, with the latter predicted to be more sensitive to sustainability thanks to its founding principles.

Islamic Finance considers the well-being of all stakeholders, broader society, and the environment when making financial decisions[12](Al-Mubarak & Osmani, 2010a; Chapra, 2011; El-Mesawi, 2006; Vejzagic & Smolo, 2011) which is the

[12]These principles are shared across many of the world's major faith traditions, with a particular alignment amongst the Abrahamic faiths such as humankind benefit, environmental protection, and mutual aid, The Edinburgh Finance Declaration, October 2018, Global Ethical Finance Initiative (https://www.globalethicalfinance.org/our-work/faith-in-finance/edinburgh-finance-declaration/),retrieved 23 April 2023.

foundation of *maqasid al-shari'ah* – a key guiding principle for Islamic Finance transactions. According to Ibn Ashur (2006), *Maqasid al-shari'ah* promotes the overall public interests *(maslahah)*, well-being and virtue of human being so that the social order of the community may be preserved and progress healthily. Also, Amin et al. (2013) widened al-Ghazali's vision of *maqasid* to include education and justice. He articulates that Islam's focus is on the development and education of the individual in order to build a prosper society. Additionally, he claims justice as a noble objective of Islam and expands it to include judicial justice, social justice, and economic justice, notably safeguarding wealth (Akram Laldin & Furqani, 2013; Al-Mubarak & Osmani, 2010b; Asutay & Harningtyas, 2015; Bedoui & Mansour, 2015; Laldin & Furqani, 2012, 2013; Mohammad & Shahwan, 2013; Vejzagic & Smolo, 2011).

Actually, safeguarding wealth is associated with wealth protection from harm (wealth preservation), development, fair wealth circulation, and equitable distribution (Lahsasna & Hassan, 2011) (see figure 3). Hence, the preservation of wealth plays a crucial role in the realization of the other *maqasid al-shari'ah* and in achieving human well-being (Dusuki & Bouheraoua, 2011).

In this regard, a various literature has argued that *sukuk* serve noble and honorable objectives congruent with Islamic principles. Commonly referred to as an Islamic bond, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) defines *sukuk*[13] as the following: "certificates of equal value representing undivided shares in ownership of tangible asset, usufructs and services, assets of particular projects of special investment activity". Then, *sukuk* is an Islamic financial certificate that provides investors

[13]*Sukuk* can be structured using single or hybrid Islamic contracts, such as *wakalah* (agency), *musharakah* and *mudarabah* (partnership), and *ijarah* (leasing) (IIFM 2018).

with opportunities and income from owning an asset. This asset-backing requirement facilitates the link to the real economy, widening the scope of sectors that can be financed to include projects that target climate change, refugees, women's empowerment, small farmers, education, access to clean energy, and so forth (Aassouli et al., 2018; Araminta et al., 2022).

Concurrently, the growing markets of *sukuk* in the Arab world has recently involved an increasing interest on *sukuk* thanks to their role in maintaining financial stability (Ledhem, 2022), capacity of innovation (Bull et al., 2019; Firmansyah & Anwar, 2019), the asset-backing requirement facilitating the link to the real economy, widening the scope of sectors that can be financed to include projects that target climate change, refugees, women's empowerment, small farmers, education, access to clean energy, and so forth (Aassouli et al., 2018; Araminta et al., 2022). In the Arab region, growth of *sukuk* markets has been largely driven by increased issuance of *sukuk* for both financing governments' fiscal deficits and financing Infrastructure.

Many Arab states in particular made great progress towards achieving sustainable development over the past few years, aligning investment policies and practices in favor of those achieving social development while promoting environment protection (Aassouli et al., 2018; Ahmad & Mahadi, 2019; Melorose et al., 2015; Vorisek & Yu, 2020). New forms of *sukuk* such as green *sukuk* and socially responsible *sukuk* were developed in line with these values, whilst *sukuk* for SMEs financing has also gained popularity in recent years.

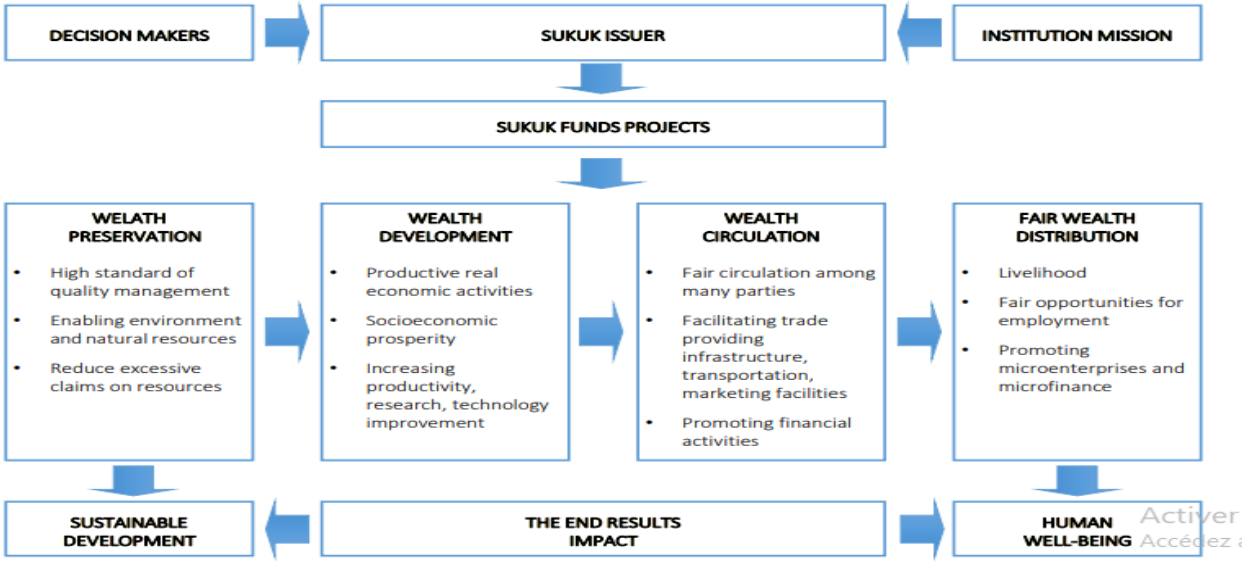
For example, Riyad Bank issued the world's first sustainability linked Additional Tier 1 sukuk in February 2022 which enables the bank to derive over 90% of its revenue from eligible ESG categories specified in the bank's Sustainable Finance Framework.

In November 2022, Dubai Islamic Bank, the UAE's biggest Sharia-compliant lender by assets, raised US$750 million through the sale of its debut sustainable *sukuk*. Last January, Abu Dhabi National Energy Company, together with Emirates Water and Electricity Company, raised US$700.8 million through its first green bond as it diversifies funding sources to include sustainable financing for projects.

Regional momentum on how to bridge *sukuk* and SDGs continued in the *COP 26* held in Egypt and is expected to continue at the upcoming UN Climate Change Conferences, e.g., *COP28* to be held in Dubai with Green and sustainability *sukuk* as a key theme.

According to the ICD 8th Annual Development Effectiveness Report, *sukuk* can support wealth circulation and development, including the fair distribution of funds to individuals (Elian, 2015). Actually, *sukuk* offer a suitable instrument for large-scale Islamic financing for issuers, including governments, private sector corporates, small-medium enterprises (SMEs). *Sukuk* can support policy programs and partnership funding for developmental projects such as building bridges, hospitals, and airports, which orientates financial markets to financing the real economy (Yahuza, 2022). These megaprojects lead to infrastructure amelioration which attracts new investments and thus the creation of employment opportunities which reduces poverty and improve the standard of living. As illustrated by *figure 3,* this gradually improves healthcare conditions, education levels, and the overall life quality, then sustainable development. Furthermore, it assists in the circulation and fair wealth distribution amongst the overall society to achieve human well-being (Rahman et al., 2020).

Figure 3: Sukuk's contribution to sustainable development via maqasid al-shari'ah



Source: Al Madani et al. (2020)

Thus, as attempted by the approach of Islamic Moral Economy (IME), which reflects *maqasid al-shari'ah*, financial and religious dimensions together construct the nature of Islamic Banking with the objective of producing an ethical financial system, that strongly overlaps with many of the aims and objectives of the SDGs yet goes further by offering financial instruments used to fund the activities associated with the 17 goals[14]. An analysis of the United Nations' SDGs and *shari'ah* principles, conducted by Williams and Zinkin (2010) found that the UN Global Compact 10 principles strongly overlap with *maqasid al-shari'ah* tenets, yet go further by covering financial instruments used to fund the activities associated with the 17 aforesaid goals.

In terms of the theoretical and empirical literature, there is a limited amount of research on the nexus between *sukuk* and SDGs achievement, particularly in the Arab region.

[14]This is an adaptation of an original work by The World Bank and IDBG. Views and opinions expressed in the adaptation are the sole responsibility of the authors of the adaptation and are not endorsed by The World Bank and IDBG.

Regarding the achievement of *maqasid al-shari'ah* by Islamic banking, a particular study of Asutay (2012) provided an evaluation framework named *maqasid al-shari'ahindex*, the annual reports of the 13 sampled banks for the 2008-2012 period have been subject to detailed content analysis to evaluate the ethical, environmental and social performance of Islamic banks according to *maqasid al-Shari'ah* upon the realization of Islamic Moral Economy aspirations. The empirical evidence indicates that there is lack of achievement in *maqasid al-Shari'ah* performance in Islamic Banks. Nevertheless, the overall industry concentrates mainly on self, faith and rights and stakeholding rather than wealth orientation.

Al Madani & al. (2020) examined the compliance of Islamic Development Bank (IsDB) Sukuk with *maqasid al-shari'ah* (objectives of Islamic law) in relation to human development and well-being. An empirical case study based on elite semi-structured interviews, content analysis from *sukuk's* Principle Terms and Conditions, and IDB's annual reports to explain the structures and features of the *sukuk*. The findings indicate that the Medium-Term Note (MTN) *sukuk* program positively serves the elements of *hifth al-mal* (safeguarding wealth). This implies that the investments made by *sukuk* would benefit everyone, including individuals, institutions, societies, and the whole country, to achieve human well-being and sustainable development.

Moreover, Alandejani (2022) investigates the impact of issuing *sukuk* on the issuing banks' efficiency, in selected GCC countries. The findings support the hypothesis that issuing *sukuk* reduces costs and increases bank efficiency, thereby increasing financial leverage and liquidity. These findings support the hypothesis that Islamic banks when investing in *sukuk*, may be more preoccupied by investments increasing their efficiency rather than being motivated by making a sustainable investment.

More recently, Nik Abdullah & Haron (2022) study uses a small sample of 12 listed Islamic banks from four MENA countries: Saudi Arabia, UAE, Qatar, and Kuwait. The study finds that in 2020, the aggregate ESG score indicates poor and satisfactory relative ESG performance. Based on the analysis related to Islamic banks in this paper, it is assumed that they lack sufficient investment in ESG-friendly activities, which is evident in their overall and sub-dimensions ESG scores.

In general, most of the previous studies tend to measure the contribution of Islamic banks to social responsibility by paying more attention to other sustainability frameworks such as ESG or CSR and using disclosure reports. However, there is a lack of papers evaluating Islamic banks' *sukuk* investment strategy and orientation. This study, therefore, tries to fill up the gap by examining the linkage between *sukuk* holdings by Islamic Banks' and SDGs achievement index in the selected countries namely: Saudi Arabia, UAE, Oman, Jordan, and Sudan.

3. Data and Methodology

Data definition and measure

This study employs quarterly data on *sukuk* holdings by Islamic Banks over the period 2013Q4-2022Q3. As Islamic Banks began to release *sukuk* data to the IFSB only in the last quarter of 2013, the beginning of the sample period is restricted by the availability of *sukuk* data for the selected countries on the IFSB database. The chosen countries were selected for two main reasons: Firstly, for their representativeness for Arab counties as Saudi Arabia, UAE, and Oman belong to the GCC region, however, Jordan and Sudan are located outside. Secondly, because their data was available during the studied period.

Besides, we consider data on the Sustainable Development Goals (SDG index score), basically considered as a measure of how far a country has progressed toward achieving all 17 SDGs.

The data on SDGs achievement scores for the selected countries was obtained from the Sustainable Development Report 2022 database, made available on request from the (sdgindex.org) website.

Table 1 summarizes the variables' definitions and their statistical sources as well as their acronyms.

Table 1: Variables and data sources

	Variable	Acronym	Description	Source
Sukuk Investment	Sukuk holdings	SUK	Value of Sukuk held by Islamic Banks	IFSB Database
Sustainable Development Goals	SDG index score	SDG	Percentage of SDGs achievement	Sustainable Development Report Database (2022)

Source: the author

Model specification

To investigate the effect of sukuk financing on the SDGs, the empirical model is presented as follows:

$$SDG_t = \alpha_0 + \alpha_1 SUK_t + \varepsilon_t \quad (1)$$

Where SDG and SUK are explained previously in table 1. ε_t denotes the error term. α_0 represents the intercept, and α_1 the coefficient of the independent variable.

Empirical methodology

The objective of this study consists at examining the short- and long-run impacts of sukuk financing in realising SDGs using ARDL models firstly developed by Pesaran et al. (1996) and then extended by Pesaran et al. (2001).

The ARDL approach is applicable in different contexts, thereby offering more merits over conventional cointegration tests. It is suitable with small size samples and permits a combination of different stationary variables (I(0) and I(1)). Moreover, the endogeneity issue is less severe with uncorrelated residuals (Baharumshah et al., 2009).

Testing for Cointegration (Bound Test)

After determining the optimal lag length for each model, a bound test will be conducted in order to show whether there is a cointegration relationship among variables using the F-statistics in the conditional, unrestricted ARDL model demonstrated in the following system:

$$\begin{cases} H_0: \theta_1 = \theta_2 = 0 \\ H_1: \theta_1 \neq 0, \theta_2 \neq 0 \end{cases}$$

Conclusions about the existence of cointegration are made using the two critical bounds, the upper and lower bounds. When the F-statistic is greater than the upper bound of the critical value I(1), there exist a long-run cointegration relationship and when it falls below the critical value of the lower bound I(0), no

cointegration is presumed. Finally, the results are inconclusive if the computed F-statistic falls within the lower and upper bounds (Narayan, 2004).

Long- and short-run dynamics

To investigate long- and short-run effects of sukuk financing on SDGs, the $ARDL(m_1, m_2)$ model is specified as follows:

$$SDG_t = \beta_0 + \sum_{i=1}^{m_1} \beta_1 \, SDG_{t-i} + \sum_{i=0}^{m_2} \beta_2 \, \Delta SUK_{t-i} + u_t \qquad (2)$$

where u_t the error terms that is white noise. β_1, β_2 are coefficients describing long-run relationships between variables. (m_1, m_2)denote the lag orders for each variable in the model.

One can then derive short-run coefficients using the Error Correction Model as following:

$$\Delta SDG_t = \alpha_0 + \sum_{i=1}^{p-1} \alpha_1 \, \Delta SDG_{t-i} + \sum_{i=0}^{p-1} \alpha_2 \, \Delta SUK_{t-i} + \mu ECT_{t-1} + w_t$$

(3)

α_1 and $\alpha_2$represent the coefficients of the first difference variables.μ is the adjustment coefficient of the error correction term (ECT), and ECT_{t-1} symbolizes the one-period lagged ECT. $p$is the maximum number of lagged lengths.

4. Empirical results

Descriptive statistics and correlation analysis

Table 2 displays the descriptive statistics for the main variables including the number of observations by country, the mean, minimum, maximum, and standard deviation. As for the mean values of the SDGs scores, Jordan and Oman achieved the highest score over the period of 2013-2022 with an average score of 68.42%. They are followed by UAE, Saudi Arabia, and Sudan with respective scores of 67.16%, 64.26%, and 49.07%. The maximum SDG score of 69.4% was achieved by Jordan over the period while the minimum score was recorded by Sudan with the value of 47.4 %.

As regarding the mean of the total *sukuk* investment by Islamic Banks, Oman achieved the highest with a total value of $US 219 768,9 Million, with of US$ 600 993,90 Million as maximum value achieved while the minimum investment amounted US$ 32 793,80 Million.

Next in line are Saudi Arabia, UAE, with close values of US$ 14 587.64 and US$ 12 019,83 million respectively. Then, Jordan with US$362,79 Million and finally Sudan with US$36,33 Million.

Table 2: Descriptive statistics

Variable	Obs.	Mean	Std. dev.	Min	Max
Saudi Arabia					
SUK	36	14 587.64	11 472.59	3 732.50	40 801.43
SDG	36	64.26944	1.79393	61.1	66.6
United Arab Emirates					
SUK	36	12 019,83	3 333,04	5 292,81	17 959,94

SDG	36	67.16667	1.685231	63.6	69
Jordan					
SUK	36	362,79	251,43	22,0	803,80
SDG	36	68.77778	0.6392452	67.8	69.4
Oman					
SUK	36	219 768,9	168 186,82	32 793,80	600 993,90
SDG	36	68.08611	1.1367	64.7	69.2
Sudan					
SUK	36	36,33	21,14	12,34	85,90
SDG	36	49.07222	0.8567749	47.4	49.9

Source: the authors

Unit root test ewaults

Before testing for cointegration, two-unit root tests will be applied, the Augmented Dickey Fuller (ADF) and the Phillips-Perron (PP) to determine the stationarity of variables and their order of integration. Tables 3 illustrates the results of these tests involving three options "none", "intercept", and "intercept and trend". Only statistically significant results are reported here.

As shown in Table 3, the ADF and PP test results consistently record that among the two series SUK variable is stationary at level (I(0)), however the SDG variable is stationary at first difference and is consequently integrated of order one I(1). Given these mixed results of variables order integration, I(0) and I(1),

our study fulfils the preconditions for alying the ARDL model which is more appropriate than the Johansen cointegration model, to investigate the impact of sukuk holdings on achieving SDGs in the 5 selected countries[15].

Table 3: ADF and PP unit root test results

	On levels		**First difference**		
	Intercept and Trend		**Intercept and no Trend**		**Order of integration**
	ADF	**PP**	**ADF**	**PP**	
Saudi Arabia					
SDG	-2.632 (0.269)	-2.686 (0.247)	-4.675 (0.003)	-8.223 (0.000)	I(1)
SUK	-0.466 (0.980)	-0.553 (0.975)	-4.886 (0.002)	-4.888 (0.002)	I(1)
United Arab Emirates					
SDG	-1.996 (0.582)	-2.034 (0.563)	-7.074 (0.000)	-7.236 (0.000)	I(1)
SUK	-2.896 (0.176)	-2.082 (0.537)	-4.260 (0.002)	-4.075 (0.003)	I(1)
Jordan					
SDG	-0.871 (0.947)	-1.496 (0.811)	-1.871* (0.059)	-6.319 (0.000)	I(1)
SUK	-3.260 (0.089)	-3.243 (0.092)	-6.978 (0.000)	-8.595 (0.003)	I(0)
Oman					
SDG	-3.714**	-4.146**	-2.269	-9.547	I(0)

[15]Note that the F-test could lead to spurious results in the presence of I(2) series (Ouattara 2004, Odhiambo 2009).

	(0.008)	(0.002)	(0.024)	(0.000)	
SUK	-4.778*	-4.806	-6.336	-6.198	I(0)
	(0.002)	(0.002)	(0.000)	(0.000)	
Sudan					
SDG	-1.277	-1.040	-5.744	-5.744	I(1)
	(0.877)	(0.924)	(0.000)	(0.000)	
SUK	-4.151*	-4.350*	-7.195**	-8.618	I(0)
	(0.012)	(0.000)	(0.000)	(0.000)	

Note: * intercept and trend. ** intercept without trend (.) are the p-values. The Schwarz information criterion was utilized to select the optimal lag, while the Newey-West Bartlett kernel was utilized to determine the bandwidths for PP.

Lag length selection criteria

A key component of measuring the cointegration between variables is determining the optimal lag length (p) for the ARDL model under different scenarios, for instance, restricted constants, unrestricted constants, restricted and unrestricted trend, or restricted intercept and not trend using unrestricted ARDL model. To identify the optimal lag length, four criteria have been employed which are Akaike's Information Criteria (AIC), Schwartz-Bayesian Criteria (SBC), Hannan-Quinn Criterion (HQC), and the Adjust R-Square Criterion. The lag order of each optimal ARDL (m1 and m2) is obtained based on the (p+1) k+1 formula, where p refers to the maximum number of lags to be utilized, and k indicates the number of regressors in the equation. This,

therefore, assess for obtaining the ideal ARDL model with lag length specification, as reported in Table (4) and confirmed by Figure (1) below.

Table 4: Optimal lag and lag length specification

Lag	LogL	LR	FPE	AIC	SC	HQ
Saudi Arabia						
0	-430.7526	NA	8.42e+08	26.22743	26.31813	26.25795
1	-323.952	194.1829*	16600 28.*	19.99709*	20.26918*	20.08864*
Unites Arab Emirates						
0	-317.1319	NA	27219393	22.79513	22.89029	22.82422
1	-258.9659	103.8679*	569224.2*	18.92613*	19.21160*	19.01340*
Jordan						
0	107.8328	NA	6.78e-06	-6.225458	-6.135672	-6.194839
1	183.0254	137.1159*	1.03e-07*	-10.41326*	-10.14390*	-10.32140*
Oman						

0	-418.366	NA	882000000	26.27287	26.36448	26.30324
1	-338.8752	144.0771*	788166 4.*	21.55470*	21.82952*	21.64580*

Note: * implies the most suitable lag length.

Bounds testing for cointegration

At this stage, the bound test is applied to test whether there is a cointegration relationship between SDGs index score and Islamic banks' *sukuk* investment in the selected countries.

Table 5 presents the results of the bounds test of the ARDL specification. As the F-statistic values reported in Table (5) are exceeding the upper critical bounds value, it can be established that the null hypothesis of no cointegration can be rejected at a significant level of 1% for all models except for the Saudi Arabia and UAE model which found that there is cointegration at a 5% significant level, thereby suggesting the existence of cointegration between *SUK* and SDGs. Hence, we can conclude that the accomplishment of sustainable development goals and Islamic bank financing in the selected countries are integrated into the long run. Henceforth, we estimate the long-run relationship between *sukuk holdings* and SDGs relying on the Akaike Information Criterion (AIC).

As for the case of Sudan, the F-statistic value is lower than the critical value for I(0) regressors, thereby we conclude that we accept the the null hypothesis of

inexistence of cointegration between SDG achievement and sukuk holdings by Sudanese Islamic Banks.

Table 5: Results of the bounds test for cointegration relationship

	F-statistics	Sig. level	I(0)	I(1)
Saudi Arabia	6.317	10%	4.04	4.78
		5%	4.95	5.73
		1%	6.84	6.48
Unites Arab Emirates	4.748	10%	3.02	3.51
		5%	3.62	4.16
		1%	4.94	5.58
Jordan	7.652	10%	3.30	3.79
		5%	4.09	4.66
		1%	6.02	6.76
Oman	10.395	10%	4.22	5.05
		5%	5.29	6.17
		1%	7.87	8.96
Sudan	1.868	10%	4.04	4.78
		5%	4.94	5.73
		1%	6.84	7.84

Estimation of long- and short-run coefficients with the associated error correction term

Table 6: Long-run coefficients

Variable	Coeff.	t – stat	Prob.
Saudi Arabia			
SUK	0.012	3.264	0.001

	Constant	0.272	3.538	0.000
United Arab Emirates				
SUK		0.039	3.758	0.000
	Constant	0.253	2.217	0.033
Jordan				
SUK		0.004	4.948	0.000
	Constant	0.632	5.389	0.000
Oman				
SUK		0.002	0.622	0.000
	Constant	0.585	8.474	0.000
Sudan				
SUK		0.008	1.604	0.118
	Constant	0.049	8.474	0.000

After establishing that there is a cointegration relationship between the SDGs achievement and *sukuk* held by Islamic Banks in the selected countries, except for Sudan, based on the bound's tests in the previous section, then, the following step is to estimate the long-run coefficient and the associated error correction term. The findings of the bounds test for cointegration relationship displayed in Table (6) below, show the existence of long-run co-movement between *sukuk* holdings and Sustainable Development Goals achievement in Saudi Arabia.

The reason may be the emergence of a dynamic *sukuk* primary market supported by the Saudi government. Indeed, in the same year that the UN launched the 2030 Agenda for Sustainable Development, Saudi Arabia launched Vision 2030 with the objective to reduce the Saudi Arabia's dependence on oil, diversify and sustain its economy, and enhance social wellbeing. The plan is in perfect harmony with SDGs and targets changes in several key sectors including

health, education, tourism, infrastructure, renewables, manufacturing, and defense supported by development of the financial sector, which implies integrating the economic, social, and environmental dimensions.

The approach of change brought with it an implementation strategy requiring a large amount of financial resources which Saudi Arabia raises principally via sovereign *sukuk* issuances, with emphasizes on key focal changes:

First, policy coordination and coherence with improved Governance and Management: in fact, Saudi Arabia was able to make use of its capacity to borrow long-term from the capital markets to support the targeted scale of sustainable economic growth. The iBoxx Tadawul SAR Government Sukuk Index is the first of its kind to provide investors with transparent, rules-based exposure to the flourishing sovereign issuance environment in a more dynamic market and one of the strongest fiscal profiles in the Middle East and North Africa region.

Since its inception in June 2019, the total return index of dollar-pegged Saudi Riyal-denominated Government-issued *sukuk* has outperformed the broader market of A-rated unhedged and dollar hedged locally-denominated sovereign *sukuk*.

Also, the launch of the index coincided with a reversal of the Saudi Arabia Monetary Authority's (SAMA) policy trajectory where SAMA aligned with central bank policy across the globe. In 2020, we observed a monetary easing build-up demand in the existing Saudi Government Sukuk issuances.

Second, Saudi Arabia was successful in aligning *sukuk* issuances with SDGs and Vision 2030. Despite being the largest oil-based economy in the world, Saudi Arabia has set its Net Zero target for 2060, aiming to completely eradicate the burning of gas and to raise its share of renewable energy sources to around 50% by 2030. As part of this target, The Saudi Electricity Company (SEC) - the largest electricity utility company in the Middle East & North Africa (MENA) region -

successfully completed a US$1.3 trillion International green *sukuk* issuance –The first sovereign green sukuk for Saudi Arabia and largest in its kind in the Mena region that was oversubscribed mainly by Islamic Banks. Saudi Arabia is currently the only Organisation of Islamic Cooperation (OIC) jurisdiction, and one of just a handful in Asia, where an ESG Tier 1 bond has been issued.

Then, thanks to the existence of a vibrant primary market oriented towards sustainability and driven by a national vision, Islamic Banks in Saudi Arabia are progressively implementing such sustainability criteria through their *sukuk* investment strategy. Therefore, they are well-positioned to maximize social and environmental impact, thereby achieving the SDGs.

Table (6) displays also that Islamic Banks' *sukuk* holdings in UAE contributes positively and significantly to achieving SDGs in the long run.

In fact, the UAE authorities embarked on an ambitious National sustainability strategy which is reflected by: National Green Agenda 2015-2030, National Climate Change Plan 2017-2050, UAE Circular Economy Policy, UAE National Energy Strategy 2021-2031, Corporate Social Responsibility (CSR) disclosure plan.Thanks to its national strategy, The UAE provides a legal system and a judiciary that are familiar with the principles of *Shari'ah* which makes ita popular destination for listing of *sukuk*. In the UAE, in December 2018, the Securities and Commodities Authority (SCA) launched its Master Plan for Sustainable Capital Markets, which incorporates recommendations of the United Nations Sustainable Stock Exchanges Initiative and is in line with recommendations of the International Organization of Securities Commissions (IOSCO). The UAE[16] was the first GCC country to join the "*Race to Zero*", committing to Net Zero by 2050 with an estimated US$165 billion investment in clean energy. in 2017, Abu Dhabi First Bank made the 1st green sukuk issuance

in the MENA region with US$587 billion used to finance projects in renewable energy, climate change adaptation in 2020, the bank participated in the abovementioned US$1.3 trillion green sukuk issuance by the SEC.

Furthermore, in 2021, the UAE Ministry of Climate Change and Environment published the *UAE Sustainable Finance Framework (2021-2031)* - a set of recommendations including incentivising sustainable finance products and initiatives, and prioritising improvement in the supply and demand of sustainable finance products and green investment projects.

In addition, it was found that the Omani Islamic banking *sukuk* investments contribute positively to SDGs implementation. However, despite Oman shows the highest amounts of *sukuk* holdings amongst the studied countries, exceeding largely Saudi Arabia and UAE, these contributions still statistically not significant. It is worth to mention that the totality of omani issuances are sovereign. However, the level of issuances was not enough to satisfy the SGDs requirements, which might cause Islamic Banks to invest in foreign capital markets *sukuk* that do not necessarily focus on economic activities in alignment with SDGs.

Recently, Oman promulgated new sukuk regulation to spur issuances: In 2021, Oman's Capital Market Authority (CMA) –As part of the *Oman's 2040 vision*, issued the draft *Regulation for Bondsandsukuk* which includes the new requirements for Sustainable and Responsible Investment (SRI) bonds and *sukuk* to be taken into consideration for the issuance of sustainable, green, social bonds and *sukuk*, including *waqf sukuk*, and for the first time, blue *sukuk*[17].

[17]E.g. Bank Nizwa has become a signatory of the UN Principles for Responsible Banking and a member of the *UN Environment Programme - Finance Initiative*, aligning its strategies and practices with the UN SDGs and the *Paris Climate Agreement*.

Despite the potential of the 2040 vision to introduce green *sukuk* to the Omani Islamic capital, it is still young to show any results yet.

Also, the findings in Table (6) suggest that Islamic Banks *sukuk* investing was favorable to achieving the SDGs in Jordan, but insignificantly. Just like the case of Oman, Jordan issues only sovereign *sukuk*. However, in the case of absence of a National Sustainability Plan of action, there may have been a lack of funds available for issuing sovereign *sukuk* issuance, and the size of the funds provided compared to the amount needed to achieve the SDGs is very low.

Table (5) also indicates that Islamic Banks sukuk contribution is not helpful in achieving the SDGs in Sudan. We suggest that this may be due to the low issued volume of sukuk caused by the absence of governmental vision for sustainable development.

In general, Islamic banks' activities in Sudan do not support Sudan's recent achievements in SDGs; According to the IFSB, they were instead concentrated on activities that are indicative of banks' performance, including administrative and services activities, wholesale, and retail trade activities.

According to the current study, the outcomes demonstrated in the case of Islamic banks *sukuk* investment practices in Oman, Jordan, and Sudan are similar to those reported by Aribi and Arun (2012), Kamla and Rammal (2013), Mallin, Farag, and Ow-Yong (2014). They argue that Islamic banks are not taking CSR seriously as a major concern. In addition, they have a lack of social and environmental awareness. Instead, they were more concerned with achieving stakeholder satisfaction and adhering to *shariah* law.

Additionally, our results demonstrated in the case of Islamic banks in Saudi Arabia and UAE support the findings Smaoui and Nechi (2017) who argued that the existence of dynamic *sukuk* markets, contribute to the deepening of the financial market of an economy. A well-functioning *sukuk* market allows banks

to invest in *sukuk* aligned with the SDGs, thus fostering the efficient allocation of resources essential for sustainable economic growth.

For instance, in the absence of *sukuk* markets, banks tend to have reduced opportunities for investing in sustainable *sukuk*, and that may lead them to make unsound or suboptimal investments.

Table 7: Short-run coefficients

Variable	Coeff.	t − stat	Prob.
Saudi Arabia ARDL (1,0)			
$SDG(-1)$	0.366	2.597	0.014
SUK	0.012	3.909	0.000
$Constant$	0.272	4.837	0.000
ECM_{t-1}	-0.633	-3.609	0.001
$F-statistic$	473.35		0.000
United Arab Emirates ARDL (1,0)			
$SDG(-1)$	0.760	9.419	0.000
SUK	0.009	1.740	0.091
$Constant$	0.060	3.818	0.000
ECM_{t-1}	-0.239	-3.890	0.000
$F-statistic$	348.20		0.000
Jordan ARDL (1,0)			
$SDG(-1)$	0.781	8.292	0.000
SUK	0.001	1.985	0.055
$Constant$	0.138	2.345	0.025
ECM_{t-1}	-0.218	-3.146	0.003

$F-statistic$	327.95		0.000
Oman ARDL (1,0)			
$SDG(-1)$	0.612	6.865	0.000
SUK	0.003	3.172	0.003
$Constant$	0.226	4.530	0.000
ECM_{t-1}	-0.387	-5.675	0.000
$F-statistic$	251.50		0.000
Sudan ARDL (1,0)			
$SDG(-1)$	0.8950	12.93	0.000
SUK	0.0002	0.513	0.611
$Constant$	0.049	1.588	0.122
ECM_{t-1}	-0.104	-1.963	0.058
$F-statistic$	183.68		0.000

Note: White-Hinkley (HC1) heteroskedasticity consistent standard errors and covariance

The results of short-run estimates (table 7) appear to corroborate those of long-run ones. These results are non-surprising and pint out that Islamic banking *sukuk* investments in Saudi Arabia and UAE are aligned with SDGs in the short run. Also, these results suggest that *sukuk* investments in the case of Oman and Jordan are likely to contribute in achieving SDGs in the short-run.

The coefficient of the error correction term (ECT_{t-1}) is highly significant at 1% level, and carry an inverse sign, thereby reinforcing the existence of a cointegrating relationship among the underlying variables. The error correction coefficient is equal to –0.042 suggesting that on average 4,2% of the deviation

from the long-run equilibrium to the short-run one is adjusted in the following quarter.

Diagnostic tests

Lastly, various diagnostic tests of the selected model are illustrated in Table 6: Breusch-Pagan test for heteroscedasticity, Breusch-Godfrey (serial autocorrelation LM test), Jarque-Bera normality test, and Ramsey RESET test for functional form specification. The results show that the model passes the diagnostic checks, revealing that the residuals are independent, homoscedastic, normally distributed and non-functionally mis-specified.

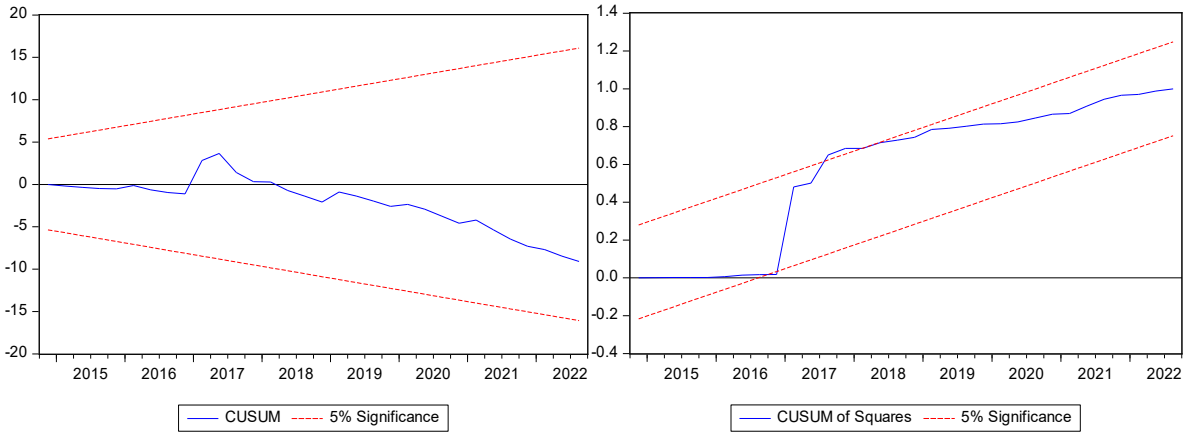
Table 8: Diagnostic tests

Specification	F-statistics	P. Value
Saudi Arabia		
Breusch-Pagan (Heteroscedasticity)	0.754	0.203
Breusch–Godfrey (Serial Correlation LM test)	0.310	0.735
United Arab Emirates		
Breusch-Pagan (Heteroscedasticity)	1.866	0.171
Breusch–Godfrey (Serial Correlation LM test)	0.459	0.474
Jordan		
Breusch-Pagan (Heteroscedasticity)	1.267	0.295
Breusch–Godfrey (Serial Correlation LM test)	0.171	0.842
Oman		
Breusch-Pagan (Heteroscedasticity)	1.267	0.295
Breusch–Godfrey (Serial Correlation LM test)	0.063	0.938
Sudan		

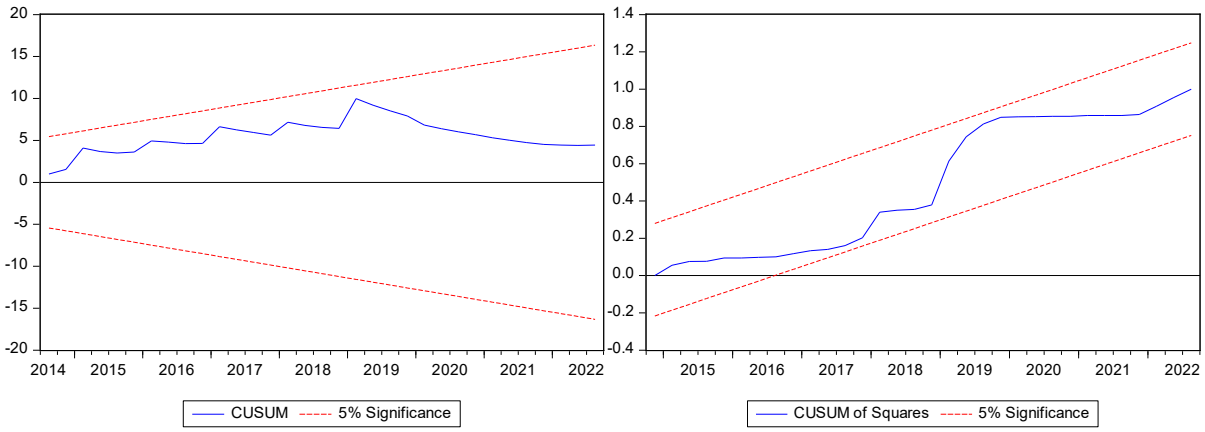
Breusch-Pagan (Heteroscedasticity)	1.589	0.219
Breusch–Godfrey (Serial Correlation LM test)	0.522	0.598

Alternatively, both CUSUM and CUSUM squared plots respectively confirm the stability of the ARDL estimated model at 5% significance level since CUSMUS lines are within the boundaries (Figures A1 and A2 of the appendix).

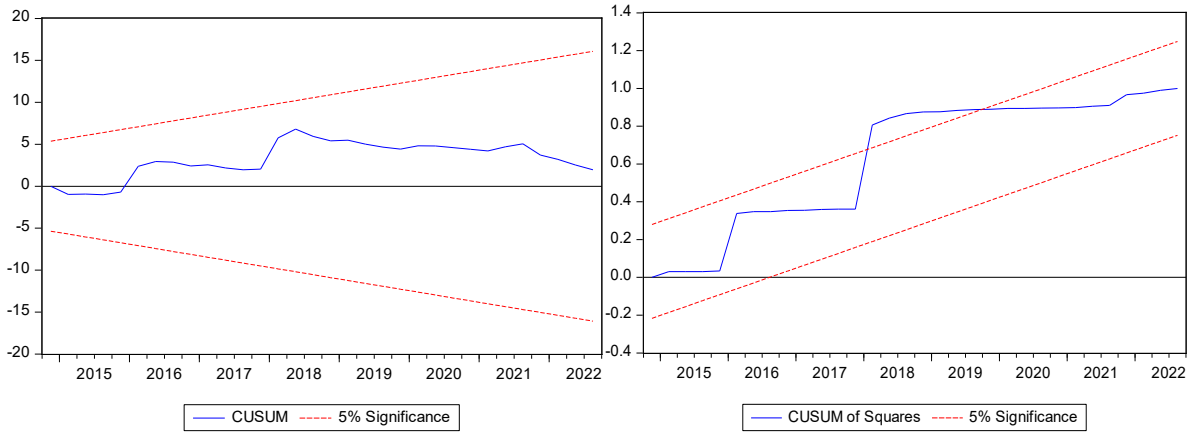
Saudi Arabia



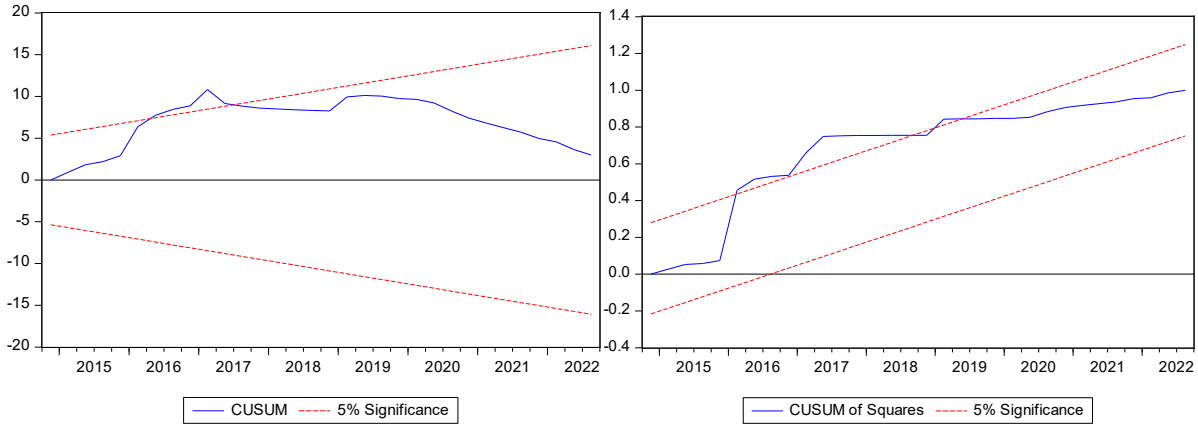
United Emirates Arab

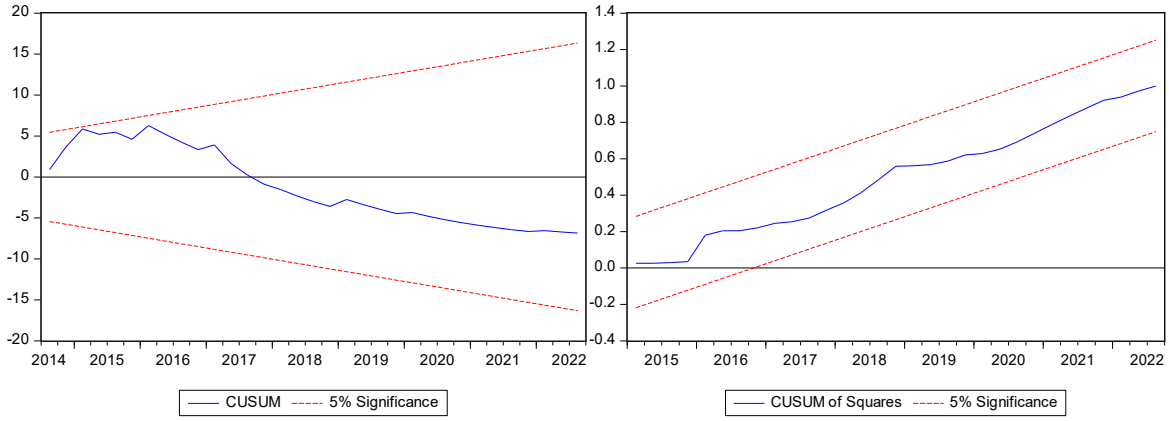


Jordan

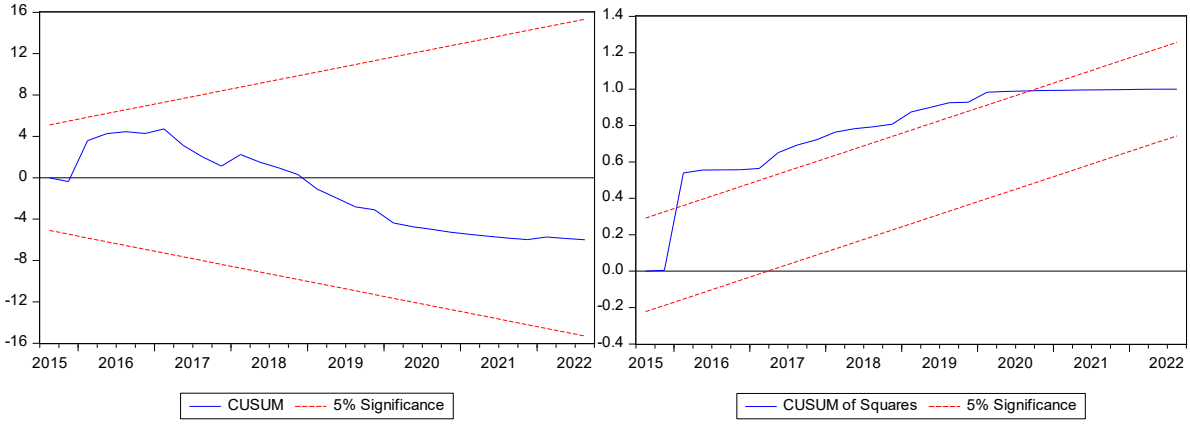

CUSUM
5% Significance
CUSUM of Squares
5% Significance

Oman


CUSUM
5% Significance
CUSUM of Squares
5% Significance


CUSUM
5% Significance
CUSUM of Squares
5% Significance

Sudan



5. Conclusion

As tracking progress toward global sustainability development becomes more critical, it is critical to use the SDGs to evaluate the suitability of Islamic Banks' investments. Our study evaluated the contribution of Islamic banks -via *sukuk* investments- to achieving SDGs for selected countries, including Saudi Arabia, UAE, Oman, Jordan, and Sudan. The ARDL model was applied using quarterly data from 2013 Q4 to 2022 Q3.

Our analysis shows two main findings. Firstly, we show that *sukuk* holdings and SDGs co-movement differs across the selected countries in the Arab region. Indeed, there are different patterns in the selected countries. The results showed that Islamic Banks' sukuk investment choices have a positive effect on the achievement of SDGs in Saudi Arabia and UAE in the long run. This is because the Islamic banks in Saudi Arabia and UAE are increasingly applying such sustainability criteria thanks to the existence of Sustainability National Visions. Those visions supported a well-developed sukuk market that provides banking institutions, especially Islamic banks, with various sukuk issuances as an opportunity to invest in high-quality sukuk in terms of social and environmental welfare dimensions (Smaoui and Ghouma, 2020), which may well position Islamic Banks to maximize social impact and achieve the SDGs.

While in Oman, Jordan, and Sudan, Islamic banks' sukuk investing practices may not have played an important role yet in their implementation of SGDs. It was probably due to how the banks' financing practices tended to focus more on economic activities that may not align with the SDGs, which may be due to the absence of National strategies framework that reanimates the sukuk capital market by sovereign issuances.

The development of long-term visions and National plans considering the sustainability criteria, produces sovereign *sukuk*covering most of the economic activities that align with the SDGs. Islamic Banks can benefit from the *sukuk* market development and invest in *sukuk* that are considered as Tier 1 or Tier 2 focusing on economic activities in alignment with SDGs.

This study encountered some limitations. Since the primary purpose is to reveal the liaison between *sukuk* holdings by Islamic banks and SDGs, the study had a small sample size that due to the unavailability of data on *sukuk* holdings foe the majority of Arab countries on the IFSB database. For further research, it may be possible to extend the scope of the study to include other factors, such as the nature of sukuk: sovereign or corporate, their orientation towards economic sectors supporting the SDGs, in order to provide more comprehensive explanations of this study results.

As economic implication these finding have many important facts. In this work, we contribute to the literature of *sukuk*-SDGs co-movement in many points. Firstly, in our acknowledgement, this is the first study analyzing the interdependence between *sukuk* and SDGs. In addition, considering the results of this study, such policies can be recommended to policymakers, regulators, and actors of of the Islamic banking sector:

I. Regulatory agencies and central banks are invited to develop guidelines aligning Islamic banks' financing practices and investment strategies with SDGs.

II. To connect Islamic banks financing and the SDGs agenda, such issue needs to be considered seriously by Islamic bank managements: (a) raise awareness amongst banks stakeholders that investing and financing with the SDGs economic activities is co-components of *Maqasid al-Shari'ah*; (b) Islamic banks should diversify their portfolio investment strategies to prioritize *sukuk* aligned with SDGs; and (d) identify barriers, challenges, and gaps that prevent SGDs further achievements in the Arab world.

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