

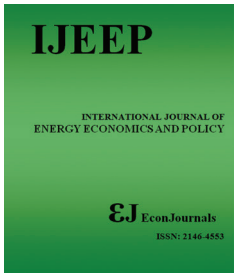
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International Journal of Energy Economics and Policy

ISSN: 2146-4553

available at http: www.econjournals.com

International Journal of Energy Economics and Policy, 2024, 14(5), 259-270.

The Resource Curse in the Gulf Region: Charting a Path for Long-term Economic Sustainability

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Received: 27 October 2023 **Accepted:** 05 July 2024 **DOI:** https://doi.org/10.32479/ijeep.15003

ABSTRACT

The economies of the Gulf states have been reliant on abundant petroleum resources for over a century. The region has experienced substantial economic success in recent decades, attributed to its competitive advantage as the world's oil empire. This success is especially noteworthy given that oil is a major economic resource in the area. However, a new debate has emerged, focusing on the concept of the resource curse resulting from the overdependence of Gulf economies on the petrol dollar. This reliance jeopardizes the long-term and future economic sustainability of the Gulf Cooperation Council (GCC) states. This piece employs a narrative literature review to illustrate how petroleum has shaped the economic landscape, and also the oil market volatility on the economic landscape of the region. The review emphasizes on the necessity for the region to shift its economic and institutional over-dependence away from the petrol dollar to other sustainable alternative economic domains. The review proposes strategic economic directions to guide the region towards a diversified and sustainable economic portfolio, reflecting significant potential for the economy of the region and its states. Sustainable economic development portfolios such as sustainable agriculture, renewable energy, smart cities, real estate development, sports, banking, tourism, and travel were analyzed.

Keywords: Gulf Region, Resource curse, Crude Oil, Economic Sustainability, Economic Development.
JEL Classifications: O

1. INTRODUCTION

Oil is widely recognized as one of the most sought-after resources globally, playing a pivotal role in the economic success of numerous countries worldwide. Its significance for human survival on Earth is immense, with estimates suggesting that oil supplies about 40% of the world's energy. Every aspect of modern life, including travel, production, and the purchase of goods or services, is influenced in some way by one or more forms of oil mechanisms. Consequently, there has been a substantial increase in the demand and competition for oil resources (Rastogi, 2014). Rutledge (2017) argues that oil resources are subject to socio-economic and geopolitical forces. The impact of the socio-economic and geopolitical interests in natural resources on society has been a prominent topic for social scientists and researchers who have focused on the resource curse and conflicts for decades (Vahabi, 2017). Resource curse encapsulates a broad spectrum of socio-economic and geopolitical maladies suffered by a state due to its abundance of a particular natural resource (De Soysa and Neumayer, 2015). The resources in question may range from hydrocarbons (oil and gas) and mineral resources (alluvial diamonds and gold) to agricultural products (such as timber) (Ross, 2015).

Over the years, the Gulf Cooperation Council (GCC) member states have played pivotal roles in the global oil economy. This resource has significantly shaped the socio-economic and geopolitical landscape of the region. The economic stability of the GCC hinges on the delicate balance between internal and external oil interests, aimed at establishing long-term economic growth. External stakeholders actively seek affordable and sustainable oil

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supplies to power their domestic industries. In contrast, the region is focused on generating ample revenue through oil exports to meet the increasing demands of its residents and support essential state development. Recognizing the imminent sustainability challenges that would arise if the current structure remains unchanged, addressing the economic reliance of GCC economies on petroleum becomes crucial (Haouas and Heshmati, 2016).

There is a sluggish interest by the governments of the Gulf Cooperation Council (GCC) to steer economic diversification, despite the region possessing potential alternative economic strengths, especially through the growing service industry. This review examines potential economic activities to encourage a diversified economic landscape in the region. Therefore, this review is highly relevant, considering that the existing scholarly discourse mainly focuses on how the region's diverse hydrocarbon deposits contribute to political tensions (Rutledge, 2017). There is limited knowledge on the impact of the resource curse on the future economic sustainability of the GCC states. Diversifying economic portfolios and shifting towards service-oriented economic activities with promising growth prospects for the region is becoming increasingly inevitable. In general, this review delves into the current oil wealth of each state in the region, the economic challenges affecting the oil business in the region, and the possible economic strategies that could be considered as competent alternatives for the long-term economic sustainability of the region.

2. THE ORIGINS OF CRUDE OIL IN THE GULF REGION

This section provides a glimpse into the discovery of oil, the evolution of GCC oil capacity, and the pivotal role this resource has played in shaping the economic landscape of the region

2.1. The Origin and Economics of Oil

Rastogi (2014) notes that while oil constitutes the primary energy source globally, its origin lacks substantial biological history and scientific knowledge, as it lacks proven linked fossil remnants contributing to its development. Despite challenges in establishing a universally accepted anthropological background for this resource, research developments have identified two contrasting perspectives. Agricola's (1546) study, "De natura eorum quae effluent ex terra," is among the pioneering works that explicitly investigated the origin and components of oil and gas. Agricola theorized that hydrocarbons, akin to bitumen, developed as a result of activities within the Earth's crust. On the other hand, Libavius's text, "Alchemia" (1597), proposed a more concrete theory, suggesting that hydrocarbons, like bitumen, originated from relics of ancient ecosystems such as animals and trees. These two notions sparked a long-running debate on whether petroleum's formation results from abiogenic activities within the Earth's crust or from sediments of ancient organic matter. Although there is overwhelming evidence supporting a biogenic origin, some still advocate abiotic theories (Walters, 2007). Petroleum can be formed from both land and water; hence, petroleum extraction is categorized as either onshore or offshore oil mining infrastructure. The typological setting of a country's petroleum endowment significantly determines the role of the resource curse. There is a more robust effect between offshore oil and conflict compared to onshore petroleum establishments (Lujala, 2010).

2.2. The Oil Capacity of the Gulf Cooperation Council

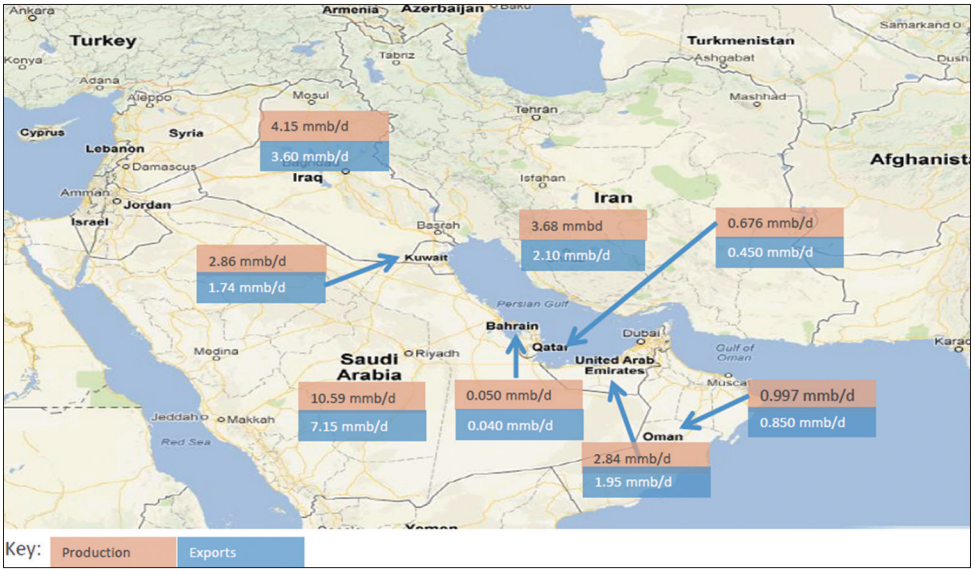
The GCC is composed of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE). It has emerged as a powerful bloc in the global oil and gas markets (Remmer, 2019). To further expand their strategic interests, some GCC states have become significant players in the Organization of the Petroleum Exporting Countries (OPEC). The GCC's supremacy in the oil market is protected within OPEC through Saudi Arabia's de facto leadership of the petroleum cartel, optimizing oil prices, and dominating production and supply globally. Despite the growing volatile landscape in oil production, the region still harbour's one of the world's largest oil reserves (Krane, 2019). The Gulf oil capacity is reflected in Figure 1.

Oil is at the centre of the export trade for many Gulf States. Despite the UAE and Qatar making more progress than others in diversifying their economies, they still remain largely dependent on oil revenue (Albaity and Mustafa, 2018). The Gulf Region is considered one of the world's most important regions, as 50% of the world's oil and gas reserves are found there. Saudi Arabia, with over 16% of the world's reserves, has become a major influence in the global oil and gas markets (Bolanos, 2016). Iran and Iraq produce 13% and 12%, respectively, while other countries own about 14% of the world's reserves. The region's reserves have been globally praised for their high quality and the capability to be easily refined (Bolanos, 2016). The cost of oil and gas production in the region is the lowest in the world. To solidify its market potential, the region ensures that other emerging oil-producing regions find it difficult to compete by establishing constantly low oil prices.

3. THE STRUCTURAL PROCESS IN THE REVIEW

A literature review serves to provide a comprehensive summary of existing research on a specific topic, shedding light on unanswered questions and highlighting the relevance and potential contributions of the current review within the field. This study employs a conceptual narrative approach, as justified by Luft et al. (2022), to delve into the literature surrounding the resource curse and its impact on economic development in the Gulf (Kazi et al., 2014). In a narrative literature review, the researcher identifies a research problem and subsequently locates relevant existing literature with content that directs a new perspective or solution to the identified problem. Unlike reviews with a prescribed structure, a narrative review is conventional, lacking a specific protocol or predetermined strategy for synthesizing the topic of interest (Demiris et al., 2019). Consequently, this approach involves a qualitative presentation of data (Creswell, 2014). The adoption of a qualitative approach allows the study to synthesize existing knowledge and propose solutions to the identified research problem. The search for relevant data for analysis was conceptualized within the research topic, with data sourced from

Figure 1: The Gulf states oil production capacity (Barry 2016)



various channels, including journals, conference papers, policies, and books. Figure 2 illustrates the structural approach employed in analyzing data, following the guidelines outlined by Demiris et al. (2019).

Figure 2: Steps utilized in analysing data

Step 1 Identify Problem	Identify the relevant topic for a narrative review from the existing literature.
Step 2 Conduct search	Identify relevant topics, sentences, or keywords to ensure a transparent selection of documents with the relevant content to the research problem.
Step 3 Review document	Search for relevant documents addressing the research problem.
Step 4 Document results	Synthesize and summarize the content of documents and integrate into the narrative as appropriate.

4. ANALYSES OF DOCUMENTS

This section of the review synthesizes and summarizes document content, aiming to elucidate the impact of crude oil wealth on countries' GDP and government fiscal policies. It comprehensively analyses the challenges faced by GCC countries in oil markets, emphasizing economic threats to the region. Finally, the review proposes potential economic portfolios that could serve as the future backbone for the GCC region, ensuring its economic sustainability.

4.1. Oil Capacity and the Contribution to the GDP at Country Levels

This section illustrates the oil economy at the country level, showcasing how oil has been the economic backbone of the region.

4.1.1. Saudi Arabia

Al-Kibsi (2015) says the oil price boom spanning from 2003 to 2013 significantly contributed to the rising prosperity of Saudi Arabia, propelling it to become the 19th largest economy globally by 2014. The robust GDP growth during this period, reaching historic highs, enabled the Saudi government to allocate USD$450 billion towards key infrastructure sectors such as education, health, and security. Notably, the energy industry alone created over 1.7 million employment opportunities. Al-Kibsi (2015:2) emphasizes that Saudi Arabia's economic growth is heavily reliant on oil exports, a characteristic shared with other GCC countries. Titulaer (2009) supports this observation n, noting that over 80% of Saudi Arabia's exports are oil-based, with major destinations including Japan and the United States of America (USA). In 2022, Saudi Arabia achieved an average daily oil production of 12.14 million barrels, marking an increase from the previous year's 10.95 million barrels. As the world's largest oil producer, Saudi Arabia experienced a notable daily production rise of 2.6 million barrels between 1998 and 2021, peaking at 12.4 million barrels per day in 2016 (Aizarani, 2023). Krane (2019:5) adds that Saudi Arabia maintains a production cost per unit ranging between USD$5 and USD$10/barrel, highlighting its capability to deliver oil when there is demand. With proven oil reserves of 268 billion barrels, sourced from more than 130 known oil wells with an average production lifespan of 60 years, Saudi Arabia holds about 16% of the world's energy resources—a capacity second only to Venezuela (British Petroleum [BP], 2018). Krane (2019:5) also notes a historical shift in the Saudi oil industry—from significant foreign interference to the establishment of the Arabian American Oil Company (ARAMCO) as a joint venture with Standard Oil of California (Chevron) and later transforming into a nationalized state-owned entity, Saudi Aramco. The House of Saud maintains control over all mineral resources within the state's territorial boundaries. Oil policy decisions are exclusively crafted by the royal family through the Supreme Oil Council

(SOC), commanded by the monarch and the Minister of Petroleum and Mineral Resources. The SOC serves as the primary decision-making body for all matters related to Saudi oil wealth (Pierce, 2012). Notably, the oil sector contributes about a third of the country's Gross National Product (GNP), 80% of its government revenue, and approximately 40% of its GDP.

4.1.2. Kuwait

Matabadal (2013:4) notes that the al-Sabah dynasty has been ruling Kuwait since 1899, with the Emir heading the state and other institutions. The Sheikh appoints the government and primary ministerial positions, although it is predominantly comprised of members from the al-Sabah family. This system makes Kuwait the only GCC state with a political system resembling democracy, featuring a legislative system with 50 elected civilian members and 16 appointed members of parliament, all operating under the leadership of a prime minister responsible for establishing laws. The Supreme Petroleum Council (SPC) oversees Kuwait's oil sector and sets oil policy. The SPC, headed by the Prime Minister and deputy under the Sheik's supervision, consists of six ministers and six private sector representatives, each serving a 3-year term. Policies made by the SPC are administered by the Ministry of Petroleum and implemented by the Kuwait Petroleum Corporation (KPC), responsible for managing domestic and foreign oil investments. Kuwait encourages foreign involvement in the oil industry through Enhanced Technical Service Agreements (ETSA) (US Energy Information Administration (US EIA), 2016:2-3).

The International Monetary Fund (IMF) (2019) highlights significant economic and social growth in Kuwait, as government fiscal strength is bolstered through oil revenues. Notably, oil price increases, especially in 2017 and 2018, have significantly improved the country's fiscal and external balances. Al-Ojayan (2016) emphasized that Kuwait's economy is highly dependent on oil, with petroleum accounting for 43% of the total GDP and 70% of export earnings. Despite this, the government has yet to diversify into an entrepreneurial system that would reduce the dependency ratio of economic and social development on the oil industry (Al-Ojayan, 2016). Since 2004, oil exports have contributed 70% of state revenue, constituting about 95% of total exports and significantly contributing to the state expenditure of about USD$18.4 billion annually. Kuwait is ranked as the fifth-largest oil reserve in the world, with a capacity of 104.5 billion, equivalent to 70 years of its current production levels. The country has a production potential of 3.03 million barrels/day (b/d), with plans to increase production to a target of 4 million b/d by 2025. The current oil production comes from over 13 oil fields, with the Great Burgan and Raudhatain oil fields making up the dominant portion of both reserves and production (US EIA, 2016). Oil wealth further extends into the 6,200 square-mile area of the Saudi-Kuwait Partitioned Neutral (PNZ) Zone containing over 5 billion barrels of oil reserves, with a current production capacity of 6 million b/d (Krane, 2019).

4.1.3. Bahrain

Bahrain is an archipelago of 33 islands located in the Arabian Gulf, covering 770 km² of land and inhabited by 1.83 million people (Naumann et al., 2018). The discovery of oil in its Arabian Gulf territories in 1932 set Bahrain on a path toward a petroleum-driven economy (Mills, 2018). Despite being slower than other GCC countries in pursuing the Gulf petroleum bonanza, Bahrain has petroleum reserves of 81.5 billion barrels of oil and 10-20 trillion cubic feet of gas. Tatweer Petroleum's pursuit of projects dedicated to improving Bahrain's petroleum fields' development has led to sector growth through the drilling of about 900 new wells and the implementation of improved oil and gas mining technologies (Remmer, 2019). Bahrain has a production capacity of 200,000 b/d of oil and 2 billion cubic feet of gas per day. The Awali oil field, covering approximately 80% of the main island, produces the largest proportion of Bahrain's oil (Remmer, 2019). Despite the drop in oil's contribution to Bahrain's GDP from 44% in the early 2000s to the current 19% due to the growth of other non-petroleum sectors, oil and gas still contribute about 75% to the government revenue. The oil and gas sectors constitute 17% and 29% of total exports, respectively (Woertz, 2018).

4.1.4. Oman

Oman's strategic location by the Arabian Peninsula, the Arabian Sea, the Gulf of Oman, and the Persian Gulf places the emirate in close proximity to crucial energy corridors worldwide. El-Mostafa and Kanafani (2017:1) emphasized the significant dependence of the economy on oil and gas production. In response to the oil price crunch in 2015 and 2016, the government implemented new regulations on income and value-added tax to diversify its revenue sources. However, the strategy did not yield the expected economic growth. The economy has shown slow but positive recovery due to the increase in global oil and gas prices, with a 2.2% growth by 2018. The oil sector's GDP increased from −3.3% to 3.4% in 2018. As of 2020, the oil and gas industry constituted 26.2% of Oman's GDP, almost 61% of its goods exports, and 84% of government receipts. Oman has an oil capacity of 5.4 billion barrels, ranking as the 22nd biggest oil reserve globally, along with 23 trillion cubic feet of natural gas. It is the largest non-OPEC oil producer in the Arabian Gulf. The oil and gas sector accounted for 26.2% of GDP, represented about 60% of Oman's merchandise exports, and contributed three-quarters of total government revenues in 2020 (US EIA, 2019). The U.S. Geological Survey (2012:3) predicts an increase in reserved capacity due to the potential for undiscovered petroleum resources at the South Oman Salt Basin. Resources in the region are assumed to have a capacity of 370 million barrels of oil, 315 billion cubic feet, and 40 million barrels of natural gas and liquefied natural gas, respectively. Oman has an oil production capacity of 1.02 million b/d with a production cost of USD$15/barrel. The country exports 394 billion cubic feet of natural gas and 967 million barrels of crude oil annually, accounting for about 84% of its total exports and 47% of GDP. Oil exports alone contribute over 70% of total government expenditure (US EIA, 2019).

4.1.5. Qatar

Qatar, located on the North-Eastern coast of the Arabian Peninsula, encompasses a significant portion of its 4,473 square miles, primarily desert terrain. Despite having a relatively small population of around 400,000 citizens and more than 2.1 million emigrants, the country boasts one of the highest GDPs per capita globally (Alfadala and El-Halwagi, 2017). Qatar's economy faced challenges in 2017 following a regional blockade by some GCC

members; however, it proved resilient to repercussions from trade sanctions (Qatar's Economic Outlook, 2018). The Ministry of Energy and Industry and Qatar Petroleum (QP) guide policy implementation and administration of the hydrocarbon sector in Qatar. The GDP grew by 2.6% in 2018, with expectations of further improvement in 2019 due to higher global oil prices and plans to expand oil production after Qatar's exit from OPEC (Arezki et al., 2017). Qatar'\'s petroleum potential is heavily dependent on Liquefied Natural Gas (LNG). Alfadala and El-Halwagi (2017) estimate Qatar's gas and oil reserves at 25.47 trillion cubic feet and 25 million barrels, respectively. The country has an oil production capacity of about 1.3 million b/d with a production cost of USD$15/barrel, ranking 13th and third globally in terms of oil and gas reserves, respectively.

Qatar Northfield, the world's prime non-associated gas reserve, is expected to last for more than 100 years. According to al-Tamimi (2015), Qatar's energy vision prioritizes its LNG sector to become the most sustainable gas producer and exporter globally by 2025. Despite current petroleum prospects, Qatar has relied on oil resources for economic development since the discovery of the Dukhan oil field in 1939. Previously, oil represented about 60% of the Qatari GDP, 85% of all earnings from exports, and 70% of total state revenue (Al-mulali and Sab, 2010:1). Presently, the contribution of oil wealth to the economy has shifted due to the GCC sectoral diversification agenda and Qatar's vision to transition its petroleum production capacity to LNG. However, the share of hydrocarbon contribution to government revenue and GDP was about 49% in 2018, 48% in 2019, and 33% in 2020.

4.1.6. UAE

The UAE is a federation of seven emirates: Abu Dhabi, Ajman, Dubai, Sharjah, Fujairah, Umm al-Quwain, and Ras al-Khaimah. It ranks as the third most successful economy in the Middle East, after Saudi Arabia and Iran. The federation assumes leadership in foreign affairs, defence and security, currency, immigration, foreign direct investment, and trade. The local governments maintain significant sovereignty over principalities (Bosgraaf, 2016). According to the US EIA (2017), each of the seven emirates regulates the oil wealth within its federal borders. However, Abu Dhabi's Supreme Petroleum Council (SPC) acts as a de facto institution advising smaller federations on important trading policies, given Abu Dhabi's dominant role in the political and economic decisions of the country. Other larger federations have established their institutions overseeing oil policies, such as Dubai (Supreme Council of Energy) and Sharjah (National Oil Company).

The UAE's per capita income in 2021 was $44,316, a rise of 17.77% from 2020. The US EIA (2017) states that the UAE is the seventh largest oil producer in the world, with a capacity of about 4 million b/d and a production cost of USD$7/barrel. At current production levels, reserves can last for more than 90 years. Approximately 96% (96 billion bbl) of total reserves are found in the Abu Dhabi emirate, while Dubai accounts for about 2 billion barrels, and 2 billion barrels are dispersed across the Ajman, Fujairah, Ras Al-Khaimah, Sharjah, and Umm Al-Quwain Emirates. Primary production is from Abu Dhabi's Upper Zakum oil field, with a reserve capacity of 68 billion barrels. Haouas and Heshmati (2016) argue that the UAE is the only economy in the Gulf where some economic growth performance has been attributed to diversification efforts. Significant GDP contributions have also been realized from non-oil sectors such as tourism, goods, and services. However, revenues from oil exports have been a fundamental factor in achieving rapid growth and a flourishing economy. The 2015 global oil price crash, from an average of USD$108.3/barrel to USD$39.0/barrel, contracted the GDP by 3%, while government revenue also declined by 21% (Bosgraaf, 2016). Oil trade contributes 20% to the current GDP, 59% of total exports, and 60% of total government revenue.

4.2. Challenges of the Oil Market and the Economic Implications on the Gulf Cooperation Council

This section examines the dynamics of the oil market and delves into the potential implications for countries heavily dependent on oil trading as their primary economic activity.

4.2.1. Conflicts and attacks on oil and economic assets

Mabro et al. (1990) predicted that Saddam Hussein's occupation of Kuwait in 1990, recognized as the first oil war in world history, will result in consistent disorder in the Gulf Region and its neighbouring Middle Eastern countries. The probability of civil war in the GCC has been estimated at 50% annually since 1990 (Ross, 2012). Addressing regional security threats, such as armed conflicts, domestic unrest exacerbated by the Arab Spring, and the military build-up of regional states, is crucial for deescalating tension in the area (Jarzabek, 2016). Escalating tensions between the UAE-led coalition and the US in Yemen, aimed at ensuring political stability and combating the Houthi Islamic extremist group, have added to the complexity in the region (Sharp, 2018). The coalition argued that Houthi control over the port city of Hudaydah would jeopardize the oil commerce, as it was an important oil export route. The Houthi's, on the other hand, accused the coalition of resource snipping, claiming that the island city is rich in petroleum deposits. The continuous attacks by Houthi forces on oil tankers have a significant negative direct impact on the deposits and loans of GCC banks, further weakening the oil market, given the banking system's importance in GCC oil trade. In general, the region continues to face increasing threats from Islamic Jihadists, especially the so-called "Da'ish" group, whose warfare revolves around securing key oil wells in the Middle Eastern region. The ongoing unrest jeopardizes resource sustainability in the region, considering that not all GCC countries' petroleum endowments have an infinite lifespan (Ulrichsen, 2016).

4.2.2. Sanctions and oil embargoes

The oil resource has a longstanding history of encountering sanctions and embargoes. These actions have had an adverse impact on oil-producing countries, significantly slashing their revenue (Van de Graaf, 2013). Sanctions and embargoes play a significant role in shaping the history of oil-producing countries in the Gulf Cooperation Council (GCC) region, serving as impactful tools wielded for political, economic, and security objectives (Stevens, 2012). One notable consequence is the substantial reduction in revenue, as restrictions on oil trade limit the ability of these countries to access global markets and maximize their

oil exports (Dudlák, 2018). Such financial constraints can have cascading effects on national development projects, social programs, and economic sustainability. Selmi and Bouoiyour (2020) highlight the intricate relationship between sanctions and the oil industry, emphasizing how these measures can disrupt the revenue streams of oil-producing nations. The vulnerability of these countries to external pressures is highlighted by their heavy dependence on oil exports as a primary source of income. Sanctions and embargoes constrain the oil trade and diminish revenue (Selmi and Bouoiyour, 2020). As the GCC oil region remains a focal point in global energy dynamics, the effects of sanctions and embargoes resonate not only within the borders of these countries but also reverberate across international relations and energy markets, shaping the broader geopolitical context.

4.2.3. Dutch disease strategy

The Dutch disease reduces competitiveness and the production of non-oil exports, which is detrimental to the regional economy as manufacturing is the source of endogenous growth for a state (Espinoza et al., 2014). Ulrichsen (2016) maintains that previous budget surpluses from oil wealth have now turned towards a deficit since 2014. The satisfaction derived from the rents of natural resources has led to a diminishing share of other sectors in GDP contributions due to neglect. None of the GCC states has successfully improved revenues generated from non-oil sectors in a meaningful way, with possible exceptions being Dubai and Qatar (Kamrava, 2018). Figure 3 presents the GDP contributions of oil and non-oil sectors in the GCC states from 2014 to 2020. It can be observed that the contributions from both sectors have not been stable. Figure 4 illustrates the fluctuating nature of real non-oil GDP (2018-2022), indicating the need for GCC states to diversify their economies by venturing into other viable sectors. This approach could serve to bolster and complement oil proceeds, promoting greater economic stability and sustainability in the region.

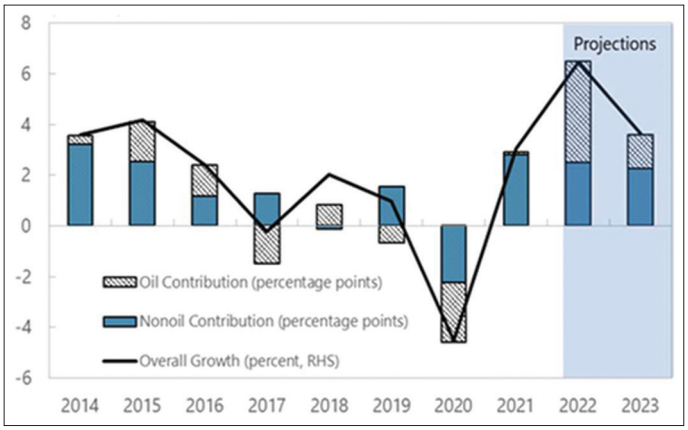
4.2.4. Environmental issues

For decades, the Arabian Gulf has faced a persistent form of pollution through a combination of intentional and accidental oil spills in the marine environment, stemming from anthropogenic activities (Issa and Vempatti, 2018). The environmental impact of this oil curse has been a longstanding issue, often overlooked by the political elite due to its perceived insolubility. Petro-state governments may trade off the consequences of the oil curse for resource rent gains. Issa and Vempatti (2018) point out the historical regional environmental damage caused by Kuwait spill of 460 million gallons of oil. This spill covered over 200 square kilometers of land from Kuwait, Northern Saudi Arabia, and the Kuwait desert, marking one of the worst-recorded ecosystem destruction events in the region. The spill had severe impacts on air quality, terrestrial and marine ecology, as well as public health, with some effects still felt today. During the Kuwait spill, 600 wells caught fire, and 50 leaked oil onto the ground, resulting in the daily burning of 355,000 tons of oil and 35 million cubic meters of gas on average. The CO^2 emissions from the spill were estimated to be about 130-140 million tons, equivalent to 10% of the global anthropogenic burning of recent and fossil fuels, and 0.1% of the total global CO^2 emissions (Lindén et al., 2004:18-19). The causes of oil spills have evolved from inter-state wars (such as the Gulf War era) and civil disturbances to include oil drilling, pipelines and ship leakages, terrorism, and oil tanker spills.

4.2.5. Global economic and oil price volatility

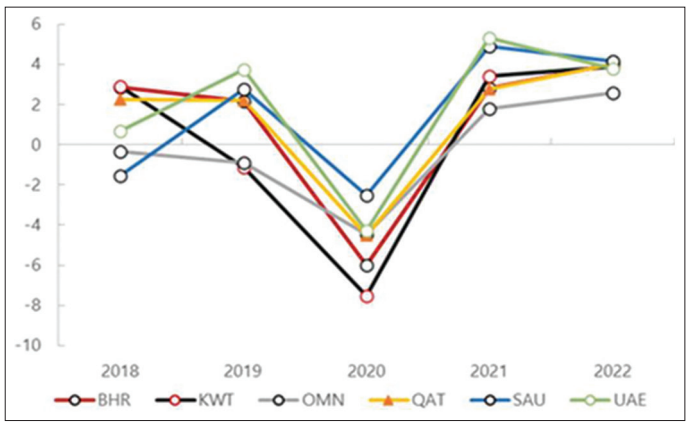
The vulnerability of the GCC to the petro-dollar became evident in the aftermath of the global financial crisis. Most GCC countries faced challenges in repaying loans, leading to the restructuring of debts, with Qatar experiencing this issue particularly severely. Prices in oil-importing countries correlated with events of dispute in oil-exporting states and global economic downturns (Hendrix, 2014:6). Government expenditure typically rises during times of higher oil prices but decreases during any regional or global economic crunch (Jarzabek, 2016). A significant setback is the risk associated with oil price volatility in the global market, inevitably correlated with stress in global financial markets. The decline in oil prices in the last decade, especially from 2014, led to reduced government revenue and economic contraction in most Gulf States (Sommer et al., 2016). This situation prompted structural reforms towards economic diversification in the region. A study by Mohaddes et al. (2022) illustrates that the GCC is vulnerable to economic challenges from its main trading partners. Regression analysis testing the vulnerability of KSA to economic events in China and the USA showed that the country's economy is becoming highly sensitive to economic shocks in these nations. The results also indicate that any geopolitical or trade tensions between these

Figure 3: GCC real GDP growth 2014-2023



Sources: National authorities; IMF staff calculations

Figure 4: GCC Real non-oil GDP Growth 2018-2022



Sources: National authorities; IMF staff calculations

countries will impact KSA's growth elasticity due to oil price volatility. Between 2014 and 2018, when oil prices fell sharply by about 50%, the entire economy of the GCC region averaged a 1.8% decline, compared to a stable 5% growth in previous years. Public debts increased as fiscal balances depreciated.

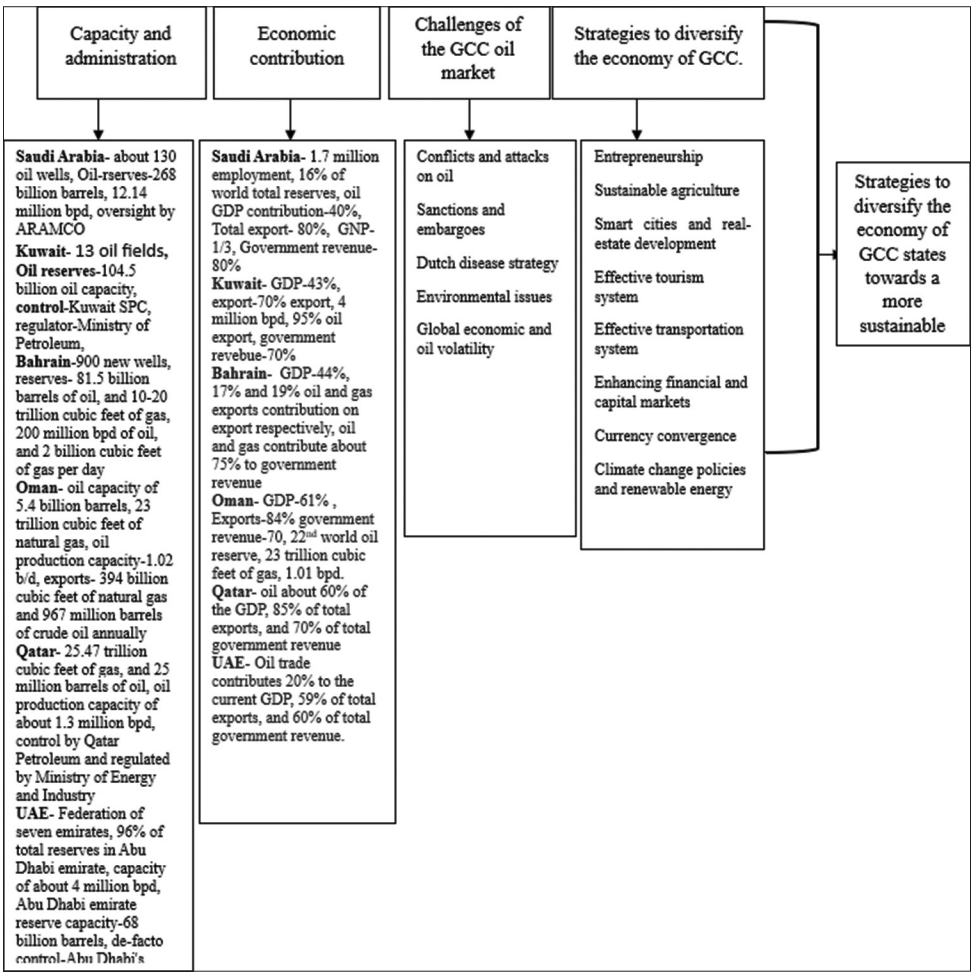
5. STRATEGIES TO DIVERSIFY THE ECONOMY OF GCC STATES TOWARDS A MORE SUSTAINABLE ECONOMY

The GCC states have traditionally relied on oil revenues as the cornerstone of their economies. However, given the volatility of the oil market, the economic implications on oil dependent states and the global emphasis on sustainability, the imperative to reduce dependence on oil revenue and explore alternative income sources has become crucial. It has become essential for the GCC states to reduce their dependence on oil revenue and explore alternative sources of income to build resilient and sustainable economies. In this context, economic sustainability entails the pursuit of economic development strategies that are environmentally responsible, socially inclusive, and economically viable over the long term. The focus is on reducing dependence on finite and environmentally impactful resources, while promoting diversification into sectors that contribute to long-term economic growth. The goal is to contribute to current research on strategies for a resilient economic trajectory that can withstand external shocks, mitigate environmental degradation, and enhance the general well-being of the population in the GCC. This section elaborates on key strategies for economic diversification, emphasizing the transition from oil dependence to non-oil revenue streams. These include sustainable agriculture, smart sustainable cities, real estate development, and tourism. By embracing these strategies, the GCC states can unlock new growth opportunities, enhance their economic resilience, and secure a more sustainable future. Figure 5 presents a flowchart for diversifying the economies of GCC states towards greater sustainability, with further details provided in the subsequent discussion.

5.1. Entrepreneurship

The Gulf region is currently experiencing a significant transformation, marked by a departure from its traditional way of life towards a more ambitious and tech-savvy population, particularly comprised of younger individuals aspiring to make a global economic impact (Ramady, 2012). This paradigm shift presents a unique opportunity for governments to strategically invest in preparing the future generation with the necessary skills and training to thrive in the evolving high-tech service economy that is reshaping the region's economic landscape. To capitalize on this opportunity, governments can redirect their investments towards meeting the evolving needs of the technology industry. This can involve fostering educational initiatives and vocational

Figure 5: Strategies to diversify the economy of GCC states towards a more sustainable economy



training programs that emphasize science, technology, engineering, and mathematics (STEM) education. By doing so, governments can cultivate a skilled workforce capable of contributing to the growing service industry, particularly in the technology sector.

However, a significant obstacle to the industry's growth is the limited supply of local skilled labor, leading to a heavy reliance on expatriate workers (Ramady, 2012). To address this challenge, it is essential to enhance efforts in developing and retaining local talent. This can be achieved through targeted educational reforms, the creation of pathways for skill development, and the establishment of partnerships between educational institutions and industry players. Facilitating collaboration between academia and industry stakeholders is crucial in this regard. Such collaboration ensures that educational curricula align with industry needs, producing graduates who possess not only theoretical knowledge but also practical skills that are in high demand in the job market. This concerted effort to nurture a skilled and home-grown workforce can contribute significantly to the region's economic diversification and technological advancement.

5.2. Sustainable Agriculture

Sustainable agriculture stands out as a promising avenue for the GCC states to achieve economic diversification (Saab, 2017). The overarching goal of sustainable agriculture is to meet current and future food security demands while minimizing negative impacts on the environment and society (Streimikis and Baležentis, 2020). Several strategies within sustainable agriculture can be employed to diversify economies and reduce dependence on oil revenue, including vertical farming, desert farming, saline agriculture, agroforestry, and silvopasture. In 2019, the GCC collectively consumed 42.9 million metric tonnes of food products, with an average annual consumption of 733.6 kg/person. The consumption of food is projected to increase, reaching 52.4 million metric tonnes by 2025 (Alpen Capital GCC Food Industry Report, 2021). The GCC states, particularly those with limited arable land and scarce water resources, can benefit from transformative practices like vertical farming to enhance the production of fresh and locally grown crops. Vertical farming allows year-round cultivation with reduced water consumption and land usage. The UAE has already taken steps towards vertical farming with projects like Badia Farms, showcasing the country's commitment to utilizing advanced agricultural technologies. The world's largest vertical hydroponic farm, Bustanica, further demonstrates the UAE's leadership in this field. Other GCC states can adopt similar initiatives to achieve food security, reduce food imports, and diversify their economies.

Desert farming and saline agriculture represent another promising strategy for the GCC states, allowing them to effectively utilize marginal lands for crop cultivation. These techniques involve cultivating salt-tolerant crops and drought-resistant plants in challenging environments. Qatar's Sahara Forest Project serves as an exemplary initiative, utilizing saltwater-cooled greenhouses, solar power, and seawater desalination to cultivate vegetables in the desert. Such projects illustrate the potential of saline agriculture in transforming barren land into productive agricultural areas. Additionally, agroforestry and silvopasture, integrating tree planting and livestock grazing, offer multiple benefits, including enhanced soil health, carbon sequestration, and diversified income streams. Saudi Arabia's Green Saudi Arabia program, aimed at planting billions of trees and increasing green spaces, reflects a commitment to environmental sustainability and economic diversification through agroforestry. In summary, sustainable agriculture offers the GCC states a promising pathway to achieve economic diversification and reduce their dependence on oil revenues. Through innovative practices and initiatives, these countries can effectively utilize their natural resources, build resilient economies, and secure a sustainable future for their citizens.

5.3. Smart Sustainable Cities and Real Estate Development

Smart development involves the use of advanced technologies and data-driven solutions to enhance the efficiency and functionality of urban areas. This includes deploying sensors, Internet of Things (IoT) devices, and real-time data analytics to monitor and manage various aspects of urban life, such as traffic flow, energy consumption, waste management, and public services. Allam and Jones (2021) highlight that investment in smart sustainable cities and real estate development plays a crucial role in boosting the economy of nations, particularly in the tourism sector. Luxury resorts, entertainment facilities, and cultural centers attract international tourists, leading to job creation in the hospitality industry (Lee et al., 2020). The strategic development of infrastructure through real estate projects also attracts foreign direct investment and fosters efficient urbanization. The GCC states can improve their GDP and reduce dependence on oil revenues through economic diversification, focusing on smart sustainable cities and real estate development. NEOM in Saudi Arabia exemplifies a pioneering smart city project with a focus on technological advancement and environmental sustainability (Alam et al., 2021). NEOM aims to integrate cutting-edge technologies and sustainable practices across various sectors, positioning itself as a model for future urban development. Similarly, the King Abdullah Economic City near Jeddah incorporates smart technologies to enhance efficiency and sustainability, covering residential, commercial, and industrial sectors (Osra, 2017).

Dubai, in the UAE, stands out as a prime example of how real estate development can drive economic diversification (Shayah, 2015). Iconic projects such as Masdar City, the Burj Khalifa, Palm Islands, and Dubai Mall have transformed Dubai into a global hub for tourism and investment. (Young, 2021; Elkersh et al., 2023). The success of real estate developments, including luxury resorts, entertainment facilities, and cultural attractions, has led to job creation, revenue diversification, and a significant contribution to the country's GDP. The Msheireb Downtown Doha project in Qatar further showcases the potential of sustainable real estate development. By revitalizing the historical heart of Doha, this project combines advanced technologies for energy and water management with heritage preservation, exemplifying a balance between modern sustainability and historical significance. Strategic real estate developments, as demonstrated by these examples, contribute not only to economic growth but also to the attraction of foreign investment and enhancement of a

country's reputation. These projects have the potential to drive economic diversification, promote tourism, and foster sustainable development in the GCC states.

5.4. Effective Tourism System

Tourism serves as a transformative and dynamic strategy for economic diversification in the GCC states (Stephenson and Al-Hamarneh). According to Tok (2018), the region's rich cultural heritage, awe-inspiring landscapes, and luxurious attractions appeal to a global audience seeking diverse travel experiences. The GCC countries can position themselves as desirable destinations for international tourists by marketing their cultural and historical assets. The luxury tourism category, catering to high-end tourists, offers prospects for the growth of the hospitality and retail industries (Mishrit, 2018). Additionally, hosting sports events and developing entertainment venues can attract visitors from around the world and contribute to economic growth. Strategic marketing and infrastructure development are essential for maximizing the tourism potential of the sector and capitalizing on its economic benefits (Farooq and Farooq, 2018).

Dubai provides a perfect illustration of how tourism has transformed one of the region's economies. The city is renowned for its ambitious and iconic projects that have attracted tourists from around the world. The Dubai artificial Palm Islands have become a symbol of luxury and opulence, drawing in high-end travelers seeking lavish experiences (Zaidan et al., 2019). Furthermore, religious tourism is a significant aspect of the GCC states. Mecca, located in Saudi Arabia, holds immense religious importance for Muslims worldwide, attracting millions of pilgrims for the annual Hajj and Umrah (Elgammal and Alhothali, 2021). The religious significance of Mecca ensures a continuous flow of tourists throughout the year. Saudi Arabia has actively invested in infrastructure development, hospitality services, and marketing campaigns to promote and encourage tourism. This strategic focus has resulted in a considerable increase in the number of registered tourists visiting the region (Griffin and Raj, 2017).

5.5. Effective Transportation System

The Gulf region and the Middle East have historically played a pivotal role in global trade, with deep-rooted economic ties that predate the transformation of the lucrative hydrocarbon trade and subsequent industry boom. For centuries, the region has been a strategic player situated along major maritime and transport trade routes connecting the Middle East, India, Asia, Europe, and Eastern Africa. This geographical positioning attracted the attention of major powers such as the British, French, Ottomans, and Persians in previous centuries (Hanieh, 2018). These trade routes remain fundamental components of global trade today, facilitating the movement of people and goods. In the 21st century, the transportation competence of the Gulf States is evident in the growth of the region's aviation sector. The expansion of airlines like Emirates, Qatar Airways, and Etihad Airways has not only facilitated increased connectivity but has also significantly boosted tourist arrivals. These Gulf air transport companies are now recognized as global super-connectors, playing a crucial role in linking people and goods across different zones in the wider world market. They contribute to the integration of the consumption and production of the world's service industry through one of the world's busiest transit routes, passing through Dubai, Abu Dhabi, and Qatar. The adoption of a tourism-focused strategy holds the potential to assist other GCC member countries in reducing their dependence on oil revenues and building a more resilient and diversified economy. According to Kousar et al. (2018), tourism has the potential to drive economic growth, create jobs, attract foreign investment, and enhance economic development. However, Mishrif (2018) reiterates that GCC member countries must strike a balance between promoting tourism and preserving their cultural and environmental heritage to ensure sustainable growth and long-term success.

5.6. Enhancing the Financial and Capital Markets

The financial system plays a crucial role in the GCC economy, traditionally attracting substantial foreign investment from some of the world's largest banks, thanks to the lucrative oil trade. However, the structure of the financial market poses challenges to the optimal growth of the sector, with a significant issue being the constraints within the debt market (Ramady, 20120). The debt market holds vital importance in the contemporary economic and financial system. In most GCC countries, debt market instruments are preferred to align with Islamic Sharia banking preferences. Consequently, the GCC capital markets have experienced sluggish growth, lacking significant momentum due to the limited availability of Sharia-compliant products with tradable characteristics. Addressing this challenge necessitates the establishment of a new institutional framework and arrangements that facilitate diverse trading mechanisms. It requires a strategic approach to adapt to changing economic conditions, attract investment, and promote diversified and robust financial markets (Ramady, 2012).

5.7. Currency Convergence

The region could experience a significant positive economic impact through the adoption of a common legal tender, possibly pegging the currencies to the US Dollar (Ramady, 2012). This strategic move aims to promote economic stability across all member states. By establishing a unified currency, the GCC countries could achieve greater economic coordination and policy harmonization. Such a synchronized approach holds the potential to bolster the region's financial influence, especially in the crude oil markets. Despite the current pegging of GCC currencies to the US Dollar, it is essential to consider the ongoing challenges faced by the US Dollar as the primary global trading currency. Converging legal tender within the region could contribute to economic stability and facilitate seamless economic interactions among member states. This unified approach would strengthen the region's financial influence in the crude oil markets, countering concerns about potential consequences. Additionally, a monetary union could provide broader leverage for diversification, as all states would be actively committed to sustainable economic transformation driven by resultant economic conditions and structural changes. While the GCC currencies are presently closely aligned with the US Dollar, it's noteworthy that the US Dollar faces challenges as the predominant global legal tender. The Chinese Yuan has emerged as a primary trading currency at the Shanghai International Energy Exchange, and considerations to reduce

reliance on the US Dollar for petrol trading are underway in the EU and Russia. Criticism of the US dollar has also surfaced from economic blocs like BRICS, advocating for the creation of their own global currency (Cho and Kumo, 2019). Converging legal tender in the GCC could strategically position the region amidst these shifts in global currency dynamics.

5.8. Climate Change Policies and Renewable Energy

Efforts to transition the economy towards a more environmentally friendly model can play a pivotal role in addressing multifaceted challenges in the region, including water scarcity and food security. An essential component of achieving climate change goals involves a transformative shift in the energy industry. The Masdar initiative has served as a catalyst, inspiring countries in the region to envision a transition towards a renewable energy ecosystem (Ramady, 2012). This transition is particularly significant for sustained economic growth, given that a substantial portion of the region's power production currently relies on crude oil and other fossil fuels. Leading the charge in this initiative, Saudi Arabia, through the King Abdul-Aziz Centre for Technology and Science, is actively engaged in extensive research aimed at developing technologies capable of generating substantial amounts of green energy, with the ultimate goal of creating a net-zero emission city. The impact and influence of the Masdar initiative extend broadly across the GCC region. Bahrain, Kuwait, the UAE, Saudi Arabia, and Qatar rank among the most water-stressed countries globally. Addressing environmental concerns through the adoption of eco-friendly practices and the integration of renewable energy sources becomes a crucial step in mitigating challenges associated with water scarcity and ensuring sustainable development in these nations.

6. CONCLUSION

The study provides valuable insights into the role of GCC oil in regional and international politics, highlighting its dominance as a key contributor to the GDP in the region. It acknowledges the economic benefits derived from the oil industry, enabling the GCC states to develop into prosperous petro-states and improve the living standards of their citizens. However, it also recognizes the challenges associated with oil dependence, including potential hindrances to institutional development and increased geopolitical complexities. A key observation is the impact of oil on leadership and governance in the region. The study notes that the management of oil resources has shaped prevailing political institutions, and leaders have often prioritized the oil industry over comprehensive bureaucratic development. This has implications for effective governance and may contribute to geopolitical tensions.

The review emphasizes the need for the GCC states to diversify their economies, considering the volatility of GDP based on oil revenue and the vulnerability to fluctuations in oil prices. Non-oil revenue ventures are proposed as a solution, with specific recommendations for sustainable agricultural practices, smart sustainable cities and real estate development, and tourism. Diversification into these sectors is seen as a pathway to reduce dependence on oil revenue, enhance economic stability, and foster long-term sustainable growth. Furthermore, the study advocates for reliable policy strategies that position the ruling class as agents for positive change. This involves prioritizing economic and political reforms to ensure the future sustainable development of the region. Overall, the recommendations underscore the importance of addressing the challenges associated with oil dependence and working towards a more diversified and sustainable economic future for the GCC states.

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