

**T.C.
SAKARYA UNIVERSITY
SOCIAL SCIENCES INSTITUTE
DEPARTMENT OF ISLAMIC ECONOMICS AND FINANCE**

**TWO ESSAYS ON THE GCC'S STOCK MARKETS DYNAMICS:
A COMPARATIVE STUDY BETWEEN ISLAMIC AND
CONVENTIONAL INDICES**

Amal ESSAYEM

DOCTORAL DISSERTATION

Thesis Supervisor: Prof.Dr. Şakir GÖRMÜŞ

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**“This thesis was defended in person on 03/03/2023 and was unanimously
accepted/~~not accepted~~ by the jury members whose names are listed below.”**

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ABSTRACT	
Title of Thesis: Two Essays on The GCC's Stock Markets Dynamics: A comparative Study Between Islamic and Conventional Indices	
Author of Thesis: Amal ESSAYEM	
Supervisor: Prof. Dr. Şakir GÖRMÜŞ	
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In this thesis the impact of regional and global factors on GCC Islamic and conventional market indices is studied. To do so, we apply the quantile regression on monthly data from April 2011 to April 2021. The first essay examines the influence of regional factors on Islamic and conventional stock returns in GCC countries using the quantile regression method. The study reveals that the reaction of market returns to regional factors varies across the distribution of GCC's stock returns. Specifically, regional factors have asymmetric effects on stock returns in most GCC markets, making portfolio diversification difficult. The second essay evaluates the impact of global risk factors on Islamic and conventional stock indices performance in the GCC region, using moment quantile regression. Results show that the performance of GCC markets under different risk factors varies asymmetrically across quantiles, but Islamic and conventional markets in the GCC follow a similar return pattern. The findings suggest that Sharia screening does not provide any specific benefit to investors interested in GCC markets, particularly those with a Gulf-based portfolio asset composition. These results have significant investment and policy implications.	
Keywords: GCC Region, Quantile Regression, Regional Factors, Global Factors, Islamic Stock Index	

ÖZET	
Başlık: GCC'nin Hisse Senedi Piyasaları Dinamikleri Üzerine İki Deneme: İslami ve Konvansiyonel Endeksler Arasında Karşılaştırmalı Bir Çalışma	
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Danışman: Prof. Dr. Şakir GÖRMÜŞ	
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Bu tezde, bölgesel ve küresel faktörlerin GCC İslami ve geleneksel piyasa endeksleri üzerindeki etkisi incelenmektedir. Bu amaçla, Nisan 2011'den Nisan 2021'e kadar aylık veriler üzerinde kantil regresyonu uygulanmıştır. İlk makale, kantil regresyon yöntemi kullanılarak GCC ülkelerinde İslami ve geleneksel hisse senedi getirileri üzerinde bölgesel faktörlerin etkisini incelemektedir. Çalışma, piyasa getirilerinin bölgesel faktörlere olan tepkisinin GCC'nin hisse senedi getirilerinin dağılımı boyunca değiştiğini ortaya koymaktadır. Özellikle, bölgesel faktörlerin çoğu GCC piyasasında hisse senedi getirileri üzerinde asimetric etkilere sahip olması, portföy çeşitlendirmesini zorlaştırmaktadır. İkinci makale, moment kantil regresyonu kullanarak GCC bölgesinde İslami ve geleneksel hisse senedi endekslerinin performansı üzerinde küresel risk faktörlerinin etkisini değerlendirmektedir. Sonuçlar, farklı risk faktörleri altında GCC piyasalarının performansının kantiller arasında asimetric olarak değiştiğini, ancak GCC'deki İslami ve geleneksel piyasaların benzer bir getiri modeli izlediğini göstermektedir. Bulgular, GCC piyasalarına ilgi duyan yatırımcılar, özellikle Körfez tabanlı portföy varlık kompozisyonuna sahip olanlar için Şeria taramasının herhangi bir özel fayda sağlamadığını göstermektedir. Bu sonuçlar önemli yatırım ve politika sonuçlarına sahiptir.	
Anahtar Kelimeler: Körfez Bölgesi, Kantil Regresyon, Bölgesel Faktörler, Küresel Faktörler, İslami Hisse Senedi Endeksi	

INTRODUCTION

The stock market plays a vital role in the economy by allocating capital efficiently, promoting entrepreneurship and innovation, and providing a platform for retail and institutional investors to invest their savings. The returns generated by the stock market can have a significant impact on investors' financial well-being, which makes it a topic of great interest to both policy makers and market participants. In recent years, the Gulf Cooperation Council (GCC) region which includes Saudi Arabia, UAE, Kuwait, Bahrain, Oman and Qatar, has experienced significant growth and development. The GCC region has undergone significant economic growth in recent decades, driven by the development of the oil and gas sector, as well as other industries such as tourism and real estate. The stock markets in the GCC region have grown rapidly in terms of market capitalization, with the Saudi Stock Exchange (Tadawul) being the largest stock market in the region and the 19th largest in the world (World Bank, 2021). Henceforth, the region has emerged as a significant player in the global financial landscape, with a thriving stock market that offers numerous investment opportunities. The stock market indices of these countries have become increasingly attractive to international investors, especially with the rise of Islamic finance, which prohibits conventional speculative and unethical investments. The Gulf's stock market comprises of both Islamic and conventional stock indices, providing a unique opportunity to study stock returns dynamics of both types of indices.

However, despite the growth and potential of the GCC stock market, investors are often faced with the challenge of navigating the intricate and ever-changing financial landscape. Factors such as changes in global economic conditions, political instability, and oil prices can have a significant impact on the stock market returns in the GCC region. Additionally, stock markets in general are prone to boom-and-bust cycles, which can result in significant fluctuations in stock market returns.

Moreover, the GCC region has a unique financial landscape, with the presence of both Islamic and conventional stock markets. Islamic finance prohibits the charging and paying of interest and is based on principles of profit and loss sharing. Islamic financial products, such as Islamic equities and sukuk (Islamic bonds), are becoming increasingly popular in the GCC region, as they offer an alternative investment opportunity to conventional financial products.

Stock markets, especially in the Gulf, are complex systems influenced by multiple factors from various risk sources. Indices in the GCC have changed significantly and have been affected by global and regional factors. Therefore, investors must understand these impacts on returns, and as Islamic finance gains popularity, it's important to compare performance of Islamic and conventional indices to evaluate diversification potential.

Problem Statement

Numerous finance studies have addressed stock market returns, and this topic has been extensively discussed in the literature. The early discussions on this subject can be traced back to portfolio theory and the Capital Asset Pricing Model (CAPM). Despite being a central concept in asset pricing literature, CAPM has faced criticism due to several empirical papers (Fama & French, 1993, 1996, 2015) that demonstrate the model's limitations. These studies indicate that multiple factors, beyond the market beta's risk definition, have an additional impact on stock returns. For instance, Fama and French (1996) developed three factors models that help detecting the main asset pricing factors, their result show that size and value factors are relevant risk factors. Later, the researchers developed a five factors model to which they add profitability and investment (Fama & French, 2015). Another group of researchers chose a different path to understand stock markets performance. Based on political, economic, and financial risk elements, Harvey (1995) was one of the earliest to evaluate the effects of risk exposure on emerging financial markets. Another seminal work, Diamonte et al. (1996) examines the impact of countries macroeconomic factors on capital market return. Their results show that political risk plays an important role in emerging markets as a driver of capital market returns than it does in developed markets. Jones and Kaul (1996) emphasize the practical significance of variations in the price of oil in understanding adjustments in equity prices in Canada, Japan, the United Kingdom, and the United States. According to their research results, the effect only matters for the American and the Canadian markets. According to Chen et al. (2005), various constituents of the African and Middle Eastern emerging countries' economic, political, and financial risks are what determine their financial market return and risk. The literature on stock market returns has focused on various aspects, such as the impact of macroeconomic factors, the effect of political instability, and the role of market

efficiency. However, there is limited research on the GCC region, and even less on the comparison of Islamic and conventional stock market indices.

Within the context of the Gulf Cooperation Council (GCC), several scholars have investigated the relationship between stock markets and various global and local factors. Hammoudeh and Alesia (2004) analyze the sensitivity of GCC stock markets to changes in oil futures returns, and they find that only the Saudi stock market was sensitive to oil price changes, while most other stock markets were dependent on oil price movements. Similarly, Zarour (2006) investigates the impact of oil price increases on stock markets in five GCC countries and found that oil price fluctuations significantly affect all of them. Hammoudeh and Choi (2006) examine the relationship between Gulf countries' stock index markets and global factors, including the S&P 500 index, oil spot price, and American T-bill rate. Their findings show that the interest rate has a direct effect on these markets, while the other factors have an indirect effect. Jouini (2012) investigate the long-term links between GCC stock markets and three global factors: oil price, US interest rate, and global market index. He finds strong evidence of a nonlinear long-run relationship between the global factors, particularly when there is dependence between countries, and indicates that these factors have a predictability effect on most GCC stock markets. In a study that included Saudi Arabia, Bouras et al. (2019) investigate the effects of global and country-specific geopolitical risk indices on stock markets in 18 countries. Their results reveal that global geopolitical risk had a greater impact on stock markets than country-specific geopolitical risk. Ajmi (2014) explores the relationship between the Islamic stock market and various global economic and financial shocks, finding a strong causality between global interest rate volatility and the Islamic stock market. Finally, Alqahtani and Klein (2021) study the long-term effect of local and global geopolitical risks and oil price volatility on GCC equity markets. Their results show that shocks in oil price volatility consistently had a negative impact on all GCC stock markets.

Another issue related to stock market and specifically to GCC literature is that most studies fall short to check stock market performance during different market states because the nature of the economy and specially the nature of oil markets go through a boom-and-bust cycle or bullish and bearish market states which makes its investigation crucial since it represent an inherited character of GCC's economies and financial markets.

Boom and bust cycles in the stock market are characterized by periods of rapid growth followed by periods of decline in stock prices and returns. These cycles are a recurrent phenomenon in financial markets and have been the subject of numerous studies and debates in finance and economics literature.

One of the main causes of boom-and-bust cycles in the stock market is exogenous shocks, such as changes in macroeconomic conditions, shifts in government policy, or geopolitical events. The consequences of boom-and-bust cycles in the stock market are far-reaching and can have a significant impact on the overall economy. During periods of rapid growth, stock prices and returns tend to increase, which can lead to an increase in spending and investment as investors feel more confident in their financial situation. However, during periods of decline, stock prices and returns tend to decrease, which can lead to decreased spending and investment and a reduction in overall economic activity.

In recent years, the use of advanced quantitative methods, such as quantile regression, has allowed researchers to examine the behavior of stock market returns at different levels of the distribution, providing a more nuanced understanding of the stock market beyond simply considering average returns (Koenker and Bassett, 1978). For example, quantile regression has been used to analyze the behavior of stock prices during the 2008 financial crisis, revealing significant differences in the behavior of stocks at different quantiles (Chen et al., 2012).

From what has been mentioned previously, we notice that studies on the GCC fall short to compare Islamic and conventional stock market indices leaving a large gap in the literature on how the Khaliji capital - as in Hanieh (2018)- is channeled and invested, this will give an idea to investors on the risks sensitivity of GCC stock markets and hence enable them to evaluate the performance of these markets and to be able to benefit from diversification opportunity. While previous research has studied the stock market returns in the GCC region, few studies have explicitly examined the effect of regional and global factors on both Islamic and conventional stock market indices in the GCC region. Additionally, previous studies have not explored the effect of these factors using a quantile approach that depicts the effect of the boom-and-bust cycle. Furthermore, there is limited research that compares Islamic and conventional stock market indices to look for portfolio diversification opportunities for investors. The GCC region is unique in

terms of its economic and political structure, as well as its pioneering position in Islamic finance, which makes this study particularly relevant and timely.

In this thesis we study the impact of regional factors on the GCC stock markets dynamics through the lens of regional markets integration. The region's special political and economic particularities make understanding the regional dynamics important when it comes to assessing stock market performance. Furthermore, we notice that the academic research on the Gulf region through a perspective of political economy of financial markets is rare, which has triggered enquiry into the political economy of financial markets in the Gulf region. Hence, we discuss the political economy of the GCC region in order to articulate the dynamics of the zone. Therefore, this study analysis the economic and political dynamics of the GCC countries with the objective of assessing the impact of global factors on domestic markets performance.

Subject of the Research

Considering the previously mentioned insights, the research endeavors to analyze the impact of regional and global elements on the returns of both Islamic and conventional stock markets in the GCC countries. The study aims to assess the effect of local factors on Islamic and conventional stock returns in the GCC during bullish, normal, and bearish market conditions. Moreover, the study will investigate the influence of global factors on the Islamic and conventional stock returns in the GCC region by using a political economy approach. To accomplish this, the political economy of the gulf stock markets will be studied, which will help to identify the global risk factors that affect both Islamic and conventional stock indices. The study will adopt a quantile approach to demonstrate the impact of the boom-and-bust cycle, to compare Islamic and conventional stock indices, and to search for portfolio diversification opportunities for investors.

Aim of the Research

1. Analyze the effect of regional factors on Islamic and conventional stock market returns in the GCC region across different market state.
2. Evaluate the impact of global factors on Islamic and conventional stock returns in the GCC region across different market state.

3. To compare the performance of Islamic and conventional stock market indices in the GCC region and to assess the potential for portfolio diversification.
4. To use the quantile approach to capture the asymmetric effect of macroeconomic variables on the return of stock market indices in the GCC region.

The research questions are :

1. How do regional factors influence Islamic and conventional stock returns in the GCC region across different market state?
2. How do global factors influence Islamic and conventional stock returns in the GCC region across different market state?
3. Is portfolio diversification possible between Islamic and conventional stock markets in the GCC region?

Methodology of the Research

The research methodology involves the use of the quantile regression method. The data used for the study is monthly data from April 2011 to April 2021, covering a 10-year period. The study will use data from Bloomberg and DataStream in addition to publicly available data from investing.com and matteoiacoviello.com.

The quantile approach can be used to depict the boom-and-bust cycles in the stock market. A quantile is a statistical value that separates a set of data into intervals such that a certain percentage of the data falls into each interval. In the context of the stock market, one can use quantile regression to analyze the cyclical behavior of stock prices, including their boom-and-bust cycles.

Quantile regression can provide insights into the characteristics of the boom-and-bust cycles, such as how prices move in different phases of the cycle and how they are affected by factors. This information can be used to develop investment strategies and make informed decisions about buying and selling stocks. Using quantile in our case is critical for developing a deeper understanding of the stock market and improving financial decision-making (Wang, 2008).

Thus, the quantile approach is used to examine the effect of regional and global factors on the return of stock market indices at different quantiles of the return distribution. This

approach provides a more nuanced view of the relationship between the dependent and independent variables and is particularly useful for capturing the asymmetric effect of regional and global factors on the return of stock market indices.

Research Significance

The findings of this study are expected to contribute to academic literature in several ways. Firstly, by examining the effect of regional and global factors on the return of stock market indices in the GCC region, the study will provide valuable insights into the dynamics of the stock market in this region. Secondly, this study will have significant implications for investors, financial institutions, and policymakers in the GCC region. The study will also contribute to the existing literature on stock market returns in the GCC region by exploring the asymmetric effect of regional and global factors on both Islamic and conventional stock indices. Several reasons make studying the GCC stock markets in relation to global factors such as oil prices particularly promising. The fact that oil production and its revenues can be volatile means that the rent distributed and reinvested in the stock market can follow the same pattern. Furthermore, the exploration of global factors such as interest rate volatility is important since the investigation of global factors, such as interest rate volatility, is also crucial because the Gulf's monetary policies are linked to those of the United States due to their pegged exchange rates to the United States currency¹. Thirdly, investors who are willing to balance their portfolios will find the comparative analysis of conventional and Islamic indices in the Gulf to be a helpful tool. The study will provide a comprehensive assessment of the returns of these indices and the potential for portfolio diversification. Finally, this study will also have practical implications for policymakers in the GCC region. By examining the underlying factors that influence stock market returns, the study will provide valuable information for policymakers who are interested in promoting the development of the stock market and improving its efficiency.

Structural Outline

In the introduction, the context of the study has been introduced, the research objectives and questions have been identified and the value of such research argued. The study will

¹ See Hammoudeh, (2006) and Karam, (2001).

be divided into two essays. The first essay will examine the impact of regional factors on Islamic and conventional stock returns in GCC countries. The second essay will study the impact of global factors on Islamic and conventional stock returns in the GCC region.

In chapter one, the existing literature will be reviewed to identify key regional factors, affecting stock market dynamics, the adoption of the non-parametric quantile approach will be justified, and the first set of this thesis results will be discussed following a comparative approach to highlight the difference between Islamic and conventional stock market indices return.

In chapter two, we discuss how GCC's political economy has been shaping the Gulf financial markets. We then identify most critical global risk factors affecting the local market of each of the GCC countries, both Islamic and conventional. After an investigation of global risk factors' effects on the Gulf region within a political economy schema, the impact of these factors on equity market performance is examined using empirical literature. We follow the same methodology as in chapter two to estimate our model.

In the conclusion, we will provide a summary of the previous sections, the current state of Islamic financial investment will be scrutinized and at the end limitation and future perspective will be discussed.

CHAPTER 1: GCC’S REGIONAL ROLLER COASTER, JANGLED POLITICS AND MARKETS: EVIDENCE FROM QUANTILE APPROACH

1.1. Introduction

As a consequence of the progressive global and regional integration, the scholarly community has demonstrated an enduring fascination with comprehending the influence of regional and global elements on the dynamics of the stock market. The body of literature reveals a collection of seminal works that concentrate on examining the impact of global, regional, and industry-level factors on the performance of stock markets². Notably, there has been a discernible emphasis on global factors in light of the globalization of financial markets and the consequential interconnectivity of markets. Although scant literature has addressed the issue, a handful of studies contend that augmented regional economic cooperation and financial interaction among economies within the same region, such as ASEAN, the Gulf Cooperation Council (GCC), and the European Union, could engender not only global but also regional financial market connectivity (Alotaibi and Mishra, 2015; Chen, 2017; Al-qahtani, Hammoudeh, & Selmi, 2020). The surge in regional economic cooperation and financial integration has led to the emergence of regional factors that are now just as significant as global factors (Alotaibi and Mishra, 2015; Shi, 2022). In light of this development, the investigation of regional factors assumes pivotal importance in providing a succinct elucidation of stock market dynamics, comprehending regional market risks, and identifying prospective diversification advantages to facilitate superior asset allocation and robust portfolio management.

Prior studies have been predominantly focused on developed countries and some emerging economies, while overlooking some of the world's most influential nations, such as the Gulf Cooperation Council (GCC) countries. Despite the considerable international clout of the GCC's investments, the stock markets of these oil-rich countries have received less attention than other regions. Consequently, the GCC presents a

² See: Beckers, Connor, & Curds, 1996; Drummen & Zimmermann, 1992; Grinold, Rudd, & Stefek, 1989; Jones & Kaul, 1996; Sadorsky, 1999, Lehkonen, 2015; Kim et al., 2016; Mensi et al., 2016, Beck and Stanek, 2019.

promising emerging market that stands apart from other emerging markets due to its excessive sensitivity to regional factors, particularly in response to regional market changes, political uncertainty, and susceptible political events (Alotaibi and Mishra, 2015; El-Gamal & Jaffe, 2010; Naifar, Shahzad, & Hammoudeh, 2020). Despite the growing body of literature on the GCC market, only a limited number of studies have examined the influence of a suite of regional and global markets on the dynamics of the GCC market, with the impact of regional factors remaining under-explored (Alotaibi & Mishra, 2015; Assaf, 2003; Hammoudeh & Aleisa, 2004; Mensi, Hammoudeh, Yoon, & Balcilar, 2017; Selmi, Bouoiyour, & Hammoudeh, 2020). Moreover, these studies have predominantly analyzed the GCC market from a volatility standpoint while overlooking return dynamics, thereby providing insufficient insights into stock market performance.

While these studies are valuable, they do not take into consideration the potential differences between Islamic and conventional stock markets and therefore convey a limited perspective on alternative investment and potential diversification benefits in the GCC. Most previous studies mainly focuses on financial market linkages either in Islamic markets or in conventional without comparing them.

Furthermore, limited emphasis has been given to the distinct impacts of fundamental or economic factors and non-economic factors, and there is a scarcity of simultaneous analysis. Essentially, previous studies have tended to focus either on fundamental factors such as financial indicators (Alotaibi and Mishra, 2015) or on non-economic factors such as geopolitical risk (Alqahtani & Klein, 2021; Ben Cheikh, Ben Naceur, Kanaan, & Rault, 2021). As a consequence, the implications of both economic and non-economic factors require further elaboration.

Moreover, a major methodological limitation of many prior studies that aimed to examine the GCC stock markets is that they have treated the region as a single block instead of conducting country-specific analyses. Nevertheless, the literature reveals evidence of disconnection among various markets within the GCC. Specifically, Saudi Arabia, Qatar, and the United Arab Emirates are progressing towards greater integration, whereas the others show regional and global fragmentation. Such heterogeneity among the markets in this region means that international investors cannot consider these countries as a unified block. Consequently, despite their similarities, regional factors can have varying effects

on the GCC stock markets (Lanouar & Refai, 2019; Ziadat, Herbst, & McMillan, 2020). The GCC's pattern of decoupling provides significant information for both regional and global investors. This market segmentation into individual markets can enhance investment options and portfolios diversification for investors (Ziadat, Herbst, & McMillan, 2020).

Henceforth, this study aims to contribute to the existing literature on the GCC region by exploring the influence of regional factors on local stock markets, separately investigating the impact of fundamental or economic and non-economic factors. Additionally, we aim to investigate the differences in Islamic and conventional stock markets across the region and identify potential portfolio diversification benefits. In order to achieve our objectives, we utilize the quantile regression model to analyze the changes of regional factors across different market states and investigate potential asymmetric effects. Our focus is on examining the differences in the dependence structure through different market states to understand the roles of regional factors in explaining the dynamic returns in local GCC markets, with separate analysis conducted for each country. By doing so, this study provides new insights into the valuation of assets in the region. (Lanouar, Refai, 2019, Ziadat, Herbst, and McMillan, 2020).

This study carries significant implications on multiple fronts. Firstly, employing the Quantile method provides valuable insights for policy makers and investors by examining the behavior of GCC stock markets under different market conditions. Secondly, comparing the performance of Islamic and conventional markets under varying market conditions is vital for capital allocation and portfolio management strategies. Previous research has focused on one of these markets only, whereas analyzing both markets can offer more comprehensive information to market participants seeking potential diversification benefits and policymakers making better investment decisions. Thirdly, comprehending the impact of regional geopolitical risk, an undiversified risk, on stock market performance can aid policymakers in implementing preventive market regulations and sound national economic strategies.

The paper is organized as follows: Section 2 provides an overview on Islamic stock indices, section 3 provides the literature review, and section 4 presents the six GCC stock markets' descriptions and descriptive statistics. Then, section 5 illustrates the

methodology, section 6 presents results and discussion, and section 7 provides robustness check. Lastly, section 8 shows conclusions and recommendations.

1.2. Islamic Stock Indices: An Overview

In this section, we will briefly present a historical overview of Islamic indices. Then, we will explain the basics of Sharia screening along with its main issues.

1.2.1. A Historical Background of Islamic indices

Political and economic dynamics, most notably the rise of pan-Islamism and the energy crises of the 1970s and early 1980s, are strongly related to the development of Islamic finance (Warde, 2000). Individuals in the middle east, specifically in the gulf region, began to accumulate large amounts of capital by the 1980s, and a channel had to be created to absorb the gulf's oil surplus. Only then did the idea of investing in products adhering to Islamic principles gain traction as investors started looking for alternative financial instruments in which to invest their funds (Shanmugam & Zahari, 2009). As a result, the core of the quickly growing Islamic finance industry has been the oil-rich Gulf region.

Recent years have seen a rise in the development of Islamic capital markets, their institutionalization, and most importantly, the mainstreaming of Islamic finance. To do so, indices and ratings were two fundamental components that were required to validate and distinguish the new alternative niche in the world of global finance. While the latter represents the creditworthiness of financial entities and assets (such as sukuk), the former gauges the performance of equities. Together, they establish credibility and visibility, ensuring the investability of the aforementioned financial products. This is crucial for Islamic capital markets and instruments more than their conventional peers because, primarily, they are nascent and have had little time to be tried out and develop a reputation, and secondarily, their dubious reputation is a result of unfounded facts about terrorist financing and money laundering. (Rethel, 2011; Warde, 2000).

As our research scope limits us to one side of the capital market, we will only discuss the equity issues. To begin with, a large number of Muslim scholars accept stocks or equities as a valid type of investment. This does not imply that all the financial instruments offered on the stock markets and trading procedures adhere to Shariah law. As a result, many

stock trading-related activities are not. For instance, speculative trading, short selling and margin trading are not acceptable (Naughton & Naughton, 2000). Furthermore, the equity should represent companies operating in activities permissible under Shari'a principles, and the majority of its revenues must be generated from activities other than the trading in alcohol, arms, tobacco, pork, pornography, and in some cases the whole entertainment industry, gambling, or profits associated with charging interest on loans (Shanmugam & Zahari, 2009).

In fact, due to these constraints, the first stages of Islamic equity development were challenging, investment conditions and strategies were not clear. Investors seeking faith-based investment needed a benchmark that they can use as a reference to build their portfolio and set their investment plans. To overcome this problem the first international benchmarks for Islamic stock were introduced by Dow Jones and FTSE in 1999 and 2000, respectively. Since then, MSCI and S&P have done the same. S&P started offering the S&P 500 Sharia Index in 2006, while MSCI launched three indexes in 2007. In 2007, S&P introduced a set of narrower indexes as a follow-up to the debut of their three broad indices. Six Sharia-compliant country indices are included in the S&P/International Financial Corporation Investable GCC Indices, each of which represents the Gulf Cooperation Council nations of Saudi Arabia, the UAE, Kuwait, Qatar, Bahrain, and Oman. By the end of 2008, 70 indices at the industry, national, regional and market capitalization levels had been added to the Dow Jones Islamic Market Index series (Shanmugam & Zahari, 2009).

Islamic equity investing has evolved through time from an uncommon form of investing to a more mainstream and "legitimate" area of the financial industry. For instance, in the GCC, despite the recent pandemic, political tensions, and unstable oil revenues, Islamic equity investments have been attracting investors in the region, and more financial institutions and stock markets are enabling such investments to suit investor demand. Currently, sharia compliant companies represent 85% of KSA's stock market, 41% of UAE's market, 56% of Qatar's, 49% of Kuwait's, 26% of Bahrain's and 19% of Oman's stock market³.

³ www.islamically.com

However, there has not been much effort put into developing distinct Islamic stock markets, since equity finance is largely Sharia-compliant (Rethel, 2011). Ever since creation of the Islamic capital market, the emphasis has been on a passive method to ensure permissibility, and as a result, sharia screening has been gaining ground.

1.2.2. The Islamization of Stock Market: Understanding the Sharia Screening Process

The Islamic capital markets, as we previously stated, are divided into an equity side and a finance (debt) side. Prior to 1999, there was no systematic mechanism in place to evaluate which companies were acceptable for investment and which were not. The process of selecting the companies commenced in 1998, After the Dow Jones Islamic Market Indexes' shariah board issued a fatwa outlining the guidelines and standards for screening stocks for shariah compliance and inclusion in Dow Jones indices. In so doing, it also institutionalized certain concepts, such as permissible deviations from rigid application of key Shariah principles and methods of purifying impurities.

Specific ratios must be met so that investing in permissible equities is approved under the balance-sheet ratio standards outlined in the DJIMI fatwa. The ratios cover the relationship between market capitalization and debt, cash and marketable securities, and accounts receivable. Ratios cannot pass 33. Purifying is acquired by donating interest income to charity. The guidelines set forth in the Dow Jones fatwa have been crucial for Islamic finance to thrive in global markets. Thus, the Dow Jones fatwa may be the most significant fatwa ever given since the emergence of Islamic finance and is a key factor in the development of this sector (McMillen, 2013).

All leading index providers, such FTSE, S&P, and MSCI, currently create and offer Islamic equities indices predicated on various Sharia screening standards at the global, regional, and national level. Figure 1 shows that, depending on how the Sharia board's decision-making is construed, each of these index providers implements a somewhat different screening criterion for the incorporation of stocks in Islamic indices (Ashraf, 2013).

Screen	MSCI Islamic Index series	S&P Shari'ah Indices	FTSE Islamic Index	Dow Jones Islamic Indices
Revenue source	Directly or indirectly securing income from interest bearing or prohibited activities <5% of total income	Non-permissible income other than interest income of the total revenue <5%	Total interest and non compliant activities income should not exceed 5% of total revenue	Income from impure sources should not exceed 5%
Business activity	Alcohol and Tobacco including production and sales thereof.	Same as MSCI	Same as MSCI	Same as MSCI
	Pork related products: both manufacturer and retailers of pork products.	Same as MSCU	Same as MSCI	Same as MSCI
	Financial Services providers excluding Islamic banks and Islamic insurance companies and investment companies developing financial products based on Islamic principles	Same as MSCI	Same as MSCI	Same as MSCI
	Entertainment: gambling, casinos. Music, hotels, cinemas and adult entertainment	Advertising and media, gambling, pornography, cloning and trading of gold and silver as cash on deferred basis	Gaming and arms manufacturing	Entertainment, hotels, casinos/gambling, cinema, pornography, music etc.
Financial Screening	Total debt/total assets <33.33%	Debt/Market value of equity (36 months average) <33%	Debt/total assets < 33.333%	Debt/Market value of equity (trailing 24 months average) <33%
	Sum of a company's cash and interest-bearing securities /total assets <33.33%	Sum of a company's cash and interest-bearing securities/Market value of equity (36 months average) <33%	Cash and Interest bearing items/total assets < 33.333%	Company's cash plus interest-bearing securities/ Market value of equity (trailing 24 months average) <33%
	Sum of a company's accounts receivables and cash/total assets <33.33%	Sum of a company's accounts receivables/Market value of equity (36 months average) <49%	Accounts receivable and cash /total assets < 50%	Sum of a company's accounts receivables/Market value of equity (trailing 24 months average) <33%
Dividend Purification Ratio	MSCI apply a "dividend adjustment factor" to all reinvested dividends. The "dividend adjustment factor" is defined as: (total earnings – (income from prohibited activities + interest income)) / total earnings	Dividend X (Non-permissible revenue/total revenue) - supplied to investors for charity purposes.	FTSE does not purify the income rather provide the 5% purification of dividends to investors for purification at their own end.	No such information is available

Figure 1: Sharia Based Screening Criteria Adopted by Major Index Provides

Source: Ashraf (2013)

In addition, there is a growing list of third-party Sharia services companies, mutual funds, and banks providing stock screening methodologies and criteria beside the Sharia boards of indices providers. Furthermore, national, and regional governance bodies have been involved in the institutionalization of the sharia screening such as the Malaysian securities commission sharia advisory council (SAC) and the Bahrain-based AAOIFI.

In general, the commonly used screening criteria for inclusion of any security in an Islamic index depends on both qualitative and quantitative screens. Qualitative screens eliminate Stock of all such businesses involved in activities that are categorically forbidden in Islam. These include businesses whose primary activity entails engaging with Riba, Maysir, and Gharar-related financial transactions, as well as any enterprise operating in prohibited commercial activity. Quantitative filters are employed to additionally check firms whose principal activities are Sharia-compliant but who also earn a significant portion of their revenue from prohibited activities as borrowing or lending money at interest or having a large percentage of liquid assets. Hence, The Sharia stock-screening criteria used by most screening entities include both qualitative and

quantitative requirements. However, on an institutional level, Malaysia's SAC unlike AAOFI, has also adopted positive Sharia screening criteria along with the negative screening. In order for a company to pass the positive Sharia screening, it must have a solid reputation and engage in core activities that are significant to the local and worldwide Muslim communities. The company's guidelines should be in line with Muslim Maslahah. It is acceptable to invest in businesses that cater to non-Muslim communities, such as those run by Malaysia's Chinese community, as long as their commercial practices are in line with those that Muslims have traditionally accepted (Shanmugam & Zahari, 2009).

However, some Muslim scholars argue that Islamic indices based on quantitative criteria are not permissible for investment. They contend that since the screening parameters permit debt ratios to approximately reach 33 percent, approving the indices is equivalent to claiming that a meal is halal even though it only contains a small amount of pork (Shanmugam & Zahari, 2009). Others contend that these screens, which are highly divisive within the Muslim community, are based on arbitrary ratios that are not comprehensively explained by the sharia boards (Ashraf, 2013, 2016).

Aside from this dubious selection practice, Islamic indices hardly control for the profitability of Islamic equities, let alone their ethical convenience. Islamic indices therefore mimic traditional financial performativity, neither questioning the index building process nor the poor grasp of performance as being limited to financial factors. However, the introduction of Islamic indexes marked a significant turning point in the growth of Islamic financial markets. This may be in part due to the fact that at present Islamic international governance entities place a high priority on acceptability advocacy and market integration. In order to establish itself as a mainstream financial activity, Islamic finance is consequently being rebuilt as a part of the global financial infrastructure (Rethel, 2010, 2011).

In short, rather than providing an ethical substitute, the current legal framework for Islamic finance simply replicates the current governance mechanisms. Its preoccupation with maintaining the status quo and continuous integration with the international financial system conflicts with its purported ethical ideals and its seeking legitimacy comes at the expense of greater purpose. Furthermore, this evolution is being driven from within rather

than from the outside; it has not been imposed by any entity and is the choice of Islamic finance proponents. As AAOIFI promotes; it is not detrimental to begin where others have ended if what others have established is helpful and does not contradict Islamic Sharia. Therefore, given the current course of action, Islamic finance will only contribute to replicate, validate, and therefore further reinforce existing financial mechanisms rather than bringing about an alternative financial system (Rethel, 2011; Rudnycky, 2018).

The discussion above is also reflected in the empirical studies regarding the performance of these indices. Along with other factors such as integration of financial markets, the convergence of Islamic indices might reduce if not eliminate the potential diversification benefits offered to investor. This matter will be further investigated in the next section of this chapter.

1.3. Literature Review

As it has been discussed above, there has been a gradual integration of Islamic stock indices into mainstream finance. This integration has been facilitated by the liberalization of capital markets worldwide, which has allowed for the free flow of capital across borders and helped to spread Islamic finance. According to the literature, the primary objective of capital market liberalization is to achieve a high degree of market efficiency by globally integrating local markets. However, it should be noted that market liberalization is not attainable without some degree of integration between the local market and its regional periphery. Empirical evidence suggests that increasing market liberalization and integration have heightened the influence of both global and regional factors on stock market returns. As a result, empirical research has concentrated on analyzing the amplified impact of global and regional factors on stock market returns.

1.3.1. The Gulf Equity Markets and Regional Factors

At a regional level, accurately measuring the level of financial integration is crucial for assessing the efficiency of risk diversification and capital allocation. It also plays a strategic role in promoting trade and firm cooperation within a given geographic area (Boubakri & Guillaumin, 2015). However, the majority of existing empirical studies on financial integration have predominantly focused on developed or emerging markets (Bekaert & Harvey, 1995; Bekaert, Hodrick, & Zhang, 2009; Carrieri, Errunza, & Hogan,

2007). In contrast, another body of literature has centered on regional integration, such as Adler & Qi's (2003) work on North America, Hardouvelis, Malliaropoulos, & Priestley's (2006) study of the Euro area, and Park & Lee's (2011), Boubakri & Guillaumin's (2015), and Lee & Jeong's (2016) analyses of East Asia. In a study encompassing the Americas, Asia, and Europe, Brooks and Del Negro (2005) identify regional factors as having considerable explanatory power for equity returns. Specifically, they argue that regional factors are responsible for more than half of the observed country influence on stock returns. Furthermore, their findings suggest that regional diversification may offer greater risk reduction benefits than global diversification. In a similar vein, Guesmi and Nguyen (2011) present evidence indicating that regional dynamics may hold more weight than country and global factors. This finding emphasizes the relevance of regional factors in guiding portfolio investment strategies, informing asset allocation decisions, and shaping regional economic development policies.

Recent studies on the Gulf Cooperation Council (GCC) region have primarily examined the impact of global integration on their local stock market, while neglecting regional integration (Bahloul & Ben Amor, 2021; Jouini, 2013; Sadouni, Mazeri, & Boudjemil, 2020). However, the GCC countries have been striving for economic and financial integration since the 1980s, and have made significant progress towards achieving convergence criteria across multiple fronts (AlKholifey & Alreshan, 2010). Due to their shared economic characteristics, including a peg to the dollar (except for Kuwait, which pegs to a basket of currencies that includes the dollar), a dominant hydrocarbon sector, and a reliance on imported labor, co-movements in GCC markets are common. Despite the crucial role of regional integration in comprehending the dynamics of GCC markets, particularly following recent political and regional shifts, studies examining the impact of the GCC regional stock market on their local markets remain relatively sparse.

There is a limited number of studies that examine the relationship between the regional stock market and local stock markets in the GCC region. Al-Khazali, Darrat, & Saad (2007) investigate regional integration among GCC markets using weekly stock market data from 1994 to 2003. The results of the cointegration test indicate that equity markets in Saudi Arabia, Kuwait, Bahrain, and Oman are linked over the long run. Similarly, Espinoza, Prasad, & Williams (2011) use monthly data from 1993 to 2009 to study the degree of regional financial integration in the GCC market. Results from the threshold

autoregressive model indicate that GCC's stock markets are more integrated compared to other emerging market regions. Additionally, Fayyad & Daly (2011) use a VAR model to demonstrate that regional factors have a significant impact on the variance of Bahrain, UAE, and Qatar stock markets. Finally, Alotaibi & Mishra (2015) examine the impact of regional and global volatility spillovers on the GCC market from 2005 to 2013 using various bivariate GARCH models. The results show that the regional spillover effects in UAE and Qatar are higher than the global spillover effects in these markets.

While the aforementioned studies provide significant contributions to the literature on regional financial integration, they overlook other crucial factors that are of particular significance to the GCC nations, including the geopolitical risk.

Pivotal works in the field of political instability and its impact on the dynamics of stock markets have shown that a variety of factors, such as war, terrorism, political tensions, and international conflicts, are known to have a negative impact on stock markets (Arin, Ciferri, & Spagnolo, 2008; Frey & Kucher, 2000; Nikkinen, Omran, Sahlström, & Äijö, 2008; Schneider & Troeger, 2006, among others). A large amount of research has affirmed share value responsiveness to geopolitical risk (Antonakakis, Gupta, Kollias, & Papadamou, 2017; Balçilar, Bonato, Demirer, & Gupta, 2018; Bouri et al., 2019, among others). The root cause of geopolitical risk's significant influence on financial markets is that portfolios include securities that are commonly susceptible to conflicting incidents, such as oil and mining stocks, are exposed to a substantial increase in undiversified risk, which is the geopolitical risk. Such events lead to a decrease in investor demand for risky funds, accompanied by aggregate equity fund outflows (Bouri, Demirer, Gupta, & Marfatia, 2019; Wang & Young, 2020). Consequently, this phenomenon triggers large waves of flight-to-quality as investors start to panic-sell and seek out alternative safer assets, commonly known as safe-haven assets, such as Islamic financial instruments and gold (Alqahtani & Klein, 2021; Delle Foglie & Panetta, 2020).

Regarding the GCC region literature indicates the region's high sensitivity to regional political events (Abdel-Latif & El-Gamal, 2018; El-Gamal & Jaffe, 2010). This sensitivity can be explained by the fact that companies in the GCC, notably oil and gas companies, are particularly vulnerable to geopolitical tensions, making geopolitical risk a systematic risk element that can inherently mold economic activity in the GCC stock

markets. This sensitivity has increased during the last decade, considering the instability and violent incidents following the Arab spring in 2011 and the late episodes of political tension in the GCC region (Selmi & Bouoiyour, 2020).

While a limited body of literature has explored the relationship between geopolitical events and stock market performance in the GCC region, these studies have primarily focused on the impact of such events on either conventional or Islamic markets, without investigating the potential effects on both types of markets simultaneously. Furthermore, there has been little exploration of how regional geopolitical risk may impact market performance differently depending on the state of the market. Relevant studies in this area include those by McMillan, Ziadat, & Herbst (2021), Umar et al. (2021), Bouri et al. (2019), Alqahtani & Klein (2021), Selmi et al. (2020), Al-Maadid, Maria Caporale, Spagnolo, & Spagnolo (2021), Alqahtani, Bouri, et al. (2020), and Ben Cheikh, Ben Naceur, Kanaan, & Rault (2021).

A limited number of studies have explored the relationship between geopolitical risk and stock market performance in the GCC, and some of the most pertinent ones are Al-Maadid, Maria Caporale, Spagnolo, & Spagnolo (2021), Alqahtani & Klein (2021), and Ben Cheikh, Ben Naceur, Kanaan, & Rault (2021). Ben Cheikh et al. (2021) examined the asymmetric relationship between oil price movements and GCC stock markets, incorporating the GPR KSA to capture the effect of political instability in the region. They employed nonlinear vector smooth transition regression models on monthly data from January 2005 to December 2019 and found that a rising GPR KSA had a negative impact on the stock markets in the GCC region. Additionally, Al-Maadid et al. (2021) used the GARCH model to investigate the effect of political tensions on GCC stock markets using weekly data from October 2010 to May 2018. Their findings revealed that the GCC stock markets experienced a decrease in returns due to the Qatar blockade crisis that began in June 2017. Similarly, Alqahtani and Klein (2021) analyzed the impact of local and global geopolitical risks, oil prices, and price uncertainty on GCC equity markets using the ARDL model from May 2007 to August 2018. Their results indicated that while the GCC stock markets were resilient to global geopolitical risk in the long run, they were negatively and significantly impacted by regional geopolitical risk, except for Qatar.

Selmi et al. (2020) conducted a study that examined the dynamic interconnections between global financial markets and the stock markets of Gulf countries, as well as Saudi Arabia. The study employed the DCC-GARCH model on monthly data spanning from July 2005 to August 2019. Their findings suggest that there exists a negative correlation between the time-varying conditional correlation of GCC's stock returns and the GPR KSA. Similarly, Bouri et al. (2019) conducted a study that aimed to investigate the impact of geopolitical risk on the return and volatility dynamics of Islamic equities and bonds. Their study employed a nonparametric causality-in-quantiles test on daily data collected between 2 January 1996 to 31 March 2017. The results of their study suggest that Islamic assets, in general, are affected by geopolitical uncertainty.

1.3.2. Assessing the Potential Diversification of Islamic Equities Portfolios

A number of studies have highlighted the abundant investment prospects available in the stock markets of the Gulf countries. The relatively low exposure of these markets to global conditions has been cited as a primary reason for the attractive investment opportunities (Alotaibi and Mishra, 2017; Maghyreh, Awartani, and Tziogkidis, 2017; Mimouni, Charfeddine, and Al-azzam, 2016). However, recent empirical evidence suggests that there are some concerning trends emerging in the GCC markets, which may be received as alarming by investors. Given that GCC economies are highly sensitive to regional changes and instability, they possess a susceptibility to abrupt collapse with little warning (Balcilar, Demirer, and Hammoudeh, 2013). Additionally, studies have indicated that diversification opportunities in the Gulf markets have decreased over time, and are not realized during periods of heightened stress (Balcilar et al., 2013; Bouoiyour and Selmi, 2019; Demirer, 2013)

Within the context of the ongoing discourse on financial dynamics, a crucial query that arises is whether Islamic stock indices offer a means of portfolio diversification and act as a hedge during times of market turmoil. The answer to this question has yet to be definitively determined and remains the subject of ongoing research and debate. However, several studies have explored this topic, seeking to shed light on the potential diversification benefits and hedging properties of Islamic stock indices in relation to conventional stock indices.

To begin with, The Gulf countries have played a pivotal role in establishing and advancing the Islamic finance industry on a global scale. Following the oil boom of the 1970s, the GCC was among the first to invest its wealth in accordance with Islamic principles, utilizing Mourabaha contracts, and establishing the world's first commercial Islamic banks, as well as the Islamic Development Bank (IDB). Furthermore, the GCC has become a significant player in the Islamic finance market, with investments in Islamic securities amounting to USD 1,499 billion in 2020, which represents the world's largest share of Islamic financial assets at 44%. Additionally, Bahrain, which is considered the financial center of the GCC region, had total Islamic finance assets of \$102 billion in 2020, placing it among the top 10 countries globally in terms of investments in Islamic finance and banking assets. Finally, the GCC boasts three of the most competitive Islamic banks worldwide: KSA's Bank Al-Rajhi, Dubai Islamic Bank, and Kuwait Finance House. These institutions dominate the Islamic finance industry, reflecting the growing importance of the GCC countries in shaping and driving the global Islamic finance sector.

It is worth noting that the literature does not provide a consensus on the potential diversification benefit that Islamic stock indices may offer. However, several studies have found that Islamic equity may serve as a viable alternative for hedging against economic externalities, given their relative stability and resilience during crises, and their capacity to outperform conventional equities while remaining relatively unaffected by market downturns (Alexakis et al., 2017; Alkhazali and Zoubi, 2014; Arouri et al., 2013; González et al., 2019; Hassan et al., 2017; Safiullah and Shamsuddin, 2019). Moreover, empirical evidence suggests that Islamic equities may offer potential diversification benefits, in line with the decoupling hypothesis (Antar and Alahouel, 2019; Jawadi et al., 2018, 2019; Karim and Masih, 2018; Paltrinieri et al., 2019). This highlights the possibility that Islamic stocks may offer investors a diversified investment portfolio with potentially higher returns, while reducing the risks associated with conventional equity investments.

Few studies have investigated the extent to which the diversification benefit of Islamic equities is dependent on the market state. Hoepner, Rammal, and Rezec (2011) found that Islamic equities may perform similarly or underperform compared to conventional equities during bear markets but may outperform during bull markets. Azad, Azmat, Chazi, and Ahsan (2018) found that

Islamic equities perform better than conventional equities during normal and bearish market conditions.

On the other hand, some studies have challenged the decoupling hypothesis and argue that Islamic and conventional equities exhibit similar dynamic patterns (Alam, Arshad, and Rizvi, 2016; Ali, Shahzad, Raza, and Al-Yahyaee, 2018; Aloui, Hkiri, Lau, and Yarovaya, 2016; Ashraf, 2016; Camgöz, Köse, and Seval, 2019; Sherif, 2016). These studies suggest that the performance of Islamic and conventional equities is not significantly different, indicating that Islamic equities may not provide diversification benefits.

In relation to studies focusing on GCC countries, the majority of research concentrates on the sukuk-Islamic stock nexus, rather than comparing the performance of Islamic and conventional markets. The few studies that are relevant to this topic present conflicting results. Some studies suggest that Islamic equities in the GCC do not offer diversification benefits, as they exhibit a performance similar to that of conventional equities, even during crisis periods (Mensi et al., 2019; Miniaoui et al., 2015). Conversely, others claim that Islamic equities serve as a hedging tool and provide a safe haven for GCC investors, particularly during periods of stress (Aloui et al., 2018; Mensi et al., 2015; Mezghani and Boujelbène, 2018; Yousaf et al., 2022). However, these studies do not account for the distinction between Islamic and conventional markets in each of the GCC countries separately.

1.3.3. Macroeconomic Indicators: Inflation and Exchange Rate

Inclusion of local macroeconomic indicators in this study is considered important as stock markets tend to react to economic fundamentals. Therefore, it is essential to incorporate inflation and exchange rate to account for the local economic situation. The literature presents a lack of agreement concerning the impact of inflation on stock markets. To start with, the stock market and inflation relationship have been a predominant concern in academia since the great depression, marked by Irvin Fisher's seminal work on the nominal interest rate and expected inflation. Fisher (1930) states that the real interest rate falls as inflation increases. However, the real interest rate is insensitive to the changes in expected inflation. This means that a one-for-one relationship exists between inflation and nominal stock return and that real interest and inflation are independent.

In accordance with the Fisher effect, it is anticipated that there will be a positive correlation between stock returns and inflation. This implies that investors who consider fundamental analysis are remunerated for the decline in purchasing power that arises from inflation. In fact, when expected inflation is high, investors seek to preserve the real value of their wealth; hence they move their capital from fixed incomes assets (risk-free rate) such as treasury bills, government bonds, and bank saving accounts to the stock market to apply what is commonly known as Inflation hedging. It means investors seek to protect the value of their wealth; in such cases, stocks serve as a hedge against inflation as they represent claims on real assets. Empirically several studies support Fisher's claim and thus stock investment serving as an inflation hedge (Alagidede & Panagiotidis Theodore, 2010; Boudoukh & Richardson, 1993; Gultekin, 1983; Mandelker, 1976; Rödel, 2014; Solnik & Solnik, 1997; Spyrou, 2004).

Nonetheless, an alternative body of literature presents evidence of an inverse correlation between expected inflation and stock market returns, which has been attributed to various explanatory factors. For instance, Fama (1981) claims that inflation negatively impacts real activity and real activity positively affects the stock market; therefore, there is a negative relationship between inflation and the stock market, known as the proxy effect hypothesis. Feldstein (1980) finds a negative relationship between the two variables and attributes it to the tax-effect hypothesis. Geske & Roll (1983) state that the monetization of government debt explains the negative effect of inflation on the stock market according to what is known as the reverse causality hypothesis.

Empirically, similar results were found for the Islamic stock market. Krasicka & Nowak (2012) compare Malaysian conventional and Islamic asset returns dynamics and their response to macro-financial factors. They apply panel data regression on monthly data from January 2006 to November 2011. Their results show that Malaysian asset returns are affected by common macroeconomic indicators, and inflation being most important. They find that stock returns are correlated positively with lower inflation. Also, Mgammal (2012) study the relationship between macroeconomic variables and the development of the Islamic stock market in Malaysia. They apply the VAR method on monthly data from April 1999 to October 2007. They find that inflation positively impacts Islamic stock prices in Malaysia.

Theoretically, there is no consensus about the effect of the exchange rate on the stock market. Firstly, the traditional approach (flow-oriented) states that changes in exchange rate influence the economic trade balance, thus affecting its real income. When the local currency depreciates, export revenues increase, and import expenditures decrease. This means that currency depreciation could show a positive relationship between the exchange rate and stock prices in an export-dominated economy, yet the opposite in an import-dominated economy (Granger & Pesaran, 2000; Tian & Ma, 2010). Secondly, the exchange rate depreciation decreases the value of local currency-denominated assets. Since the stock market comprises local currency-denominated assets, investors shift from the stock market to dollar denominated assets. Thus, the exchange rate negatively affects stock markets (Branson, 1981; Frankel, 1992; Zhao, 2010).

Empirically, Seminal works tend to find a negative relationship between stock market return and exchange rate. For instance, Ajayi & Mougoue (1996) find a negative short and long-run relation between the stock market and exchange rate. Besides, Mukherjee & Naka (1995) find a negative link between the Tokyo Stock market and exchange rate.

1.4. Data

This study employs monthly data from April 2011 to April 2021. This period mirrors a decade of high regional political volatility: it begins with the Arab spring, the multiple coups, The Yemen war, the intervention of multiple non-state actors in Syria, and the Qatari-KSA-UAE diplomatic crisis that turned out to be an embargo against Qatar. This set of events in the period is essential to this study since it incorporates regional geopolitical risk as factors impacting GCC stock market dynamics.

The regional factors utilized in this study comprise of two components, namely fundamental or economic, and non-economic factors. The inclusion of both components is justified as fundamental factors alone may not adequately account for stock price dynamics and their subsequent returns. Deviations from fundamental factors may be attributed to non-economic components such as fads, as argued by Wu, Ohk, and Ko (2021). In this study, the regional stock index is employed as the economic factor as it reflects historical regional prices, while the non-economic factor is represented by regional geopolitical risk, which can capture the effect of fads.

The dataset used in this study is comprised of monthly data on Islamic and conventional indices of six stock markets in each GCC country, in addition to conventional and Islamic regional stock market indices, regional geopolitical risk index, CPI, and exchange rate. To capture the impact of regional stock dynamics on local markets, we utilize the MSCI GCC conventional and Islamic indices. The regional geopolitical risk index is measured using the GPR KSA, which is developed by Caldara and Iacoviello (2018) and is based on the number of words associated with geopolitical events such as wars, tensions between states, and terrorist acts. Following previous studies (Alqahtani & Klein, 2021; Ben Cheikh et al., 2021; Bouri et al., 2019), we employ the GPR KSA as the regional geopolitical risk index. As Saudi Arabia is the largest oil exporter and the leading stock market in the GCC region, increasing political tensions in KSA are expected to affect the rest of the GCC economies. The exchange rate and inflation are local factors used as control variables. All data sets are obtained from Bloomberg and Datastream, except the GPR KSA taken from the website of Caldara & Iacoviello⁴. All variables except the CPI rate are expressed in the first difference of the natural logarithmic.

⁴ <https://www.matteoiacoviello.com/gpr.htm>

Table 1: Descriptive Statistics

	Variable	Mean	Std.dev	Max	Min	J.B	Kurtosis	Skewness
Panel A: Country Specific Factor								
KSA	CPI	2.64	1.94	7.00	-2.20	3.94	3.36	-0.40
	EXC Rate	3.75	0.001	3.76	3.74	7520.14****	39.92	5.66
	Islc index	169.27	24.14	240.58	128.65	9.63***	3.07	0.69
	Conv index	1072.59	120.15	1423.69	741.75	6.92***	4.13	-0.14
UAE	CPI	0.73	1.85	6.40	-2.71	0.27	2.96	0.11
	EXC Rate	3.67	0.0001	3.67	3.67	308.93**	10.08	-1.66
	Islc index	139.20	30.58	182.06	78.09	14.41***	2.18	-0.73
	Conv index	4227.39	914.75	6046.81	2402.28	13.13***	2.58	-0.78
Kuwait	CPI	0.10	0.11	0.70	-0.40	280.30***	10.43	0.29
	EXC Rate	0.29	0.01	0.31	0.27	15.32***	1.74	-0.60
	Islc index	111.85	13.04	145.61	81.02	1.19	3.17	-0.22
	Conv index	551.88	80.63	714.92	378.57	3.47***	2.51	-0.33
Qatar	CPI	0.80	1.68	3.70	-4.05	10.82***	3.46	-0.69
	EXC Rate	3.64	0.01	3.83	3.63	32524.82***	81.48	8.52
	Islc index	3528.11	772.95	4725.93	1882.67	10.70***	2.32	-0.64
	Conv index	9987.24	1365.46	13728.31	7714.26	11.77***	3.14	0.76
Bahrain	CPI	1.31	2.19	8.80	-7.00	30.80***	4.95	-0.75
	EXC Rate	0.37	0.0003	0.38	0.37	90.39***	7.22	0.12
	Islc index	27.41	7.24	46.72	15.72	8.03***	2.54	0.58
	Conv index	1301.44	141.90	1660.48	1026.23	2.57	2.34	0.14
Oman	CPI	1.30	1.25	5.40	-1.50	11.21***	3.90	0.59
	EXC Rate	0.38	0.0002	0.38	0.38	46.80***	5.28	-1.01
	Islc index	76.42	17.94	105.22	47.04	9.17***	1.69	-0.16
	Conv index	5343.24	1069.23	7484.17	3448.29	5.35**	2.03	-0.18
Panel B: Regional (GCC) Factor								
	MSCI GCC	511.40	67.60	707.09	407.55	7.95**	2.73	0.61
	MSCI GCC Islc	753.64	83.19	1010.78	559.33	12.79***	3.78	0.69
	GPR-Ksa	106.96	27.81	196.28	53.27	0.96	3.08	0.21

Source: Prepared by the author

Note: ***, **, * indicate %1, %5, %10 level of significance, respectively. We use raw data—the data before computing any changes.

Table 1 presents descriptive statistics. The Islamic index of Qatar averages at 3528.11 points with the highest standard deviation (772.95), and Bahrain averages at 27.41 points (the lowest mean for Islamic index prices). The mean of the conventional Qatari index is the highest, and Kuwait recorded the lowest mean value for the conventional index in the GCC region. Stock prices have negative skewness (except in Bahrain for both Islamic and conventional index, KSA for Islamic index, and Qatar for conventional index) and positive kurtosis. Regarding the Jarque-Bera (JB) test the normality assumption is rejected for all series, except for CPI (of KSA and UAE), Islamic index of Kuwait,

conventional index in Oman, and the regional GPR. These results indicate that almost all series represent a degree of non-normality. Thus, quantile regression is the best fit to capture the determinants of GCC stock returns characterized by non-normal distributions.

Table 2: Unit Root Tests

Variable		ADF test	PP test
Panel A: Country Specific Factor			
KSA	CPI return	-10.39***	-10.38***
	EXC Rate return	-6.79***	-6.84***
	Islamic index return	-7.45***	-7.15***
	Conv index return	-11.53***	-11.53***
UAE	CPI return	-6.19***	-9.19***
	EXC Rate return	-4.76***	-8.25***
	Islamic index return	-8.44***	-8.32***
	Conv index return	-12.28***	-12.20***
Kuwait	CPI return	-5.97***	-10.18***
	EXC Rate return	-11.66***	-11.63***
	Islamic index return	-9.97***	-9.93***
	Conv index return	-10.48***	-10.59***
Qatar	CPI return	-14.14***	-14.09***
	EXC Rate return	-10.78511***	-11.01268***
	Islamic index return	-11.19958***	-11.20041***
	Conv index return	-12.30399***	-12.35647***
Bahrain	CPI return	-3.783572*	-3.661668*
	EXC Rate return	-6.70***	-6.77**
	Islamic index return	-7.55***	-7.58***
	Conv index return	-11.20***	-11.06***
Oman	CPI return	-15.96***	-21.06***
	EXC Rate return	-4.29**	-9.49***
	Islamic index return	-9.24***	-9.18***
	Conv index return	-10.94***	-10.95***
Panel B: Regional (GCC) Factor			
MSCI GCC return		-9.77***	-9.74***
MSCI GCC Islc return		-9.88***	-9.86***
GPR-Ksa		-7.93***	-8.07***

Source: Prepared by the author

***, **, * indicate %1, %5, %10 level of significance, respectively

We run the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests to evaluate the stationary characteristics of the variables, results are shown in Table 2. The results of the Unit root tests show that all series dismiss the null hypothesis that the variable has a unit root.

1.5. Methodology

In accordance with the recent studies of Alotaibi and Mishra (2015) and Joo and Park (2021), we use the following model to investigate the impact of regional factors on conventional and Islamic indices performance in each of the Gulf countries,

$$R_t = \alpha_0 + \sum_{i=1}^N \beta_i LF_{it} + \sum_{j=1}^M \delta_j RF_{jt} + \varepsilon_t \quad (1)$$

In this specification, i and j represent the local and regional factors. α_0 and ε_t refer to intercept and disturbance. β_i reflects sensitivity of the local (Islamic/ conventional) index return in each of the GCC stock markets (separately) to the i^{th} local factors and δ_j reflects the sensitivity of the local (Islamic/ conventional) index return in each of the GCC stock markets to the j^{th} regional factors.

The variables used in our specification are defined as follow:

R_t : the local (Islamic/ conventional) index returns in each of the GCC stock markets at time t

LF_{it} : The realization of the i^{th} LF in GCC countries at time t

RF_{jt} : The realization of the j^{th} RF in GCC countries at time t

To determine the effect of RF, we first use the ordinary least square regression (OLS). However, the OLS method can be distorted by outlying observations, especially in financial data such as stock market data involving thick-tailed disturbance distributions, which are highly affected by this kind of problem. In other words, OLS becomes less robust and likely influenced by outliers when data is analyzed beyond the mean value or toward its extreme values (Greene, 2020).

We use the quantile regression model developed by Koenker & Bassett (1978) to overcome the OLS shortcomings. This method has been employed by and large to examine the dependence structures and study asymmetries in the financial markets (Baur, 2013; Joo & Park, 2021; Naifar & Hammoudeh, 2016; Xiao, Hu, Ouyang, & Wen, 2019; Zhu, Guo, You, & Xu, 2016 among others). The quantile regression is a non-parametric specification that requires fewer details about the specification of the population distribution. Thus, it requires no assumptions about the distribution of $Y|x$ or its conditional variance. The main advantage of quantile regression is that it represents the

complete picture of the conditional distribution, explaining stock market dynamics across different quantiles, which represent different market states, and highlighting asymmetric dependence structures (Zhu et al., 2016). Therefore, we apply the quantile regression model to study the asymmetric dependence structure between the local (Islamic/conventional) index return and regional factors in each GCC stock market (separately) across different quantiles.

The quantile regression model of Koenker & Bassett (1978) is developed as follows:

$$Q_y\left(\frac{\tau}{x}\right) = x' \beta(\tau) \quad (2)$$

This model assumes the linearity of the dependence of x on y and $Q_y\left(\frac{\tau}{x}\right)$ denotes the conditional quantile of y .

$$Q_y\left(\frac{\tau}{x}\right) = \inf \left\{ \frac{d}{F_y(d/x)} \geq \tau \right\} = \sum_k \beta_k(\tau) x_k \quad (3)$$

The conditional probability distribution of $Y|x$ is denoted by $F_y(d/x)$. In this research, we employ LF (CPI and exchange rate) and RF (MSCI GCC Islamic/conventional and GPR KSA) to capture the determinants of the local (Islamic/conventional) index returns in each of the GCC stock markets. We analyze the dynamics of Islamic/conventional stock index in the GCC countries separately across nine quantiles (0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9). In our study, the quantile regression model, $\beta(\tau)$ measures the degree of dependence between x and τ^{th} conditional quantile of y . Hence, if the values of $\beta(\tau)$ are invariant across the quantiles, the dependence structure is identical. Moreover, the structure of dependence increases as $\beta(\tau)$'s value increases and vice versa. At the same time, the structure of dependence displays symmetry/asymmetry depending on the similarity/dissimilarity of high and low quantiles (Koenker, 2005; Zhu et al., 2016). In addition, the existence of an exogenous/no exogenous variable in x indicates the conditional/unconditional dependency.

The coefficients of the variables are acquired by minimizing the weighted absolute difference between y and x for a given τ as follows:

$$\hat{\beta}(\tau) = \sum_{l=1} (\tau - 1_{\{y_l < x_l \beta(\tau)\}}) |Y_l - x_l' \beta(\tau)| \quad (4)$$

In Eq (4), the usual indicator function is represented by $1_{\{y_l < x_l \beta(\tau)\}}$.

To better highlight our results, we graphically illustrate the coefficient estimates in order to visualize the asymmetric dependence structure between the explanatory (regional factors) and dependent variables (conventional/Islamic GCC local stock markets return).

For robustness check, we follow two ways. First, we run the Wald test to check parameter heterogeneity across quantiles under the null hypothesis of quantile slope coefficients' identicality. Second, we rerun the estimation using a different proxy for the regional stock market.

1.6. Results and interpretation

In this section, we present the dependence structures between regional factors and GCC's six local markets across different market states, using quantile approach. Moreover, we compare the results of Islamic and conventional stock indices.

1.6.1. Islamic Stock Indices Return

In Tables 3, We convey OLS and quantile regression results for Islamic indices. In line with the OLS estimation, exchange rate coefficients for KSA and Kuwait are significantly negative. Aside from Kuwait, OLS findings indicate that the GCC members are not significantly affected by inflation. The MSCI GCC Islamic index has a favorable effect on the returns of all Gulf Islamic indices when it comes to regional factors. Remarkably, Bahrain, the region's first financial center and the site of the majority of the organizations responsible for regulating Islamic finance, is unaffected. While Oman, Bahrain and KSA are unaffected by the regional GPR, Qatar, UAE and Kuwait are negatively impacted by it. The embargo placed on Qatar by the KSA, UAE, Egypt, and Bahrain beginning in 2017 and continuing for more than three years may be to blame for the strongest regional GPR effect on Qatar.

Overall, the OLS findings show that regional variables have an impact on Gulf Islamic indices returns, suggesting that these markets are regionally integrated. This finding supports the regional integration of the Gulf stock markets as claimed by Alqahtani & Klein (2021). The OLS results, nevertheless, only depict the average connection between factors and the stock market's performance depending on the conditional mean of the indices' return; as a result, it is difficult to detect how each variable's influence varies

under various market circumstances. We employ quantile regression to address this weakness.

We can deduct from quantile results that each variable's impact changes depending on the quantile. Essentially, both bullish and normal market conditions have a negative effect on the return of GCC Islamic indices. The GCC's political and economic ties with the United States can be used to describe the outcome. The dollar is the primary instrument and method of payment for worldwide crude-oil deals, as per EL-Gamal & Jeffy (2010). Petrodollar recycling causes significant portions of the assets of oil-exporting nations to stay invested in dollar-denominated securities, making these nations highly sensitive to exchange rate fluctuations. Returns on Islamic stocks in the Gulf are benefited by inflation. High levels of liquidity (revenues of oil export) in Gulf economies are to blame for the inflation in region. Since absorbing channels are limited in these undiversified economies, most of this liquidity is absorbed by the stock market, whose capitalization represents more than 50% of the GDP in GCC countries. Besides, during high inflation periods, investors tend to protect their wealth by moving their investment from fixed-income assets to the stock market as the return rates become higher than real interest rates.

When it comes to regional variables, we see that the impact of the MSCI GCC Islamic index changes as the quantile levels change. It amply demonstrates an asymmetric reliance. Except for Bahrain and Oman, where the significance is limited to (Q5, Q6) and (Q1, Q2, Q3, Q4), respectively, for each GCC countries, MSCI GCC Islamic has a significantly positive effect across all quantiles for each GCC nation. This finding suggests that rising returns on the local Islamic stock market are correlated with rising returns on the regional Islamic market indicator.

In addition, the dependence structure is stronger when the stock market is transitioning from a bearish market to a normal market state (Q3, Q4 and Q5), after which the impact is seen to slightly decline. Except for the UAE, where the impact of MSCI GCC declines from lower quantiles to Q7, and Bahrain, where the return of MSCI GCC Islamic tends to rise from the lower to the upper quantiles significantly, it increases again at the highest upper quantiles (Q8 for Kuwait and Q9 for KSA and Qatar).

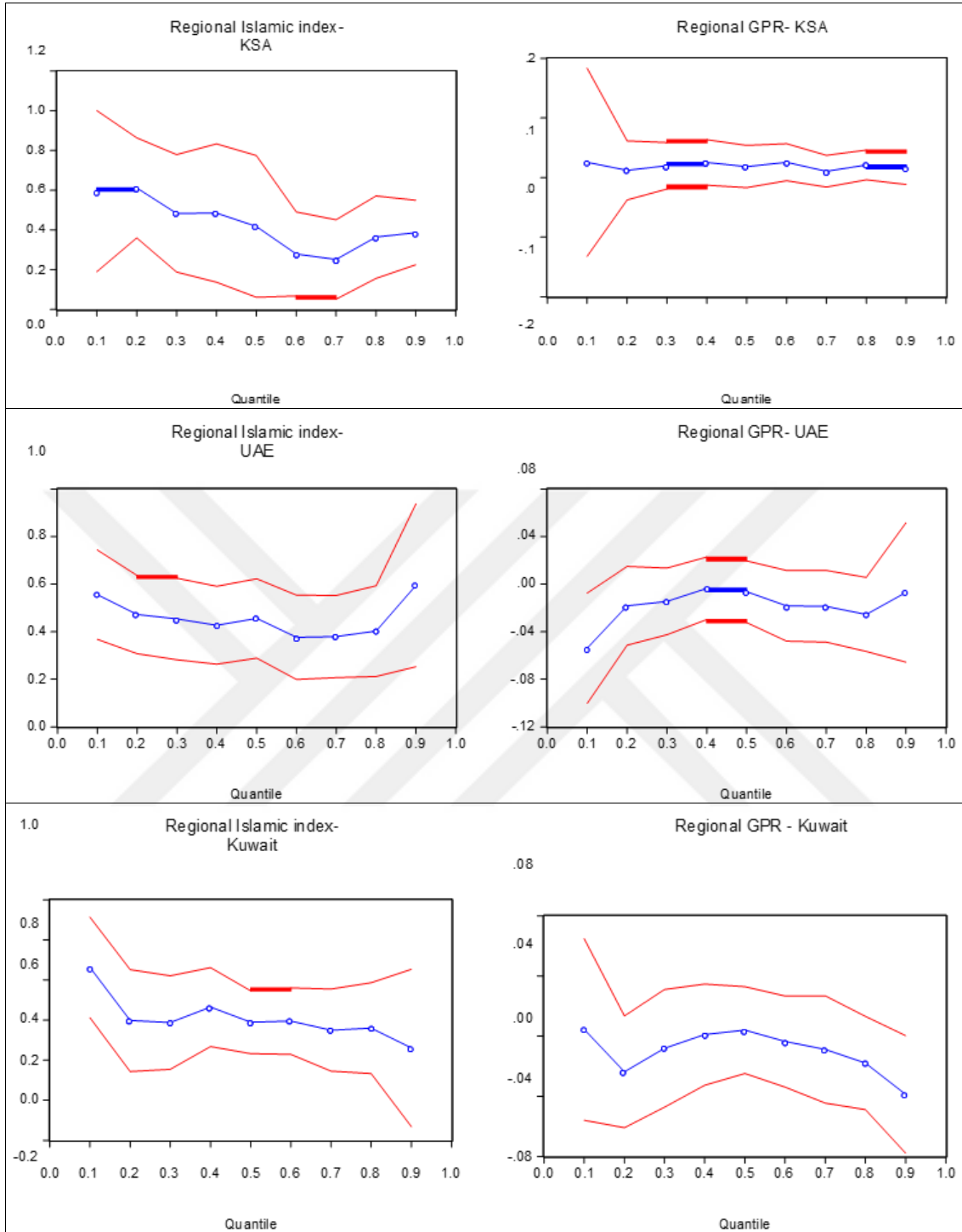
Overall, the return of the MSCI GCC Islamic index is more beneficial when markets are bearish, but this influence is less pronounced when markets are normal or bullish. The

synchronization of regional and local markets suggests that the GCC stock markets are regionally integrated, a trend that is accentuated during a bearish market. This finding is in line with Baur and McDermott's (2010) assertion that extreme market conditions have an impact on dependence structure. For all GCC states, the regional GPR is considerably negative, as anticipated. With a few notable exceptions in the UAE (Q7), Kuwait (Q9), and Qatar, bearish market conditions are generally associated with a negative effect on all nations (Q7). The conclusions of Alqahtani & Klein (2021), Antonakakis et al. (2017), Balcilar et al. (2018), Ben Cheikh et al. (2021), and Kollias, Papadamou, & Stagiannis (2011) agree with these results. Due to the regional GPR's asymmetries, increasing GPR may make investors apprehensive. Markets often exhibit high volatility when they are in a bearish period. Investors' pessimistic views during challenging times impair their capacity for logical decision-making and encourage herding. The latter will cause a price collapse and high market volatility, which will result in a negative dependence and low quantiles (Dong, Li, and Yoon, 2020).

Unexpectedly, KSA is the least affected by its GPR despite being the political and fiscal leader of the GCC. This unexpected outcome highlights KSA's position as the GCC's economic and political kingpin. A growing geopolitical risk triggers panic and a severe response from investors during bearish markets, which is the most unsettling phase, but it has no impact on their decisions during normal and bullish markets.

Results from the Islamic indices demonstrate unequivocally that there is a dependency structure between regional variables and the GCC. Islamic local markets indices have an asymmetrical dependence structure, which suggests that when the market is in a bearish state as opposed to a normal or bullish state, the impact of changes in regional variables is more noticeable.

We visually represent the coefficient estimates for the distribution of regional Islamic stock market returns and regional GPR in each of the GCC member states in order to obtain additional understanding of the dependence structure. Figure 2 confirms the asymmetric impact of the regressors by highlighting the distinct differences in dependence structure across quantiles.



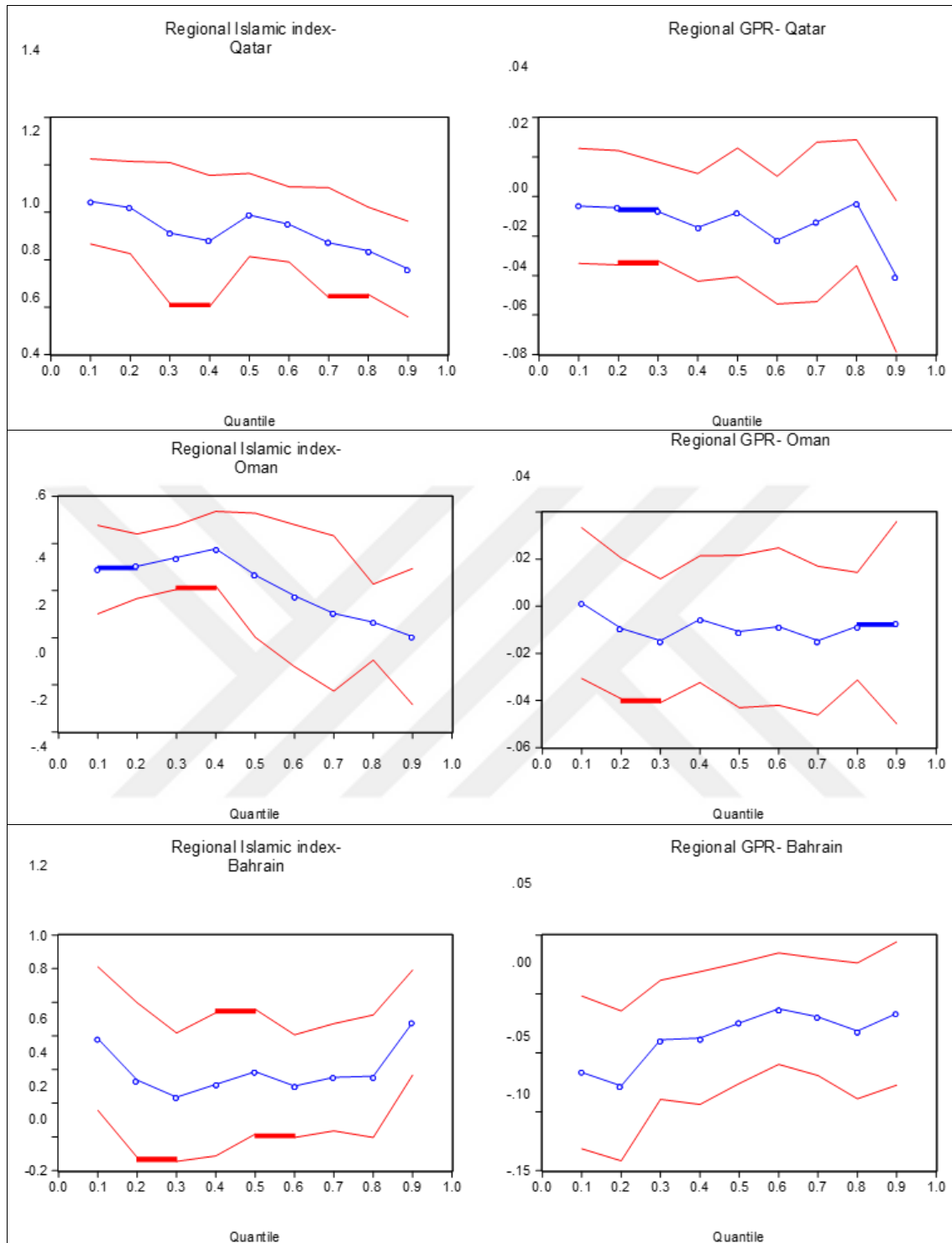


Figure 2: The Quantile Regression Coefficients for The GCC MSCI Islamic Returns, and Regional GPR

Source: Prepared by the author

Note: The blue line shows the quantile regression estimates of the regression parameters across the quantiles ranging from 0.05 to 0.95, while the red bands depict the 95% confidence intervals for the quantile regression estimates. Vertical axes present the coefficient estimates of the explanatory variable, while the horizontal axes present the quantiles of the dependent variable.

Table 3: Islamic Stock Indices Return

Country	Variable	Quantile Levels									OLS
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
KSA	C	-0.0036 (0.8991)	-0.0066 (0.8154)	0.0093 (0.6764)	0.0129 (0.5366)	0.0093 (0.6342)	0.0210 (0.2085)	0.0322 (0.0321)	0.0301** (0.0222)	0.0436*** (0.0003)	0.0137 (0.3497)
	β_1	-9.443104 (0.2845)	-13.66415 (0.2183)	-14.19490 (0.1720)	-19.2224* (0.0907)	-23.0288** (0.0435)	-24.4777* (0.0527)	-20.3553* (0.0699)	-18.6582* (0.0627)	-9.7948 (0.3255)	-17.0867** (0.0360)
	β_2	0.0112*** (0.000)	0.0055 (0.2331)	-0.0019 (0.7797)	0.0024 (0.5685)	0.0014 (0.7140)	0.0047 (0.3398)	0.0061 (0.2944)	0.0029 (0.6910)	0.0043 (0.4406)	0.0032 (0.4686)
	β_3	0.4348*** (0.0000)	0.4888** (0.0130)	0.5964*** (0.0061)	0.5480** (0.0345)	0.4789* (0.0778)	0.3168 (0.1676)	0.4169** (0.0456)	0.3683** (0.0216)	0.4149*** (0.0006)	0.4712*** (0.0000)
	β_4	-0.0004* (0.0984)	-0.0001 (0.4858)	-0.0001 (0.4475)	-0.0001 (0.5432)	-1.1E05 (0.9503)	-5.2E05 (0.7378)	-6.6E05 (0.6367)	6.3E05 (0.6192)	1.0E06 (0.9924)	-9.1E05 (0.4899)
UAE	C	-0.0385*** (0.0000)	-0.0200*** (0.0000)	-0.0122*** (0.0040)	-0.0042 (0.2588)	0.0027 (0.4699)	0.0135*** (0.0022)	0.0195*** (0.0000)	0.0318*** (0.0000)	0.0435*** (0.0000)	0.0040 (0.2310)
	β_1	-83.7273 (0.6716)	-96.9410 (0.1159)	-80.9158 (0.1955)	-48.8286 (0.3250)	-46.9799 (0.3723)	-92.9789 (0.3737)	-128.2386 (0.2120)	-138.5323 (0.2470)	-143.3775 (0.2813)	-86.3933 (0.2151)
	β_2	0.0032 (0.7538)	0.0082 (0.1255)	0.0095* (0.0842)	0.0101* (0.0831)	0.0097 (0.1307)	0.0059 (0.5309)	0.0049 (0.5309)	0.0065 (0.4058)	0.0053 (0.4663)	0.0083 (0.1433)
	β_3	0.6699*** (0.0000)	0.5794*** (0.0000)	0.5357*** (0.0000)	0.5045*** (0.0000)	0.4775*** (0.0000)	0.4664*** (0.0025)	0.4232*** (0.0102)	0.5464* (0.0922)	0.6698 (0.1010)	0.5430*** (0.0000)
	β_4	-0.0619** (0.0172)	-0.0335* (0.0704)	-0.0227 (0.2044)	-0.0096 (0.5516)	-0.0120 (0.4650)	-0.0271 (0.2050)	-0.0389* (0.0556)	-0.0239 (0.3412)	-0.0218 (0.4254)	-0.0437*** (0.0011)
Kuwait	C	-0.0350*** (0.0000)	-0.0227*** (0.0000)	-0.0140*** (0.0001)	-0.0062* (0.0581)	-0.0001 (0.9633)	0.0055 (0.1196)	0.0106*** (0.0056)	0.0204*** (0.0000)	0.0408*** (0.0000)	0.0012 (0.6738)
	β_1	-1.7807** (0.0233)	-1.1715 (0.2277)	-1.0281 (0.1840)	-0.7098 (0.3160)	-0.2363 (0.7250)	-0.4742 (0.4900)	0.0964 (0.8822)	-0.2031 (0.7726)	-0.6478 (0.5448)	-1.1641** (0.0487)
Kuwait		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
	β_2	0.0413* (0.0563)	0.0211 (0.1219)	0.0275** (0.0406)	0.0292** (0.0473)	0.0379** (0.0252)	0.0308* (0.0931)	0.0444*** (0.0081)	0.0613*** (0.0009)	0.0805*** (0.0000)	0.0346** (0.0487)
	β_3	0.6031*** (0.0000)	0.5299*** (0.0000)	0.5538*** (0.0000)	0.5560*** (0.0000)	0.5429*** (0.0000)	0.4809*** (0.0000)	0.4901*** (0.0000)	0.5213*** (0.0000)	0.4013** (0.0315)	0.5554*** (0.0000)
	β_4	-0.0451*** (0.0013)	-0.0373** (0.0292)	-0.0275** (0.0296)	-0.0191 (0.1425)	-0.0232 (0.1072)	-0.0189 (0.3008)	-0.0180 (0.4059)	-0.0126 (0.4843)	-0.0340* (0.0520)	-0.0292*** (0.0088)

Qatar	C	-0.0461*** (0.0000)	-0.0219*** (0.0001)	-0.0101** (0.0285)	-0.0005 (0.9031)	0.0056 (0.2317)	0.0147*** (0.0038)	0.0289*** (0.0000)	0.0415*** (0.0000)	0.0556*** (0.0000)	0.0067 (0.1319)
	β_1	-0.3798 (0.1264)	-1.0330** (0.0316)	-1.1790** (0.0325)	-1.3332** (0.0333)	-1.5333** (0.0167)	-1.2626 (0.2173)	-0.0792 (0.9846)	0.5799 (0.8592)	-1.0216 (0.9221)	-0.5024 (0.4120)
	β_2	0.0119 (0.3030)	-0.0031 (0.5829)	0.0016 (0.7852)	-0.0005 (0.9395)	-0.0005 (0.9411)	-0.0114 (0.3686)	-0.0027 (0.8816)	-0.0091 (0.5101)	-0.0056 (0.6330)	-0.0009 (0.8963)
	β_3	0.2414 (0.4285)	0.5272*** (0.0061)	0.5496*** (0.0011)	0.6258*** (0.0002)	0.6475*** (0.0001)	0.6179*** (0.0015)	0.6031*** (0.0004)	0.5836*** (0.0005)	0.6227*** (0.0000)	0.4565*** (0.0001)
	β_4	-0.0549 (0.1037)	-0.0313 (0.1365)	-0.0220 (0.2287)	-0.0153 (0.4447)	-0.0240 (0.2685)	-0.0323 (0.2304)	-0.0493* (0.0988)	-0.0362 (0.2886)	-0.0468 (0.2389)	-0.0574*** (0.0013)
Bahrain	C	2.8966*** (0.0000)	3.0725*** (0.0000)	3.1471*** (0.0000)	3.1765*** (0.0000)	3.2354*** (0.0000)	3.2877*** (0.0000)	3.4369*** (0.0000)	3.5278*** (0.0000)	3.6392*** (0.0000)	3.2746*** (0.0000)
	β_1	15.8792 (0.6280)	40.3368 (0.3803)	14.9208 (0.8107)	19.9166 (0.7785)	10.2623 (0.8320)	3.3224 (0.9376)	14.8933 (0.8150)	37.5506 (0.5357)	68.3087 (0.1530)	23.7475 (0.4194)
	β_2	0.0101 (0.6936)	-0.0101 (0.5846)	0.0031 (0.8929)	0.0015 (0.9497)	-0.0058 (0.8245)	-0.0016 (0.9599)	0.0360* (0.0521)	0.0350* (0.0873)	0.0550** (0.0269)	0.0122 (0.4821)
	β_3	0.5887 (0.0000)	0.2574 (0.8169)	0.0628 (0.9569)	0.4536 (0.7191)	1.3786* (0.0829)	2.0764*** (0.0052)	1.0749 (0.2818)	0.8190 (0.3991)	-0.1768 (0.8585)	0.3918 (0.5267)
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Bahrain	β_4	-0.0886*** (0.0000)	0.0596 (0.6650)	-0.0213 (0.8754)	0.0293 (0.8467)	0.0120 (0.9145)	-0.0376 (0.7177)	-0.0479 (0.7840)	-0.1089 (0.5154)	-0.0662 (0.6777)	-0.0159 (0.8626)
Oman	C	-0.0376*** (0.0000)	-0.0238*** (0.0000)	-0.0180*** (0.0000)	-0.0113*** (0.0009)	-0.0030 (0.3986)	0.0045 (0.2787)	0.0093** (0.0278)	0.0198*** (0.0000)	0.0306*** (0.0000)	-0.0041 (0.0998)
	β_1	-12.2551 (0.1925)	-4.8841 (0.3236)	-8.2392* (0.0784)	-5.2787 (0.2188)	-6.2089 (0.1168)	-2.7582 (0.4498)	-3.5149 (0.2927)	-4.5452 (0.1868)	2.3990 (0.5541)	-4.9972 (0.1123)
	β_2	-0.0046 (0.7986)	0.0011 (0.7950)	-0.0022 (0.7238)	-0.0040 (0.4560)	-0.0036 (0.4869)	-0.0064 (0.2033)	-0.0048 (0.4025)	-0.0098*** (0.0077)	-0.0063 (0.2365)	-0.0063 (0.1027)
	β_3	0.2165** (0.0169)	0.3076*** (0.0000)	0.3511*** (0.0000)	0.2949*** (0.0052)	0.2581 (0.1272)	0.2038 (0.3217)	0.1814 (0.3853)	0.0605 (0.7162)	-0.0787 (0.6140)	0.2477 (0.0002)
	β_4	-0.0088 (0.5108)	-0.0229* (0.0527)	-0.0142 (0.4034)	-0.0178 (0.2749)	-0.0115 (0.4985)	-0.0166 (0.2922)	-0.0132 (0.3975)	-0.0068 (0.6607)	-0.0038 (0.8182)	-0.0109 (0.2649)

Source: Prepared by the author

***, **, * indicate %1, %5, %10 level of significance, respectively. β_1 , β_2 , β_3 , β_4 represent exchange, rate, inflation, regional Islamic index, and regional GPR, respectively.

1.6.2. Conventional Stock Indices Return

In this section, we present the findings from OLS and quantile regression for Conventional indices in GCC nations (In Table 4). The estimated exchange rate values are significantly negative for KSA, Kuwait, and Oman, but insignificant for the other countries, per the OLS estimation findings. Results also indicate that Saudi Arabia is the country most affected by the exchange rate, followed by Kuwait and Oman. Except for Kuwait, the GCC nations are not significantly impacted by inflation. This is comparable to the outcome of the Islamic score.

The results of all GCC Islamic stock indices are significantly influenced favorably by the MSCI GCC index. In the UAE, Qatar, Kuwait, and Bahrain, the conventional stock return is adversely impacted by regional geopolitical risk. However, Saudi and Oman are unaffected. The OLS estimation shows that GCC conventional indices returns are influenced by regional factors more than local macroeconomic indicators, which is consistent with the results of Islamic indices and indicates that the GCC conventional indices are regionally integrated.

We can deduct from quantile results that each variable's impact changes depending on the quantile. All GCC stock profits are adversely impacted by the exchange rate. The Islamic indices showed the same outcome overall, with the exception of Bahrain. At normal and bullish market conditions, the exchange rate typically affects the Gulf conventional indices returns. Inflation has a significant positive impact on KSA stock return at the bullish market (Q8, Q9) and Kuwait stock return at bearish and normal markets (Q1, Q3, Q4, Q5, Q6). However, inflation negatively impacts the stock return in UAE at the bullish market (Q8, Q9). The effect in Bahrain, Qatar, and Oman is insignificant.

The impact of MSCI GCC conventional varies as anticipated as the quantile levels change. With the exception of KSA, where the significance is limited, MSCI GCC conventional has a substantial positive impact across almost all quantiles for each GCC country (Q1, Q8, Q9). According to this finding, rising MSCI GCC conventional returns correspond to rising local conventional market returns. Additionally, this impact is more pronounced for the UAE, Qatar, and Bahrain when the stock market is in normal (Q4, Q5, Q6) and bullish (Q7, Q8, Q9) states. The return on the conventional regional index, with the exception of Kuwait and KSA, tends to decline from the lower to the higher

quantiles, though in Kuwait it slightly increases at the highest quantiles (Q8 and Q9). The MSCI GCC conventional index fluctuates across quantiles in Oman, but its impact is greatest at the lowest (Q1), highest (Q9), and middle (Q5) quantiles; this indicates that the impact is greatest at market turning points.

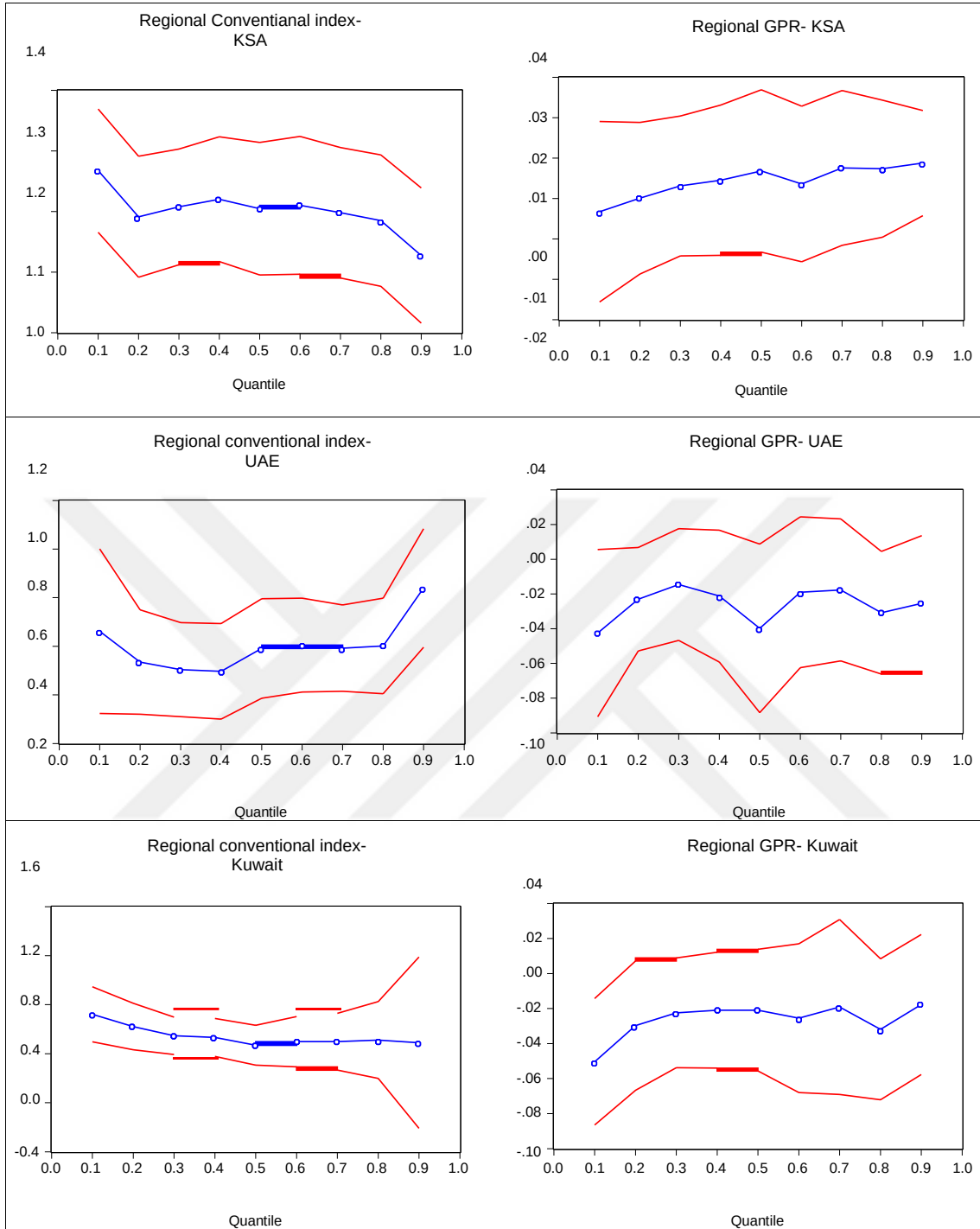
Generally, UAE, Kuwait, and Qatar are more impacted by the traditional return of the MSCI GCC. Additionally, the bullish market state in the UAE, Qatar, and Bahrain has a greater positive effect on the MSCI GCC conventional return than the bearish market state in Kuwait and KSA. This outcome is not unexpected given that the UAE is one of the most important regional financial centers, has made significant strides in their openness and reforms, and has one of the most robust economic systems in the region and the world⁵. Additionally, another reason can be linked to the fact that equity-based investors have shown more interest in the Gulf's more stable markets, while those markets that were thought to be less stable were met with a preference for bond investments, especially in the form of sovereign bonds. According to Ramady (2013) , this phenomenon is demonstrated by Bahrain and Oman's successful issuance of government bonds in defiance of their perceived political risks .

All nations are negatively impacted by the regional geopolitical risk as anticipated, apart from Oman, which is expected. KSA (Q9) and Bahrain (Q8, Q9) are most adversely impacted by the regional GPR at the upper quantiles, while Kuwait (Q1, Q2) and the UAE (Q1) are most negatively impacted at the lower quantiles. Regional GPR has a negative effect on stock market return in Qatar at the lowest quantile (Q1), middle quantile (Q4), and highest quantile (Q9). The regional GPR has a positive effect on the local stock market return in Oman at both normal (Q6) and bullish market (Q7, Q8) states. This is an unexpected finding. With the exception of Oman, we observe that the regional GPR has a detrimental effect on the performance of the local conventional stock market during extreme market states (most upper quantile and most lower quantile). Bad news in extreme market circumstances disrupts investors' perception of information because of cognitive biases.

⁵ According to the FM Global Resilience Index: UAE (32 nd), Qatar (34 th), Bahrain (45th), KSA (55th), Oman (69th), Kuwait (86th).

Results confirm that the six countries making up the GCC bloc have a similar response to regional factors, despite the asymmetric effect of regional factors across different quantiles for each country. Similarities in GCC stock market structure are crucial in explaining why regional factors have a nearly identical effect (Dong, Li, and Yoon, 2020). Due to their comparable economic environments (oil export) and market structures, the GCC markets are similar (regulations and market players). Finally, as El-Gamal and Jaffe (2010) noted the regional stock markets offer limited diversification opportunities for investors as they are characterized by a preponderance of petroleum companies, construction sector firms including Emaar, and firms operating in the cement and steel industries, as well as financial institutions. The financial firms generate profits through the extension of credit to the aforementioned firms, thus leading to a high degree of correlation between the listings on these markets.

We examine the factors for every GCC nation in a manner akin to the Islamic indices. Figure 3 confirms the asymmetric impact of the regressors by highlighting the distinct differences in dependence structure across quantiles. Asymmetry can be explained by regional variables that vary depending on the state of the markets and the actions of investors (Dong, Li, and Yoon, 2020).



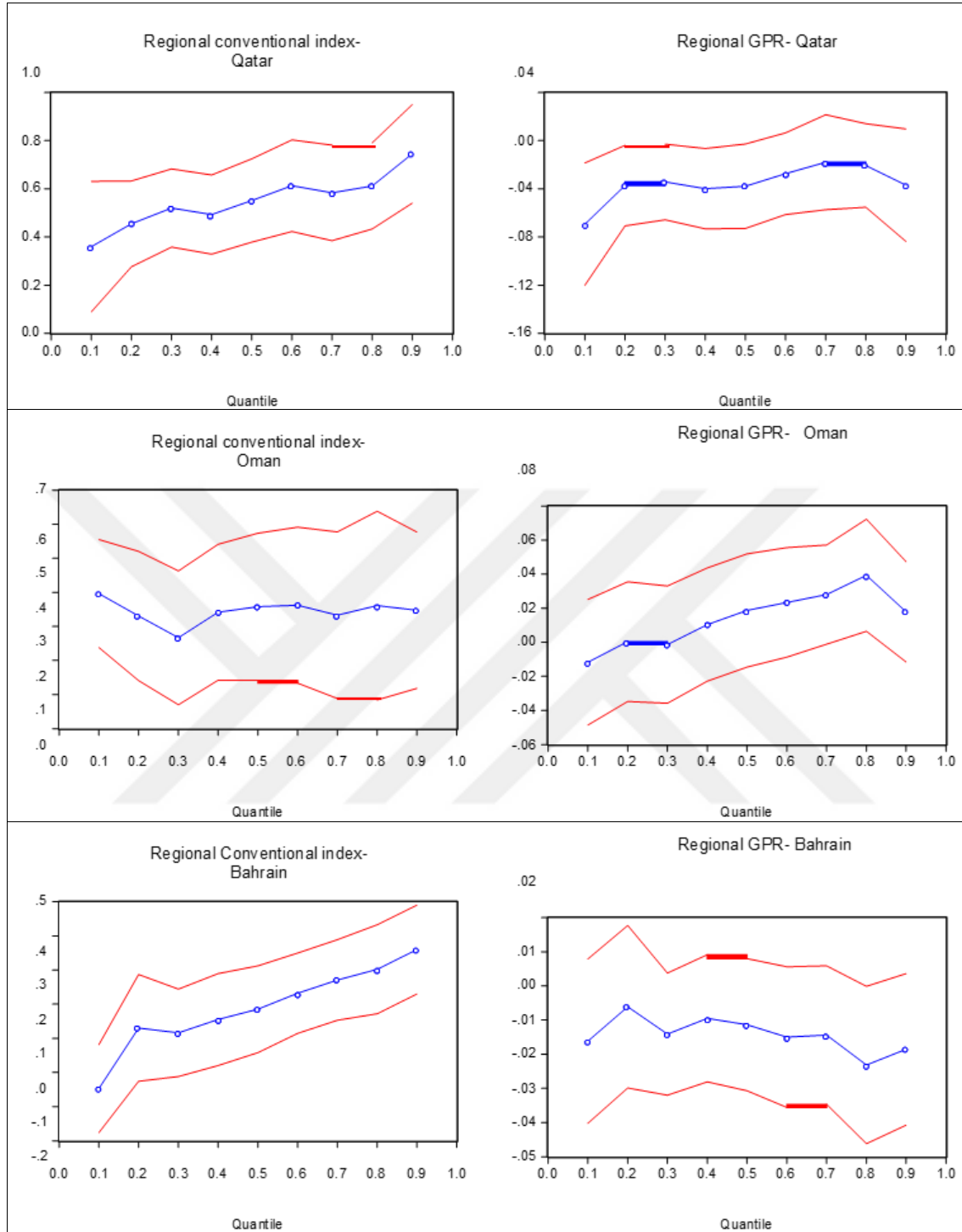


Figure 3: The Quantile Regression Coefficients for The GCC MSCI Conventional Index Returns, and Regional GPR

Source: Prepared by the author

Note: The blue lines show the quantile regression estimates of the regression parameters across the quantiles ranging from 0.05 to 0.95, while the red lines depict the 95% confidence intervals for the quantile regression estimates. Vertical axes present the coefficient estimates of the explanatory variable, while horizontal axes present the quantiles of the dependent variable.

Table 4: Conventional Stock Indices Stock Indices Return

Country	Variable	Quantile Levels									OLS
		Q1	Q1	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
KSA	C	-0.0395*** (0.0000)	-0.0189*** (0.0033)	-0.0008 (0.5242)	-0.0001 (0.9476)	0.0003 (0.8361)	0.0010 (0.4763)	0.0142** (0.0235)	0.0274*** (0.0000)	0.0548*** (0.0000)	0.0016 (0.6909)
	β_1	-3.6041 (0.6085)	-18.253 (0.2023)	-13.813 (0.4657)	-16.122 (0.4394)	-15.553 (0.4681)	-14.419 (0.4861)	-11.161 (0.4978)	-20.276** (0.0251)	-30.579*** (0.0000)	-18.354* (0.0603)
	β_2	-0.0008 (0.7479)	-0.0006 (0.8501)	0.0009 (0.8394)	0.0011 (0.8167)	0.0009 (0.8522)	0.0015 (0.7668)	0.0062 (0.1390)	0.0106** (0.0237)	0.0171*** (0.0027)	0.0033 (0.5174)
	β_3	0.5774*** (0.0000)	0.3382 (0.1057)	0.0203 (0.5475)	0.0066 (0.8550)	0.0047 (0.8982)	0.0120 (0.7366)	0.2173 (0.2209)	0.3618*** (0.0023)	0.3491*** (0.0000)	0.2809*** (0.0062)
	β_4	0.0035 (0.7966)	-0.0101 (0.5450)	-0.0001 (0.9813)	0.0001 (0.9846)	-0.0005 (0.9441)	-0.0017 (0.8056)	-0.0068 (0.7057)	-0.0038 (0.8399)	-0.0381* (0.0937)	-0.0055 (0.7472)
UAE	C	-0.0294*** (0.0000)	-0.0205*** (0.0000)	-0.0128*** (0.0006)	-0.0078* (0.0504)	0.0051 (0.2044)	0.0139*** (0.0024)	0.0200*** (0.0000)	0.0271*** (0.0000)	0.0481*** (0.0000)	0.0047 (0.1246)
	β_1	-72.3839 (0.4065)	-136.0726** (0.0138)	-134.5523** (0.0188)	-114.5543* (0.0828)	-72.2538 (0.2646)	-97.3583 (0.1640)	-78.1178 (0.1440)	-68.3104 (0.1983)	-9.1407 (0.8869)	-72.0786 (0.2548)
	β_2	0.0070 (0.1076)	0.0072 (0.1082)	0.0017 (0.6601)	0.0012 (0.7975)	-0.0001 (0.9805)	-0.0044 (0.7075)	-0.0118 (0.1999)	-0.0155* (0.0701)	-0.0174* (0.0790)	-0.0003 (0.9396)
	β_3	0.5186*** (0.0000)	0.4504*** (0.0000)	0.4860*** (0.0000)	0.5264*** (0.0000)	0.5964*** (0.0000)	0.6059*** (0.0000)	0.6050*** (0.0000)	0.6867*** (0.0000)	0.8479*** (0.0000)	0.6833*** (0.0000)
	β_4	-0.0340** (0.0336)	-0.0205 (0.1722)	-0.0153 (0.3629)	-0.0185 (0.3318)	-0.0342 (0.1588)	-0.0150 (0.4850)	-0.0101 (0.5915)	-0.0263 (0.1186)	-0.0216 (0.2525)	-0.0387*** (0.0018)
Kuwait	C	-0.0404*** (0.0000)	-0.0318*** (0.0000)	-0.0187*** (0.0000)	-0.0092** (0.0227)	-0.0032 (0.3967)	0.0053 (0.2072)	0.0136*** (0.0020)	0.0248*** (0.0000)	0.0445*** (0.0000)	-0.0002 (0.9489)
	β_1	-2.2422** (0.0109)	-1.7835* (0.0730)	-1.4990 (0.1379)	-1.6009* (0.0903)	-1.1070 (0.1570)	-1.2666* (0.0906)	-1.4395* (0.0955)	-2.3371** (0.0328)	-2.0708 (0.1792)	-2.2626*** (0.0007)
	β_2	0.0331** (0.0295)	0.0273 (0.1278)	0.0479** (0.0154)	0.0453** (0.0392)	0.0500** (0.0154)	0.0466** (0.0465)	0.0323 (0.2915)	0.0471 (0.2376)	0.0663 (0.1182)	0.0405** (0.0388)
		Q1	Q1	Q3	Q4	Q5	Q6	Q7	Q8	Q9	OLS
Kuwait	β_3	0.6244*** (0.0000)	0.6187*** (0.0000)	0.5425*** (0.0000)	0.5795*** (0.0000)	0.5426*** (0.0000)	0.4766*** (0.0000)	0.4503*** (0.0001)	0.4585*** (0.0026)	0.4950 (0.1232)	0.5612*** (0.0000)
	β_4	-0.0529*** (0.0005)	-0.0386* (0.0560)	-0.0197 (0.1921)	-0.0214 (0.1781)	-0.0222 (0.1637)	0.0030 (0.8726)	-0.0199 (0.3959)	-0.0338 (0.1175)	-0.0165 (0.4496)	-0.0305** (0.0140)

Qatar	C	-0.0462*** (0.0001)	-0.0221*** (0.0000)	-0.0148*** (0.0013)	-0.0059 (0.1440)	0.0045 (0.2719)	0.0099** (0.0143)	0.0165*** (0.0000)	0.0271*** (0.0000)	0.0433*** (0.0000)	8.2E05 (0.9804)
	β_1	-0.3363 (0.5450)	0.1147 (0.7082)	0.0111 (0.9834)	-0.1954 (0.7534)	-0.2758 (0.6952)	-0.4222 (0.4934)	-0.4852*** (0.0021)	-0.7584* (0.0696)	0.4133 (0.8724)	-0.1379 (0.7619)
	β_2	0.0006 (0.9398)	0.0076 (0.3989)	0.0044 (0.5661)	-0.0013 (0.8455)	-0.0045 (0.4769)	-0.0041 (0.5086)	-0.0021 (0.7069)	-0.0095 (0.2159)	-0.0075 (0.3947)	-0.0017 (0.7485)
	β_3	0.6060** (0.0183)	0.5094*** (0.0000)	0.5506*** (0.0000)	0.5722*** (0.0000)	0.6713*** (0.0000)	0.6413*** (0.0000)	0.5808*** (0.0000)	0.5246*** (0.0000)	0.6670*** (0.0000)	0.5984*** (0.0000)
	β_4	-0.0757** (0.0281)	-0.0287 (0.1363)	-0.0267 (0.1725)	-0.0317* (0.0601)	-0.0233 (0.1829)	-0.0267 (0.1197)	-0.0159 (0.3887)	-0.0197 (0.3156)	-0.0470* (0.0533)	-0.0381** (0.0043)
Bahrain	C	-0.0256*** (0.0000)	-0.0161*** (0.0000)	-0.0098*** (0.0002)	-0.0050* (0.0564)	0.0012 (0.6370)	0.0065** (0.0177)	0.0106*** (0.0002)	0.0186*** (0.0000)	0.0303*** (0.0000)	0.0021 (0.5402)
	β_1	-3.5579 (0.3150)	-0.6755 (0.8229)	1.0704 (0.7111)	2.2097 (0.4940)	-0.7912 (0.8258)	0.9897 (0.8091)	3.3162 (0.3658)	-0.0233 (0.9963)	-3.6971 (0.4274)	-4.7036 (0.2675)
	β_2	-0.0008 (0.7871)	-0.0009 (0.7374)	-0.0016 (0.4186)	-0.0016 (0.4592)	0.0013 (0.5356)	0.0010 (0.5142)	0.0013 (0.3919)	0.0003 (0.8168)	0.0010 (0.6765)	0.0013 (0.5928)
	β_3	-0.0248 (0.7274)	0.1223 (0.1027)	0.1341** (0.0305)	0.1573** (0.0147)	0.1580*** (0.0082)	0.2408*** (0.0001)	0.2932*** (0.0000)	0.3299*** (0.0000)	0.3677*** (0.0000)	0.2365*** (0.0031)
	β_4	-0.0114 (0.4292)	-0.0147 (0.2975)	-0.0101 (0.3126)	-0.0091 (0.3615)	-0.0155 (0.1474)	-0.0149 (0.1689)	-0.0157 (0.1462)	-0.02191* (0.0578)	-0.0289** (0.0173)	-0.0223* (0.0984)
Oman	C	-0.0469*** (0.0000)	-0.0262*** (0.0000)	-0.0177*** (0.0000)	-0.0084** (0.0219)	-0.0037 (0.2972)	0.0042 (0.2042)	0.0127*** (0.0002)	0.0176*** (0.0000)	0.0299*** (0.0000)	-0.0049** (0.0697)
	β_1	-18.7301* (0.0109)	-5.9526 (0.2390)	-6.5219 (0.1399)	-6.9126 (0.1379)	-8.9567* (0.0626)	-7.3654* (0.0800)	-4.8080 (0.2419)	-7.2808* (0.0540)	-11.1972*** (0.0046)	-10.6855*** (0.0018)
		Q1	Q1	Q3	Q4	Q5	Q6	Q7	Q8	Q9	OLS
Oman	β_2	0.0056 (0.4300)	0.0024 (0.6438)	0.0019 (0.7165)	-0.0008 (0.8729)	0.0010 (0.8579)	-0.0007 (0.8657)	-0.0010 (0.7920)	0.0002 (0.9469)	-0.0009 (0.8702)	-0.0002 (0.9595)
	β_3	0.3997*** (0.0000)	0.3453*** (0.0007)	0.2558** (0.0157)	0.3445*** (0.0010)	0.3870*** (0.0007)	0.3046** (0.0207)	0.3179** (0.0150)	0.3200** (0.0134)	0.3543** (0.0041)	0.3631*** (0.0000)
	β_4	-0.0194 (0.2146)	-1.6E05 (0.9993)	-0.0071 (0.6990)	0.0152 (0.3637)	0.0188 (0.2690)	0.0255* (0.0887)	0.0278* (0.0681)	0.0318** (0.0480)	0.0173 (0.2664)	0.0095 (0.3736)

Source: Prepared by the author

***, **, * indicate %1, %5, %10 level of significance, respectively. β_1 , β_2 , β_3 , β_4 represent exchange, rate, inflation, regional conventional index, and regional GPR, respectively.

1.6.3. Islamic Versus Conventional Indices Performance

As Table 4 illustrates, early across all quantiles, the regional Islamic market stock return shows a significant positive influence on KSA, UAE, Kuwait, and Qatar, with a stronger effect during a bullish market. We see the same favorable effects on the regional conventional equity market for the UAE, Qatar, Bahrain, Kuwait, and Oman. For the UAE, Qatar, and Bahrain, this effect is greater when the market is bullish, whereas for Kuwait and KSA, it is stronger when the market is bearish or normal. With the exception of Qatar, all countries' GPRs during bear markets have a detrimental impact on the return on Islamic stocks. Only at extreme market states do conventional stock return findings show a negative impact of regional GPR.

The findings show that portfolio diversification is not feasible because, in the majority of countries, both the conventional and Islamic stock markets exhibit positive dependence with the regional market. Investors in the KSA, UAE, Bahrain, and Kuwait can alternate their investments between Islamic and Conventional indices, however, in the case of regional GPR, in order to minimize potential losses at extreme market conditions brought on by the negative effect of GPR.

Despite their basic differences, the GCC's Islamic and conventional stock markets perform nearly identically. First, when compared to regional GPR, which is the non-economic component, regional stock markets, which represent the economic factor, better catch stock market fluctuations in the GCC Islamic and conventional markets. This demonstrates how resistant to geopolitical turmoil the markets in the GCC are. Second, the findings suggest that the difference between Islamic and conventional financial spending is closing, or that the two approaches are merging. In other words, investing in Shariah-compliant assets has neither a materially positive nor negative effect on an investor's wealth relative to investing in conventional assets (Delle Foglie & Panetta, 2020; Girard & Hassan, 2008; Krasicka & Nowak, 2012 among others).

1.7. Robustness Check

In this section, an alternative proxy was used to check the robustness of the results.

1.7.1. An alternative Measure for The Regional Market

The GCC Dow Jones Islamic and conventional indices, which represent the regional market returns of GCC stock markets excluding the period from 2011 to 2013, during which major political changes occurred in the Arab World and may have had a significant impact on GCC stock markets performance, were used as our independent variable in equations (1) and (2) to test the robustness of our results. Re-estimated values are used in both formulae, namely equation (1) for Islamic markets and equation (2) for conventional markets. Table 5 and Table 6 present the findings.

The findings for the dependence structure across quantiles in Table 5 (Islamic indices) are noticeably different from those in Table 3. The significant levels of regional factors, including the regional stock market and regional GPR, are lower in comparison to Table 3's results, and the coefficients are also lower.

Table 5: Islamic Stock Indices Return

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
KSA									
C	-0.0632*** (0.0023)	-0.0340** (0.0157)	-0.0139 (0.3437)	0.0070 (0.3590)	0.0087 (0.2404)	0.0155** (0.0232)	0.0219*** (0.0005)	0.0331*** (0.0000)	0.0433*** (0.0000)
β_1	0.0034 (0.5190)	0.0030 (0.4989)	0.0005 (0.9170)	-0.0030 (0.3540)	0.0003 (0.9010)	0.0003 (0.8752)	0.0005 (0.7858)	0.0009 (0.6255)	0.0003 (0.8685)
β_2	12.662 (0.4513)	2.1022 (0.7762)	-0.0886 (0.9909)	6.0981 (0.6038)	10.875 (0.4471)	12.870 (0.3370)	15.938 (0.1696)	22.294*** (0.0176)	25.6310*** (0.0013)
β_3	1.0879*** (0.0007)	0.7875*** (0.0000)	0.7538*** (0.0000)	0.6462*** (0.0005)	0.5150*** (0.0051)	0.5151*** (0.0023)	0.4340*** (0.0007)	0.3863*** (0.0007)	0.4581*** (0.0000)
β_4	-0.0187 (0.3615)	-0.0119 (0.5229)	-0.0057 (0.7933)	-0.0204 (0.3153)	-0.0154 (0.4437)	-0.0027 (0.8930)	-0.0010 (0.9553)	-0.0141 (0.4856)	-0.0151 (0.4835)
UAE									
C	-0.0350*** (0.0001)	-0.0189*** (0.0000)	-0.0110*** (0.0084)	-0.0066 (0.1069)	0.0025 (0.5220)	0.0095** (0.0196)	0.0143*** (0.0003)	0.0219*** (0.0000)	0.0374*** (0.0000)
β_1	-0.0023 (0.4453)	0.0010 (0.6146)	0.0013 (0.5073)	0.0012 (0.5724)	0.0040* (0.0518)	0.0058*** (0.0037)	0.0068*** (0.0001)	0.0069*** (0.0000)	0.0095*** (0.0070)
β_2	-45.260 (0.7014)	-64.356 (0.1128)	-54.290 (0.2827)	-59.381 (0.3187)	-59.339 (0.7069)	25.287 (0.7914)	23.368 (0.8113)	116.6941 (0.1096)	7.3450 (0.9723)
β_3	0.7081** (0.0107)	0.5089*** (0.0001)	0.5474*** (0.0001)	0.5218*** (0.0001)	0.3909*** (0.0002)	0.4431*** (0.0000)	0.5033*** (0.0000)	0.4745*** (0.0000)	0.5056*** (0.0087)
β_4	-0.0397** (0.0108)	-0.0189*** (0.0000)	-0.0210 (0.1790)	-0.0201 (0.2098)	-0.0288 (0.1013)	-0.0241 (0.1585)	-0.0306* (0.0586)	-0.0199 (0.1901)	-0.0173 (0.4098)
KUWAIT									
C	-0.0497*** (0.0001)	-0.0237*** (0.0068)	-0.0139 (0.1054)	-0.0047 (0.6194)	0.0081 (0.3275)	0.0208** (0.0183)	0.0223** (0.0115)	0.0309** (0.0203)	0.0508*** (0.0047)
β_1	0.0551 (0.3847)	-0.0141 (0.7750)	-0.0068 (0.8926)	0.0036 (0.9495)	-0.0338 (0.5061)	-0.0625 (0.2366)	-0.0194 (0.7347)	0.0048 (0.9656)	-0.0475 (0.7106)
β_2	-5.1185*** (0.0000)	-4.7233** (0.0174)	-4.0611** (0.0174)	-3.1798* (0.0620)	-3.5539** (0.0158)	-2.2502 (0.1409)	-0.5633 (0.6534)	-1.2731 (0.2700)	-0.3947 (0.6890)
β_3	0.3563* (0.0799)	0.3695** (0.0142)	0.2622* (0.0679)	0.1425 (0.3303)	0.1884 (0.1615)	0.1447 (0.2999)	0.0725 (0.4478)	0.1887 (0.1477)	0.0967 (0.3739)
β_4	-0.0445*** (0.0082)	-0.0249 (0.2034)	-0.0287 (0.1873)	-0.0388 (0.1873)	-0.0139 (0.5686)	-0.0279 (0.2758)	-0.0264 (0.2058)	-0.0486** (0.0284)	-0.0265 (0.1483)

QATAR									
C	-0.0514*** (0.0000)	-0.0349*** (0.0000)	-0.0259*** (0.0001)	-0.0096 (0.1551)	-0.0003 (0.9575)	0.0102 (0.1679)	0.0212** (0.0112)	0.0401*** (0.0000)	0.0801*** (0.0000)
β_1	0.0027 (0.5760)	0.0047 (0.2444)	0.0074 (0.0491)	0.0038 (0.4143)	0.0063 (0.2253)	0.0073 (0.1606)	0.0107 (0.0644)	0.0062 (0.3242)	0.0015 (0.8265)
β_2	-0.5661** (0.0487)	-0.4998 (0.1497)	-0.4713 (0.2567)	-0.9583 (0.2933)	-1.0109 (0.2878)	-1.0917 (0.2714)	-0.1337 (0.8951)	0.6732 (0.4788)	-1.0662 (0.9510)
β_3	0.2787 (0.3148)	0.3732 (0.1080)	0.2736* (0.0992)	0.1934 (0.1954)	0.2915* (0.0744)	0.3502** (0.0463)	0.4318** (0.0131)	0.4814*** (0.0019)	0.1770 (0.6587)
β_4	-0.0509* (0.0555)	-0.0580** (0.0229)	-0.0521** (0.0435)	-0.0466 (0.1067)	-0.0505 (0.1090)	-0.0765** (0.0172)	-0.0769** (0.0419)	-0.0700 (0.1663)	-0.0776 (0.2367)
BAHRAIN									
C	-0.0761*** (0.0000)	-0.0508*** (0.0001)	-0.0304*** (0.0012)	-0.0208** (0.0261)	-0.0053 (0.5190)	0.0063 (0.4093)	0.0193*** (0.0081)	0.0398*** (0.0000)	0.0493*** (0.0000)
β_1	0.0032 (0.3803)	6.9E07 (0.9999)	-0.0005 (0.8835)	-0.0008 (0.8259)	-0.0009 (0.7865)	-0.0020 (0.4993)	-0.0018 (0.5473)	0.0010 (0.7730)	0.0026 (0.3899)
β_2	5.6601 (0.6190)	15.151* (0.0815)	13.759* (0.0874)	9.6551 (0.2759)	3.2142 (0.7619)	11.653 (0.2250)	10.474 (0.3049)	0.9003 (0.9325)	-3.7101 (0.6455)
β_3	0.9027*** (0.0007)	0.5607** (0.0227)	0.4680** (0.0161)	0.4692** (0.0210)	0.5513** (0.0115)	0.6530*** (0.0049)	0.7815*** (0.0021)	0.7122*** (0.0090)	0.7375*** (0.0008)
β_4	-0.0487* (0.0674)	-0.0575** (0.0208)	-0.0504** (0.0302)	-0.0460* (0.0617)	-0.0265 (0.3565)	-0.0231 (0.4687)	-0.0461 (0.1784)	-0.0273 (0.4491)	-0.0444 (0.2037)
OMAN									
C	-0.0517*** (0.0000)	-0.0360*** (0.0000)	-0.0260*** (0.0001)	-0.0201*** (0.0013)	-0.0137** (0.0165)	-0.0052 (0.3582)	-0.0018 (0.73859)	0.0146 (0.1209)	0.0296*** (0.0087)
β_1	0.0066 (0.1729)	0.0024 (0.6391)	0.0051 (0.4107)	0.0090 (0.1406)	0.0097* (0.0751)	0.0098* (0.0750)	0.0104* (0.0582)	0.0088 (0.2953)	0.0030 (0.7282)
β_2	-22.083*** (0.0005)	-15.967** (0.0329)	-5.3641 (0.3158)	-6.4042 (0.2001)	-3.5969 (0.4433)	-1.1620 (0.8193)	-0.0618 (80.9914)	3.8107 (0.4769)	3.4608 (0.4605)
β_3	0.1965** (0.0408)	0.3035*** (0.0022)	0.3543*** (0.0010)	0.1778 (0.2175)	0.1253 (0.3616)	0.0609 (0.6336)	0.0890 (0.4607)	0.0037 (0.9708)	-0.0052 (0.9549)
β_4	-0.0038 (0.7819)	-0.0146 (0.3695)	-0.0202 (0.2772)	-0.0195 (0.2593)	-0.0171 (0.2810)	-0.0184 (0.2187)	-0.0080 (0.57499)	-0.0176 (0.2358)	-0.0071 (0.7069)

Source: Prepared by the author

***, **, * indicate %1, %5, %10 level of significance, respectively. β_1 , β_2 , β_3 , β_4 represent exchange, rate, inflation, regional Islamic Dow Jones index, and regional GPR, respectively.

While regional GPR has no effect, the regional market index result in KSA is identical to Table 3 with a stronger impact during bearish and normal market conditions. Similar to Table 3, the regional stock market index and regional GPR have an effect in the UAE, but their respective coefficients are lower. Kuwait's regional market index significance level is nearly identical to Table 3's, but the coefficient is smaller. Additionally, the regional GPR index has a nearly identical effect. Although the coefficient is lower, the regional stock market index in Qatar is still significant across various quantiles. Additionally, even for different Quantiles with lower coefficients, the regional GPR is still important. The regional market has a significant effect in Bahrain across all quantiles, but only at three quantiles in Table 3. GPR is significantly negative when the market is bearish, and the higher coefficients reflect a stronger effect. In Oman, the regional index almost has the same effect as Table 3 (only significant in bear markets), but the coefficient is a little lower. The effect of local GPR is not noteworthy.

Table 6: Conventional Stock Indices Return

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
KSA									
C	-0.0634 (0.0000)	-0.0473 (0.0008)	-0.0230 (0.0648)	-0.0101 (0.3823)	0.0049 (0.6646)	0.0159 (0.1525)	0.0248 (0.0227)	0.0485 (0.0003)	0.0737 (0.0000)
β_1	-0.0035 (0.4742)	-0.0025 (0.6390)	8.4E05 (0.9867)	0.0028 (0.4743)	0.0011 (0.7591)	0.0004 (0.8943)	0.0022 (0.5222)	0.0016 (0.6738)	0.0016 (0.7112)
β_2	-37.156** (0.0288)	3.6876 (0.9013)	1.1034 (0.9362)	-0.9593 (0.9406)	2.4164 (0.8664)	6.6805 (0.7061)	10.9027 (0.5309)	21.4104 (0.1260)	31.7201** (0.0148)
β_3	0.8613*** (0.0000)	0.7005*** (0.0012)	0.2486 (0.3456)	0.0781 (0.6533)	0.1563 (0.3524)	0.0890 (0.5964)	0.1723 (0.3126)	-0.0810 (0.6446)	-0.2288 (0.2013)
β_4	-0.0057 (0.7809)	0.0086 (0.7034)	-0.0080 (0.78309)	-0.0283 (0.3143)	-0.0212 (0.4571)	-0.0221 (0.4512)	-0.0073 (0.8386)	-0.0047 (0.9025)	0.0119 (0.7762)
UAE									
C	-0.0374 (0.00009)	-0.0215 (0.0000)	-0.0121 (0.0093)	-0.0075 (0.1009)	0.0016 (0.7462)	0.0109 (0.0488)	0.0250 (0.0002)	0.0306 (0.0000)	0.0538 (0.0000)
β_1	-0.0053 (0.1049)	-0.0013 (0.5880)	0.0005 (0.8261)	0.0007 (0.7519)	0.0029 (0.2753)	0.0017 (0.5242)	0.0033 (0.1798)	0.0029 (0.1822)	0.0015 (0.6288)
β_2	-135.9688* (0.0635)	-98.8123 (0.1012)	-90.5423 (0.1354)	-82.054 (0.1868)	9.2357 (0.9174)	32.5275 (0.7506)	100.7790 (0.3589)	87.6251 (0.35539)	158.993 (0.1018)
β_3	0.2237 (0.3494)	0.2053 (0.1920)	0.2671** (0.0462)	0.3054** (0.0123)	0.2802** (0.0172)	0.2694** (0.0163)	0.1698 (0.1566)	0.1454 (0.1630)	-0.0551 (0.7491)
β_4	-0.0347 (0.2656)	-0.0430 (0.1424)	-0.0261 (0.3201)	-0.0156 (0.5102)	-0.0316 (0.2202)	-0.0306 (0.2116)	-0.0468* (0.05360)	-0.0452** (0.0355)	-0.0212 (0.3966)
KUWAIT									
C	-0.0515 (0.0008)	-0.0337 (0.0028)	-0.0103 (0.2349)	-0.0022 (0.7828)	0.0068 (0.4270)	0.0212 (0.0116)	0.0268 (0.0029)	0.0366 (0.0009)	0.0517 (0.0040)
β_1	0.0571 (0.4101)	0.0062 (0.9174)	-0.0426 (80.4102)	-0.0484 (0.2893)	-0.0531 (0.2795)	-0.0607 (0.2077)	-0.0286 (0.6306)	-0.0373 (0.6420)	0.0158 (0.9074)
β_2	-6.4137*** (0.0000)	-5.7907*** (0.0000)	-5.2290*** (0.0001)	-4.3913*** (0.0060)	-3.9743** (0.0391)	-1.8149 (0.1961)	-2.2001* (0.0927)	-2.2583* (0.0545)	-1.9227 (0.2156)
β_3	0.3099 (0.1264)	0.4580*** (0.0062)	0.3658*** (0.0059)	0.3111** (0.0188)	0.2761* (0.0595)	0.1208 (0.2666)	0.0498 (0.5908)	0.1128 (0.1544)	0.0752 (0.4452)
β_4	-0.0517*** (0.0009)	-0.0453*** (0.0018)	-0.0452** (0.0204)	-0.0460** (0.0414)	-0.0318 (0.1990)	-0.0430** (0.0483)	-0.0374* (0.0847)	-0.0347* (0.0851)	-0.0017 (0.9506)

QATAR									
C	-0.0557 (0.0000)	-0.0367 (0.0000)	-0.0214 (0.0011)	-0.0120 (0.0737)	-0.0046 (0.5052)	0.0041 (0.4634)	0.0279 (0.0064)	0.0360 (0.0028)	0.0584 (0.0000)
β_1	0.0044 (0.4880)	0.0100* (0.0325)	0.0068* (0.0559)	0.0051 (0.2124)	0.0041 (0.3742)	0.0078* (0.0632)	0.0008 (0.8978)	0.0054 (0.5563)	-0.0014 (0.6912)
β_2	-0.2241 (0.6317)	-0.7859 (0.3032)	-0.1768 (0.7187)	-0.0934 (0.8522)	-0.2480 (0.6672)	0.2054 (0.6835)	0.0618 (0.9913)	0.7638 (0.4754)	1.0401 (0.5140)
β_3	0.2329 (0.1465)	0.2823** (0.0171)	0.2248* (0.0935)	0.3072** (0.0405)	0.3294** (0.0237)	0.3588** (0.0127)	0.2368 (0.1309)	0.2664* (0.0844)	0.2242 (0.1241)
β_4	-0.0768 (0.0036)	-0.0560 (0.0203)	-0.0436 (0.1202)	-0.0417 (0.1399)	-0.0372 (0.1911)	-0.0330 (0.2501)	-0.0412 (0.2975)	-0.0583 (0.1158)	-0.0594 (0.1241)
BAHRAIN									
C	-0.0226 (0.0000)	-0.0147 (0.0004)	-0.0072 (0.0801)	-0.0034 (0.4561)	0.0043 (0.3362)	0.0096 (0.0242)	0.0151 (0.0003)	0.0244 (0.0000)	0.0385 (0.0000)
β_1	-0.0003 (0.8128)	-0.0009 (0.5462)	-0.0018 (0.3885)	-0.0014 (0.5545)	-0.0015 (0.4551)	-0.0025 (0.1627)	-0.0028* (0.0961)	-0.0023 (0.1267)	-0.0029 (0.2112)
β_2	-1.9466 (0.6802)	0.0424 (0.9913)	0.6286 (0.8674)	4.0614 (0.3131)	2.9077 (0.4310)	2.3245 (0.5193)	0.7342 (0.8415)	-0.5849 (0.8907)	-8.3173* (0.0952)
β_3	0.1961* (0.0634)	0.1371 (0.1933)	0.0398 (0.6743)	0.0711 (0.5066)	0.1190 (0.1568)	0.1361* (0.0590)	0.1702*** (0.0066)	0.1649*** (0.0041)	0.2320*** (0.0024)
β_4	-0.0126 (0.3207)	-0.0077 (0.4981)	-0.0117 (0.2901)	-0.0147 (0.2432)	-0.0254* (0.0837)	-0.0347** (0.0173)	-0.0350*** (0.0075)	-0.0265* (0.0899)	-0.0234 (0.1490)
OMAN									
C	-0.0404 (0.0000)	-0.0298 (0.0000)	-0.0224 (0.0007)	-0.0085 (0.1474)	-0.0025 (0.6413)	0.0014 (0.7746)	0.0092 (0.0607)	0.0121 (0.0067)	0.0236 (0.0000)
β_1	-0.0053 (0.3308)	-0.0011 (0.8350)	-4.4E05 (0.9937)	-0.0021 (0.6933)	0.0001 (0.9798)	0.0018 (0.7055)	0.0038 (0.3919)	0.0082** (0.0471)	0.0087* (0.0780)
β_2	-15.994* (0.0570)	-14.984* (0.0623)	-9.9165 (0.1983)	-5.0182 (0.4033)	-2.0177 (0.6894)	-0.6901 (0.8822)	-3.4307 (0.4879)	-0.7965 (0.8626)	-4.0072 (0.4569)
β_3	0.2881*** (0.0057)	0.2044* (0.0598)	0.1899 (0.1245)	0.0998 (0.3671)	0.0867 (0.4265)	0.0557 (0.5874)	-0.0077 (0.9396)	-0.0778 (0.3758)	0.0367 (0.7440)
β_4	-0.0152 (0.3863)	-0.0047 (0.7717)	0.0083 (0.6389)	-0.0007 (0.9645)	-0.0003 (0.9813)	0.0036 (0.8034)	0.0169 (0.2423)	0.0158 (0.2495)	0.0127 (0.4669)

Source: Prepared by the author

***, **, * indicate %1, %5, %10 level of significance, respectively. β_1 , β_2 , β_3 , β_4 represent exchange, rate, inflation, regional conventional Dow Jones index, and regional GPR, respectively.

When compared to the findings in Tables 4, in KSA, the regional market index is only significant at the lowest quantiles (Q1, Q2), while the regional GPR has no relevance. Compared to Table 4, the regional market index coefficients in the UAE are significant at fewer quantiles. Unlike the outcomes in Table 4, the regional GPR is important at higher quantiles. In Kuwait, the regional market index coefficient is significant but smaller than in Table 4. While Table 4 is significant only at the lowest quantiles, the regional GPR index is significant across all quantiles. The regional market index coefficients in Qatar are significant and lower than those shown in table 4. Regional GPR is additionally only meaningful at lower quantiles with lower coefficients. In Bahrain, the regional market index is only significant in bullish markets, whereas in Table 4, the index is almost significant in all quantiles, and the regional GPR is primarily significant in bullish markets with the same coefficient. In Oman, the regional index is significant only at lower quantiles, whereas Table 4 shows that the index is significant at nearly all quantile levels. In addition, the regional GPR is not significant, whereas in Table 4 it is significant at higher quantiles.

Overall, the correlations between the Islamic and conventional local indices of the GCC and regional variables are still present, but their level of significance and their coefficients are lower than those found in the overall sample produced using the MSCI GCC market indices for the period of 2011 to 2021. However, it is evident that there is a very weak correlation between regional GPR and the success of the GCC's local conventional markets. This shows that the political unrest between 2011 and 2013 did influence the conventional financial markets in the GCC. We draw the conclusion that the results are essentially the same, with a few minor variations that could be brought on by unique occurrences over a specific time frame. These outcomes thus demonstrate the reliability of our findings.

1.8. Conclusion and Implications

The aim of this research is to look into how regional factors in the GCC nations affect returns on both conventional and Islamic stocks. The GCC local Islamic and conventional stock market returns are examined using the quantile regression technique to determine the impact of regional variables throughout bearish, normal, and bullish market situation.

We discover that shifts in regional factors have an unequal impact on the GCC's Islamic and conventional stock market indices. Results indicate that KSA, UAE, Kuwait, and Qatar are significantly positively impacted by the regional Islamic market stock return almost across all quantiles, with a stronger influence during a bullish market. The results of this research show that the conditional distribution of stock returns in the GCC exhibits heterogeneous market return responses to regional factors. Results show that regional factors variation, regarding the Islamic and conventional markets, have asymmetric impacts on stock returns in the majority of GCC markets, to be more precise. Except for Qatar, regional sociopolitical risk has a negative impact on the returns on the GCC's Islamic stocks during bearish markets. The same detrimental impact is visible in conventional stock return results, but only in the most extreme market conditions. Regarding the influence of the local stock market, we find that, with the exception of Bahrain and Oman, the regional Islamic index has a positive impact almost across all quantiles and with a stronger effect during the bullish state. Considering conventional indices, we see the same effect across the Gulf, with the exception of Saudi Arabia. Islamic and conventional markets react to changes in regional variables in remarkably similar ways. According to the findings, portfolio diversification is not feasible because most countries' stock markets—both conventional and Islamic—move in tandem with the regional market. Overall, our findings show that investors engaged in GCC markets are not specifically benefited by Sharia filtering.

The findings of our research have important ramifications for GCC policymakers and market authorities regarding the coordination of monetary policies during ongoing regional tensions and the monitoring of stock market stability, growth, and development. First, we advise investors to keep an eye out for anomalies throughout various stock market dynamics stages for short-term trading. Investors will be able to trade based on the bullish or bearish condition of a specific GCC local market thanks to this. Second, there are still significant problems in the GCC. To reduce the impact of geopolitical risk on the financial markets in the GCC, policymakers must create measures to reduce political unrest in the region. The spread of shocks brought on by geopolitical tensions is one of the potential drawbacks of financial integration that policymakers should work to mitigate through cross-border coordination. Third, by considering in regional political risk, investors can structure their portfolios to minimize geopolitical risk and optimize

profit. When the market is declining, as it is for Islamic indices, or when the market is at extremes, as it is for conventional indices, policymakers and investors should be mindful of the changing geopolitical situation. Furthermore, by implementing effective market protection measures, Gulf governments can lessen the harm caused by geopolitical risk. However, excessive legislation can only temporarily protect the market from externalities (Zhu et al, 2016). What the GCC requires is less reliance on oil and more diverse economic activities to reduce the relative sensitivity of GCC markets to political turmoil, particularly in large markets like Saudi Arabia, the UAE, and Kuwait. Sound national economic strategies can stymie the GCC economy's long-term development. Finally, policymakers in the GCC region must encourage financial innovation in order to accelerate the development of the Islamic financial industry in both quality and quantity. This progress must be made collectively and over time to ensure that Islamic financial instruments are inherently a distinct investing tool. Sharia-compliant assets should be regarded as a genuine alternative form of investment, assisting investors in reducing investment risks and boosting real economic growth rather than volatile growth based on financial investments. Monetary, fiscal, and financial reforms may be required.

CHAPTER 2: A TRINITY OF GLOBAL RISKS IN THE GULF REGION: INSIGHTS FROM QUANTILE APPROACH

2.1. Introduction

The literature emphasizes the importance of considering political and economic news when investing in emerging markets, especially the middle east. This is due to the fact that the effects of global financial and political factors on stock-market fluctuations in the emerging market economies are more pronounced than in the rest of the world, given the volatile nature of these economies (Alqahtani et al., 2021; Arin, Ciferri, and Spagnolo, 2008; El-Gamal and Jaffe, 2010; Önder and Şimga-Muşan, 2014). Furthermore, it has been documented in the literature that GCC stock markets are more sensitive to major global factors than local and regional factors along with their sensitivity to oil price fluctuations. (Alotaibi and Mishra, 2015; Alqahtani et al., 2020; Hammoudeh and Choi, 2006).

Since GCC countries form a bloc of Carbon-based economies their economies depend heavily on oil. The unpredictable nature of energy markets and the rigid long-term adjustment of contractual trade terms against commodity exporters have played a major role in the volatile national income of these countries (El-Gamal and Jaffe, 2010). During the last decades, Oil's financialization has made the energy market even more volatile and presumably to have a greater impact on financial markets. Thus, the region's markets are likely to be significantly impacted by changes in oil prices.

As GCC markets mature and increasingly become integrated with global markets, their ability to diversify their portfolio decreases, becoming more sensitive to global shocks. In this regard, the literature associated with the GCC's equity market dynamics focuses by and large on the oil-stock market nexus – which is understandable given the economic structure of the region – yet it overlooks the importance of global financial and political factors (Fasanya, Oyewole, Adekoya, and Badaru, 2021; Hadhri, 2021; Jawadi and Fiti, 2019; Jouini and Harrathi, 2014).

Furthermore, insufficient attention has been paid to different sources of global risk while studying the market in a simultaneous approach despite the importance given to the economic and political landscape in the region. Henceforth, this research seeks to fill the

gap in the literature by assessing the impact of a three different set of global risk factors on GCC's Market: financial global risk (U.S. CDS and Global Interest rate volatility), Commodity price risk (oil price volatility), political risk (global geopolitical risk).

Most previous studies mainly focus exclusively on financial market dynamics either in conventional markets or in Islamic counterpart and fail short in comparing them. Thus, this article undertakes a comparative study between both markets to identify potential portfolio diversification. This paper considers the evaluation of stock market dynamics in the light of different market conditions given the potential heterogeneous impacts of the global risk factors. Hence, we apply the quantiles regression model to identify the asymmetric impact of global risk factors across different quantiles, countries, and markets.

The contribution of this study is threefold. First, we extend the literature on the GCC stock markets by assessing the nexus between global risk factors and GCC's Islamic and conventional stock indices performance. Second, we use the quantile regression method to analyze asymmetric stock market performance across bearish, bullish, and normal market states, which provides a better understanding of stock market dynamics. Third, we conduct a comparative study to scrutinize the potential diversification opportunities that Islamic assets might offer for investors interested in the Gulf stock markets. The driving force for this study is the significant implications for investor decisions and portfolio allocations when oil price volatility along with geopolitical and financial risks impacting the region increase.

The paper is organized as follows: Section 2 presents the literature review, and section 3 provides the data and descriptive statistics. Then, section 4 shows the methodology, section 5 illustrates the results and discussion, and section 6 provides robustness check. Lastly, section 7 presents conclusions and recommendations.

2.2. Literature Review

With the rising globalization, financial markets integration has been increasing ever since the relaxation of international law regarding capital movement. Global markets integration implies that markets will be complete and thus better choices for investors and more market stabilization. Thus, studying the effect financial markets from a global

perspective provides further insights about dynamics of markets to assess the benefits they can bring to investors and the practical implication for policy making. In the context of oil rich countries specifically the GCC makes this analysis becomes more relevant, and intriguing given the region's direct involvement in the world economy and the fact that they recycle their oil revenues into the world market. Considering GCC's unique political economy, most studies on the Gulf have been framed within the resources curse theory via the rentier state model. This framework stipulates that the political and socio-economic balances as well as the economy and financial markets situation in the GCC are fragile and dependent on oil given the instable nature of oil revenues. In fact, since the 70s GCC has been in a direct entanglement with the world economy not only because of their advantageous position being the world's leading energy provider but also because of their geoeconomic orientation manifested in their deeping link to US economy through the petrodollar recycling scheme. However, GCC studies focusing on financial markets fall short to capture the impact of this scheme on the region's local stock markets. The financial markets in a rentier state à la GCC depends heavily (unlike Libya and Algeria for instance) on their involvement with the U.S deficit financing. The scheme goes as follows; first, the oil price is pegged and priced using dollars. Second, oil revenues are invested in dollar denominated assets essentially debt instruments. Third, the scheme is subject to geopolitical tensions which makes GCC markets sensitive to political tension and regional and global conflicts (El-Gamal and Jaffe, 2010; Abdel-Latif & El-Gamal, 2018). Thus, the political economy of the GCC implies that a trinity of global risk factors is on display when it comes to assessing the effect of global factors on the Gulf stock markets dynamic. First, there is the risk rising from the damaging effect of oil price volatility. The second source of risk on display is the financial risk stemming from the dollar denominated assets and thus the volatility coming from US debt instruments. Third, the global geopolitical risk that might damage the stability of these markets.

2.3. The GCC Stock Markets and Political Economy

Before delving into the review of the risk trinity, this section aims to provide a thorough understanding of the rational link between the performance of GCC equity markets and the risks associated with the recycling of oil revenues. To do so we frame our understanding of global risk within a political economy approach.

An important question may arise: what insights can we gain by using the political economy approach in stock markets and portfolio management? This approach offers a deeper comprehension of the effects of global factors on the GCC stock markets compared to solely using a portfolio approach that overlooks the political-economic context. Furthermore, political economy can shed light on the timing and reasons for changes in stock market performance and considers both risk and return while taking into account the changing economic and political environment. In emerging and developing economies, particularly in the GCC, global market forces have a larger influence, and the study of stock and foreign exchange markets in these regions highlights their sensitivity to political developments.

2.3.1. Deconstructing The Puzzle: GCC Global Entanglements

In this section, we start with a brief overview of the political economy in the GCC region. The economies in the GCC are almost solely dependent on petroleum, a non-renewable source of energy that is capital-intensive and subject to fluctuating international prices (Karl, 2004). Due to these characteristics, the scholarship corpus considers petroleum revenue as rent. This dependency on oil has resulted in a rentier state where the state's policies are influenced by the large proportion of revenue generated from oil. This dependency on petroleum creates a unique dynamic in the economy. Based on the rentier state paradigm, the state in the Gulf serves as an intermediary, distributing oil revenue to the rest of society (Ulrichsen, 2016).

Undoubtedly, the substantial influx of oil-generated revenue into the Gulf economies during the 1970s afforded the nascent state structures with the necessary financial resources to institute redistributive or rentier states. Hence, the impact of oil rents was closely linked to the formation of the state and decisions on how to use the revenue, resulting in distinct regional socio-economic characteristics (Ulrichsen, 2016). As a result, the GCC countries share similar political economies, being dependent on oil and gas revenues. However, it is important to note that although they have similarities, the GCC countries may differ in specific indicators, such as governance and economic priorities (Hanieh, 2018).

To carry on our investigation, it is important to consider that the political economy of the GCC region is influenced by various factors, including government control of natural

resources, the state's role in the economy, the impact of international markets, and the priorities of the ruling elites (Hanieh, 2018, 2020; Ulrichsen, 2016). In the GCC, the state has a dominant role in the economy, with government-owned oil companies controlling a large portion of hydrocarbon resources and playing a major role in economic growth. Additionally, the state provides various subsidies and social benefits, such as free healthcare, education, and housing, which helps maintain social stability and support for the ruling regimes (El-Gamal & Jaffe, 2010; Hanieh, 2018; Ulrichsen, 2016).

In this context, rentierism has shaped the economies of the six countries and has been reinforced by the petrodollar recycling scheme, a major economic policy established in the 1970s. This policy involves reinvesting oil revenues into the global economy, particularly in oil-importing countries, to reduce global imbalances. This has supported the US dollar's status as the dominant global reserve currency and has given the US government significant economic and political leverage over oil-exporting countries. The petrodollar recycling mechanism comprises of two primary conduits: the absorption channel, which involves the utilization of petrodollars to fund local investment and consumption, thereby augmenting the demand for imported goods; and the capital account channel, which entails the accumulation of unutilized petrodollars as foreign assets held overseas, resulting in a net outflow in the capital account (Nsouli, 2006; Sturm, Strasky, Adolf, & Peschel, 2008).

Oil-exporting countries with high absorption capacity, such as the Nordic countries, can quickly invest petrodollars domestically, leading to favorable current account flows for both them and their trading partners. On the other hand, countries with low absorption capacity, like the GCC, may only gradually increase spending until their local economy improves. These countries are more likely to recycle petrodollars through capital outflows, affecting interest rates in oil-importing nations (Nsouli, 2006).

The petrodollar recycling by GCC countries has relied heavily on buying US Treasuries and other financial assets. This approach helped maintain steady demand for oil, recycled US dollars back into the US economy, supported the dollar's value, and financed the US deficit through the purchase of Treasury bonds. This also strengthened the political and economic ties between GCC and the United States

GCC countries' petrodollar recycling grants them political influence through investments and access to resources and markets elsewhere, providing additional income through investments in other sectors. Yet, it also poses challenges. Investments in global financial markets can impact international financial architecture, recipient country policies, and sometimes cause instability in the GCC's own system. Large investments also increase the GCC's financial risk, as changes in the global economy can affect investment values.

2.3.2. Understanding The Gulf Stock Markets: A Political Economy Approach

Coming to the gulf stock markets, though their differences regarding efforts of diversification and market liberalization, they all have a common feature: their performance dynamics. These markets cannot be isolated or separated from their environment and cannot escape from the realities imposed by the special political economy of the Gulf region.

The stock markets in the Gulf Cooperation Council (GCC) region have a combination of government control, private sector involvement, and foreign investment. Governments typically establish and regulate these markets and often hold a significant share in many of the region's largest companies. For instance, state or quasi-state entities control most of the real estate companies listed in the GCC stock markets. State-owned companies also dominate key industries such as energy and finance and receive preferential treatment from the government (Hanieh, 2020). However, the extent of government control and involvement in the stock markets varies from country to country, from active management to a more passive role. This concentration of economic power affects the operation and regulation of the stock markets, as government policies and decisions can directly impact company performance and the market by directing investment and shaping market conditions, thereby exerting control over capital allocation (Alotaibi & Mishra, 2015, 2017).

Despite various hindrances, the stock markets in the Gulf have exhibited substantial growth and advancement in recent years, drawing investment from both regional and international sources. Reform and liberalization efforts aimed at the stock markets in the GCC have been implemented, as seen in the adoption of regulations designed to improve the transparency and governance of listed companies and safeguard minority shareholder rights (Alotaibi & Mishra, 2015, 2017; Alqahtani, Hammoudeh, & Selmi, 2021).

Furthermore, the implementation of international accounting standards and the availability of new financial products have enhanced the attractiveness of GCC stock markets to foreign investors. Rapid growth has been observed in recent years, as evidenced by a rise in initial public offerings (IPOs), including the global leading IPO of Saudi Aramco, which raised \$25.6 billion in 2019, and a surge in cross-border investment. The Dubai Financial Market and the Abu Dhabi Securities Exchange are among the most prominent in the region. Furthermore, the United Arab Emirates (UAE) has been consistently striving to position itself as the new financial center of the region (Ulrichsen, 2016).

Overall, the political economy of stock markets in the GCC region is influenced by a complex interplay between government control, private sector involvement, and foreign investment, with each country having its own unique approach. In conclusion, the political economy of stock markets in the Gulf is shaped by state control, resource dependence, limited investment opportunities, regulatory challenges, and ongoing efforts to develop the financial sector.

In this regard, the performance of the market depends on the region's stock market political economy. The performance of the Gulf stock markets has been impacted by political and economic factors. In the GCC region, political stability, government policies, and oil prices are significant factors that influence the performance of the stock market.

The examination of the stock market performance in the Gulf Cooperation Council (GCC) necessitates a comprehensive understanding of the historical evolution of the GCC countries' ability to absorb their oil revenues. Oil-exporting nations with a substantial absorption capacity have the potential to recycle petrodollars through domestic investment (Nsouli, 2006). Initially, the GCC nations were not equipped to recycle their oil revenues domestically. The 1970s, referred to as the "freewheeling decade" or the "region's carefree childhood" by (El-Gamal & Jaffe, 2010), saw the infusion of oil revenues into a society characterized by poverty and underdevelopment, as well as a ruling class inclined to commissioning extravagant "white elephant" prestige projects and a lack of human and absorptive capacity to manage the sudden wealth (El-Gamal & Jaffe, 2010; Ulrichsen, 2016). This led to the flow of petrodollars fueling real estate, stock

market, and credit bubbles both globally and regionally (El-Gamal & Jaffe, 2010). Despite recent progress, the recent stock market and real estate bubbles in the region suggest that the economic absorptive capacity remains low and raises concerns about the long-term economic prospects of the region (El-Gamal & Jaffe, 2010).

A distinct viewpoint within the literature asserts that while the GCC countries possess complete capital mobility, they still enforce strong restrictions on their stock markets and banking systems, hindering the advancement of their financial systems and impacting their absorption capacities, leading to the buildup of foreign assets (Hammoudeh & Choi, 2006; Lane & Milesi-Ferretti, 2008; Nsouli, 2006). On the other hand, there is the belief that the regional markets in the past were restricted to GCC citizens only, however, foreign investors now have greater freedom to invest directly in local company shares. The convergence of economic reforms, the rising demand for investments compliant with Islamic principles, and the politically motivated repatriation of Arab money following the events of September 11 provide the GCC countries with the necessary financial means to pursue diversification of their industries and attain long-term economic growth and prosperity beyond the boundaries of their natural resources (Alqahtani & Chevallier, 2020; Bley & Chen, 2006). The ongoing economic growth and the opening of securities markets to foreign investors are expected to further increase interest in the equity and debt securities of local companies. Additionally, the capital accumulation during the second oil price boom [from 2002 to 2014] was qualitatively distinct from the first [from 1973 to 1982], as the improved absorptive capacities of GCC economies facilitated the circulation of incoming oil revenues within the domestic market and allowed for new investment opportunities across a range of liberalized sectors (Hanieh, 2018, 2020; Ulrichsen, 2016).

The enhancement in the market conditions within the GCC region can be traced back to the early 2000s. During this period, and particularly in response to the 9/11 terrorist attacks in the US, GCC-based sovereign wealth funds, state-owned enterprises, and private investors embarked on a strategy of portfolio diversification, expanding their investments beyond North American and European markets. This decision was driven by fears of potential reputational risks and concerns regarding the possibility of asset freezing and increased scrutiny when traveling to the US (Ulrichsen, 2016).

Ever since the misfortunate political events, there has been a stimulation of local investment in the region. This is due to three emerging trends in the recycling of GCC oil revenues that have been observed over the past two decades (Alshareef, 2022; Hanieh, 2018; Momani, 2008; Ulrichsen, 2016). Firstly, capital surpluses generated by the GCC are being increasingly directed towards regional and domestic projects. Secondly, there has been a shift in the focus of GCC capital outflows, which are now being directed towards investments in the Middle East and Asia. It is worth noting that Asia accounts for two-thirds of the GCC's energy exports, despite the fact that cross-border investment from Asia lags behind that from Western markets. This phenomenon may be attributed to the complex nature of the ongoing geo-economic positioning of the GCC. Finally, the GCC states are diversifying their US investments, with a decrease in holdings of US securities and an increase in global corporate acquisitions (Alshareef, 2022; Ulrichsen, 2016).

Overall, the political economy approach suggests that the performance of the GCC stock market is influenced by a combination of political stability, economic policy, and investor sentiment, all of which are shaped by a range of national, regional, and global factors.

In the light of what has been mentioned before, the major global factors influencing the circulation of oil revenue are oil price volatility, the yield on dollar-denominated assets, particularly debt securities, and geopolitical risk. To begin with, oil revenue is dependent on robust global economic expansion. When the worldwide economy flourishes, the demand for oil and other commodities rises, pushing up the oil price and the revenue generated by oil-exporting nations. This leads to an increase in petrodollars that can be invested in the stock markets of the GCC, causing an increase in liquidity, greater foreign investment, and a rise in stock prices. On the other hand, a worldwide economic slowdown reduces demand for oil and petrodollar recycling. Secondly, interest rates play a crucial role - low interest rates can result in low returns on fixed-income investments such as bonds and treasury bills, leading to a shift towards investment in equities, including GCC stocks. Conversely, high interest rates can decrease demand for equities. Thirdly, political and economic stability in the GCC can affect oil revenue recycling and the performance of its stock markets. Instability due to geopolitical tensions in the region can result in increased volatility and decreased investment, while stability can promote investment and improve market activity. To summarize, global economic factors

significantly impact the recycling of oil revenues and shape the supply and demand dynamics of the GCC stock markets.

As indicated previously, GCC stock markets are impacted by the region's global entanglement with global financial markets, affecting their local/domestic stock market performance (Hammoudeh & Choi, 2006; Sturm et al., 2008). This is due to two main reasons. Firstly, the correlation between US and GCC's monetary policy variables such as the exchange rate and interest rate result in GCC's monetary policy being linked to the US, with their currencies pegged to the dollar and interest rate synchronized with the US interest rate. Secondly, most companies listed on the Gulf stock exchange have significant investments in the global market, particularly the U.S., exposing them to global risk. In other words, their international investments while listed domestically result in global factors impacting their wealth through stock pricing, thereby affecting the overall performance in the Gulf local markets.

For further inquiry, in the next section we review empirical works investigating the impact of the oil, financial and geopolitical risks on stock market returns.

2.3.3. The Trinity of Global Risk

Regarding oil volatility risk, Alqahtani and Klein (2021) study the long-term effect of local oil price volatility (OVX) and global geopolitical risks, on GCC equity markets employing the ARDL model from May 2007 to August 2018. The results show that shocks in the OVX display a constant negative impact on each of the GCC stock markets which is an expected results for oil-producing countries. Chang et al. (2020) study the asymmetric effects of oil price on the Dow Jones Islamic index and 10 sectoral stock indices by applying quantile on quantile method using daily data from January 1996 to April 2019. They find that lower /upper quantiles of oil prices negatively affect the upper/lower quantiles of the Islamic index. Lin and Su (2020) analyze the relationship between the Islamic stock market and oil market uncertainty. Using daily data from 25 April 2013 to 15 April 2019 and applying the quantile on quantile approach, authors find a negative linkage between oil market uncertainty and Islamic stock returns, especially when the Islamic stock market is at a bearish state. They state that Oil-importing countries are more sensitive than oil-exporting countries and that Islamic countries are more sensitive to oil price volatility.

Although the effect of global geopolitical risk has been studied in detail, insufficient attention has been paid to its impact while interacting with other major risk factors such as financial and commodities (oil mainly) risk. Previous studies commonly focus on the GCC region instead of understanding the country level implications that highlights the sensitivity of each country specifically giving a wider perspective to policy makers and investors interested in the region (with the continuous relation of foreign ownership). Also, most studies focus exclusively on GCC conventional market and overseas the Islamic stock market. A comparative study is needed, taking into consideration the differences between both markets.

Considering the impact of financial distress on stock markets performance, many indicators have been used in the literature. Yet, the implications of two major financial factors in the GCC have been overviewed in the literature. We focus on MOVE and U.S. CDS as the indicators of global bond volatility and U.S. sovereign credit risk since the GCC block is one of the main investors in U.S. debt.

Regarding the importance of CDS, recent studies have shown that the CDS market has taken the lead on the bond market and claim that the changes in CDS spread can predict sovereign events while the changes in credit rating cannot (Coronado, Corzo, and Lazcano, 2012; Rodríguez, Dandapani, and Lawrence, 2019). Coronado, Corzo, and Lazcano (2012) study the dynamic between stock markets and CDS by applying VAR models on daily data of 8 European countries from January 2007 to July 2010. They find that stock returns are negatively correlated with Sovereign CDS spread and that stock volatility depends on sovereign CDS spread movements. Regarding Islamic indices, Naifar (2015) studies the co-movement and the dependence structure between the Islamic stock markets and influential global financial market conditions, macroeconomic indicators and risk factors. He uses monthly data from January 2003 to October 2014 and applies a quantile regression. He finds a positive impact of CDS on return and concludes that the extreme co-movement explains that Islamic stock indices return, financial losses, and diversification benefits can be limited.

Considering the impact of the global bond market, literature documents the important effect of bond market volatility on security values and yield spread, it is crucial for investors in the international marketplace to be aware of the volatility patterns in global

bond markets in addition to the relative volatility transmission from the bond market to the equity market (Johnson and Young, 2002). Ajmi (2014) examines the links between the Islamic stock market and several global economic and financial shocks using daily data from January 1999 to October 2010 and applying heteroskedasticity-robust linear Granger causality and nonlinear Granger causality tests. Their results indicate a potent causality between MOVE and the Islamic stock market. Naifar and Hammoudeh (2016) study the impact of global financial distress and uncertainties on GCC and global Sukuk return. Using daily data from November 2010 to April 2015, they apply a quantile regression. Their results show that MOVE does not affect Sukuk return in the GCC region across all quantiles. Furthermore, Islamic stock indices, according to Umar et al., (2018), have a significant negative interest rate risk exposure. They further conclude that Islamic equities perform similarly to their conventional counterparts in terms of interest rate responsiveness.

Despite the important role of financial risk variables on GCC's stock markets, especially considering its importance of the recycling of oil revenues, it has not been concretized in GCC related literature. Henceforth, the implication of financial risk On GCC's Islamic and conventional stock market deserves to be explained further.

Regarding the repercussions of political tensions on stock market performance, Carney (2016) considers geopolitical uncertainties as a principal risk to the economic outlook. The author states that economic and policy uncertainty, along with geopolitical risk constitute the 'uncertainty trinity' which is considered to cause significant adverse economic effects. Events related to uncertainty, terrorism, and political instability can increase financial market uncertainty, usher investors to postpone or terminate equity investments, and then reduce equity demand. Such situations lead to a decline in investor demand for high-risk funds and total equity fund flows (Wang and Young, 2020). Guyot (2011) analyzes the market quality and price dynamics for Islamic and Conventional equities. He applies a set of cointegration tests using daily returns of eighteen Dow Jones regional indexes comparing Islamic and conventional stock returns from January 1999 to December 2008. He finds that regional Islamic indices are more sensitive to geopolitical events than their traditional counterparts. Besides, Bouras et al. (2019) study the effects of global and country geopolitical risk (GPR) indices on the stock markets of 18 countries, including Saudi Arabia. They use monthly data from November 1998 to June 2017 and

follow a panel (GARCH) approach. They find that the global GPR exerts greater impact on stock markets than country specific GPRs. Also, Alqahtani and Klein (2021) study the long-term effect of local and global geopolitical risks, oil prices, and price uncertainty on GCC equity markets. They use daily data from May 2007 to August 2018 and employ an ARDL model. They find that the GCC stock markets are resilient to global geopolitical risk in the long run, except for Qatar.

Likewise, Alqahtani et al. (2020) apply the feasible generalized least squares model to investigate the power of the global and KSA geopolitical risk indices and crude oil returns in predicting the GCC stock returns using monthly data from February 2007 to December 2019. Their results show predictive power of the Global and KSA geopolitical risk indices is weak. Also, Alqahtani et al. (2021) study the effect of global and KSA geopolitical risks on GCC's stock markets employing the DCC-GARCH model on monthly data from July 2005 to August 2019. Their results indicate that the relationship between the GCC stock returns and the global GPR varies over time. Bouri et al. (2019) study the impact of GPR on Islamic equities and bonds' volatility and return dynamics by applying a non-parametric causality-in-quantiles test on daily data from January 1996 to March 2017. They find that Islamic assets - in general- are affected by geopolitical uncertainty.

Various studies have been conducted to investigate the impact of oil on stock markets in the GCC. These studies, as illustrated above, have consistently found a negative impact of oil changes on the stock market on GCC's markets. Although these studies were variable, oil price volatility impact on GCC countries have to be robustly checked. Except few cases, Previous studies were undertaken on conventional and Islamic separately, instead of comparing them to check the differences in the performance patterns, also the impact of oil volatility on different countries across GCC's different market states has been overlooked in the literature and therefore these studies provide little implication about the subject matter.

2.4. Data

This study's timeframe runs from April 2011 to April 2021. The period captures well the recent collapses in oil prices and positive oil shock periods, covering a downward tendency (from 2008 to 2009), an upward tendency (from 2013 to 2014), and again a downward tendency (from 2014 to 2016). The situation got slightly better in 2018 when

barrel prices reached USD 68, yet oil prices declined in 2020 due to low demand caused by the coronavirus outbreak. Besides, this period mirrors a decade of high regional and global political volatility: it begins with The Arab spring, the multiple coups, The war in Yemen, the intervention of multiple non-state actors in Syria, the Russia–Ukraine conflict peaking in 2014 and the Qatari-KSA-UAE diplomatic Crisis which turned to be an Embargo against Qatar. The presence of this set of events is essential to this study since it incorporates global geopolitical risk as part of the factors impacting GCC stock market dynamics.

This study uses monthly data for Islamic and conventional stock indices of five GCC stock markets, OVX, U.S. CDS, MOVE, and the global GPR. Since U.S. markets take Saturday and Sunday as weekends while GCC markets take Thursday and Friday, they have only three common weekdays. Therefore, we chose monthly data instead of daily or weekly data to avoid potential bias caused by the weekend phase shift (and hence the desynchronized trading dates).

As mentioned above, we use four global risk factors. The oil price volatility (OVX), two global financial indicators: the U.S. credit default swap (U.S. CDS) and the global bond market volatility (MOVE), and the global geopolitical risk index (G. GPR).

The Credit default swap spread is a proxy for sovereign credit risk, usually used to infer the probability of default in a country. A credit default swap is a financial agreement in which one party agrees to compensate the other in the event of a default by a third party, referred to as the "reference entity." In the case of a CDS on U.S. sovereign debt, the reference entity is the U.S. government. Some market participants view trends in CDS prices as a gauge of the market's assessment of the creditworthiness of the federal government. For sovereign CDSs, such as those for the United States, credit events can encompass a failure to pay, a repudiation or moratorium on debt, and specific debt restructuring scenarios. However, it is worth noting that the CDS market for the U.S. is limited in size and liquidity, which may render it an unreliable measure of the government's financial condition. Nevertheless, some investors may still attempt to derive insights from CDS price movements, which could potentially impact U.S. debt markets in the future. In a legal sense, CDS is a bilateral derivative contract traded in the over-the-counter derivatives market. The reference entity is not typically a participant in the

credit default swap agreement (Austin and Miller, 2011). The spread of CDS presents the premium of credit risk. In our study, we employ the U.S CDS because U.S. sovereign credit risk strongly impacts the ability of investors to diversify global debt portfolio's risk and can be crucial in determining stock market dynamics in the GCC region.

The OVX is the CBOE crude oil volatility index. The index is calculated by interpolating two time-weighted sums of option mid-quote values. Since this index incorporates historical information and future expectations about the oil prices, it is a better-suited proxy to reflect the uncertainty of the oil market (Lin and Su, 2020). MOVE is the Bank of America–Merrill Lynch Option Volatility Estimate index that captures the changes in the U.S. Treasuries based on options prices. MOVE mirrors investors' future expectations regarding the volatility of Treasury bond yield. The Global geopolitical risk index (GPR) is an index proposed by Caldara and Iacoviello (2018) that measures geopolitical risk based on the volume of words associated with geopolitical friction that appeared in leading global news media. This index focuses on multiple forms of political stability, including terror attacks, military threats, and war risks.

Table 7: Descriptive Statistics

Variable	Mean	Std.dev	Max	Min	Kurtosis	Skewness	J.B
Panel A: Local Stock markets							
KSA							
Islc index	169.27	24.14	240.58	128.65	3.07	0.69	9.63***
Conv index	1072.59	120.15	1423.69	741.75	4.13	-0.14	6.92***
UAE							
Islc index	139.20	30.58	182.06	78.09	2.18	-0.73	14.41***
Conv index	4227.39	914.75	6046.81	2402.28	2.58	-0.78	13.13***
Kuwait							
Islc index	111.85	13.04	145.61	81.02	3.17	-0.22	1.19
Conv index	551.88	80.63	714.92	378.57	2.51	-0.33	3.47***
Qatar							
Islc index	3528.11	772.95	4725.93	1882.67	2.32	-0.64	10.70***
Conv index	9987.24	1365.46	13728.31	7714.26	3.14	0.76	11.77***
Bahrain							
Islc index	27.41	7.24	46.72	15.72	2.54	0.58	8.03***
Conv index	1301.44	141.90	1660.48	1026.23	2.34	0.14	2.57
Oman							
Islc index	76.42	17.94	105.22	47.04	1.69	-0.16	9.17***
Conv index	5343.24	1069.23	7484.17	3448.29	2.03	-0.18	5.35***
Panel B : Global Factor							
OVX	36.38	18.00	170.55	15.61	28.14	4.00	3509.98**
U.S. CDS	17.29	8.40	39.86	5.60	3.13	0.96	18.93***
G.GPR	116.02	57.15	380.59	40.43	5.84	1.34	77.17***
MOVE	67.03	15.14	109.67	39.21	2.99	0.61	7.72**

Source: Prepared by the author

Note: *, **, and *** denote for 10%, 5%, and 1%, respectively. We use raw data—the data before computing any changes.

We illustrate the descriptive statistics in Table 7. It shows that Qatar has the highest average (3528.11) and Bahrain has the lowest average (27.41) of the Islamic index. In contrast, the Qatari stock index has the highest average (9987.24), and the Kuwaiti stock index is characterized by the lowest average (551.88) amongst the conventional stock indices in the GCC region. Stock prices have positive kurtosis and negative skewness (with few exceptions). Considering the normality test (J.B.), we reject the normality assumption for all series, except for the Islamic index of Kuwait and the conventional index in the Bahrain series. We observe that almost all series indicate a non-normal

distribution. Therefore, the quantile regression, a non-parametric method, seems to be the most accurate methodology to study the dynamics of GCC stock returns (Chang et al., 2020; Naifar, 2015).

Table 8: Unit Root Tests

		ADF	PP
Panel A: Local Stock markets			
KSA	Islc index	-7.45***	-7.15***
	Conv index	-11.53***	-11.53***
UAE	Islc index	-8.44***	-8.32***
	Conv index	-12.28***	-12.20***
Kuwait	Islc index	-9.97***	-9.93***
	Conv index	-10.48***	-10.59***
Qatar	Islc index	-11.19***	-11.20***
	Conv index	-12.30***	-12.35***
Bahrain	Islc index	-7.55***	-7.58***
	Conv index	-11.20***	-11.06***
Oman	Islc index	-9.24***	-9.18***
	Conv index	-10.94***	-10.95***
Panel B: Global Factor			
	OVX	-5.16***	-5.11***
	U.S. CDS	-3.61**	-2.92
	G.GPR	-6.88***	-6.87***
	MOVE	-5.31**	-5.27**

Source: Prepared by the author

Note: That *, **, and *** denote for 10%, 5%, and 1%, respectively

Before assessing the variables' stationary properties, we compute the local indices' return value by calculating the first difference of the logarithm of the stock market indices. Table 8 reports The Augmented Dickey and Fuller (1979) and the Phillips and Perron (1988) test results at level for local indices returns and the global factors. The ADF and P.P. test results indicate that all series reject the null hypothesis.

2.5. Methodology

Following Alqahtani and Klein (2021), Lin and Su (2020), and Chang et al (2020), we assess the impact of global risk factors on both conventional and Islamic stock market indices returns using the following model for each member of the GCC region,

$$R_t = \alpha_0 + \sum_{i=1}^N \beta_i GF_{it} + \varepsilon_t \quad (1)$$

In our model, i denotes global factors. α_0 and ε_t represent the intercept and disturbance. β_i shows the sensitivity of the domestic (Islamic/ conventional) index return to the i^{th} global factors for each member of the GCC region.

For this purpose, we define each variable as following:

R_t : the domestic (Islamic/ conventional) index returns for each market of the GCC at time t

GF_{it} : The realization of the i^{th} GF for each market of the GCC at time t

First, we employ the OLS regression model to capture the impacts of GF in each market of the GCC. Yet, outliers in the observations distort the result of the OLS estimation. For most of the data in finance such as CDS, stock market, MOVE, etc., outliers are likely to cause misleading results. That is, OLS results are less robust and possibly impacted by the existence of outliers in the observations (Greene, 2020).

Hence we employ the same methodology as in the first chapter, the non-parametric quantile regression introduced by Koenker and Bassett (1978) to account for the OLS drawbacks. In our study, we use Global factors (OVX, U.S. CDS, MOVE, and global GPR) to capture the impact of global risk factors on Islamic and conventional stock indices returns for each member of the GCC region. In this regard, we study the dynamics of Islamic and conventional stock indices returns for each member of the GCC region across different market conditions represented by the following quantiles (0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9). All variables except U.S CDS and MOVE are expressed in the first difference of the natural logarithmic. For robustness check, we check the parameter heterogeneity among the nine quantiles by applying the Wald test.

2.6. Results and Interpretation

In this section, we report the dependence structures between global risk factors and GCC's local Islamic and conventional market performance across different market conditions. At the end of the section, we compare the results of conventional and Islamic markets performance.

2.6.1. Islamic Stock Indices Return

Table 9 presents the results of the OLS estimation and quantile regressions. The OLS estimation results show that OVX has a significant negative impact on all countries except Bahrain. This finding implies that oil price volatility negatively impacts the stock returns of GCC countries. These results are in line with Chang et al (2020) and Lin and Su (2020). Also, empirical results show that OVX has the most significant impact on KSA and Qatar stock markets, followed by UAE, Kuwait, and Oman. However, it has no impact on Bahrain. CDS has a negative impact on KSA, yet it is insignificant for the rest of the GCC countries. The global GPR has a positive impact on KSA and Kuwait. MOVE has a negative impact on Kuwait and a positive impact on Oman. Overall, the OVX impact has a broader and more substantial effect on GCC Islamic stock markets returns than the rest of global factors, whether political or financial (MOVE and C.D.s). Yet, the OLS estimation reflects the average link between stock returns and oil price volatility based on the conditional mean of the stock returns. As shown in Table 9, the quantile estimation results are different from the OLS model.

Table 9: Islamic Stock Indices Return

Country	Variable	Quantile Levels									OLS
		Q1	Q1	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
KSA	C	-0.0326 (0.1958)	0.0004 (0.9861)	0.0119 (0.6353)	0.0144 (0.5214)	0.0177 (0.4613)	0.0324 (0.0906)	0.0302 (0.0769)	0.0295 (0.0774)	0.0048 (0.8924)	0.0184 (0.2713)
	OVX	-0.1172*** (0.0000)	-0.1006*** (0.0000)	-0.1110*** (0.0000)	-0.1188*** (0.0000)	-0.0839** (0.0387)	-0.0564** (0.0454)	-0.0511** (0.0356)	-0.0627*** (0.0070)	-0.0607** (0.0122)	-0.0948*** (0.0000)
	CDS	-0.0031* (0.0510)	-0.0029* (0.0567)	-0.0024 (0.1603)	-0.0016 (0.3834)	-0.0027 (0.2656)	-0.0017 (0.5356)	-0.0039 (0.1110)	-0.0031 (0.2118)	-0.0002 (0.9407)	-0.0025 (0.0974)
	MOVE	-0.0001 (0.7002)	-0.0003 (0.2880)	-0.0003 (0.3113)	-0.0002 (0.4170)	-0.0001 (0.6435)	-0.0002 (0.3343)	-0.0001 (0.5459)	-3.3E06 (0.9906)	0.0006 (0.2967)	-0.0002 (0.3546)
	G.GPR	0.0034 (0.8408)	0.0239 (0.2988)	0.0227 (0.2643)	0.0116 (0.4510)	0.0204 (0.1648)	0.0268 (0.0155)	0.0241 (0.0172)	0.0225 (0.0251)	0.0436 (0.1223)	0.0258** (0.0153)
UAE	C	-0.0157 (0.5241)	0.0137 (0.5304)	-0.0018 (0.9425)	0.0031 (0.8827)	-0.0047 (0.8027)	0.0221 (0.2982)	0.0230 (0.2997)	0.0508 (0.0387)	0.0571 (0.1877)	0.0169 (0.3324)
	OVX	-0.0879** (0.0338)	-0.0547* (0.0807)	-0.0782** (0.0280)	-0.0597* (0.0560)	-0.0621** (0.0382)	-0.0590* (0.0522)	-0.0573** (0.0496)	-0.0514* (0.0661)	-0.0406 (0.3391)	-0.0868*** (0.0000)
	CDS	0.0008 (0.7898)	0.0006 (0.8140)	-7.4E05 (0.9766)	-0.0019 (0.3068)	-0.0016 (0.3203)	-0.0009 (0.6190)	-0.0013 (0.4657)	-0.0035 (0.0828)	-0.0056 (0.0459)	-0.0016 (0.3004)
	MOVE	-0.0004 (0.2798)	-0.0005* (0.0758)	-0.0002 (0.5924)	-0.0001 (0.6866)	0.0001 (0.5885)	-8.8E05 (0.7691)	-4.8E05 (0.8757)	-0.0002 (0.4591)	2.2E05 (0.9730)	-0.0001 (0.4544)
	G.GPR	0.0221 (0.2244)	0.0051 (0.7247)	0.0150 (0.3482)	0.0147 (0.2930)	0.0193* (0.0795)	0.0127 (0.3167)	0.0088 (0.4985)	-0.0044 (0.7396)	-0.0245 (0.2333)	0.0101 (0.3560)
Kuwait	C	-0.0384 (0.1713)	-0.0012 (0.9663)	0.0143 (0.5925)	0.0369 (0.1476)	0.0455 (0.0370)	0.0632 (0.0019)	0.0684 (0.0002)	0.0811 (0.0000)	0.0819 (0.0001)	0.0427 (0.0077)
	OVX	-0.1174*** (0.0025)	-0.1047*** (0.0054)	-0.0637* (0.0868)	-0.0705** (0.0463)	-0.0545* (0.0832)	-0.0436 (0.1008)	-0.0409* (0.0621)	-0.0309* (0.0987)	-0.0389* (0.0542)	-0.0790*** (0.0000)
	CDS	-0.0002 (0.9223)	0.0037** (0.0334)	0.0016 (0.3144)	0.0010 (0.5214)	-0.0006 (0.7020)	-0.0008 (0.6124)	-0.0005 (0.7339)	-0.0013 (0.4138)	-0.0026 (0.2141)	8.2E05 (0.9548)
	MOVE	-3.2E05 (0.9268)	-0.0003 (0.3846)	-0.0004 (0.2598)	-0.0006* (0.0856)	-0.0006** (0.0424)	-0.0007*** (0.0063)	-0.0007*** (0.0037)	-0.0007*** (0.0059)	-0.0005 (0.1060)	-0.0006*** (0.0092)

Kuwait	G.GPR	0.0232 (0.3437)	0.0176 (0.3339)	0.0203 (0.1046)	0.0256** (0.0274)	0.0247** (0.0308)	0.0255** (0.0311)	0.0161 (0.1106)	0.0087 (0.4052)	0.0025 (0.8266)	0.0247** (0.0142)
	C	-0.0766 (0.0556)	-0.0311 (0.3023)	-0.0076 (0.7578)	0.0025 (0.9234)	0.0162 (0.5538)	0.0178 (0.4931)	0.0590 (0.0278)	0.0580 (0.0466)	0.0853 (0.0104)	0.0108 (0.6149)
	OVX	-0.1453 (0.4515)	-0.0740*** (0.0003)	-0.0904*** (0.0000)	-0.0936*** (0.0000)	-0.0982*** (0.0000)	-0.1018*** (0.0000)	-0.0800*** (0.0050)	-0.0860*** (0.0014)	-0.1266*** (0.0016)	-0.0945*** (0.0000)
Qatar	CDS	-0.0002 (0.9346)	-0.0011 (0.6579)	-0.0023 (0.3200)	-0.0014 (0.4781)	-0.0002 (0.9131)	0.0003 (0.8406)	-0.0015 (0.4096)	0.0003 (0.8821)	0.0033 (0.4360)	-0.0007 (0.7114)
	MOVE	0.0003 (0.5588)	8.7E05 (0.8353)	-3.0E05 (0.9310)	-0.0001 (0.7892)	-0.0001 (0.6675)	-4.0E05 (0.9143)	-0.0004 (0.2809)	-0.0001 (0.6437)	-0.0001 (0.6717)	-5.4E05 (0.8614)
	G.GPR	-0.0279 (0.5211)	0.0157 (0.4355)	0.0009 (0.9625)	0.0030 (0.8736)	-0.0011 (0.9520)	0.0112 (0.5168)	0.0119 (0.5388)	0.0171 (0.4903)	-0.0043 (0.8563)	-0.0009 (0.9468)
Bahrain	C	2.6022 (0.0000)	2.7293 (0.0000)	3.1027 (0.0000)	3.1820 (0.0000)	3.1934 (0.0000)	3.6326 (0.0000)	3.7965 (0.0000)	3.8964 (0.0000)	3.9053 (0.0000)	3.3232 (0.0000)
	OVX	-0.0622 (0.4567)	-0.0791 (0.4384)	0.0969 (0.5953)	0.1433 (0.4523)	0.1265 (0.5128)	0.2594 (0.3290)	0.4010 (0.2608)	0.2277 (0.4914)	0.1268 (0.7746)	0.1111 (0.3167)
	CDS	0.0086 (0.5526)	-0.0010 (0.9192)	0.0030 (0.7345)	-0.0024 (0.8073)	-0.0101 (0.3380)	-0.0102 (0.3356)	-0.0019 (0.8782)	-0.0126 (0.3032)	-0.0028 (0.9195)	-0.0034 (0.7365)
	MOVE	0.0050*** (0.0017)	0.0048*** (0.0075)	0.0005 (0.7946)	2.7E05 (0.9909)	0.0004 (0.8553)	-0.0043** (0.0325)	-0.0055*** (0.0021)	-0.0061*** (0.0001)	-0.0040 (0.2560)	-0.0007 (0.6473)
	G.GPR	0.0503 (0.4419)	0.0616 (0.3714)	-0.0328 (0.6803)	-0.0354 (0.6952)	-0.0251 (0.7961)	0.0156 (0.8869)	0.1027 (0.2283)	0.0626 (0.3601)	0.0281 (0.8047)	0.0128 (0.8546)
Oman	C	-0.0312 (0.1348)	-0.0401 (0.0972)	-0.0523 (0.0389)	-0.0443 (0.0200)	-0.0473 (0.0049)	-0.0312 (0.0386)	-0.0266 (0.0428)	-0.0148 (0.2169)	0.0036 (0.7670)	-0.0324 (0.0087)
	OVX	-0.0445*** (0.0033)	-0.0470** (0.0120)	-0.0298 (0.4133)	-0.0292 (0.3349)	-0.0325 (0.1993)	-0.0265 (0.2251)	-0.0147 (0.4633)	-0.0202 (0.2769)	-0.0388** (0.0302)	-0.0364*** (0.0031)
	CDS	-0.0020 (0.6917)	-0.0022 (0.5011)	-0.0009 (0.7641)	-0.0018 (0.3929)	-0.0001 (0.9136)	-0.0001 (0.9207)	-0.0005 (0.5564)	-0.0011 (0.2682)	-0.0014 (0.1850)	-0.0010 (0.3664)
	MOVE	-0.0001 (0.7669)	0.0001 (0.6286)	0.0004 (0.2027)	0.0005* (0.0790)	0.0007*** (0.0028)	0.0005*** (0.0091)	0.0005*** (0.0020)	0.0005*** (0.0033)	0.0003** (0.0288)	0.0004*** (0.0185)
	G.GPR	0.0211 (0.1132)	0.0238** (0.0144)	0.0178 (0.1331)	0.0135 (0.2143)	0.0031 (0.6904)	0.0031 (0.7100)	0.0017 (0.8412)	0.0002 (0.9811)	-0.0013 (0.8811)	0.0066 (0.3827)

Source: Prepared by the author

Note: That *, **, *** denote for 10%, 5%, 1%, respectively.

From the quantile regression results, we can observe that the negative effects of OVX vary with the change in the quantile level. OVX has significant negative effects for nearly all quantile levels except Bahrain and Oman. These findings indicate that an increase in oil price volatility leads to a decrease in stock returns in GCC. Furthermore, OVX has a more pronounced effect on KSA, Qatar, and UAE than on the rest of the GCC Islamic stock markets. OVX negatively impacts KSA and UAE across all quantiles and has a stronger effect during a bearish market. Besides, it impacts Kuwait across all quantiles except for Q6, and it has a stronger effect at the lower quantiles (Q1, Q2). The oil price volatility impacts Qatar Islamic stock market across all quantiles except for Q1. Its impact increases from the lowest to the upper quantiles, with a slight decline at Q7 and Q8 while scoring the strongest impact at the most upper quantile (Q9). In Oman, OVX negatively impacts the Islamic stock market during the bearish market (Q1, Q2) and at the most upper quantile (Q9). However, it has no impact on Bahrain's stock market. Oman's and Bahrain's weak link to OVX is expected as these two countries are not major oil exporters. It is worth mentioning that global factors have absolutely no impact on Bahrain's Islamic stock market. The market efficiency might explain the latter since Bahraini market has been among the first in the world to be established. This proves Bahrain's Islamic stock market's resilience to global instabilities.

Considering the impact of global financial indicators, we start with CDS. The U.S CDS negatively impacts KSA's stock return during the bearish market at the lower quantiles (Q1, Q2) and UAE during the bullish market at the most upper quantiles (Q8, Q9). Regarding the Kuwaiti Islamic stock market, CDS has a significantly positive impact only at Q2. This particular result is in line with Naifar (2015). However, U.S. CDS has no significant impact on Qatar, Bahrain, and Oman.

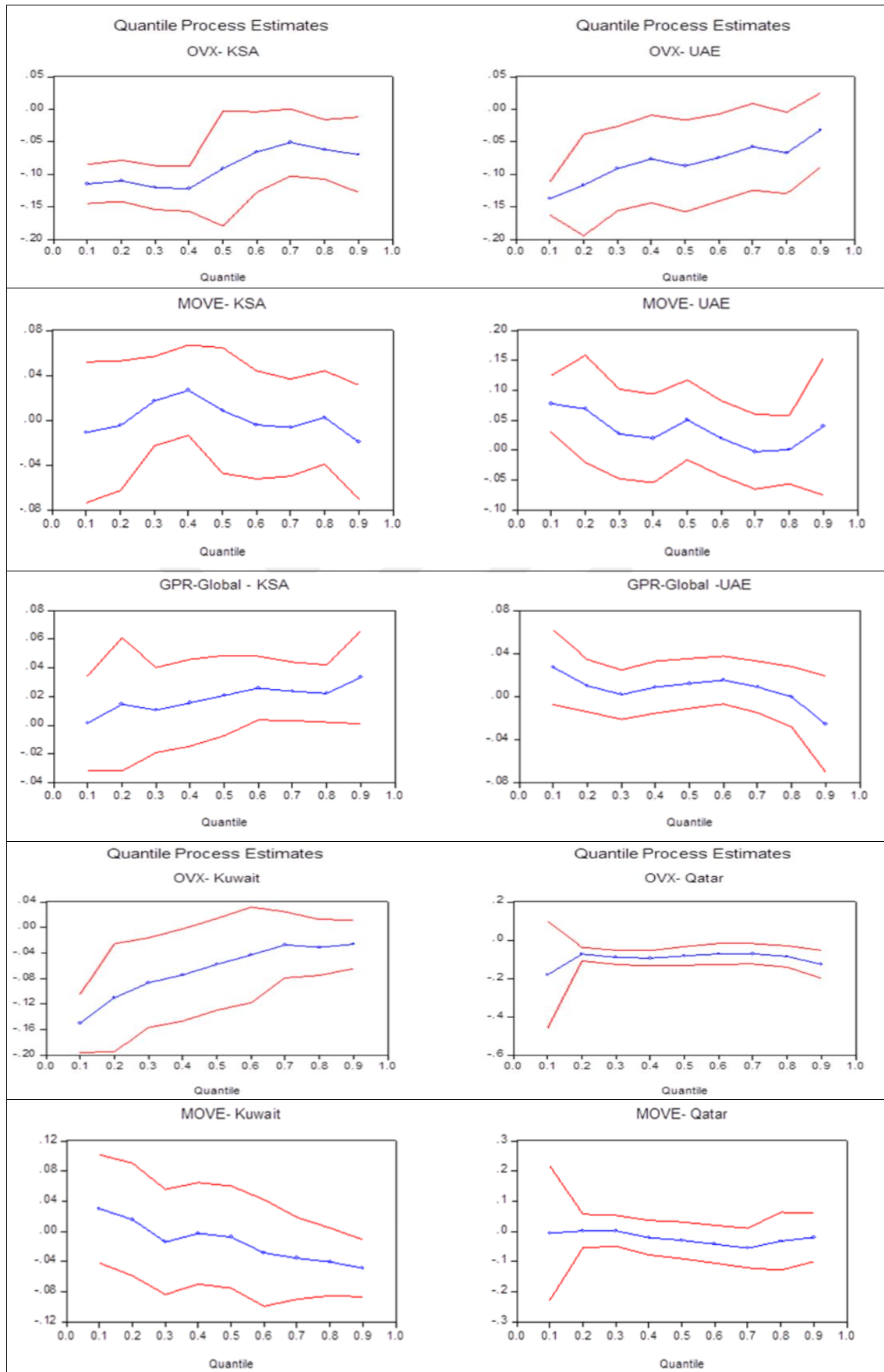
The second global financial indicator, MOVE, impacts Islamic stock returns differently across countries and quantiles in the GCC. In UAE, MOVE's negative impact is only observed at Q2. In Kuwait, OVX negatively impacts the stock return at normal (Q4, Q5, and Q6) and bullish (Q7, Q8) markets and has a stronger impact during the bullish market. In Bahrain, MOVE positively impacts the Islamic stock market during bearish markets (Q1, Q2) and negatively during the bullish and normal markets (Q6, Q7, Q8). In Oman, the index positively affects the Islamic stock market during normal (Q4, Q5, Q6) and bullish market (Q7, Q8, Q9). Finally, MOVE has no significant impact on KSA and Qatar Islamic stock market returns. Despite MOVE's heterogeneous effects, the empirical findings indicate that MOVE has the most significant impact on Kuwait, Bahrain, and Oman. While the positive impact has not been documented in the corresponding literature, the negative sign aligns with previous empirical papers (Ajmi et al., 2014). Also, this result is considered controversial since it reflects a violation of Islamic investment norms, as it indicates Islamic assets sensitivity to interest rate volatility.

Regarding the impact of global geopolitical risk on Islamic stock return dynamics, our results indicate a positive link between global GPR and GCC's Islamic stock market returns. It impacts KSA at normal (Q6) and bullish market (Q7, Q8). GPR positively impacts UAE only at (Q5), Kuwait at normal market (Q4, Q5, Q6) and Oman at bearish market (Q2). However, it has no impact on Qatar and Bahrain. Generally, GPR positively impacts Islamic stock market return in GCC during normal market state.

The fact that GCC stock market returns are affected by global GPR is in line with the literature related to Islamic investments (Bouri et al., 2019; Guyot, 2011). The positive sign could be attributed to the fact that during political turmoil, usually middle eastern investors are accused of being involved in funding terrorism. Hence, these investors move their wealth from the west to their region, which positively impacts the stock market, especially at normal and bullish market states (El-Gamal and Jaffe, 2010). Technically speaking, this positive relationship between Islamic stock return and the global GPR in the GCC region could be explained by the home equity bias phenomenon where investors transfer their funds from foreign to local markets to be spent on domestic assets during periods of global turmoil (Naifar, 2015; Alqahtani and Klein, 2021).

Overall, the Islamic stock return results indicate the following constataions. First, OVX has a stronger impact during the bearish market, except in two cases: in Qatar, where the impact is stronger during the bullish market, and in Bahrain, where OVX has no significant impact. Second, CDS only impacts KSA, Kuwait, and UAE at extreme market conditions (most upper and lower quantiles). Third, MOVE's results are heterogeneous across countries and quantiles. Literature suggests that this sensitivity to Financial risk factors negates the decoupling hypothesis of Islamic stock investment from their conventional counterpart and attributes this link to the fact that most GCC governments and financial entities invest in U.S debt instruments (El-Gamal and Jaffe, 2010; Ajmi et al. 2014). Regarding global GPR, our empirical evidence indicates that the global GPR has no effect under lower quantiles (bearish market). Yet, it positively affects the intermediate and upper quantiles (when GCC Islamic stock markets are at normal and bullish states). This result confirms that global GPR can provide useful information in understanding GCC's Islamic markets return dynamics only when markets are at normal and bullish states. A corollary of this result is that Islamic stock markets in GCC are weakly inefficient with global factors.

To gain further insight into the dependence structure, we graphically illustrate the coefficient estimates for the distribution of global risk factors. Figure 2 shows the clear differences in the dependence structure across quantiles and affirms the asymmetric effect of the regressor.



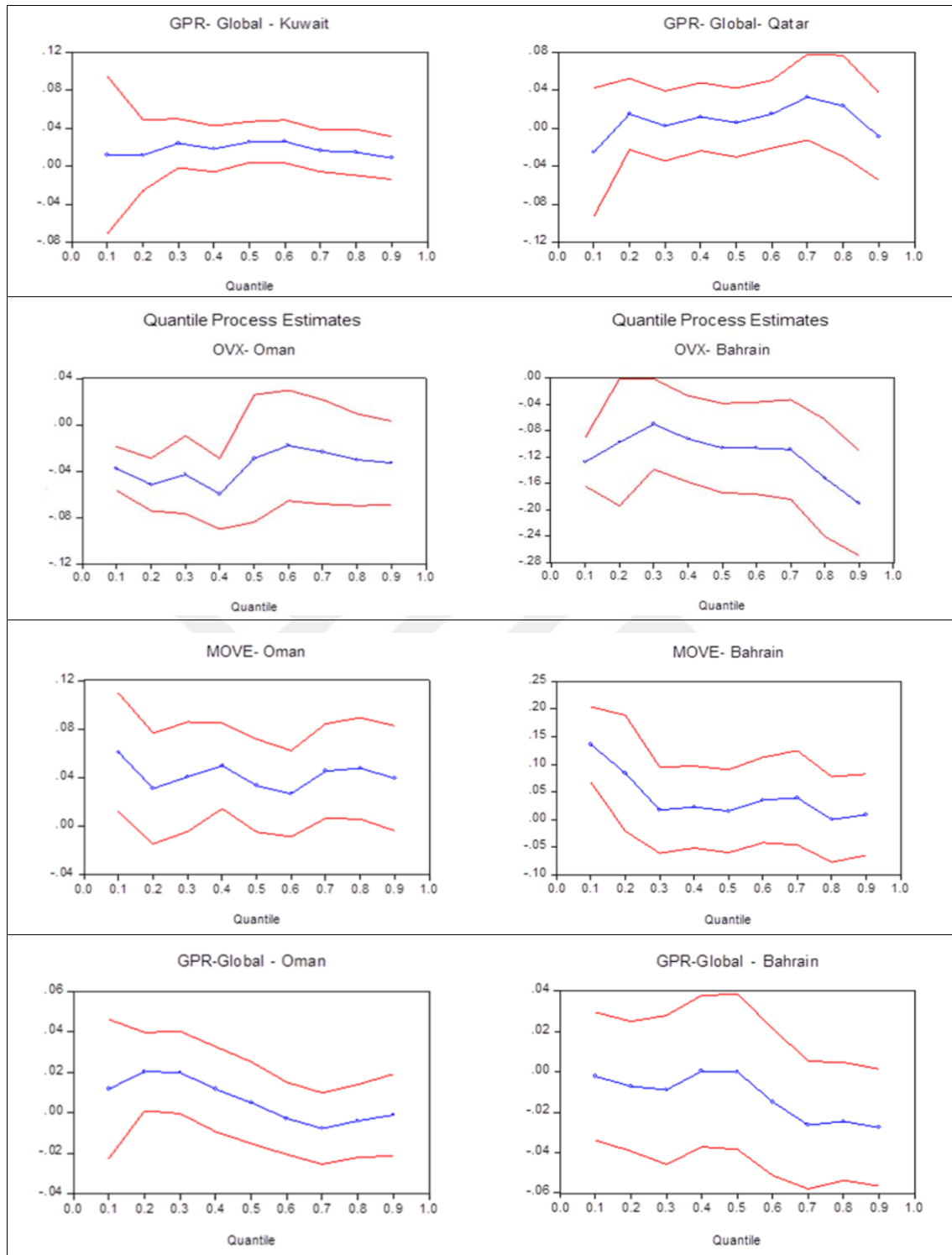


Figure 4: The Quantile Regression Coefficients for The OVX, MOVE, and Global GPR

Source: Prepared by the author

Note: The blue lines show the quantile regression estimates of the regression parameters across the quantiles ranging from 0.05 to 0.95, while the red lines depict the 95% confidence intervals for the quantile regression estimates. Vertical axes present the coefficient estimates of the explanatory variable, while horizontal axes present the quantiles of the dependent variable.

2.6.2. Conventional Stock Indices Return

In Table 10, we report the results of the OLS estimation and the quantile regressions for conventional stock indices. According to OLS regression results, OVX has a significant negative impact on all GCC countries. The empirical findings show that OVX has the most significant impact on the UAE and Kuwait stock markets, followed by Qatar, Oman, KSA, and Bahrain. CDS has no significant impact on GCC conventional local stock markets returns. The global GPR has a positive impact on Kuwait, yet it has no significant impact on the rest of the GCC countries. MOVE has a negative impact on Kuwait and KSA. Overall, OVX has the most significant impact on GCC countries.

From the quantile regression results, we can observe that OVX has a negative impact on KSA's conventional stock return across bearish (Q1, Q2, Q3) and bullish (Q8, Q9) markets. However, it has no significant impact across the normal market (Q4, Q5, Q6). Also, the OVX has a stronger effect at extreme market conditions (Q1, Q9). In UAE, OVX negatively impacts conventional stock market returns across all quantiles except the most upper quantile (Q9). We notice that in Kuwait as well, OVX has a stronger effect during the bearish market. In Qatar, the OVX negatively affects all quantiles except the most upper quantile (Q9). Similar to the rest of the GCC countries, the effect of OVX is stronger during the bearish market (Q1, Q2, Q3). In Oman, the OVX has a significant negative impact on the stock return across the bearish market (Q1, Q2, Q3) and at the most upper quantile (Q9). However, In Bahrain, the OVX has a significant negative impact on the stock returns only during the bullish market (Q7, Q8, Q9). Overall, OVX has a significant negative impact on all conventional stock market returns in the GCC region. This result is in line with Alqahtani and Klein (2021) and Dutta, Nikkinen, and Rothovius (2017). This impact is stronger during the bearish market (Q1, Q2, Q3), where the market is at its worst performance levels, except for Bahrain, where the OVX effect is only significant at the bullish market.

Table 10: Conventional Stock Market Return

Country	Variable	Quantile Levels									OLS
		Q1	Q1	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
KSA	C	-0.0250 (0.3255)	-0.0084 (0.5479)	-0.0018 (0.8239)	-9.3E06 (0.9990)	2.7E06 (0.9997)	0.0207 (0.0214)	0.0473 (0.0065)	0.1052 (0.0001)	0.1249 (0.0000)	0.0496 (0.0131)
	OVX	-0.0922*** (0.0000)	-0.0428** (0.0430)	-0.0204* (0.0936)	-1.8E08 (1.0000)	-2.4E05 (0.9983)	-0.0155 (0.2703)	-0.0337 (0.2263)	-0.0637** (0.0241)	-0.0643** (0.0409)	-0.0554*** (0.0055)
	CDS	-0.0061*** (0.0049)	-0.0023** (0.0709)	-0.0005 (0.3543)	-3.5E10 (1.0000)	-3.8E07 (0.9994)	-0.0001 (0.8328)	0.0001 (0.8396)	-0.0004 (0.7621)	0.0017 (0.6856)	-0.0013 (0.4517)
	MOVE	-0.0002 (0.4306)	-9.1E05 (0.6742)	-2.8E05 (0.8464)	-2.8E11 (1.0000)	-1.3E07 (0.9989)	-0.0002** (0.0408)	-0.0005** (0.0120)	-0.0010*** (0.0005)	-0.0010*** (0.0017)	-0.0007** (0.0149)
	G.GPR	-0.0091 (0.6319)	-0.0066 (0.5042)	-0.0010 (0.8101)	4.5E10 (1.0000)	4.2E06 (0.9992)	-0.0008 (0.8612)	0.0066 (0.6112)	0.0210 (0.3382)	0.0489 (0.1442)	0.0025 (0.8375)
UAE	C	-0.0234 (0.1991)	0.0058 (0.7267)	0.0095 (0.5818)	0.0229 (0.1707)	0.0457 (0.0085)	0.0571 (0.0018)	0.0512 (0.0258)	0.0422 (0.1826)	0.0782 (0.1336)	0.0338 (0.0614)
	OVX	-0.1256*** (0.0009)	-0.0970*** (0.0004)	-0.0806*** (0.0037)	-0.0715*** (0.0040)	-0.0730*** (0.0028)	-0.0776*** (0.0020)	-0.0702** (0.0100)	-0.0590* (0.0644)	-0.0839 (0.2087)	-0.1023*** (0.0000)
	CDS	0.0016 (0.1948)	0.0005 (0.6557)	0.0010 (0.4087)	0.0009 (0.4918)	-0.0001 (0.9175)	-0.0007 (0.6729)	-0.0024 (0.2524)	-0.0043* (0.0583)	-0.0069*** (0.0049)	-0.0008 (0.6122)
	MOVE	-0.0001 (0.6163)	-0.0003* (0.0941)	-0.0003 (0.1359)	-0.0004* (0.0634)	-0.0006** (0.0121)	-0.0006*** (0.0069)	-0.0004 (0.1935)	-9.9E05 (0.8428)	-0.0002 (0.6861)	-0.0004 (0.1252)
	G.GPR	-0.0011 (0.9230)	0.0093 (0.2678)	0.0050 (0.5512)	0.0103 (0.3392)	0.0097 (0.4255)	-0.0009 (0.9397)	0.0102 (0.5318)	0.0005 (0.9811)	-0.0121 (0.6170)	0.0068 (0.5457)
Kuwait	C	-0.0215 (0.6208)	0.0108 (0.7846)	0.0292 (0.4647)	0.0308 (0.2486)	0.0486 (0.0383)	0.0502 (0.0224)	0.0710 (0.0003)	0.0818 (0.0000)	0.0971 (0.0000)	0.0476 (0.0070)
	OVX	-0.1220** (0.0327)	-0.0996*** (0.0091)	-0.0898** (0.0192)	-0.0517 (0.1075)	-0.0397 (0.1508)	-0.0643** (0.0225)	-0.0582** (0.0190)	-0.0498** (0.0308)	-0.0637*** (0.0082)	-0.0912*** (0.0000)
	CDS	-0.0012 (0.8488)	0.0024 (0.2488)	0.0018 (0.3246)	0.0002 (0.9047)	-0.0005 (0.7696)	0.0007 (0.7227)	-0.0002 (0.8893)	-0.0019 (0.2898)	-0.0008 (0.6470)	-1.7E05 (0.9915)
	MOVE	-0.0005 (0.4320)	-0.0005 (0.3082)	-0.0007 (0.2224)	-0.0005 (0.1333)	-0.0006** (0.0420)	-0.0005* (0.0623)	-0.0007*** (0.0057)	-0.0007*** (0.0054)	-0.0007*** (0.0015)	-0.0007*** (0.0055)
	G.GPR	0.0598** (0.0198)	0.0340** (0.0354)	0.0246 (0.1063)	0.0232* (0.0681)	0.0110 (0.3695)	0.0219* (0.0691)	0.0214* (0.0857)	0.0184 (0.1567)	0.0180 (0.1288)	0.0291*** (0.0087)
Qatar	C	-0.1040 (0.0012)	-0.0335 (0.2253)	-0.0307 (0.2707)	0.0013 (0.9563)	0.0028 (0.8975)	0.0343 (0.0790)	0.0507 (0.0090)	0.0683 (0.0004)	0.1227 (0.0000)	0.0182 (0.3322)

		Q1	Q1	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Qatar	OVX	-0.0985*** (0.0001)	-0.0949*** (0.0000)	-0.1042*** (0.0000)	-0.0863*** (0.0036)	-0.0753*** (0.0043)	-0.0676*** (0.0024)	-0.0622*** (0.0031)	-0.0556*** (0.0061)	-0.0480 (0.1974)	-0.0793*** (0.0000)
	CDS	-0.0021 (0.3865)	-0.0012 (0.5048)	-0.0016 (0.3932)	-0.0003 (0.8226)	-0.0002 (0.8778)	-0.0008 (0.5855)	-0.0001 (0.9506)	0.0001 (0.9354)	-0.0004 (0.8895)	-0.0006 (0.7144)
	MOVE	0.0008** (0.0327)	0.0001 (0.7416)	0.0001 (0.6377)	-9.4E05 (0.7823)	3.6E06 (0.9903)	-0.0002 (0.2590)	-0.0004 (0.1141)	-0.0005** (0.0306)	-0.0010*** (0.0024)	-0.0002 (0.3729)
	G.GPR	-0.0134 (0.6313)	0.0155 (0.3853)	0.0065 (0.7550)	-0.0053 (0.7871)	0.0028 (0.8621)	-0.0002 (0.9893)	0.0021 (0.8936)	-0.0057 (0.7122)	-0.0180 (0.3181)	-0.0016 (0.8912)
Bahrain	C	-0.0134 (0.3279)	0.0001 (0.9892)	0.0209 (0.1067)	0.0237 (0.0728)	0.0252 (0.0519)	0.0346 (0.0117)	0.0441 (0.0011)	0.0590 (0.0000)	0.0685 (0.0006)	0.0276 (0.0908)
	OVX	-0.0226 (0.3869)	-0.0253 (0.3272)	-0.0209 (0.3664)	-0.0186 (0.3742)	-0.0135 (0.4482)	-0.0186 (0.2620)	-0.0331** (0.0377)	-0.0305* (0.0570)	-0.0352** (0.0355)	-0.0507*** (0.0021)
	CDS	-0.0013 (0.3479)	-0.0003 (0.7168)	-0.0008 (0.3182)	-0.0005 (0.4757)	-3.4E05 (0.9640)	-3.2E05 (0.9689)	0.0003 (0.7177)	0.0017 (0.2885)	-0.0014 (0.7586)	0.0011 (0.4322)
	MOVE	-0.0001 (0.4525)	-0.0002 (0.1804)	-0.0004** (0.0189)	-0.0004** (0.0200)	-0.0003** (0.0315)	-0.0004** (0.0215)	-0.0004*** (0.0084)	-0.0005*** (0.0020)	-0.0005* (0.0878)	-0.0003 (0.1247)
	G.GPR	-0.0109 (0.3521)	-0.0051 (0.5485)	-0.0061 (0.4868)	-7.2E05 (0.9936)	0.0007 (0.9329)	0.0083 (0.4555)	0.0107 (0.3225)	0.0072 (0.5103)	-0.0020 (0.8307)	0.0042 (0.6808)
Oman	C	-0.0713 (0.0037)	-0.0286 (0.1024)	-0.0199 (0.2058)	-0.0042 (0.7838)	-0.0052 (0.7302)	0.0065 (0.6610)	0.0095 (0.5723)	0.0021 (0.9185)	0.0087 (0.6653)	-0.0108 (0.4320)
	OVX	-0.1159*** (0.0000)	-0.0813** (0.0127)	-0.0601** (0.0393)	-0.0309 (0.1858)	-0.0292 (0.1791)	-0.0242 (0.1894)	-0.0198 (0.2842)	-0.0200 (0.3537)	-0.0451* (0.0618)	-0.0603*** (0.0000)
	CDS	-0.0004 (0.8343)	0.0009 (0.4913)	0.0007 (0.6193)	-0.0003 (0.7833)	-0.0010 (0.4407)	-0.0008 (0.5171)	-0.0022 (0.1345)	-0.0023 (0.1764)	-0.0025 (0.1488)	-0.0005 (0.6651)
	MOVE	0.0003 (0.2851)	-4.8E06 (0.9846)	4.7E05 (0.8576)	-7.3E05 (0.7418)	4.4E05 (0.8398)	-2.6E05 (0.9045)	4.7E05 (0.8561)	0.0003 (0.3755)	0.0003 (0.2158)	0.0001 (0.6139)
	G.GPR	-0.0027 (0.8293)	-0.0038 (0.7837)	-0.0093 (0.5830)	-0.0008 (0.9595)	-0.0138 (0.3195)	-0.0043 (0.7272)	-0.0085 (0.4307)	-0.0002 (0.9800)	0.0020 (0.8573)	0.0007 (0.9271)

Source: Prepared by the author

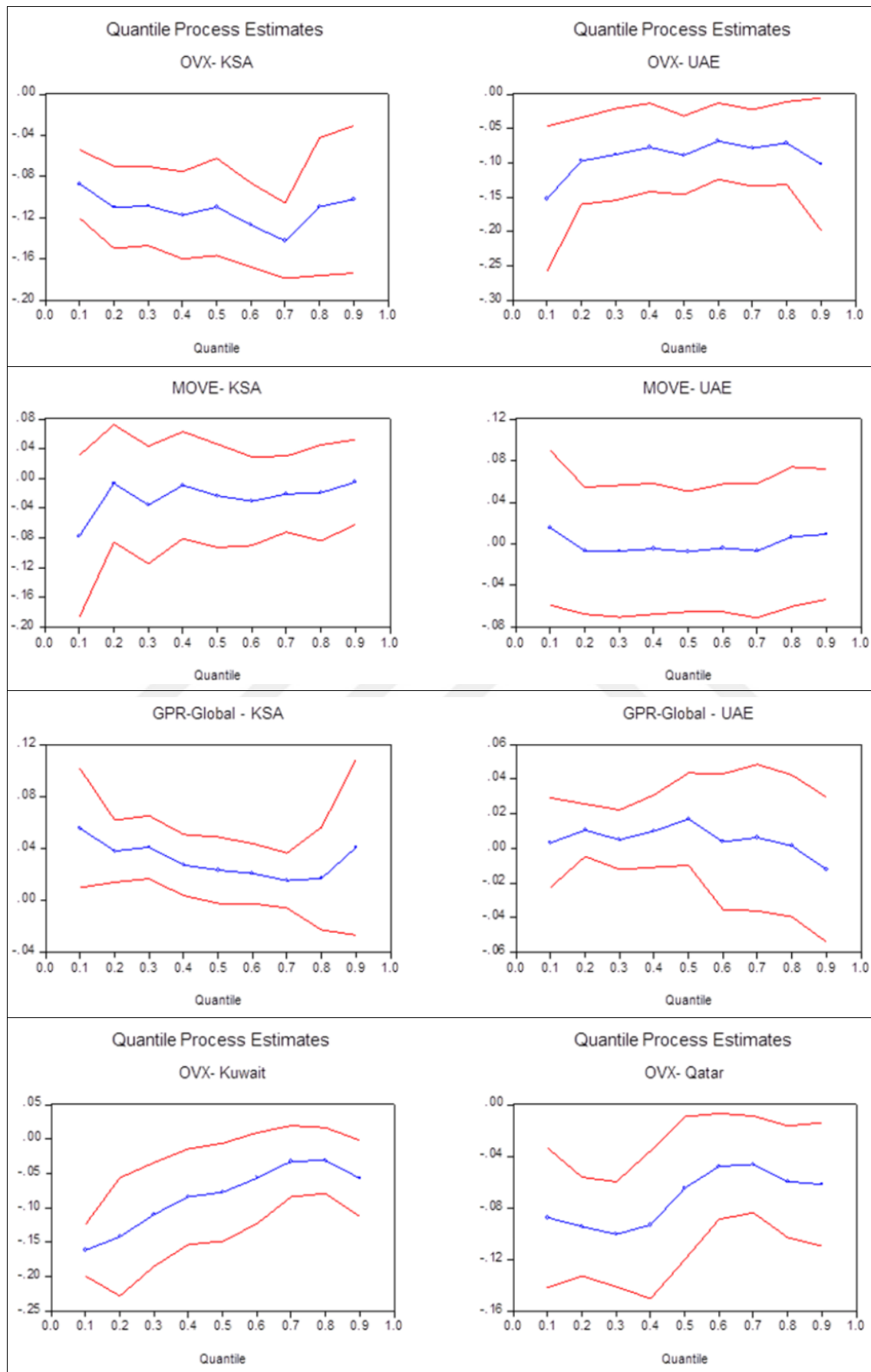
Note: That *, **, *** denote for 10%, 5%, 1%, respectively.

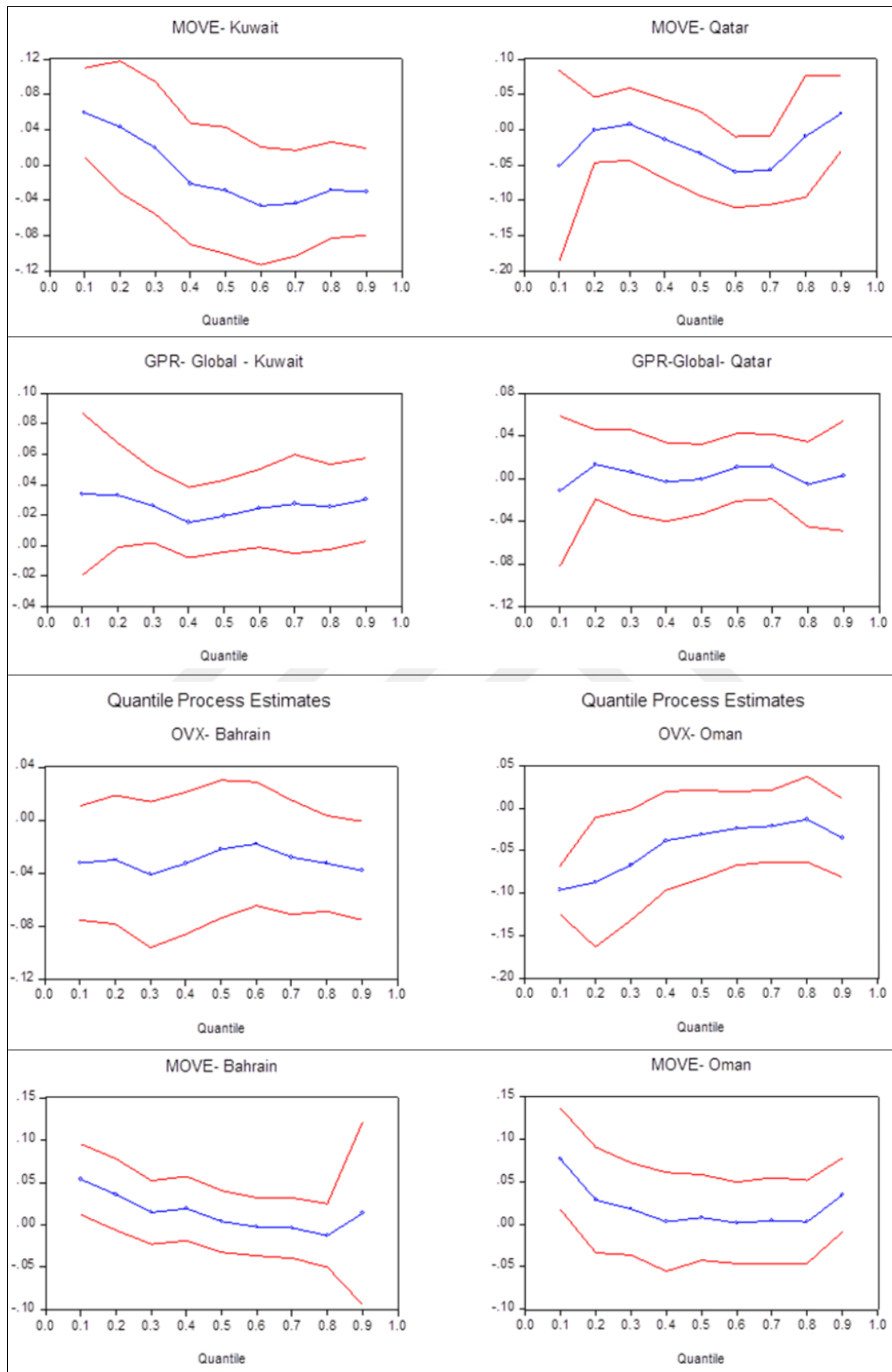
Regarding the impact of CDS, empirical findings indicate that CDS has a negative impact on the conventional stock market returns in KSA and UAE. Yet, it has no impact on the rest of the GCC markets. In KSA, the CDS impact is only significant at the lower quantiles (Q1, Q2), while in UAE, CDS negatively impacts stock returns at the most upper quantiles (Q8, Q9). This result could be attributed to the fact that GCC - especially KSA and UAE - is one of the two main groups of U.S. creditors by investing in U.S. deficits through treasury bills and CDS (El-Gamal and Jaffe, 2010). However, the minor impact of CDS on GCC stock markets can be attributed to the fact that the treasury announcement (sovereign debt, debt ceiling etc.) which are carefully taken and reported periodically and consistently. Treasury announcements are anticipated events. When an event is predictable, the market reaction to it is limited because the information has already been considered and reflected in the asset's price (Fererra, 2018).

The MOVE index significantly impacts all GCC market returns except for Oman. In KSA, MOVE impacts the conventional local market during normal (Q6) and bullish markets (Q7, Q8, Q9) and has a stronger impact during the bullish market (most upper quantiles). In UAE, the MOVE impacts stock returns during the bearish (Q2) and the normal markets (Q4, Q5, Q6) and it has a stronger effect during the normal market condition. In Kuwait, the MOVE negatively impacts the stock return during the normal (Q5, Q6) market and the bullish market (Q7, Q8, Q9) and is stronger during the bullish market state. In Bahrain, the MOVE index negatively impacts the stock returns across all quantiles except for the most lower quantiles (Q1, Q2) and it has a stronger impact during the bullish market at the most upper quantiles (Q8 and Q9). However, MOVE positively impacts stock returns in Qatar at the most lower quantiles (Q1) and negatively at the most upper quantiles (Q8, Q9). This shows that the Qatari stock market reacts to bond market volatility in a drastic opposite way at extreme market conditions. Generally, MOVE negatively impacts GCC conventional stock return during the bullish market.

The global geopolitical risk has no significant impact on conventional stock market returns in GCC except for Kuwait. The global GPR impacts the Kuwaiti market return across all market conditions; the bearish (Q1, Q2), the normal (Q4, Q6), and the bullish market (Q7). Moreover, global GPR has the strongest effect during the bearish market. This reflects the resilience of GCC's conventional markets to the global political tensions (Alqahtani and Klein, 2021).

Overall, OVX has a significant negative impact on all GCC countries. This result is consistent with theoretical expectations and empirical literature. Alqahtani and Klein (2021), state that Kuwaiti, Omani, Qatari, and UAE stock markets show significant and inverse responses to rising oil market volatility. Furthermore, from a broader analysis perspective, it is commonly known that most of the GCC countries are still heavily dependent on oil and remain vulnerable to fluctuations in the global oil market. Regarding CDS impact, results show that CDS only impacts the two countries with the most significant investments in U.S. debt instruments at extreme market values, either at the upper or lower quantile. MOVE negatively impacts GCC conventional stock return during the bullish market. The relatively weak impact of U.S. financial indicators on GCC stock markets could be linked to the shift in GCC's geoeconomic starting recently and the Gulf countries interest in China (Alshareef, 2022). Moving to the global geopolitical risk, we notice that global GPR has no effect on the performance of conventional indices in GCC countries except for Kuwait. This indicates that these states are resilient on a global scale. Their resilience could be explained by the fact that these markets efficiently absorb shocks like terrorist attacks (Johnston and Nedelescu, 2006). Another reason might be the stable liquidity provision provided by the banking/financial sector (Chen and Siems, 2004). To gain further insight into the dependence structure, we graphically illustrate the coefficient estimates for the distribution of global risk factors. Figure 4 shows the clear differences in the dependence structure across quantiles and affirms the asymmetric effect of the regressors.





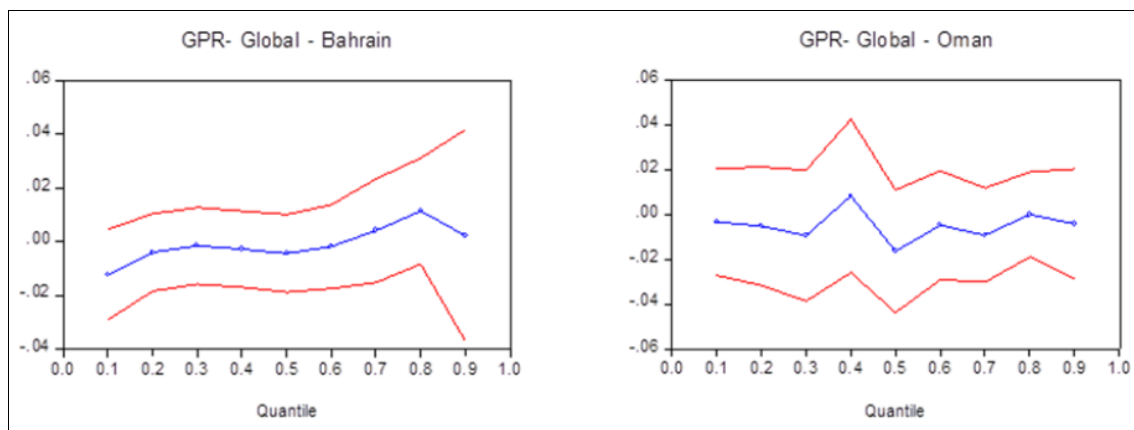


Figure 5: The Quantile Regression Coefficients for THE Global CDS, MOVE, and Global GPR

Source: Prepared by the author

Note: The blue lines show the quantile regression estimates of the regression parameters across the quantiles ranging from 0.05 to 0.95, while the red lines depict the 95% confidence intervals for the quantile regression estimates. Vertical axes present the coefficient estimates of the explanatory variable, while horizontal axes present the quantiles of the dependent variable.

2.6.3. Islamic versus Conventional Indices Performance

Comparing the performance of Islamic and Conventional stock indices, we observe a set of critical points. First, it seems like oil revenues are injected into both markets' venues. Overall, the impact of OVX is the strongest among all factors and impacts both markets almost likewise (its impacts is slightly stronger on Islamic indices in KSA, Kuwait and Qatar). This implies that financial markets and the economy are still heavily dependent on oil revenues and seriously affected by its volatility and validate the critical role on market's stability of the GCC financial markets despite the diversification.

Second, while global GPR partly explains the Islamic stock return, it has no impact on their counterpart except in Kuwait. This finding is of particular importance as it indicates the insensitivity and thus the resilience of GCC conventional stock markets to changes in the global political tensions and instability compared to Islamic indices.

Third, we observe that both Islamic and conventional markets returns are affected by MOVE. While this result is expected for conventional equities, it is -in the case of the Islamic stock market- normatively and not technically violating the Riba prohibition rule. Though the results indicate an apparent sensitivity of Islamic stock return to interest rate, it is crucial to interpret these results cautiously. In fact, the screening process published by AAOIFI or those published by the Sharia boards of indices providers does not negate

the absolute absence of interest – since the latter is embedded in all economic systems around the world- yet it limits its weight in the financial ratios. Therefore, it is wise to say that our results reflect Islamic stock sensitivity to the interest rate; however, it does not indicate to which extent it has been violated. In other words, it does not provide an accurate indication that serves as an argument to invalidate the compliance of the indices used in this study. However, from a hedging perspective, Islamic indices sensitivity to MOVE, imply that it would not be reasonable to invest in Islamic stocks with high beta in the GCC region as investors seeking the compliance do not use conventional hedging instruments.

Finally, our results imply that Islamic equities behave similarly to conventional equities in the GCC markets as their returns are driven by the same common global factor, which means that the Islamic equities are also exposed to global as much as their conventional counterpart, and even more. In fact, their sensitivity to global geopolitical risk nullifies any risk reduction benefits these assets might offer for conventional investors. Therefore, it cannot be used to diversify away from the uncertainties – in our case at least- associated with global oil volatility, financial and political uncertainties. Hence, the Islamic stock market may not be the sought remedy to heal from casualties of global risk factors.

2.7. Robustness Check

For robustness check purposes, we run the Wald test to control for the quantile slopes and present the results in tables 11 and 12.

Table 11: Wald Test Results (OVX/Islamic)

Country	Against The 0.1 Quantile							
	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
KSA	-0.0107 (0.2224)	-0.0069 (0.6324)	0.0139 (0.2912)	-0.0282 (0.3223)	-0.0207 (0.3934)	-0.0119 (0.5396)	0.0059 (0.7272)	0.0135 (0.5170)
UAE	-0.0089 (0.5505)	-0.0232 (0.3945)	0.0299 (0.1996)	-0.0300* (0.0657)	-0.0043 (0.8214)	0.007482 (0.6966)	0.015063 (0.4708)	-0.0168 (0.5263)
Kuwait	-0.0031 (0.8180)	-0.0218 (0.6929)	-0.0314 (0.2229)	0.0112 (0.6382)	-0.030654 (0.1545)	-0.0051 (0.7698)	-0.0036 (0.8074)	0.0153 (0.3095)
Qatar	-0.0670 (0.6973)	0.0101 (0.6571)	0.0017 (0.9038)	0.0065 (0.6432)	-0.0055 (0.6875)	-0.0310* (0.0788)	0.0292 (0.1210)	0.0319 (0.2819)
Bahrain	0.0225 (0.5688)	-0.0371 (0.6380)	0.0066 (0.7481)	0.0396* (0.0723)	-0.0004 (0.9813)	0.0103 (0.6473)	0.0221 (0.4177)	0.0501 (0.1355)
Oman	-0.0126 (0.4343)	0.0119 (0.6791)	-0.0268 (0.2907)	0.0136 (0.5035)	0.0010 (0.9498)	-0.0158 (0.2677)	0.0112 (0.4231)	0.0088 (0.5632)
Against The 0.5 Quantile								
	0.1	0.2	0.3	0.4	0.6	0.7	0.8	0.9
KSA	-0.0069 (0.6324)	0.0139 (0.2912)	-0.0282 (0.3223)	-0.0012 (0.9477)	-0.0194 (0.2914)	-0.0119 (0.5396)	0.0059 (0.7272)	0.0135 (0.5170)
UAE	-0.0232 (0.3945)	0.0299 (0.1996)	0.3000* (0.0657)	0.0066 (0.6373)	-0.0109 (0.4288)	0.0074 (0.6966)	0.0150 (0.4708)	-0.0168 (0.5263)
Kuwait	-0.0218 (0.4980)	-0.0314 (0.2229)	0.0112 (0.6382)	-0.0177 (0.2696)	-0.0129 (0.3567)	-0.0051 (0.7698)	-0.0036 (0.8074)	0.0153 (0.3095)
Qatar	0.0101 (0.6571)	0.0017 (0.9038)	0.0065 (0.6432)	0.0014 (0.8896)	-0.0069 (0.4976)	-0.0310* (0.0788)	0.0292 (0.1210)	0.0319 (0.2819)
Bahrain	-0.0371 (0.6380)	0.0066 (0.7481)	-0.0369* (0.0723)	-0.0011 (0.9408)	0.0006 (0.9678)	0.0103 (0.6473)	0.0221 (0.4177)	0.0501 (0.1355)
Oman	0.0119 (0.6791)	-0.0268 (0.2907)	0.0136 (0.5035)	0.0020 (0.8782)	-0.0009 (0.9339)	-0.0158 (0.2677)	0.0112 (0.4231)	0.0088 (0.5632)

Source: Prepared by the author

***, **, * indicate %1, %5, %10 level of significance, respectively.

Table 11 illustrates the results of the Wald test for quantile slopes against the 0.1 and 0.5 quantiles for OVX in the case of Islamic indices. The null hypothesis of the Wald test assumes the identity of the quantile slope coefficients. This Wald test results against the 0.1 quantile level reject the null hypothesis for UAE at Q5, Qatar at Q7, and Bahrain at Q5. Besides, the results against the 0.5 quantile level indicate the rejection of the hypothesis in UAE at Q3, in Qatar at Q7, and Bahrain at Q3. These results imply that the effect of OVX changes across different quantiles; this shows that OVX has heterogeneous impacts on the stock markets of UAE, Qatar and Bahrain.



Table 12: Wald Test Results (OVS/Conventional)

Country	Against The 0.1 quantile							
	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
KSA	-0.0107 (0.2224)	-0.0069 (0.6324)	0.0139 (0.2912)	-0.0282 (0.3223)	-0.0207 (0.3934)	-0.0119 (0.5396)	0.0059 (0.7272)	0.0135 (0.5170)
UAE	-0.0042 (0.7357)	-0.0345 (0.2240)	-0.0067 (0.7194)	-0.0159 (0.3545)	0.0143 (0.3565)	0.0001 (0.9923)	-0.0134 (0.4957)	0.0169 (0.7663)
Kuwait	-0.0141 (0.5068)	-0.0107 (0.7929)	-0.0050 (0.8489)	-0.0374 (0.1067)	0.0099 (0.6070)	-0.0082 (0.6450)	-0.0094 (0.5727)	0.0165 (0.4009)
Qatar	-0.0087 (0.3482)	0.0060 (0.7310)	0.0110 (0.4690)	-0.0281** (0.0122)	-0.0066 (0.6891)	-0.0081 (0.5857)	-0.0051 (0.7138)	-0.0093 (0.7415)
Bahrain	-0.0004 (0.9594)	0.0045 (0.8433)	-0.0035 (0.8392)	-0.0088 (0.5182)	0.0012 (0.9118)	0.0085 (0.4120)	0.0074 (0.4941)	0.0097 (0.4579)
Oman	0.0020 (0.6818)	-0.0452* (0.0315)	-0.0175 (0.3689)	-0.0296* (0.0921)	0.0098 (0.4693)	-0.0191 (0.1557)	-0.0010 (0.9460)	0.0062 (0.7518)
Against The 0.5 Quantile								
	0.1	0.2	0.3	0.4	0.6	0.7	0.8	0.9
KSA	-0.0271 (0.5984)	0.0017 (0.9065)	0.0024 (0.8542)	0.0051 (0.5784)	0.0035 (0.7049)	0.0087 (0.5009)	-0.0063 (0.5170)	0.0135 (0.7663)
UAE	-0.0345 (0.2240)	-0.0067 (0.7194)	-0.0159 (0.3545)	0.0088 (0.4226)	0.0054 (0.6292)	0.0001 (0.9923)	-0.0134 (0.4957)	0.0169 (0.5263)
Kuwait	-0.0107 (0.7929)	-0.0050 (0.8489)	-0.037453 (0.1067)	-0.0148 (0.3029)	0.0247* (0.0595)	-0.0082 (0.6450)	-0.0094 (0.5727)	0.0165 (0.4009)
Qatar	0.0060 (0.7310)	0.0110 (0.4690)	-0.0281** (0.0122)	-0.0034 (0.7798)	-0.0032 (0.7819)	-0.0081 (0.5857)	-0.0051 (0.7138)	-0.0093 (0.7415)
Bahrain	0.0045 (0.8433)	-0.0035 (0.8392)	-0.0088 (0.5182)	-0.0007 (0.9227)	0.0019 (0.8024)	0.0085 (0.4120)	0.0074 (0.4941)	0.0097 (0.4579)
Oman	-0.0452** (0.0315)	-0.0175 (0.3689)	-0.0296* (0.0921)	0.0036 (0.7148)	0.0062 (0.5319)	-0.0191 (0.1557)	-0.0010 (0.9460)	0.0062 (0.7518)

Source: Prepared by the author

***, **, * indicate %1, %5, %10 level of significance, respectively.

Table 12 presents the results of the Wald test for quantile slopes against the 0.1 and 0.5 quantiles for OVX in the case of conventional indices. The Wald test results against the 0.1 indicate the rejection of the null hypothesis for Qatar at Q5 and Oman at Q3 and Q5. In addition, the Wald test results against the 0.5 quantile level present the rejection of the null hypothesis for Kuwait at Q6, in Qatar at Q3, and in Oman at Q1 and Q3. These results imply that the effect of OVX changes and across different quantiles and reveal the heterogeneous effect on the conventional stock markets of Kuwait, Qatar, and Oman⁶.

2.8. Conclusion and Implications

The aim of this research is to study the impact of global factors on Islamic and conventional stock returns in the GCC region from April 2011 to April 2021. For this purpose, we apply the quantile regression method to investigate the effect of global factors on GCC Islamic and conventional stock market returns across three market states: the bearish, normal, and bullish market conditions.

Despite the common belief that Islamic markets might present a diversification opportunity for investors and contribute to the stabilization of stock markets, this paper argue that Islamic markets are converging (not to say converged for accuracy purposes) and thus doesn't represent a reliable tool to market resilience nor diversification which is the opposite of what is expected from Islamic financial markets.

We Find that both Islamic and Conventional stocks likewise are affected by oil price volatility, which can be attributed to the nature of the Gulf economic landscape can explain. Furthermore, we observe that conventional stock returns – unlike their Islamic counterparts- display a relative resilience to global geopolitical risk. These results prove that the GCC block is much more resilient to changes in global geopolitical risk than to changes in oil prices (Alqahtani and Klein, 2021). Besides, we notice that both Islamic and conventional markets returns are affected by MOVE. This finding is striking as it reflects relatively the same return dynamic pattern despite the fundamental differences between Islamic and conventional indices. Thus, restrictions based on Islamic financial

⁶ We only present the results against quantile 0.1 and against 0.5 to save space.

standards (or sharia screening) do not lead to a remarkable distinction from conventional securities.

These results provide insightful policy implications by identifying the main global factors affecting the dynamics of stock returns in the GCC region. These empirical findings give important observations regarding the process of financial and monetary integration. In fact, policymakers should consider the channels through which global shocks are transmitted to the domestic stock markets (Islamic or conventional). The repercussions and persistence of future global shocks in the GCC region depend on the region's policy makers' strategic planning to prevent transmission of shocks to domestic markets and/or minimize their damage.

Furthermore, our results have implications for portfolio management for local and global investors. Our results show that GCC's Islamic indices are globally integrated, implying that Islamic finance investments neither provide the needed cushion against financial shocks nor the significant diversification benefits claimed in the literature. We argue that this is due to three factors. First, the sharia screening criteria and ratio limits vary across regions and indices. Second, the criteria of screening are still to a large extent ambiguous for the public, especially the rationale behind the limits of the financial ratios (for instance the 30% of the leverage ratio) is not throughout explained by AAOIFI. Third, sharia compliance is based on negative screening, and thus need for convergence of ethical screening with the already existing normative and operational screening to provide a real and relatable diversification tool (Tanin et al, 2021).

The reason behind the failure of Islamic finance to provide a genuine diversification scheme is more profound than that of the integration of Islamic financial markets in the world's market, as our results show. Several studies document that Islamic financial assets mirror their counterpart; the unique difference resides in the former's compliance with Sharia rules. As the two markets are converging, only a substantial change in Islamic financial instruments will make diversification possible.

CONCLUSION

In this section, we briefly summarize our study. Then, we scrutinize the current situation of Islamic investment. Finally, we present the limitations of this research and propose some thought-provoking questions for future research or recommendations.

Summary

In the first essay, I investigate the impact of regional factors on Islamic and conventional stock returns in GCC countries. The quantile regression method is used to identify the effect of regional factors on GCC local Islamic and conventional stock market returns during the bearish, normal, and bullish market conditions. Results show that GCC's Islamic and conventional stock market indices respond asymmetrically to changes in regional factors. Findings show that the regional Islamic market stock return has a significant positive impact on KSA, UAE, Kuwait, and Qatar almost across all quantiles with a stronger effect during the bullish market. The findings of this study reveal that the reaction of market returns to regional factors is heterogeneous across the conditional distribution of the GCC's stock returns.

More specifically, results demonstrate that regional factors variation, with respect to the Islamic and conventional markets, have asymmetric effects on stock returns in the majority of GCC markets. Except for Qatar, the regional geopolitical risk negatively affects the GCC's Islamic stock returns during bearish markets. Conventional stock return results display the same negative effect, yet only at extreme market states. Regarding the impact of the regional stock market, results show that the regional Islamic index has positive impact almost across all quantiles with a stronger effect during the bullish market except for Bahrain and Oman. Regarding the impact of the regional stock market, findings indicate that the regional Islamic index has positive impact almost across all quantiles with a stronger effect during the bullish market except for Bahrain and Oman. Regarding conventional markets, the same impact is observed for all GCC except for KSA. Islamic, and conventional markets' responses to regional factors' changes display closely similar behavior. Results indicate that portfolio diversification is not possible as both Islamic and Conventional stock markets display co-movement with the regional market for most countries. All in all, the results indicate that Sharia screening does not bring any specific

benefit to investors interested in GCC markets, specifically those who have a gulf-based portfolio asset composition.

In the second essay, we study the impact of global factors on Islamic and conventional stock returns in the GCC region from April 2011 to April 2021. For this purpose, we frame our study within a political economy approach that enables us to define our global factor. We also use the quantile regression method to investigate the impact of these factors on the returns of both GCC Islamic and conventional stock markets across different market states, which depict the boom-and-bust cycles of market performance.

We Find that both Islamic and Conventional stocks likewise are affected by oil price volatility, which can be attributed to the nature of the Gulf economic landscape can explain. Furthermore, we observe that conventional stock returns – unlike their Islamic counterparts- display a relative resilience to global geopolitical risk. These results prove that the GCC block is much more resilient to changes in global geopolitical risk than to changes in oil prices. Besides, we notice that both Islamic and conventional markets returns are affected by MOVE. This finding is striking as it reflects relatively the same return dynamic pattern despite the fundamental differences between Islamic and conventional indices. Thus, restrictions based on Islamic financial standards (or sharia screening) do not lead to a remarkable distinction from conventional securities in the context of global risk management.

Scrutinizing the Current State of Islamic Indices

The comparison between the Islamic indices and their conventional counterparts reveals a lack of differentiation between the two. The trend of convergence is driven by the desire of Islamic indices to attain international recognition and conform to international standards, with a view to increase efficiency. However, this approach results in a neglect of meaningful constructive work, and instead, adopts an Islamized version of global standards. The application and formulation of these standards lack clarity and do not have a direct relationship with Islamic juristic norms. For instance, the AAOIFI standards on Islamic investment remain vague and are not well understood by scholars and academics, who are unable to fully grasp the rationale behind the AAOIFI's three well-known financial ratios. Furthermore, the Sharia stock screening norms do not explicitly consider environmental issues, social welfare, and good governance practices (ESG), unlike the

SRI indices. This has prompted many stakeholders of Islamic finance to call for the enhancement of Sharia stock screening criteria to include these elements. It can be argued that current Islamic indices are simply modified versions of conventional financial instruments. In reality, industry leaders often interpret and follow, or deviate from, Islamic legal opinions depending on the impact they have on "the market," which is typically their foremost concern. Scholars, sharia boards, and regulatory entities who have the authority to establish these opinions aim to align them with Islamic fundamentals while also taking market fundamentals into account (Maurer, 2010).

As a matter of fact, the performance of Islamic indices can be attributed to the hybrid nature of political economies in the GCC countries and the manner in which sharia screening is generally conducted as part of the operational processes of these indices. However, this deviation from the ontological sources of Islam, and their understanding frameworks such as Maqasid and the basis of permissibility rooted in Islamic knowledge, is of concern. It is then imperative to address the ongoing discourse regarding the distinction between sharia-compliant and sharia-based finance. Sharia-compliant finance adopts a formalistic approach, in which the compatibility of existing financial instruments with a standard interpretation of Islam is evaluated to determine compliance. This perspective views Islamic and secular knowledge as distinct systems. In contrast, sharia-based finance regards Islam as the source of independent truths and endeavors to synthesize new financial instruments from the key principles and historical practices of Islam, rather than adapting conventional financial instruments for compliance purposes. Although the sharia-based approach is more independent and ambitious, it necessitates a more substantial investment in thought and effort (Rudnycky, 2014, 2018).

The preceding discussions and criticisms have established the significance of Islamic finance, specifically Islamic stock indices, as a hub for financial wealth creation in the Arabian gulf. This role is not viewed as diametrically opposed to or inconsistent with traditional financial markets, but rather as an auxiliary approach, leveraging a perceived religious advantage to strengthen Gulf capitalism as a whole (Hanieh, 2020). The debates highlight an important methodological concern: Unless a major change in the practice happens, Islamic finance must be acknowledged as an inevitable part within the larger picture, rather than as an independent category outside of global financial systems. It is a

regional manifestation of financialized capitalism that serves primarily to reinforce existing financial structures (Hanieh, 2018, 2020; Rethel, 2011).

Limitations

As no piece of research is perfect, our study has limitations, including a narrow research scope that focuses exclusively on oil-rich countries in the Gulf region. This region has a unique geographical space, economic structure, political system, and financial architecture, making it difficult to generalize our results beyond the Gulf countries. Although the focus on a specific context is important for showing how each region is unique, it may limit the generalizability of our findings.

The second limitation is related to the study's narrow scope. Our study only considered regional factors within the Gulf region and did not consider the larger Arab world. Similarly, the global scale was limited to the US market as an indicator of the world economy and did not consider the rising economic power of China. This is despite evidence that the GCC's geoeconomics is constantly shifting towards Asia and particularly “the world factory” China, which would have been of great interest to examine.

The third limitation is on the methodological level. The method used is outdated and could have been improved with more advanced derivatives of the quantile method, such as the quantile-on-quantile approach, which provides a one-to-one variable analysis and gives deeper insight into the connection between two variables, the dependent and independent variables. Additionally, the quantile regression method has been criticized for oversimplifying a dynamic situation, as it does not take into account the presence of structural breaks. The study also overlooked the use of dummy variables to capture the effect of structural breaks. It is important to incorporate break dates in the regression when investigating the sensitivity of GCC stock markets to global factors, as economic policy changes and international events that occurred during the study period may have affected the data behavior. Including structural breaks helps to avoid misleading conclusions. Furthermore, extending the sample period to the end of 2021 or even until the first quantile of 2022 would have greatly benefited the study since the GCC opted for reconciliation on the 5th of January 2021.

The final limitation pertains to the originality of the contribution made to the realm of Islamic finance. Unfortunately, this research provides a limited contribution to the field due to a number of factors. Firstly, the availability of long-term data on GCC stock market indices is scarce. Furthermore, there is a dearth of authoritative sources that provide clear instructions on the topic of Islamic indices and investment guidelines. Empirically speaking, no significant differences were detected in the performance of the indices, which presents a challenge in terms of interpretation and limits the scope of the discussion. However, this lack of substantial findings should not be considered a pessimistic view of Islamic financial instruments. Rather, it should be viewed as a stimulus to search for new, innovative solutions that are firmly rooted in Islamic teachings and principles, rather than market logic.

Future Perspectives

The findings of our research elicit several questions that can serve as the basis for future research initiatives. Firstly, the absence of interaction between GCC stock markets and credit default swaps may change in light of recent developments regarding the lifting of the American debt ceiling (as discussed in Edelberg & Wednesday, 2023). This presents an opportunity for a more in-depth analysis, using a quantile-on-quantile regression to examine the impact of US debt instruments, particularly CDSs, on GCC stock market returns. This study could be complemented by an event study to assess the responsiveness of GCC stock markets in response to major announcements by the US Treasury.

Second, we observe that GCC's stock compliance has been increasing in recent years. Further research could examine the factors contributing to this development and its impact on capital movements and allocation in the Gulf.

Third, a comprehensive explanation for the financial ratios and selection criteria used to define most Islamic stock market indices is currently lacking. It would be beneficial for academics and practitioners if sharia boards of index providers and governance entities such as Malaysia's SAC and AAOIFI could provide greater insight into this matter. The current ambiguity surrounding the screening process may be hindering the growth of Islamic investments and raising questions about the accuracy and authenticity of these sharia screenings, as well as the credibility of the institutions issuing them.

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