Testing the Impact of Major Events on Conventional and Islamic Stock Indices of G7 and GCC

Dr. Abdul Basit Sohail[1]
Prof. Turan Erol[2]

ABSTRACT

The research intends to investigate the impact of COVID, Glasgow Climate Pact, Ukraine War and ChatGPT Launch on the conventional and Islamic stock indices of G7 and GCC countries. The researcher employed the event study methodology to analyze the impact of the four events and used DCC-MGARCH for diversification analysis irrespective of these events. Results depict that Overall G7 markets were negative before declaring COVID as a global pandemic. Mostly GCC indices were stable to COVID. Overall G7 markets were negative to the Glasgow Climate Pact. Mostly GCC indices were stable to the GCP. G7 were mostly negative to Ukraine War. Overall GCC was stable to Ukraine war. Mostly G7 and GCC were negative to the ChatGPT launch. Dynamic Conditional Correlation is moderate among G7 Islamic and Conventional stock indices indicating moderate level of diversification. DCC among GCC Islamic and Conventional is less than 0.2 and offers more diversification. Investors can diversify their portfolio among G7 and GCC stock indices for better return with less risk.

Keywords: COVID, Glasgow Climate Pact, Ukraine War, ChatGPT Lauch, Event Study, DCC MGARCH, Diversification

JEL Classification: G14, G15, C58

Paper Type: Original Research Article

Submitted: 29th Nov 2025	Revision: 28th Dec 2025	Accepted: 30th Dec 2025

---

[1]Istanbul Sabahattin Zaim University, Türkiye
Email: abdulbasitsohail@gmail.com

[2]Istanbul Sabahattin Zaim University, Türkiye
Email: turan.erol@izu.edu.tr

1. Introduction

The world is facing severe existential risks, IIPC report 2022 (Intergovernmental Panel on Climate Change) mentioned the top ten risks to the globe over the next 10 years. Risks are related to environment, society, Economics and geopolitical. These affect the stock markets that are the main barometer of the economy (Birindelli et al, 2023). WHO had to declare COVID as a global pandemic on January 11, 2020. Literature concluded its negative impact on the stock markets of the globe (Waheed et al., 2020). The Glasgow Climate Pact (October 31 to November 13, 2021) is the first major global environmental agreement that was concluded at the CO26 conference to find out the solution to the major environmental threats. Nearly 200 countries agreed to the Glasgow climate pact. The literature is scanty to the Glasgow climate pact with respect to the impact on the stock markets (Pandey, Kumar and Kumari, 2022). Russia's invasion on Ukraine on the February 24, 2022, changed the scenario again and gave another shock to the markets. (Maurya, Bansal and Mishra, 2023). ChatGPT was introduced on Nov 22, 2022. ChatGPT got a million users within the first week of its launch. Research shows its effectiveness in sentiment analysis, ESG analysis, corporate culture analysis and federal reserve opinion analysis etc. (Alshurafat, 2023). Literature is missing about the aspects of the Natural language processing (NLP) technologies (ChatGPT) on the stock market.

The researcher intends to research the pandemic, environmental, political and technological events and their proportionate impact on the shariah and conventional indices of G7 and GCC countries. The researcher aims to explore the impact of COVID-19, Glasgow Climate Pact, Ukraine War and ChatGPT on the shariah and conventional stock indices of G7 and GCC countries. Literature explored empirical evidence of the impact of these factors on the different segments, population and markets. But literature did not investigate these factors together. A comparative analysis of the impact of the different major trending events on the Shariah compliant and conventional stock indices of G7 and GCC countries from 2013 to 2023.

The following are the research questions to be pursued:

1. How Shariah and conventional stock indices of selected countries responded to the event of COVID-19? (Event Date: March 11, 2020.)
2. How Shariah and conventional stock indices of selected countries responded to Glasgow Climate Pact 2021? (Event Date: November 13, 2021)
3. How Shariah and conventional stock indices of selected countries responded to (resilience) shock or event of Ukraine War? (Event Date: February 24, 2022)
4. How Shariah and conventional stock indices of selected countries responded to event of ChatGPT launch? (Event Date: (November 22, 2022)
5. Are there diversification opportunities among selected countries. (Not dependent on events)

The study is unique, covering the health, environmental, political and technological factors and their impact on the selected stock markets. The study is unique with others because of investigating the major trending events on the shariah stock indices and conventional stock indices of the Muslim and non-Muslim countries. The selected population is playing a significant role in the world. This study is important for contagion analysis, predictions and diversification purposes.

The comparison between conventional and Shariah-compliant indices is essential because Shariah-compliant assets are governed by unique constraints, such as the prohibition of Riba (usury) and Gharar (uncertainty), and the exclusion of highly leveraged firms. These financial filters theoretically provide a 'buffer' during periods of extreme market volatility. By comparing their responses to events like COVID-19 and geopolitical conflicts, this study tests the 'decoupling hypothesis'—whether Shariah indices can offer superior resilience and diversification benefits for global investors during crises (Elshqirat, 2021).

2. Empirical Literature Review

2.1 COVID-19

Khan et al. (2020) investigated COVID-19 effect for sixteen countries and concluded negative returns with the help of Pooled OLS regression, the t test and the Mann-Whitney test. Singh et al. (2020) explored the COVID-19 effect on G 20 countries and concluded significant negative abnormal returns employing event study. Waheed et al. (2020) investigated the impact of COVID-19 on KSE 100 index of Pakistan employing quantile-on-quantile method and found positive reaction. Elshqirat (2021) explored the performance of MSCI Islamic and conventional stock of GCC indices during the COVID-19 with Risk-adjusted performance measures and concludes same effect. Salman & Ali (2021) investigated the influence of COVID on the stock market of GCC countries and concluded negative impact according to the conventional t-test and non-parametric Mann-Whitney tests. Sghaier, Kouki and Messaoud (2023) investigated the contagion impact of COVID among the Chinese and G20 stock markets by employing the time varying copula approach. The study concluded the significant evidence of contagion impact among the Chinese and G20 countries excluding the US, Argentina and Türkiye.

2.2 Glasgow Climate Pact

Rogova and Aprelkova (2020) explored the impact of the IPCC (Intergovernmental Panel on Climate Change) reports and regulatory announcements on the stock market of US employing event study. The study found that various sectors react abnormally to the IPCC reports. Pandey, Kumar and Kumari (2022) investigated the effects of Glasgow climate pact on the abnormal returns of the global energy stocks employing applied the event study method and cross-sectional multivariate regression model. The study concluded

that GCP inversely impacted the stock returns of the selected companies. Kumari (2023) investigated the impact of the Glasgow climate pact on 52 Countries by employing the event study methodology. The study concluded that emerging markets showed negative abnormal returns. Birindelli et al. (2023) explored the expectations of the stock market and COP26 (Glasgow climate compact employing applied the event study methodology. Stock prices of the 7587 companies from the four countries comprises EU, USA, China and India were analyzed. The research concluded that stock prices were dependent on the actions of the country's authorities towards the announcement of the conferences rather than the announcement of conference itself. Markets behaved negatively towards stringent policies and markets behaved positively towards less stringent policies. Kumari (2023) investigated the effect of the Global Glasgow climate pact on the global oil and gas sector stock employing event study. The results revealed that emerging markets showed negative abnormal returns on the Glasgow Climate Pact event.

2.3 Ukraine War

Boungou and Yatié (2022) investigated the impact of the Russian and Ukraine war on 94 countries and concluded the negative and inverse relationship after the invasion. Boubaker et al. (2022) researched the Heterogeneous effects of Ukraine war on the global stock market by using the event study approach. The results are consistent with other studies that the Ukraine war affected the markets negatively. Yousaf, Patel and Yarovaya (2022) investigated the reaction of the Russia and Ukraine war on the stock markets of the G20 countries by employing the event study methodology. The research reveals that negative impact on the event day. Abbassi and Pandey (2022) investigated the effect of the Russia and Ukraine war on the constituent's companies of the leading stock index of G7 countries by employing the event study methodology revealing the negative abnormal returns. Ahmed, Hasan and Kamal (2023) investigated the reaction of the Russia Ukraine war on the stock markets of European countries by using event study methodology. The study reveals that European stocks reacted negatively during the post event. Bossman and Gubareva (2023) investigated the comparative analysis of E7 and G7 equities with asymmetric effects of Russian war by using the nonparametric quantile-on-quantile regression model. the study concluded that all countries except Russia and China reacted positively to GPR (geopolitical risk). Resilience was shown by Brazil, China, Russia, and Turkey (France, Japan, and the US).

2.4 ChatGPT Launch

Ferreira and Gandomi (2021) provided the systemic literature review of 2326 papers from Scopus website during 1995 to 2019, categorizing the literature in four categories (1) portfolio optimization (2) stock market prediction using AI (3) financial sentiment analysis (4) combination involving two or more approaches. Lopez-Lira and Tang (2023) investigated the role of ChatGPT in predicting the stock returns with sentiment analysis

of news headlines. George, George and Martin (2023) researched the effect of ChatGPT on different businesses. Xie (2023) investigated the capabilities of ChatGPT in multimodal stock movement predictions by extensive zero-shot analysis. Lopez-Lira and Tang (2023) investigated the ability of ChatGPT to forecast the stock market returns by employing the sentiment analysis of news headlines. Chen (2023) investigates the stock prices movements and metaverse linkage with the help of three-factor and five-factor Fama-French model.

3. Research Methodology

The researcher aims to employ a quantitative method for conducting this research. The researcher used time series data from January 1, 2013 to December 31. 2023. Data related to the selected countries is taken from Refinitive datastream and investing.com. The event dates of the four events are taken as event dates. This study employs a purposive sampling technique to select the target population. The G7 and GCC countries were specifically chosen to provide a comparative analysis between major developed global economies and significant Shariah-compliant markets. This selection allows for a robust investigation of how different economic and religious frameworks respond to global health, environmental, and geopolitical shocks.

3.1 EVENT STUDY METHODOLOGY

Event study is considered most appropriate for examining the impacts of events on stock prices/returns' performance. The event study has been considered a better approach to see the impact of different events e.g. merger, amalgamation or any corporate event. Researchers also employed event study to investigate the impact of disease (Syani & Balkrishnan, 2013; Khan et al., 2020; Sulehri & Ali, 2020; Singh et al., 2020; Yan & Qian, 2020).

3.2 EXPECTED RETURN UNDER MARKET MODEL:

The market model presumes that market return at specific t is the only factor that determines the return on stock at that time. The equation of this argument is described in linear form.

$$E(Ri, t) = b0 + b1 \cdot E(RM, t)$$

In easy form: Expected return = intercept + slope * market return

Sulehri and Ali (2020) mentioned that Market model is similar to the capital asset pricing model yet with some differences to CAPM because it takes intercept as constant rather than risk free rate as used in capital asset pricing model. So, variables or parameters used by market model can be obtained or calculated with the help of simple regression

(Ordinary least square). First, we must acquire estimated intercept and slope values then we can calculate the predicted/expected return for observed window (after the event). The model depicts the expected return that is attainable in a normal course.

$$ARi,t = Ri,t - E(Ri,t)$$

In easy and uncomplicated form: Abnormal return= actual return - Expected return

Sulehri and Ali (2020) explained that Cumulative abnormal return is the total, sum or addition of abnormal returns over a given period of time. It gives investors a hint about the performance of assets over the time period. Generally, CAR is calculated for small window or short period because some studies proved that calculating CAR for long term can create bias. CAR is used to see the effect of news etc. CAR helps you in decision making for investing.

$$CART = \sum AR$$

3.3 DCC MGARCH METHOD

The GARCH model is used to forecast the volatility of the return on the financial assets. MGARCH stands for multivariate generalized autoregressive conditional heteroskedasticity. MGARCH DCC stands for Dynamic Conditional Correlation. MGARCH DCC is used for spillovers, volatility, linkages, co-movements and diversification purposes. The benefits of the MGARCH-DCC model are significantly described in related research. According to Lee (2006), it assists in modelling the procedure of estimating dynamic conditional volatilities and dynamic conditional correlation concurrently. It imparts not only a demystified process in estimating the dynamic correlation matrix (Engle and Sheppard, 2001) but also takes unbiased time-varying volatility to regulate the correlation coefficients continuously (Cho and Parhizgari, 2008). Additionally, Chiang et al. (2007) pointed out that this method/technique can be employed to gauge correlation coefficients of the standardized residuals and correlations between multiple assets returns as it has a certain degree of flexibility like univariate GARCH model.

Specifically, the MGARCH-DCC model involves two steps estimations. Firstly, it is significant to gauge the conditional variances of every equity index by employing the following univariate GARCH (X, Y) model, given k number of index returns:

$$h_{it} = \omega_i + \sum_{x=1}^{Xi} \alpha_{ix} r^2_{it-x} + \sum_{y=1}^{Yi} \beta_{iy} h_{it-y}, \text{ for } i = 1, 2, \ldots, k$$

Secondly, it is important to estimate the time-varying conditional correlation between index returns. The standardized residuals calculated from the previous step will be used as inputs in the following DCC estimator.

$$H_t=D_tR_tD_t$$

Ht stands for the multivariate conditional covariance matrix. Dt is a diagonal matrix of conditional time-varying standardized residuals (Ɛt). Rt is the symbol of the time-varying correlation matrix (off-diagonal elements). Rt is the symbol of the time-varying correlation matrix (off-diagonal elements). The choice of the DCC-MGARCH model over VAR, VECM, or ARDL is justified by the primary research objective: analyzing volatility dynamics and time-varying diversification potential. While VAR and VECM are excellent for identifying long-term equilibrium and lead-lag relationships in price levels, they typically assume constant variance (homoskedasticity). (Pesaran and Pesaran, 2010).

4. Findings of the Included Studies

Overall graph for G7

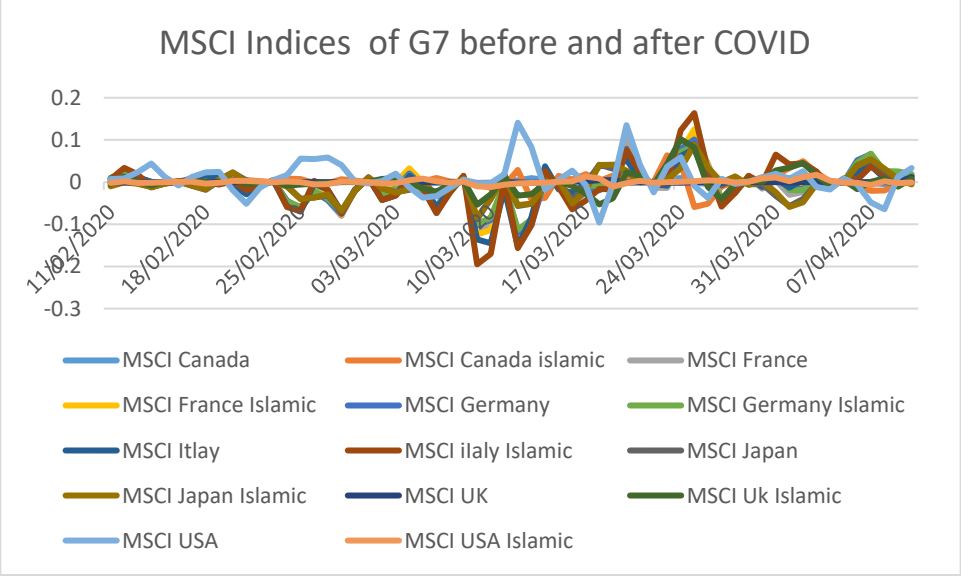

Figure 1. CAR of G7's both indexes before and after the launch of COVID:

MSCI Canada Islamic, MSCI Italy Islamic, MSCI UK Islamic & MSCI USA Conventional provides better CAR & diversification while comparing their counterparts. Overall G7 was negative before event but G7 improved after event. It may be because of Govt measurements.

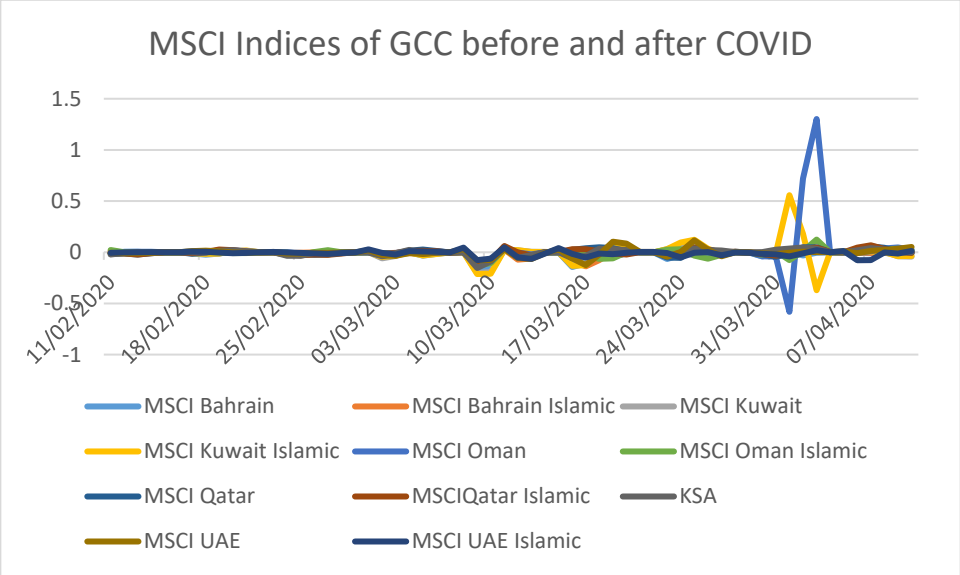

Figure 2. CAR of GCC's both indexes before and after the launch of COVID

Conventional MSCI UAE shows more volatility and offers more CAR. Mostly GCC indices were stable before the event. Mostly provide bit more CAR after the event. KSA was negative before and after the event but later improved. There is no diversification opportunity among GCC conventional and Islamic stock indices. Hypothesis is accepted for one index but rejected for the other.

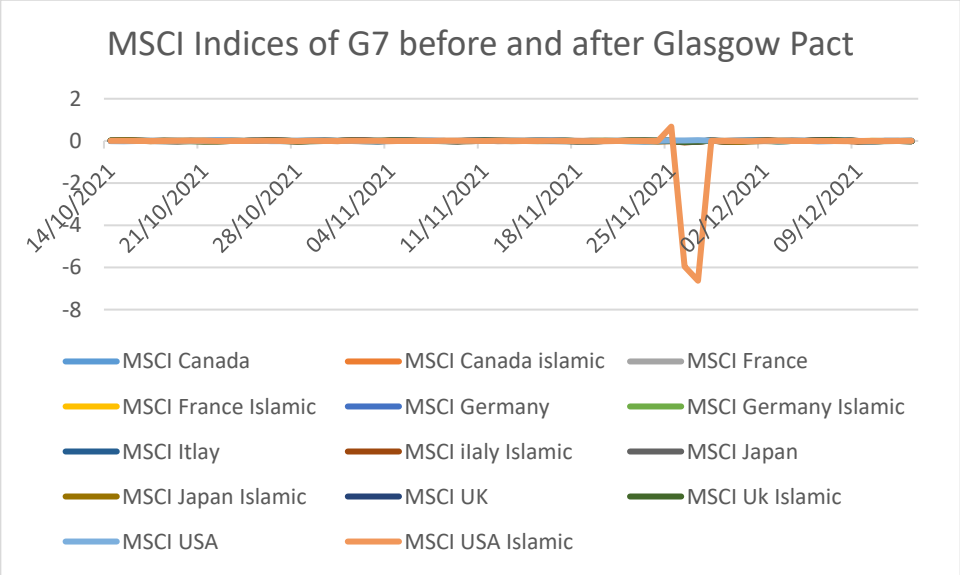

Figure 3. CAR of G7's both indexes before and after the Glasgow Climate Pact:

MSCI Canada Islamic offers higher CAR and diversification opportunities while comparing with counterpart. German, French, Italian and Japanese provides negative CAR after the event. Trend was same in German, French and Italy. Uk was negative to the event. USA did not show any reaction to the event. Hypothesis accepted for Canada Islamic and rejected for other.

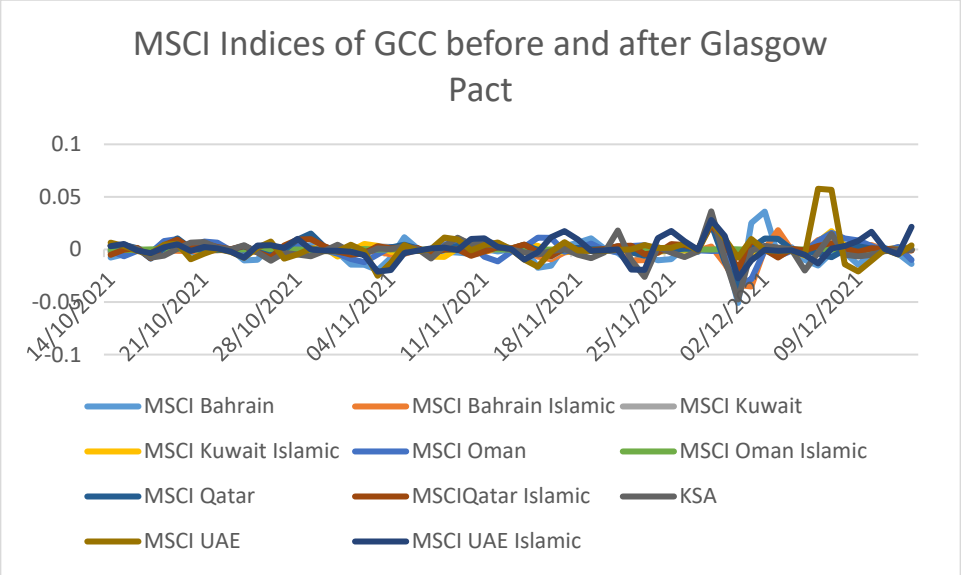

Figure 4. CAR of GCC's both indexes before and after the Glasgow Climate Pact:

The conventional MSCI Oman shows more CAR and diversification opportunities to the event. Bahrain Islamic offers diversification comparing the conventional. Both Kuwait was stable with same movements. Both Qatar was negative before and after the event. Both UAE were negative before and after the event. KSA was volatile before and after the event. Hypothesis is accepted for two and rejected for the other.

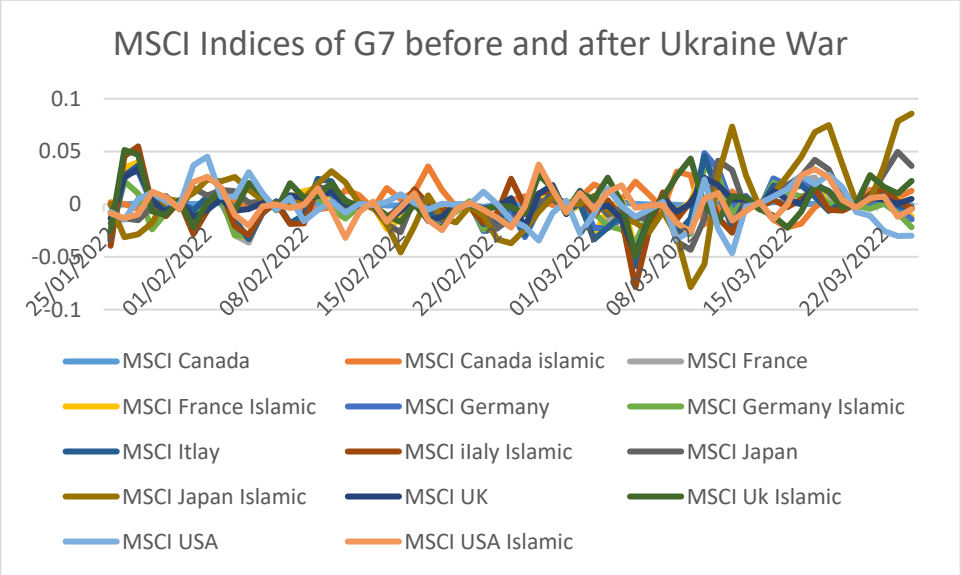

Figure 5. CAR of G7's both indexes before and after the Ukraine War:

MSCI Canada Islamic offer higher CAR and diversification than its counterpart but counterpart was stable too. German, French, Italian and Japanese were negative before and after the event as evidenced by the literature. Both UK indices showed higher volatility (mixture of positive and negative). Both USA were negative before and after the

event. Results are consistent with Boungou and Yatié (2022) Boubaker et al. (2022) Umar et al. (2022) Nerlinger and Utz (2022) Yousaf, Patel and Yarovaya (2022).

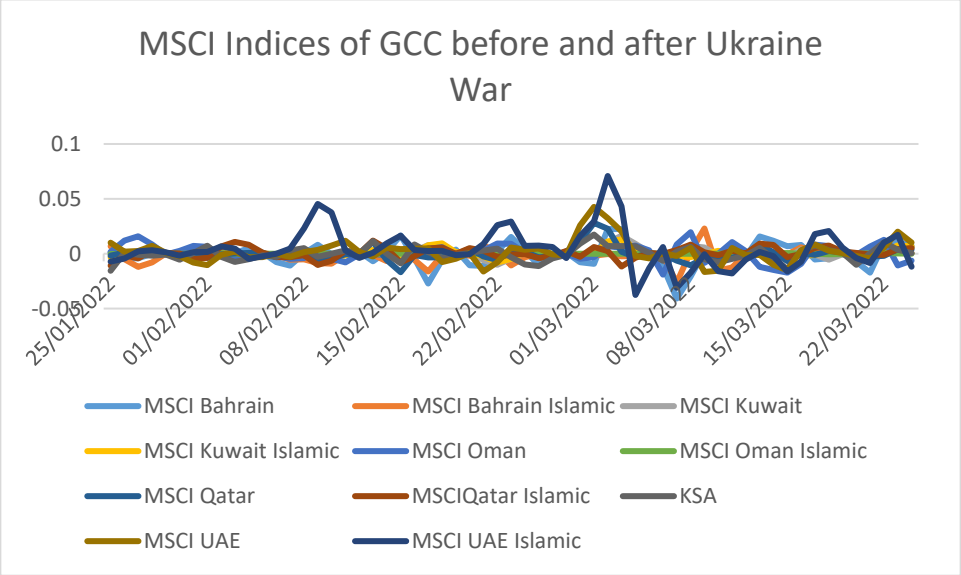

Figure 6. CAR of GCC's both indexes before and after the Ukraine War:

MSCI Bahrain, MSCI Oman and MSCI UAE Islamic offer more cumulative abnormal returns and offer diversification. Both UAE was negative to the event. Both Kuwait was negative to the event. Qatar showed more volatility (Ups and down). KSA was volatile to the Ukraine war. Hypothesis is accepted for 3 indices and rejected for others. Results are partially the same and different.

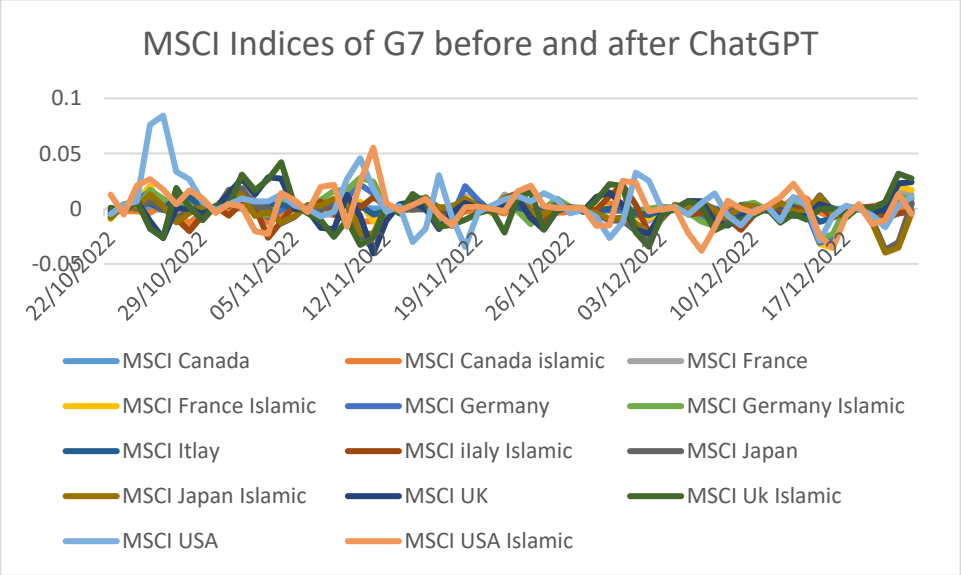

Figure 7. CAR of G7's both indexes before and after the launch of ChatGPT:

MSCI Canada Islamic was negative before and after the event, but MSCI Canada is stable but without CAR. German, French, Italian and Japanese indices were volatile without

diversification. UK was volatile and No diversification. USA was negative after the event. Conventional index of USA provides more before the event but for some days.

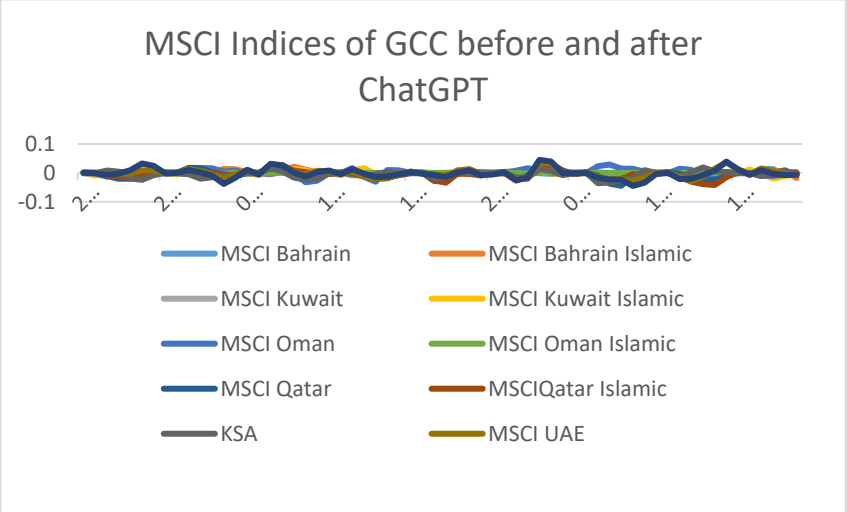

Figure 8. CAR of GCC's both indexes before and after the launch of ChatGPT:

MSCI Bahrain Islamic shows more CAR especially before the event as compared to post event. MSCI Oman provide opportunity for abnormal returns and diversification. Kuwait negatives after the event. Both Qatar was negative after event. Both UAE was negative. KSA was negative before and after the event. Hypothesis is accepted for 2 indices and rejected for others.

4.2 DCC MGARCH ESTIMATION:

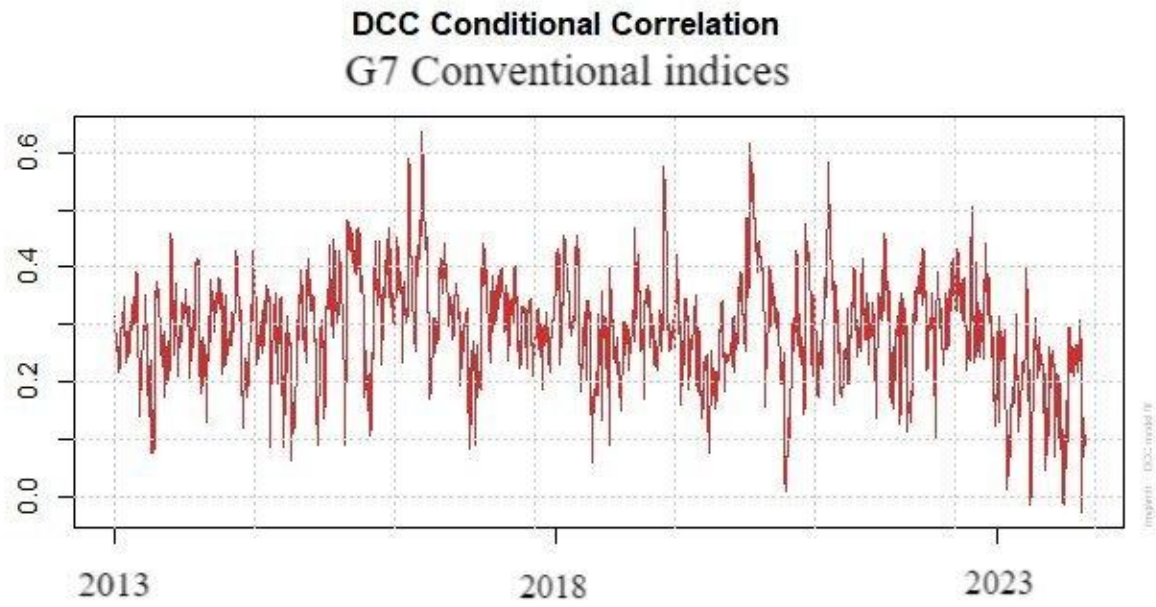

Figure 9: DCC MGARCH GRAPH FOR THE G7 CONVENTIONAL INDICES

The graph shows the dynamic conditional correlation between the G7 countries for the 2013 to 2023. The fluctuation in the graph shows that how the relationship between G7 countries change over time. During the 2016 and 2018, the graph spiked many times. It means that G7 countries moved together or were correlated at that time. It means that during that time. There were no diversification opportunities. It may be because of global macroeconomic developments e.g. recovery from 2008 financial crises and Brexit (Jan 31, 2020) etc. during 2020 to 2023 conditional correlation observed a slight decrease in trend. It may be because of COVID or other issues. We can conclude that the correlation changes among the G7 countries is not static but changes over time. The period of the same movement may show the recovery or growth in the economy so the indices moved in the same direction but during the crises time, indices were independent to move in either direction.

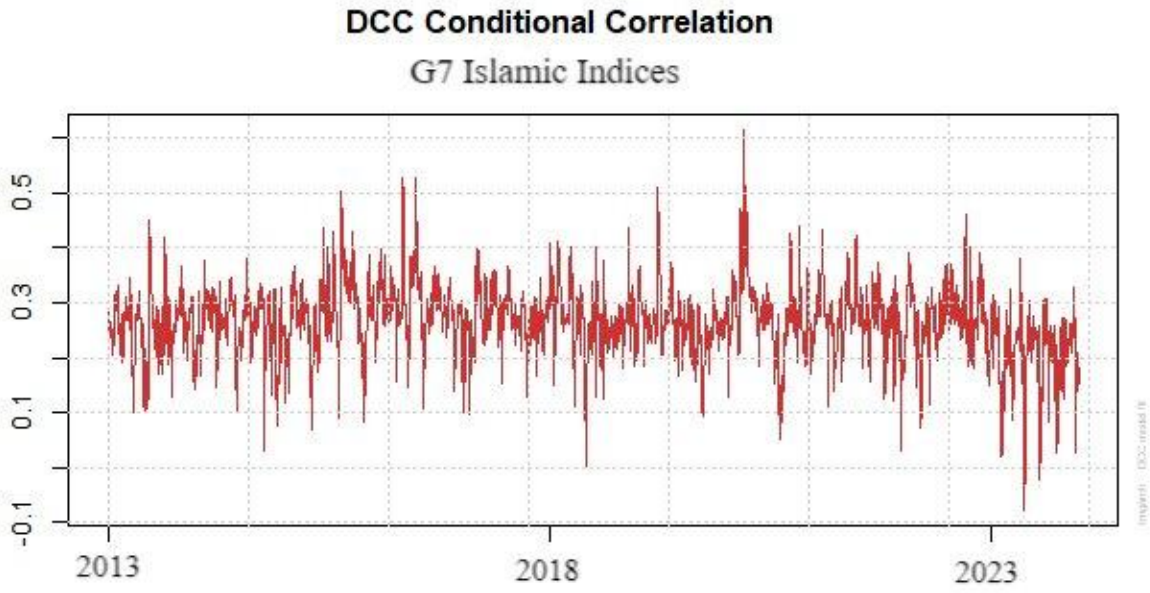

Figure 10. DCC MGARCH GRAPH FOR THE G7 ISLAMIC INDICES

There was a more significant spike during 2018 to 2021. It shows that there is more correlation between the indices. High spikes means that strong correlations. it means no diversification. The DCC MGARCH model provides the results for volatility and evolving relationship(correlations) among the G7 Islamic indices.

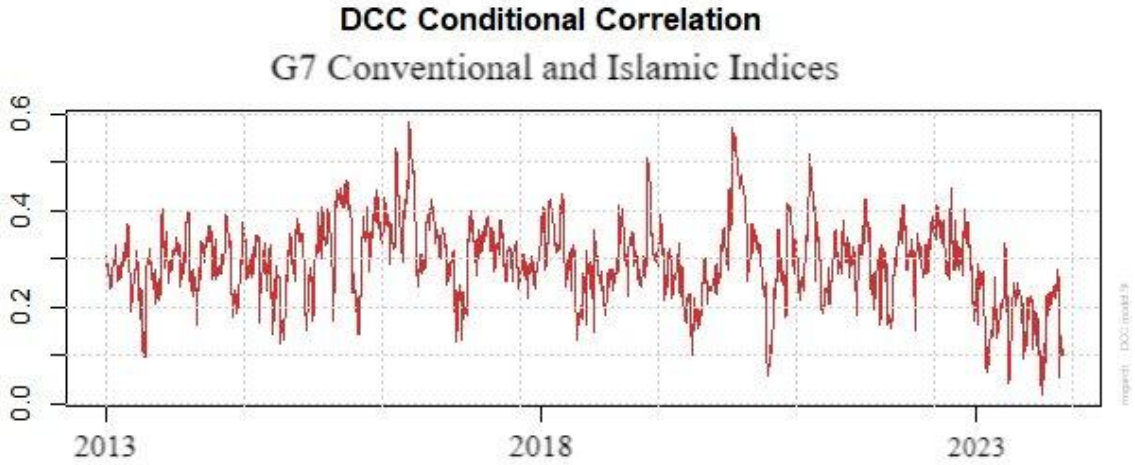

Figure 11. DCC MGARCH GRAPH FOR THE G7CONVENTIONAL & ISLAMIC INDICES

This graph shows that the correlation between the indices is not stable but changes with time. There was peak during 2018 to 2019. During this time correlation reaches to the 0.6. after till 2023 the correlation among conventional and Islamic stock indices declined among the indices. There is not particular trend of increasing and decreasing, rather it may be because of short term conditions rather than long term effect.

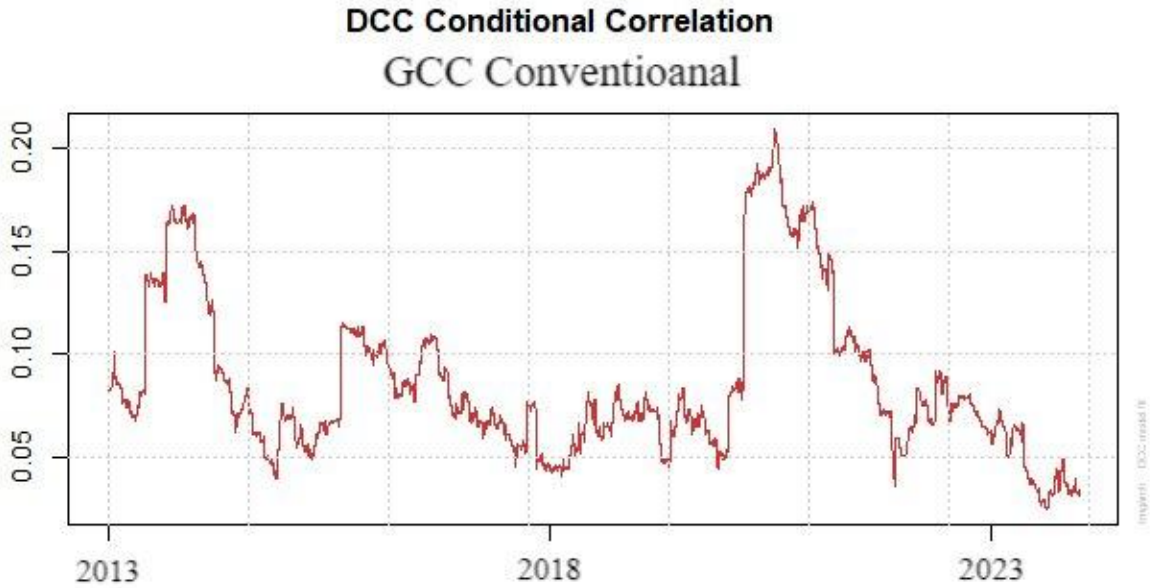

Figure 12. DCC MGARCH GRAPH FOR GCC CONVENTIONAL INDICES

We can divide the fluctuations in different time horizons. There is rise in correlation starting from 2013 to 2015. The correlation during 2016-2019 was quite stable and

moderate. There is fast increase in the correlation during 2019-2021. It may be because of global issues. There is decrease in the correlation between 2022-2023.

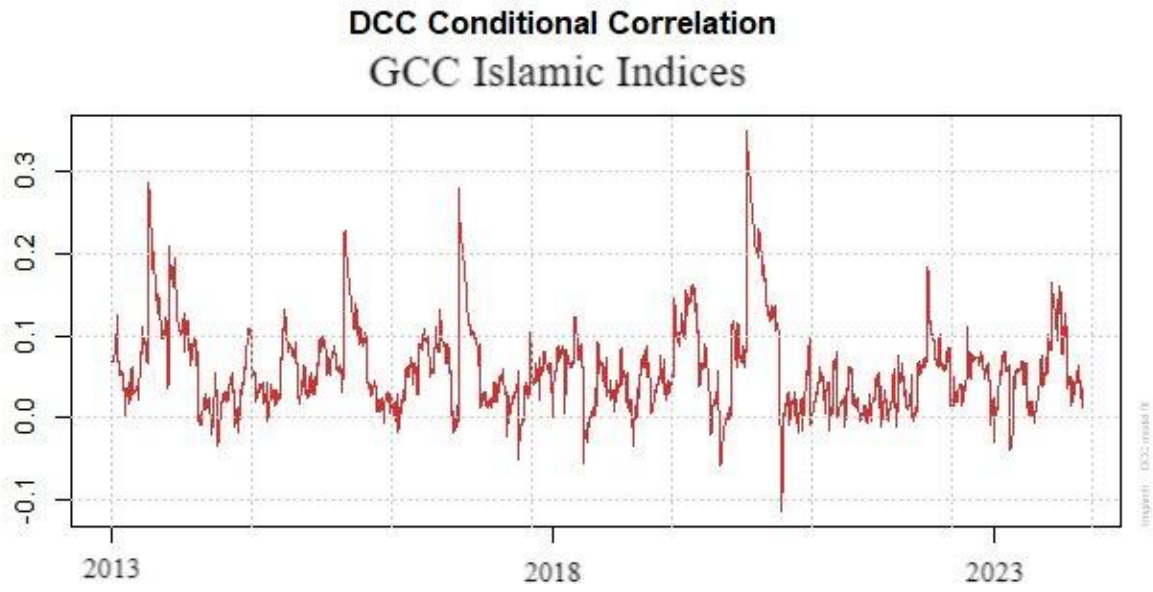

Figure 13. DCC MGARCH GRAPH FOR THE GCC ISLAMIC INDICES

The graph shows the conditional correlation among the Islamic stock indices of the GCC countries. The are some peaks of correlation but still the correlation is stable and moderate over the time period.

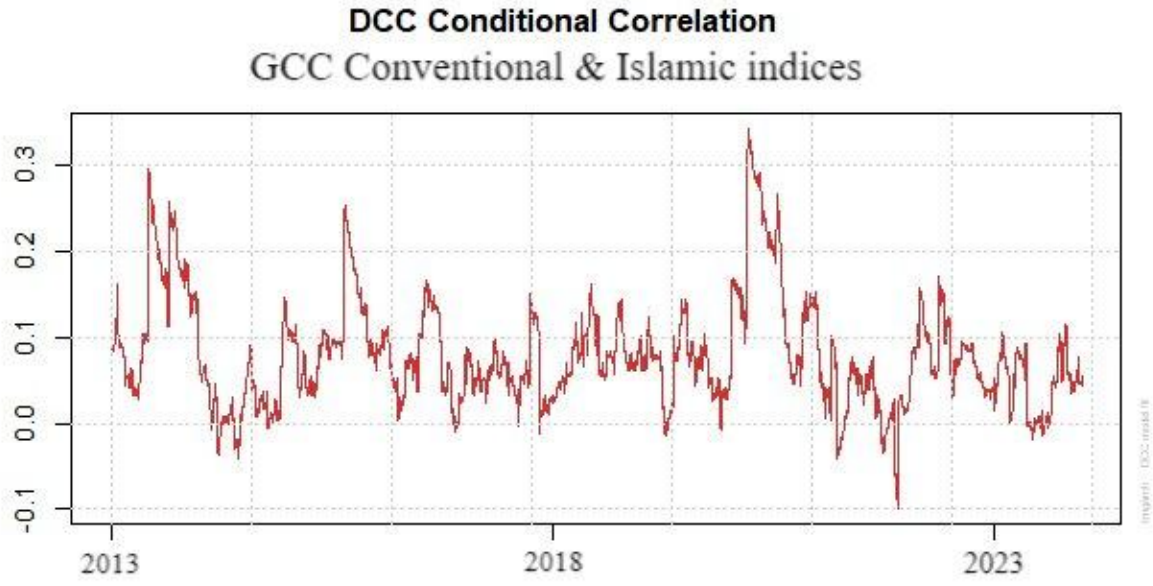

Figure 14. DCC MGARCH GRAPH FOR THE GCC CONVENTIONAL & ISLAMIC INDICES

The graph shows the dynamic conditional correlation among the conventional and Islamic stock indices of the GCC countries. The relationship is not quite stable and fluctuates with time.

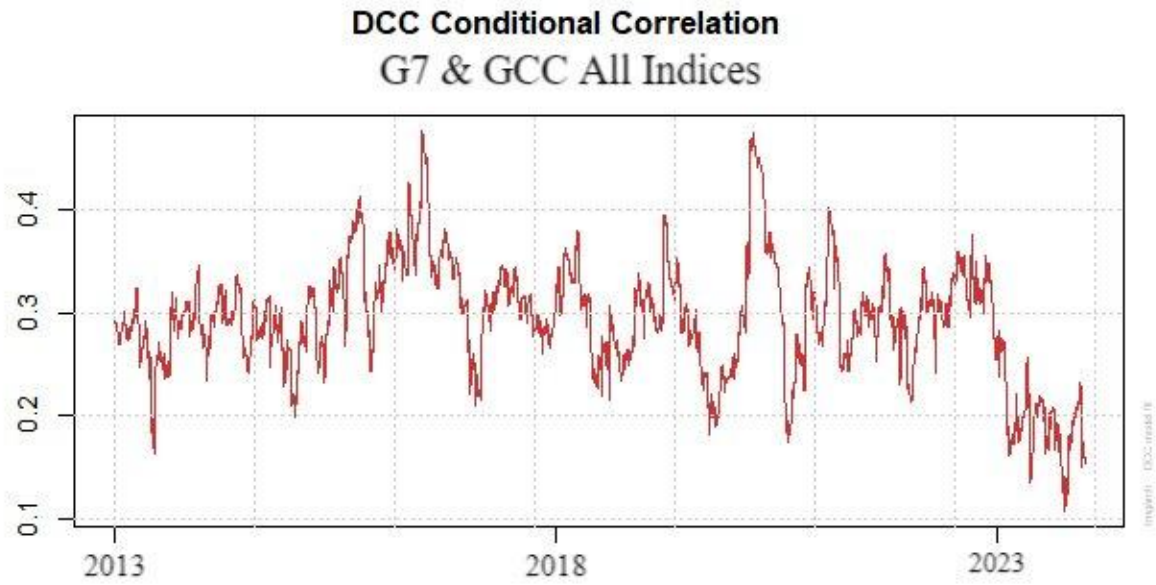

Figure 15. DCC MGARCH GRAPH FOR THE G7 ISLAMIC INDICES

The graph depicts the dynamic conditional correlation among the conventional and Islamic stock indices of G7 and GCC countries. The conditional correlation between the G7 and GCC fluctuates between 0.1 and 0.4. There are peaks and lows at different time period for the selected stock indices. There is lower conditional correlation before 2018 among the indices but after 2018 the conditional correlation increased and represents the co-movements among the indices. After 2020 dcc started to decline. The DCC MGARCH model depicts that the conditional correlation among the stock indices is not static but evolved with span of time.

5. Conclusion and Suggestions

The research intends to investigate the impact of COVID, Glasgow Climate Pact, Ukraine War and ChatGPT Launch on the conventional and Islamic stock indices of G7 and GCC countries. The researcher used event study methodology for investigating the impact of the mentioned four events which are dependent on events and DCC MGARCH model (which is not based on these events) for the diversification opportunities. Results depict that Overall G7 markets were negative before declaring COVID as a global pandemic. Mostly GCC indices were stable to COVID. Results are consistent with Khan et al. (2020), Singh et al. (2020) Yan and Qian (2020). Overall G7 markets were negative to the Glasgow Climate Pact. Mostly GCC indices were stable to the GCP. Results are consistent with Rogova and Aprelkova (2020); Pandey, Kumar and Kumari (2022), Phama, Ramiah and

Moosa (2020). G7 were mostly negative to Ukraine War. Overall GCC was stable to Ukraine war. Results are consistent with Boungou and Yatié (2022) Boubaker et al. (2022) Umar et al. (2022) Nerlinger and Utz (2022) Yousaf, Patel and Yarovaya (2022). Mostly G7 and GCC were negative to the ChatGPT launch. Results are mainly different with Zheng and Feng (2024). Researchers investigated impact of ChatGPT release on the NVIDIA. Dynamic Conditional Correlation is moderate among G7 Islamic and Conventional stock indices indicating moderate level of diversification. DCC among GCC Islamic and Conventional is less than 0.2 and offers more diversification. Investors can diversify their portfolio among G7 and GCC stock indices for better return with less risk. The findings show that Islamic stock indices provide CAR in case of Canada, Italy Turkey and UAE based on event-based analysis. Investors can seek diversification among MSCI Canada, MSCI France, MSCI France Islamic, MSCI Germany, MSCI Italy, MSCI UK, MSCI USA Islamic, MSCI Japan Islamic, MSCI Kuwait, MSCI Kuwait Islamic, MSCI Bahrain, MSCI Oman provides the diversification opportunities. The study contributed to the existing literature by investigating and comparing the G7 and GCC stock markets.

This research carries significant implications for international finance and global policy. First, it identifies GCC Shariah-compliant indices as a viable 'safe haven' for G7 investors during geopolitical and health-related shocks, offering a concrete strategy for risk reduction through regional and ethical diversification. Second, the study contributes to the advocacy of Islamic finance by empirically demonstrating its resilience—rooted in asset-backed requirements and low leverage—during periods of extreme market volatility. Furthermore, the findings regarding the Glasgow Climate Pact and ChatGPT launch provide a warning to policymakers: environmental and technological shifts create immediate systematic risks that transcend traditional market boundaries. Ultimately, this study empowers portfolio managers to make data-driven decisions on capital allocation and assists regulators in understanding how different financial frameworks (Islamic vs. Conventional) absorb global shocks, thereby fostering a more stable global financial ecosystem.

References

Abbassi, W., Kumari, V., & Pandey, D. K. (2022). What makes firms vulnerable to the Russia–Ukraine crisis? *The Journal of Risk Finance*, *24*(1), 24-39.

Ahmed, S., Hasan, M. M., & Kamal, M. R. (2023). Russia–Ukraine crisis: The effects on the European stock market. *European Financial Management*, *29*(4), 1078-1118.

Alshurafat, H. (2023). The usefulness and challenges of chatbots for accounting professionals: Application on ChatGPT. *Available at SSRN 4345921*.

Arshed, N., Hassan, M. S., Grant, K. A., & Aziz, O. (2019). Are Karachi stock exchange firms investment promoting?-:Evidence of efficient market hypothesis using panel cointegration. Asian Development Policy Review, 7(2), 52-65.

Birindelli, G., Miazza, A., Paimanova, V., & Palea, V. (2023). Just "blah blah blah"? Stock market expectations and reactions to COP26. *International Review of Financial Analysis*, 102699.

Boungou, W., & Yatié, A. (2022). The impact of the Ukraine–Russia war on world stock market returns. *Economics Letters*, *215*, 110516.

Boubaker, S., Goodell, J. W., Pandey, D. K., & Kumari, V. (2022). Heterogeneous impacts of wars on global equity markets: Evidence from the invasion of Ukraine. *Finance Research Letters*, *48*, 102934.

Bossman, A., & Gubareva, M. (2023). Asymmetric impacts of geopolitical risk on stock markets: a comparative analysis of the E7 and G7 equities during the Russian-Ukrainian conflict. *Heliyon*, *9*(2).

Chen, Z., Zheng, L. N., Lu, C., Yuan, J., & Zhu, D. (2023). ChatGPT Informed Graph Neural Network for Stock Movement Prediction. *arXiv preprint arXiv:2306.03763*.

Elshqirat, M. (2021). Performance of Islamic and conventional equity indices in GCC countries during COVID-19. *PalArch's Journal of Archaeology of Egypt/Egyptology*, *18*(08), 2627-2647.

Ferreira, F. G., Gandomi, A. H., & Cardoso, R. T. (2021). Artificial intelligence applied to stock market trading: a review. *IEEE Access*, *9*, 30898-30917.

Khan, I. (2023). An analysis of stock markets integration and dynamics of volatility spillover in emerging nations. *Journal of Economic and Administrative Sciences*.

Kumar, S., Kumar, A., & Singh, G. (2023). Causal relationship among international crude oil, gold, exchange rate, and stock market: Fresh evidence from NARDL testing approach. *International Journal of Finance & Economics*, *28*(1), 47-57.

Kumari, V., Assaf, R., Moussa, F., & Pandey, D. K. (2023). Impacts of climate pact on global oil and gas sector stocks. *Studies in Economics and Finance*.

Kumari, V., Assaf, R., Moussa, F., & Pandey, D. K. (2023). Impacts of climate pact on global oil and gas sector stocks. *Studies in Economics and Finance*.

Izzeldin, M., Muradoğlu, Y. G., Pappas, V., Petropoulou, A., & Sivaprasad, S. (2023). The impact of the Russian-Ukrainian war on global financial markets. *International Review of Financial Analysis*, *87*, 102598.

Lee, S., & Baek, C. (2023). Volatility changes in cryptocurrencies: evidence from sparse VHAR- MGARCH model. *Applied Economics Letters*, *30*(11), 1496-1504.

Lopez-Lira, A., & Tang, Y. (2023). Can ChatGPT forecast stock price movements? return predictability and large language models. *arXiv preprint arXiv:2304.07619*.

Lopez-Lira, A., & Tang, Y. (2023). Can ChatGPT forecast stock price movements? return predictability and large language models. *arXiv preprint arXiv:2304.07619*.

Maurya, P. K., Bansal, R., & Mishra, A. K. (2023). Russia–Ukraine conflict and its impact on global inflation: an event study-based approach. *Journal of Economic Studies*.

Rogova, E., & Aprelkova, G. (2020). The effect of IPCC reports and regulatory announcements on the stock market. *Sustainability*, *12*(8), 3142.

Sghaier, N., Kouki, M., & Messaoud, S. B. (2023). Further evidence of contagion effect between the Chinese and the G20 stock markets during the COVID-19 pandemic: A time-varying copula approach. *Cogent Economics & Finance*, *11*(1), 2210363.

Saiti, B. (2015). Cointegration of Islamic stock indices: Evidence from five ASEAN countries. International Journal of Scientific & Engineering Research, 6(7), 1392-1405.

Saiti, B., Bacha, O. I., & Masih, M. (2014). The diversification benefits from Islamic investment during the financial turmoil: The case for the US-based equity investors. *Borsa Istanbul Review*, *14*(4), 196-211.

Saiti, B., & Noordin, N. H. (2018). Does Islamic equity investment provide diversification benefits to conventional investors? Evidence from the multivariate GARCH analysis. *International Journal of Emerging Markets*, *13*(1), 267-289.

Saiti, B., Ma, Y., Nagayev, R., & Yumusak, İ. G. (2020). The diversification benefit of Islamic investment to Chinese conventional equity investors: Evidence from the multivariate GARCH analysis. *International Journal of Islamic and Middle Eastern Finance and Management*, *13*(1), 1-23.

Salman, A., & Ali, Q. (2021). Covid-19 and its impact on the stock market in GCC. *Journal of Sustainable Finance & Investment*, 1-17.

Sayani, H., & Balakrishnan, M. S. (2013). Marketing an Islamic index: perceived value of KMI30 Index. Management Research Review, 36(4), 326-358. DOI:10.1108/01409171 311314

Singh, B., Dhall, R., Narang, S., & Rawat, S. (2020). The Outbreak of COVID-19 and Stock Market Responses: An Event Study and Panel Data Analysis for G-20 Countries. Global Business Review, Available at https://journals.sagepub.com/doi/full/10. 1177/0972150920957274.

Sulehri, F. A., & Ali, A. (2020). Impact of Political Uncertainty on Pakistan Stock Exchange (1990-1999): An Event Study Approach. Available at: https://mpra.ub.uni-muenchen.De/104623/.

Waheed, R., Sarwar, S., Sarwar, S., & Khan, M. K. (2020). The impact of COVID-19 on Karachi stock exchange: Quantile-on-quantile approach using secondary and predicted data. Journal of Public Affairs, 20(4), e2290. DOI: 10.1002/pa.2290.

Xie, Q., Han, W., Lai, Y., Peng, M., & Huang, J. (2023). The Wall Street Neophyte: A Zero-Shot Analysis of ChatGPT Over MultiModal Stock Movement Prediction Challenges. *arXiv preprint arXiv:2304.05351*.

Yan, L., & Qian, Y. (2020). The Impact of COVID-19 on the Chinese Stock Market: An Event Study Based on the Consumer Industry. Asian Economics Letters, 1(3), 18068.

Yousaf, I., Patel, R., & Yarovaya, L. (2022). The reaction of G20+ stock markets to the Russia–Ukraine conflict "black-swan" event: Evidence from event study approach. *Journal of Behavioral and Experimental Finance*, *35*, 100723.

Zhang, J., & Shang, Y. (2022). The influence and mechanism of digital economy on the development of the tourism service trade—analysis of the mediating effect of carbon emissions under the background of COP26. *Sustainability*, *14*(20), 13414.