

# Scrutinizing the Performance of the Shariah Indices in Malaysia Before and After the Covid-19 Era

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## Abstract

In previous research, Islamic stock market performance has been extensively and profoundly conferred by researchers. The key objective of the present study is to focus on Malaysian shariah indices before and after Covid-19.

For this purpose, we collect day-to-day data of certain indexes i.e. {titan 25Index (DJMY25D) and FBMKLCI. The data have been split into before and after Covid-19 duration. Covid period is from 9<sup>th</sup> June'2017 to 31st Dec.'2019 and after Covid period covered the duration of 1st Jan.'2020 to 9th June'2022. We apply the Cointegration, Granger Causality Test, and GMM by analyzing Descriptive statistics and Unit root tests.

The findings show that, in terms of the risk and returns, the Islamic finance indices outperforms the conventional index. Since both indices show cointegration according to the cointegration test over both time periods, the pandemic has not altered the long-term connection. A similar pattern has also been seen in the short-term relationship.

The Islamic stock index and the conventional stock index might be seen to be in contradiction to one another. The Islamic market relies on lower risk and no interest, while the conventional market relies on higher interest and more risk. Despite the epidemic having a comparable effect on both the long-term and short-term relationships of both indexes, the returns are often higher in the Islamic index.

**Keywords:** Shariah Index, Covid-19, GMM, Granger Causality, Cointegration,

## Introduction

To allow Islamic investment fund managers to list companies on the markets, The Dow Jones Market launched the first Islamic Index in December 1995. Investment in Islamic stocks has grown significantly since its foundation. A total of 105 Islamic equities funds existed by the end of 2002, with a market value of around \$5 billion with 48% of them being based in the Gulf area, 30% in North America and Europe, and

22% in Asia (Falaika, 2002). As a result, a number of financial institutions and capital markets have developed their own Islamic Indices. For instance, Bursa Malaysia, Malaysian Stocks Exchange, developed Kuala Lumpur Stock Exchange Sharia Index (KLSESI). This is regarded as a crucial tool for enhancing the success of the plan for Islamic finance markets. (Walkshäusl and Lobe, 2012) estimate that about 600 Islamic funds and \$939 billion worth of Shariah-compliant assets are accessible globally. Investors instead of investing in mutual funds are now turning to passive investment.

Islamic investment, which is based on principles of Shariah, which forbid activities that involve usury (riba), ambiguity (gharar), and gambling (Maisir), and also actions that produce or provide services that are against Islamic law, such as pornography, the production or sale of alcohol, casinos, etc. "Islamic investment is also based on Shariah principles" (Securities Commission announcement, 2002). Consequently, Shariah compliance is required for all the instruments listed in the Islamic Index compulsorily. Several other criteria are often used to reduce the number of permitted businesses.

(Walkshäusl and Lobe, 2012) state that Shariah law governs every feature of a Muslim's lifespan and places a significant focus on Islamic investment that fulfills it. Shariah-compliant investments are another name for these investments. Investments in fixed-income financial securities, like as bonds, stocks, and other derivatives (such as options), are inappropriate since they guarantee a fixed income due to their predetermined rate of return and do not grant investors any voting rights. (Islamic Finance & Investment, 2014) state "In addition, Islamic stockholders aren't allowed to buy shares of those companies whose key businesses include tobacco, traditional financial services, alcohol, entertainment, gambling, pork-related products, or conventional financial services." Moreover, companies can be shortlisted on the basis of the selected financial ratios. For example, Stocks are allegedly not Shariah-compliant when a company's debt level surpasses one-third of its market value, according to (Hussein and Omran, 2005). Elimination of non-permissible income sources needs to be done by carrying out a purification process.

Abdelsalam, Duygun, Matallín-Sáez, and Tortosa-Ausina (2014) state a way to carry out this by carrying out in the form of donations to charitable institutions.

## Literature review

(Siddiqui, 2023) compared the results of traditional and Islamic indexes. The author used data from the Nifty 50, Nifty 500, and their underlying for the past two years. During the COVID-19 pandemic, they discovered their dependence on one another. They made use of econometric tools like cointegration, correlation, and GMM. The study came to the conclusion that investing in Islamic indices is safe during times of crisis since they are less risky than conventional ones.

(Trabelsi et al, 2020) This paper examined the Islamic and traditional indices of proportional performance. Are Islamic indices differing from traditional indices in terms of heterogeneity? The Markov switching model, Sharpe ratio, and the Maximum Sharpe ratio algorithm difference test these three steps of the methodology are used for data analysis taken by the closing price of MSCI Islamic and their conventional counterpart for US. The test results show that Islamic indices perform better than traditional and mixed portfolios. Investors will not get worse if they choose the Islamic index over the conventional index.

(Erdoğan et al., 2020) The author inspected the effect of volatility spillovers among Islamic Indices in countries with emerging economies and foreign exchange markets in this paper. Causality in variance has been checked by Garch and MGarch using daily data from 2013 to 2019. In Turkey, they discovered volatility spillover on the foreign currency market to the Islamic indices. The FE market has an effect on Islamic indices, demonstrating causation in mean.

(Indrabudiman & Winarningsih, 2018) Studied the relationships and impact of the international DJI and DJIM worldwide. This study used the correlation and causality method to analyze seven variable data sets. Results show no direct influence on each other, but they are correlated and concord.

(Imed & Mustapha, 2016) Examined the existential research on the performance of shariah stock market indexes in comparison to that of traditional markets has

very several studies. They take conventional and 5 Islamic indexes, using secondary for 4 years. As a result, this research reveals a strong interconnection between traditional and Islamic stock market indices, suggesting that Islamic indices might be a valuable tool for investors by allowing them to mix with conventional stock indices and provide them with the opportunity for increased portfolio diversification.

(Abduh, 2020) studied the correlation between Shariah and traditional indexes instability and how the worldwide economic catastrophe has affected the instability of Malaysian market. GARCH is used to analyze the data for 6 years taken by the FTSE and Bursa Malaysia. The result shows conventional index fluctuates more than the Islamic index under any circumstances.

(Abdul Rahim et al., 2009) article looks at information flow at the level of withdrawal and volatility and the relationship between JKI and KLS. They used secondary data from two years and VAR GJR-GARCH Bivariate model. This research conclusions showed a little link between the two Islamic stock markets mentioned above. The study's information sources are restricted to the SouthEast Asian Islamic stock markets, emphasizing the analysis of the post-economic crisis period. It is possible to perform an additional study with separate time frame and data frequency while using more Islamic indexes. Future analysis of the connections between Islamic stock markets in various economic climates and financial crises will be guided by the researchers' recommendations, they said.

(Abbes, 2012) In comparison to their conventional equivalent indices, This study contrasts the Islamic market indices' risk and return characteristics. A broad international dataset of 35 indexes, combining developed, GCC markets, and emerging from June 2002 to April 2012, is employed for this purpose. The mean return differences between the two types of indexes have been investigated using the t-test. Except for Italy and Australia, the data indicate same mean in both the indices. All examined indices have a leverage impact risk, according to the EGARCH estimation results. By using the Sharpe ratio test and the CAPM method, the risk awaited performance of ethical stocks was compared to that of their conventional counterpart indexes.

(Dedi & Yavas, 2017)) This article explores the links between equities markets in four European nations, Italy, the United Kingdom, France and Germany, and the United States, regarding market returns and volatility transmission. We analyze daily ETF data from 14 years, employing a Multivariate Autoregressive Moving Average (MARMA) and model (GARCH). Before the financial crisis, during the crisis, and after the crisis, we divided the data into these three time periods. Although some notable variations between before and subsequently the financial catastrophe are highlighted, the outcomes demonstrate the presence of sturdy co-movement of yields in all 3 of the studied periods. Other findings include a significant increase in market connectivity and a consequent reduction in investor diversification opportunities. In all five nations throughout the crisis, volatility appears to respond aggressively to market changes before gradually subsiding after the initial shock. Especially during and after the catastrophe, there is compelling sign of instability spillovers.

(KR & F, 2014) Many investors are choosing to concentrate on Islamic stocks rather than traditional ones due to the fast expansion of shariah finance concluded the previous few eras. The debate over whether Islamic indices accomplish more than the traditional stocks still hasn't been resolved. This study aims to determine performance differences between conventional equities listed on the ASX and Shariah-compliant stocks from 2001 through 2013. According to our analysis, there is a statistically noteworthy variance in risk-adjusted performance between Shariah and traditional indices. On the ASX: otherwise, the recital of Shariah stocks is typically comparable to that of traditional stocks. Furthermore, we present a statistically significant connection between traditional and Islamic stock.

(Chee-Jiun et al., 2021) In addition to limiting human movement, the Movement Control Order (MCO) also negatively influences business revenues and stock returns. This research looks at the connections among Malaysian indices performance and factors associated to most recent coronavirus epidemic. For a period of three months, this research takes into account the first three MCOs as well as eight key indexes, including the FTSE Bursa Malaysia KLCI Index. The findings demonstrate that, albeit in a small

fashion, daily new confirmed COVID-19 cases and fatalities had a negative influence on index returns. All indexes were strongly and favorably impacted by MCO, although these returns were negatively impacted by external financial worries. Further research revealed that the degree to which MCO and international financial concerns influenced the indices' constituent firms varied favorably with firm size. Bursa Malaysia investors may succeed their portfolios built on their level of risk tolerance with the use of these insights.

(Chee-Jiun et al., 2021) examined the effect of covid19 on the economic and exchange markets in Islamic and conventional markets. WCA techniques are used to analyze the Islamic market, exchange rate, and index. The results show that the Islamic market doesn't show any high volatility over the traditional market. The Islamic index has a minimum return in comparison to another index.

(Hasan et al., 2021), investigate impact of the Covid19 Epidemic period on the traditional and Islamic stocks. Multi-scale wavelet methods are used for data analysis of variable FTSE and DJI timing, which take ten months. They suggested that the Islamic and traditional markets move each other during the pandemic. They give some implications to the investor to be aware of future circumstances at the investment time.

(Ho et al., 2014) This study offers empirical data on share indexes from Islamic and mainstream markets that compare their risk-adjusted performance. To make appropriate contrasts, the selected Islamic indexes are matched with traditional indices. The MSCI All-World index and the Treasury-bill rate are employed as a benchmark for the entire world. Four monthly return subperiods are assessed as crisis and non-crisis periods. Results show showing, although they are inconclusive for periods when there was no crisis, Islamic indexes overtook their conventional counterparts during those times. This may be the result of the conservative nature of investments consistent with Shari'ah, which provides investors with a preferable investment opportunity during times of crisis.

(Albaity& Ahmad, 2008) The author attempted to analyze composite and Shariah index performance. KLCI and KLSI are indices used to analyze data for seven years. Between

the variable, they found the relationship between the long term and the short term. They employ the cointegration and Granger causality test for analyzing the data. They concluded that the two indexes function similarly for both long- and short-term periods.

(Adam et al., 2022) In this study, the influence of global economic policy uncertainty (GEPU) and volatility (VIX) on return on the Islamic stock market is being investigated. One of the most popular global risk indicators, GEPU, measures how uncertainty affects the performance of the world's financial markets. They used data from May 2011 to May 2021 intake of 10 variables like DJIM, JKI, FTSE, etc. As the result shows, except for Bahrain's stock market, none of the stock markets are significantly impacted in the short term by the uncertainty surrounding the global economic policy. All stock markets, except Kuwait's, will experience significant effects in the medium and long term.

(Abuollem et al., 2021) This study examines whether, during the recent period of financial instability brought on by the COVID-19 epidemic, Shariah-compliant enterprises outperformed their traditional rivals in Malaysian indices in relation to company value efficiency. Seventeen months of data have been taken from 12 shariah and traditional markets. They used the Sharpe ratio strategy for analyzing data. The study's conclusions have a variety of ramifications for investors, particularly when making judgments about whether to invest in conventional or Shariah-compliant portfolios.

(Haddad et al., 2020) Examines the relative significance of long-lasting versus short-lasting shocks and their domestic and international elements in describing economic cycle swings. The daily DJIM GCC index (GCC), DJIM U.S. index (US), DJIM U.K. index (UK), DJIM Asia Pacific ex-Japan index (ASP), DJIM Japan index (JP), DJIM Canada index (CA), Europe index (EU), over 15 years Dow Jones Islamic equity indexes (DJIM) of seven regions particular for pragmatic investigation. DJIM U.S. is regarded as key spreader of earnings and instability spillovers, whereas the DJIM (GCC) is recognized for the leading beneficiary of mutual types of spillovers. Additionally, there is a little correlation between changes in global risk variables and the seven DJ Islamic index. The DJ Islamic index and chosen index could be used to diversify a portfolio.

(Yusof & Majid, 2007) Investigated the reasons for price volatility, focusing on its macroeconomic roots. Daily data of the Islamic and the conventional stock indices. The data has been used of 8 years. The data analysis using by GARCH and VAR. They concluded that traditional stocks are affected by interest rates, but the Islamic stock market is not affected by interest rates.

(Salisu et al., 2021) analyzed the portfolio designs and hedging efficacy in the gold and the US aggregate and sectoral indices during pandemic, using a multivariate volatility framework. According to the findings, adding gold in a portfolio will be helpful security which can boost the performance of risk-adjusted stocks. The authors also speculate that the shocks brought on by COVID-19's exceptional emergence may have made it harder for investors to react to market shocks, delaying their ability to rebalance their investments.

(Shear & Ashraf, 2022) uses data from 100 significant Ethical compliant and non-ethical firms listed on the PSX to compare the performance of the Ethical compliant and non-ethical stocks, particularly during the pandemic. The authors note that shariah compliance firms performed better since the adverse stock market effect to the Covid-19 verified instances, and government retaliation actions were less severe for businesses that adhered to shariah

(Salisu & Shaik, 2022) examines the role of epidemic in estimation of Shariah stocks by constructing a predictive model and examining the hedging potential and vulnerability of the Shariah Indices. The authors covered Shariah indices as well as their conventional counterparts. The authors further suggest the role of risks attributed to climate change in the valuation of stocks.

(Candera & Indah, 2021) The pandemic significantly influenced the banks' financial performance, according to the research comparing the financial performance of Islamic banking before and after the pandemic at 34 Islamic banks in Indonesia. The author's analysis demonstrates that, The Sharia Business Unit before and during the COVID-19 epidemic did not significantly differ from the CAR and ROA indicators, with the exception of NPF, which had a considerable change, and Islamic banking financial

institutions were rarely impacted by the pandemic.

(Elshqirat et al., 2021) studied how Shariah stock indexes fared during the COVID epidemic, and contrasted those results with their conventional equivalents in Gulf Cooperation Council (GCC) nations. The study's findings demonstrated that the epidemic impact on ethical and traditional indexes in parallel pattern in relation to their performance, the ethical indices didn't give any opportunities for diversification to the investors during the epidemic. These findings conflict with those of several other research.

(Bhatia & Gupta, 2020) With the help of the general banking index, looked into the volatility of Indian banking sectoral indices for dual shocking occurrences: the subprime catastrophe and COVID-19. Comparing symmetric and asymmetric models, the shocks that cause the volatility of these indexes have been compared. The results of this study demonstrate that despite the leverage effect that existed during the subprime crisis, these indices' volatility behavior has been sufficient to last in the market.

(Abbes, 2012) compared the risk and returned characteristics of the Islamic market indexes to those of their conventional equivalent indices after adjusting for systematic risk. The author also investigates the existence of a leverage impact across all examined indices and the significance of performance differences between Islamic stock market indexes and their traditional equivalents. A vast international dataset of 35 indexes, combining developed, GCC and emerging markets from June 2002 to April 2012, is employed for this purpose. The mean return differences between the two types of indexes have been investigated using the t-test. Except for Italy and Australia, the data indicate no apparent variance in mean among Islamic and traditional indices. All examined indices have a leverage impact risk, according to the EGARCH estimation results. Except for The United Arab Emirates, Mexico, Australia, Norway, Canada, and Brazil, the beta of Islamic index is below one in the majority of markets. indicates it is less hazardous and subtle to financial market fluctuation.

(Ali et al., 2021) examined how various Dow Jones Islamic indices respond to the COVID-19 outbreak. The findings

demonstrate that dynamic conditional correlations (DCCs) among our chosen financial assets unexpectedly increase throughout the COVID-19 era, with Japan and gold having relatively lower mean DCC values. The authors of the study conclude that gold is the most crucial lustrous metal because it helps investors in Islamic stock manage their downside risk in various the conclusion that gold is the essential most essential polished metal. After all, it helps investors in Islamic stock manage their downside risk in various it helps investors in Islamic stock manage their downside risk in a variety of market conditions.

### Objective

1. To study the return among the Islamic on conventional indexes.
2. To study the cointegration relation among variable.
3. To examine the effect of Islamic indices on conventional indices.
4. To study the significance and determine the correlation of Islamic indexes on conventional indices.
5. To examine short and long-run relationship among shariah and conventional indices.

### Studied indicators

Sr.No	Index name	Symbol
1	titan 25 Index (DJMY25D) Pre covid	D25A
2	FBMKLCI Pre covid	FBA
3	titan 25 Index (DJMY25D) Post covid	D25B
4	FBMKLCI Post covid	FBB

### Analysis

#### Descriptive statistics

The descriptive data for this study contain a list of the indexes. In the pre-pandemic period, the high return of the Titan 25 index (DJMY25D) is 0.020763, showing more

### Hypothesis

H00 = There is no relationship among Islamic and conventional indices.

H01 = Islamic finance and conventional finance do not granger causes.

H02 = Shariah indices are significance determine to conventional indices.

H03 = Islamic index has a lower standard deviation than conventional indices.

H04 = Islamic index is not significantly influenced by conventional index.

### Methodology

This empirical research used daily data of shariah indices over the period 6/09/2017 to 6/09/2022. This period has been divided into two parts of the pandemic period: pre covid era (6/09/2017) and post covid era (6/09/2022). Cointegration test, Granger Causality test, and GMM with Descriptive Statistics and Unit Root Test used for analyzing data.

profitability than conventional indices, and in the post-pandemic period, leading to a mean of -0.011503 means the high profitability of the Islamic index comparison of the traditional index. Any crises do not affect the Islamic index. They get the minimum return before, during, and after the pandemic period of covid-19.

### Studied indicators

	Pre Covid-19		Post Covid-19	
	FBA	D25A	FBB	D25B
Mean	0.017841	0.020763	-0.007962	-0.011503
Standard deviation	0.531218	0.516764	0.918897	0.911117
Probability	0.0000	0.0000	0.0000	0.0000
Skewness	0.762129	0.774503	-0.126788	-0.500914
Jarque- Bera	411.6338	490.3836	1624.160	2723.703

## Stationary Test

Conducting the cointegration test requires performing the stationary test on time series data. The stationary data were established using the unit root test and the Augmented

Dickey-Fuller Test (ADF) technique. When the probability in the ADF test method is less than 5%, the data is deemed to be stationary. This table indicates NS denotes non-stationary, and S represents Stationary.

**Table: Stationary Test**

Indices	Pre Covid-19			Post Covid-19		
	Level	First Difference	Result i <sub>0</sub> /i <sub>1</sub>	Level	First Difference	Result i <sub>0</sub> /i <sub>1</sub>
D25	0.6225	0.0000	NS/S	0.1880	0.0000	S/S
FB	0.4587	0.0000	S/S	0.1117	0.0000	S/S

## Cointegration Test

The Johansen Cointegration Test method was used to conduct cointegration method for determining whether the research model has long-run co-integration. The

probability value below 5% can be used to determine if cointegration is present or absent.

**Table: Cointegration Test**

	Hypothesize No. of CEs	Eigen Value	T Stat	Critical Value 0.05	Probability
Pre Covid-19	None	0.010262	10.66241	20.26184	0.5479
	At most 1	0.005799	3.844499	9.164546	0.4358
Post Covid-19	None	0.007785	4.951670	12.32090	0.5743
	At most 1	6.89E-05	0.043252	4.129906	0.8648

At the 0.05 level, the trace test results in two cointegrating equations, which \*indicates rejection of the hypothesis\*\*P-values from Mackinnon-Haug-Michelis (1999)

## Cointegration Rank Test (Maximum Eigenvalue)

	Hypothesize No. of CEs	Eigen Value	T Stat	Critical Value 0.05	Probability
Pre Covid-19	None	0.010262	6.817814	15.89210	0.6917
	At most 1	0.005799	3.844499	9.164546	0.4358
Post Covid-19	None	0.007785	4.908418	11.22480	0.4903
	At most 1	6.89E-05	0.043252	4.129906	0.8648

Maximum eigenvalue test indicates 2 cointegration eqn(s) at the level of 0.05.

\* Denotes rejection of hypothesis at the 0.05 level

Intended for  $r=2$ ,  $r=3$ , and various no. of equivalences, we tested hypothesis. While examining the hypothesis used for multiple numbers of equivalences, we came to the same conclusion we got. This leads to the assumption that the indexes not be co-integrated, which results in the null

hypothesis being accepted. The second test analyzes the max eigenvalue. In the max Eigen, the critical value is the less trace value (Values are 15.89210 and 20.26184), and the p value is higher than 5% that means null hypothesis is accepted. Cointegration test shows that there is

Cointegration among both indices during both the periods, hence the pandemic has not changed the long-term relation. The short-term association has also demonstrated a similar trend.

## Correlation

To assess connection or statistical correlation between two continuous variables, it uses a test statistic called Pearson's

correlation coefficient. This considered as finest method for computation the relationship among variables. It depends on the process of covariance. It provides facts on strength of correlation as well as the slope of the association. The positive indicators of upper correlation slope from 0.9696 to 1.00 means moving forward in the same direction.

	Pre Covid-19		Post Covid-19	
	D25A	FBA	D25B	FBB
D25A	0.955504	1.000000	-----	-----
FBA	1.000000	0.955504	-----	-----
D25B	-----	-----	0.969600	1.000000
FBB	-----	-----	1.000000	0.969600

## Granger Causality test

Professor Clive Granger created the Granger Causality concept in the 1960s. A statistical notion known as Granger

Causality is solely based on prediction. Granger causality is being investigated under the Null Hypothesis (H<sub>0</sub>), as there is no connection among the sequence.

	Null Hypothesis	Obs.	F-Statistic	Prob.
Pre Covid-19	D25A does not Granger Cause FBA	664	7.58537	0.0006
	FBA does not Granger Cause D25A	664	0.90695	0.4043
Post Covid-19	D25A does not Granger Cause FBB	629	0.32924	0.8584
	FBB does not Granger Cause D25A	629	1.44852	0.2165

## GMM

We estimate this model using the Generalized Method of Moments (GMM). We provide estimates based on techniques that support the accuracy of our findings.

Here are the equations:

$$FBA = \alpha_1 + \beta_1 * D25A$$

$$D25A = \omega_1 + \beta_2 * FBA$$

$$FBB = \vartheta_1 + \beta_3 * D25B$$

$$D25B = \rho_1 + \beta_4 * FBB$$

Estimation of GMM

	Endogenous	Coefficient	Std. Err.	t-Stat	P
$\beta_1$	FBA	0.191638	0.000321	596.7558	0.0000
$\beta_2$	D25A	5.216226	0.008757	596.6756	0.0000
$\beta_3$	FBB	0.190289	0.000218	874.6413	0.0000
$\beta_4$	D25B	5.254329	0.005978	878.9670	0.0000

In this method, we estimate the generalized moment method for the exact value of the variable if one variable is dependent and the other is independent. All variable has increased in the same direction crises are not effects of any Islamic index.

## Conclusion

This study's primary goal is to investigate the performance of the shariah index versus the conventional index in Malaysia. We add to the literature discussing how shariah index equities fare compared to traditional index stocks,



particularly during pandemics. Using the whole data set divided into the Pre-COVID and Post-COVID, we assess the effects of the COVID-19 pandemic.

As the results are shown in the data analysis here, the Islamic indices is better than the conventional index because it doesn't get affected by the pandemic period. As we analyze the pre and post covid-19 period here, it seems that before the pandemic, Islamic finance was spread over Malaysia and during covid. Islamic finance has been correlated over long and short periods. The significant finding demonstrates that, in comparison to corresponding conventional markets, Over the pre-covid-19 and post-covid-19 periods, Islamic indices produce greater average returns and lower risks.

Our study may have limitations due to Malaysia's 60% coverage of the country by Muslims and the significant demand for products that adhere to Shariah. Shariah-compliant companies' more robust stock performance may be attributable to the tendency of faith-based stockholders to distinguish between and participate in stock indices that are consistent with their spiritual convictions. Forthcoming study explore may help from intensifying the sample to comprise participants from diverse religious backgrounds and from additional countries.

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