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SHORT-TERM SHOCKS AND THE RESILIENCE OF ISLAMIC STOCKS: EVIDENCE FROM THE DOW JONES ISLAMIC TURKEY INDEX

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ABSTRACT

This study examines how internal factors, such as exchange rates, interest rates, and inflation, and external variables, global oil and gold prices, the 2008 financial crisis, and the COVID-19 pandemic, affect the performance of Shariah-compliant stocks listed on the Dow Jones Islamic Turkey Index. Although Islamic equity markets are gaining prominence, limited research addresses their response to macroeconomic shocks, particularly in emerging economies. This study aims to fill that gap by evaluating both short-term and long-term effects of selected variables using monthly data from January 2007 to September 2024. The Autoregressive Distributed Lag (ARDL) model is employed to identify cointegration and dynamic relationships among variables. The results indicate a long-run equilibrium among variables but show no significant long-term effects on index performance. In contrast, short-term analysis reveals that exchange rate fluctuations and the COVID-19 pandemic have a significant and negative impact on Islamic stock performance, with respective impacts of up to 48% and 14%. The findings suggest that while Islamic stocks demonstrate resilience over time, they remain vulnerable to short-term shocks. This highlights the critical role of exchange rate volatility and pandemic-driven uncertainty in shaping investor confidence. The study contributes to the Islamic finance literature by offering empirical insights into how macroeconomic dynamics influence Islamic stock indices. It provides practical guidance for investors and policymakers seeking to enhance risk management and develop resilient investment strategies in Shariah-compliant markets.

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INTRODUCTION

The world's financial structure considers Islamic finance essential because its exceptional performance enables it to provide a distinct investment framework, including investment and intermediation (Paltrinieri et al., 2019, p. 719). In addition to banking and insurance operations, the Islamic stock market (securities compliant with Islamic Shari'ah laws) is a fundamental component of the Islamic financial

system. The advancement of the Islamic financial system and the growing interest in Islamic finance have led to a substantial enhancement and expansion of the Islamic stock market, offering new investment options for investors. The growing interest of investors in Islamic finance is attributable not only to religious factors but also to the reliability of the Islamic financial system, which significantly enhances its appeal (Erdoğan et al., 2020).

The basic framework of Islamic stock indices introduces distinct characteristics compared to regular market stock indices. Islamic indices demonstrate exceptional resistance against the financial turmoil that characterizes their operation. These financial instruments boost reliability by directly supporting real production, while remaining free from derivative instruments, which protects them from various types of risk (Raza et al., 2016).

A research study investigating the impacts of the worldwide financial crisis and the sovereign debt crisis on countries under the jurisdiction of the European Union from 2007 to 2015 finds that Islamic equities and sukuk serve as a safeguard against possible instability during financial crises (Kenourgios et al., 2016). A group of academics examined the correlation between conventional and Islamic indicators from 1999 to 2014, utilizing a collection of both types of indices. This research suggests that Islamic indices provide a refuge for investors during crises (Hkiri et al., 2017).

Islamic stocks adhere to fundamental principles that distinguish them from conventional stocks. The most notable of these principles include the prohibition of non-compliant activities (haram activities), the prohibition of riba (interest), the profit-sharing principle, which facilitates risk distribution among parties, and the prohibition of speculation based on gambling (maysir) (Eşref, 2020). In late 1998, the first Islamic index was launched as the Dar Al-Maal Al-Islami (DMI), located in Switzerland, which monitors 150 global companies. In 1998, the SAMI (Shari'ah-compliant Active Muslim Index) introduced its tracking system to monitor 500 Shari'ah-compliant companies. Among the many emerging Islamic indices during this time, one can find the Dow Jones Islamic Index and the Global Islamic Indices Series (GIIS) provided by FTSE, together with the MSCI Global Islamic Indices by Morgan Stanley and the S&P Shari'ah Index Series, along with the Stoxx Europe Islamic Indices provided by Stoxx (El Khamlichi et al., 2014).

The criteria for selecting companies differ between Islamic indices, as these criteria are based on several Shari'ah considerations, evaluated by specialists within a defined framework known as Shari'ah Boards. For example, a company may be excluded from one index due to a high level of debt, while it may be accepted by another index (Zaidi et al., 2015).

Islamic stock indices serve as a key tool for assessing the growth of the Islamic financial sector, acting as a primary benchmark for monitoring investments directed toward companies listed within these indices. The Dow Jones Islamic Market Turkey Index was launched in 2004 to measure the performance of stocks listed in the Turkish market that comply with Islamic principles. Currently, the index includes sixteen stocks from companies that have passed Shariah compliance screenings. As of January 2020, the average market capitalization of the index stood at $ 1.522 billion (Erdoğan et al., 2020).

To be included in the Dow Jones Islamic Index, a company's stocks must undergo a rigorous screening process that assesses industry type and financial ratios to ensure

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Shariah compliance. Companies engaged in prohibited sectors, such as alcohol production or sales, military and defense industries, entertainment, non-compliant financial services, pork-related products, or tobacco, are excluded from the index.

This study aims to analyze and assess the impact of internal factors (exchange rates, interest rates, and inflation) and external factors (global oil and gold prices) on the performance of Islamic indices in the Turkish financial market. Additionally, it considers the effects of the 2008 global financial crisis and the COVID-19 pandemic on the performance of Islamic stocks in Turkey. Furthermore, the study will evaluate both the long-term and short-term effects of internal factors (exchange rates, interest rates, and inflation) and external factors (oil prices, gold prices, economic crises, and the COVID-19 pandemic) on the performance of Shariah-compliant companies listed in the Turkish Dow Jones Islamic Index.

The significance of this study lies in its contribution to academic knowledge regarding the relationship between these variables and the performance of Islamic stocks. It focuses on the influence of global and local economic instability trends while aiming to develop systematic policies that equip investors and policymakers with precise scientific information. This information supports well-informed investment decisions aligned with Islamic principles, taking into account the effects of global crises and economic shifts.

Regarding the extent to which the performance of Shariah-compliant stocks, particularly those listed in the studied indices, is influenced by economic factors, whether internal or external, or by crisis-related events such as global financial downturns or pandemics, this relationship has not been sufficiently explored in the existing literature. Consequently, this leads to the fundamental research question: What is the impact of internal factors (exchange rates, interest rates, inflation) and external factors (oil prices, gold prices, economic crises, and the COVID-19 pandemic) on the performance of Islamic stocks listed in the Turkish Dow Jones Islamic Index?

LITERATURE REVIEW

Theoretical Framework and Conceptual Foundations

Islamic finance operates on the principles of prohibiting *riba* (interest), *gharar* (excessive uncertainty), and *maysir* (gambling), which are not merely normative injunctions but also function as mechanisms for mitigating systemic risk through equity-based financing that links the financial sector directly to the real economy (Kaya, 2023; Mustofa, 2018). These principles are believed to enhance the resilience of Islamic capital markets, although empirical studies indicate that exposure to global shocks remains significant (Hanif, 2025).

In the context of portfolio risk management, Modern Portfolio Theory (Markowitz, 1952) emphasizes asset diversification to optimize the risk–return profile; however, its application in Islamic markets is constrained by Shariah-compliant investment criteria, while assets such as gold and oil serve as *safe havens* whose effectiveness tends to diminish during global crises (Eom et al., 2015; He, 2024). From an informational perspective, the Efficient Market Hypothesis (Fama, 1970) posits that stock prices reflect all available information immediately. Yet, Islamic markets often display partial efficiency due to limited liquidity and the dominance of retail investors (Ülev & Selçuk, 2022). Furthermore, macroeconomic theory explains that exchange rates, inflation, interest rates, and commodity

prices affect capital markets differently depending on the economic context; for example, oil prices have a positive impact in exporting countries but a negative effect in importing countries (Qadir & Kemal, 2024).

Within the event-analysis framework, Event Study Theory is particularly relevant for examining the impact of the 2008 global financial crisis and the COVID-19 pandemic, where dummy variables in the ARDL model can isolate the *event shock* effects not captured by routine macroeconomic variables (Bhat & Mishra, 2018; Sa'diyah & Widagdo, 2020). The integration of these theoretical perspectives not only provides a comprehensive conceptual basis for understanding the complex interplay between fundamental variables, market behavior, and global events in shaping the performance of Islamic stock indices but also offers a methodological foundation for formulating and empirically testing the hypotheses of this study.

Previous Studies

The impact of internal and external macroeconomic factors on Islamic stock indices has been widely studied, with key determinants including macroeconomic shocks, monetary variables (interest rates, inflation, exchange rates), commodity prices (gold and oil), and market liquidity, all of which influence volatility, returns, and long-term performance.

Setyowati et al. (2024) analyzed data collected from 2013 to 2022 to determine how internal/external forces affected ISSI. Interest rates, inflation rates, the availability of money in the market, and the exchange rate represent internal forces. In contrast, the global prices of oil and gold underscore the influence of external forces. The data assessment employed the Engle-Granger Error Correction Model (ECM). The research confirmed that both external and internal forces impacted ISSI. The interest/inflation rate exerted temporary effects on the measured variables.

Haida et al. (2024) explored how the internal forces of certain macroeconomic variables in the Indonesian economy (currency exchange rates, inflation, and Bank Indonesia's interest rate (BI)) affected the stock performance of companies listed on the Jakarta Islamic Index (JII). The study relied on data from 30 companies within the index over five years (2015-2020) for analysis. The Analysis of Variance (ANOVA) methodology was employed to assess the impact of these internal variables on the stock performance of the selected companies. The authors found strong evidence that the stock performance of the companies selected by the index is significantly and positively influenced by the independent variables, both individually and collectively.

Sholikah and Safitri (2024) investigated the relationship between the Islamic Stock Index (ISI) and macroeconomic factors through their study of Malaysia and Indonesia, covering the period from 2013 to 2020. The study revealed no significant relationship between the performance of ISI and the exchange rate in Indonesia. In contrast, the researchers observed a negative correlation between Malaysia's ISI and the exchange rate. The researchers found that inflation had no effect on Indonesia's ISI but had a positive impact on Malaysia's ISI. Accordingly, the study revealed a linear relationship between stock prices and the inflation rate in Malaysia. On the other hand, the results in both Indonesia and Malaysia indicated that the interest rate did not affect ISI's performance.

Avci and Sumerli Sarigül (2022) conducted a similar study. Their research focused on the impact of macroeconomic factors

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in Turkey. The primary objective of their two-year study (2018-2020) was to assess the Turkish economy through the lens of the participation index. The researchers employed two tools to support their research. First, they applied the Toda and Yamamoto methodology to identify causality between variables. Secondly, they analyzed the coefficients using the Autoregressive Distributed Lag (ARDL) model. The study's results were mixed. First, a long-term relationship was found between the performance level of the participation index and the internal forces associated with the macroeconomy, such as short-term interest rates, money supply, and inflation, as well as the Conventional stock market indices under investigation. The ability of the participation index to produce desirable outcomes in the Turkish economic environment depended on the money supply and traditional stock market indices. On the other hand, short-term interest rates formed a significant obstacle to the performance level of the index under study. The authors also found a bi-directional relationship between the inflation rate and the traditional stock market index, as well as between the performance level of the participation index and the traditional stock market index. A unidirectional relationship was also identified, as evidenced by the way the relationships between interest rates and the money supply shaped the participation index. Risk factors in the global environment and local economic indicators impact the participation index.

Essayem et al. (2022) made this observation in their 10-year follow-up study (May 2011-April 2021), which focused on the stock market in Turkey. They investigated the following conditions: bullish, normal, and bearish, which represent various market scenarios. Quantile regression is the researchers' primary methodological approach to understanding how the three market conditions changed in response to global risk variables and local economy-specific factors. Key indicators of the local economy are government bonds and monetary policies. The Consumer Price Index (CPI) exemplifies the impact of monetary policy. The researchers claimed that the participation 30 index (KAT 30) affected the bearish and bullish markets with respect to the mentioned global and local factors. At the same time, the evaluation of all quantiles revealed that defaulting credit swaps led to negative outcomes in KAT30 returns. In other words, when the quantiles become volatile, they lead to poor KAT30 returns. However, the volatility does not affect the last two quantiles (Q0.75 and Q0.95). The upper quantile was favorable to the index's performance. One of the main indices influencing this positive return is the Morgan Stanley Country Index (MSCI). Equally significant is the Oil Volatility Index (OVI). Various drivers influence macroeconomic variables in the market.

Muhamad Yusuf et al. (2020) examined how macroeconomic variables shaped the direction of the ISI, especially in the upcoming market. The primary macroeconomic factors considered by the authors include the money supply, the exchange rate in dollars, GDP, and the CPI. The study spanned 9 years (2008-2017) and included seventeen FMII member countries. The panel data methodology informed the research. The findings were mixed. On the one hand, FMII correlated positively with the price of oil, GDP, and the money supply in the market. On the other hand, FMI exhibited an inverse correlation with the rate of change and inflation. On the contrary, the relationship between the three variables (FMII, oil prices, and GDP) was statistically

unimportant. Ibrahim et al. (2018) conducted research to identify the correlation between macroeconomic-related elements and the stock market in Malaysia. The authors analyzed research data collected between 2008 and 2015. The ARDL model informed the study. The outcome showed that interest rates and inflation represent important macroeconomic factors that shape the Malaysian stock market. This finding has significant statistical implications.

In different research, Pratama and Azzis (2018) sought to understand how Islamic stock markets behaved. The research considered multiple macroeconomic indicators to analyze their impact on JII return volatility. Some of the considered macroeconomic factors include the exchange rate, inflation/interest rates, as well as the FTSM and the DJIUK index. The study took place between 2016 and 2017. The study factored in all variables that the researchers deemed significant to the research concerning their influence on JII return volatility. The ARCH-GARCH model played a crucial role in achieving the study's objectives. The study showed that various variables, including the Bank of Indonesia's interest rate, inflation rate, the IDR-USD exchange rate, and several stock indices such as (DJIUS, DJIUK, FTSJP, FTSMY), play a significant role in influencing the volatility of returns in the Jakarta Islamic Index (JII).

Furthermore, Bahloul et al. (2017) examined how volatility/returns influenced conventional stock markets. The study encompassed 20 markets categorized as upcoming or advanced. The study took place between 2002 and 2014. Moreover, the study considers the core macroeconomic factors of the money supply, the yield curve slope, and the rate of inflation/interest. The Markov Switching Regression was the preferred model for this study. The results showed that in both low- and high-volatility scenarios, the returns of conventional stock indices and the money supply impact Islamic stock indices in both developed and developing nations. The behavior of Islamic stock indices, especially during periods of increased volatility, remained a mystery compared to other macroeconomic variables considered. Sakti and Harun (2015) investigated how macroeconomic factors related to JII. The core macroeconomic factors examined by the authors include industrial production, monetary circulation, and the nominal exchange rate. Data extracted between 2000 and 2010 were used to conclude. The methodology consisted of vector autoregressive and cointegration models. After an in-depth analysis of the stock market, the study found that internal factors significantly impacted the stock market, with a particular focus on Islamic ones. At the same time, the authors found that the macroeconomic factors and JII are connected over time.

Hussin et al. (2012) conducted a study between 2007 and 2011. The goal was to determine the relationship between macroeconomic factors and oil prices. They investigated this correlation concerning Malaysia's Islamic stock market by evaluating macroeconomic factors and oil price fluctuations. Variance decomposition analysis (VDA) and impulse response functions (IRFs) were the tools employed by the research to analyze the data. The data demonstrated that the rates of currency and oil prices cointegrated with the prices of the Islamic stock. On the contrary, the link between prices in Islamic stocks and the exchange rate is not statistically significant. The test results obtained using Granger causality helped the researchers conclude that Islamic stock performance has an impact on oil prices in Malaysia. This means

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Malaysia experiences fluctuating oil prices in both the short and long periods, which is mediated by Islamic stock performances.

RESEARCH METHOD

To examine the various impacts of the variables under study on stock performance, a quantitative analysis approach was employed using the Autoregressive Distributed Lag (ARDL) model, first introduced by Pesaran and Shin (1999) and subsequently revised in (M. Hashem Pesaran et al., 2001) by the same researcher in collaboration with others. The ARDL model has several advantages over conventional techniques for assessing short- and long-term interactions and cointegration. The primary benefit is that this model may be used when the integration levels of the research variables vary, such as I(0) and I(1), as long as none of the variables are integrated at the second degree I(2) (M. Hashem Pesaran et al., 2001). The second advantage is that the boundary test, utilizing the ARDL model in its unconstrained Error Correction Model (ECM) form, facilitates the identification of suitable lags that represent the data generation process within a general-to-specific framework (Laurenceson & Chai, 2003). Since the variables are a combination of I(0) and I(1) processes, and not all are integrated at I(1), the VECM is unsuitable, making the ARDL model the optimal choice.

This study aims to examine the relationship between internal and external variables and the performance of Islamic stocks listed on the Dow Jones Islamic Market Index within the Turkish financial market. It seeks to ascertain the short- and long-term effects of these variables on the performance of the index in question. The ARDL model, as delineated by Pesaran and Pesaran (1997), will be employed for this analysis:

$$Y_t = \beta_0 + \beta_1 Y_{t-1} + \cdots + \beta_k Y_{t-p} + \alpha_0 X_t + \alpha_1 X_{t-1} + \alpha_2 X_{t-1} + \cdots + a_q X_{q-1} + \varepsilon_t \quad (1)$$

Model (1) incorporates the time lag of the explanatory variables and the independent variable. The conventional Error Correction Model (ECM) is articulated using the following equation:

$$\Delta Y_t = \beta_0 + \sum_{i=1}^{p} \beta_i \Delta Y_{t-1} + \sum_{j0}^{q1} \gamma_j \Delta X_{1t-j} + \sum_{k0}^{q2} \delta_k \Delta X_{2t-k} + \varphi Z_{t-1} + e_t \quad (2)$$

In equation (2), Z represents the error correction term that links the long-term and short-term relationships.

The unconstrained (ARDL) model in the study is represented by equation (3) as follows:

$$\Delta DWIMT = a_1 + a_{EX} EX_{t-1} + a_{Inf} Inf_{t-1} + a_{IR} IR_{t-1} + a_{Gp} GP_{t-1} + a_{Op} Op_{t-1} + a_{D1} D1_{t-1} + a_{D2} D2_{t-1} + \sum_{i=o}^{p} a_i \Delta DWIMT_{1t-j} + \sum_{j=o}^{q} a_j \Delta EX_{1t-j} + \sum_{k=o}^{q} a_k \Delta Inf_{1t-j} + \sum_{l=o}^{q} a_k \Delta IR_{1t-j} + \sum_{m=o}^{q} a_k \Delta GP_{1t-j} + \sum_{n=o}^{q} a_k \Delta Op_{1t-j} + \sum_{o=o}^{q} a_k \Delta D1_{1t-j} + \sum_{r=o}^{q} a_k \Delta D2_{1t-j} + \mu_t \quad (3)$$

DWIMT denotes the performance of the Dow Jones Islamic Index inside the Turkish financial market, while EX signifies the exchange rate between the US dollar and the Turkish lira. Inf signifies the inflation rate, IR denotes the reference interest rate, GP refers to the world gold price, OP indicates the global oil price, D1 serves as a dummy variable representing the financial collapse that occurred in the eighth year of the first decade of the current millennium, and D2 is a dummy variable representing the COVID-19 pandemic that occurred at the end of the second decade of the current millennium.

For equation (3), the null hypothesis and alternative hypothesis are developed in the next manner:

$$H_0 = aEX = aInf = aIR = aGP = aOP = D1 = D2 = 0$$

$$H_1 = aEX \neq aInf \neq aIR \neq aGP \neq aOP \neq D1 \neq D2 \neq 0$$

When searching for evidence of a cointegrating relationship between the variables in question, the F-test is employed. You may think of this test as comparing the calculated value to the upper and lower boundary values. Computed values that exceed the upper boundary value indicate that the variables are cointegrated over time. Computing a number that is less than the lower critical threshold indicates that cointegration is not present. As long as the calculated number is in the range of the two crucial values, the outcome cannot be determined with certainty (Hussain et al., 2012).

The importance of the error correction term, the ECM coefficient, assesses cointegration. As shown in equation (4), the model's error correction factor coefficient is calculated.

$$\Delta DWMIT_t = \delta_0 + \sum_{i=1}^{p} \delta_i \Delta EX + \sum_{k=0}^{q} \delta_i \Delta Inf + \sum_{k=0}^{q} \delta_i \Delta IR + \sum_{k=0}^{q} \delta_i \Delta GP + \sum_{k=0}^{q} \delta_i \Delta op + \sum_{k=0}^{q} \delta_i \Delta D1 + \sum_{k=0}^{q} \delta_i \Delta D2 + \omega ECM_{t-1} + \varepsilon_t \quad (4)$$

The inclusion of ECM in the model captures both the immediate and distant changes in the dependent variable (Masih & Masih, 1997). This metric indicates the degree to which the dependent variable has changed from the preceding period due to changes in the independent variable. A positive coefficient for ECM indicates divergence, while a negative coefficient indicates convergence. The degree of convergence in reaction to disequilibrium is proportional to the proximity of the ECM coefficient to 1. Conversely, according to Hussain et al. (2012), the convergence level decreases as it approaches zero.

This study utilizes monthly data, including Islamic stocks in the Turkish Dow Jones Islamic Index, the exchange rate of the US dollar against the Turkish lira, benchmark interest rates from the Central Bank of Turkey, inflation rates, global gold prices, and global oil prices, as these variables are more prone to fluctuations. Additionally, dummy variables were included to represent the global financial crisis and the COVID-19 pandemic.

The selected sample period spans from January 2007 to January 2025, comprising a total of 207 observations, based on available data. Information on Islamic stocks in the Turkish Dow Jones Islamic Index, along with exchange rates, oil prices, and gold prices, was obtained from Investing.com. Benchmark interest rate and inflation data were extracted from the official website of the Central Bank of Turkey. The dummy variables for the global financial crisis and the COVID-19 pandemic were determined based on the months that impacted the time series under analysis.

RESULT AND DISCUSSION

Unit Root Test - Augmented Dickey-Fuller (ADF) Test

It is widely recognized that before adopting the ARDL model, the stability of the time-based data under investigation must be assessed. The ADF test is among the most prominent and widely utilised tools for evaluating the degree of stationarity of the variables under study, as highlighted by Dickey and Fuller (1979).

The results in Table 1 indicate that the variables examined are not stationary at level I

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(0) across the three scenarios (constant, constant and trend, and none), except the variable representing index performance, DWIMT. The fact that DWIMT's p-value is less than 5% in all three cases (constant, constant and trend, and none) shows that it is stationary at level I (0). This means that DWIMT's performance variable does not have a unit root.

Upon doing the unit root test at first difference I(1), it was determined that the time series for the examined variables are stationary at first difference I(1) across all three scenarios (constant, constant with trend, and none), since the p-values for the variables are below 5%. Consequently, it may be inferred that the variables (EX, INF, IR, OP, GP) do not exhibit a unit root at the initial difference I(1).

The ARDL model will be implemented in accordance with these findings, assuming that a variable is stationary at level I(0). The remaining variables are stationary at the first difference I(1) (M. Hashem Pesaran et al., 2001), with the premise that one variable is stationary at stage I(0). The remaining variables are differenced at I(1).

Determining The Optimal Time Lags

The optimal lag length was selected using the Akaike Information Criterion (AIC) to strike a balance between model fit and parsimony. Figure 1 illustrates the chosen configuration (1, 2, 0, 0, 0, 1, 2, 0), which was used in estimating the ARDL model. This specification enables simultaneous long-run and short-run analysis, capturing temporal dependencies efficiently while ensuring statistical robustness and avoiding over-parameterization in the model estimation process.

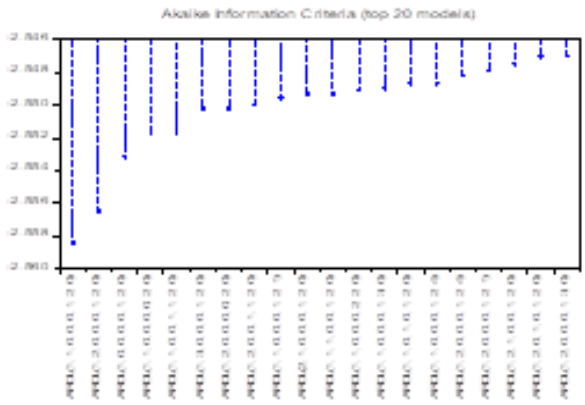

Figure 1. Akaike Information Criterion (AIC).
Source: Author's calculation

Outcomes of the Bound Testing for Co-integration Employing the ARDL Model

The empirical results presented in Table 2 demonstrate that the calculated F-statistic value is 24.58556, which exceeds the I(1) critical value at all significance levels, as indicated in Table 2. This suggests rejecting the null hypothesis, which implies the absence of a long-term relationship between the dependent variable and the other independent variables, and accepting the alternative hypothesis.

The alternative hypothesis suggests the existence of a long-term relationship between the Turkish Dow Jones Islamic Index and the internal variables (exchange rate, interest rate, and inflation), as well as the external variables (global oil prices and global gold prices), examined in this study.

Estimation of the ARDL Long-Run Linear Model

The empirical findings presented in Table 3 indicate that the coefficients of all the explanatory variables do not exert a statistically significant influence on the long-term performance of the Turkish Dow Jones Islamic Index.

Table 1. Augmented Dicky-Fuller Tes at I(0)

Variables	Augmented Dicky-Fuller at I(0)					
	Constant		Including Constant-Trend		Without Constant-Trend	
	t-Stat	Prop	t-Stat	Prop	t-Stat	Prop
DWIMT	-12.79540	0.0000	-12.98279	0.0000	-12.24088	0.0000
EX	2.334029	1.0000	-1.152201	0.9165	4.932405	1.0000
INF	-1.129316	0.7000	-2.803720	0.1977	0.290642	0.7691
IR	-0.895416	0.7883	-0.858439	0.9574	0.265953	0.7622
OP	-3.281502	0.0170	-3.450383	0.0477	-0.219216	0.6063
GP	-1.746709	0.4063	-2.371629	0.3933	1.912209	0.9867
Variables	**Augmented Dicky-Fuller at I(1)**					
	Constant		**Including Constant-Trend**		**Without Constant-Trend**	
	t-Stat	**Prop**	**t-Stat**	**Prop**	**t-Stat**	**Prop**
DWIMT	-9.708977	0.0000	-9.684128	0.0000	-9.734658	0.0000
EX	-12.33116	0.0000	-12.72765	0.0000	-11.47253	0.0000
INF	-10.42284	0.0000	-10.44057	0.0000	-10.41845	0.0000
IR	-14.09148	0.0000	-14.36270	0.0000	-14.11441	0.0000
OP	-11.47413	0.0000	-11.44690	0.0000	-11.50259	0.0000
GP	-15.80528	0.0000	-15.77060	0.0000	-15.52686	0.0000

Source: Author's calculation

Table 2. Bound Testing for Cointegration

F-Bounds Test				
Test -Statistic	**Value**	**level of significance**	**I (0)**	**I (1)**
			Asymptotic: n=1000	
F-Statistic	24.58556	10%	1.92	2.89
K	7	5%	2.17	3.21
Asymptotic:		2.5%	2.43	3.51
		1%	2.73	3.9

Source: Author's calculation

Table 3. Estimation of the ARDL Long-Run Linear Model

Variables	Coeff / β	S. E	t-Stat	Prob
EX rate	-0.030894	0.043396	-0.711907	0.4774
GP	-0.092500	0.070917	-1.304337	0.1937
INF rate	0.061139	0.050565	1.209104	0.2281
IR rate	0.018830	0.038059	0.494777	0.6213
OP	-0.041924	0.043906	-0.954839	0.3409
D1	0.031816	0.018755	1.696393	0.0914
D2	-0.056563	0.029982	-1.886570	0.0607
C	0.314543	0.196563	1.600212	0.1112

Source: Author's calculation

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Estimation of the Short-Run ARDL Model

The empirical findings presented in Table 4 reveal a significant negative correlation between the exchange rate and the performance of the Dow Jones Islamic Turkey Index, as indicated by the p-value of the t-statistic, which is below the 5% significance level. The short-run exchange rate coefficient, valued at 0.48, indicates that a one-unit alteration in the exchange rate results in a 48% negative variation in the performance of Islamic equities within this index. On the other hand, oil prices did not have a statistically significant effect on the performance of the Islamic benchmark examined in the near run.

Regarding the COVID-19 pandemic, represented by variable (D1), the results indicate a significant negative impact on the performance of Islamic stocks within the Dow Jones Islamic Turkey Index in the short term. The coefficient value of 9% suggests that the pandemic's effect during the current period results in a 9% decline in the index's performance. Additionally, the variable (D1-1) captures the lagged effect of the COVID-19 crisis on the dependent variable in the present period, showing a negative impact of 14%. This may indicate a prolonged effect of the crisis, including ongoing economic repercussions stemming from previous lockdowns or imposed restrictions. For further clarification, the COVID-19 pandemic initially had an impact of 14% at the beginning of the crisis, following the imposition of lockdowns and public restrictions. As the restrictions were partially lifted over time, this resulted in a 9% impact from the pandemic.

The ETC-1 has a value of 0.80, exhibiting a negative sign and statistical significance, as indicated by a p-value of less than 0.05. Short-run imbalances can be rectified by approximately 80% within a timeframe of about one month, and the remaining 20% can be addressed over a longer period of one to two weeks.

According to the R^2 Score of 0.54, the explanatory variables in the model are responsible for 54% of the changes in the Dow Jones Islamic Turkey Index's performance.

Figure 2 below indicates that the model demonstrates stability at the 5% significance level, hence bolstering confidence in the previously obtained results.

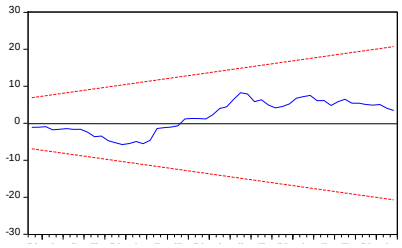

Figure 2. Cusum Test

CONCLUSION

This study aimed to analyze the relationship between internal and external economic variables and the performance of the Turkish Dow Jones Islamic Index using the Autoregressive Distributed Lag (ARDL) model. The results confirmed the presence of a long-run cointegration among the variables, indicating that they move together over time. However, in the long term, the exchange rate, interest rate, inflation, oil prices, gold prices, the 2008 financial crisis, and the COVID-19 pandemic showed no statistically significant effect on index performance.

In the short run, the exchange rate demonstrated a significant negative relationship (-0.48) with the index, indicating that a one-unit increase in the exchange rate

results in a 48% decline in performance. The COVID-19 variable (D1) also had a negative and significant effect at the 9% level. In comparison, its lagged value (D1-1) recorded a negative impact of 14%, highlighting the prolonged economic effects of lockdowns and restrictions on the index. No substantial short-term effect was observed for oil prices. The error correction term (ETC-1) was 0.80, implying that deviations from equilibrium are corrected by 80% within approximately one month and one week.

This study is limited to the Turkish Dow Jones Islamic Index and a selection of macroeconomic variables. Future research should examine other regional Islamic indices, incorporate broader macro-financial and geopolitical factors, and employ non-linear models to capture the complex dynamics. Recommended directions include sector-specific analysis, integrating investor sentiment and behavioural factors, and assessing index resilience under crises to support policymaking and portfolio risk management.

REFERENCES

Avci, P., & Sumerli Sarigül, S. (2022). Is the performance of the companies operating in the participation index in the Turkish economy affected by the macroeconomic perspective? *Journal of Ekonomi*, *4*(2), 63–73. https://doi.org/10.58251/ekonomi.1182456

Bahloul, S., Mroua, M., & Naifar, N. (2017). The impact of macroeconomic and conventional stock market variables on Islamic index returns under regime switching. *Borsa Istanbul Review*, *17*(1), 62–74. https://doi.org/10.1016/j.bir.2016.09.003

Bhat, A. A., & Mishra, P. P. (2018). The Kyoto Protocol and CO 2 emission: is India still hibernating? *Indian Growth and Development Review*, *11*(2), 152–168. https://doi.org/10.1108/IGDR-10-2017-0080

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the Estimators for Autoregressive Time Series With a Unit Root. *Journal of the American Statistical Association*, *74*(366), 427. https://doi.org/10.2307/2286348

El Khamlichi, A., Sarkar, K., Arouri, M., & Teulon, F. (2014). Are Islamic equity indices more efficient than their conventional counterparts? Evidence from major global index families. *Journal of Applied Business Research*, *30*(4), 1137–1150. https://doi.org/10.19030/jabr.v30i4.8660

Eom, C., Park, J. W., Kim, Y. H., & Kaizoji, T. (2015). Effects of the market factor on portfolio diversification: the case of market crashes. *Investment Analysts Journal*, *44*(1), 71–83. https://doi.org/10.1080/10293523.2015.994448

Erdoğan, S., Gedikli, A., & Çevik, E. İ. (2020). Volatility spillover effects between Islamic stock markets and exchange rates: Evidence from three emerging countries. *Borsa Istanbul Review*, *20*(4), 322–333. https://doi.org/10.1016/j.bir.2020.04.003

Eşref, D. (2020). *Islamic Financial Markets*. Dar Al-Mudarris.

Essayem, A., Görmüş, Ş., & Güven, M. (2022). Testing the effect of local macroeconomic indicators and global risk factors on the Turkish participation stock market: Evidence from quantile regression approach. *Trends in Business and Economics*, *36*(3), 258–267. https://doi.org/10.5152/TBE.2022.1018360

Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance*, *25*(2), 383. https://doi.org/10.2307/2325486

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P-ISSN: 2962-0872, E-ISSN: 2686-6633

Haida, N., Tamara, I., & Habibah, S. (2024). Analysis of Macroeconomic Indicators Affecting Sharia Stock Return in Indonesia. *International Conference of Bunga Bangsa*, 527–547. https://journal.epublish.id/index.php/icobb/

Hanif, M. (2025). Identification of risk factors: a comparison of conventional and Islamic stocks. *Technological and Economic Development of Economy*, 1–24. https://doi.org/10.3846/tede.2025.22918

He, Z. (2024). Markowitz Model and Python Applied in Financial Risk Management. *Advances in Economics, Management and Political Sciences*, *78*(1), 245–250. https://doi.org/10.54254/2754-1169/78/20241730

Hkiri, B., Hammoudeh, S., Aloui, C., & Yarovaya, L. (2017). Are Islamic indexes a safe haven for investors? An analysis of total, directional and net volatility spillovers between conventional and Islamic indexes and importance of crisis periods. *Pacific Basin Finance Journal*, *43*, 124–150. https://doi.org/10.1016/j.pacfin.2017.03.001

Hussain, M. M., Aamir, M., Rasool, N., Fayyaz, M., & Mumtaz, M. (2012). The impact of macroeconomic variables on stock prices: An empirical analysis of Karachi stock exchange. In *Mediterranean Journal of Social Sciences* (Vol. 3, Issue 3, pp. 295–312). https://doi.org/10.5901/mjss.2012.v3n3p295

Hussin, M. Y. M., Muhammad, F., Abu, M. F., & Awang, S. A. (2012). Macroeconomic Variables and Malaysian Islamic Stock Market: A Time Series Analysis. *Journal of Business Studies Quarterly*, *3*(4), 1–13. https://www.proquest.com/scholarly-journals/macroeconomic-variables-malaysian-islamic-stock/docview/1036929576/se-2?accountid=169659

Ibrahim, S. N., Hasan, R., & Nor, A. M. (2018). Does Gold Price Lead or Lags Islamic Stock Market and Strategy Commodity Price? A Study from Malaysia. *International Journal of Business, Economics and Management*, *5*(6), 146–163. https://doi.org/10.18488/journal.62.2018.56.146.163

Kaya, İ. (2023). Islamic Finance: Fit for Purpose or Mere Replication? *İslam Ekonomisi Dergisi*, *3*(2), 1–18. https://doi.org/10.55237/jie.1175883

Kenourgios, D., Naifar, N., & Dimitriou, D. (2016). Islamic financial markets and global crises: Contagion or decoupling? *Economic Modelling*, *57*, 36–46. https://doi.org/10.1016/j.econmod.2016.04.014

Laurenceson, J., & Chai, J. C. H. (2003). *Financial Reform and Economic Development in China*. Edward Elgar Publishing. https://doi.org/10.4337/9781843767190

Markowitz, H. (1952). Portofolio Selection. *The Journal of Finance*, *7*(1), 77–91. https://doi.org/10.1111/j.1540-6261.1952.tb01525.x

Masih, A. M. M., & Masih, R. (1997). A comparative analysis of the propagation of stock market fluctuations in alternative models of dynamic causal linkages. *Applied Financial Economics*, *7*(1), 59–74. https://doi.org/10.1080/096031097333853

Muhamad Yusuf, N. H., Muhamad Hilmi, N. A., Mohd Abdoh, W. M. Y., Shekh Zain, R., & Badri Shah, N. S. (2020). Determinants of Macroeconomic Variables on Islamic Stock Index: Evidence from Frontier Market. *Journal of International Business, Economics and Entrepreneurship*, *5*(1), 23. https://doi.org/10.24191/jibe.v5i1.14288

Mustofa, L. (2018). The Substance of The Formal Prohibition of The Riba: Islamic Finance and The Tie with The Real Economy. *IJISH (International Journal of*

Islamic Studies and Humanities), *1*(1), 56–68. https://doi.org/10.26555/ijish.v1i1.134

Paltrinieri, A., Floreani, J., Kappen, J. A., Mitchell, M. C., & Chawla, K. (2019). Islamic, socially responsible, and conventional market comovements: Evidence from stock indices. *Thunderbird International Business Review*, *61*(5), 719–733. https://doi.org/10.1002/tie.22027

Pesaran, M. Hashem, & Shin, Y. (1999). An Autoregressive Distributed-Lag Modelling Approach to Cointegration Analysis. In S. Strom (Ed.), *Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium* (pp. 371–413). Cambridge University Press. https://doi.org/10.1017/CCOL0521633230.011

Pesaran, M. Hashem, Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 289–326. https://doi.org/10.1002/jae.616

Pesaran, M.H., & Pesaran, B. (1997). *Working with Microfit 4.0: Interactive Econometric Analysis*. Oxford University Press.

Pratama, Y. C., & Azzis, A. (2018). Macroeconomic Variables, International Islamic Indices, and The Return Volatility in Jakarta Islamic Index. *Al-Iqtishad: Jurnal Ilmu Ekonomi Syariah*, *10*(1). https://doi.org/10.15408/aiq.v10i1.5550

Qadir, U., & Kemal, M. A. (2024). Real Exchange Rate, Exports, and Imports Movements: A Trivariate Analysis. *The Pakistan Development Review*, 177–195. https://doi.org/10.30541/v44i2pp.177-195

Raza, N., Ibrahimy, A. I., Ali, A., & Ali, S. (2016). Gold and Islamic stocks: A hedge and safe haven comparison in time frequency domain for BRICS markets. *The Journal of Developing Areas*, *50*(6), 305–318. https://doi.org/10.1353/jda.2016.0146

Sa'diyah, C., & Widagdo, B. (2020). Indonesia's Capital Market Reaction Election Events. *SENTRALISASI*, *9*(2), 97–107. https://doi.org/10.33506/sl.v9i2.872

Sakti, M. R. P., & Harun, M. Y. (2015). Relationship between Islamic Stock Prices and Macroeconomic Variables: Evidence from Jakarta Stock Exchange Islamic Index. *Global Review of Islamic Economics and Business*, *1*(1), 071. https://doi.org/10.14421/grieb.2013.011-06

Setyowati, E., IH, M., Soebagiyo, D., Al Afif, R. A., Hidayah, A. N., Masitoh, S., & Kamara, I. S. (2024). The Effects of Various Internal and External Factors on the Movement of the Indonesian Sharia Stock Index on the Indonesia Stock Exchange. *Ekuilibrium : Jurnal Ilmiah Bidang Ilmu Ekonomi*, *19*(2), 202–212. https://doi.org/10.24269/ekuilibrium.v19i2.2024.pp202-212

Sholikah, M., & Safitri, A. (2024). The Analysis of Macroeconomic Factors in The Sharia Stock Index Performance: Comparison Between Indonesia and Malaysia. *Jurnal Iqtisaduna*, *10*(2), 349–365. https://doi.org/10.24252/iqtisaduna.v10i2.51468

Ülev, S., & Selçuk, M. (2022). Testing the Weak-Form Market Efficiency for the Islamic Market Indices: Evidence from Fourier Wavelet ADF Unit Root Test. *Journal of Economic Policy Researches / İktisat Politikası Araştırmaları Dergisi*, *9*(2), 315–329. https://doi.org/10.26650/JEPR1111585

Zaidi, S. A. H., Shah, I. H., Umair Ashraf, R., Ghauri, S. M. K., & Hassan, I. (2015). Standardization of Islamic market indices. *International Journal of Commerce and Management*, *25*(2), 240–256. https://doi.org/10.1108/IJCoMA-04-2013-0037