Migration Letters

Volume: 21, No: 4, pp. 926-939

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)
www.migrationletters.com

Role of Indonesia's G20 Presidency and Exchange Rate on LQ45 stock price: Dynamic Panel Model Approach

Caecilia Wahyu Estining Rahayu[1], Christina Heti Tri Rahmawati[2], Josephine Wuri[3], Yuliana Rini Hardanti[4], Laurentius Bambang Harnoto[5]

Abstract

This study investigates the role of Indonesia's G20 presidency and exchange rates on the stock prices of LQ45. Daily data were collected from companies listed on Indonesia's stock exchanges between November 15 and December 24, 2022. Furthermore, we employed a dynamic panel model approach, specifically the system generalized method of moments regression. This analytical technique controls for unobserved heterogeneity, simultaneity, and dynamic endogeneity. The results illustrate that Indonesia's G20 presidency positively impacts the stock prices in LQ45. In addition, Exchange rate negatively influences on the LQ45 stock prices, and the stock prices of LQ45 in the previous year often correspond to that in the current year. This study's results provide recommendations for potential investors who wish to invest in the subsectors of LQ45 member companies. The policies implemented during Indonesia's G20 presidency can increase stock prices and create positive market sentiment to encourage migration flows. Additional studies are required to determine the impact of implementing the G20 priority agenda, which includes enhancing the global health framework, fostering employment prospects, transitioning to green and renewable energy, and advancing the digital economy to increase stock prices.

Keywords: *LQ45, stock price, G20, exchange rate, financial, migration, dynamic panel model, system GMM.*

1. Introduction

The global economy is currently experiencing financial instability due to the multidimensional crisis caused by the COVID-19 pandemic and geopolitical crisis. This can impede economic recovery, increase risks to financial stability, and disrupt the achievement of sustainable development goals (Berawi, 2022; Chien et al., 2021; Dang Ngoc et al., 2021; Wójcik & Ioannou, 2020). The performance of the financial market stock price index, particularly LQ45, is volatile (Alqahtani et al., 2021; Hansun & Young, 2021; Yunus Kasim et al., 2022). Stocks have become one of the world's largest and most complex financial markets, as multitudinous transactions are handled quickly and are highly unpredictable (Tanuwijaya & Hansun, 2019). The uncertain prospects for stock returns concern investors (Chien et al., 2021; Yunus Kasim et al., 2022).

Economic recovery continues at the national and international levels. The organization of

[1] Faculty of Economics, Sanata Dharma University, Yogyakarta, Indonesia
[2] Faculty of Economics, Sanata Dharma University, Yogyakarta, Indonesia
[3] Faculty of Economics, Sanata Dharma University, Yogyakarta, Indonesia
[4] Faculty of Economics, Sanata Dharma University, Yogyakarta, Indonesia
[5] Faculty of Economics, Sanata Dharma University, Yogyakarta, Indonesia

the G20 contributes to this effort (Alqahtani et al., 2021; Anastasiou et al., 2022; Berawi, 2022). The successful implementation of the G20 summit conducted in Bali on November 15-16, 2022, positively impacted the stock performance of LQ45 companies. According to signaling theory, favorable economic conditions provide good signals and increase investor enthusiasm for investment (Quoc Trung, 2021; Zerbini, 2015). Economic conditions that have not fully recovered from the COVID-19 pandemic and increasingly restrictive financial sector conditions require cooperation among governments for a robust global economic recovery (Berawi, 2022; Chien et al., 2021; Wójcik & Ioannou, 2020).

Studies on LQ45 stock performance have received considerable attention in the existing literature. However, research on analyzing the impact of Indonesia's G20 presidency on LQ45 stock performance is limited. Stock performance refers to measuring the rate of return over a specific period in financial market, which reflects the company's financial condition (Goetzel et al., 2019; Tanuwijaya & Hansun, 2019). A previous study examined many financial ratios, including earnings per share, price-to-book value, and return on assets, as well as additional characteristics such as good corporate governance, corporate social responsibility, corporate ownership structure, and demographic factors, to assess their impact on the performance of LQ45 stock prices (Bratamanggala, 2018; Kurniati, 2019; Suhadak et al., 2019; Sutyanto et al., 2022). Moreover, extensive research has been conducted on the G20, particularly emphasizing the sustainability of micro-, small-, and medium-sized enterprises and legal, tourism, and environmental aspects (Fadeeva & Van Berkel, 2021; Khan et al., 2022; Larionova et al., 2017). The limited research on the impact of Indonesia's G20 presidency on stock prices provides new possibilities for the stock performance of LQ45 member companies concerning the agreement declared by national leaders (Berawi, 2022; Kirton, 2019).

Moreover, the exchange rate (ER) is another factor that affects fluctuations in the LQ45 stock prices. Researchers are pursuing discussions on the impact of ERs on LQ45. Previous studies find that favorable economic conditions result in foreign currency appreciation (Bahmani-oskooee & Saha, 2016; Dahir et al., 2018; Megaravalli & Sampagnaro, 2018; Sheikh et al., 2020; Tian & Ma, 2009; Wuri et al., 2024). Exchange rate stability and stock price movements can also influence domestic and international market sentiment. Positive market sentiment may encourage migration as individuals explore better economic prospects in a thriving economy, potentially leading to increased demand for labour and contributing to stock market growth.

To analyze the role of Indonesia's G20 presidency in the performance of the LQ45 stock price, we employ a dynamic panel model approach to capture the dynamic adjustments in the LQ45 stock performance, a method that has not been extensively implemented in previous research (Nasruddin et al., 2023). Previous studies on the performance of LQ45 stocks have used static regression analysis, such as logistic regression and multiple regression, which does not reflect the effect of the previous stock price index (Abigail & Dharmastuti, 2022; Bratamanggala, 2018; Kalbuana et al., 2022; Nuswantara et al., 2023; Suyanto et al., 2009). This study uses the system generalized method of moments (SYS-GMM) estimation method, which is essential for overcoming the endogeneity problem. This problem mostly exists in regression analysis, causing the estimator to be biased, inefficient, and inconsistent. Moreover, the SYS-GMM overcomes the problem of unobserved individual heterogeneity, which often appears in individual analysis regression (Arellano & Bover, 1995; Baltagi, 2005; Blundell & Bond, 1998; Wuri et al., 2022). Based on this background, this study analyzes the role of Indonesia's G20 presidency and ER in the performance of the LQ45 stock price using a dynamic panel model from November 15 to December 24, 2022.

The remainder of this study is organized as follows. Section 2 discusses the literature review, and Section 3 presents the data and methodology, along with a description of the

variables. Section 4 discusses the empirical results, and Section 5 provides the conclusion and recommendations.

2. Literature review

Based on the principles of signaling theory, investors respond by adopting positive (good news) or negative (bad news) signals. Positive signals can originate from the internal news of a company experiencing increased profits (Bergh et al., 2014; Quoc Trung, 2021; Zerbini, 2015). Additionally, stable and reliable macroeconomic and political conditions may provide positive signals. Conversely, negative signals occur when political and macroeconomic conditions are unstable, resulting in negative investor reactions (Zerbini, 2015; Zuhroh et al., 2021). Positive signals promote an increase in stock performance, demonstrating a company's successful management (Nwosa, 2020; Zerbini, 2015). Information on stock performance is available in the stock price index. This index reflects the stock performance in capital markets. The LQ45 index represents the stock prices of 45 blue chip companies traded on the Indonesia Stock Exchange, the most liquid stocks among the companies listed on the Indonesia Stock Exchange (Bratamanggala, 2018; Hansun & Young, 2021; Tanuwijaya & Hansun, 2019). The LQ45 index has the potential to influence market conditions as it comprises stocks with high liquidity, market capitalization, growth prospects, and financial strength (Fahlevi, 2019; Hansun & Young, 2021; Yunus Kasim et al., 2022).

Investors who understand the position of the stock price index can decide whether to sell, purchase, or hold stock. Various factors influence stock price fluctuations in the capital market (Bratamanggala, 2018; Kurniati, 2019; Suhadak et al., 2019; Sutyanto et al., 2022; Tanuwijaya & Hansun, 2019). Arbitrage risk may result from these fluctuations (Azeez & Yonezawa, 2006; Basu & Chawla, 2012; Lin et al., 2018). One aspect of profitable investment decisions is investors' ability to analyze and predict future macroeconomic conditions. Indonesia's G20 presidency positively signaled the composite stock price index and LQ45 stocks. Members of the G20 engage in international economic cooperation to develop global architecture and governance (Alqahtani et al., 2021; Berawi, 2022). The G20 is a multilateral cooperation forum established in 1999 consisting of 19 countries that meet annually under a rotating presidency (Berawi, 2022; Kirton, 2019). Indonesia's G20 Presidency' theme is "Recover Together, Recover Stronger," which focuses on global economic recovery, financial stability, climate change mitigation, and sustainable development. The G20 meeting addresses the current critical moment in the global economy. Indonesia's G20 presidency promises financial sector recovery, as it has successfully negotiated an agreement to strengthen the financial sector's long-term stability (Berawi, 2022; Kirton, 2019). The three main priority issues in implementing the G20, namely global health architecture, digital transformation, and sustainable energy transition, can create a positive sentiment for related sectors (Kirton, 2020). These sectors can potentially conduct initial public offerings (Anastasiou et al., 2022).

Additionally, the Arbitrage Pricing Theory model states that the expected return on a stock is influenced by several factors, namely a country's macroeconomic conditions, such as inflation, interest rates, ERs, employment, and gross domestic product (Azeez & Yonezawa, 2006; Basu & Chawla, 2012; Dahir et al., 2018; Ingale et al., 2023; Nwosa, 2020). Investor sentiment positively impacts both the spot and futures markets, leading to higher arbitrage risks and costs during times of high sentiment (Lin et al., 2018). The ER fluctuates the most among macroeconomic variables (Singhal et al., 2019), which influences the volatility of the LQ45 index (Bahmani-oskooee & Saha, 2016; Yunus Kasim et al., 2022). Furthermore, we discuss the role of variable interest in the LQ45 stock prices.

2.1. The role of Indonesia's G20 presidency on LQ45 stock performance

The Indonesian government received a mandate to host the G20 in Bali in 2022, has received a positive response from business professionals and investors in Indonesia (Berawi, 2022; Kirton, 2019; Larionova, 2023). The Indonesian government carried out this responsibility smoothly and effectively, from the G20 meeting's preparation and implementation to the closing. Indonesia's G20 presidency resulted in an agreement oriented toward the stability of financial and capital markets, stimulating a favorable response from investors in the capital market (Al-Fadhat, 2022; Berawi, 2022). This is consistent with signaling theory (Bergh et al., 2014; Zerbini, 2015). These stimulating political and economic conditions are positive signals; thus, investors perceive Indonesia's G20 presidency as a favorable opportunity to invest and attract skilled migrants (Larionova, 2023). The more the investors, the higher is the share price, which improves the overall performance of stocks in the capital market, particularly the LQ45 stock price. Based on the above description, the following hypothesis is developed:

H1: Indonesia's G20 presidency has a positive impact on the LQ45 stock prices.

2.2 The role of exchange rate on LQ45 stock performance

ERs are crucial to finance, international trade, and investment. ER is the value of a country's currency relative to that of another country (Fahlevi, 2019; Megaravalli & Sampagnaro, 2018; Singhal et al., 2019; Wuri et al., 2024). ERs affect the prices of goods and services when traded across borders and determine the relative value of various currencies. ER fluctuations can occur because of shifts in the supply and demand balance of a country's currency (Hubbard et al., 2014; Tian & Ma, 2009). When currency demand increases, the ER appreciates, and vice versa. In the globalized era, when capital markets have become significantly integrated, it is crucial to understand the domestic and international factors that influence the stock market. Previous research states that ERs are related to stock market fluctuations (Bahmani-oskooee & Saha, 2016; Hau & Rey, 2006; Mollick & Sakaki, 2019; Nwosa, 2020; Sheikh et al., 2020; Singhal et al., 2019; Tian & Ma, 2009). ER movements influence fluctuations in the LQ45 stock price index. Currency appreciation increases capital inflows, leading to rising stock prices (Dahir et al., 2018). Conversely, domestic currency depreciation causes the withdrawal of foreign funds from the domestic stock market, leading to falling stock prices (Bahmani-oskooee & Saha, 2016; Megaravalli & Sampagnaro, 2018; Tian & Ma, 2009). Based on the above description, the following hypothesis is derived:

H2: ER has a negative impact on the LQ45 stock prices.

3. Data and methodology

3.1. Data

This study investigates the role of Indonesia's G20 presidency and ER in the performance of LQ45 stock prices. This study focuses on LQ45 stock prices, specifically, the shares of 45 companies listed on the Indonesia Stock Exchange between November 15 and December 24, 2022 (Appendix A). This period was chosen in connection with implementing the Indonesia's G20 presidency. All 45 companies were selected based on their status as reputable market leaders in their respective industries. Furthermore, this study used daily data on the closing stock price index for LQ45. It measures the role of Indonesia's G20 presidency in LQ45, which is calculated based on fluctuations in market capitalization in connection with G20 activities. These data were sourced from the Indonesian Stock Exchange. ER data based on the Jakarta Interbank Spot Dollar Rate (JISDOR), sourced from the Census and Economic Information Center, are also included in the analysis as variables that affect fluctuations in the LQ45 stock price index (Table 1).

Table 1. Variable Description

Variable	Description	Measurement	Expected Sign	Source
LQ45	LQ45 stock price index	Closing stock price index (log)	-	IDX
INDG20	Indonesia's G20 presidency measured from fluctuation of market capitalization related to the G20 activities	Actual and potential market capitalization gap (log)	+	IDX (Authors calculation)
ER	Exchange rate	The rupiah exchange rate against the US dollar is based on the Jakarta Interbank Spot Dollar Rate (log)	-	CEIC

Note: CEIC, Census and Economic Information Center.

3.2 Methodology

3.2.1 Econometric model specification

This study uses dynamic panel data estimation to analyze the role of Indonesia's G20 presidency and ER on LQ45 stock prices. This offers the advantage of testing dynamic adjustment observations, assuming that the LQ45 stock price behavior is stochastic (Hansun & Young, 2021). Furthermore, this technique has the advantage of controlling for unobserved individual heterogeneity and providing more information about data variations to minimize multicollinearity (Baltagi, 2005; Wuri et al., 2023).

Regression analysis generally includes time-invariant unobserved individual heterogeneity; for instance, some company characteristics, such as the managerial ability of company leaders and culture of hard work, are challenging to measure (Arellano & Bond, 1991; Arellano & Bover, 1995; Wuri et al., 2022). The variables used in the panel data have inter-observation and inter-time analyses using index i for firms (i = 1,..., N) and the time index (t = 1,.., T) for periods. Panel data structures usually have larger cross-sectional dimensions than time-series dimensions (N > T). The characteristic of the dynamic panel is the lag of the dependent variable in the model as follows (Baltagi, 2005; Blundell & Bond, 1998; Wuri et al., 2022):

$$y_{it} = \delta_1 y_{i,t-1} + x'_{it}\beta + u_{it};\ i = 1,.., N\ ;\ t= 1, 2,..., N, \qquad (1)$$

where δ is a scalar, x′ is a matrix of size 1 × k, and β is a matrix of size k × 1. We assume that u_{it} follows a one-way error component model as follows:

$$u_{it} = \mu_i + v_{it}, \qquad (2)$$

where u_{it} is the error term decomposed into μ_i that is the unobserved individual heterogeneity, assumed to be $\mu_i \sim \text{IID}\ (0, \sigma_\mu^2)$, and v_{it} is the disturbance assumed to be $v_{it} \sim \text{IID}\ (0, \sigma_v^2)$, where μ_i and v_{it} are independent and identically distributed (IID) with an average value of 0 and a variance of σ_μ^2 or μ_i and v_{it} are independent of each other.

The econometric analysis utilizes two estimation processes within the generalized method of moments (GMM) framework: the first-difference GMM (FD-GMM) and SYS-GMM. As the FD-GMM estimator has limitations, specifically as a weak instrument, this study uses the SYS-GMM (Blundell & Bond, 1998; Wuri et al., 2022). Blundell and Bond (Blundell & Bond, 1998) developed the SYS-GMM estimator to minimize bias in the FD-

GMM and overcome these weaknesses (Arellano & Bond, 1991; Baltagi, 2005; Blundell & Bond, 1998). This estimator employs lagged variables as instruments, assuming that the white noise error loses consistency when serially correlated (Wuri et al., 2023).

3.2.2 System GMM model

The SYS-GMM model eliminates individual effects because they do not vary over time. Therefore, the estimated values obtained are valid and unbiased (Baltagi, 2005; Blundell & Bond, 1998; Wuri et al., 2023). The following is an empirical model of the role of Indonesia's G20 presidency and ERs in the performance of the LQ45 stock price:

$$\mathrm{LQ45}_{it} = \alpha + \sum_{j=1}^{p} \beta_j \mathrm{LQ45}_{i,t-j} + \delta_1 \mathrm{INDG20}_{i,t} + \cdots + \delta_p \mathrm{INDG20}_{i,t-p} + \varphi_1 \mathrm{ER}_{i,t} + \cdots + \varphi_p \mathrm{ER}_{i,t-p} + \mu_i + v_{it}, \quad (3)$$

where the subscript i = 1,…, N indicates firms, t = 1,…, T denotes years, μ_i and v_{it} are assumed~ IID $(0, \sigma_v^2)$. μ_i is unobserved individual heterogeneity, and v_{it} represents idiosyncratic error. Moreover, $\mathrm{LQ45}_{it}$ is the stock price performance of 45 companies that are members of the Indonesia Stock Exchange in a particular firms i during period t. Meanwhile, $\mathrm{LQ45}_{it-j}$ is the stock price performance of 45 companies that are members of the Indonesia Stock Exchange in a particular firm i during period t-j. This equation includes the variables that affect the LQ45 stock price, namely Indonesia's G20 presidency (INDG20) and ER. Finally, α is a constant and β, δ, φ are the estimated regression parameters. The observation period was November 15–December 24, 2022.

Indonesia's G20 presidency is measured by the gap between the capitalization's actual and potential value (Hubbard et al., 2014; Wuri et al., 2023). The market capitalization variable is chosen because it directly influences market capitalization fluctuations in connection with G20 meetings. To observe the effects of Indonesia's G20 presidency, it is essential to determine whether market capitalization is above or below its potential (González & Kowalski, 2017). When the potential value exceeds the actual value, there is a market capitalization downturn and vice versa. The potential value of market capitalization cannot be observed in real terms; therefore, it is proxied by the expected value. This study calculates the expected market capitalization value based on the Hodrick–Prescott filter (Hubbard et al., 2014; Wuri et al., 2023). Thus, the gap between the actual and potential values indicates fluctuations in market capitalization during the estimation period.

3.2.3 Diagnostic tests

This study employs the two-step SYS-GMM estimation technique because it is more robust and efficient than one-step GMM. The two important estimation tests of the model are autocorrelation and instrument validity tests (Arellano & Bond, 1991; Blundell & Bond, 1998; Wuri et al., 2022). First, we report the Arellano–Bond (AR) test for the first-order AR (1) and second-order AR (2) autocorrelations of the different residuals. The AB test determines whether residual serial correlation exists. The null hypothesis states that there is no second-order serial correlation or autocorrelation for idiosyncratic errors. Second, the Hansen statistics is reported. The Hansen test is used to isolate overidentifying restrictions and determine whether the instrument's validity is exogenous. The null hypothesis for this test states that the instrument is valid because it does not correlate with the error term. If the Hansen test rejects the null hypothesis, this condition indicates a relationship between the instrument and error term. The estimator is biased and inconsistent (Arellano & Bond, 1991; Baltagi, 2005; Wuri et al., 2023).

3.2.4 Robustness test

The robustness test is employed to evaluate the consistency of the relationship between the variables of interest. This study uses short panel data to see whether the estimation results are consistent with the main results (Kaufmann et al., 2010). This approach estimates whether other approaches (short panels) affect the LQ45 stock price.

4. Empirical results and discussion

4.1. Descriptive statistics

The sample mean for LQ45 is 972.93. The lowest LQ45 value was 933.01 on December 9, 2022, while the highest LQ45 value was 1009.50 on November 18, 2022. The standard deviation (SD) of 29.06 indicates the dispersion of the sample average (Table 2).

Table 2. Descriptive statistics

Variable	Mean	SD	Maximum	Minimum
LQ45	972.93	29.06	1009.50	933.01
INDG20	0.02	1.65	63.34	-8.89
ER	15,621.2	80.27	15,742	15,409

Note: SD, standard deviation; LQ45, LQ45 stock price; INDG20, Indonesia's G20 presidency; ER, exchange rate.

Similarly, the lowest sample average for INDG20 is Bank Syariah Indonesia Tbk (BRIS), which has the lowest INDG20 score of -8.89 on November 20, 2022, while BRIS has the highest average of 63.34 on November 21, 2022, with an SD of 1.65. The sample average for the ER is 15,621.2. The highest ER value was 15,742 on November 30, 2022, and the lowest was 15,409 on December 5, 2022. An SD of 80.27 denotes the sample mean dispersion. The data show that the rupiah ER against the US dollar appreciated after Indonesia's G20 Presidency Summit.

4.2 Panel unit root test

The unit root test provides two stationarity tests: the augmented Dickey–Fuller (ADF) test and Levin-Lin–Cu (LLC) test (Huang et al., 2019). The ADF test applies the standard unit root test to all samples, whereas the LLC test applies the unit root test to each individual. Both tests are widely used to test panel data unit roots (Huang et al., 2019; Wuri et al., 2022). Therefore, this test examines the unit roots of the variables for LQ45, INDG20, and ER.

The ADF test value for LQ45 is -2.5352 in the presence of individual intercepts and trends (Table 3), whereas the test value for LLC is -1.9126. The ADF test value for INDG20 is -15.8304, whereas that for LLC is -8.5577. Moreover, the ADF test value for the ER is -6.4642 in the presence of individual intercepts and trends, whereas the test value for the LLC is -7.9005. For both the tests, the relevant probability value is 0.05. Consequently, LQ45, INDG20, and ER are either I(0) or H0, indicating that the panel containing the unit root is rejected. This provides significant evidence that the observed variables are all stationary during the observation period from November 15 to December 24, 2022. Moreover, the stationarity of LQ45 and influencing variables indicates that the shock to the LQ45 index is temporary.

Table 3. Augmented Dicky–Fuller and Levin–Lin–Cu panel unit-root-test results

Variables	ADF test	LLC test
LQ45	-2.5352	-1.9126
	(0.0056)	(0.0279)
INDG20	-15.8304	-8.5577
	(0.0000)	(0.0000)
ER	-6.4642	-7.9005
	(0.0000)	(0.0000)

Note: ADF, augmented Dickey–Fuller; LLC, Levin–Lin–Cu; LQ45, LQ45 stock price; INDG20, Indonesia's G20 presidency; ER, exchange rate. P-value in parenthesis.

4.3 The system GMM dynamic panel estimation

This study analyzes the role of Indonesia's G20 presidency and ER in the performance of LQ45 stock prices in Indonesia using a dynamic estimator based on the SYS-GMM. The dependent variable is the LQ45 stock price (Table 4). The first lag and higher than the predetermined variables are used for the SYS-GMM instrument. The Arellano and Bond (Arellano & Bond, 1991) tests, specifically AR (1) and AR (2), are used to determine whether there is a residual serial correlation. The Hansen test is used to ascertain over-identifying restrictions, that is, to determine whether an instrument is exogenous or valid. The analysis was conducted using STATA 17.

Table 4. The SYS-GMM dynamic panel estimation results

Variables	LQ45
Lagged dependent	0.119***
	(0.000)
INDG20	0.002**
	(0.005)
ER	-0.330**
	(0.002)
Constant	-6.581***
	(0.000)
No. of observations	637
No. of id	45
No. of instrument	10
Hansen test, p-value	7.55; 0.060
AB – AR (1); p-value	-4.73; 0.000
AB – AR (2); p-value	-0.03; 0.977

Note: ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.

SYS-GMM, system GMM estimator; LQ45, LQ45 stock price; INDG20, Indonesia's G20 presidency; ER, exchange rate.

The standard errors are indicated in parentheses.

Source: Calculated by the authors using Stata 17.

Table 4 presents the dynamic estimates for H1 and H2 hypotheses. During the observation period from November 15 to December 24, 2022, the lagged LQ45 stock price significantly and positively affected the LQ45 stock price. The lag of the dependent variable, the LQ45 stock price, was chosen as the predetermined variable for the model estimator. Approximately 1.9% of the LQ45 stock prices reflect the stock prices of the previous period. These findings are consistent with those of previous studies. A significant coefficient indicates that the LQ45 stock price persists over time. It is better to indicate that the firm performance of the LQ45 stock prices in the previous year

positively impacts the LQ45 stock prices in the current period (Arellano & Bond, 1991; Arellano & Bover, 1995; Baltagi, 2005; Pham et al., 2021).

Moreover, the variable that affects participation in the LQ45 stock price in this model, Indonesia's G20 presidency, is treated as an independent variable that affects the LQ45 stock price (Anastasiou et al., 2022; Berawi, 2022; Larionova, 2023). Previous estimates suggest that the INDG20 is not fully exogenous and requires robustness testing with the two-step SYS-GMM test to address the endogeneity issues in the model (Arellano & Bond, 1991; Arellano & Bover, 1995; Blundell & Bond, 1998; Wuri et al., 2023).

The INDG20 regression coefficient has a strong and positive effect on the LQ45 stock price, with a coefficient of 0.002, confirming that Indonesia's G20 presidency summit held in Bali offers good news for the prospects of the financial and banking sectors (Berawi, 2022; Kirton, 2020; Larionova, 2023). Indonesia's G20 presidency increased its LQ45 stock price (Berawi, 2022). The test results support hypothesis 1. The successful implementation of activities of Indonesia's G20 presidency has been supported by both internal and external factors. Indonesia's internal aspect is its stable and favorable political and economic conditions. The external aspect is supported by G20 countries. Additionally, the successful commitment of G20 members to make agreements included policy setting for exit strategies to support recovery and address the scarring effect to secure future growth, attract skilled migrants, manage food and energy insecurity and price stability, strengthen international financial architecture, and focus on climate change and environmental protection (Berawi, 2022; Larionova, 2023).

Another independent variable influencing the LQ45 stock price is the ER (Bahmani-oskooee & Saha, 2016; Nwosa, 2020; Yunus Kasim et al., 2022). The test results indicate that the ER has a significant negative effect on LQ45 stock prices. This finding suggests that the appreciation of the domestic currency against the foreign currency increased the LQ45 stock price index, consistent with prior studies (Bahmani-oskooee & Saha, 2016; Dahir et al., 2018; Hau & Rey, 2006; Mollick & Sakaki, 2019; Sheikh et al., 2020; Tian & Ma, 2009). The test results support hypothesis 2 (Dahir et al., 2018). During the observation period, the rupiah ER against the US dollar appreciated. However, the LQ45 stock index tends to strengthen. Central banks constantly strive to maintain stable foreign currency rates. Furthermore, many foreign investors are interested in investing in the Indonesian capital market, especially since the country held the G20 Summit. Exchange rate stability and stock market performance are indicators of macroeconomic stability. Such stability can influence individuals' decisions regarding migration, as it impacts factors such as employment prospects, income levels, and overall economic well-being (Ingale et al., 2023). According to signalling theory, strengthening the rupiah ER against the US dollar is a positive signal for the economy, and the world community responds positively to agreements made by G20 members.

4.4 Robustness test result

A robustness test was conducted to examine the influence of Indonesia's G20 presidency and ER on the stock price of LQ45 using a different sample size (short panel). Following Zergawu et al. (2020), a robustness test was conducted using short panels for December 1–24, 2022 (Table 5). These results are similar to those of the main research.

Table 5. The SYS-GMM results for robustness tests

Variables	LQ45
Lagged dependent	1.169***
	(0.000)
INDG20	0.001**

	(0.029)
ER	-0.587***
	(0.000)
Constant	-4.580**
	(0.005)
No. of observations	328
No. of id	45
No. of instrument	12
Hansen test, p-value	8.07; 0.089
AB – AR (1); p-value	-2.74; 0.006
AB – AR (2); p-value	-1.02; 0.307

Note: ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.

SYS-GMM, system GMM estimator; LQ45, LQ45 stock price; INDG20, Indonesia's G20 presidency; ER, exchange rate.

The standard errors are indicated in parentheses.

Source: Calculated by the authors using Stata 17.

The robustness test results reveal that Indonesia's G20 presidency has a positive effect on the performance of LQ45 stocks price, whereas the ER has a negative and significant impact. These results satisfy the Hansen tests, AR(1) and AR(2), and regression coefficients that correspond to the main results.

5. Conclusion and recommendation

This study highlights an important question: whether Indonesia's G20 presidency affects the performance of LQ45 stocks price. The INDG20 is a relevant factor in explaining the performance of the LQ45 stock prices owing to the successful implementation of G20. In addition, this study investigates whether the ER influences LQ45 stock price fluctuations. It utilizes daily data obtained from commercial banks listed on Indonesian stock exchanges between November 15 and December 24, 2022. Furthermore, we employed the SYS-GMM regression technique to control for unobserved heterogeneity, simultaneity, and dynamic endogeneity. The results reveal that Indonesia's G20 presidency positively impacts the stock price in the LQ45. Moreover, a potential finding addresses the negative impact of the ER on the stock prices of LQ45. We recommend that Indonesia's G20 presidency be optimally pursued under stable macroeconomic conditions to provide positive signals to investors and significantly impact migration patterns.

Acknowledgments

The authors are grateful to Sanata Dharma University and the anonymous reviewers who provided valuable comments and suggestions to improve the quality of the paper significantly.

Funding

The work was supported by Sanata Dharma University, Yogyakarta, Indonesia

Disclosure statement

No potential conflict of interest was reported by the authors.

Data availability statement

It will be available on request.

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