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DETERMINANTS OF THE INDONESIAN COMPOSITE STOCK INDEX: AN ERROR CORRECTION MODEL APPROACH

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Abstract

This study examines the effects of the Dow Jones Industrial Average (DJIA), world gold prices, world oil prices, and the rupiah exchange rate on the Composite Stock Price Index (CSPI) in Indonesia. The study uses monthly secondary data from January 2015 to December 2025, comprising 132 observations. CSPI data were obtained from the Indonesia Stock Exchange, DJIA, gold price, and oil price data were obtained from Investing.com, while exchange rate data were sourced from Bank Indonesia. The analysis employed the two-step Engle-Granger Error Correction Model (EG-ECM) to identify long-run relationships and short-run adjustment dynamics. The long-run results show that gold prices, world oil prices, and the DJIA have positive and significant effects on the CSPI, whereas the rupiah exchange rate has a negative but insignificant effect. In the short run, the exchange rate has a negative and significant effect on the CSPI, while gold prices, oil prices, and the DJIA have positive and significant effects. The Error Correction Term coefficient of -0.1325 is negative and significant, indicating that approximately 13.25% of short-run disequilibrium is corrected each month toward long-run equilibrium. These findings imply that investors and policymakers should closely monitor global market conditions, commodity price movements, and exchange rate volatility to support investment decisions and maintain Indonesian capital market stability.

Keywords: *CSPI, DJIA, Gold Price, Oil Price, Exchange Rate, EG-ECM.*

1. INTRODUCTION

The capital market is part of the financial system that reflects economic conditions through securities trading activities. In Indonesia, aggregate capital market movement is represented by the Composite Stock Price Index (CSPI), which covers all stocks listed on the Indonesia Stock Exchange. The development of financial globalization has strengthened the interconnectedness among capital markets, so the movement of the CSPI is not only influenced by domestic factors but also by international economic dynamics. This relationship is reflected through the transmission mechanism of information and increasingly intensive cross-border capital flows in global financial markets (Natsir et al., 2019). Capital market integration is also reflected in the influence of stock indices from developed countries on emerging markets, including Indonesia (Darmawan & Haq, 2022). In addition, the subprime mortgage crisis showed that a sharp decline in the Dow Jones Industrial Average (DJIA) was followed by a decline in the CSPI of up to 50%, indicating a linkage between the movements of the two markets (Nuraeni & Panjawa, 2021).

In studies on external factors affecting the CSPI, global stock indices, world commodity prices, and exchange rates are variables that are frequently used. The DJIA was selected as a representation of the global index because it is considered to reflect the economic condition of the United States, which has economic linkages with Indonesia (Pramesthi et al., 2024). In addition, gold prices and world oil prices are external indicators that are often associated with changes in investor behavior and real sector dynamics (Ardilla Putri et al., 2024). On the other hand, the rupiah exchange rate against the United States dollar is also widely used to explain changes in the CSPI because it is related to international trade activities and foreign capital flows (Antonius, 2019). Empirical findings show that these three groups of variables are related to CSPI movements in both the short run and the long run (Rahmantya, 2024).

The empirical problem arises because previous studies have shown that the relationship between external factors and the CSPI is not always consistent. Rahmantya (2024) found that the exchange rate, world oil prices, and the DJIA affect the CSPI with different characteristics between the short run and the long run. Ranto (2019) also showed differences in the significance level of macroeconomic variables on the CSPI across different time horizons. Meanwhile, Darmawan et al. (2022) found that not all global indices have a significant effect on the CSPI in every observation period. These variations in findings indicate that the relationship between external factors and the CSPI is dynamic and may change according to the characteristics of the research period used.

These differences in empirical findings show that the analysis of the relationship between global indices, world commodity prices, exchange rates, and the CSPI remains a relevant issue to be examined. Findings regarding the effect of the DJIA on the CSPI have been reported by Nuraeni and Panjawa (2021), Rahmantya (2024), and Sopiyah et al. (2025), but the characteristics of the effect are not always identical in each research period. The relationship between oil prices and the CSPI also shows varying patterns because it is influenced by the characteristics of the economic sector and the structure of the Indonesian capital market (Pramesthi et al., 2024). On the other hand, the effect of the exchange rate on the CSPI remains a concern because exchange rate fluctuations are consistently associated with changes in domestic stock market performance (Hantono, 2017). This condition indicates that there is still room to examine the relationship between external factors and the CSPI within an analytical framework that is able to distinguish short-run and long-run effects.

The research gap in this study lies in the continuing inconsistency of previous findings regarding the effect of global indices, commodity prices, and exchange rates on the CSPI. Ranto (2019) showed differences in the significance of the same variables between the short run and the long run. Darmawan et al. (2022) found that the influence of global indices was not always significant across all observation periods. Meanwhile, Rahmantya (2024) obtained results showing that the DJIA remained significant in both time horizons, while other variables showed different patterns. These different findings indicate that the relationship among variables has not yet shown a uniform pattern, so further testing is needed using different combinations of variables and observation periods.

The position of this study is within the literature on the effect of external factors on the CSPI by integrating the variables of the DJIA, world gold prices, world oil prices, and the rupiah exchange rate into one analytical model. This study uses monthly data for the period January 2015 to December 2025 and applies the Error Correction Model (ECM) approach based on the Engle-Granger procedure to identify long-run relationships as well as short-run adjustment dynamics. The use of this approach refers to previous studies showing the ability of the ECM to identify cointegration relationships and adjustment mechanisms toward long-run equilibrium (Nuraeni & Panjawa, 2021). The same approach was also used by Pramesthi et al. (2024) and Rahmantya (2024) in examining the relationship between macroeconomic variables and the capital market.

This study contributes to the literature by examining the DJIA, world gold prices, world oil prices, and the rupiah exchange rate simultaneously within a single Engle-Granger Error Correction Model (EG-ECM). By using monthly data from January 2015 to December 2025, this study is able to distinguish the short-run responses of the Composite Stock Price Index (CSPI) from its long-run relationship with external market factors. The observation period also covers major economic conditions, including the COVID-19 pandemic, the subsequent global economic recovery, and periods of uncertainty in international commodity markets. Therefore, the study provides more recent empirical evidence on how global financial market movements, commodity price changes, and exchange rate fluctuations are associated with the CSPI in Indonesia across different time horizons.

Based on this background, this study aims to analyze the effect of the DJIA, world gold prices, world oil prices, and the rupiah exchange rate on the movement of the CSPI in Indonesia. The analysis is conducted to identify short-run and long-run relationships among variables using the Error Correction Model (ECM) approach. Thus, this study focuses on testing the empirical relationship between external factors and the CSPI during the period January 2015 to December 2025.

2. RESEARCH METHOD

This study uses a quantitative approach with an explanatory objective to analyze the effect of external factors on the movement of the Composite Stock Price Index (CSPI) in the short run and long run. The data used are monthly time-series secondary data for the period January 2015 to December 2025. CSPI data were obtained from the Indonesia Stock Exchange (IDX), while data on the Dow Jones Industrial Average (DJIA), gold prices, and oil prices were obtained from Investing.com. Data on the rupiah exchange rate against the United States dollar were obtained from official publications of Bank Indonesia. The analysis was conducted using the Error Correction Model (ECM) with the Engle-Granger approach, which is able to identify long-run relationships as well as short-run adjustment dynamics among variables (Engle & Granger, 1987).

In this study, the dependent variable is the Composite Stock Price Index (CSPI), measured using the monthly closing price of the CSPI published by the Indonesia Stock Exchange. The independent variables consist of the Dow Jones Industrial Average (DJIA), world gold prices, world oil prices, and the rupiah exchange rate against the United States dollar (USD/IDR). The DJIA is measured using the monthly closing value of the index as a proxy for global stock market movements. World gold prices are measured based on international gold prices in USD per troy ounce, while world oil prices are measured using world crude oil prices in USD per barrel. Meanwhile, the rupiah exchange rate is measured using Bank Indonesia's middle exchange rate (USD/IDR) in rupiah per United States dollar. All variables use monthly time-series secondary data during the research period and are analyzed within the Error Correction Model (ECM) framework.

The analysis begins with a stationarity test using the Augmented Dickey-Fuller (ADF) test to ensure that the data are free from unit root problems and to avoid spurious regression. Next, the Engle-Granger cointegration test is conducted to examine the existence of a long-run relationship among the CSPI, rupiah exchange rate, gold prices, oil prices, and the DJIA. According to Gujarati and Porter (2009), non-stationary variables can be said to be cointegrated if their linear combination is stationary, thereby forming a stable long-run equilibrium. After cointegration is proven, the long-run equation is estimated using the Ordinary Least Squares (OLS) method. The residual generated from this estimation is then used as the Error Correction Term (ECT) in forming the short-run ECM model (Engle & Granger, 1987).

The ECM model is estimated to measure the short-run effect of the independent variables on the CSPI and to assess the speed of adjustment toward long-run equilibrium through the ECT coefficient. Before interpreting the results, the model is tested using a multicollinearity test with the Variance Inflation Factor (VIF) to detect linear relationships among independent variables (Widarjono, 2018). The normality test is conducted using the Jarque-Bera statistic to ensure that the residual distribution approaches normality (Wooldridge, 2019). The heteroscedasticity test is conducted using the Breusch-Pagan-Godfrey method to test the equality of residual variance (Engle, 1982). Furthermore, the autocorrelation test is conducted using the Breusch-Godfrey LM Test, which is able to detect residual correlation at various lag orders (Breusch, 1978). All data processing and analysis were conducted using EViews software.

3. RESULTS AND DISCUSSION

3.1 Descriptive Statistics

Descriptive statistical analysis was conducted to provide a general overview of the characteristics of the data used in this study. Based on the results of data processing on 132 observations during the period January 2015 to December 2025, the statistical summary is presented in Table 1.

Table 1. Descriptive Statistical Test Results of Variables

Variable	N	Mean	Minimum	Maximum
CSPI (Y)	132	6194.76	4223.91	8646.94
BI Middle Exchange Rate (X1)	132	14524.85	12579.10	16820
Gold Price (X2)	132	1783.23	1060.20	4357.10
World Oil Price (X3)	132	62.30	18.84	114.67
DJIA (X4)	132	29283.59	16284.70	48063.29

Source: EViews 13 Processed Data, 2026

Based on Table 1, the CSPI (Y) has an average of 6,194.76 points, with a range between 4,223.91 and 8,646.94 points. This reflects a long-run strengthening trend in the Indonesian stock market, although it was accompanied by significant corrections, particularly during the COVID-19 pandemic in 2020. The BI Middle Exchange Rate (X1) has an average of Rp14,524.85/USD with a maximum value of Rp16,820, indicating consistent depreciation pressure on the rupiah during the observation period. Gold Price (X2) recorded the fastest growth, with an average of USD 1,783.23 per troy ounce, increasing from a minimum of USD 1,060.20 to USD 4,357.10, in line with the rising demand for gold as a safe-haven asset amid global uncertainty. World Oil Price (X3) shows the highest volatility, with a range of USD 18.84–114.67 per barrel, directly reflecting shocks on the supply and demand sides of global energy. Meanwhile, the DJIA (X4) increased from 16,284.70 to 48,063.29 points, confirming the role of the United States stock market as a barometer of global investor sentiment that also influences CSPI movements.

3.2 Data Stationarity Test

Before the model estimation process was conducted, all research variables were first tested for stationarity using the Augmented Dickey-Fuller (ADF) test. The test was conducted at the level and first difference stages to identify the integration order of each variable. The stationarity test results are presented in Table 2.

Table 2. ADF Test Results

Variable	Level		First Difference	
	ADF Test Results	ADF Test Results	ADF	Probability
CSPI (Y)	-2.5327	0.1101	-10.3895	0.0000
BI Middle Exchange Rate (X1)	-1.4845	0.5384	-10.8539	0.0000
Gold Price (X2)	-6.7715	0.0000	-8.8194	0.0000
World Oil Price (X3)	-1.9950	0.2888	-10.4385	0.0000
DJIA (X4)	-1.6947	0.4316	-13.2053	0.0000

Source: Processed Data, 2026

Based on Table 2, at the level stage, the variables Y (CSPI), X1 (exchange rate), X3 (oil price), and X4 (DJIA) are not stationary because their probability values are greater than 0.05. Meanwhile, the X2 variable, namely Gold Price, is already stationary at the level stage, with a probability value of 0.0000. After first differencing, all variables show stationarity with probability values of 0.0000 (< 0.01). Thus, the research variables are predominantly integrated at the first order, I(1), so they meet the requirements to proceed to cointegration and ECM model estimation.

3.3 Classical Assumption Test

The normality test was conducted using the Jarque-Bera test. The data are considered normal if the significance value is greater than 0.05. The normality test results can be seen in Table 3.

Table 3. Classical Assumption Test Results

Test	Method	Indicator	Value	Probability
Multicollinearity	Centered VIF	Highest VIF (X4)	7.6996	<10
Normality	Jarque-Bera	JB Statistic	0.8825	0.6432
Heteroscedasticity	Breusch-Pagan-Godfrey	F-Statistic	2.400140	0.0534
Autocorrelation	Breusch-Godfrey Serial Correlation LM Test	F-Statistic	0.437088	0.6469

Source: EViews 13 Processed Data, 2026

The multicollinearity test results in the initial model show that variable X4 has a Centered VIF value of 12.087, which exceeds the tolerance limit. Therefore, a natural logarithm transformation was applied to this variable, reducing its Centered VIF value to

7.700, while all other variables had VIF values below 10. This result shows that the transformed model is free from multicollinearity problems.

The normality test produces a Jarque-Bera probability value of 0.6432 (> 0.05), indicating that the residuals are normally distributed. Furthermore, the Breusch-Pagan-Godfrey heteroscedasticity test shows an F-statistic probability value of 0.0534 and an ObsR-squared value of 0.0545, indicating the absence of heteroscedasticity in the model. In the autocorrelation test, model transformation successfully eliminated the autocorrelation problem that had previously been detected. This is indicated by the F-statistic probability value of 0.6469 and the ObsR-squared value of 0.6322, both of which exceed the 5% significance level. In addition, the Durbin-Watson value of 1.961 is close to 2, so the final ECM model is declared to have fulfilled all classical assumptions and is feasible for further analysis.

3.4 Formation of the Long-Run Model

The long-run equation estimation was conducted using the Ordinary Least Squares (OLS) method with 132 observations from 2015M01 to 2025M12. The estimation results are presented in Table 4.

Table 4. Long-Run Regression Estimation Results

Variable	Parameter	Parameter Estimate	t statistic	Prob.
Constant	β_0	4393.575	5.1329	0.0873
BI Middle Exchange Rate (X1)	β_1	-0.1250	-1.7230	0.0000
Gold Price (X2)	β_2	0.3087	2.2091	0.0000
World Oil Price (X3)	β_3	20.1155	6.4184	0.0000
DJIA (X4)	β_4	0.0619	4.3629	0.0000
Dependent Variable: CSPI				

Source: EViews 13 Processed Data, 2026

The estimation results show the following long-run equation:

$$\mathbf{CSPI = 4393.575 - 0.1250(X1) + 0.3087(X2) + 20.1155(X3) + 0.0619(X4)}$$

The R-squared value of 0.8195 indicates that 81.95% of the variation in the CSPI can be explained by the four independent variables. The F-statistic value of 144.182 with a probability of 0.0000 indicates that the model is simultaneously significant. The variables Gold Price (X2), Oil Price (X3), and DJIA (X4) have a significant effect on the CSPI in the long run, while the exchange rate (X1) is not significant at the 5% level.

3.5 Cointegration Test

The cointegration test was conducted by testing the stationarity of the residuals of the long-run equation, namely the Error Correction Term (ECT), using the ADF test. If the residual is stationary at the level, I(0), then there is a cointegration relationship among the variables. The test results are presented in Table 5.

Table 5. Cointegration Test Results: ADF Test on Residuals

Variable	ADF	
	Level	Probability
ECT	-3.7451	0.0044

Source: EViews 13 Processed Data, 2026

Based on Table 5, the ADF value of the residual or ECT is -3.7451 with a probability value of 0.0044, which is less than 0.05. This result indicates that the residual of the long-run equation is stationary at the level. Therefore, there is a cointegration relationship among the CSPI, the BI middle exchange rate, world gold prices, world oil prices, and the DJIA. This finding confirms the existence of a long-run equilibrium relationship among the variables, so the Error Correction Model (ECM) is appropriate for analyzing short-run dynamics and the adjustment mechanism toward long-run equilibrium.

3.6 Estimation of the Short-Run ECM Model

After cointegration was confirmed, the Error Correction Model (ECM) was estimated to analyze the effect of the independent variables in the short run and to measure the speed of correction of disequilibrium toward long-run equilibrium. The final ECM estimation results are presented in Table 6.

Table 6. Short-Run ECM Estimation Results: Dependent Variable D(CSPI)

Variable	Notation	Parameter	Parameter Estimate	t statistic	Prob.
Constant	C	α_0	-9.0069	-0.4985	0.6190
BI Middle Exchange Rate	X1	α_1	-0.2242	-3.4189	0.0008
Gold Price	X2	α_2	0.6119	2.8067	0.0058
World Oil Price	X3	α_3	7.20521	2.2918	0.0236
DJIA	X4	α_4	0.03744	2.5787	0.0111
Error Correction Term	ECT (-1)	α_5	-0.1325	-3.0100	0.0032

Source: EViews 13 Processed Data, 2026

The resulting short-run ECM equation is as follows:

$$\mathbf{D(CSPI) = -9.0069 - 0.2242D(X1) + 0.6119D(X2) + 7.2052D(X3) + 0.0374D(X4) - 0.1325ECT(-1)}$$

The F-statistic value of 11.943 with a probability of 0.0000 indicates that the model is simultaneously significant. The ECT(-1) coefficient of -0.1325 is negative and significant, with a probability value of 0.0032, confirming the operation of the error correction mechanism with an adjustment speed of 13.25% per month.

3.7 DISCUSSION

3.7.1 The Effect of the Rupiah/USD Middle Exchange Rate on the CSPI

The long-run estimation results show that the Rupiah/USD middle exchange rate (X1) has a negative effect on the CSPI, with a coefficient of -0.1250, but it is not statistically significant, with a probability value of 0.0873. The insignificant effect of the exchange rate in the long run indicates that the Indonesian stock market has developed an adaptation mechanism to exchange rate fluctuations in the long-run trend, while other factors may be more dominant in shaping the structural trajectory of the CSPI. Nevertheless, the negative coefficient direction is consistent with the theoretical basis: rupiah depreciation increases the burden of foreign currency debt for companies, raises the cost of imported raw materials, and triggers potential foreign investor capital outflows that put pressure on stock prices.

In the short run, the middle exchange rate is proven to have a negative and significant effect on the CSPI, with a coefficient of -0.2242 and a probability value of 0.0008. This means that every Rp1 increase in the exchange rate, which reflects rupiah depreciation, reduces the CSPI by 0.2242 points in the short run. This significance reflects the high sensitivity of the Indonesian capital market to short-run exchange rate dynamics. When the rupiah weakens, foreign investors who hold a significant ownership portion on the Indonesia Stock Exchange tend to sell their holdings to avoid exchange rate losses, or capital flight, causing massive selling pressure that suppresses the CSPI. The difference in significance between the short run and the long run indicates that the impact of the exchange rate is more of a short-run noise effect than a determinant of the long-run CSPI trend. This finding is consistent with the results of Kewal (2012) and Suciningtias and Khoiroh (2015), who found a negative and significant effect of the exchange rate on the CSPI in the short run. From the standpoint of financial market integration theory, this asymmetry between the short run and the long run reflects the exchange rate functioning primarily as a conduit of integration: because foreign investors hold a substantial ownership share on the Indonesia Stock Exchange, rupiah depreciation immediately erodes their rupiah-denominated returns and triggers cross-border portfolio reallocation that is transmitted to the CSPI almost contemporaneously, whereas over the long run this spillover is absorbed by domestic structural fundamentals as the market adjusts back toward its integrated equilibrium.

3.7.2 The Effect of World Gold Prices on the CSPI

World gold prices (X2) are proven to have a positive and significant effect on the CSPI in both the long run, with a coefficient of 0.3087 and a probability value of 0.0290, and the short run, with a coefficient of 0.6119 and a probability value of 0.0058. Interestingly, the short-run coefficient is larger than the long-run coefficient, indicating a stronger and more immediate stock market response to changes in gold prices within the monthly period. This finding partially contradicts the conventional view that places gold as a safe-haven asset that moves in the opposite direction to the stock market.

The positive relationship found in this study can be explained through several mechanisms. First, Indonesia is one of the largest gold producers in Southeast Asia, so an increase in gold prices directly improves the revenue and profitability of gold mining issuers on the Indonesia Stock Exchange, such as PT Aneka Tambang Tbk. (ANTM) and PT Merdeka Copper Gold Tbk. (MDKA), which ultimately drives an increase in the CSPI. Second, a long-run increase in gold prices often reflects loose global liquidity conditions due to expansionary monetary policy, such as quantitative easing, which simultaneously encourages capital inflows into emerging markets, including Indonesia. Third, in the short run, an increase in gold prices caused by rising global investment demand also lifts positive sentiment in the broader commodity market, thereby positively affecting the CSPI. This finding is in line with Gumilang et al. (2014), Rahmadewi and Abundanti (2018), and Sunariyah (2011), who found a positive and significant effect of gold prices on the CSPI.

Interpreted through financial market integration theory, these channels operate precisely because Indonesia's commodity-linked equity market and its capital account are integrated with global markets, so that shifts in global liquidity and safe-haven demand are transmitted into domestic equity valuations through synchronized world commodity prices and cross-border capital flows rather than remaining external to the CSPI; the stronger short-run response further indicates that this spillover channel operates most intensely at high frequencies, before being partially corrected toward the long-run equilibrium.

3.7.3 The Effect of World Oil Prices on the CSPI

World oil prices (X3) are the variable with the most dominant effect on the CSPI in this study. In the long run, the coefficient is 20.1155 with a probability value of 0.0000, while in the short run, the coefficient is 7.2052 with a probability value of 0.0236. Both estimations show a positive and significant effect, with the much larger long-run coefficient indicating the strengthening of the cumulative impact of oil prices on the CSPI over time.

The dominance of the effect of oil prices on the CSPI can be explained through several transmission mechanisms. First, the Indonesia Stock Exchange has a number of energy and mining sector issuers with significant market capitalization, such as PT Medco Energi International Tbk., PT Elnusa Tbk., PT Bukit Asam Tbk., and PT AKR Corporindo Tbk. An increase in oil prices directly increases the revenues and valuations of these companies, driving up their sectoral stock prices and, in aggregate, lifting the CSPI. Second, from a macroeconomic perspective, an upward trend in oil prices driven by demand is generally positively correlated with a phase of global economic expansion. This condition increases demand for Indonesia's main export commodities, such as coal, crude palm oil, and rubber, thereby strengthening foreign exchange earnings and macroeconomic fundamentals that support stock valuation. Third, rising global oil prices that reflect optimism about world economic growth increase investors' risk appetite, encouraging capital inflows into emerging stock markets, including Indonesia.

However, it should be noted that under supply shock conditions that cause extreme increases in oil prices, the impact on the CSPI may potentially turn negative because it increases inflationary pressure and the burden of government energy subsidies. This finding is consistent with Surya and Nasher (2011) dan Witjaksono (2010), who found a positive and significant effect of oil prices on the CSPI. These transmission channels are consistent with financial market integration theory: as a commodity-exporting economy with an increasingly open capital account, Indonesia's equity market co-moves with global energy prices because oil-price movements simultaneously signal global demand conditions and redirect international capital toward integrated emerging markets. The dominance of the long-run coefficient therefore suggests that commodity-price linkages constitute a structural, rather than merely transitory, channel through which the global and domestic markets are integrated.

3.7.4 The Effect of the Dow Jones Industrial Average (DJIA) on the CSPI

The DJIA (X4) has a positive and significant effect on the CSPI in both the long run, with a coefficient of 0.0619 and a probability value of 0.0000, and the short run, with a coefficient of 0.0374 and a probability value of 0.0111. Although the coefficient is relatively small in absolute terms, this is reasonable considering the difference in index scale between the DJIA, which reaches tens of thousands of points, and the CSPI, which is in the range of thousands of points. Therefore, the transmission elasticity remains economically meaningful.

The positive effect of the DJIA on the CSPI in the long run is in line with financial market integration theory, which states that capital markets in various countries are increasingly connected as financial globalization increases. The DJIA, as a stock market index consisting of 30 of the largest companies in the United States, functions as a barometer of global investor sentiment. When the DJIA increases in a long-run trend, it reflects strong United States economic fundamentals as a key engine of global economic growth. This, in turn, increases international capital flows into emerging markets, including Indonesia, and drives the CSPI to higher levels.

In the short run, the transmission mechanism occurs through the sentiment spillover effect. The Indonesian capital market is highly responsive to the movements of Wall Street indices, especially because the difference in time zones makes DJIA movements during the United States trading session at night in Indonesian time a major reference for investors when opening trading positions on the Indonesia Stock Exchange the following day. When the DJIA strengthens, investors respond by increasing their risk appetite and adding exposure to emerging stock markets. This finding is consistent with Kewal (2012) and Mansur (2005), who confirmed the positive and significant effect of the DJIA on the CSPI, while also emphasizing that the Indonesian capital market is not yet fully independent from global capital market dynamics. Within financial market integration theory, the significant influence of the DJIA across both time horizons, combined with the moderate error correction speed, portrays the Indonesian capital market as substantially though not perfectly integrated with the global stock market, so that Wall Street serves as a leading reference for both the structural trajectory and the day-to-day sentiment of the CSPI.

4. CONCLUSION

This study aims to analyze the effect of the Dow Jones Industrial Average (DJIA), gold prices, world oil prices, and the rupiah exchange rate on the movement of the Composite Stock Price Index (CSPI) using the two-step Engle-Granger Error Correction Model (ECM) with monthly data for the period January 2015 to December 2025. The Augmented Dickey-Fuller (ADF) stationarity test results show that the variables are predominantly integrated at the first order, or I(1), while the cointegration test indicates the existence of a long-run relationship among the variables. The Error Correction Term (ECT) coefficient of -0.1325, which is negative and significant, indicates the presence of an adjustment mechanism toward long-run equilibrium, in which approximately 13.25% of short-run disequilibrium is corrected each month.

The hypothesis testing results show that the DJIA has a positive and significant effect on the CSPI in both the short run and long run, indicating the strong linkage between the Indonesian capital market and the global stock market. World gold prices are also proven to have a positive and significant effect on the CSPI in both time horizons. In addition, world oil prices are the variable with the largest coefficient in the model, showing a positive and significant effect in both the short run and long run. Meanwhile, the rupiah exchange rate has a negative and significant effect on the CSPI in the short run but does not show a significant effect in the long run.

Overall, the results of this study indicate that CSPI movements are significantly influenced by global financial market dynamics and changes in international commodity prices. World oil prices, the DJIA, and gold prices are the main factors that consistently shape CSPI movements in the long run. Therefore, investors need to consider developments in global indices and world commodity prices when making investment decisions. On the other hand, policymakers need to strengthen capital market stability through effective exchange rate management, the strengthening of foreign exchange reserves, and the development of hedging instruments that are more easily accessible to domestic market participants.

This study has several limitations. First, global stock market conditions are represented only by the Dow Jones Industrial Average (DJIA), so the analysis may not fully capture the influence of other major international markets, particularly those in Asia and Europe. Second, the model is limited to the exchange rate, gold prices, oil prices, and the DJIA; therefore, other factors that may influence CSPI movements, such as domestic interest rates, inflation, foreign capital flows, and political conditions, were not included. Future studies may expand the model by incorporating additional global indices and domestic macroeconomic variables to provide a broader explanation of CSPI movements.

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