

Cash Flow Performance, Profitability, and Stock Return Persistence: Evidence from Indonesian Consumer and Agricultural Firms Using System GMM

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ABSTRACT

The increasing volatility of global financial markets and the growing importance of firm-specific fundamentals have intensified the debate regarding the determinants of stock returns, particularly in emerging markets characterized by higher information asymmetry and lower market efficiency. This study examines the effects of Cash Flow per Share (CFPS), Net Profit Margin (NPM), and stock return persistence on stock returns among Consumer Non-Cyclicals and Agriculture firms listed on the Indonesia Stock Exchange during the 2014–2024 period. Using a dynamic panel data approach, the study employs the two-step System Generalized Method of Moments (System GMM) to address endogeneity, unobserved heterogeneity, and dynamic bias. The results reveal that stock returns exhibit strong persistence, as evidenced by the significant positive effect of lagged stock returns. Profitability, measured by NPM, positively and significantly influences stock returns, indicating that investors place substantial value on firms with stronger earnings performance. In contrast, CFPS has a negative and significant effect on stock returns, suggesting that higher cash flow accumulation may be interpreted as inefficient resource utilization rather than a positive valuation signal. These findings imply that profitability-based signals dominate cash-flow-based information in shaping investor decisions within emerging markets. The study contributes to the literature by extending Signaling Theory, Information Asymmetry Theory, and the Adaptive Market Hypothesis through a dynamic framework. The findings also provide practical implications for investors, corporate managers, and regulators seeking to enhance market efficiency and financial transparency in emerging economies.

Keywords: *Stock Return Persistence; Cash Flow per Share; Net Profit Margin; System GMM; Emerging Markets; Signaling Theory; Indonesia Stock Exchange.*

1. INTRODUCTION

Global financial markets have experienced substantial turbulence over the last decade due to increasing geopolitical tensions, post-pandemic recovery uncertainty, inflation shocks, and aggressive monetary tightening by major central banks. The tightening cycle implemented by the Federal Reserve System and the monetary normalization policy adopted by the European Central Bank have significantly increased interest rate volatility and altered global capital allocation patterns. These conditions have intensified investor risk reallocation and increased concerns regarding corporate financial resilience, particularly in emerging markets that are highly sensitive to capital flow reversals and external shocks (Bouri et al., 2021; Demir et al., 2022; Zhang et al., 2023). Consequently, investors have increasingly emphasized firm fundamentals as a basis for valuation and investment decision-making during periods of financial uncertainty (Yu & Zivot, 2024; Dang et al., 2023).

The debate regarding stock return predictability remains one of the most important issues in modern financial economics. The Efficient Market Hypothesis argues that stock prices fully reflect available information, making future returns difficult to predict consistently (Urquhart & McGroarty, 2016; Shi et al., 2016). In contrast, the fundamental-based valuation perspective suggests that accounting and financial information continue to influence investor expectations and market valuation, particularly in imperfect and less efficient markets (Novy-Marx, 2016; Bannigidadmath & Narayan, 2016). Empirical studies have examined various predictors, including profitability indicators, earnings information, and cash-flow-based measures, yet the findings remain inconclusive across different countries and market structures (Chipunza et al., 2020; Yu & Zivot, 2024; Narayan et al., 2017). Therefore, the question of whether firm fundamentals can explain stock return movements remains unresolved within the international finance literature.

Among various accounting indicators, cash flow information has received growing attention because it is considered less susceptible to accounting manipulation than earnings-based measures. Earnings can be affected by accrual accounting choices, discretionary estimates, and earnings management practices that potentially reduce the quality of financial reporting (Dang et al., 2023; Vu, 2024). By contrast, operating cash flow reflects the firm's actual liquidity-generating ability and provides a more direct representation of economic performance (Laghari et al., 2023; Yu & Zivot, 2024). As investors increasingly emphasize earnings quality and financial transparency, Cash Flow per Share (CFPS) has emerged as a potentially more reliable signal of firm value and future performance than traditional earnings measures (Bouri et al., 2021; Hamdan et al., 2025). This argument is consistent with Signaling Theory and Information Asymmetry Theory, which suggest that high-quality financial information can reduce uncertainty and improve market valuation (Al-Hiyari et al., 2024; Lee et al., 2022).

The relevance of cash flow information becomes particularly important in emerging markets such as Indonesia. Indonesia exhibits characteristics of a bank-based economy, relatively high retail investor participation, uneven information distribution, and a greater degree of market inefficiency compared with developed financial markets (Yang, 2025; Shi et al., 2016). These conditions increase the importance of credible firm-specific information in reducing information asymmetry and supporting investment decisions (Al-Hiyari et al., 2024; Dang et al., 2023). Furthermore, the Consumer Non-Cyclicals and Agriculture sectors represent industries that are highly dependent on operational cash flow and fundamental performance due to their continuous production activities and defensive nature during economic downturns (Laghari et al., 2023; Hamdan et al., 2025). Therefore, these sectors provide an appropriate setting for examining the relationship between cash flow performance and stock returns.

Despite extensive research on stock return determinants, several important gaps remain. First, previous studies have predominantly focused on profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Earnings per Share (EPS), while CFPS has received relatively limited attention within the emerging market literature (Bannigidadmath & Narayan, 2016; Chipunza et al., 2020). Second, most empirical investigations employ conventional estimation approaches such as Ordinary Least Squares, Fixed Effects, and Random Effects models, which may not adequately address endogeneity problems and reverse causality between firm performance and stock returns (Yu & Zivot, 2024; Demir et al., 2022). These methodological limitations may contribute to inconsistent empirical findings reported across countries and industries.

Another limitation concerns the treatment of stock returns as static rather than dynamic phenomena. Financial market studies increasingly demonstrate that stock returns exhibit persistence, momentum effects, and dynamic adjustment processes that cannot be fully captured through static panel estimation techniques (Shi et al., 2016; Yu & Zivot, 2024). Dynamic behavior implies that previous-period returns may influence current-period returns through investor sentiment, information diffusion, and adaptive market mechanisms (Urquhart & McGroarty, 2016; Yang, 2025). Consequently, dynamic panel estimation methods such as System Generalized Method of Moments (System GMM) have become increasingly important because they can accommodate lagged dependent variables while simultaneously controlling for endogeneity and unobserved heterogeneity (Arellano & Bover, 1995; Blundell & Bond, 1998).

Based on these arguments, this study investigates whether Cash Flow per Share and Net Profit Margin influence stock returns and whether stock returns exhibit persistence over time within Indonesian listed firms. Specifically, this study addresses four research questions: whether CFPS affects stock returns, whether profitability affects stock returns, whether stock returns are persistent, and whether cash-flow-based information provides stronger explanatory power than profitability measures. By employing a dynamic panel System GMM approach on Consumer Non-Cyclicals and Agriculture firms listed on the Indonesia Stock Exchange, this study contributes to the literature by integrating cash flow quality, profitability, and return persistence within an emerging market context. The findings are expected to enrich Signaling Theory and Information Asymmetry Theory while providing practical implications for investors, managers, and policymakers in developing capital markets.

2. LITERATURE REVIEW

2.1. Signaling Theory

Signaling Theory explains how managers communicate private information regarding firm quality and future prospects to external stakeholders through corporate disclosures. Because investors generally possess less information than managers, financial statements become an important medium for reducing information asymmetry and facilitating investment decisions. High-quality financial indicators, particularly profitability and cash flow information, provide signals regarding a firm's operational efficiency, financial strength, and future growth potential.

Consequently, investors interpret these signals when evaluating firm value, which ultimately influences stock prices and return performance (Connelly et al., 2016; Spence, 2015; Lee et al., 2022).

The empirical findings of this study support the relevance of Signaling Theory in explaining stock return behavior in emerging markets. The positive and significant effect of Net Profit Margin indicates that investors perceive profitability as a credible signal of firm quality, operational efficiency, and sustainable earnings generation. In contrast, the negative effect of Cash Flow per Share suggests that not all financial signals are interpreted uniformly, as investors may associate excessive cash accumulation with inefficient resource utilization or limited investment opportunities. These results imply that market participants place greater emphasis on profitability-based signals than on cash-flow-based indicators when assessing firm performance, thereby reinforcing the importance of signal interpretation in determining stock market valuation and return dynamics (Bannigidadmath & Narayan, 2016; Dang et al., 2023; Yu & Zivot, 2024).

2.2. Information Asymmetry Theory

Information Asymmetry Theory explains that managers possess superior information regarding firm performance, financial conditions, and future prospects compared with external investors, creating information gaps that may lead to valuation inefficiencies in capital markets. To reduce such asymmetry, firms are expected to provide transparent, timely, and credible financial disclosures that enable investors to make more accurate assessments of firm value and investment risk. Among various financial indicators, cash flow information is generally regarded as more reliable than accrual-based earnings because it reflects actual liquidity generation and is less susceptible to accounting discretion and earnings management practices (Lee et al., 2022; Dang et al., 2023). Consequently, greater transparency in cash flow reporting can reduce uncertainty, strengthen investor confidence, and improve market valuation through more efficient information transmission mechanisms (Al-Hiyari et al., 2024; Yu & Zivot, 2024).

The findings of this study provide an interesting extension of Information Asymmetry Theory. Although the theory predicts that higher-quality cash flow information should reduce information asymmetry and generate favorable market responses, the empirical results reveal a negative relationship between Cash Flow per Share and stock returns. This finding suggests that investors in emerging markets may not interpret high cash flow levels solely as a positive signal, but may also associate excessive cash accumulation with inefficient capital utilization, agency concerns, or limited growth opportunities (Laghari et al., 2023; Lee et al., 2022). Therefore, the results indicate that the effectiveness of cash flow disclosure in reducing information asymmetry depends not only on information quality but also on how investors interpret the economic implications of corporate cash holdings, particularly in markets characterized by heterogeneous investor behavior and relatively lower informational efficiency (Al-Hiyari et al., 2024; Dang et al., 2023).

2.3. Adaptive Market Hypothesis

The Adaptive Market Hypothesis (AMH) proposes that market efficiency is not static but evolves in response to changing economic conditions, institutional developments, investor behavior, and competitive market dynamics. Unlike the traditional Efficient Market Hypothesis, which assumes that asset prices instantly and fully incorporate all available information, AMH suggests that investors continuously adapt their strategies based on past experiences and changing market environments. Consequently, stock return predictability may emerge temporarily as market participants gradually adjust to new information and evolving economic circumstances. Recent studies indicate that return predictability and market efficiency vary across time and market conditions, particularly in emerging markets where information dissemination and investor sophistication remain heterogeneous (Urquhart & McGroarty, 2016; Noda, 2016; Kim et al., 2019; Charles et al., 2017).

The findings of this study provide empirical support for the Adaptive Market Hypothesis through the significant positive coefficient of lagged stock returns. The estimated persistence coefficient suggests that past returns continue to influence current stock returns, indicating that information is incorporated gradually rather than instantaneously into market prices. Such evidence is consistent with the momentum effect literature, which argues that investors often react incrementally to information due to behavioral biases, learning processes, and market frictions (Lim et al., 2018; Khuntia & Pattanayak, 2020; Sensoy et al., 2021). In the context of the Indonesian capital market, the persistence effect implies that market efficiency remains adaptive and evolving, supporting the argument that stock return dynamics are shaped by both changing market conditions and investor adaptation mechanisms over time (Ito et al., 2016; Shahid & Sattar, 2021; Urquhart & Hudson, 2019).

2.4. Cash Flow Per Share and Stock Return

Cash Flow per Share (CFPS) represents the amount of operating cash flow attributable to each outstanding share and is widely recognized as an important indicator of a firm's financial quality and liquidity position. Compared with accrual-based earnings, cash flow information is generally considered more reliable because it is less susceptible to accounting discretion and earnings management practices, thereby providing a clearer assessment of a firm's operational performance and financial sustainability (Lee et al., 2022; Laghari et al., 2023). Empirical evidence from developed and emerging markets suggests that strong cash flow performance enhances investor confidence, reduces information asymmetry, and contributes positively to firm valuation and stock market performance (Yu & Zivot, 2024; Dang et al., 2023). Therefore, firms with higher CFPS are expected to generate higher stock returns because investors interpret superior cash-generating ability as a positive signal of future growth opportunities, financial flexibility, and long-term value creation (Bannigidadmath & Narayan, 2016; Lee et al., 2022).

H1: Cash Flow per Share positively affects stock returns.

2.5. Net Profit Margin and Stock Return

Net Profit Margin (NPM) reflects a firm's ability to convert sales revenue into net earnings and serves as a key indicator of operational efficiency and financial performance. A higher NPM indicates that management can effectively control costs, optimize resource utilization, and generate sustainable profits, thereby enhancing firm value and long-term competitiveness (Novy-Marx, 2016; Mosoeu & Kodongo, 2020). From an investor perspective, strong profitability signals superior managerial capability, stable earnings prospects, and greater growth opportunities, which contribute positively to market valuation and investment attractiveness (Bannigidadmath & Narayan, 2016; Hamdan et al., 2025). Consequently, firms with higher profitability levels are expected to attract stronger investor demand and achieve superior stock return performance, consistent with signaling-based explanations of capital market behavior (Yu & Zivot, 2024; Lee et al., 2022).

H2: Net Profit Margin positively affects stock returns.

2.6. Dynamic Persistence of Stock Return

Stock return persistence refers to the tendency of past returns to influence current returns due to momentum effects, gradual information diffusion, and adaptive investor behavior in financial markets. Unlike the assumptions of perfect market efficiency, empirical evidence suggests that investors often require time to process and incorporate new information, allowing return patterns to persist across multiple periods (Urquhart & McGroarty, 2016; Noda, 2016). Recent studies employing dynamic panel and time-varying models have documented that lagged stock returns remain significant predictors of current returns, particularly in emerging markets characterized by higher information asymmetry, lower informational efficiency, and heterogeneous investor responses (Kim et al., 2019; Sensoy et al., 2021). Therefore, previous stock returns are expected to exert a positive influence on current stock returns because market participants gradually adjust their expectations and investment decisions in response to evolving economic and firm-specific information (Shahid & Sattar, 2021; Urquhart & Hudson, 2019).

H3: Previous stock returns positively influence current stock returns.

3. RESEARCH METHODS

This study employs a quantitative research design using a dynamic panel data approach to investigate the effects of Cash Flow per Share (CFPS) and Net Profit Margin (NPM) on stock returns among firms listed on the Indonesia Stock Exchange (IDX). The study focuses on companies operating in the Consumer Non-Cyclicals and Agriculture sectors during the 2014–2024 period. Secondary data were collected from annual reports, audited financial statements, and the IDX database. The dependent variable is stock return (R_{it}), while the independent variables consist of Cash Flow per Share (CFPS) and Net Profit Margin (NPM). To capture the dynamic behavior of stock returns, the lagged dependent variable (R_{it-1}) is incorporated into the model. The dynamic panel specification is formulated as follows:

$$R_{it} = \alpha + \beta_1 R_{it-1} + \beta_2 CFPS_{it} + \beta_3 NPM_{it} + \varepsilon_{it} \quad (1)$$

The inclusion of the lagged dependent variable allows the model to account for return persistence and dynamic adjustment processes that commonly characterize financial market behavior (Baltagi, 2021; Wooldridge, 2019).

The empirical analysis is conducted using Stata software and follows several sequential procedures. First, descriptive statistics are employed to summarize the distributional characteristics of the variables, followed by a correlation matrix analysis to identify the direction and magnitude of bivariate relationships among variables. Second,

the study estimates the dynamic model using the two-step System Generalized Method of Moments (System GMM) estimator developed by Blundell and Bond (1998), which is widely recommended for addressing endogeneity, reverse causality, omitted variable bias, and unobserved heterogeneity in panel data settings (Roodman, 2009a). Third, robustness analysis is performed to assess the consistency of the estimated coefficients. Finally, several diagnostic tests are conducted to evaluate model validity, including the Arellano-Bond serial correlation tests for AR (1) and AR (2), the Hansen test of overidentifying restrictions to assess instrument validity, the Sargan test to examine instrument exogeneity, and instrument count evaluation to prevent instrument proliferation problems that may weaken the reliability of GMM estimations (Roodman, 2009b; Baltagi, 2021). These procedures ensure that the estimated results are statistically robust and econometrically reliable.

4. RESULTS AND DISCUSSIONS

4.1. Results

4.1.1. Descriptive Statistics

Table 1 reports the descriptive statistics of the study variables. The results summarize the distributional characteristics of stock returns, profitability, and cash flow performance across the sampled firms over the 2014–2024 period.

Table 1. Descriptive Statistics of Research Variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
Stock Return (R)	121	29.682	1.410	27.247	32.383
Net Profit Margin (NPM)	121	27.046	1.828	23.525	29.840
Cash Flow per Share (CFPS)	121	4.561	2.747	-6.872	7.869

Table 1 presents the descriptive statistics of the variables employed in this study. The sample consists of 121 firm-year observations from Consumer Non-Cyclicals and Agriculture companies listed on the Indonesia Stock Exchange during 2014–2024. Stock returns exhibit an average value of 29.682 with a standard deviation of 1.410, indicating relatively moderate variation in return performance across firms. Net Profit Margin records a mean value of 27.046 and a standard deviation of 1.828, suggesting relatively stable profitability conditions within the sample. Meanwhile, Cash Flow per Share demonstrates the highest dispersion among the explanatory variables, with a mean of 4.561, a standard deviation of 2.747, and values ranging from –6.872 to 7.869, indicating substantial heterogeneity in firms' cash-generating capacity.

4.1.2. Dynamic Panel Estimation Results

Table 2 compares the results obtained from pooled ordinary least squares (OLS), fixed effects (FE), Difference GMM, and System GMM estimators. The comparison is intended to assess the robustness of the estimated coefficients and to evaluate the presence of dynamic panel bias through the Bond (2002) bounding property.

Table 2. Comparison of Alternative Estimation Results

Variables	Pooled OLS	Fixed Effects	Difference GMM	System GMM
Stock Return ($t-1$)	0.951***	0.673***	0.753***	0.832***
Net Profit Margin (NPM)	0.046**	0.222***	0.181***	0.150***
Cash Flow per Share (CFPS)	-0.020***	-0.016***	-0.013***	-0.013***
Constant	0.364	3.821***	2.598*	1.075
Observations	110	110	99	110
R ²	0.994	0.910	-	-

Notes: *, **, and *** indicate significance levels at the 10%, 5%, and 1% levels, respectively. Difference GMM and System GMM are estimated using the two-step estimator. Results are reported to assess the robustness of parameter estimates across alternative estimation techniques.

The coefficient of the lagged dependent variable ranges from 0.673 under the fixed-effects estimator to 0.951 under pooled OLS, while the Difference GMM and System GMM estimates lie between these two bounds. This pattern satisfies the Bond (2002) bounding property, whereby the fixed-effects estimate provides the lower bound and the pooled OLS estimate provides the upper bound for the true dynamic coefficient, indicating that the GMM estimators appropriately address dynamic panel bias. Furthermore, the signs and significance levels of NPM and CFPS remain consistent across all estimation methods, providing preliminary evidence of the robustness of the empirical findings

4.1.3. Main Findings from System GMM

Table 3 presents the baseline System GMM results, which serve as the primary specification of this study. The diagnostic statistics confirm the validity of the model and instruments, allowing reliable inference regarding the dynamic effects of profitability and cash flow performance on stock returns.

Table 3. System GMM Estimation Results

Variables	Coefficient	Std. Error	t-Statistic	p-value
Stock Return (t – 1)	0.715***	0.085	8.37	0.000
Net Profit Margin (NPM)	0.216***	0.060	3.62	0.005
Cash Flow per Share (CFPS)	-0.018**	0.008	-2.27	0.047
Constant	2.761**	1.130	2.44	0.035
Model Diagnostics			Value	
Observations			110	
Number of Groups			11	
Number of Instruments			6	
F-statistic			472,074.25***	
AR(1) p-value			0.063	
AR(2) p-value			0.331	
Hansen Test p-value			0.765	
Sargan Test p-value			0.444	

Notes: *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. The model is estimated using the two-step System GMM estimator with Windmeijer-corrected robust standard errors. The Hansen and Sargan tests indicate instrument validity, while the Arellano-Bond AR (2) test confirms the absence of second-order serial correlation.

The results presented in Table 3 indicate that the System GMM model is statistically valid and economically meaningful. The diagnostic tests confirm the reliability of the estimation, as the Hansen test ($p = 0.765$) and Sargan test ($p = 0.444$) fail to reject the null hypothesis of instrument validity. Furthermore, the Arellano-Bond AR (2) test is insignificant ($p = 0.331$), indicating the absence of second-order serial correlation in the differenced residuals. The limited number of instruments (6) relative to the number of groups (11) also suggests that the model is not affected by instrument proliferation, thereby supporting the consistency of the estimated coefficients.

The coefficient of the lagged stock return variable is positive and highly significant ($\beta = 0.715$, $p < 0.001$), indicating strong persistence in stock returns over time. This finding suggests that approximately 71.5% of current stock return performance can be explained by previous-period returns, supporting the view that stock returns follow a dynamic adjustment process rather than being entirely random. The result is consistent with the Adaptive Market Hypothesis, which argues that investors gradually incorporate information into asset prices, allowing return patterns to persist across periods. Therefore, Hypothesis 3, which proposes that previous stock returns positively influence current stock returns, is supported.

The results further reveal that Net Profit Margin has a positive and statistically significant effect on stock returns ($\beta = 0.216$, $p = 0.005$). This finding implies that firms with higher profitability tend to generate superior stock market performance because investors perceive strong profit margins as an indicator of operational efficiency, sustainable earnings, and future growth potential. From a signaling perspective, higher profitability provides favorable information regarding firm quality, thereby increasing investor confidence and market valuation. Consequently,

Hypothesis 2 is accepted, confirming that profitability remains an important determinant of stock returns in Indonesian listed firms.

Interestingly, Cash Flow per Share exhibits a negative and statistically significant relationship with stock returns ($\beta = -0.018$, $p = 0.047$). Contrary to conventional expectations, the result suggests that an increase in cash flow per share is associated with a decline in stock returns. One possible explanation is that investors may interpret excessive cash accumulation as an indication of inefficient capital utilization, limited investment opportunities, or agency-related concerns. In the context of emerging markets, investors may place greater emphasis on profitability indicators than on cash flow measures when evaluating firm performance. Therefore, although CFPS significantly affects stock returns, the direction of the relationship does not support the predicted positive effect, leading to the rejection of Hypothesis 1.

Overall, the findings demonstrate that profitability and return persistence are the primary drivers of stock returns, whereas cash flow information conveys a more complex signal to investors. The evidence highlights the importance of considering dynamic behavior and firm-specific fundamentals when examining stock return determinants in emerging markets. More importantly, the negative effect of CFPS suggests the existence of a cash flow paradox, where stronger cash positions do not necessarily translate into higher market valuation. This result contributes to the growing literature on emerging capital markets by showing that investors may prioritize profitability signals over cash flow indicators when making investment decisions.

4.1.4. Long-Run Effects

Table 4 reports the long-run effects of profitability and cash flow on stock returns derived from the System GMM model. The long-run estimates provide a more comprehensive assessment of the cumulative impact of firm fundamentals after accounting for the persistence of stock returns.

Table 4. Long-Run Effects of Profitability and Cash Flow on Stock Returns

Variables	Long-Run Effect	Std. Error	z-Statistic	p-value
Net Profit Margin (NPM)	0.758***	0.074	10.25	0.000
Cash Flow per Share (CFPS)	-0.064*	0.033	-1.93	0.053

Notes: Long-run coefficients are calculated using the nonlinear transformation $\beta/(1-\lambda)$, where λ represents the coefficient of the lagged dependent variable. Statistical significance is based on the delta-method estimation implemented through the nlcom procedure. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

The long-run estimates presented in Table 4 reveal that profitability exerts a substantially stronger influence on stock returns than its short-run counterpart. Specifically, a one-unit increase in Net Profit Margin is associated with a long-run increase of 0.758 units in stock returns, indicating that the positive effect of profitability accumulates over time. In contrast, Cash Flow per Share maintains a negative long-run effect of -0.064 , suggesting that the adverse market response to cash accumulation persists beyond the short term. These findings imply that investors place greater value on sustainable profitability than on cash holdings when evaluating firm performance, thereby reinforcing the dominance of earnings-based signals in the Indonesian equity market.

4.1.5. Diagnostic and Specification Tests

Table 5 presents the diagnostic and specification tests used to evaluate the validity of the System GMM estimation. These tests assess serial correlation, instrument validity, and potential instrument proliferation to ensure the consistency and reliability of the estimated coefficients.

Table 5. Diagnostic and Specification Tests of the System GMM Model

Diagnostic Test	Statistic	p-value	Decision
Arellano-Bond AR(1)	-1.86	0.063	First-order serial correlation detected
Arellano-Bond AR(2)	-0.97	0.331	No second-order serial correlation
Hansen Test of Overidentifying	0.54	0.765	Instruments are valid

Restrictions			
Sargan Test of Overidentifying Restrictions	1.62	0.444	Instruments are valid
Number of Instruments	6	–	No instrument proliferation
Number of Groups	11	–	Adequate for estimation

Notes: The validity of the System GMM model requires the absence of second-order serial correlation and valid instruments. The insignificant AR (2), Hansen, and Sargan test results indicate that the model specification is appropriate and that the selected instruments satisfy the required exogeneity conditions. The number of instruments (6) is lower than the number of groups (11), suggesting that the estimation is not affected by instrument proliferation.

The diagnostic results confirm the adequacy of the System GMM specification. The Arellano-Bond AR (2) test is statistically insignificant ($p = 0.331$), indicating the absence of second-order serial correlation in the differenced residuals, which is a key requirement for valid GMM estimation. Moreover, the Hansen test ($p = 0.765$) and Sargan test ($p = 0.444$) fail to reject the null hypothesis of instrument validity, suggesting that the instruments are exogenous and appropriately specified. Finally, the number of instruments (6) remains substantially lower than the number of groups (11), indicating that the model is free from instrument proliferation and that the estimated coefficients can be considered reliable and robust.

4.1.6. Robustness Analysis

Table 6 presents the robustness analysis by comparing the results obtained from Difference GMM and System GMM estimators. The objective is to assess whether the estimated relationships remain stable across alternative dynamic panel specifications and to verify the reliability of the main findings.

Table 6. Robustness Analysis: Difference GMM versus System GMM

Variables	Difference GMM	System GMM	Consistency of Results
Stock Return ($t-1$)	0.733***	0.715***	Consistent (+)
Net Profit Margin (NPM)	0.205***	0.216***	Consistent (+)
Cash Flow per Share (CFPS)	-0.011**	-0.018**	Consistent (–)
Observations	99	110	–
Number of Instruments	4	6	–
AR(1) p-value	0.031	0.063	Acceptable
AR(2) p-value	0.136	0.331	No second-order autocorrelation
Hansen p-value	0.346	0.765	Instruments valid
Sargan p-value	0.688	0.444	Instruments valid
Hypothesis	Difference GMM	System GMM	Conclusion
H1: CFPS $\rightarrow$ Stock Return	Supported (Negative)	Supported (Negative)	Robust
H2: NPM $\rightarrow$ Stock Return	Supported (Positive)	Supported (Positive)	Robust
H3: Return Persistence	Supported (Positive)	Supported (Positive)	Robust

Notes: *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. Difference GMM and System GMM estimations are reported to evaluate the robustness of the empirical findings. The consistency in coefficient signs and significance levels across estimators indicates that the results are not sensitive to the estimation technique employed.

The robustness analysis confirms that the empirical findings remain stable across both Difference GMM and System GMM estimators. The coefficient of the lagged stock return variable remains positive and statistically significant in all specifications, indicating a persistent dynamic effect in stock return behavior. Likewise, Net Profit Margin consistently exhibits a positive and significant relationship with stock returns, while Cash Flow per Share maintains a negative and statistically significant effect regardless of the estimation technique employed. The consistency of coefficient signs and significance levels suggests that the estimated relationships are not sensitive to model specification and therefore provide strong evidence of parameter stability.

The diagnostic statistics further support the robustness of the results. Both Difference GMM and System GMM models satisfy the key validity requirements, including the absence of second-order serial correlation and the validity of instrumental variables as indicated by the AR (2), Hansen, and Sargan tests. These findings reinforce the conclusion that stock returns in Indonesian Consumer Non-Cyclicals and Agriculture firms are characterized by strong persistence, profitability serves as a positive signal valued by investors, and cash flow per share generates an adverse market response. Overall, the robustness analysis strengthens the reliability of the study's conclusions and provides additional confidence that the observed relationships reflect genuine economic effects rather than estimation artifacts or model-specific biases.

4.2. Discussion

The findings indicate that Cash Flow per Share (CFPS) exerts a negative and statistically significant effect on stock returns, suggesting that investors do not necessarily interpret higher cash flow accumulation as a favorable signal. In theory, cash flow information should reduce uncertainty because it reflects actual operational performance and is less vulnerable to accounting manipulation than accrual earnings (Dang et al., 2023; Laghari et al., 2023). However, the negative coefficient implies that investors may associate excessive cash holdings with inefficient capital allocation, limited growth opportunities, or agency-related concerns, particularly in emerging markets characterized by higher information asymmetry (Jensen, 1986; Al-Hiyari et al., 2024). This result supports the argument that investor reactions toward cash flow information depend not only on liquidity strength but also on expectations regarding managerial efficiency and future investment prospects (Bouri et al., 2021; Lee et al., 2022).

The positive and significant effect of Net Profit Margin (NPM) demonstrates that profitability remains one of the most important determinants of stock valuation in Indonesian listed firms. This finding suggests that investors place greater emphasis on sustainable earnings performance because profitability reflects operational efficiency, competitive advantage, and long-term business viability (Novy-Marx, 2016; Mosoeu & Kodongo, 2020). The result is consistent with Signaling Theory, which argues that strong profitability provides positive information regarding firm quality and future cash-generating capacity, thereby increasing investor confidence and market demand for shares (Bannigidadmath & Narayan, 2016; Hamdan et al., 2025). Moreover, the substantial long-run effect of NPM indicates that profit-based signals persist over time and contribute significantly to market valuation beyond short-term financial performance (Takamatsu et al., 2019; Yu & Zivot, 2024).

The coefficient of the lagged dependent variable confirms the existence of strong stock return persistence, indicating that previous-period returns continue to influence current-period returns. This finding supports the momentum effect literature, which suggests that investors gradually incorporate information into stock prices, generating predictable return patterns over time (Jegadeesh & Titman, 2015; Shi et al., 2016). The result is also consistent with the Adaptive Market Hypothesis, which argues that market efficiency evolves according to changing economic conditions, investor learning processes, and behavioral adaptation mechanisms (Lekhal & El Oubani, 2020; Munir et al., 2022). In emerging markets, where information dissemination is often uneven and investor sophistication varies considerably, return persistence tends to be stronger because market participants respond to information gradually rather than instantaneously (Hiremath & Kumari, 2014; Xiong et al., 2019).

These findings provide several important implications for Indonesia, ASEAN economies, and emerging capital markets more broadly. First, the results demonstrate that profitability signals remain more influential than cash-flow-based indicators in determining stock returns, suggesting that emerging market investors continue to rely heavily on earnings-related information when evaluating firm performance (Mosoeu & Kodongo, 2020; Syzdykov, 2021). Second, the strong persistence effect indicates that stock prices do not fully adjust to information immediately, reinforcing the relevance of dynamic asset-pricing approaches in less efficient markets (Urquhart & McGroarty, 2016; Shi & Zhou, 2017). Third, the negative valuation effect of CFPS highlights the possibility of a cash flow paradox in emerging economies, where higher liquidity does not necessarily generate higher market appreciation. Overall, the evidence contributes to the growing literature on emerging markets by showing that firm profitability, dynamic adjustment mechanisms, and investor interpretation of financial signals jointly shape stock return behavior in Indonesia and comparable ASEAN economies (Demir et al., 2022; Yang, 2025).

The findings provide several important theoretical contributions to the literature on stock return determinants in emerging markets. First, the positive effect of Net Profit Margin supports Signaling Theory by demonstrating that profitability remains a credible signal of firm quality and future performance, leading to favorable investor responses and higher stock returns (Novy-Marx, 2016; Bannigidadmath & Narayan, 2016; Mosoeu & Kodongo, 2020). Second, the negative effect of Cash Flow per Share extends Information Asymmetry Theory by suggesting that cash flow information is not always interpreted as a positive signal by investors, particularly when higher cash holdings are perceived as evidence of inefficient resource allocation or limited investment opportunities (Lee et al., 2022; Al-

Hiyari et al., 2024; Laghari et al., 2023). Third, the significant persistence of stock returns provides empirical support for the Adaptive Market Hypothesis, indicating that information is incorporated gradually into stock prices and that return dynamics remain relevant in emerging capital markets characterized by imperfect information environments (Urquhart & McGroarty, 2016; Shi et al., 2016; Munir et al., 2022). Collectively, these findings suggest that profitability-based signals dominate cash-flow-based information in explaining stock returns, while dynamic adjustment mechanisms play a crucial role in shaping market behavior in emerging economies.

The practical implications are equally important for investors, corporate managers, and regulators. For investors, the results suggest that profitability indicators such as Net Profit Margin provide stronger valuation signals than cash flow measures when assessing investment opportunities in emerging stock markets (Yu & Zivot, 2024; Demir et al., 2022). For corporate managers, the findings highlight the importance of improving not only cash generation capacity but also the efficiency with which cash resources are utilized, as investors appear to place greater value on sustainable profitability than on cash accumulation alone (Dang et al., 2023; Hamdan et al., 2025). For regulators and capital market authorities, the evidence emphasizes the need to strengthen financial disclosure quality and enhance transparency regarding cash flow utilization, thereby reducing information asymmetry and improving market efficiency (Bouri et al., 2021; Lee et al., 2022). Ultimately, strengthening disclosure practices and improving investor understanding of financial fundamentals may contribute to more efficient capital allocation and more sustainable capital market development across Indonesia and other ASEAN emerging economies.

5. CONCLUSION

This study investigates the effects of Cash Flow per Share (CFPS), Net Profit Margin (NPM), and stock return persistence on the stock returns of Consumer Non-Cyclicals and Agriculture firms listed on the Indonesia Stock Exchange during 2014–2024 using the System GMM approach. The findings reveal that stock returns exhibit strong persistence over time, confirming that past returns significantly influence current returns, while profitability positively affects stock returns and serves as the most influential fundamental determinant in both the short and long run. In contrast, CFPS exerts a negative effect on stock returns, suggesting that investors in emerging markets may interpret cash accumulation as a signal of inefficient resource utilization rather than superior firm performance. These results answer the research questions by demonstrating that profitability and return persistence are significant drivers of stock returns, whereas cash flow information conveys a more complex valuation signal. The study contributes to the literature by extending Signaling Theory, Information Asymmetry Theory, and the Adaptive Market Hypothesis within the context of emerging capital markets. From a policy perspective, the findings highlight the importance of improving financial reporting quality, profitability sustainability, and transparency regarding cash flow utilization to strengthen investor confidence and market efficiency. Future research may incorporate additional firm-specific variables, macroeconomic factors, sectoral comparisons, and cross-country analyses across ASEAN and other emerging markets to further explore the dynamic relationship between corporate fundamentals and stock return behavior.

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