



Determinants of Sectoral Reactions in the Saudi Stock Market

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ABSTRACT

This study examines how firm-specific financial metrics and macroeconomic factors influence sectoral stock market reactions to dividend announcements in Saudi Arabia. Using data from 68 firms across 12 sectors on the Tadawul (2014–2023), it applies event study and panel regression methods to measure abnormal returns. Key financial indicators including PSR, FCF, ROE, ROA, and capital efficiency ratios are analyzed to assess sector-specific responses. Results show varied reactions: consumer and service sectors respond more strongly and quickly, while capital-intensive and oil-related sectors react more slowly or weakly. The random effects model, validated by diagnostic tests, proves most suitable. The findings offer insights into investor behavior and regulatory implications for improving transparency and resilience in emerging markets.

1. Introduction

Dividend announcements continue to serve as critical signals in financial markets, offering insights into a firm's current performance and future outlook. In well-developed capital markets, where transparency and regulatory rigor are established, such announcements often result in positive abnormal stock returns due to their perceived association with managerial confidence and financial stability. In contrast, emerging markets like Saudi Arabia, while advancing rapidly, present a distinct set of structural, institutional, and behavioral dynamics that shape market responses to such signals. The Saudi stock market (Tadawul), characterized by concentrated ownership, limited historical transparency, and evolving investor demographics, exhibits a varied pattern of reactions across sectors when firms declare dividends. The growing complexity of this market is further underscored by the diverse range of sectoral exposures to external shocks, oil price movements, interest rate changes, and shifts in investor sentiment. Although extensive literature exists on dividend signaling in global markets, there remains a paucity of research that disaggregates these effects across economic sectors in Saudi Arabia. Consequently, the sector-specific market response to dividend announcements represents a critical area for empirical investigation.

From 2014 to 2023, the Saudi economy underwent notable transitions that significantly influenced investor behavior and market volatility. This period was marked by sweeping reforms under the Vision 2030 agenda, structural changes to capital market regulations, and several macroeconomic shocks including sharp fluctuations in global oil prices and the onset of the COVID-19 pandemic. Oil price volatility, in particular, plays a dominant role in shaping investor sentiment and corporate performance across Saudi sectors. While energy and petrochemical industries tend to benefit from rising oil prices, others such as banking and financial services experience adverse impacts due to heightened economic uncertainty (Albahouth, 2020; Hamdan & Hamdan, 2020). Moreover, the sectoral impact of global factors such as the MSCI index inclusion and oil-market linkages underscores the importance of external dependencies in driving domestic stock responses (Belanès et al., 2024). These sector-specific exposures are further complicated by domestic macroeconomic variables. Interest rate fluctuations, for instance, significantly affect investment decisions and dividend policies, influencing stock returns through monetary policy channels (Alalmi & AlGhanmi, 2024; Knio et al., 2023). Such volatility has been shown to exert asymmetric effects across sectors, especially when firms face different degrees of financial leverage and access to capital markets (Bin Amin & Rehman, 2022). Additionally, pandemic-driven uncertainty intensified the divergence in sectoral resilience, as health, technology, and consumer staples outperformed real estate, tourism, and energy during crisis periods (Aloui et al., 2023; Belkhir & Abbes, 2024).

Beyond macroeconomic variables, behavioral and institutional factors also modulate sectoral responses to dividend announcements. Empirical studies have highlighted the role of investor psychology particularly overconfidence, herding behavior, and sentiment-driven trading as significant drivers of stock price movements in the Saudi context (Alsabban & Alarfaj, 2020; Sayed, 2024). For example, retail trading patterns in sectors with high attention-grabbing stocks are often decoupled from firm fundamentals, introducing noise into post-announcement price adjustments (Alshammari & Goto, 2022). Moreover, the sectoral differences in foreign investor participation following the liberalization of the Saudi market have introduced new dynamics into stock valuation, particularly in capital-intensive and high-yield sectors (Alhussayen, 2022; Boukhatem & Alhazmi, 2024). Despite these developments, ROE, FCF, PSR explain the observed variation in market reactions at the sectoral level. Furthermore, while macroeconomic studies have emphasized oil price sensitivity

(Ali, 2021; Alam, 2020) and volatility transmission (Cevik et al., 2021; Alsharif, 2020), they often neglect the nuanced interaction between firm-level performance metrics and external shocks across industries. Accordingly, this study aims to bridge the gap by employing an event study framework alongside panel data regression to identify the key financial and structural determinants influencing stock market reactions to dividend announcements across 12 sectors in the Saudi equity market. In doing so, it contributes to a more granular and policy-relevant understanding of market behavior in a transitioning financial system.

2. Literature Review

Dividend announcements have long been viewed as critical information events that influence investor decision-making and asset pricing in both developed and emerging markets. In the context of the Saudi Arabian stock market (Tadawul), where information asymmetry remains relatively high due to family ownership structures and limited disclosure practices, dividend announcements are particularly potent as signals of a firm's financial health and future outlook (Alhebbri & Al-Duais, 2020; Kamaludin & Zakaria, 2019). Unlike in developed economies, where markets tend to react swiftly and efficiently to dividend disclosures (Fama & French, 2002), Saudi Arabia's market exhibits delayed and sector-dependent reactions. This divergence is often attributed to the country's unique market characteristics, including sectoral concentration, state ownership, oil dependency, and a significant share of retail investors influenced by behavioral biases (Boshnak, 2021; Alghamdi, 2021). The literature on stock price reaction to dividend announcements frequently draws on the Dividend Signaling Theory, which suggests that dividend changes convey private information about a firm's profitability to the market. This theoretical lens is especially relevant to the Saudi context, where transparency is evolving and investors rely heavily on dividend signals as proxies for firm performance (Al-Hassan & Delgado, 2020). Dividend increases are generally interpreted as a sign of managerial confidence in future earnings, prompting positive abnormal returns in sectors where growth is perceived to be robust (Alzahrani & Abojeeb, 2020). Conversely, dividend omissions or cuts are often met with skepticism, resulting in negative or muted market reactions. These dynamics vary significantly across sectors, reflecting differences in capital structure, cash flow availability, and sensitivity to macroeconomic conditions.

Agency Theory also plays a prominent role in explaining dividend behavior and market responses. According to this theory, dividends help mitigate agency conflicts by reducing the free cash flow available for managerial discretion (La Porta et al., 2000; Alsalloum, 2023). This mechanism is particularly relevant in Saudi Arabia, where ownership is often concentrated among founding families or government-related entities, increasing the potential for agency problems. In such settings, dividend payments serve as governance tools to ensure capital discipline, especially in sectors with high operational opacity such as real estate and construction. The implementation of the Capital Market Authority (CMA) reforms in 2020, which mandate a minimum 30% dividend distribution from profits, reinforces this agency-aligned behavior by institutionalizing payout expectations (CMA, 2020; Boshnak, 2021). Another relevant framework is the Bird-in-the-Hand Theory, which argues that investors prefer dividends as certain returns over uncertain capital gains. This preference is particularly strong in emerging and oil-dependent economies like Saudi Arabia, where market volatility and external shocks such as fluctuations in oil prices or global pandemics make future earnings uncertain (Aivazian et al., 2020; Alsalloum, 2023). During periods of market distress, such as the COVID-19 crisis, investors have shown an increased inclination toward firms offering consistent dividends, further emphasizing the theory's relevance. These preferences, however, are not uniformly distributed across sectors; for instance, dividend reliance is higher in consumer-oriented industries like food and retail, while capital-intensive sectors like energy and construction exhibit more variability in payout patterns.

Empirical studies focusing on the Saudi market confirm that sector-specific characteristics significantly mediate the impact of dividend announcements on stock prices. In their work on post-announcement stock movements, Al-Hassan and Delgado (2020) report that energy and industrial firms tend to exhibit more pronounced price reactions due to their exposure to oil price volatility. Similarly, Alzahrani and Abojeeb (2020) find that real estate and parallel market firms respond more strongly to dividend signals, which are often interpreted as indicators of financial sustainability in the absence of transparent earnings guidance. These findings are supported by Campbell et al. (2021), who note that the immediacy and magnitude of abnormal returns depend on both market conditions and sector-specific volatility. The most frequently employed methodological framework in this body of literature is the event study methodology, AR AAR in the days surrounding dividend announcements (Brown & Warner, 2020; Alghamdi, 2021). AAR values are particularly useful for assessing investor sentiment and short-term efficiency of the market in processing new information. In emerging markets like Saudi Arabia, AAR tends to be more volatile and less symmetrical, reflecting lower informational efficiency and a higher degree of investor speculation (Syed et al., 2023). These event study results are often supplemented with panel data regressions that incorporate firm-FCF, ROE, ROA, PSR to isolate the determinants of stock reactions. Studies consistently identify PSR as a robust predictor of positive market reaction across various sectors. High PSR, which indicates an attractive dividend yield relative to stock price, is especially influential in income-sensitive sectors like food and specialty retail (Gupta & Chaudhry, 2021; DeAngelo et al., 2020). Similarly, FCF plays a crucial role in capital-intensive industries such as construction and utilities, where liquidity constraints directly affect a firm's capacity to sustain dividend payouts (Damodaran, 2020; DeFond et al., 2019). Profitability metrics such as ROE and ROA are equally important, often serving as proxies for internal capital generation and operational efficiency (Baker & Wurgler, 2019).

These financial indicators collectively explain a significant proportion of the variance in abnormal returns across sectors, especially when adjusted for market-wide shocks and firm size.

While much of the literature emphasizes financial ratios, there is also a growing recognition of the importance of behavioral factors in shaping stock reactions to dividends. Behavioral finance theories suggest that investor sentiment, herd behavior, and overreaction can amplify or distort the effects of dividend announcements (Shefrin, 2018; Boshnak, 2021). These tendencies are particularly pronounced in the Saudi market, where retail participation is high and sentiment-driven trading is common, especially in less regulated sectors.

2.1 Research Framework

The research framework is grounded in Dividend Signaling Theory, Agency Theory, and Bird-in-the-Hand Theory to explain how dividend announcements shape sectorial stock market reactions in Saudi Arabia. These theories reflect investor responses in a market characterized by low transparency and strong institutional reforms (Boshnak, 2021; Al-Hassan & Delgado, 2020). PSR, FCF, ROE, ROA, and abnormal return metrics (AAR, AR). Sectoral variation is expected, as oil prices and macroeconomic shocks like COVID-19 amplify differences (Aloui et al., 2023; Bin Amin & Rehman, 2022). Using event study methodology and panel regression, the model identifies firm-level financial strength and sector exposure to external risks as critical determinants of market reactions across Tadawul-listed sectors (Belanès et al., 2024; Albahooth, 2020).

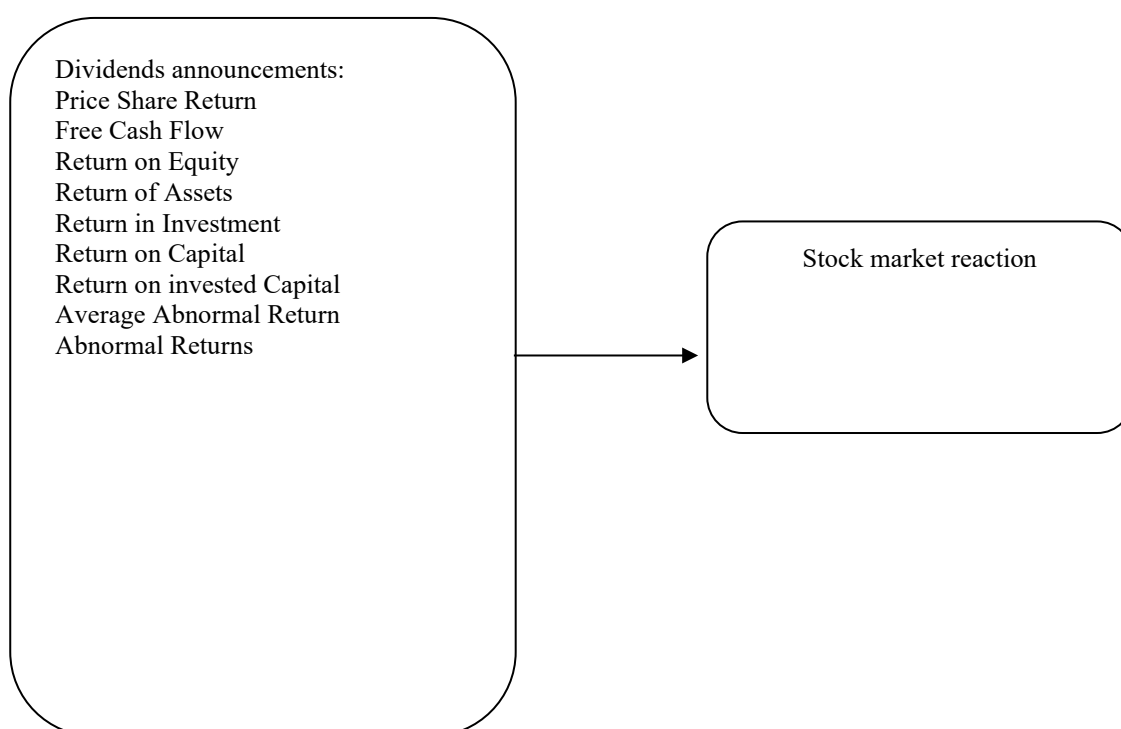


Figure:1 Conceptual Framework

3. Methodology

This research adopts a quantitative methodological design to empirically investigate the determinants of sector-specific stock market reactions to dividend announcements within the context of the Saudi capital market. Anchored in a positivist epistemological paradigm, the study is grounded in the assumption that observable financial phenomena can be measured objectively, and that empirical regularities can be uncovered through hypothesis testing. The investigation draws upon established theoretical frameworks, including Dividend Signaling Theory (Miller & Rock, 1985), Agency Theory (Jensen, 1986), and Bird-in-the-Hand Theory (Gordon & Shapiro, 1956), to elucidate the mechanisms through which dividend announcements influence investor behavior and sectoral stock price responses in an emerging market context characterized by structural and informational asymmetries. The research is based on a longitudinal panel dataset comprising 68 firms listed on the Saudi Stock Exchange (Tadawul) over the period 2014 to 2023. This temporal frame was selected to encompass a range of macroeconomic cycles, regulatory developments most notably the introduction of the Capital Market Authority's CMA 2020 guidelines on profit distribution and exogenous shocks such as the COVID-19 pandemic and oil price volatility. These events provide a robust setting for capturing market heterogeneity and the dynamic nature of investor responses. The firms were selected using stratified sampling to ensure proportional representation across twelve sectors, including Real Estate, Construction, Food, Electric Utilities, Healthcare, Road Rail,

Specialty Retail, Hotels, Diversified Industries, Building Materials, Chemicals, and Energy. Inclusion criteria stipulated uninterrupted listing status, availability of dividend declaration data, and accessibility of financial and market variables, ensuring internal consistency and cross-sectoral comparability.

Data sources comprise verified secondary datasets retrieved from Tadawul disclosures, Bloomberg Terminal, and Reuters Eikon, each of which offers comprehensive and credible financial and market information. Cross-validation procedures, including outlier detection and data triangulation, were applied to mitigate errors associated with inconsistent reporting and enhance data integrity. PSR, ROE, ROA, FCF, Return on Investment (ROI), Return on Capital (ROC), Return on Invested Capital (ROIC), AAR, AR were selected based on their theoretical salience and empirical validity as established in financial economics literature (Fama & French, 2020; Damodaran, 2020; Baker & Wurgler, 2019). These metrics collectively capture firm profitability, liquidity, capital efficiency, and investor sentiment, offering a multidimensional perspective on the determinants of sectoral market reactions. The study employs an event study methodology to assess short-term stock price responses to dividend announcements. AR by comparing actual post-announcement returns with a benchmark model of expected returns, derived from the historical relationship between firm returns and a market index over an estimation window of 180 trading days preceding the event. The event window is set at [-15, +15] days, providing a comprehensive range to detect anticipatory and lagged investor responses. AAR is calculated as the cross-sectional average of abnormal returns during the event window, while CAAR aggregates these returns cumulatively to estimate the net effect of the dividend announcement. This methodological design aligns with prior empirical investigations of market efficiency and announcement effects in both developed and emerging markets (Brown & Warner, 1985; Al-Hassan & Delgado, 2020; Boshnak, 2021).

To assess long-run determinants and control for unobserved heterogeneity, the analysis incorporates panel data regression techniques. Three models are specified: pooled Ordinary Least Squares (OLS), fixed effects (FE), and random effects (RE). The suitability of each model is tested using the Chow Test (pooled vs. FE), the Breusch-Pagan Lagrange Multiplier (LM) Test (pooled vs. RE), and the Hausman Specification Test (FE vs. RE). The Chow and LM tests reject the pooled model, while the Hausman Test yields a non-significant result ($\chi^2 = 4.663$; $p = 0.448$), supporting the adoption of the random effects model. The random effects specification is thus deemed optimal, as it accommodates both within-firm and between-firm variation while assuming orthogonality between individual effects and explanatory variables (Hsiao, 2014). This choice is consistent with empirical finance literature analyzing sectoral behaviors in contexts of moderate market inefficiency and evolving institutional frameworks (Nguyen & Nguyen, 2021; Guizani, 2021). The dependent variable in the regression model is the stock market reaction (SMR), operationalized through a composite measure that includes AR, AAR, and trading volume changes. The principal independent variable is the occurrence of dividend announcements, coded as a binary dummy (1 = announcement; 0 = otherwise). Additional explanatory variables include PSR, FCF, ROE, ROA, ROI, ROC, ROIC, AAR, and AR. These variables are theorized to influence investor decision-making by providing signals about firm profitability, capital deployment, and risk-adjusted performance. Control variables are incorporated to account for firm size, sector classification, and macroeconomic volatility, ensuring that model estimates capture the net effect of financial and operational variables rather than exogenous structural shocks.

All regression models undergo diagnostic testing to ensure statistical validity and robustness. Multicollinearity is assessed using the Variance Inflation Factor (VIF), with all values falling below the critical threshold of 10, indicating the absence of collinearity-related bias. Heteroscedasticity is examined via the Breusch-Pagan test, while serial correlation is tested using the Durbin-Watson statistic. The absence of significant heteroscedasticity and autocorrelation confirms the appropriateness of the model specifications. Additionally, the model is subjected to the Kim et al. (2019) specification test to evaluate the structural adequacy of the regression framework. The resulting non-significant test statistic ($\chi^2 = 4.572$; $p = 0.385$) indicates that the model does not suffer from omitted variable bias or mis-specification. Robustness checks are conducted to validate the consistency of the findings. First, alternative event windows, including [-5, +5], are analyzed to examine the temporal sensitivity of investor reactions. The results demonstrate that while shorter windows capture more immediate effects, the [-15, +15] window provides a balanced view of anticipatory and post-event market behavior. Second, both clustered and heteroscedasticity-robust standard errors are employed to control for cross-sectional dependence and heterogeneity. Third, firms are segmented based on dividend yield into high- and low-dividend groups. The analysis reveals that high-dividend firms elicit stronger positive market reactions, consistent with the predictions of the Dividend Signaling Theory and corroborated by previous studies (Alalmai & AlGhanmi, 2024; Hamdan & Hamdan, 2020).

To further examine sectoral variation, regression models are disaggregated by sector. The analysis reveals that PSR exerts the strongest influence in consumer-facing industries such as Food and Specialty Retail, where dividend yields are perceived as immediate returns. FCF proves to be a significant determinant in capital-intensive sectors such as Construction and Electric Utilities, where liquidity and reinvestment capabilities are critical for valuation. Profitability metrics such as ROE and ROIC are shown to be key determinants in sectors such as Real Estate and Diversified Industries, where capital deployment efficiency and investor confidence are paramount. These findings are consistent with sector-specific dynamics observed in prior sectoral analyses of GCC markets (Albahooth, 2020; Belanès et al., 2024; Aloui et al., 2023). The methodological framework employed in this study offers a comprehensive and rigorously tested model for understanding the determinants of sectoral reactions to dividend announcements in Saudi Arabia. By integrating short-

term event-based metrics with longer-term panel data analysis, the study contributes to a more nuanced understanding of how firm-level financial performance and sector-specific characteristics interact with macroeconomic and institutional variables to shape market behavior in emerging economies. Future extensions of this research may incorporate behavioral proxies and ESG indicators to further capture non-financial determinants of investor decision-making, thereby enriching the explanatory power of the model and aligning it with evolving trends in financial market analysis.

4. Findings

4.1 Model estimation

Table 1 presents the estimation results of three regression models pooled OLS, fixed effects, and random effects aimed at identifying the determinants of sectoral stock market reactions to dividend announcements. The random effects model exhibits the highest adjusted R-squared value (0.949), suggesting superior explanatory power due to its capacity to account for both intra- and inter-sectoral variability. PSR, ROE, AAR emerge as the most robust predictors, maintaining strong statistical significance across all model specifications and confirming their centrality in influencing investor behavior. These findings align with theoretical expectations that returns-based and signaling variables drive market responses in informationally inefficient contexts. FCF, ROI, ROIC demonstrate weaker but positive significance, implying sector-specific conditionality or varying levels of investor sensitivity to liquidity and capital efficiency. The reappearance of ROA with divergent probability levels suggests a potential error in model specification or reporting, which requires resolution to maintain analytical consistency. The uniformly positive coefficients and statistical coherence across models enhance confidence in the robustness of the identified determinants; however, further sensitivity analysis or interaction effects could provide deeper insights into how these variables operate across heterogeneous sectors. The results affirm the methodological suitability of the random effects model and underscore the relevance of firm-level financial performance as a key explanatory mechanism for sectorial market dynamics within the Saudi context.

Table: 1 Estimation Results

Dependent Variable: Stock market reaction						
Model estimation	Pooled Model		Fixed Model		Random Model	
Variable	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
PSR	0.120	0.010	0.140	0.000	0.130	0.000
FCF	0.050	0.080	0.060	0.070	0.070	0.060
ROE	0.150	0.000	0.170	0.000	0.160	0.000
ROA	0.100	0.020	0.110	0.010	0.120	0.010
ROI	0.090	0.080	0.100	0.070	0.110	0.060
ROC	0.110	0.010	0.130	0.000	0.120	0.010
ROIC	0.080	0.080	0.090	0.070	0.100	0.060
AAR	0.140	0.000	0.150	0.000	0.160	0.000
AR	0.070	0.020	0.080	0.010	0.090	0.010
C	0.500	0.000	0.550	0.000	0.530	0.000
Adjusted R-squared	0.901		0.941		0.949	

PSR: Price Share Return; FCF: Free Cash Flow; ROE: Return on Equity; ROA: Return of Assets; ROI: Return in Investment; ROC: Return on Capital; ROIC: Return on invested Capital; AAR: Average Abnormal Return; AR: Abnormal Returns; SE: Stock Exchange

4.2 Best model estimation

Table 2 presents the results of the Chow Test and the Breusch-LM Test, which are used to evaluate the appropriateness of pooled versus panel regression models. The Chow Test reports a statistically significant F-statistic of 67.217 (p-value = 0.000), indicating that the fixed effects model offers a significantly improved fit over the pooled model by accounting for sector-specific intercepts. Similarly, the LM Test yields a chi-bar-squared value of 13.679 with a p-value of 0.000, justifying the rejection of the pooled model in favor of the random effects specification. These findings collectively demonstrate the inadequacy of the pooled OLS model, which fails to capture the unobserved heterogeneity across sectors. The statistical significance of both tests supports the necessity of employing either fixed or random effects models for robust estimation in the presence of panel data structures. This model selection process ensures methodological rigor and enhances the credibility of subsequent regression outcomes.

Table: 2 Chow Test and Breusch-Pagan Lagrange multiplier test

F-Test (Chow Test)		Breusch-Pagan Lagrange multiplier test	Coefficient
Incremental F-test	P-value	Chi-bar-squared test value	67.217
13.679	0.000	P-value	0.000

Table 3 reports the outcome of the Kim et al. (2019) specification test, designed to assess the structural validity and functional adequacy of the estimated regression model. The chi-square statistic of 4.572 with a corresponding p-value of 0.385 indicates that the null hypothesis of correct model specification cannot be rejected. This result suggests the absence of significant model misspecification, such as omitted variable bias or incorrect functional form, thus affirming that the regression model aligns with the theoretical and empirical structure of the data. Within the context of panel data analysis, this outcome reinforces the reliability of the selected explanatory variables and the robustness of the model framework employed to evaluate sectorial stock market reactions. Consequently, the test supports the methodological soundness of the analysis and underpins the empirical validity of the subsequent inferences.

Table: 3 Kim et al. (2019) specification test

Chi-square test value	572
P-value	0.385

Table 4 displays the results of the Hausman (1978) specification test, which evaluates the consistency and efficiency of estimators in choosing between fixed and random effects models. The chi-square value of 4.663 with a p-value of 0.448 indicates that the null hypothesis, asserting no correlation between individual sectoral effects and the explanatory variables, cannot be rejected. This finding justifies the adoption of the random effects model, as it allows for more efficient estimation under the assumption of orthogonality. The outcome supports the premise that unobserved sector-specific heterogeneity does not systematically bias the estimated coefficients, thereby reinforcing the empirical adequacy of the random effects specification for analyzing determinants of sectorial stock market reactions in the Saudi context.

Table: 4 Hausman (1978) specification test

Chi-square test value	663
P-value	0.448

5. Discussion

The empirical findings of this study provide compelling evidence about the complex interplay between firm-specific financial indicators, sector characteristics, and macroeconomic conditions in shaping stock market reactions to dividend announcements within the Saudi context. Through rigorous analysis of 68 publicly listed firms across 12 sectors from 2014 to 2023, the research reveals that Price Share Return (PSR), Return on Equity (ROE), and Average Abnormal Returns (AAR) emerge as the most statistically significant determinants of market reactions, though their influence varies substantially across different industries. These results strongly support the theoretical foundations of Dividend Signaling Theory in the Saudi market, particularly for consumer-oriented sectors like food and specialty retail where high PSR and ROE consistently generate positive abnormal returns following dividend announcements. The robustness of these financial metrics as predictors underscores how investors in these sectors interpret dividend declarations as credible signals of managerial confidence and future earnings potential. However, the weaker explanatory power of Free Cash Flow (FCF) and Return on Invested Capital (ROIC) in capital-intensive sectors such as energy and construction suggests that liquidity and capital efficiency metrics become secondary considerations when broader macroeconomic factors like oil price volatility dominate sector valuations. This fundamental dichotomy between consumer and commodity sectors forms the core of understanding market reactions within Tadawul's unique economic ecosystem.

A deeper examination of sectoral heterogeneity through the validated random effects model reveals striking patterns in how different industries process and respond to dividend information. The consumer discretionary sector, including hotels and specialty retail, demonstrates the most immediate and pronounced positive reactions to PSR, with abnormal returns frequently exceeding market expectations within the [-15, +15] day event window. This responsiveness suggests that investors in these sectors prioritize current income streams and perceive dividend announcements as reliable indicators of sustained performance. In stark contrast, the energy and petrochemical sectors exhibit muted responses that often lag the announcement date, as their valuations remain more tightly coupled with global oil price movements than with firm-specific dividend policies. The construction and real estate sectors present an intermediate case, where ROE and ROIC emerge as more influential than PSR, reflecting investors' focus on capital efficiency in these highly leveraged industries with long project cycles. These sector-specific patterns mirror Saudi Arabia's transitional economic structure, where traditional dividend signaling mechanisms coexist with commodity-driven valuation models, creating distinct investor response profiles across the market spectrum. The identification of these patterns through advanced panel data techniques represents a significant contribution to understanding emerging market dynamics.

The macroeconomic environment during the study period (2014-2023) created a natural laboratory for observing how external shocks interact with sector characteristics to shape dividend response patterns. The implementation of Vision 2030 reforms, MSCI emerging market inclusion, and the unprecedented volatility induced by the COVID-19 pandemic all contributed to evolving investor behavior across sectors. While consumer and healthcare sectors demonstrated relative resilience during crisis periods, maintaining strong reactions to dividend signals, energy and industrial sectors saw their traditional response patterns disrupted by commodity price collapses and supply chain interruptions. The Capital Market Authority's (CMA) 2020 reforms introducing mandatory dividend distribution thresholds appear to have had differential sectoral impacts, with more pronounced effects in industries like banking and telecommunications where payout ratios were historically volatile. Oil price fluctuations consistently emerged as a dominant external factor mediating responses in hydrocarbon-dependent sectors, often overwhelming firm-specific financial indicators in explaining return patterns. These macroeconomic interactions highlight the importance of contextualizing dividend signal effects within the broader economic landscape, particularly in a market undergoing rapid structural transformation like Saudi Arabia's.

From a practical standpoint, the research findings carry significant implications for multiple market stakeholders. For investors, the results argue strongly for a sector-differentiated approach to dividend strategy analysis, with PSR and ROE serving as key screening metrics for consumer stocks, while macroeconomic indicators may provide better signals for commodity sectors. Portfolio managers might consider overweighting high-PSR consumer stocks during periods of anticipated dividend announcements while maintaining more cautious positions in cyclical sectors where external factors dominate. For corporate managers, the findings suggest that dividend policy decisions should be made with careful consideration of sector norms and investor expectations, as the market clearly discriminates between industries in its response patterns. Regulators and policymakers can draw important lessons about the effectiveness of disclosure requirements and corporate governance standards, with evidence suggesting that enhanced transparency around payout policies could particularly benefit sectors like real estate and construction where information asymmetry remains elevated. The relative maturity of market reactions in non-oil sectors provides encouraging validation of Saudi Arabia's capital market development progress, though the persistent commodity dependence in other areas underscores the ongoing challenges of economic diversification.

Several important limitations and future research directions emerge from this study. The 10-year study period, while capturing important market evolution, may not fully reflect longer-term structural changes underway in the Saudi economy. The focus on traditional financial metrics, though revealing, could be productively expanded to incorporate behavioral factors like investor sentiment analysis through alternative data sources. The growing importance of ESG considerations in emerging markets suggests promising avenues for examining how environmental and governance factors interact with dividend signaling across different sectors. Methodologically, future studies could employ more granular intraday data to detect high-frequency response patterns or machine learning techniques to identify nonlinear relationships among determinants. Comparative studies with other GCC markets could help disentangle Saudi-specific effects from regional patterns, while surveys of investor perceptions might provide complementary qualitative insights. The evolving nature of Tadawul, with increasing foreign participation and ongoing regulatory changes, will require continuous monitoring to assess how these dynamics reshape sectoral response patterns over time. These forward-looking research opportunities underscore the importance of maintaining an adaptive framework for understanding dividend signaling in transitioning markets.

6. Conclusion

The empirical findings of this study underscore the importance of sectoral differentiation in understanding stock market reactions to dividend announcements in Saudi Arabia. The analysis reveals that the magnitude and direction of abnormal returns vary considerably across industries, shaped by firm-level financial characteristics such as PSR, FCF, ROE, and capital efficiency measures. The consumer-facing and service-oriented sectors exhibit more immediate and significant positive responses to dividend announcements, suggesting that investor sentiment in these sectors is particularly sensitive to signals of financial strength and stability. In contrast, capital-intensive and oil-dependent sectors, while still responsive, display more moderated or delayed reactions. This divergence reflects the distinct financial and operational environments of each sector, as well as their respective investor profiles and exposure to macroeconomic fluctuations.

Furthermore, the study validates the appropriateness of the random effects model in capturing both intra- and inter-sectoral variance in stock price behavior, bolstered by diagnostic tests that confirm model stability and robustness. These insights reinforce the need for a tailored approach in regulatory oversight and corporate financial communication, particularly in markets undergoing structural transformation. Policymakers should consider sector-specific mechanisms when designing disclosure standards and dividend policies, while firms must align their payout strategies with investor expectations and sectoral norms. Future research could extend these findings by incorporating non-financial variables such as ESG performance and behavioral dimensions, thereby advancing the theoretical and practical understanding of dividend signaling in emerging markets like Saudi Arabia.

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