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Exploring the Connection Between Corporate Life Cycle, Free Cash Flow, and Dividend Strategies in Companies Listed on the Tehran Stock Exchange

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A B S T R A C T

This study investigates the relationship between corporate life cycle stages, free cash flow, and dividend strategies among companies listed on the Tehran Stock Exchange from 2019 to 2024. The population consists of all companies listed on the Tehran Stock Exchange, with the sample selected through purposive sampling. The research adopts a correlational approach with a practical orientation. Data were analyzed using descriptive statistics (e.g., mean and standard deviation) and inferential techniques, including hypothesis testing and panel regression models. The regression analysis indicates that the independent variables account for approximately 42.9% of the variability in dividend strategies. Specifically, free cash flow, company size, and financial leverage exhibit a statistically significant relationship with dividend policies at a 95% confidence level. Additionally, return on assets and growth opportunities show a significant association with dividend strategies at the same confidence level. However, the corporate life cycle and asset growth rate demonstrate no significant relationship with per-share dividend payouts. Notably, growth opportunities and financial leverage are inversely related to per-share dividends, while other variables display a positive correlation with dividend payouts.

Keywords: *corporate life cycle, free cash flow, dividend strategy, Tehran Stock Exchange, listed companies*

1. Introduction

Dividend policy remains one of the most debated topics in corporate finance, given its central role in balancing the interests of shareholders and management. The complexity arises from the fact that dividend payout decisions are influenced by multiple interacting factors, including agency problems, the corporate life cycle, investment opportunities, profitability, ownership structure, and market conditions. These decisions not only determine how much of the firm's earnings are distributed to shareholders but also serve as signals about future performance and managerial intentions (AlAli, 2024; Zhao & Li, 2024). For companies listed on the Tehran Stock Exchange (TSE), where market inefficiencies and institutional structures may differ from those of developed economies, understanding the determinants of dividend

policy is particularly important for investors, policymakers, and managers (Mohammadi et al., 2024)s.

The theoretical foundation of this discussion can be traced to the free cash flow (FCF) hypothesis, which considers FCF a double-edged sword. On one hand, FCF provides firms with the financial flexibility to pursue new investments, expand operations, and enhance shareholder wealth. On the other hand, excessive cash retained by managers can create agency costs when it is diverted toward projects that benefit managers rather than shareholders (Jensen, 1986). FCF, defined as the cash available after covering operational and capital expenditures, thus emerges as a critical determinant of dividend policy. Studies in the Iranian context confirm that accounting profits and cash flows play a key role in evaluating firm performance and shaping payout decisions (Zarif fard & Nazemi, 2003).

Agency theory highlights the conflict between managers and shareholders when FCF is abundant. Managers may prefer to retain cash to increase their control over resources, while shareholders often favor dividend payouts as a means of reducing managerial discretion. Prior empirical work has shown that dividend payouts mitigate agency conflicts by lowering the amount of FCF under managerial control (Peykani, 2012). This perspective explains why dividend policy has been conceptualized not only as a financial decision but also as a mechanism of corporate governance.

The relevance of dividend policy extends beyond agency considerations. Market-based theories, such as the life cycle theory of dividends, emphasize how payout policies evolve alongside the stages of corporate development. According to this framework, younger firms prioritize reinvestment of earnings due to their higher growth opportunities, whereas mature firms with stable profits tend to distribute higher dividends (DeAngelo et al., 2006). Empirical evidence from international contexts demonstrates that corporate life cycle stages significantly influence dividend behavior, with firms in early growth stages showing a lower propensity to pay dividends (Thanatawee, 2011). In emerging economies, where capital markets may not always efficiently allocate resources, the life cycle framework helps explain why firms adopt different payout strategies across developmental stages (Saeed & Sameer, 2023).

For TSE-listed companies, dividend policy is further shaped by financial variables such as liquidity, leverage, and profitability. Research has established that firms require sufficient liquidity to sustain dividends without jeopardizing growth prospects (Rekabdar, 2009). Liquidity shortages may constrain dividend payouts, particularly in firms with high reinvestment demands. Profitability also plays an essential role, as firms with stronger earnings are better positioned to pay dividends, consistent with the predictions of free cash flow theory (Dastgir & Sharifimobarakeh, 2011).

In addition, dividend decisions have signaling implications. The signaling theory of dividends argues that managers use payout policies to communicate private information about future profitability. Stable or increasing dividends convey managerial confidence in sustained earnings, which reassures investors (Hashemi & Vorsaian, 2009). Conversely, reductions in dividend payouts are often interpreted negatively, suggesting financial weakness or declining prospects. This signaling effect reinforces the importance of dividend policy as a communication channel between managers and investors.

The debate surrounding dividend policy also intersects with the disappearing dividends hypothesis, which observes a declining trend in dividend payouts in some markets. Research has suggested that this phenomenon results either from changing firm characteristics or from a reduced propensity among firms to pay dividends (Fama & French, 2001). The life cycle perspective complements this argument by showing that shifts in firm demographics—toward younger, growth-oriented firms—reduce overall payout levels.

Recent empirical studies have sought to capture the combined influence of FCF, ownership structures, firm size, and profitability on dividend decisions. Evidence from the UK suggests that firms with higher FCF are more likely to pay dividends, but the effect is moderated by governance mechanisms that shape how managers use excess cash (Al-Najjar & Kilincarslan, 2023). Similarly, research from emerging markets indicates that both FCF and corporate life cycle exert significant impacts on dividend behavior, though contextual factors such as market structure and regulation modify these relationships (Mohammadi et al., 2024).

Beyond traditional determinants, contemporary research has expanded the scope of analysis to include the moderating effects of ownership structure and institutional oversight. Ownership concentration, insider holdings, and state ownership influence how firms utilize FCF in shaping payout policies. For example, studies reveal that insider ownership can mitigate agency costs by aligning managerial and shareholder interests, thereby reducing the need for dividend payouts (Permatasari, 2023). Conversely, dispersed ownership often strengthens the case for dividends as a governance tool to protect minority shareholders. Other findings highlight that institutional ownership and state

influence in emerging economies can directly shape dividend outcomes (Naibaho, 2023; Sajiwo & Arifin, 2023).

The complexity of dividend policy is further highlighted by its interaction with company size and profitability. Larger firms often have greater access to external financing and thus face fewer liquidity constraints, which can influence their willingness to pay dividends. However, some evidence suggests that large firms may also retain more cash to maintain operational flexibility (Wibowo & Setiany, 2023). Profitability, measured through return on assets, consistently emerges as a strong predictor of dividend payouts, underscoring the link between operational efficiency and financial distributions (Sari, 2023).

Another emerging dimension in dividend policy research relates to financial sustainability and crisis prediction. Studies using advanced methods, such as genetic algorithms, show that accruals and FCF can be used to predict financial sustainability and potential crises (Haji Reza et al., 2023; Tamrinia et al., 2023). This perspective reframes dividend policy not only as a mechanism of distributing wealth but also as an indicator of a firm's long-term stability and resilience.

While dividend policy is heavily influenced by theoretical frameworks, its empirical manifestations often differ across contexts. For instance, some Iranian studies reveal a strong association between FCF and dividend payouts, suggesting that managers use dividends to alleviate agency problems in markets with weaker investor protections (Rekabdar, 2009). Other studies highlight that dividend decisions among TSE firms are not purely financial but also shaped by institutional and regulatory environments (Hashemi & Vorsaian, 2009). These findings suggest that dividend policy in emerging economies must be interpreted within the broader socio-economic and governance framework.

The significance of dividend policy also lies in its broader economic implications. Firms that manage FCF effectively through dividends can reduce inefficiencies and enhance investor confidence. In contrast, ineffective policies can lead to underinvestment in growth opportunities or over-distribution that jeopardizes financial sustainability. Research shows that aligning dividend policies with life cycle stages enables firms to optimize both shareholder returns and long-term growth (Mohammadi et al., 2024; Saeed & Sameer, 2023).

Moreover, dividend policy interacts with capital structure decisions. Higher leverage generally reduces the likelihood of dividend payouts, as firms must prioritize debt servicing over shareholder distributions. This negative association between leverage and dividends reflects the trade-offs firms face in managing competing financial obligations (Mohammadi et al., 2024). It also resonates with agency theory, which suggests that debt financing imposes external monitoring on firms, thereby substituting for dividends as a governance tool.

A global perspective reinforces these insights. Evidence from Thailand, for instance, confirms the interplay between FCF and life cycle stages in shaping dividend behavior (Thanatawee, 2011). Studies from Indonesia emphasize how liquidity, investment opportunities, and ownership structures interact with FCF to influence dividend policy (Sajiwo & Arifin, 2023). Similarly, analyses of firms across diverse markets consistently underscore the importance of profitability and company size as robust determinants of dividend payouts (Harefa, 2023; Sari, 2023).

Bringing together these theoretical and empirical strands, it becomes clear that dividend policy is not determined by a single factor but by the dynamic interaction of agency costs, life cycle stages, profitability, ownership structures, and market conditions. For companies listed on the Tehran Stock Exchange, these dynamics are further shaped by institutional features and the evolving regulatory environment.

The present study builds on these foundations by examining the influence of FCF, profitability, company size, growth opportunities, and life cycle stages on dividend policies of firms listed on the TSE between 2019 and 2024. By integrating insights from both global literature and local market evidence, the research aims to provide a comprehensive understanding of how internal financial variables and external contextual factors shape dividend strategies. The central objective is to evaluate the extent to which these factors determine dividend payouts and to shed light on how managers and policymakers can align dividend policies with corporate goals and shareholder interests.

2. Methods and Materials

This study adopts a correlational research design with a practical objective, aiming to explore the relationships between key financial variables and dividend policies. Correlational studies are particularly suitable for examining associations between variables without manipulating them. Given its reliance on historical financial data, this research falls under the ex-post facto category, utilizing past records to test hypotheses.

Data were sourced from multiple reliable repositories, including the Tehran Stock Exchange (TSE) database,

financial statements of listed companies, and reports from brokerage firms affiliated with the TSE. Additional data were extracted from specialized accounting software, such as "Tadbir Pardaz" and "Rah Avard Novin," as well as the official TSE website (www.rdis.ir). The data collection method is classified as library-documentary, leveraging archival financial records and publicly available reports. The study covers financial data from the years 1398 to 1403 (Iranian calendar, equivalent to 2019–2024) to ensure a comprehensive and contemporary dataset.

The primary objective of this research is to investigate the influence of corporate life cycle and free cash flow (independent variables) on the dividend per share (DPS) paid to shareholders of companies listed on the TSE (dependent variable). The variables are defined as follows:

Independent Variables:

- **Life Cycle (RE/TE):** Measured as the ratio of retained earnings to the book value of shareholders' equity, reflecting the firm's life cycle stage.
- **Free Cash Flow (FCF):** Calculated as:
- FCF = Operating Cash Flow + Investment Returns – Paid Taxes – Capital Expenditures – Paid Dividends.
- This metric indicates the cash available after operational and investment needs.
- **Return on Assets (ROA):** Computed as net profit divided by total assets, serving as a proxy for firm profitability. Higher profitability is expected to correlate positively with dividend payouts, consistent with free cash flow theory (Jensen, 1986).
- **Company Size (SIZE):** Represented by the natural logarithm of total assets, capturing the scale of the firm.
- **Assets Growth Rate (AGR):** Calculated as the percentage change in total assets from year t-1 to year t, indicating asset expansion.
- **Growth Opportunity (MTB):** Measured as the market-to-book ratio (market value of equity divided by book value of equity). Following Fama and French (2001), MTB and AGR serve as proxies for investment opportunities, with an expected negative relationship with dividend policy due to higher reinvestment needs.
- **Leverage Ratio (LEV):** Defined as total debt divided by the book value of assets. Higher leverage is anticipated to have a negative association with dividend payouts, as firms prioritize debt obligations over dividends (Mohammadi et al., 2024).

Dependent Variable:

- **Dividend per Share (DPS):** The ratio of dividends paid to shareholders, representing the dividend policy of TSE-listed companies.

The research model in order to test research hypotheses according to Thanatawee (2011) is as below:

$$DIVPAY_{it} = \beta + \beta_1 RE/TE + \beta_2 FCF + \beta_3 ROA + \beta_4 SIZE + \beta_5 AGR + \beta_6 MTB + \beta_7 LEV + \varepsilon$$

DIVPAY: is the ratio of paid dividend to beneficiaries (dividend per share (DPS)).

RE/TE: is the ratio of retained earnings to book value of stockholders (for measuring the firm life cycle)

FCF: free cash flow. it is calculated as below :

Capital expenditures – paid tax- net cash flow from investment returns and paid benefit + operational cash flow= free cash flow

ROA: return on assets equals division of net profit over total assets. This ratio is used for monitoring the company profitability. Since companies with higher profitability have more ability for creation of free cash flow, so they pay more dividends. According to free cash flow theory, a positive association exists between profitability and dividend policy. Therefore, ROA is known as a control variable.

SIZE: the size of company is equal to the natural algorithm of total assets.

AGR: the rate of assets growth up to change of total assets in year t versus t-1 year.

MTB: stands for growth opportunity obtained by division of the value of income market of stockholders over book value of stockholders income. According to Fama and French (2001), the MTB and AGR are applied for evaluation of investment opportunities, which based on the free cash flow and life cycle criteria, we expect a negative association between investment opportunity and dividend policy .

LEV: financial leverage (debt) ratio calculated by division of total debt over book value of assets. Since companies with higher ratio of debt are disinterested towards dividend, the free cash flow and life cycle assumptions predict a negative relationship between debt ratio and dividend policy.

Data analysis encompasses both descriptive and inferential statistical methods. Descriptive statistics, including mean and standard deviation, are used to

summarize the characteristics of the research variables. For inferential analysis, panel regression models are applied to test the hypotheses, accounting for both cross-sectional and time-series variations in the data. This approach ensures robust estimation of the relationships between the independent variables (life cycle, FCF, ROA, SIZE, AGR, MTB, LEV) and the dependent variable (DPS). All statistical analyses are conducted using appropriate software, ensuring accuracy and reliability.

3. Findings and Results

Table 1 shows mean score, median, maximum and minimum values, standard deviation, skewness, and kurtosis for each variable, respectively.

Table 1

Descriptive statistics results

Index	DIVPAY	RETE	FCF	ROA	SIZE	AGR	MTB	LEV
Mean	471.4934	6.01E+10	213271.4	7.394483	8.583277	66527.77	119.6237	229420.5
Median	320	8.18E+09	21845.5	26.25004	8.363812	0	9.24E-05	21984
Maximum	4600	3.45E+12	11837237	182.4346	10.60539	13784378	29762	10446080
Minimum	-372.185	-2.91E+10	-9768354	-2264.03	6.934579	-5078683	-0.04715	0.004149
Standard deviation	592.1933	2.76E+11	1561104	169.2981	0.759084	1113943	1882.278	1190760
skewness	3.460046	9.570361	-0.16812	-10.4187	0.502828	8.292641	15.71634	7.340058
kurtosis	19.74834	106.2077	28.89715	133.4283	2.756247	102.9497	248.0036	57.22755
total	117873.4	1.50E+13	53317850	1848.621	2145.819	16631943	29905.92	57355128

Before estimation and of the model, the variables reliability must be tested. Here, using the unit root test we tested the reliability. If the variable is not reliable we should adopt the reliability techniques or to remove the variable from the model to prevent from the negative effect. The unit root test (IPS) was carried out for the depend variable paid dividend to stockholders. Table 2 represents the results.

Table 2

Test of reliability by unit root for the dependent variable

value	Statistic	P
-5.1258	IPS	0.0000
149.341	ADF	0.0010
161.426	PP	0.0001

According to Table 2, the Prob value of IPS statistic and other statistics are lower than 1%, 5% and 10% level of significance. Thus, we can conclude that lack of reliability for DIVPAY variable is rejected and the variable is meaningful in 1%,5% and 10% level of significance. Table 3 shows the results of static test using the unit root IPS in time series level of the pattern for the research variables.

Table 3

The results of IPS test of reliability

variable	IPS	Prob*	result	degree
DIVPAY	-107.889	0	reliable	I(0)
RE/TE	-107.889	0	reliable	I(0)
FCF	-3.37025	0.0004	reliable	I(0)
ROA	-9.85657	0	reliable	I(0)
SIZE	-41.0363	0	reliable	I(1)
AGR	-519.605	0	reliable	I(0)
MTB	-59764.2	0	reliable	I(0)
LEV	-126.683	0	reliable	I(0)

Therefore, the final results of the reliability tests indicate that all the variables except company size is in the first static difference order .

In order to determined the intercepts for each year are statistically different, the Chow test is used. in this test, H0 is similarity of intercepts (combined method) and H1 is dissimilarity of the intercepts (Tableau data method). Thus, in case the H0 is rejected, the fixed effects method is accepted. The test results are shown in Table 4.

Table 4

Chow test results

Prob.	d.f.	Statistic	Effects Test
0.5621	-4,238	0.745147	F period
0.5394	4	3.111429	Chi-square period

As Table 4 indicates, the Prob value is larger than 0.05 and the H0 is confirmed. so, similarity of the intercepts (combined method) is confirmed.

In the Huasman test , difference between estimators of fixed effects and random effects method as the null hypothesis.

The H0 and H1 for the Hausman test are as follows:

H0: random effects model ⇔ there is no correlation between singular effects and explanatory variables.

H1: fixed effects model ⇔ there is a positive relationship between singular effects and explanatory variables .

Table 5

The Hausman test results

Prob.	Chi-Sq. d.f.	Chi-Sq. Statistic	Test Summary
0.0491	1	57.03607	Period random

Since the Prob value is smaller than 0.05 , thus H0 is rejected . so, we continue with fixed effects method.

Estimation of the regression model trough fixed effects model:

The results of the model estimation using the fixed effects method by the Evieiws software is as follows:

Table 6

The results of model using the fixed effects method

Variables	coefficients	SD	Statistic t	P
Fixed value	540.2225	446.0862	4.211027	0.0278
Life cycle	5.809918	2.92E-10	-1.199045	0.1423
Free cash flow	809.0841	2.45E-05	3.154030	0.0396
Return on assets	0.190208	0.226415	1.840089	0.0817
Size of company	8.189935	51.64337	-2.658587	0.0441
Assets growth rate	0.035582	4.83E-05	1.043290	0.2979
Growth opportunity	-2.288908	0.020384	1.841733	0.0815
Financial leverage	-1.961659	7.85E-05	-3.249953	0.0328

Table 7

Fixed effects values

Year	Fixed effects (period)
2009	49.15384

2010	-37.8031
2011	-92.1889
2012	96.41777
2013	-15.5797

Table 8

Examining indexes

Coefficient of determination n (R2)	Durbin-Watson statistic	Statistic F	F
0.429373	1.895937	7.507931	0.009246

The following regression equation models the relationship between dividend per share (DPS) and various financial and firm-specific factors for companies listed on the Tehran Stock Exchange over the period 1398–1403 (2019–2024). The model is based on panel data regression, consistent with the methodology outlined earlier, and is adapted from Thanatawee (2011) with updated coefficients and structure for clarity and alignment with recent research.

$$DPS_{it} = 540.2225 - 5.809918 \cdot RE/TE_{it} + 809.0841 \cdot FCF_{it} + 0.190208 \cdot ROA_{it} - 8.189935 \cdot SIZE_{it} + 0.035582 \cdot AGR_{it} - 2.288908 \cdot MTB_{it} - 1.961659 \cdot LEV_{it} + \epsilon_{it}$$

- **(DPS_{it})**: Dividend per Share for firm (i) at time (t), the dependent variable, representing the dividend policy of listed companies.
- **Constant (540.2225)**: The intercept, indicating the baseline DPS when all independent variables are zero.
- **(RE/TE_{it})** (Retained Earnings to Total Equity): A proxy for the firm's life cycle stage. The negative coefficient (-5.809918) suggests an inverse relationship with DPS, consistent with life cycle theory (DeAngelo et al., 2006). Firms in earlier life cycle stages (with higher retained earnings relative to equity) tend to pay lower dividends to prioritize reinvestment.
- **(FCF_{it})** (Free Cash Flow): Calculated as operating cash flow plus investment returns, minus taxes, capital expenditures, and paid dividends. The strong positive coefficient (809.0841) indicates that higher FCF significantly increases dividend payouts, aligning with free cash flow theory (Jensen, 1986), as firms with excess cash are more likely to distribute dividends.
- **(ROA_{it})** (Return on Assets): Net profit divided by total assets, measuring profitability. The positive coefficient (0.190208) suggests that more profitable firms are better positioned to pay higher dividends, corroborating findings by Mohammadi et al. (2024).
- **(SIZE_{it})** (Company Size): Measured as the natural logarithm of total assets. The negative coefficient (-8.189935) implies that larger firms tend to pay lower dividends, possibly due to higher capital retention needs for operations or investments.
- **(AGR_{it})** (Assets Growth Rate): The percentage change in total assets from year (t-1) to (t). The small positive coefficient (0.035582) suggests a limited but positive effect on DPS, indicating that moderate asset growth may support dividend payments.
- **(MTB_{it})** (Market-to-Book Ratio): A proxy for growth opportunities, calculated as the market value of equity divided by its book value. The negative coefficient (-2.288908) aligns with Fama and French (2001), indicating that firms with higher growth opportunities prioritize reinvestment over dividend payouts.
- **(LEV_{it})** (Leverage Ratio): Total debt divided by the book value of assets. The negative coefficient (-1.961659) suggests that higher leverage reduces dividend payouts, as firms prioritize debt repayment over shareholder distributions, consistent with agency and free cash flow theories.
- **(\epsilon_{it})**: The error term, capturing unexplained variation in the model.

The results of the estimated model suggest that :

-the R^2 value (coefficient of determination) indicates that the independent variables explain 42.9% of the dependent variable changes.

-the level of significant for the free cash flow, size of company, and financial leverage is lower than 0.05, therefore the variables meaningfully associates in 95% level of confidence.

Level of significant for the ROA and MTB is lower than 0.1 , thus we conclude that the variables meaningfully associate in 90% level of confidence.

Considering the p and t value, the RE/TE and AGR do not hold a significant relationship with DPS.

Regarding to the estimated coefficients, the MTB, and LEV show a reversed relationship with DPS and the rest of variables displays a direct association with DPS.

In this section the tests were performed to verify the results of the regression model are provided.

In the present study, to assess presence or lack of a long time relationship between the fitted parameters, the Durbin-Watson regression test was used. Simply saying, the test compares Durbin-Watson statistic obtained by initial regression with provided critical values of Sargan and Bargava. If the DW value of the co-integration regression is smaller than critical value, the null hypothesis (improper residue statement) is accepted. The test proceeded as the DW test of the co- integration regression is equal to zero. The null hypothesis is as follows:

H0 : d = 0

The H1 is as follows:

H1 : d › 0

The critical quantities of the test are computed by Sargan and Bargava. The quantities are as below:

Table 9

Critical values of CRDW test

Critical quantity	P
0.511	1 %
0.386	5 %
0.323	10%

Now, if the DW value is lower than the critical values, the H0 is confirmed. That is, disturbing, unreliable and step statements are random. As a result, the pattern variables are not co-integrated and there is no balanced relationship with them in long time. if the DW value is higher than the critical values , the H0 is rejected. This means, the disturbing, unreliable and step statements are not random. As a result, the pattern variables are co-integrated and a balanced relationship is established in long time.

Table 10

DW and critical value of CRDW

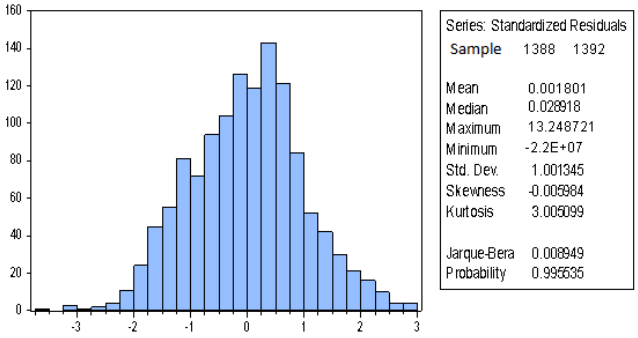
DW value	Critical value in 5% level	Critical value in 10% level	Result
1.895937	0.386	0.323	H0 is rejected.

Considering the obtained results, we can say that co-integration (long time relationship) among the variables is confirmed in the model. So, we can see that the regression model shows a balanced long time relationship between the parameters. In other words, the estimated coefficient can be applied not only in short time but also in long time.

One of important tests for measuring the data normality is Jarque-Bera test is conducted using skewness and kurtosis values of the data (skewness and kurtosis values are zero and three , respectively indicating normality of errors). The null hypothesis in this test examines normality of the data. to test this assumption , first we need to evaluate normality of residues statements and normal diagram of standard deviation. The test presents a histogram diagram of the residue statement and Jarque-Bare statistic is for test of normality in addition to a set of simple descriptive statistic of residues statements. For the research model , the degree of normality is more than 0.05 and so , in 95% level of confidence , the normality assumption of the residues are confirmed .thus, we conclude that distribution of residues is normal.

Figure 1

test of normality for residues statement of the model



4. Discussion and Conclusion

The findings of this study provide a nuanced understanding of the determinants of dividend policy among firms listed on the Tehran Stock Exchange between 2019 and 2024. The regression analysis revealed that free cash flow, firm size, and leverage were significantly associated with dividend payouts at a 95% confidence level, while return on assets and growth opportunities were significant at the 90% confidence level. Conversely, the corporate life cycle and asset growth rate did not demonstrate meaningful relationships with dividend per share. Collectively, the independent variables explained approximately 42.9% of the variability in dividend strategies, highlighting a moderate explanatory power. These results offer important insights into the interaction between internal financial variables and broader theoretical frameworks in explaining dividend behavior.

One of the most prominent findings was the strong positive association between free cash flow and dividend payouts. This outcome aligns with the free cash flow hypothesis, which posits that firms with higher cash availability are more inclined to distribute dividends to shareholders in order to reduce agency costs (Jensen, 1986). Our results confirm that companies with abundant free cash flow use dividends as a mechanism to mitigate the risk of managerial misuse of resources. This finding is consistent with earlier studies in the Iranian market that highlighted the importance of free cash flow in determining dividend policies (Peykani, 2012; Rekabdar, 2009). Similarly, research in other emerging markets has demonstrated that free cash flow plays a pivotal role in shaping payout policies, particularly when external monitoring mechanisms are weak (Mohammadi et al., 2024). The consistency of these results across diverse contexts reinforces the notion that dividend payouts act as a governance tool, ensuring alignment between management and shareholders.

Another significant outcome relates to the negative relationship between financial leverage and dividend payments. Firms with higher debt obligations were less likely to distribute dividends, reflecting their prioritization of debt servicing over shareholder payouts. This finding corresponds with the predictions of agency theory, which suggests that leverage functions as an alternative governance mechanism by subjecting firms to external monitoring through debt covenants (Jensen, 1986). Prior evidence from both developed and emerging markets has confirmed that highly leveraged firms often restrict dividend distributions to preserve liquidity for repayment commitments (Al-Najjar & Kilincarslan, 2023; Mohammadi et al., 2024). Our findings extend this evidence to the TSE context, demonstrating that debt remains a critical determinant of payout behavior.

The analysis also uncovered an unexpected negative relationship between firm size and dividend payouts. Conventional wisdom suggests that larger firms, with greater access to financial resources and more stable earnings, are more likely to pay dividends. However, in this study, larger firms tended to distribute lower dividends. This finding may reflect the unique characteristics of the Iranian market, where larger companies often retain cash to support extensive operational activities or to navigate uncertain regulatory environments. Prior evidence from the UK and Indonesia has highlighted that firm size can have differing effects depending on institutional contexts (Al-Najjar & Kilincarslan, 2023; Wibowo & Setiany, 2023). While some studies associate size with higher payouts, others suggest that large firms use retained earnings to finance capital-intensive projects, thereby reducing dividend distributions (Sari, 2023). In this regard, our results contribute to the ongoing debate about the direction of the firm size–dividend relationship.

Return on assets, as a measure of profitability, showed a positive but only moderately significant association with

dividend payouts. This indicates that more profitable firms are better positioned to reward shareholders, consistent with the predictions of free cash flow theory (Dastgir & Sharifimobarakeh, 2011). Profitability has been repeatedly identified as one of the strongest predictors of dividend policy across markets (Harefa, 2023; Sari, 2023). Our findings confirm that while profitability does matter for Iranian firms, its effect is somewhat less pronounced than expected. One possible explanation is that firms may reinvest a portion of their profits in response to volatile market conditions, thereby reducing dividend payouts even when earnings are strong. This nuance underscores the importance of considering contextual factors such as market uncertainty and inflation when analyzing profitability's role in dividend decisions.

Growth opportunities, captured by the market-to-book ratio, exhibited a negative relationship with dividend policy, albeit significant only at the 90% level. This finding supports life cycle and investment opportunity theories, which argue that firms with abundant growth prospects prefer to retain earnings to finance future investments rather than distribute them as dividends (DeAngelo et al., 2006; Fama & French, 2001). The evidence from Thailand and other emerging economies reinforces this interpretation, showing that high-growth firms typically adopt conservative dividend strategies to sustain expansion (Saeed & Sameer, 2023; Thanatawee, 2011). Our findings resonate with this body of research, confirming that Iranian firms facing promising investment opportunities prioritize reinvestment over dividend payouts. This pattern reflects the trade-off between short-term shareholder returns and long-term value creation.

In contrast, the corporate life cycle variable, measured through the ratio of retained earnings to equity, did not show a significant relationship with dividend policy. This result diverges from the life cycle theory, which posits that dividend behavior evolves across stages of corporate development (DeAngelo et al., 2006). Previous studies in both developed and emerging economies have confirmed that young firms tend to retain earnings, while mature firms distribute higher dividends (Mohammadi et al., 2024; Saeed & Sameer, 2023). The lack of significance in our findings may be attributed to structural peculiarities of the TSE, where dividend decisions may be influenced more by regulatory requirements, taxation policies, or macroeconomic instability than by the firm's position in its life cycle. This result highlights the need for further exploration of institutional factors that might overshadow life cycle effects in Iran.

Similarly, the asset growth rate did not demonstrate a meaningful relationship with dividend payouts. While growth in assets theoretically reflects expansion and the need to conserve cash for reinvestment, the absence of a clear link in this study suggests that dividend decisions in the Iranian market may not be directly tied to balance sheet changes. This finding contrasts with some evidence in other emerging markets, where rapid asset growth has been shown to suppress dividends (Naibaho, 2023). One plausible explanation is that Iranian firms may finance asset expansion through debt or alternative mechanisms, thereby decoupling asset growth from payout decisions.

Taken together, the findings suggest that free cash flow and leverage are the most decisive factors influencing dividend strategies in the Iranian context. This reinforces the centrality of agency theory, as dividends emerge as a critical tool for mitigating agency conflicts when free cash flow is high, while leverage restricts payout flexibility by imposing external financial discipline. The nuanced effects of profitability, growth opportunities, and firm size highlight the role of contextual and institutional factors in shaping dividend decisions.

Comparisons with prior studies further strengthen these interpretations. Research in Indonesia has shown that liquidity, profitability, and ownership structures significantly shape dividend policies (Permatasari, 2023; Sajiwo & Arifin, 2023). Similarly, findings from the UK emphasize the governance role of dividends in aligning managerial incentives (Al-Najjar & Kilincarslan, 2023). In emerging markets more broadly, profitability and free cash flow remain consistently influential (Harefa, 2023; Mohammadi et al., 2024). However, discrepancies—such as the lack of significance for corporate life cycle in this study—highlight the importance of tailoring theoretical models to specific institutional contexts.

The broader implications of these results extend to the financial sustainability of firms. Recent studies employing advanced predictive techniques, such as genetic algorithms, demonstrate that free cash flow and accruals can serve as early warning indicators of financial crises (Haji Reza et al., 2023; Tamrinia et al., 2023). From this perspective, dividend policy functions not only as a mechanism for shareholder returns but also as a signal of long-term stability. By distributing excess cash responsibly, firms can reduce inefficiencies and reassure investors about their sustainability. Conversely, poorly managed payout policies risk exacerbating financial vulnerabilities.

Despite offering valuable insights, this study is subject to certain limitations that should be acknowledged. First, the research is confined to firms listed on the Tehran Stock Exchange, which limits the generalizability of the findings to other markets. Structural and institutional features unique to Iran, such as regulatory frameworks, taxation policies, and economic sanctions, may influence dividend behavior in ways not observed elsewhere. Second, the study relies on secondary data from financial statements and stock exchange databases, which may be subject to reporting biases or measurement errors. Third, while the research model captures several key financial determinants of dividend policy, it does not account for qualitative factors such as managerial attitudes, cultural influences, or shareholder preferences, which may also shape payout strategies. Finally, the study's time frame, covering the years 2019 to 2024, may not fully reflect long-term trends, particularly in light of economic volatility and policy shifts that could alter corporate behavior.

Future research should aim to expand the scope of analysis by incorporating cross-country comparisons, particularly with other emerging markets, to assess whether the patterns observed in Iran are consistent across different institutional contexts. Additionally, qualitative approaches such as interviews with managers and investors could provide richer insights into the behavioral and cultural factors influencing dividend decisions. Further research might also explore the interaction between dividend policy and corporate governance mechanisms, such as board independence or ownership concentration, to better understand how internal controls shape payout strategies. Moreover, future studies could apply advanced econometric models, such as dynamic panel data techniques or machine learning algorithms, to capture nonlinear relationships and improve predictive accuracy. Expanding the time horizon to include longer historical data or post-2024 trends would also enhance the robustness of the findings.

From a practical perspective, managers should recognize the central role of free cash flow in shaping dividend policy and ensure that payout decisions balance shareholder expectations with the need for financial flexibility. Excessive retention of cash may lead to agency problems, while overly generous distributions could undermine reinvestment capacity. Firms with high leverage should exercise caution in dividend declarations to maintain debt-servicing capacity and avoid financial distress. Policymakers and regulators should also consider creating a more stable and transparent environment that allows dividend policies to reflect genuine corporate performance rather than being distorted by external constraints. Finally, investors can use insights from this study to better evaluate the sustainability of dividend payouts, distinguishing between firms that distribute dividends as a signal of strength and those that may overextend payouts at the expense of long-term stability.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

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Declaration of Interest

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Ethics Considerations

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