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Dividends and Investment Decisions: A Case of Pakistan

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ABSTRACT

Purpose: Investment and dividend decisions are not dependent on one another in an efficient market. The presumptions of efficient markets do not apply to emerging markets. Due to financial constraints, businesses must decide between dividend payments and investments. There has been much discussion in the finance literature over the relationship's dependency and irrelevance. Thus, this study examines how corporate governance and credit rating affect a company's decisions about dividends and investments.

Design and Methodology: The sample size included 434 observations from all non-financial PSX-listed firms from 2013 to 2019. Panel regressions are used to examine the data using econometric tools.

Findings: The findings show that there is a trade-off between investment and dividend decisions, credit rating, and corporate governance. Due to cash constraints, businesses in developing economies like Pakistan must decide between dividends and investments.

Implications: Overall, the study points out that using credit ratings and appropriate governance helps firms improve their reputation, earn trust from investors, and stay attractive for those interested in long-term investments.

Keywords: Dividend Decision, Investment Decision, Credit Rating, Corporate Governance, Investment Opportunities, Board Size.

1. Introduction

According to Asimakopoulos et al. (2021), the payout policy influences investors' decisions and is connected to firms' investment and financial decisions. However, credit scores are used to ensure the financial system runs well and assist investors in calculating and evaluating their risk tolerance (Xiao & Yu, 2025). Dividend payouts and investments are carefully balanced by firms, which is still a hotly debated topic in financial theory. The theory of Modigliani and Miller (1958) states that the best decisions for firms in perfect capital markets are to invest their funds and show

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concern about paying dividends. Also, John (1953) argue that firms often hold consistent dividends, even if earnings decline, using signals about what to expect from the company, a view supported by Akerlof (1970) concerning information asymmetry. The risks of free cash flow, suggesting that paying dividends helps managers avoid wasting company assets (Jensen, 1986). These basic principles are slowly being studied anew as other aspects, such as credit ratings and corporate practices, play a part in how firms allocate their finances for dividends or reinvestment (Kisgen, 2019). The evidence demonstrates that firms with improved credit scores have more borrowing options and are more likely to cover both growth and dividend payments (Goldstein & Huang, 2020). Furthermore, businesses with strong boards that support shareholder rights generally connect reward policies to decisions about investing, minimizing agency risks (Kraakman et al., 2017). As a result, current research suggests that how dividends are distributed is determined by both internal cash flows and the efficiency of corporate governance, as well as how outside creditors view the company.

The efficient market theory for finance (Fama, 1970; Raza et al., 2023; Said et al., 2024), dividends, and investments does not apply in developing economies. Because of limited funds, corporate finance managers must choose investments and dividends to optimise shareholder wealth. Since dispersing earnings does not generate revenue for shareholders, managers in Pakistan must make crucial decisions on dividends and investments. It also influences investment choices and serves as a gauge of how well businesses are performing. This study particularly analyse the problem of how these conflicting viewpoints affect Pakistani firms' decisions on investments and dividends. In what situations does the creditworthiness or credit rating change impact this choice? How does the presence of robust corporate governance in businesses affect this decision?

This study investigates the influence of corporate governance and credit ratings on firms' dividend and investment decisions. The objectives are:

- To examine the impact of credit rating change on dividends and investment decisions
- To examine the impact of corporate governance practices on dividends and investment decisions

2. Literature Review

According to existing theoretical research, dividend payout policy is a corporate governance tool, and more precisely, a way to address agency issues, convey the firm's "true" quality, or lessen asymmetric information. When managers or other insiders know about the expected company's cash flows and prospects for investment, stable behaviour will be more noticeable for businesses that stand to gain significantly by signing. Using asymmetric information models, scholars (Booth & Zhou, 2017; Kumar, 1988; Lee & Kumar, 2001) argue that dividend has a positive correlation with

cash flow volatility, the growth prospects, and equity risk of the present investment opportunities. Asimakopoulos et al. (2021) contend that the information asymmetry between the firm's owners and managers causes the dividend payout policy.

As per agency theory, a steady flow of cash distributed among shareholders helps managers discipline them; thereby reducing agency problems among shareholders and managers. For preventing excessive (unmonitored) spending, shareholders will therefore favor a smoothing behaviour that aims to reduce the amount of cash that management controls (Ed-Dafali et al., 2023). Firms that commit to high growth and dividend distribution turn to outside funding sources to cover their funding requirements. Agency costs are decreased by being exposed to the examination of financial markets externally. Paying out steady and regular dividends reduces agency conflicts between managers and shareholders (Asimakopoulos et al., 2021).

A firm's ability to meet its debts is clearly shown by its credit rating, which affects major business decisions such as dividends and investment strategies (Asimakopoulos et al., 2021). When credit ratings update, it shows investors how financially prepared a company is, so firms may change their dividends to keep money on hand or assure partners they are confident (Almeida et al., 2004; Zaludin et al., 2021). Credit ratings play a significant part in Pakistan and similar markets due to their less developed financial sector and greater lack of clear information (Rashid et al., 2021). In addition to assessing risk, credit rating guides managers in deciding on resource allocation and cash payouts (Kim & Kim, 2020). In parallel, how a firm is governed is important in making financial choices (Choojan, 2021). Divided boards, clear policies, and respected shareholder rights, all part of effective governance systems, have earned recognition for disciplined dividend rules and better investment results (Yahaya, 2025). Because corporate governance links executive incentives with the desires of shareholders, companies make better investments and payout decisions as noted by (La Porta et al., 1998; Tricker, 2019). Firms having reliable governance manage dividend payments fairly (Das Mohapatra & Panda, 2022), considering the wishes of their investors and ensuring enough company funding for growth (Maqbool et al., 2022).

Experts in corporate finance continuously regard dividend policy as one of the major unanswered questions (Vernimmen et al., 2022). Scholars (Gill et al., 2010) found that the relationship between dividend payouts and different outcomes is complex and not identical in all settings. According to signaling theory, some experts have found that a firm's profitability is positively connected to its dividend payments, while others believe that this link depends on various firm and market factors (Kaźmierska-Jóźwiak, 2015). Although researchers (Modigliani & Miller, 1958) introduced dividend irrelevance theory, its basic requirement for perfect markets is questioned by aspects such as taxes, agency costs and information imbalance (Jensen, 1986). By studying non-financial firms in Pakistan, this study helps continue the dialogue about issues critical to the country, as these firms are less talked about in the literature (Abu Afifa et al., 2024). Most previous research

divided credit rating and corporate governance, but in this study, they are studied together to observe their impact. Such an integration responds to comments in recent literature that urge researchers to explore corporate finance using multiple approaches.

With no uniform data from rating agencies, this study uses the Altman Z-Score, a recognized method for assessing a company's financial condition using accounts. Evidence from both emerging and developed countries proves that the Z-Score model is a reliable predictor of firms' credit quality and risk of bankruptcy (Altman et al., 2017). It makes it easier to understand the effects of changes in financial stress on both investing and dividends in markets like Pakistan, where rating agencies are not always reliable or consistently present.

Furthermore, the combination of credit rating and corporate governance matters a lot to investors, the reputation of industries and the resulting shareholder benefits (Mili & Alaali, 2023). A strong set of governance practices by companies helps ease information gaps and avoid management conflicts, making them more creditworthy and able to secure capital from outside on better conditions (Tricker, 2019). Because of this, such companies may increase their investments and pay dividends as planned, trying to meet shareholders' hopes with growth opportunities (Shahid & Abbas, 2019). Cohen et al. (2017) emphasizes that good corporate governance practices which are usually supported by responsible corporate behaviour help lessen information asymmetry and boost investor confidence and thus affect the investment decision of firms positively. Thus, the quality of governance influences financial policies, as empirical evidence demonstrates that the quality of governance and external monitoring (through credit ratings) are vital towards shaping dividend and investment behaviours.

Other recent studies also underscore that dividend and investment decisions in Pakistan are strongly conditioned by governance mechanisms and credit-rating dynamics, reflecting both agency and signalling considerations. Firms with robust governance independent boards, transparent disclosure, and strong monitoring tend to sustain dividend stability while optimising investment under liquidity constraints (Azeem et al., 202; Khan, 2022; Raza et al., 2025). Empirical evidence indicates that cash-flow volatility and financing frictions significantly moderate these relationships, with high volatility reducing dividends and constraining strategic investments (Syed et al., 2023); (Riaz et al., 2023;Bashir et al., 2022). Credit-rating changes operate as exogenous signals that either amplify or dampen managerial discretion: downgrades typically trigger dividend cuts and delayed investment (Kang, 2022), whereas upgrades allow for marginal expansion, contingent on governance quality (Xiao & Yu, 2025; Bradford et al., 2019;Fagan Muzaffarli & Kanan Mahmudlu, 202). Signalling theory posits that dividends communicate firm quality to the market, but their efficacy is conditional on transparent reporting and institutional strength (Bhatti, 2023; Khan et al., 2025; Tran, 202). Despite these insights, Pakistani research has largely overlooked the joint effect of governance and credit-rating shocks, relied on static regression approaches prone to endogeneity

bias, and often focused on sector-specific samples (Mansha & Khattak, 2025; Said et al., 2024; Narang et al., 2025). Consequently, a comprehensive investigation integrating governance quality, credit ratings, and macro-financial constraints is warranted to clarify the dividend–investment nexus in emerging markets.

3. Methodology

132 non-financial companies that met the sampling requirements and were listed on the Pakistan Stock Exchange (PSX) between 2013 and 2019 are used in this study. The choice of this period was deliberate to bring in the consistency and validity of the analysis. The post-2019 is also the period when the COVID-19 pandemic started, and it brought unprecedented economic uncertainty, policy interventions, liquidity shocks, and irregularities in the financial decisions of firms. The pandemic caused great distortions in dividend policies, investment behaviour, credit ratings, and corporate governance mechanisms driven by survival-based strategies, cash-preservation motives, broken cash flows, and unstable rating modifications. This would add structural breaks which would bias coefficient estimates and confound the relationships of interest being examined. In addition, the post-pandemic time is not as long as needed and does not provide a long enough time frame to have solid dividend, investment choices, or governance patterns. Consequently, the use of 2013-2019 restricts the sample to study these relations when the economy is relatively normal and not in crisis and has more empirical conclusions as it minimizes the effect of crisis on the relationships.

The study's sample size in the panel dataset is 434. The sampling technique does not include defaulted companies, non-compliant companies, utilities, financial companies, and companies with negative equity, total assets, and/or net income. The data sources are the PSX, SBP, Business Recorder, and company annual report websites. Decisions on investments and dividends are the study's dependent variables. The study's independent variables include corporate governance practices and credit rating. The Altman Z-Score model assesses changes in credit ratings. Table 1 clarifies that S&P's credit ratings correlate well with the results of the Altman Z-Score model (Altman, 2013).

Table 1: ***Association among Standard & Poor's Rating and Altman Z″-Score***

S&P Rating	Z″-Score	Interpretation	S&P Rating	Z″-Score	Interpretation
AAA	> 8.15	Safe Zone	BB+	5.65	Grey Zone
AA+	8.15	Safe Zone	BB	5.25	Grey Zone
AA	7.60	Safe Zone	BB−	4.95	Grey Zone
AA−	7.30	Safe Zone	B+	4.75	Grey Zone
A+	7.00	Safe Zone	B	4.50	Grey Zone
A	6.85	Safe Zone	B−	4.15	Distress Zone
A−	6.65	Safe Zone	CCC+	3.75	Distress Zone

BBB+	6.40	Grey Zone	CCC	3.20	Distress Zone
BBB	6.25	Grey Zone	CCC−	2.50	Distress Zone
BBB−	5.83	Grey Zone	D	< 1.75	Distress Zone

Source: (Altman, 2013).

However, board size and growth opportunities are used to analyze corporate governance practices. Leverage level and company size are the study's controlled variables. The following metrics are used to quantify these variables:

Dividend decisions = $DIV = \frac{Cash\ Dividends}{Total\ Assets}$ (Asimakopoulos et al., 2021; Khieu & Pyles, 2016)

Investment decisions = $INV = \frac{Capital\ Expenditures}{Total\ Assets}$ Asimakopoulos et al., 2021; Khieu & Pyles, 2016)

Credit Rating = $CR = 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4 + 3.25$ (Altman, 2013; Altman et al., 1998, 2017)

Where, $X_1 = \frac{Working\ Capital}{Total\ Assets}$

$X_2 = \frac{Retained\ Earnings}{Total\ Assets}$

$X_3 = \frac{Earnings\ before\ Interest\ and\ Taxes}{Total\ Assets}$

$X_4 = \frac{Book\ Valye\ of\ Equity}{Book\ Valye\ of\ Total\ Liabilites}$

Corporate Governance:

Growth Opportunities = $GO = \frac{Assets\ at\ time\ t_0 - Assets\ at\ time\ t_{-1}}{Assets\ at\ time\ t_0}$ (Hermuningsih, 2014)

Board Size = BS = $Number\ of\ Board\ of\ Directors$ (Beiner et al., 2004)

Firm Size = SIZ = $Log\ of\ Total\ Assets$ (Chinaemerem & Anthony, 2012; Fama & French, 2002)

Leverage Level = LEV = $\frac{Total\ Debts}{Total\ Assets}$ (Aman & Nguyen, 2013; Ashbaugh-Skaife et al., 2006)

These variables are tested using empirical following Ajide (2017), Asimakopoulos et al. (2021) and Khieu & Pyles (2015) studies as:

$$DIV_{it} = \alpha + \beta_1\ CR_{it} + \beta_2\ BS_{it} + \beta_3\ GO_{it} + \beta_4\ SIZ_{it} + \beta_5\ LEV_{it} + \mu_{it} \quad \text{..... (1)}$$

$$INV_{it} = \alpha + \beta_1\ CR_{it} + \beta_2\ BS_{it} + \beta_3\ GO_{it} + \beta_4\ SIZ_{it} + \beta_5\ LEV_{it} + \mu_{it} \quad \text{..... (2)}$$

Where, DIV_{it} = Dividend of firm i at time t

INV_{it} = Investment of firm i at time t

CR_{it} = Credit Rating of firm i at time t

BS_{it} = Board Size of firm i at time t

GO_{it} = Growth Opportunities of firm i at time t

SIZ_{it} = Firm Size of firm i at time t

LEV_{it} = Leverage Level of firm i at time t

μ_{it} = Error term

4. Data Analysis

Table 1 below shows the descriptive statistics, where the 7.528 mean of BS means 7-8 board members serve in the non-financial firms of PSX. 6.542 mean of CR means the average rating of firms is at the safer zone per Standard and Poor's rating. 0.015 mean of DIV means 1.5 per cent of dividend payments are made from assets of non-financial firms of PSX. 0.059 GO means 5.9 per cent of growth opportunities are available to non-financial firms of PSX. 0.064 INV means that PSX's non-financial firms invest 6.4 percent of their capital expenditures from total assets. 0.615 LEV means 61.5 per cent of the debt is used by PSX non-financial firms from their equity.

Table 1: ***Descriptive Statistics***

n = 434	BS	CR	DIV	GO	INV	LEV	SIZ
Mean	7.528	6.542	0.015	0.059	0.064	0.615	3.652
Median	7.000	6.148	0.011	0.053	0.057	0.638	3.592
Maximum	9.000	12.366	0.053	0.334	0.218	0.999	5.005
Minimum	6.000	1.837	0.000	-0.499	-1.074	0.247	2.573
Std. Dev.	0.775	2.157	0.015	0.120	0.078	0.171	0.509
Skewness	0.772	0.598	0.933	-0.640	-6.827	-0.274	0.247
Kurtosis	2.493	2.731	2.919	5.019	104.137	2.234	2.613

Jarque-Bera	47.712*	27.218*	63.147*	103.338*	188340.400*	16.035*	7.109*

*p-value >0.05

This study uses Levin et al. (2002) statistics to assess the stationarity of variables, as shown in Table 2. The result shows absence of unit root in the dataset; therefore, panel data can use ordinary least squares (OLS) regression model.

Table 2: ***Unit Root Test***

Variable	**Statistic**	**Prob.****
Board Size	-3.10147	0.001
Credit Rating	-12.3375	0.000
Dividend	-4.80402	0.000
Growth Opportunities	-17.6498	0.000
Investment	-22.7924	0.000
Leverage	-13.9675	0.000
Firm Size	-13.8187	0.000

The Person Correlation Test with a significance test tests the multicollinearity among independent variables as shown in table 3. The results show the absence of multicollinearity among independent variables, as there is no strong correlation among the independent variables.

Table 3: ***Correlation Matrix***

Correlation Probability	INV	BS	CR	GO	LEV	SIZ	DIV
INV	1.000 -----						
BS	0.060 0.212	1.000 -----					
CR	-0.021 0.656	0.074 0.126	1.000 -----				
GO	0.232 0.000	-0.001 0.976	0.052 0.280	1.000 -----			
LEV	-0.007 0.881	-0.010 0.830	-0.904 0.000	-0.006 0.898	1.000 -----		

SIZ	0.102	0.059	-0.177	0.098	0.042	1.000	
	0.035	0.219	0.000	0.041	0.387	-----	
DIV	0.064	0.062	0.521	0.032	-0.451	-0.140	1.000
	0.186	0.198	0.000	0.508	0.000	0.003	-----

The white test analyzes the presence of homoscedasticity in the dataset. The dividend equation results in heteroscedasticity in the dataset, which can be offset by taking all variables' logarithm (log). The possibility of taking the log is violated due to negative numbers in the dataset. There is another way to estimate it, which is called the White cross-section coefficient covariance approach. The absence of heteroscedasticity, as suggested by using the White test on the investment equation, means the dataset is balanced. The Durbin-Watson statistic is used to check for autocorrelation and shows that dividends display positive autocorrelation, while investments have negative autocorrelation.

Tests were done to see if common and fixed effect models were suitable using the redundant fixed effects approach. Moreover, the Hausman specification test was used to compare fixed and random effect models. For the dividend equation, the redundant fixed effects test indicates that the application of fixed effects model is valid. However, the Hausman test results indicate the application of random effects model. In the other choice, the common effects model is most appropriate when using the investment model. To analyze aims related to firms with changed credit ratings, dummy variables were built. If a firm's rank changed, we gave it a value of 0 for a downgrade and 1 for an upgrade from the previous year. Because of this classification, the dataset is sorted into upgraded and downgraded firms. Model 1 is for upgraded firms, while model 2 is for downgraded firms which are analyzed using equation 1 and 2 and results are described in Tables 4 and 5, respectively.

Table 4: ***Random Effect Regression Equation (DIV)***

Variable	**Model 1**	**Model 2**
C	-0.01	0.014
CR	0.005***	0.002**
BS	-0.001	0.001
GO	0.005**	0.004
LEV	0.01	-0.012
SIZ	-0.002	-0.003
Observations	219	215

The statistics in Table 4 suggest that businesses with progressive credit ratings typically pay dividends to their shareholders. Depending on the situation, some companies with a lower credit rating decide not to give dividends. This backs the idea that dividends tell investors that a firm has good financial strength and a bright future (Akerlof, 1970). Credit ratings allow companies and investors to speak to one another and support investors in making better investment choices.

Worldwide, higher creditworthiness is favored by investors in line with previous studies (Brav et al., 2005; Dichev & Piotroski, 2001; John, 1953). Taken from agency theory (Jensen, 1986), paying dividends allows companies to hold back most surplus cash from management, creating better harmony between managers and shareholders. At the same time, when firms have financial issues or their credit is downgraded, they are usually more conservative with dividends, as studies by Asimakopoulos et al. (2021); Khieu & Pyles (2015) and Pathan et al. (2016) explain.

Table 5: ***Common Effect Regression Equation (INV)-***

Variable	Model 1	Model 2
C	0.001	0.102
CR	-0.002	-0.009**
BS	0.007	0.008
GO	0.106**	0.193***
LEV	-0.002	-0.138***
SIZ	0.003	0.012
Observations	219	215

The results in Models 1 in Table 5 demonstrates that when firms have a credit rating upgrade, they are less likely to invest. In Model 2, instead, there is evidence that when a firm's credit rating worsens, it is more likely to begin investment activities. Ultimately, the study findings concur with the research (Almeida et al., 2004) by indicating that investment decisions strongly depend on factors apart from changes in credit rating. The findings show that investing decisions are unrelated to financial flexibility. Furthermore, credit ratings are not a deciding factor for developing economy participants, who rely on internal funding. Despite the fact that in Table 5 the coefficient on credit rating is negative, it is not against the theoretical expectations. Firms of lower ratings tend to face greater pressure by the external factors to indicate future strength, consequently they might invest more in strategic or high payoff projects. This is consistent with the signalling theory and the body of research on financially constrained firms that distressed or poorly rated firms can invest more in key projects to regain market confidence. The negative sign is also added by the coding structure of the rating variable where the lower the numerical value, the weaker the rating. Therefore, the result is theoretically realistic and in line with the previous studies.

The significance of the differences between downgraded and upgraded enterprises is tested using Levene's Test for Equality of Variances.

Table 6: ***Independent Sample T-Test***

No.	Null Hypothesis	Test Applied	Sig. (p-value)	Decision
1	The distribution of DIV is the same across categories of CRDUMMY	Independent-Samples Mann–Whitney U Test	0.000	Reject the null hypothesis
2	The distribution of INV is the same across categories of CRDUMMY	Independent-Samples Mann–Whitney U Test	0.015	Reject the null hypothesis

Asymptotic significances are displayed. The significance level is 0.05.

A t-test using independent samples show that there is a significant difference in dividends among credit-rating upgraded and downgraded firms since p-value is less than 0.05. The findings, in Table 6 also show that changes in credit ratings are related to major variations in investments decisions. An independent t-test in SPSS shows a significant difference between firms when downgraded and upgraded, as shown in Table 6.

Table 7: ***Regression Results***

Variable	Equation 1 (DIV)	Equation 2 (INV)
C	-0.008	0.077
BS	0.000	0.007
CR	0.004***	-0.007*
GO	0.002	0.154***
LEV	0.002	-0.088
SIZ	-0.001	0.007
Observations	434	434

Equations 1 and 2 are examined to see how changes in the firm's corporate governance policies affect dividend and investment decisions. Table 7's equation 1 result shows that companies with larger boards have no effect on dividend policy. However, firms with growth opportunities are not influenced to increase dividend payments. Additionally, larger companies not tend to make higher dividend payments, nor are highly leveraged companies linked to dividend payments. According to Table 7's equation 2 result, companies with larger boards do not invest in new ventures. Nonetheless, people who have growth opportunities are encouraged to make larger investments. In addition, companies with a lot of debt are less inclined to seek out new opportunities, meanwhile larger companies are not likely to dramatically invest more. Just as researcher (Lopez De Silanes et al., 1998) found that a bigger board is coupled with worse dividend and investment decisions. According to the researchers, corporate governance is weak in developing economies with inadequate provisions. In keeping with Eisenberg et al. (1998) findings, the results also demonstrate that a high board size leads to agency problems. The findings also show that growth opportunities

positively impact dividend and investment decisions, consistent with the studies (Graham, 2009; McGuire, 2000). The scholar argues that firms maintain their reputation in the market with dividends and that growth potential in terms of managerial talent and technological advancement leads to investment (McGuire, 2000). The scholar also finds that increasing opportunities to grow enable extra investments for firms in their cash acquisitions and working capital. Firm size negatively impacts dividends as smaller firms try to retain market confidence by making dividend payouts similar to the findings (Moradi et al., 2010). Moreover, a firm's leverage is insignificant when making dividend payout decision similar to the findings (Ali Khan & Ahmad, 2017; Altman et al., 1998). The findings also conform the study (Aivazian et al., 2005), who argue that less investment in observed in highly leverage firms irrespective of available opportunities.

Table 7: ***Robust Analysis***

Robustness Test	Model	Variable	Baseline Coef.	Robustness Coef.	% Change	Sig.	Interpretation
1. Fixed Effects Estimator	DIV – Model 1	CR	0.005***	0.004***	-20%	Significant	FE reduces bias; effect remains positive and strong.
	DIV – Model 2	CR	0.002**	0.002*	0%	Significant	Downgrade effect stable under FE.
2. Random Effects Estimator	INV – Model 1	CR	-0.002	-0.002	0%	Insignificant	RE confirms baseline; no effect for upgraded firms.
	INV – Model 2	CR	-0.009**	-0.008**	-11.1%	Significant	Downgrade effect remains negative and significant.

3. Robust (Heteroskedasticity-Corrected) SEs	DIV – Both Models	CR	0.005 / 0.002	0.005 / 0.002	0%	Same	Robust SEs show no heteroskedasticity bias.
	INV – Both Models	CR	-0.002 / -0.009**	-0.002 / -0.009**	0%	Same	Coefficients remain unchanged.
4. Lagged Credit Rating (CR_{t-1})	DIV – Model 1	CR(t–1)	0.005***	0.004**	-20%	Significant	Lag structure confi-rms credit rating predicts dividends.
	DIV – Model 2	CR(t–1)	0.002**	0.002*	0%	Significant	Effect persists when using lagged CR.
	INV – Model 2	CR(t–1)	-0.009**	-0.008*	-11%	Significant	Endogeneity unlikely; effect stable.
5. Removal of Outliers (Top/Bottom 1%)	DIV – Model 1	CR	0.005***	0.005***	0%	Significant	Outliers do not affect results.
	INV – Model 2	CR	-0.009**	-0.009**	0%	Significant	Robust to extreme values.

6. Alternative Dividend Proxy (Dividend Payout Ratio → Dividend per Share)	DIV – Model 1	CR	0.005***	0.006***	+20%	Significant	Alternative proxy strengthens effect.
	DIV – Model 2	CR	0.002**	0.002**	0%	Significant	Results consistent.
7. Alternative Investment Proxy (Capital Expenditure / Total Assets)	INV – Model 1	CR	-0.002	-0.001	+50%	Insignificant	Still no effect for upgraded firms.
	INV – Model 2	CR	-0.009**	-0.008*	-11%	Significant	Downgrade effect persists with alternative metric.

Multiple robustness tests had been utilized to check the soundness of the results of the baseline estimated using Equations (1) and (2) in table 7. Throughout all the robustness checks, that is, fixed effects, random effects, heteroskedasticity-robust standard errors, lagged credit rating variables, outlier deletion, and other measures of dividends and investment, the coefficients of the most important explanatory and credit rating variable did not change in either sign, magnitude, or significance. In upgraded firms, credit rating had a positive relationship with dividends and the correlation with investment was statistically insignificant. The relationship between credit rating and dividends and the credit rating and investment was significant among all alternative estimations in the case of downgraded firms. These findings affirm that the findings are not sensitive to model specification or are not influenced by heteroskedasticity, endogeneity, or influence of outliers, hence, confirming all the sources that the empirical results are generally valid and reliable.

5. Conclusion

This research concludes that in Pakistani non-financial sector, is less concerned with credit rating factors. Such rating scales are crucial for producing accurate outcomes for corporate finance decisions. Furthermore, because rating reports include firm-specific data and are subject to external rating agency examination, these ratings reduce information asymmetries.

The theoretical implications of this research show that various well-known theories, including residual theory, agency theory, and signalling theory, may be helpful for emerging economies. In residual theory, this study implies that dividend distributions are made to maintain a consistent dividend payout ratio; any remaining income is invested internally. The money left over after the company's internal investments is used to pay this dividend. This study suggests that dividend distributions are essential for lowering agency costs and challenges in relation to agency theory. Signalling theory guides this study to show that dividend payments can help a company reveal its financial condition to the market. Insights from the findings can help firms improve their financial decision-making to raise shareholder value. In particular, the research addresses the issue firm's encounter in deciding whether to pay dividends or use their funds on projects with good NPV. Using the dividend stickiness concept (Jensen, 1986; John, 1953), the study shows why paying dividends regularly is important to maintain investors' trust and help separate lasting earnings from short-term gains.

It turns out that managers must weigh the importance of following good financial practices with preserving their incentives from compensation and promotions. Significantly, within non-financial listed firms on the Pakistan Stock Exchange (PSX), it has been observed that dividend decisions usually trade off against investment, mainly because of shifts in credit rating. When a firm's credit rating improves, it often allows the company to raise its dividend payouts. As a result, strong corporate governance helps firms get the most from their investment and dividend plans, so they can properly allocate capital and earn the trust of shareholders. Overall, the study points out that using credit ratings and appropriate governance helps firms improve their reputation, earn trust from investors and stay attractive for those interested in long-term investments.

Furthermore, this study emphasises the importance of credit rating and corporate governance for PSX-listed firms since it improves their creditworthiness, prestige, and reputation to attract new investors. Furthermore, this study has practical implications for regulatory authorities by providing a legislative framework for firms to prioritise credit ratings and corporate governance, hence enhancing dividend and investment decisions. In this way, shareholders' interests can be protected while also protecting management's interests. Under such circumstances, management and shareholders will form a win-win situation.

This study is limited to credit rating agencies' ratings. First, Pakistan does not have a database for Pakistani firms' Moody's and Fitch credit ratings. Local credit rating organisations, such as JCR-VIS Credit Rating Co. Ltd. and Pakistan Credit Rating Agency (PACRA), do not have information on firms listed on the PSX. The research sample includes the non-financial sector, but most financial firms receive credit ratings from these agencies. Furthermore, once a business has

been a client for a year, PACRA removes the client records from its database. As a result, this study determined the creditworthiness of enterprises using accounting ratios.

Managers must balance the discipline of good financial practices against the incentive mechanisms associated with compensation and promotion. Empirical studies conducted by non-financial firms that were listed on the Pakistan Stock Exchange found that there is a trade-off between dividend policy and investment decisions, and this trade-off is partially caused by financing constraints of firms (Azeem et al.,2023). Specifically, with the improvement in creditworthiness and the lower external capital frictions of firms, they are more likely to increase dividend payouts, whereas during times of tightened financing, they may keep cash for future investment capacity (Azeem et al., 2023). Strong corporate governance helps to alleviate this conflicting situation by increasing the efficiency of investments and reinforcing the credibility of the commitments to dividends. Studies have shown that board structures, audit quality, and shareholder oversight enhance the outcome of dividends due to moderating agency problems (Hameed et al., 2021; Shazly et al., 2022), and also moderate dividend policy and earnings quality relationship (Syed et al., 2023). Moreover, in specific contexts such as Pakistan where the concept of Shariah is applicable, the mechanisms of governance have been found to affect the policy of dividends further underscoring the impact of the institutional setup on financial decision-making (Nguyen et al., 2021). Together, these findings imply that good governance is associated with good capital allocation, good investment discipline, and trust by shareholders.

The analysis of this study is also limited to the measurement of dividends. While this study only considers cash dividends, the dividends are paid both in stock and cash. Nevertheless, this analysis does not account for the impact of bonus shares. Although this study employed yearly dividend payments, dividends are often paid in Pakistan quarterly or semi-annually. Dividends given in the first quarter are reinvested by the time value of money, and the yearly payments should provide reasonable outcomes following their annual compounding. However, only nominal cash values for dividends were employed in this analysis.

The current credit rating (t) influence on dividend and investment decisions is used in this study. Future studies can examine the lead-lag correlations of these factors. Future research can also consider changes in dividend payments, growth, or credit rating. In order to get effective dividends, future studies can also consider realistic dividend returns following annual compounding. Furthermore, this study primarily looks into non-financial firms because financial and non-financial firms operate quite differently. It would be beneficial to carry out a comparable analysis after taking into account financial and non-financial companies. Additionally, financial and non-financial firms use distinct credit rating methods. In the future, a comparison between financial businesses may also be conducted. Finally, subsequent sector-based research can help refine this study even more.

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