FACTORS AFFECTING DIVIDEND POLICY OF LISTED MANUFACTURING ENTERPRISES: A GOVERNANCE CONTEXT

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Abstract

Dividend policy is a critical issue for both businesses and investors. While businesses aim to establish optimal dividend policies to balance reinvestment and shareholder satisfaction, investors are drawn to attractive policies that promise tangible returns. The dividend policies of 74 manufacturing businesses listed on the Ho Chi Minh City Stock Exchange (HOSE) are examined in this study in three different time periods: before COVID-19 (2018–2019), during COVID-19 (2020–2021), and after COVID-19 (2022). The research focuses on five key variables: the previous year's cash dividend payout ratio (DPR), earnings per share (EPS), return on assets (ROA), revenue growth rate, and liquidity. Utilizing panel data regression models and SPSS 26 software, the findings reveal that four out of the five variables significantly affect dividend policy, though their impact varies across different phases. Notably, the previous year's DPR consistently exerts the strongest influence, while EPS and ROA also play pivotal roles. The revenue growth rate negatively impacts dividend policy during the pre-pandemic period but loses significance during the pandemic. Liquidity, however, shows no notable correlation across all three periods. These results align with existing studies on dividend policy determinants (Ahmed & Javid, 2008; Khalaf et al., 2023), reinforcing the importance of profitability, historical trends, and resilience during economic fluctuations. The results underscore the importance of strategic dividend decisions, especially during economic disruptions like COVID-19.

Keywords: Dividend, Dividend Policy, Listed Enterprises, Finance, Accounting

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1. INTRODUCTION

The stock market in Vietnam was only established in the 2000s, a relatively young market with an unstable economy and institutional environment, so companies often face policy changes. In Vietnam, the lack of transparency in information disclosure by listed companies in the market is one of the causes of information asymmetry and agency problems. To reduce the occurrence of these problems, companies pay dividends to compensate for the weak monitoring of governance activities (La Porta et al., 2000). Despite this, there remains a research gap concerning how internal financial factors specifically affect the dividend policies of manufacturing enterprises in Vietnam, particularly through distinct economic periods like the COVID-19 pandemic.

Paying dividends will limit the private benefits for managers because the cash paid out will give managers less opportunity to misuse this cash (Pinkowitz et al., 2006). In fact, firms have adopted measures to increase profits in response to pressures to pay dividends to large institutional shareholders (Kasanen et al., 1996).

Dividends are the portion of after-tax profits that a joint-stock company allocates to its existing shareholders in various forms such as cash, shares, or assets. Few studies examine the impact of important financial factors, such as earnings per share (EPS), return on assets (ROA), liquidity, and revenue growth rate, on dividend policies, especially in the context of Vietnamese manufacturing firms, despite the fact that many studies have concentrated on general dividend policies. The following research questions will be addressed in order to close this gap:

RQ1: What are the key financial determinants influencing dividend policies of manufacturing companies listed on the Ho Chi Minh City Stock Exchange (HOSE)?

RQ2: What differences exist between these determinants before, during, and after COVID-19?

To explore these questions, the study adopts a conceptual framework grounded in financial and agency theories, applying a panel data regression approach. By analyzing data from 74 manufacturing firms during 2018–2022, the research identifies trends and patterns influenced by the economic impact of the pandemic.

This paper consists of five main sections. Section 1 presents the introduction. Section 2 reviews the relevant literature on dividend policy and its influencing factors. Section 3 describes the research model and methodology used to conduct the empirical study. Section 4 discusses the results and analysis based on the regression findings. Finally, Section 5 concludes the paper by emphasizing the theoretical and practical contributions and outlining recommendations for corporate managers and investors.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Dividend payments

Changes in dividend payments can be considered a signal that company managers send to investors. The basis for paying dividends is that the company must be profitable. When dividends are increased, investors expect an increase in the company's income for their investment opportunities. However, when dividends are reduced or the company declares not to pay dividends, it can be considered a bad signal about a decline in future earnings and can lead to a decrease in stock prices (Dinh & Yen, 2018).

Most of the companies participating in the Vietnamese stock market are small-scale companies and companies that need a lot of money for investment activities, so company managers often use dividend payments to create an image of effective company operations (Jensen, 1986).

Agency theory also suggests that dividend payments are a way for corporate managers to resolve conflicts between insiders and outside shareholders due to conflicts of interest that may arise between the parties regarding issues such as using retained earnings for reinvestment instead of issuing new shares, investing capital in projects with high short-term returns, or not making efforts to benefit the company but for the personal benefit of the manager. To minimize agency costs in this case, dividend payments are considered as a means to control agency costs (Jensen, 1986; DeAngelo et al., 2006).

Alshabibi et al. (2021) look into whether the recent global oil crisis has an impact on the dividend policy of Omani listed companies and whether corporate board characteristics have an impact on this relationship. 109 companies that were listed between 2009 and 2019 on the Muscat Securities Exchange. The conclusion is that board independence, board participation, and board nationality diversity are all positively correlated with dividend payout. However, there is no proof that gender diversity or board size affects dividend payments. It's interesting to see that none of the corporate board characteristics affect dividend distribution after adjusting for the global oil crisis.

According to El Ammari (2021), the majority of research on corporate governance examines the connection or association between financial performance, dividend policy, and ownership structure. However, the direction of the causal relationship between corporate governance factors (such as ownership structure and dividend policy) and financial performance has received little attention. El Ammari (2021) analyzes panel data on a few chosen listed companies in Tunisia, a developing economy, to determine the direction of causation using the bootstrap panel Granger non-causality tests. 154 firm-year data from 1996 to 2017 were included in the sample. The findings indicate that there are significant causal relationships between the two variables that were employed, both unidirectionally and bidirectionally.

Recent studies have highlighted the relevance of dividend policies in the post-pandemic era. For instance, Khalaf et al. (2023) emphasize the importance of dividend policies in formulating investor strategies in volatile markets. Similarly, Laksana et al. (2024) note that family-controlled firms tend to implement conservative dividend policies influenced by board independence. These findings provide an updated perspective on the dynamics of dividend policies in response to global economic shifts.

Khalaf (2022) uses the asymmetric partial adjustment model to experimentally examine the smoothness of dividends paid by Jordanian non-financial enterprises. Data for 65 non-financial firms (37 industrial and 28 services) registered on

the Amman Stock Exchange (ASE) between 1997 and 2020 were examined using a research sample. The smoothness of payouts has been examined using both fixed and random-effects approaches. Contrary to the signaling theory, which states that large firms smooth their payouts more quickly than small ones, the data verified that Jordanian non-financial companies smooth their dividends at a reasonable rate. Additionally, low-leveraged companies smooth their payouts more quickly than high-leveraged companies, which is consistent with the agency cost argument. Additionally, in accordance with the signaling theory, highly profitable corporations smooth their payouts more.

Khalaf et al. (2023) assert that investors place a great deal of weight on share price volatility since it helps determine the best time and company to invest in, as well as the investing techniques that should be followed. The findings show that while growth has a negligible beneficial effect on share price volatility, size and leverage have a considerable negative association. The volatility of share prices is unaffected by dividend policy. To put it another way, dividend policy has little effect on Gulf Cooperation Council (GCC) share values.

With a focus on the European market, Ktit and Khalaf (2024) aim to shed light on the complex relationship between corporate social responsibility (CSR) and dividend distribution. They examine how CSR practices impact dividend decisions and how corporate governance integrity affects dividend selection. 360 businesses that operate in 10 European nations make up the sample size. The dividend payout ratio (DPR) has been employed as the dependent variable, whereas independent factors such as CSR, board size, meetings, independence, company size, and profitability (ROA) have been used. The results showed that CSR, company size, board size, and profitability all had a significant impact on DPR in European enterprises, but board independence and meetings had no discernible effect. Thus, based on the results, it can be said that corporate governance plays a part in the process and that CSR significantly affects dividend payout.

Do Thuy and Vu Hung (2024) ascertain how dividend policies affect the management of earnings for Vietnamese listed companies. Kasznik's (1999) model is used to analyze earnings management and DPR in order to ascertain the dividend policy of 535 public companies from 2009 to 2019. The regression model results show a negative relationship between earnings management and dividend policy, implying that the higher the dividends, the less earnings management in listed firms in Vietnam.

Family company ownership has a significant negative impact on dividend policy, according to Laksana et al. (2024), even though independent boards have a significant favorable influence on dividend policy and a negative impact on capital structure. The moderating influence of the independent board can alter the degree to which the family business dominates the dividend policy.

2.1.1. Research on the impact of EPS and profitability (ROA, ROE) on dividend policy

Studies by Ahmed and Javid (2008) in Pakistan, Bose and Husain (2011) in India, and Jaara et al. (2018) in Jordan show that companies with higher profits are more likely to pay dividends. In Vietnam, Ngoc and Cuong (2014) researched data from 95 enterprises during 2008-2013 and also indicated that EPS and ROA positively influence dividend policy. More recent studies have confirmed these relationships in the context of emerging economies (Khalaf et al., 2023).

2.1.2. Research on the impact of growth rate on dividend policy

Companies with high growth rates and more investment opportunities tend to retain more internal funds and thus pay fewer or no dividends. Conversely, businesses that have slower growth rates and fewer prospects for investment are more likely to distribute dividends (Bose & Husain, 2011). In Vietnam, Le et al. (2019) analyzed data from 102 listed enterprises during 2011–2017 and concluded that revenue growth rate has an impact on dividend policy. However, studies conducted during the pandemic period indicate that growth rate may have an insignificant impact on dividend policies due to broader economic constraints (Laksana et al., 2024).

2.1.3. Research on the impact of the previous year's cash DPR on current dividend policy

Ahmed and Javid (2008) studied 320 non-financial companies in Pakistan and found that the cash DPR depends on the past DPR of companies. Jaara et al. (2018) also concluded that past dividends have a positive and significant impact, indicating that companies follow certain trends and targets in dividend payouts rather than making random decisions. In Vietnam, the study by Ngoc and Cuong (2014) also indicated that past dividend policies positively influence the current year's dividend policy. Recent studies have reaffirmed the consistency of this trend across various industries (Khalaf et al., 2023).

2.1.4. Research on the impact of liquidity on dividend policy

Ahmed and Javid (2008) and Le et al. (2019) also concluded that liquidity is an important factor affecting dividend policy. Because they have more cash on hand, corporations with high liquidity typically pay out more dividends, whereas those with low liquidity typically pay out fewer because of cash constraints.

2.2. Research hypotheses

Based on the literature reviewed, the following hypotheses are proposed:

H1: The previous year's cash dividend payout ratio positively affects the current dividend payout policy.

H2: Earnings per share positively affect the current dividend payout policy.

H3: Return on assets positively affects the current dividend payout policy.

H4: Growth rate negatively affects the current dividend payout policy.

H5: Liquidity affects the current dividend payout policy.

3. RESEARCH METHODOLOGY

3.1. Regression model

To investigate the factors influencing the dividend policy of listed manufacturing companies on the HOSE, this study adopts a quantitative research approach. The study uses a regression model to evaluate the connection between financial parameters and DPRs, building on the hypotheses made in the literature review.

The regression model used to study the dividend policy of listed companies on the HOSE is as follows:

$$D = \beta_0 + \beta_1 DY + \beta_2 EPS + \beta_3 ROA + \beta_4 GROW + \beta_5 LIQD + \varepsilon \quad (1)$$

where, D — current cash dividend payout ratio (dependent variable); DY — previous year's cash dividend payout ratio; EPS — earnings per share; ROA — return on assets; $GROW$ — growth rate; $LIQD$ — liquidity.

Table 1. Independent variables definitions

Variable name	*Abbreviation*	*Expected sign*	*Formula*	*References*
Dividend payout policy	*DY*	+	*DY* = Previous year's cash dividend payout ratio	Ahmed and Javid (2008), Ngoc and Cuong (2014), Jaara et al. (2018)
Earnings per share	*EPS*	+	*EPS* = Earnings per share	Ngoc and Cuong (2014)
Return on assets	*ROA*	+	*ROA* = Net profit / Total assets	Bose and Husain (2011), Ngoc and Cuong (2014), Jaara et al. (2018)
Growth rate	*GROW*	-	*GROW* = (Revenue current year - Revenue last year) / Revenue last year	Bose and Husain (2011), Le et al. (2019)
Liquidity	*LIQD*	+/-	*LIQD* = Current assets / Current liabilities	Ahmed and Javid (2008), Le et al. (2019)

3.2. Data collection

This study examines financial report data affecting dividend policy over five years (2018–2022) of 74 manufacturing enterprises with complete data on cash DPRs listed on the HOSE. Data were extracted from financial information portals, stock exchanges, and company websites. Annual financial reports are audited by major and reputable auditing firms. To clarify the impact of the COVID-19 pandemic on dividend payout levels during the five-year study period, the research team divided the sample into three phases:

1) 2018–2019 (pre-COVID-19);
2) 2020–2021 (during COVID-19);
3) 2022 (post-COVID-19).

The analyses were conducted using panel data estimation and regression modeling with SPSS 26 software.

3.3. Alternative methods

Because regression models are good at looking at linear correlations and producing results that are easy to understand, this study mainly uses them to examine the relationship between financial conditions and dividend policy. However, alternative methods could provide additional perspectives or insights, particularly in addressing nonlinear relationships or contextual influences. These methods include:

- Time-series analysis: Examining historical patterns and trends in DPRs over time can capture dynamic changes and potential lagged effects of independent variables on dividend policy.
- Structural equation modeling (SEM): A comprehensive statistical technique that allows simultaneous testing of multiple relationships, SEM is particularly useful for assessing direct and indirect effects among factors influencing dividend policy.
- Machine learning techniques: Methods such as random forests or support vector machines can identify and predict significant factors affecting dividend policy, especially for uncovering nonlinear relationships or complex interactions among variables.
- Qualitative approaches (case study or Delphi method): For deeper insights into the rationale behind dividend policies, qualitative methods such as interviews with financial managers or case studies of specific manufacturing enterprises can be employed. Additionally, the Delphi method, involving structured expert discussions, could reveal how firms adapt their dividend policies to changing economic conditions.
- Logistic regression (for binary outcomes): If the dependent variable is redefined as a binary measure (e.g., whether or not dividends were paid in a given year), logistic regression could effectively assess the likelihood of dividend payments based on financial and non-financial factors.

Future studies could attain a more thorough understanding of dividend programs and their drivers, especially under various economic conditions, by embracing these alternate techniques.

4. RESEARCH RESULTS AND DISCUSSION

4.1. Descriptive statistics

The descriptive analysis highlights significant variations in the *D*, *EPS*, *ROA*, revenue *GROW*, and *LIQD* across the study period. These variations reflect the changing economic conditions and strategic decisions of manufacturing enterprises listed on the HOSE.

The average *D* during the pre-pandemic period (2018–2019) was 13.13%, equivalent to VND 1,313 per share, with a par value of VND 10,000. The highest cash dividend payout was VND 5,000 per share, while some companies did not distribute dividends ($D = 0$). Several firms opted to reinvest their profits to capitalize on future projects, while others refrained due to financial losses. *EPS* exhibited the greatest variability, ranging from VND -4,315 to VND 18,894 per share, with an average of VND 2,767.04. *ROA* ranged from -18.99% to 30.97%,

with an average of 6.88%, highlighting differing operational efficiencies among companies. *GROW* averaged 0.0803, and *LIQD* averaged 2.0868, with some firms reaching a maximum liquidity of 12.36.

The decline in the average cash DPR during the pandemic aligns with the economic challenges faced by manufacturing enterprises. Many companies prioritized retaining funds for liquidity and operational needs over distributing dividends. This trend highlights the critical role of external economic factors in shaping dividend policies. Moreover, the slight recovery in 2022 suggests an adjustment period where companies adapted to post-pandemic conditions and cautiously resumed dividend distributions.

The significant fluctuations in *EPS* and *ROA* underscore varying profitability and efficiency levels in the manufacturing sector. Companies with higher profitability (reflected by higher *ROA*) were more likely to maintain or increase dividends, reinforcing the importance of these financial indicators in dividend policy decisions. These findings align with existing literature that links profitability and dividend payouts, underscoring financial health's critical role in shareholder returns.

Table 2. Descriptive statistics of variables for 2018–2019 data

Variable	*Observation*	*Min.*	*Max.*	*Mean*	*Std. dev.*
D	148	0.000	0.500	0.1313	0.13864
DY	148	0.000	0.76	0.1406	0.14780
EPS	148	-4315	18894	2767.04	3254.43
ROA	148	-18.99	30.97	6.8836	6.77297
GROW	148	-0.88	0.97	0.0803	0.24170
LIQD	148	0.590	12.36	2.0868	1.56499

Source: Authors' elaboration.

Table 3. Descriptive statistics of variables for 2020–2021 data

Variable	*Observation*	*Min.*	*Max.*	*Mean*	*Std. dev.*
D	148	0.000	0.63	0.1173	0.13580
DY	148	0.000	0.63	0.1190	0.13908
EPS	148	-4483	21027.00	2824.503	3601.167
ROA	148	-15.62	38.53	6.7320	7.6097
GROW	148	-0.92	1.84	0.0790	0.34285
LIQD	148	0.11	29.41	2.2909	2.68504

Source: Authors' elaboration.

The cash dividend payout (*D*) in 2020–2021 decreased compared to 2018–2019. Specifically, the average dividend payout in 2018–2019 was 13.13%, but this rate dropped to only 11.73% in 2020–2021, equivalent to VND 1,173 per share — a figure that reflects the challenges facing the economy during this period. The *EPS* indicator still had a negative value this year, but the average value recorded a slight increase. Along with the decrease in *D*, the *ROA* and *GROW* indices for 2020–2021 also declined compared to the previous two years, signaling a downturn in business performance during the COVID-19 outbreak. However, the average values of the two factors, *ROA* and *GROW*, did not show significant changes. The *LIQD* factor, on the other hand, recorded an increase from 2.0868 to 2.2909. Additionally, the independent factors in 2020–2021 still exhibited significant and strong variations similar to the previous period.

Table 4. Descriptive statistics results of the variables according to the 2022 data

Variable	*Observation*	*Min.*	*Max.*	*Mean*	*Std. dev.*
D	74	0.000	0.68	0.1411	0.15953
DY	74	0.000	0.50	0.1213	0.13447
EPS	74	-9461	23614	2740.297	4777.37
ROA	74	-39.85	50.76	6.60622	12.28939
GROW	74	-0.74	0.82	0.1237	0.30703
LIQD	74	0.34	22.79	2.5399	2.85461

Source: Authors' elaboration.

The average *D* in 2020–2021 among manufacturing companies listed on the HOSE was 14.11%, equivalent to VND 1,411 per share. The highest payout was VND 6,800 per share, while the lowest was 0, as some companies did not pay dividends this year. Overall, the average values of the variables have changed compared to the previous period. Specifically, the *EPS* decreased to 2,740.297, possibly due to the lingering effects of the pandemic, even though it had been brought under control, leading to a general decline in the income situation of companies. The average growth rate of revenue (*GROW*) increased from 7.94% in the 2020–2021 period to 12.37%, indicating a recovery in the economy as Ho Chi Minh City managed to control the pandemic. The lowest *ROA* value sharply declined from 15.62 (2020–2021) to -39.85 (2022), clearly showing that many companies recorded very low net profit to total assets ratios during this period. However, the average value of *ROA* did not change significantly. The *LIQD* factor recorded growth, with the average *LIQD* increasing from 2.0868 in the 2018–2019 period to 2.5399 in 2022. As in previous years, the independent variables in 2022 continued to show significant variability.

4.2. Correlation analysis between variables

The strong correlation between *DY* and *D* highlights the persistent influence of historical trends in shaping current dividend decisions. This finding suggests that companies tend to follow consistent dividend policies, likely to maintain investor

confidence and signaling stability to the market. The positive relationship between *EPS*, *ROA*, and *D* indicates that companies with higher earnings and efficient asset utilization are better positioned to distribute dividends. However, the weaker correlations observed during the pandemic period suggest that economic uncertainty disrupted traditional dividend policy determinants, forcing companies to adapt.

Table 5. Correlation matrix of variables based on the 2018–2019 data

Pearson correlation coefficient	*D*	*DY*	*EPS*	*ROA*	*GROW*	*LIQD*
D	1	0.738**	0.562**	0.630**	-0.009	0.143
DY	0.738**	1	0.414**	0.492**	-0.093	0.125
EPS	0.562**	0.414**	1	0.719**	0.151**	-0.042
ROA	0.630**	0.492**	0.719**	1	0.147**	0.175
GROW	-0.09	-0.93	0.151**	0.147*	1	-0.184
LIQD	-0.143	-0.125	-0.042	0.175	-0.184	1

*Note: ** p-value smaller than 0.01, * p-value smaller than 0.05.*
Source: Authors' elaboration.

Table 6. Correlation matrix of variables based on the 2020–2021 data

Pearson correlation coefficient	*D*	*DY*	*EPS*	*ROA*	*GROW*	*LIQD*
D	1	0.866**	0.500**	0.412**	-0.084	0.049
DY	0.866**	1	0.456**	0.426**	-0.100	0.053
EPS	0.500**	0.456**	1	0.596**	0.105	-0.023
ROA	0.412**	0.426**	0.596**	1	0.098**	0.070*
GROW	-0.084	-0.100	0.105	0.098	1	-0.077
LIQD	0.049	0.053	-0.023	0.070*	-0.077	1

*Note: ** p-value smaller than 0.01, * p-value smaller than 0.05.*
Source: Authors' elaboration.

Table 7. Correlation matrix of variables based on the 2022 data

Pearson correlation coefficient	*D*	*DY*	*EPS*	*ROA*	*GROW*	*LIQD*
D	1	0.792**	0.466**	0.332**	0.111	0.094
DY	0.792**	1	0.506**	0.365**	0.224	0.065
EPS	0.466**	0.506**	1	0.729**	0.410	0.147
ROA	0.332**	0.365**	0.729**	1	0.448**	0.226
GROW	0.111	0.224	0.410	0.448	1	0.217
LIQD	0.094	0.065	0.147	0.226*	0.217	1

*Note: ** p-value smaller than 0.01, * p-value smaller than 0.05.*
Source: Authors' elaboration.

The variables *DY*, *EPS*, and *ROA* exhibit a positive correlation with variable *D*. Among these, the *DY* factor shows the strongest correlation, with coefficients of 0.738, 0.866, and 0.792 across the three phases, respectively. Additionally, the *ROA* factor demonstrates a gradual change in its correlation coefficient, increasing from 0.630 during the 2018–2019 period to 0.332 in 2022. However, the *EPS* factor's coefficient remains relatively stable across all three phases. The *GROW* and *LIQD* factors do not display any correlation in this table, yet these variables will still be considered in the regression model (Hoang & Chu, 2008; Hair et al., 2009; Henseler et al., 2014).

4.3. Model's fit in regression analysis

The R^2 values for all three periods exceed 0.5, indicating that the five independent variables explain over 50% of the variance in the dependent variable *D*, with 95% confidence. Specifically, the R^2 values are 65.2% for the 2018–2019 period, 76.5% for 2020–2021, and 84.7% for 2022. Thus, it can be said that this model is appropriate for evaluating the connection between dividend policy and the five financial statement components. Additionally, the Durbin-Watson statistic for the periods shows values of 1.682 (2018–2019), 1.1775 (2020–2021), and 1.920 (2022), all within the range of 1–3, suggesting that there is no autocorrelation among the variables in the model (Hoang & Chu, 2008; Hair et al., 2009; Henseler et al., 2014).

The insignificance of *GROW* and *LIQD* during the pandemic reflects the broader economic constraints faced by companies. Growth opportunities were limited due to supply chain disruptions and reduced consumer demand, while liquidity concerns led to conservative dividend policies. This indicates that external shocks can overshadow internal financial determinants in shaping dividend decisions. Interestingly, the consistent significance of *DY*, *EPS*, and *ROA* reinforces their reliability as predictors of dividend policy. Companies appear to balance profitability, historical trends, and asset efficiency when determining dividend payouts, even under challenging conditions. These results highlight the resilience of certain financial determinants amidst economic volatility.

Table 8. Assessment of the model's fit in regression analysis

Dataset	*R coefficient*	*R^2 coefficient*	*Adjusted R^2 coefficient*	*Standard error of the estimate*	*Durbin-Watson statistic*
2018–2019	0.808[a]	0.652	0.640	0.08310	1.682
2020–2021	0.875[a]	0.765	0.757	0.06701	1.1775
2022	0.804[a]	0.647	0.621	0.09824	1.920

Note: [a] Independent variables: LIQD, ROA, GROW, EPS, DY.
Source: Authors' elaboration.

Table 9. Testing the fit of the multiple linear regression model

	Sum of squares	*Degrees of freedom (df)*	*Mean square*	*F*	*Sig.*
Residual regression based on 2018–2019 data	2.074	5	0.415	92.368	0.000[a]
	0.638	142	0.004		
	2.711	147			
Residual total regression based on 2020–2021 data	1.202	5	0.240	94.902	0.000[a]
	0.656	68	0.010		
	1.858	73			
Total residual regression based on 2022 data	2.074	5	0.415	92.368	0.000[a]
	0.638	142	0.004		
	2.711	147			

Note: [a] Independent variables: LIQD, ROA, GROW, EPS, DY.
Source: Authors' elaboration.

The Sig. value is 0.000 with a p-value of 0.05, indicating that the regression model is statistically significant and that the multiple linear regression model proposed is appropriate and usable. At a 5% significance level, the regression model is statistically significant and the proposed multiple linear model is appropriate and can be used. It is concluded that the model's *D* variable is significantly explained by the independent factors, the critical F-value is 2.29. Comparing this with the F-test values of 92.368, 94.902, and 92.368, all of which exceed the critical F-value, it can be concluded that the dependent variable *D* is significantly explained by the independent factors. Therefore, the cash DPR can be significantly predicted by the combination of variables including the *DY*, *EPS* for the year, *ROA*, *GROW*, and *LIQD* of the company (Hoang & Chu, 2008; Hair et al., 2009; Henseler et al., 2014).

Table 10. Regression coefficients' results for 2018–2019

Model	*Unstandardized coefficients*		*Standardized coefficients*	*T*	*Sig.*	*Multicollinearity statistics*	
	Beta	*Standard error*	*Beta*			*Tolerance coefficient*	*VIF*
(Intercept)	0.012	0.014		0.41	0.967		
DY	0.512	0.055	0.547	9.372	0.000	0.719	1.390
EPS	0.000	0.000	0.336	6.320	0.002	0.555	2.233
ROA	0.005	0.002	0.232	2.952	0.004	0.396	2.524
GROW	-0.007	0.030	-0.111	-0.217	0.000	0.939	1.065
LIQD	0.003	0.002	0.063	1.567	0.119	0.970	1.031

Note: VIF — variance inflation factor.
Source: Authors' elaboration.

For the 2018–2019 period, which precedes the impact of the pandemic, the results indicate that four out of five independent variables — *DY, EPS*, *ROA*, and *GROW* — are statistically significant (Sig. < 0.05), while *LIQD* is not significant (Sig. = 0.119 > p = 0.05). Among these, *DY, EPS*, and *ROA* have a positive impact on *D*, whereas *GROW* has a negative impact. The VIF for all variables remains stable and below 2, indicating no multicollinearity issues within the model (Hoang & Chu, 2008; Hair et al., 2009; Henseler et al., 2014).

The standardized regression equation for the pre-pandemic period is as follows:

$$D = 0.491DY + 0.336EPS + 0.106ROA + 0.146GROW + \varepsilon \quad (2)$$

In the pre-COVID-19 period, four factors influenced the *D* out of the five analyzed by the authors. These factors are the *DY*, *EPS*, *ROA*, and the company's *GROW*. Among these, the most significant influence is from the *DY*, with a coefficient of B1 = 0.491. The second most influential factor is *EPS*, with a coefficient of B2 = 0.336. *GROW* has a negative impact, ranked third with B4 = -0.146. The least influential factor on the cash dividend payout is *ROA*, with B3 = 0.106.

Table 11. Regression coefficients' results for 2020–2021

Model	*Unstandardized coefficients*		*Standardized coefficients*	*T*	*Sig.*	*Multicollinearity statistics*	
	Beta	*Standard error*	*Beta*			*Tolerance coefficient*	*VIF*
(Intercept)	0.010	0.009		1.044	0.296		
DY	0.786	0.047	0.805	16.896	0.000	0.729	1.372
EPS	0.000	0.000	0.143	2.694	0.002	0.584	1.713
ROA	0.00	0.001	-0.15	-0.294	0.003	0.605	1.653
GROW	-0.006	0.017	-0.016	-0.381	0.304	0.949	1.053
LIQD	0.001	0.002	0.010	0.239	0.411	0.981	1.122

Source: Authors' elaboration.

The standardized regression equation is as follows:

$$D = 0.663DY + 0.172EPS + 0.181ROA + \varepsilon \quad (3)$$

When impacted by the pandemic, statistical data from 2020–2021 revealed that three independent variables were statistically significant in the model: *DY, EPS*, and *ROA*. All three variables had a positive impact on the dependent variable *D*. The most significant factor affecting *D* was *DY* with B1 = 0.663, followed by *ROA* with B3 = 0.181, and *EPS* with the smallest impact on *D* at B2 = 0.172. The remaining two variables, *GROW* and *LIQD*, did not explain the dependent variable *D* as their Sig. values were greater than 0.05, where *GROW* had a Sig. value of 0.156 and *LIQD* had a Sig. value of 0.367.

Thus, the influence of various factors before and after the COVID-19 pandemic can be observed.

Previously, the cash DPR in a given year was estimated based on the *DY*, *EPS*, *ROA*, and *GROW*. However, in 2020–2021, under the impact of the pandemic, the growth rate no longer had a correlation with the cash DPR as before. In both study periods, the results showed that the *DY* consistently had a positive and the strongest impact on the fluctuation of the current year's cash DPR.

Table 12. Regression coefficients results for 2022

Model	*Unstandardized coefficients*		*Standardized coefficients*	*T*	*Sig.*	*Multicollinearity statistics*	
	Beta	*Standard error*	*Beta*			*Tolerance coefficient*	*VIF*
(Intercept)	0.021	0.018		1.182	0.241		
DY	0.892	0.099	0.752	8.991	0.000	0.743	1.345
EPS	0.000	0.000	0.117	1.021	0.003	0.396	2.524
ROA	0.000	0.001	0.017	0.151	0.001	0.434	1.653
GROW	-0.065	0.043	-0.124	-1.511		0.769	1.053
LIQD	0.003	0.004	0.052	0.689	0.493	0.930	1.075

Source: Authors' elaboration.

4.4. Result of the residuals

The chart indicates that the residuals are randomly scattered with no discernible pattern relative to the standardized predicted values. Thus, the assumption of linearity in the model is not violated. Therefore, the standardized residuals, which are the residuals adjusted for scale, show no relationship with the dependent variable values.

Figure 1. P-P plots of residuals for regression models across different periods

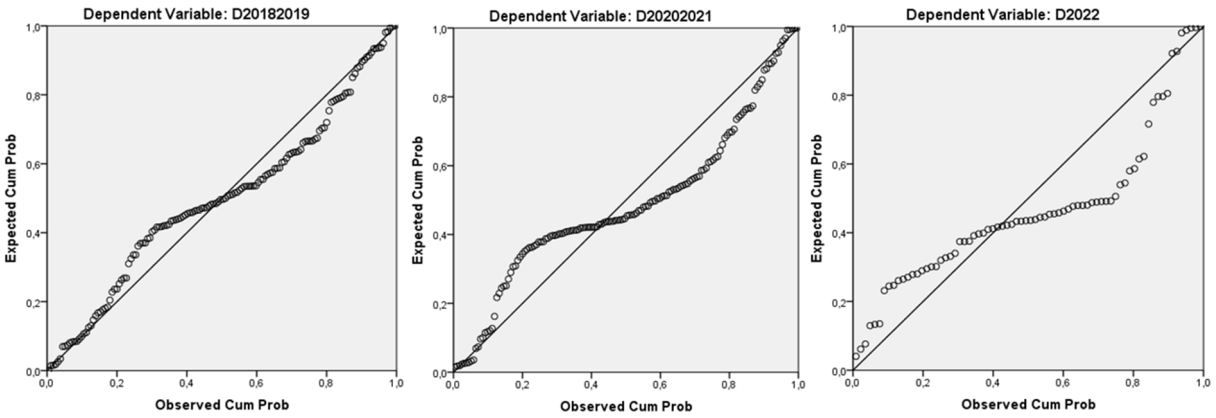
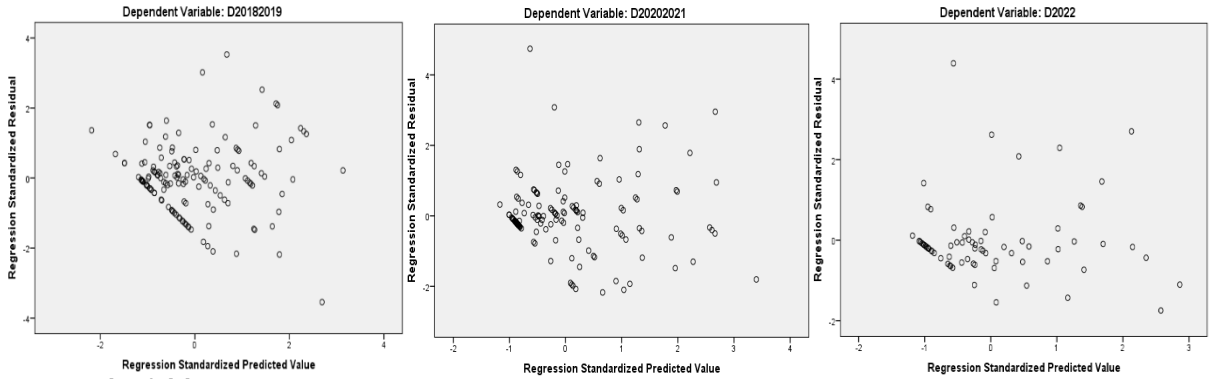


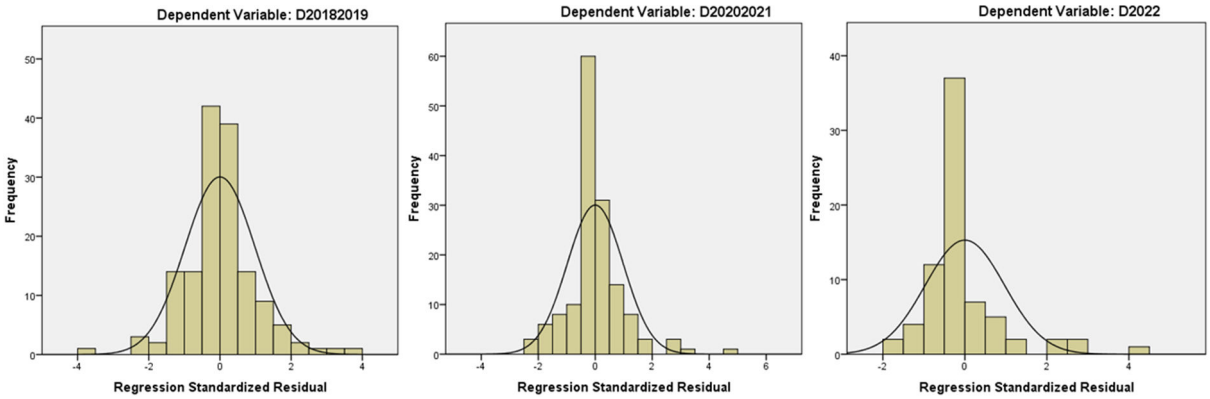
Figure 2. Scatter plots of standardized residuals versus standardized predicted values across different periods



Source: Authors' elaboration.

The three histogram plots of the residuals show a bell-shaped normal distribution, with a mean value close to 0.00 and a standard deviation close to 1. This indicates that the residuals of the model approximate a normal distribution. Specifically, in the period from 2018 to 2022, the mean and standard deviation values in all three graphs were approximately [insert specific values]. Therefore, the assumption of a normal distribution of residuals is not violated.

Figure 3. Histograms of standardized residuals for regression models across different periods



Source: Authors' elaboration.

4.5. Discussion

Through the results of the regression model and the necessary significance tests, we can conclude about the impact of the factors in the financial statements on the dependent variable, the cash DPR, as follows:

Table 13. Impact of independent variables on variable *D* across two periods

Factors influencing the cash dividend payout policy	*2018–2019*	*2020–2021*	*2022*	*Significance level*
The cash dividend payout ratio from the previous year (*DY*)	+	+	+	5%
Earnings per share (*EPS*)	+	+	+	5%
Return on assets (*ROA*)	+	+	+	5%
Revenue growth rate (*GROW*)	-	0	+	5%
Liquidity (*LIQD*)	o	0	0	5%

Source: Authors' elaboration.

The previous year's cash DPR (*DY*) has a positive correlation with factor *D* at a 1% significance level.

In 2022, factor *DY* had a stronger impact on *D* compared to 2018–2019, as the beta coefficient of *DY* in the three periods was 0.659 and 0.483, respectively. This suggests that the pandemic has made this year's dividend policy more heavily dependent on the previous year's policy. The pandemic has made the economic situation more difficult to control and has declined due to numerous continuous social distancing measures, making it challenging for a company to boldly announce a higher dividend than the previous year in this situation (Hoang & Chu, 2008; Hair et al., 2009; Henseler et al., 2014).

EPS have a positive (+) impact on the company's dividend policy at a 1% significance level. However, based on the beta coefficient of *EPS* in the two pre-pandemic periods and during the pandemic, which are 1.569E-5 and 6.297E-6, respectively, it can be seen that this factor has a relatively small impact on the cash DPR. This suggests that before deciding on the dividend payout, companies have considered and compared this income to determine a suitable amount based on their current financial and business situation.

Generally, it can be observed that as *EPS* increases, companies tend to declare higher dividends for the year. However, this does not always hold true for companies that are in a growth phase or have ambitious plans for the new year. Even if the *EPS* for that year is high, a company may choose to pay lower or no cash dividends if they want to utilize those funds for future investments and obtain the approval and support of the board of directors and shareholders.

A company's *ROA* also has a positive (+) impact on dividend policy at a 5% significance level. With a beta coefficient of 0.164 in 2018–2019 and 0.414 in 2022, it can be seen that during the pandemic period, the policy was more influenced and strongly affected by this profitability. When a company has high profitability and positive performance, meaning the company's operational efficiency and production efficiency are higher, it tends to allocate more cash to its investors. However, similar to *EPS*, if the company wants to retain funds for capitalization and focus on new goals in the future, it usually pays a lower dividend than planned.

The revenue growth rate in the pre-pandemic period had a negative (-) impact on the cash DPR, but in the pandemic period, this factor became insignificant in the regression model. This clearly reflects the manipulation of COVID-19 on financial statements regarding dividend policy. Before the pandemic, it could be observed that when a company had a higher growth rate, it meant that the company was on a successful growth path and had more prospects and opportunities for investment. Therefore, they often retained funds for use in the following year's projects and paid less or no dividends. However, when the pandemic occurred, this factor no longer had an impact on dividend policy due to the dominance of the pandemic, which made the company's growth situation unable to determine the dividend payout capacity for the year.

Liquidity in all three periods had no relationship with dividend policy. This is because, even if a company has high profits, it cannot be asserted that it has high liquidity. Therefore, the company is not necessarily going to pay high dividends if it has a positive situation regarding its ability to pay.

5. CONCLUSION

The financial elements influencing the dividend policies of manufacturing companies listed on the HOSE are thoroughly examined in this study. By examining data from 2018 to 2022, the research captures the impacts of the pre-pandemic, pandemic, and post-pandemic periods on dividend payout decisions. The findings confirm that the *DY*, *EPS*, and *ROA* consistently influence dividend policies, while *GROW* and liquidity *LIQD* exhibit varying levels of significance under different economic conditions. These results underscore the importance of profitability, asset efficiency, and historical trends in shaping dividend policies, particularly in volatile economic periods.

The significance of this research lies in its contribution to understanding the resilience of key financial determinants like dividend payout policy, EPS, and ROA, even amidst external shocks such as the COVID-19 pandemic. The study provides a foundation for future research to explore non-financial factors, such as corporate governance and market sentiment, and their interaction with financial determinants in influencing dividend policies. Moreover, the dynamic nature of the manufacturing sector suggests opportunities to extend this research to other industries or regions, enabling comparative analyses of different market structures or risk environments.

This study does, however, have certain drawbacks. The focus on manufacturing companies listed on the HOSE restricts the generalizability of the findings to other sectors or geographical contexts. Additionally, by emphasizing internal financial factors, the research does not account for external determinants such as macroeconomic trends, regulatory changes, or investor sentiment, which may also significantly influence dividend policies. Furthermore, the sample size and study period, though sufficient for the scope of this research, may not fully capture long-term trends or the effects of global-scale economic events.

The implications of these findings are both theoretical and practical. For corporate managers, the consistent influence of dividend payout policy, EPS, and ROA highlights the importance of maintaining profitability, transparency, and stability in dividend policies to attract and retain investors. For policymakers, these results underline the necessity of fostering a transparent financial environment where past performance indicators are reliable tools for decision-making. At the same time, the diminished significance of growth rate and liquidity during the pandemic suggests that companies should prioritize building financial resilience to navigate crises effectively. Firms with robust profitability and liquidity are better equipped to maintain investor confidence and stabilize dividend payouts during periods of economic uncertainty.

In conclusion, this study bridges the gap between financial theory and practice by providing actionable insights into how manufacturing enterprises adjust dividend policies under varying economic conditions. Future research should address the limitations identified here by incorporating non-financial determinants and extending the scope to other industries and regions. Such studies will further enrich our understanding of the complexities surrounding dividend policy dynamics and their implications in an increasingly volatile global economy.

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