Journal of Risk Analysis and Crisis Response, 2025, 15(1), 98-119
https://jracr.com/
ISSN Print: 2210-8491
ISSN Online: 2210-8505

Article

Firm Life Cycle and Dividend Signaling: Global Insights in A Turbulent Economic Landscape

Ahsan Sumantika [1,2,*], Eduardus Tandelilin [2], Bowo Setiyono [2] and I Wayan Nuka Lantara [2]

[1] Department of Management, Faculty of Business and Law, Universitas PGRI Yogyakarta, Yogyakarta (55182), Indonesia
[2] Department of Management, Faculty of Economics and Business, Universitas Gadjah Mada, Yogyakarta (55281), Indonesia
* Correspondence: ahsansumantika@gmail.com

Received: February 5, 2025; Received in revised form: March 19, 2025; Accepted: March 28, 2025; Available online: March 31, 2025

Abstract: This study examines how changes in dividend policies align with different stages of a firm's life cycle, specifically exploring whether these adjustments predict future profitability. The analysis focuses on non-financial companies listed in 28 countries from 2008 to 2023, a period marked by heightened uncertainty following the global financial crisis. Using [1] life cycle model, firms are categorized into five stages. The findings challenge traditional views: in the early stages, dividend cuts are often used to fund growth rather than signal distress. In the maturity stage, cuts are associated with improved profitability, contrary to the belief that they indicate financial trouble. However, during the shake-out and decline stages, changes in dividend policies provide limited predictive value. The results highlight the importance of considering a firm's life cycle stage when interpreting dividend policy adjustments.

Keywords: Global Countries; Dividend Policy; Firm Life Cycle; Traditional View; Future Profitability; Dividend Cuts

1. Introduction

Dividend policy has been a central topic of research for both academics and financial professionals for many years. A key concept in this field is dividend signaling theory, which proposes that changes in dividend payouts reflect management's views on a company's future performance. An increase in dividends is generally seen as a positive signal, indicating robust financial health and growth prospects. In contrast, a decrease or omission may suggest financial difficulties or lower expected earnings. However, to fully comprehend the implications of dividend changes, it is essential to consider a company's stage in its life cycle. The different phases of a company's development such as introduction, growth, maturity, and decline [1] significantly influence how investors and the market interpret dividend adjustments. As a result, understanding how company's life cycle stages affect dividend signaling is important for gaining deeper insights into dividend policy.

The foundation of dividend signaling theory originates from classical financial research. [2] found that firms generally aim to maintain stable dividend distributions that align with their earnings. While he did not explicitly reference dividend signaling, his findings imply that stable dividend policies positively influence investor confidence, often leading to higher market valuations. [3] developed a model in which dividends serve as a signal of financial stability to investors, reinforcing the idea that investors favor immediate dividends over uncertain future gains. Similarly, [4] explored how dividend policy and stock dilution function as signaling mechanisms, particularly in the context of taxation.

Over time, empirical research on dividend signaling has expanded, with numerous studies supporting the idea that dividends convey expectations of future earnings and cash flow [5], [6], [7], [8], [9], [10], [11], [12], [13], [14], [15], [16]. However, findings remain inconclusive. While some studies (Gonedes, 1978; Watts, 1973) report a positive correlation between dividends and future earnings, the statistical significance is often weak. Others [19] and [20] argue that dividends have limited predictive value. At the same time, [21], [22], and [23] suggest that dividend reductions may even precede earnings growth as firms reallocate resources to new opportunities after reaching a saturation point.

These inconsistencies underscore the need to consider internal dynamics, particularly the company's life cycle, in assessing dividend signaling effectiveness. Firms navigate different phases—introduction, growth, maturity, shake-out, and decline—each influencing dividend policies based on profitability, investment prospects, and financial constraints [19]. While prior studies have explored dividend signaling in specific markets or regions, a comprehensive global analysis remains largely absent. Existing research primarily focuses on developed markets, leaving a gap in understanding how dividend signaling varies across diverse economic environments and institutional frameworks. This study addresses this gap by integrating life cycle theory into a cross-country analysis, offering new insights into how firm-specific factors and macroeconomic conditions jointly shape the relationship between dividends and future earnings.

[24] examined publicly traded firms in 34 emerging markets between 1990 and 2006, finding an inverse relationship between investment opportunities (measured by Tobin's Q) and dividend policies. Specifically, firms with significant investment prospects tend to distribute lower dividends, as they prefer to reinvest profits for expansion. In contrast, firms in the maturity or decline stages, where investment opportunities diminish, generally allocate higher dividends to shareholders. This highlights the necessity of considering both the company's life cycle stages and investment potential when assessing dividend signaling.

Although some progress has been made in understanding this relationship, research on dividend signaling within the context of the company's life cycle is still limited. Few studies have explored how dividend signaling differs across various life cycle stages. In the growth stage, companies often need significant capital for reinvestment. The Retained Earnings Theory suggests that companies in this phase retain their earnings to finance internal growth and innovation rather than paying out dividends. This reinvestment helps firms build long-term value and support sustained growth. However, [25] argue that dividend increases during the introduction and growth stages can provide valuable insights into a company's future earnings potential, challenging the conventional view that dividend policies are mainly associated with business cycle phases. Their findings, based on U.S. firms, are difficult to apply universally across global markets. Other research has examined the link between company's life cycle and dividend policy, but few have specifically considered dividend signaling as an indicator of future financial performance [26], [27], [28], [29], [30]. Furthermore, no large-scale global study has comprehensively analyzed dividend signaling across different life cycle stages, limiting the ability to understand variations across countries with different financial systems.

Second, prior studies have largely focused on company's life cycle and dividend signaling under stable economic conditions. However, modern economic challenges, including political instability and policy changes, significantly impact firms' dividend decisions. Over the past decade, global economic disruptions have increased uncertainty and volatility in policy-making. The financial crisis of 2008 triggered heightened economic policy uncertainty, compounded by tax-related policy shifts in the United States and Europe. Further geopolitical events, such as Russia's annexation of Crimea in 2014 and the Brexit referendum, added to economic unpredictability [31].

Given these factors, further research that integrates the company's life cycle stages with economic conditions and policy uncertainty is essential. A more nuanced understanding of the interaction between dividend signaling and the company's life cycle in an evolving economic landscape can contribute to the development of more adaptive financial theories. Moreover, such research will provide valuable insights into how investors react to dividend policies amid global uncertainties.

This study aims to fill these gaps by analyzing data from companies across 28 countries in Asia, Europe, North America, South America, and Australia over 15 years, from the 2008 financial crisis to 2023. The goal is to explore how the company's life cycle influences dividend signaling in the context of ongoing economic fluctuations and policy instability. To strengthen the analysis, firms will be classified based on size, measured by total assets in each respective year across different countries. This classification is crucial because firm size significantly affects corporate behavior, including dividend policies. Historical research by [19] demonstrated that larger firms are more likely to pay dividends compared to smaller firms. By incorporating firm size as an analytical dimension, this study aims to offer a more detailed examination of dividend signaling and company's life cycle variations across diverse financial environments.

2. Literature Review

2.1. Firm Life Cycle Theory

The firm life cycle concept describes the stages a company undergoes from its inception to either its closure or transition into another phase. This framework provides insight into the transformation businesses experience over time. Scholars have identified multiple phases within a firm's life cycle. For example, [32] proposed a model outlining market evolution stages influenced by factors such as new business entries, the number of producers, and innovation dynamics. They categorized the life cycle into five primary phases:

a. Introduction: During this phase, new product innovations emerge in the market, often introduced by a limited number of firms.
b. Growth: This stage witnesses a rapid increase in the number of producers, resulting in positive net entries and heightened market activity.
c. Maturity: The market stabilizes as competition intensifies, leading to a balance between new market entrants and business exits.
d. Shake-out: Due to heightened competition, the number of firms declines, and net entries turn negative, signifying industry consolidation.
e. Decline: This phase is characterized by diminishing market interest as products lose relevance, leading to a significant reduction in business sustainability.

[33] classified firm life cycles based on four financial indicators: (1) dividend payout (DP), measured through annual dividends; (2) sales growth (SG); (3) capital expenditure relative to firm value (CE/V); and (4) firm age (AGE). Using these factors, they outlined three primary life cycle stages:

a. Growth Stage: Companies in this phase generally have low dividend payouts, high sales growth, substantial capital expenditures, and are relatively young.
b. Mature Stage: Firms exhibit moderate dividend payouts, stable sales growth, balanced capital expenditures, and are at a well-established age.
c. Stagnant Stage: Companies in this phase tend to distribute high dividend payouts, experience low sales growth, exhibit minimal capital expenditures, and are considered older entities.

[1] introduced an alternative approach by categorizing firm life cycles using three cash flow components: cash flow from operations, cash flow from investments, and cash flow from financing activities. By analyzing eight possible cash flow combinations, Dickinson distilled them into five key theoretical life cycle stages:

a. Introduction: At this phase, firms launch new products or services, requiring significant investment. Consequently, operating cash flow is generally negative.
b. Growth: Companies experience substantial revenue and profit expansion. During this stage, operating cash flow turns positive, enabling reinvestment and business expansion.
c. Maturity: Growth stabilizes, and businesses maintain positive, stable operating cash flow, which supports reinvestment and shareholder dividends.
d. Shake-out: Competitive pressures intensify, leading to financial strain for some firms. As a result, sales and profitability may decline, potentially resulting in negative operating cash flow.
e. Decline: Prolonged revenue and profit downturns characterize this stage. Businesses may need restructuring efforts to survive, often accompanied by negative operating cash flow.

2.2. Hypotheses Development

The firm life cycle significantly influences the stability and interpretation of dividend signals. As companies transition through different phases, they adjust their dividend policies based on both internal and external conditions. Research by [33] indicates that firms in the growth stage experience substantial sales expansion and allocate significant resources to asset investments, leading to lower dividend payouts. This strategy reflects their priority to reinvest in projects with positive net present value. In contrast, mature firms exhibit moderate sales growth and capital expenditures while maintaining stable dividend distributions. Meanwhile, stagnant firms often have higher dividend payout ratios, minimal capital investments, and slower sales growth. [25] argue that the evidence supporting the signaling hypothesis is weaker in the maturity phase, emphasizing the necessity of considering a company's life cycle when analyzing dividend adjustments as indicators of future financial performance. Dividend changes tend to have a greater impact in earlier stages, where signaling effects are more pronounced.

The Pecking Order Theory [34] provides insights into firms' financing preferences, suggesting that companies in the growth stage prioritize internal funds for expansion, resulting in lower dividend payments. The Retained Earnings Theory aligns with this perspective, emphasizing the role of retained earnings in financing new projects, product development, and overall business growth. [35] examined U.S. manufacturing firms from 1970 to 1984 and found that firms with higher retained earnings ratios experienced stronger sales growth. Their findings suggest that retained earnings serve as a critical investment source for both working capital and fixed assets, reducing dependence on external financing and mitigating liquidity risks.

[36] conducted a study on firms from 24 developed and 17 developing countries between 1995 and 2014, revealing a positive relationship between retained earnings and growth opportunities, as measured by the market-to-book ratio. This implies that firms with stronger growth prospects tend to keep more earnings rather than distribute them as dividends.

Previous studies have established a clear connection between company's life cycle and dividend policies. [37] examined IPO firms from 1970 to 2008, analyzing data from 4,890 growth-stage firms and 2,211 mature firms. Their research revealed that growth-stage firms rely more on external financing and have lower debt capacity compared to mature firms. In contrast, mature firms are typically older, larger, and more profitable, with higher levels of debt. These financial differences influence funding strategies and debt management across various life cycle stages.

Similarly, [24] analyzed publicly traded firms in 34 emerging markets from 1990 to 2006, identifying a negative relationship between investment opportunities (measured by Tobin's Q) and dividend policies. Firms with higher investment opportunities generally adopt lower dividend payout strategies, while those with limited profitable investments tend to distribute higher dividends.

[26] examined 44,229 observations from firms listed on the NYSE, AMEX, and NASDAQ between 1989 and 2012, employing Dickinson's (2011) cash-flow-based life cycle model. Their findings indicate that dividend payment patterns follow a nonlinear trajectory across five life cycle stages. Dividend distributions tend to increase from the introduction stage to the growth stage, peak during the maturity stage, and subsequently decline in the shake-out and decline phases.

These findings collectively support the hypothesis that the relationship between company's life cycle and dividend signals varies based on a firm's stage. Companies in the introduction and growth phases frequently reduce dividend payments to prioritize reinvestment. The Retained Earnings Theory and Pecking Order Theory [34] suggest that firms in these early stages rely more on internal financing, leading to a negative association between dividend adjustments and future performance. Hull's Dividend Cut Theory [38], [39] further reinforces this perspective, arguing that companies often reduce dividend payouts during periods of economic uncertainty, especially when external financing options are constrained, to capitalize on investment opportunities. [40] noted that while dividend reductions may initially signal financial distress, they can also serve as a precursor to corporate restructuring, ultimately enhancing firm performance.

Conversely, firms in the shake-out and decline stages may experience financial difficulties, reducing the predictive power of dividend policy in signaling future performance. In these later phases, changes in dividend payouts do not necessarily indicate future growth potential, as declining firms often face diminishing opportunities and restructuring challenges. For mature firms, dividend policies generally exhibit a more positive relationship with future performance; however, the strength of this connection may be weakened due to persistent economic and policy uncertainties since the global financial crisis [25].

Hypothesis: The relationship between firm life cycle and dividend signals is complex. Dividend reductions are anticipated to serve as strong indicators of future profit growth in the introduction and growth stages. Conversely, in the shake-out and decline stages, dividend changes do not necessarily signal positive future profit growth.

3. Methodology

3.1. Sample and Data

This research is conducted on a global scale, covering firms from 28 different countries spanning North and South America, Asia, Australia, and Europe. The dataset spans 16 years, beginning with the 2008 global financial crisis and continuing through 2023. The sample consists of publicly listed non-financial companies across multiple stock exchanges. The countries included in the study are Australia, Belgium, Brazil, Canada, Chile, China, Colombia, Croatia, Denmark, France, Germany, Greece, Hong Kong, India, Ireland, Italy, Japan, Mexico, the Netherlands, New Zealand, Pakistan, Russia, Singapore, South Korea, Spain, Sweden, the United Kingdom, and the United States. Several criteria are applied in selecting firms for the sample:

a. Exclusion of financial firms – Companies operating in the financial industry, such as banks, insurance providers, and investment firms, are omitted due to their distinct financial characteristics, including unique asset structures and high leverage.
b. Dividend payment history – To ensure the assessment of dividend changes (ΔDIV) and dividend payout variations (ΔDIV_INC), firms must have a record of distributing cash dividends for at least two consecutive years.
c. Positive equity requirement – Companies with negative equity are excluded from the sample, as financial distress may introduce bias into the analysis.

3.2. Classification of Firm Life Cycle

The authors categorize the firm life cycle into five stages based on [1]. Table 1 summarizes these five life cycle phases, which are determined using a combination of three net cash flows: cash from operating activities, cash from investing activities, and cash from financing activities.

Table 1. Firm Life Cycle Based on [1].

Stage	Cash From Operating	Cash From Investing	Cash From Financing
Introduction	Negative	Negative	Positive
Growth	Positive	Negative	Positive
Mature	Positive	Negative	Negative
Shakeout	Negative	Negative	Negative
	Positive	Positive	Positive
Decline	Negative	Positive	Positive
	Negative	Positive	Negative

3.3. Classification of Firm Size

[19], in their historical analysis covering the period from 1978 to 1999, highlighted the crucial role of firm size in shaping dividend policy. Their research indicates that companies distributing dividends tend to have significantly larger total assets compared to smaller firms. Large corporations with extensive assets are perceived as more capable of sustaining consistent dividend payments, which enhances investor confidence in their stability and long-term prospects. Conversely, smaller firms with fewer assets often encounter greater challenges in paying dividends, especially during

times of financial distress or economic uncertainty. In this study, firms are categorized based on their size into three groups:

a. Large Firms – Companies with total assets exceeding the 75th percentile (Q3), assessed annually within each country.
b. Medium Firms – Businesses with total assets falling between the 25th percentile (Q1) and 75th percentile (Q3), evaluated annually for each country.
c. Small Firms – Entities with total assets below the 25th percentile (Q1), determined annually for each country.

3.4. Operational Definitions of Variables

Table 2 below presents the operational definitions of the variables used in this study:

Table 2. Variable Definitions.

Variable	Definition	Source
Dependent Variable		
$(E_{t+1} - E_t) / E_t$	Represents the change in net income after tax (E_{t+1}) for the next period compared to the current period's net income (E_t), expressed as a proportion of current net income	Refinitiv Eikon
Independent Variable		
ΔDIV	Indicates the percentage change in total cash dividends paid in the current year relative to the previous year. $\Delta DIV_t = (DIV_t – DIV_{t-1}) / (DIV_{t-1})$	Refinitiv Eikon
ΔDIV_INC	Reflects the percentage change in the dividend payout ratio (calculated as dividends divided by net income) between the current year and the previous year. $\Delta DIV\_INC_t = (DIV\_INC_t – DIV\_INC_{t-1}) / (DIV\_INC_{t-1})$	Refinitiv Eikon
Control & Firm Characteristics		
ROE_t	Return on Equity is the proportion of net income after tax (E_t) to shareholders' equity (EQU_t). $ROE_t = E_t / EQU_t$	Refinitiv Eikon
$\Delta CAPEX$	Measures the growth in capital expenditures, expressed as the percentage change from one period to the next. $\Delta CAPEX = (CAPEX_t - CAPEX_{t-1}) / CAPEX_{t-1}$	Refinitiv Eikon

Table 2. (Continued).

Variable	Definition	Source
LIAB/EQU	This ratio compares total liabilities (LIAB) to total equity (*EQU*). $LIAB\_EQU = LIAB_t / EQU_t$	Refinitiv Eikon
ΔGDP	Represents the percentage change in Gross Domestic Product (ΔGDP), calculated by comparing the current GDP with that of the previous year. $\Delta GDP_t = (GDP_t – GDP_{t-1}) / (GDP_{t-1})$	World bank
ΔEPU	Shows the percentage change in the Economic Policy Uncertainty Index (*EPU*) from one year to the next. $\Delta EPU_t = (EPU_t – EPU_{t-1}) / (EPU_{t-1})$	Policy Uncertainty
ASSET	Total assets of the firm.	Refinitiv Eikon

3.5. Operational Definitions of Variables

To examine the predictive signaling hypothesis of dividend policy, this study employs the net income growth rate, calculated as $(E_{t+1} – E_t) / E_t$, as a proxy for firm performance. The dividend policy in year t is considered a signal conveyed by the company. Furthermore, to enhance the robustness of the analysis, the research incorporates variations in the dividend payout ratio (*ΔDIV_INC*), which represents the proportion of net income allocated to dividends. This ratio is computed by dividing total dividend payments by net earnings, with fluctuations assessed based on year-over-year changes. The core regression models are formulated as follows:

$$(E_{t+1} - E_t)/E_t = \sigma_0 + \sigma_1 \Delta DIV_t + e_t \tag{1}$$

$$(E_{t+1} - E_t)/E_t = \sigma_0 + \sigma_1 \Delta DIV\_INC_t + e_t \tag{2}$$

To improve the model's explanatory power, Return on Equity (*ROE*) is included as a predictor of future earnings. Based on [13], *ROE* has an inverse relationship with future earnings growth due to the mean-reversion effect in profitability. Additionally, the model incorporates *ΔCAPEX* (capital expenditure growth) and the debt-to-equity ratio (*LIAB/EQU*) to account for financial determinants influencing future performance. Macroeconomic factors, such as *ΔGDP* and *ΔEPU*, are also introduced to capture the broader economic environment's impact on corporate earnings. To mitigate potential autocorrelation issues, a lagged dependent variable is included. The extended regression model is formulated as follows:

$$\begin{aligned}(E_{t+1} - E_t)/E_t = \sigma_0 + \sigma_1 \Delta DIV_t + \sigma_2 (E_t - E_{t-1})/E_{t-1} + \sigma_3 ROE_t + \sigma_4 LIAB\_EQU_{t+1} \\ + \sigma_4 \Delta CAPEX_{t+1} + \sigma_6 \Delta GDP_{t+1} + \sigma_7 \Delta EPU_{t+1} + e_t\end{aligned} \tag{3}$$

$$\begin{aligned}(E_{t+1} - E_t)/E_t = \sigma_0 + \sigma_1 \Delta DIV\_INC_t + \sigma_2 (E_t - E_{t-1})/E_{t-1} + \sigma_3 ROE_t + \sigma_4 LIAB\_EQU_{t+1} \\ + \sigma_4 \Delta CAPEX_{t+1} + \sigma_6 \Delta GDP_{t+1} + \sigma_7 \Delta EPU_{t+1} + e_t\end{aligned} \tag{4}$$

Each regression is conducted separately for firms at five distinct stages of the corporate life cycle, allowing for a more granular examination of how dividend policy changes and financial factors impact firms at different phases of their development. Within each life cycle stage, firms are further categorized into three size groups: large, medium, and small based on total asset values. This classification is updated annually for each country to reflect dynamic economic conditions and evolving regulatory environments.

To empirically test the hypotheses, this study applies panel data regression with fixed effects at the country level, following the methodological framework established by [31]. This approach controls for unobserved heterogeneity, capturing country-specific factors that remain constant over time but may influence macroeconomic conditions, economic policy uncertainty, and corporate dividend decisions. By integrating fixed effects, the model effectively accounts for structural differences across countries, facilitating a more precise assessment of how time-varying factors shape firm performance.

Additionally, to enhance the robustness of the analysis, the study employs data-trimming techniques to minimize the impact of extreme values and outliers. Specifically, the top and bottom 5% of observations for all variables are removed to prevent distortions that could compromise the reliability of the findings. This process ensures a more accurate estimation of relationships among variables, strengthens the validity of the results, and mitigates potential biases in the regression analysis.

4. Result and Discussion

4.1. Data Description

Table 3 summarizes the key statistics for the variables analyzed in this study, based on 163,533 data points from firms in 28 countries that distributed cash dividends over two consecutive years, spanning from the 2008 global financial crisis to 2023. The average growth in net income, calculated as (E_t+1–E_t) / E_t, stands at -0.0332, signaling a minor overall decline in future net income during this period. Cash dividend growth, represented by *ΔDIV*, averages 13.27%, indicating an increase in dividend payouts across companies. However, the average change in the dividend-to-net-income ratio, *ΔDIV_INC*, is -0.0977, showing a slight decrease in this ratio. This implies that while total dividend payments have risen, firms have reduced the proportion of earnings paid as dividends.

Regarding profitability, the average *ROE* is -0.0026, suggesting slight negative returns on equity for firms since the financial crisis. The average liability-to-equity ratio, *LIAB_EQU*, is 1.2036, which reflects a moderate debt-to-equity balance across firms during this period. The average increase in capital expenditures (*ΔCAPEX*) is 33.58%, showing firms' continued investment in assets for expansion. Economic growth, measured by *ΔGDP*, averages 3.08%, reflecting moderate global economic growth. Lastly, economic policy uncertainty, indicated by *ΔEPU*, has risen by 11.47%, pointing to increased uncertainty around economic policies. This trend suggests that firms have been navigating heightened policy uncertainties, which could have influenced their financial decision-making.

In summary, the descriptive statistics show that firms have increased dividend payments and capital expenditures while facing challenges in profitability following the global financial crisis. Despite growing dividends, the decline in the dividend payout ratio (*ΔDIV_INC*) signals a more conservative approach to dividend distribution, likely in favor of reinvestment and enhancing financial stability. These patterns illustrate how companies have adapted their financial strategies in response to internal and external factors, including shifts in the global economic landscape.

Table 3. Summary of Descriptive Statistics.

Variable	Observation	Mean	Std. dev.	Min	Max
$(E_{t+1}–E_t)/E_t$	371,905	-0.03321	1.104206	-4.99265	3.127504
ΔDIV	163,533	0.132709	0.449033	-0.66948	2.208742
ΔDIV_INC	136,224	-0.09766	0.702022	-3.41395	0.840389
ROE	372,859	-0.00256	0.238952	-1.17483	0.336982
LIAB_EQU	372,816	1.203617	1.089237	0.066318	5.594245
ΔCAPEX	329,740	0.335844	1.071885	-0.83956	5.686993
ΔGDP	656,812	0.030797	0.035714	-0.11167	0.244753
ΔEPU	616,286	0.114719	0.368489	-0.52354	2.080402

Table 4 provides a breakdown of average financial performance across various firm lifecycle stages, focusing on return on equity, net income growth, revenue growth, capital expenditure growth, and the liability-to-equity ratio. The data in Table 5 reveals how firm performance varies depending on their lifecycle phase. In the Introduction Stage, firms experience negative profitability (*ROE* = -0.1878) and significant net income decline (-0.3744), signaling early-stage financial struggles. Despite these challenges, they show a strong investment focus, with revenue growth (0.133) and capital expenditure growth (0.4916) indicating heavy investment to establish themselves. These firms also have a high liability-to-equity ratio (1.1541), suggesting a heavy reliance on debt.

As firms move into the Growth Stage, profitability improves modestly (*ROE* = 0.0618), and net income growth becomes positive (0.0692). Revenue growth (0.143) and capital expenditure growth (0.4945) remain strong, and the liability-to-equity ratio increases slightly (1.3525), reflecting a greater use of debt to fund expansion.

In the Mature Stage, profitability continues to improve but at a slower pace (*ROE* = 0.0815). Net income growth slows (0.1128), and both revenue growth (0.0663) and capital expenditure growth (0.2305) are moderate, typical of firms in the maturity phase. The liability-to-equity ratio (1.1916) remains stable, showing more cautious debt management.

During the Shakeout Stage, profitability declines (*ROE* = -0.0514), and firms experience negative income growth (-0.0705), signaling financial difficulties in a market consolidation phase. However, they still show modest revenue growth (0.0813) and capital expenditure growth (0.3233), indicating efforts to adapt to a competitive market. The liability-to-equity ratio decreases slightly (1.0693), reflecting reduced reliance on debt.

Finally, in the Decline Stage, firms face significant financial distress, marked by a sharp drop in profitability (*ROE* = -0.2426) and continued income decline (-0.3067). Revenue growth (0.0359) and capital expenditure growth (0.1815) are minimal, signaling difficulty in sustaining operations. The liability-to-equity ratio drops slightly (1.1059), indicating a more conservative approach to debt, though firms maintain a relatively high payout ratio (0.4757), likely to preserve shareholder confidence during tough times.

Overall, these findings illustrate how firms' financial health and strategies evolve through their lifecycle stages. Introduction-stage firms experience financial distress with negative profitability and income growth but maintain high capital expenditure and strong revenue growth. Growth-stage firms exhibit increasing profitability, steady income growth, and the highest liability-to-equity ratio, reflecting their reliance on external financing for expansion. As firms mature, they focus on stabilizing their financial positions with moderate profitability, slower growth, and more cautious debt management. Shakeout-stage firms see declining profitability and income growth but still invest in expansion, while decline-stage firms face severe financial deterioration with minimal growth and weak investment activity. Across all stages, companies adjust their capital structures and dividend policies to maintain shareholder returns despite financial challenges.

Table 4. Average Financial Performance Across Firm Lifecycle Stages.

Stage	Return on Equity	Net Income Growth	Revenue Growth	Capex Growth	Liability to Equity
Introduction	-0.1878	-0.3744	0.133	0.4916	1.1541
Growth	0.0618	0.0692	0.143	0.4945	1.3525
Mature	0.0815	0.1128	0.0663	0.2305	1.1916
Shakeout	-0.0514	-0.0705	0.0813	0.3233	1.0693
Decline	-0.2426	-0.3067	0.0359	0.1815	1.1059

4.2. The Relationship Between Dividend Changes and Future Net Income Growth in the Introduction Stage

Table 5. Impact of Dividend Changes on Future Net Income Growth During Introduction Stage by Firm Size.

	(1) Small Firm	(2) Medium Firm	(3) Large Firm	(4) Small Firm	(5) Medium Firm	(6) Large Firm
ΔDIV	-0.346*	-0.162***	-0.158***			
	(-1.75)	(-5.70)	(-5.97)			
ΔDIV_INC				-0.156	-0.0628*	-0.0737***
				(-0.74)	(-1.96)	(-3.26)
Lag Dependent	-0.402***	-0.0778***	-0.101***	-0.0858	-0.0458	-0.0867*
	(-4.60)	(-3.61)	(-8.00)	(-0.49)	(-1.04)	(-1.71)
ROE	-1.865***	-3.001***	-2.809***	-1.871	-2.602***	-1.988**
	(-3.89)	(-8.73)	(-7.13)	(-0.87)	(-4.51)	(-2.52)
LIAB_EQU	-0.436***	-0.0899	-0.107***	-0.275	-0.0404	-0.0567
	(-5.04)	(-1.53)	(-3.30)	(-0.98)	(-0.62)	(-1.00)
ΔCAPEX	-0.0949*	0.0747**	0.0572**	-0.0590	0.0479***	0.0428**
	(-1.96)	(2.76)	(2.48)	(-0.81)	(4.02)	(2.51)
ΔGDP	3.753	3.984***	3.607**	2.022	3.666***	2.950*
	(0.99)	(3.18)	(2.70)	(0.52)	(2.80)	(1.96)
ΔEPU	0.436*	0.0605	0.118	0.444***	0.108	0.157*
	(1.98)	(0.72)	(1.44)	(3.17)	(1.14)	(1.89)
Constant	0.433**	0.141*	0.161**	0.316	0.0460	0.0459
	(2.69)	(1.71)	(2.63)	(0.77)	(0.56)	(0.92)
Observations	495	3804	4303	365	3219	3587
R-squared	0.305	0.0995	0.0984	0.110	0.0287	0.0237
F-statistic	303.4	28.26	58.49	0.58	28.68	23.88

Note: This table presents the results of country fixed-effects regressions examining the relationship between dividend growth (*ΔDIV*) in Models 1–3 and dividend payout growth (*ΔDIV_INC*) in Models 4–6, along with control variables, in relation to future earnings growth. The analysis focuses on the introduction phase. Variable definitions are in Table 1, and t-statistics are in square brackets. Firm size is categorized annually within each country based on total assets, with large firms exceeding the 75th percentile (Q3), medium firms falling between the 25th (Q1) and 75th percentile (Q3), and small firms below the 25th percentile (Q1). Statistical significance levels are denoted as *** for $p < 0.01$, ** for $p < 0.05$, and * for $p < 0.1$.

Table 5 presents the regression analysis of how dividend changes impact future net income growth during the introduction stage. The study uses data from publicly traded, non-financial firms in 28 countries, with results categorized by firm size based on total assets. The regression models utilize country-fixed effects to control for unobserved heterogeneity, such as differences in country-specific economic conditions and regulations that may influence corporate performance and dividend policies. The results, presented in Table 5, are split into two sets. Models (1)–(3) examine the effect of changes in dividends (*ΔDIV*) on future net income growth, while Models (4)–(6) focus on the impact of changes in the dividend payout ratio (*ΔDIV_INC*) on future performance.

The findings suggest that, in most models, reducing dividends and lowering the dividend payout ratio are linked to higher future net income growth. This is supported by t-statistics ranging from 0.74 to 5.79, showing statistical significance across different firm sizes. For small firms, dividend reductions (*ΔDIV*) and lower payout ratios (*ΔDIV_INC*) correlate with higher future earnings growth, with t-statistics of -1.75 and -0.74, respectively. Medium-sized firms show stronger relationships, with t-statistics of -5.70 and -1.96 for *ΔDIV* and *ΔDIV_INC*, respectively. Large firms also exhibit significant results, with t-statistics of -5.97 and -3.26 for *ΔDIV* and *ΔDIV_INC*.

These results suggest that, during the introduction stage, reducing dividends and adjusting the payout ratio may signal a strategic reinvestment in the firm's growth, which investors interpret as a positive indicator of future earnings potential. This aligns with the idea that dividend cuts in early-stage firms are not necessarily a sign of financial distress but a move towards long-term growth.

The study also explores other financial factors. Negative *ROE* indicates that high profitability often leads to mean reversion, where exceptionally high returns are unsustainable. The debt ratio (*LIAB_EQU*) shows a negative impact on future earnings growth, particularly in small firms, suggesting that high leverage may constrain growth potential. Additionally, capital expenditure increases (*ΔCAPEX*) correlate positively with future earnings, especially for medium and large firms, emphasizing the role of investment in driving long-term growth. Economic growth (*ΔGDP*) positively influences future earnings, particularly for medium-sized firms, while economic policy uncertainty (*ΔEPU*) shows mixed effects, with a notable impact in some models for large firms.

4.3. The Relationship Between Dividend Changes and Future Net Income Growth in the Growth Stage

During the growth stage, businesses undergo a phase of significant expansion, marked by rising revenues and scaling of operations, as shown in Table 4. The regression analysis presented in Table 6 explores how changes in dividends affect future net income growth during this stage. For small firms, reducing dividends (*ΔDIV*) shows a weakly negative correlation with future earnings growth (t-statistic: -1.87), while changes in the payout ratio (*ΔDIV_INC*) are not statistically significant (t-statistic: -1.45). This implies dividend reductions may have a slight link to earnings growth, but payout changes offer no clear signal.

Medium-sized firms display a stronger connection. Negative coefficients for *ΔDIV* (-0.0529) and *ΔDIV_INC* (-0.0297) are significant at 1% and 5% levels (t-statistics: -2.89, -3.48), indicating that lower dividends and payout adjustments relate more strongly to earnings growth.

For large firms, both *ΔDIV* (-0.0570) and *ΔDIV_INC* (-0.0347) show significant negative associations with earnings growth (t-statistics: -3.13, -3.79, both at 1% level). This suggests that reducing dividends and adjusting payouts benefit profitability, reinforcing the idea that such moves are strategic rather than signs of financial trouble.

Other financial variables also play a role. Return on equity (*ROE*) shows negative coefficients across all firm sizes (t-statistics: -2.02 to -13.97), indicating that firms with high profitability may struggle to maintain it over time. The debt ratio (*LIAB_EQU*) is mostly negative and significant, especially for medium and large firms, emphasizing the risks of high leverage.

Capital expenditures (*ΔCAPEX*) correlate positively with earnings growth for medium and large firms, while small firms show mixed effects. GDP growth (*ΔGDP*) is consistently positive and significant, affirming that strong macroeconomic conditions boost future earnings. Meanwhile, economic policy uncertainty (*ΔEPU*) lacks a consistent impact.

Overall, firms of all sizes benefit from dividend reductions during growth phases, though the impact is stronger for medium and large firms, supporting the importance of retained earnings for future expansion.

Table 6. Impact of Dividend Changes on Future Net Income Growth During the Growth Stage by Firm Size.

	(1)	(2)	(3)	(4)	(5)	(6)
	Small Firm	Medium Firm	Large Firm	Small Firm	Medium Firm	Large Firm
ΔDIV	-0.126*	-0.0529***	-0.0570***			
	(-1.87)	(-2.89)	(-3.13)			
ΔDIV_INC				-0.0896	-0.0297***	-0.0347***
				(-1.45)	(-3.48)	(-3.79)
Lag Dependent	-0.200***	-0.116***	-0.121***	-0.152**	-0.0408	-0.0633**
	(-7.71)	(-5.99)	(-7.76)	(-2.15)	(-1.28)	(-2.33)
ROE	-2.047*	-3.300***	-3.132***	-1.577*	-3.406***	-2.707***
	(-2.02)	(-8.32)	(-6.81)	(-1.92)	(-13.97)	(-5.81)

Table 6. (Continued).

	(1)	(2)	(3)	(4)	(5)	(6)
	Small Firm	Medium Firm	Large Firm	Small Firm	Medium Firm	Large Firm
ROE	-2.047*	-3.300***	-3.132***	-1.577*	-3.406***	-2.707***
	(-2.02)	(-8.32)	(-6.81)	(-1.92)	(-13.97)	(-5.81)
LIAB_EQU	-0.339**	-0.206***	-0.193***	-0.207	-0.180***	-0.174***
	(-2.24)	(-9.87)	(-9.00)	(-1.47)	(-8.35)	(-8.10)
ΔCAPEX	-0.0398	0.0961***	0.0816***	-0.0359**	0.0868***	0.0714***
	(-1.41)	(7.29)	(5.21)	(-2.72)	(7.80)	(5.76)
ΔGDP	5.087***	4.314***	4.526***	4.125***	3.183***	3.529***
	(5.35)	(9.24)	(9.93)	(4.60)	(6.49)	(7.41)
ΔEPU	-0.00384	0.0344	0.0237	-0.0320	-0.000653	-0.00278
	(-0.06)	(0.89)	(0.61)	(-0.36)	(-0.02)	(-0.07)
Constant	0.455**	0.432***	0.400***	0.261	0.439***	0.353***
	(2.15)	(9.30)	(5.65)	(1.20)	(8.96)	(4.28)
Observations	1589	13435	15034	1530	12613	14153
R-squared	0.142	0.108	0.106	0.0500	0.0572	0.0496
F-statistic	54.22	189.3	246.2	10.23	283.9	544.5

Note: This table presents the results of country fixed-effects regressions examining the relationship between dividend growth (*ΔDIV*) in Models 1–3 and dividend payout growth (*ΔDIV_INC*) in Models 4–6, along with control variables, in relation to future earnings growth. The analysis focuses on the growth phase. Variable definitions are in Table 1, and t-statistics are in square brackets. Firm size is categorized annually within each country based on total assets, with large firms exceeding the 75th percentile (Q3), medium firms falling between the 25th (Q1) and 75th percentile (Q3), and small firms below the 25th percentile (Q1). Statistical significance levels are denoted as *** for $p < 0.01$, ** for $p < 0.05$, and * for $p < 0.1$.

4.4. The Relationship Between Dividend Changes and Future Net Income Growth in the Mature Stage

Table 7. Impact of Dividend Changes on Future Net Income Growth During the Mature Stage by Firm Size.

	(1)	(2)	(3)	(4)	(5)	(6)
	Small Firm	Medium Firm	Large Firm	Small Firm	Medium Firm	Large Firm
ΔDIV	-0.0944***	-0.0346***	-0.0435***			
	(-5.50)	(-4.69)	(-7.40)			
ΔDIV_INC				-0.0437**	-0.00660	-0.0141
				(-2.33)	(-0.56)	(-1.43)
Lag Dependent	-0.112***	-0.0862***	-0.0909***	-0.0863**	-0.0423*	-0.0518***
	(-7.80)	(-10.37)	(-10.65)	(-2.48)	(-1.89)	(-3.72)
ROE	-2.385***	-3.330***	-2.982***	-1.844***	-2.909***	-2.468***
	(-4.23)	(-10.93)	(-9.73)	(-3.14)	(-7.51)	(-6.10)
LIAB_EQU	-0.141***	-0.0858**	-0.0798***	-0.178***	-0.0458	-0.0513
	(-3.32)	(-2.66)	(-2.78)	(-2.93)	(-1.11)	(-1.59)
ΔCAPEX	-0.000840	0.0543***	0.0492***	0.00456	0.0480***	0.0437***
	(-0.08)	(6.66)	(6.37)	(0.58)	(7.36)	(8.35)
ΔGDP	2.645***	2.827***	2.831***	2.680***	2.544***	2.573***
	(4.38)	(7.48)	(7.15)	(4.98)	(7.94)	(7.67)
ΔEPU	-0.0417	-0.0438*	-0.0408	-0.00213	-0.0522**	-0.0429
	(-0.52)	(-1.82)	(-1.34)	(-0.04)	(-2.30)	(-1.70)
Constant	0.353***	0.405***	0.365***	0.288***	0.328***	0.283***
	(3.72)	(17.82)	(10.59)	(2.85)	(10.24)	(5.94)
Observations	4830	31517	36383	4647	29865	34548
R-squared	0.0679	0.0982	0.0876	0.0303	0.0523	0.0432
F-statistic	48.91	305.1	294.0	13.18	100.9	92.37

Table 7. (Continued).

Note: This table presents the results of country fixed-effects regressions examining the relationship between dividend growth (*ΔDIV*) in Models 1–3 and dividend payout growth (*ΔDIV_INC*) in Models 4–6, along with control variables, in relation to future earnings growth. The analysis focuses on the mature phase. Variable definitions are in Table 1, and t-statistics are in square brackets. Firm size is categorized annually within each country based on total assets, with large firms exceeding the 75th percentile (Q3), medium firms falling between the 25th (Q1) and 75th percentile (Q3), and small firms below the 25th percentile (Q1). Statistical significance levels are denoted as *** for $p < 0.01$, ** for $p < 0.05$, and * for $p < 0.1$.

During the mature stage, businesses continue to expand, though at a more stable pace, as shown in Table 4. The regression analysis in Table 7 examines how dividend changes influence future net income growth across firms of different sizes. For small firms, dividend reductions (*ΔDIV*) exhibit a significantly negative relationship with future earnings growth (t-statistic: -5.50), indicating that lower dividends are associated with declining profitability. Changes in the payout ratio (*ΔDIV_INC*) are negatively correlated with earnings growth (t-statistic: -2.33) and significant at the 5% level, suggesting that adjusting payout ratios may have a moderate effect on future earnings.

Medium-sized firms also show a negative correlation between dividend reductions and earnings growth (*ΔDIV* coefficient: -0.0346, t-statistic: -4.69, significant at 1%). However, changes in the payout ratio (*ΔDIV_INC*) are not statistically significant (t-statistic: -0.56), implying that payout adjustments do not play a major role in influencing future profitability for these firms.

For large firms, dividend reductions (*ΔDIV*) remain negatively and significantly associated with future earnings growth (t-statistic: -7.40, significant at 1%). However, changes in the payout ratio (*ΔDIV_INC*) are not statistically significant (t-statistic: -1.43), suggesting that modifications in payout strategy do not directly impact profitability.

Additional financial indicators further illustrate key relationships. Return on equity (*ROE*) is significantly negative across all firm sizes, with t-statistics ranging from -4.23 to -10.93, reinforcing the notion that firms with high profitability tend to experience mean reversion over time. The debt-to-equity ratio (*LIAB_EQU*) also exhibits mostly negative and significant coefficients, particularly for small and medium-sized firms, underscoring the financial risks associated with high leverage.

Capital expenditures (*ΔCAPEX*) show mixed effects. For small firms, the relationship with earnings growth is insignificant. In contrast, for medium and large firms, *ΔCAPEX* positively and significantly correlates with future earnings, emphasizing the importance of reinvestment in sustaining profitability.

Macroeconomic conditions play a crucial role in shaping earnings outcomes. GDP growth (*ΔGDP*) is consistently positive and highly significant across all firm sizes, reinforcing the idea that strong economic conditions drive higher future earnings. Conversely, economic policy uncertainty (*ΔEPU*) demonstrates inconsistent effects, with significance only observed in certain cases, suggesting that uncertainty has a less predictable impact on firm profitability.

In summary, dividend reductions are generally linked to lower future earnings growth, particularly for small and large firms. However, payout ratio adjustments show varied significance, depending on firm size. The findings highlight the role of profitability, leverage, and economic conditions in shaping firms' financial trajectories during the mature stage.

4.5. The Relationship Between Dividend Changes and Future Net Income Growth in the Shakeout Stage

During the shakeout phase, businesses experience increased market competition and consolidation, leading to shifts in financial strategies. The regression analysis in Table 8 examines how dividend adjustments influence future net income growth across firms of varying sizes during this stage. For small firms, the impact of dividend reductions (*ΔDIV*) on earnings growth is statistically insignificant (t-statistic: 0.21), indicating no meaningful relationship. Similarly, changes in the dividend payout ratio (*ΔDIV_INC*) do not show statistical significance (t-statistic: 0.10), implying that dividend policy adjustments do not serve as strong predictors of future earnings growth for smaller firms.

For medium-sized firms, the coefficient for *ΔDIV* (-0.0539) is negative but not statistically significant (t-statistic: -0.83), suggesting that dividend reductions may not strongly influence future earnings. Likewise, *ΔDIV_INC* (-0.0192) remains statistically insignificant (t-statistic: -0.30), reinforcing the notion that changes in payout policy provide limited predictive power for medium-sized firms.

Table 8. Impact of Dividend Changes on Future Net Income Growth During the Shakeout Stage by Firm Size.

	(1) Small Firm	(2) Medium Firm	(3) Large Firm	(4) Small Firm	(5) Medium Firm	(6) Large Firm
ΔDIV	0.0157	-0.0539	-0.0432			
	(0.21)	(-0.83)	(-0.71)			
ΔDIV_INC				0.00823	-0.0192	-0.0267
				(0.10)	(-0.30)	(-0.44)
Lag Dependent	-0.0702*	-0.0307	-0.0354	0.120	0.0523	0.0516
	(-2.00)	(-1.09)	(-1.20)	(1.50)	(0.63)	(0.59)
ROE	-3.793***	-4.096***	-4.300***	-3.556***	-4.214***	-4.169***
	(-5.31)	(-6.84)	(-7.23)	(-4.08)	(-4.11)	(-4.14)
LIAB_EQU	-0.241**	-0.142	-0.159	0.0638	0.0997	0.0763
	(-2.56)	(-1.41)	(-1.54)	(0.46)	(0.73)	(0.62)
ΔCAPEX	0.0943***	0.0978***	0.0931***	0.0814***	0.0878***	0.0862***
	(3.08)	(3.91)	(3.91)	(4.48)	(3.44)	(3.72)
ΔGDP	5.572***	3.913**	4.516***	6.212***	4.732***	4.995***
	(3.16)	(2.36)	(3.02)	(4.51)	(3.90)	(3.40)
ΔEPU	0.0167	0.000273	0.0334	0.198	0.111	0.147
	(0.17)	(0.00)	(0.35)	(1.25)	(1.19)	(1.28)
Constant	0.236**	0.245**	0.251**	-0.0675	0.0255	0.0285
	(2.10)	(2.22)	(2.27)	(-0.36)	(0.14)	(0.16)

Table 8. (Continued).

	(1) Small Firm	(2) Medium Firm	(3) Large Firm	(4) Small Firm	(5) Medium Firm	(6) Large Firm
Observations	2320	2683	2758	1817	2138	2212
R-squared	0.113	0.115	0.124	0.0697	0.0805	0.0823
F-statistic	18.89	11.77	20.89	38.08	20.64	20.45

Note: This table presents the results of country fixed-effects regressions examining the relationship between dividend growth (*ΔDIV*) in Models 1–3 and dividend payout growth (*ΔDIV_INC*) in Models 4–6, along with control variables, in relation to future earnings growth. The analysis focuses on the shakeout phase. Variable definitions are in Table 1, and t-statistics are in square brackets. Firm size is categorized annually within each country based on total assets, with large firms exceeding the 75th percentile (Q3), medium firms falling between the 25th (Q1) and 75th percentile (Q3), and small firms below the 25th percentile (Q1). Statistical significance levels are denoted as *** for $p < 0.01$, ** for $p < 0.05$, and * for $p < 0.1$.

Large firms exhibit a similar pattern, with *ΔDIV* (-0.0432) and *ΔDIV_INC* (-0.0267) both showing negative but statistically insignificant coefficients (t-statistics: -0.71 and -0.44, respectively). These findings suggest that, during the shakeout phase, dividend reductions and payout ratio adjustments do not play a significant role in shaping future earnings growth across firm sizes.

Among other financial variables, return on equity (*ROE*) consistently exhibits a negative and highly significant impact on future earnings growth across all firm sizes, with t-statistics ranging from -4.08 to -7.23. This supports the argument that firms with initially high profitability may experience a decline in earnings over time due to competitive pressures.

The debt ratio (*LIAB_EQU*) is significantly negative for small firms (-0.241, t-statistic: -2.56) but loses significance for medium and large firms, suggesting that high leverage poses greater financial risks for smaller companies.

Capital expenditures (*ΔCAPEX*) display a strong and positive relationship with future earnings growth across all firm sizes, with significant coefficients ranging from 0.0814 to 0.0978. This underscores the importance of investment in sustaining profitability during the shakeout phase.

Macroeconomic factors also play a crucial role. GDP growth (*ΔGDP*) remains a significant driver of future earnings across all models, with positive and highly significant coefficients. Conversely, economic policy uncertainty (*ΔEPU*) does not show a consistent impact, as its coefficients remain statistically insignificant across all firm sizes.

Overall, the findings indicate that dividend policy changes do not significantly affect future earnings growth during the shakeout phase. Instead, factors such as profitability, leverage, and capital investments play a more critical role in shaping firm performance.

4.6. The Relationship Between Dividend Changes and Future Net Income Growth in the Decline Stage

During the decline phase, firms face challenges such as shrinking revenues and operational contractions. Table 9 analyzes the impact of dividend adjustments on future net income growth across different firm sizes during this stage. For small firms, the relationship between dividend reductions (*ΔDIV*) and earnings growth appears weak and statistically insignificant (t-statistic: -0.18). Similarly, changes in the payout ratio (*ΔDIV_INC*) do not show any meaningful effect (t-statistic: 0.40). This suggests that dividend policies have minimal influence on future earnings for smaller companies during the decline phase.

For medium firms, *ΔDIV* is negative (-0.0442) but statistically insignificant (t-statistic: -0.37), indicating no clear link between dividend reductions and earnings growth. Conversely, GDP growth (*ΔGDP*) shows a significant positive effect (t-statistic: 2.15), suggesting that broader economic conditions play a more prominent role in influencing firm performance.

For large firms, the negative coefficient of *ΔDIV* (-0.0865) remains statistically insignificant (t-statistic: -0.72), while *ΔDIV_INC* also lacks significance (t-statistic: 0.24). These findings imply that dividend changes alone do not substantially impact earnings growth for large firms in the decline phase.

Other financial indicators provide additional insights. Return on equity (*ROE*) consistently exhibits negative and significant coefficients across all firm sizes, with t-statistics ranging from -3.65 to -8.11, indicating potential profitability deterioration over time. The debt-to-equity ratio (*LIAB_EQU*) remains largely insignificant, suggesting that leverage may not be a key determinant of future earnings in this phase.

Capital expenditures (*ΔCAPEX*) show a positive and significant relationship with earnings growth for medium and large firms (t-statistics: 2.30 and 2.49), emphasizing the role of continued investment in mitigating revenue declines. However, for small firms, the effect remains weak.

GDP growth (*ΔGDP*) positively influences earnings growth across medium and large firms, with significant t-statistics (2.15 and 2.07), reinforcing the importance of macroeconomic stability. Meanwhile, economic policy uncertainty (*ΔEPU*) presents a weak negative effect for small firms (t-statistic: -1.75) but remains insignificant for medium and large firms.

Overall, the findings indicate that during the decline phase, dividend adjustments do not significantly impact future earnings growth across all firm sizes. Instead, broader economic conditions and strategic capital expenditures appear to play a more decisive role in shaping financial outcomes.

Table 9. Impact of Dividend Changes on Future Net Income Growth During the Decline by Firm Size.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Small Firm	**Medium Firm**	**Large Firm**	**Small Firm**	**Medium Firm**	**Large Firm**
ΔDIV	-0.0304	-0.0442	-0.0865			
	(-0.18)	(-0.37)	(-0.72)			
ΔDIV_INC				0.0369	-0.00218	0.0116
				(0.40)	(-0.05)	(0.24)
Lag Dependent	-0.0900	-0.142**	-0.133*	-0.0417	0.0137	-0.00246
	(-1.33)	(-2.26)	(-1.97)	(-0.39)	(0.19)	(-0.04)
ROE	-2.606***	-3.412***	-3.550***	-1.977	-2.755**	-3.018**
	(-3.65)	(-9.75)	(-8.11)	(-1.31)	(-2.37)	(-2.67)
LIAB_EQU	-0.0526	-0.0937	-0.0802	0.0139	-0.0475	0.00565
	(-0.46)	(-0.99)	(-0.98)	(0.08)	(-0.30)	(0.04)
ΔCAPEX	-0.00252	0.0120	0.0382	0.0433	0.0636**	0.0689**
	(-0.06)	(0.34)	(1.29)	(1.34)	(2.30)	(2.49)
ΔGDP	0.330	5.255**	3.880**	4.511**	4.995**	4.219*
	(0.14)	(2.15)	(2.07)	(2.38)	(2.16)	(1.86)
ΔEPU	-0.256*	-0.143	-0.126	0.0629	0.0949	0.0930
	(-1.75)	(-0.78)	(-0.66)	(0.41)	(0.72)	(0.69)
Constant	0.155	0.00380	0.0211	-0.130	-0.0574	-0.0635
	(0.62)	(0.02)	(0.12)	(-0.55)	(-0.29)	(-0.38)
Observations	1405	2242	2475	1086	1722	1855
R-squared	0.0703	0.122	0.123	0.0314	0.0395	0.0383
F-statistic	18.00	91.67	51.01	3.192	7.504	9.021

Note: This table presents the results of country fixed-effects regressions examining the relationship between dividend growth (*ΔDIV*) in Models 1–3 and dividend payout growth (*ΔDIV_INC*) in Models 4–6, along with control variables, in relation to future earnings growth. The analysis focuses on the decline phase. Variable definitions are in Table 1, and t-statistics are in square brackets. Firm size is categorized annually within each country based on total assets, with large firms exceeding the 75th percentile (Q3), medium firms falling between the 25th (Q1) and 75th percentile (Q3), and small firms below the 25th percentile (Q1). Statistical significance levels are denoted as *** for $p < 0.01$, ** for $p < 0.05$, and * for $p < 0.1$.

4.7. Discussion

This research investigates the impact of a company's life cycle stage on its dividend policy and how these policies can signal future financial outcomes. Existing studies have shown that dividend strategies reveal a company's financial health and its ability to adapt to both its life cycle and broader economic factors. The idea of dividend signaling, first proposed by [2] and later expanded by [3] and [4], suggests that increases in dividends generally indicate positive prospects. At the same time, cuts could be a sign of financial troubles. However, the effects of dividend changes can vary widely depending on the life cycle phase the company is in.

In the early stages, such as during the introduction and growth phases, companies typically retain earnings for expansion instead of paying out dividends. This aligns with the Retained Earnings and Pecking Order theories [34], which suggest that companies at these stages prefer internal funding over external sources. Therefore, the dividend policies during this period do not necessarily reflect a company's long-term outlook. Rather, they highlight a strategic focus on reinvestment and growth, where reducing dividends may be interpreted as a choice to invest in future potential rather than as a sign of financial trouble.

An interesting result from this study is that, during the mature stage, cutting dividends is often followed by an increase in profits, challenging the traditional belief that higher dividends signal future growth. In mature companies, the need to reinvest in growth strategies or to reduce costs might be more pressing than distributing profits. Thus, dividend cuts can be seen as a tactical move to ensure long-term sustainability. Especially in times of economic uncertainty, such as the aftermath of the 2008 financial crisis and during ongoing market volatility through 2023, companies might reduce dividends to save capital for reinvestment in the business.

On the other hand, during the shake-out and decline phases, changes in dividend policies are less useful as indicators of future profitability. In the shake-out phase, companies face rising competition and industry consolidation, prompting financial strategies focused on cost control rather than signaling growth through dividend changes. Similarly, in the decline phase, where companies experience revenue declines and operational shrinkage, adjustments to dividends are less reliable in forecasting future earnings growth.

These findings suggest that the traditional understanding of dividend signaling should be re-evaluated, particularly for firms in the later stages of their life cycle. While raising dividends has long been viewed as a sign of financial strength and growth potential, reducing dividends in the mature stage may indicate a company's strategic shift toward sustainability. Investors might misinterpret such reductions as signs of distress, overlooking the potential for reinvestment and growth despite economic instability.

Ultimately, the relationship between dividend changes and future financial performance is complex and should not be viewed in the same way across all stages of a company's life cycle. This study indicates that, while cuts in dividends may suggest future growth for early-stage companies, the opposite is true for mature firms, where such cuts could be a strategic move for future success. In the shake-out and decline stages, dividend changes hold limited relevance, and other factors, such as economic conditions and capital expenditures, are more influential in shaping a firm's financial future.

5. Conclusions

This study highlights the intricate connection between dividend changes and a company's life cycle, demonstrating that the effect of dividend policy modifications on future profitability differs substantially across various stages of a company's development. Traditional theories generally propose that increasing dividends signal positive prospects, while cuts are seen as signs of financial difficulty. However, this research questions that perspective, particularly for mature companies. In the early stages, firms may reduce dividends as part of a strategic effort to reinvest in growth, not due to financial struggles. Conversely, in the mature phase, cutting dividends may indicate a deliberate focus on long-term sustainability and profitability, which challenges the conventional view. On the other hand, during the shake-out and decline phases, dividend changes are less reliable indicators of future performance, as companies face distinct challenges that make dividend cuts less meaningful. This research emphasizes the need to account for the specific life cycle stage of a company when analyzing dividend policies, suggesting that both investors and analysts should adopt a more nuanced understanding of dividend signals throughout different corporate phases.

Acknowledgments: The authors sincerely appreciate the institutional support, academic environment, and invaluable guidance that contributed to this research.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

[1] Dickinson, V. (2011). Cash flow patterns as a proxy for firm life cycle. Accounting Review, 86(6), 1969–1994. https://doi.org/10.2308/accr-10130

[2] Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. American Economic Review, 46(2), 97–113. https://www.jstor.org/stable/1910664

[3] Bhattacharya, S. (1979). Imperfect information, dividend policy, and 'the bird in the hand' fallacy. The Bell Journal of Economics, 10(1), 259–270. https://doi.org/10.2307/3003330

[4] John, K., & Williams, J. (1985). Dividends, dilution, and taxes: A signaling equilibrium. Journal of Finance, 40(4), 1053–1070. https://doi.org/10.1111/j.1540-6261.1985.tb02363.x

[5] Arnott, R. D., & Asness, C. S. (2003). Surprise! Higher dividends = higher earnings growth. Financial Analysts Journal, 59(1), 70–87. https://doi.org/10.2469/faj.v59.n1.2504

[6] Boldin, R., & Leggett, K. (1995). Bank dividend policy as a signal of bank quality. Financial Services Review, 4(1), 1–8. https://doi.org/10.1016/1057-0810(95)90013-6

[7] Brook, Y., Charlton, W. T., & Hendershott, R. J. (1998). Do firms use dividends to signal large future cash flow increases? Financial Management, 27(3), 46–57. https://doi.org/10.2307/3666274

[8] Flint, A., Tan, A., & Tian, G. (2010). Predicting future earnings growth: A test of the dividend payout ratio in the Australian market. The International Journal of Business and Finance Research, 4(2), 43–59. http://www.theibfr2.com/RePEc/ibf/ijbfre/ijbfr-v4n2-2010/IJBFR-V4N2-2010-4.pdf

[9] Ham, C. G., Kaplan, Z. R., & Leary, M. T. (2020). Do dividends convey information about future earnings? Journal of Financial Economics, 136(2), 547–570. https://doi.org/10.1016/j.jfineco.2019.10.006

[10] Healy, P. M., & Palepu, K. G. (1988). Earnings information conveyed by dividend initiations and omissions. Journal of Financial Economics, 21(2), 149–175. https://doi.org/10.1016/0304-405X(88)90059-1

[11] Johnson, S. A., Lin, J. C., & Song, K. R. (2006). Dividend policy, signaling, and discounts on closed-end funds. Journal of Financial Economics, 81(3), 539–562. https://doi.org/10.1016/j.jfineco.2005.08.001

[12] Liu, C., & Chen, A. S. (2015). Do firms use dividend changes to signal future profitability? A simultaneous equation analysis. International Review of Financial Analysis, 37, 194–207. https://doi.org/10.1016/j.irfa.2014.12.001

[13] Nissim, D., & Ziv, A. (2001). Dividend changes and future profitability. Journal of Finance, 56(6), 2111–2133. https://doi.org/10.1111/0022-1082.00400

[14] Ping, Z., & Ruland, W. (2006). Dividend payout and future earnings growth. Financial Analysts Journal,

62(3), 58–69. https://doi.org/10.2469/faj.v62.n3.4157
[15] Skinner, D. J., & Soltes, E. (2011). What do dividends tell us about earnings quality? Review of Accounting Studies, 16(1), 1–28. https://doi.org/10.1007/s11142-009-9113-8
[16] Yoon, P. S., & Starks, L. T. (1995). Signaling, investment opportunities, and dividend announcements. Review of Financial Studies, 8(4), 995–1018. https://doi.org/10.1093/rfs/8.4.995
[17] Watts, R. (1973). The information content of dividends. The Journal of Business, 46(2), 191–211. https://doi.org/10.1086/295525
[18] Gonedes, N. J. (1978). Corporate signaling, external accounting, and capital market equilibrium: Evidence on dividends, income, and extraordinary items. Journal of Accounting Research, 16(1), 26–79. https://doi.org/10.2307/2490411
[19] Fama, E. F., & French, K. R. (2001). Disappearing dividends: Changing firm characteristics or lower propensity to pay? Journal of Financial Economics, 60(1), 3–43. https://doi.org/10.1016/S0304-405X(01)00038-1
[20] DeAngelo, H., DeAngelo, L., & Skinner, D. J. (1996). Reversal of fortune: Dividend signaling and the disappearance of sustained earnings growth. Journal of Financial Economics, 40(3), 341–371. https://doi.org/10.1016/0304-405X(95)00850-E
[21] Benartzi, S., Michaely, R., & Thaler, R. (1997). Do changes in dividends signal the future or the past? Journal of Finance, 52(3), 1007–1034. https://doi.org/10.2307/2329514
[22] Grullon, G., Michaely, R., Benartzi, S., & Thaler, R. H. (2005). Dividend changes do not signal changes in future profitability. The Journal of Business, 78(5), 1659–1682. https://doi.org/10.1086/431438
[23] Jensen, G. R., Lundstrum, L. L., & Miller, R. E. (2010). What do dividend reductions signal? Journal of Corporate Finance, 16(5), 736–747. https://doi.org/10.1016/j.jcorpfin.2010.06.009
[24] Abor, J., & Bokpin, G. A. (2010). Investment opportunities, corporate finance, and dividend payout policy: Evidence from emerging markets. Studies in Economics and Finance, 27(3), 180–194. https://doi.org/10.1108/10867371011060018
[25] Meza, N., Báez, A., Rodriguez, J., & Toledo, W. (2020). The dividend signaling hypothesis and the corporate life cycle. Managerial Finance, 46(12), 1569–1587. https://doi.org/10.1108/MF-10-2019-0512
[26] Bhattacharya, D., Chang, C. W., & Li, W. H. (2020). Stages of firm life cycle, transition, and dividend policy. Finance Research Letters, 33, 101245. https://doi.org/10.1016/j.frl.2019.06.024
[27] Bulan, L. T., & Subramanian, N. (2009). The firm life cycle theory of dividends. In H. K. Baker (Ed.), Dividends and Dividend Policy (pp. 201–213). Wiley. https://doi.org/10.1002/9781118258408.ch12
[28] Kaur, J. (2019). Firm’s life cycle spurs the dividend payments: A fallacy or an actuality? Paradigm: A Management Research Journal, 23(1), 36–52. https://doi.org/10.1177/0971890719835630
[29] Singh, R., Gupta, C. P., & Chaudhary, P. (2023). Dividend policy and corporate life cycle: A study of Indian companies
[30] DeAngelo, H., DeAngelo, L., & Stulz, R. (2006). Dividend policy and the earned/contributed capital mix: A test of the life-cycle theory. Journal of Financial Economics, 81(2), 227–254. https://doi.org/10.1016/j.jfineco.2005.07.005
[31] Attig, N., El Ghoul, S., Guedhami, O., & Zheng, X. (2021). Dividends and economic policy uncertainty: International evidence. Journal of Corporate Finance, 66, 101785. https://doi.org/10.1016/j.jcorpfin.2020.101785
[32] Gort, M., & Klepper, S. (1982). Time paths in the diffusion of product innovations. The Economic Journal, 92(367), 630–653. https://doi.org/10.2307/2232554
[33] Anthony, J. H., & Ramesh, K. (1992). Association between accounting performance measures and stock prices: A test of the life cycle hypothesis. Journal of Accounting and Economics, 15(2–3), 203–227. https://doi.org/10.1016/0165-4101(92)90018-W
[34] Myers, S. C. (1984). The capital structure puzzle. Journal of Finance, 39(3), 574–592. https://doi.org/10.1111/j.1540-6261.1984.tb03646.x
[35] Fazzari, S. M., Hubbard, R. G., Petersen, B. C., Blinder, A. S., & Poterba, J. M. (1988). Financing constraints and corporate investment. Brookings Papers on Economic Activity, 1988(1), 141–206. https://doi.org/10.2307/2534426
[36] Paulo, A. (2018). Abnormal retained earnings around the world. Journal of Multinational Financial Management, 46, 63–74. https://doi.org/10.1016/j.mulfin.2018.05.002
[37] Bulan, L. T., & Yan, Z. (2012). Firm maturity and the pecking order theory. SSRN Electronic Journal.

https://doi.org/10.2139/ssrn.1760505
[38] Hull, T. J. (2013). Does the timing of dividend reductions signal value? Empirical evidence. Journal of Corporate Finance, 22, 193–208. https://doi.org/10.1016/j.jcorpfin.2013.05.002
[39] Hull, T. J. (2015). How the timing of dividend reductions can signal value. Journal of Corporate Finance, 30, 114–131. https://doi.org/10.1016/j.jcorpfin.2014.12.011
[40] Jensen, M. C., & Johnson, J. M. (1995). The dynamics of corporate dividend reductions. Financial Management, 24(4), 31–51. https://www.jstor.org/stable/3665949?origin=JSTOR-pdf

(Executive Editor: Sihao Kou)