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Dividend payout and macroeconomy: Evidence from ASEAN country

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ABSTRACT

This research examines the dividend payout and macroeconomy of ASEAN countries. Macroeconomic conditions significantly influence dividend payout policies, as they reflect business prospects and forecast a firm's future cash-earning capacity. These conditions help management decide whether to distribute cash earnings as dividends or retain them for growth or precautionary reasons. Macroeconomic factors are typically categorized into Short-Term Macroeconomic Factors (STMF) and Long-Term Macroeconomic Factors (LTMF). Despite the straightforward logic behind these classifications, scholarly consensus remains elusive. This paper contributes to the ongoing debate by examining the impact of macroeconomic factors on dividend policies, focusing on non-financial companies in the ASEAN region—a dynamic global area. We analyzed a sample of 2,193 ASEAN companies using annual data from 2011 to 2021, resulting in 24,123 observations. Employing the General Method of Moments (GMM) dynamic panel regression, the study finds that STMF negatively affects dividend payouts, while LTMF positively influences them. This distinction between short-term and long-term impacts has significant practical and regulatory implications. These findings hold up well when subjected to various robustness checks. Regulators need to maintain stable environment for firms by recognizing the importance of strong governance frameworks in fostering investor confidence, while investors need to be well-informed in response to uncertainty, as it can impact dividend and investment returns.

Contribution/ Originality: This study contributes to the existing literature by integrating Economic Policy Uncertainty (EPU) and Country Governance Indicator (CGI) into the dividend payout relationship and examines their potential impact on investment practices and firm dividend policies in the context of macroeconomic and geopolitical conditions.

1. INTRODUCTION

Olang, Akenga, and Mwangi (2015) defined the dividend payout ratio as the percentage of a company's yearly net earnings that is disbursed to shareholders as dividends within a specified period, typically spanning one year According to Al-Najjar and Hussainey (2009) the dividend payout ratio serves multiple crucial objectives within corporate finance. One of its primary aims is to facilitate revenue distribution to shareholders. Moreover, maintaining a consistent payout ratio helps signal financial stability and sustainability to stakeholders, including investors and creditors, bolstering confidence in the company's financial health. Additionally, companies utilize this policy to inform

strategic decisions regarding capital allocation, ensuring a judicious balance between distributing profits to shareholders and reinvesting in the business for future growth.

By effectively managing payout ratios, firms aim to enhance shareholder value and attract long-term investors seeking reliable returns. Furthermore, this policy serves as a governance tool, aligning the interests of management and shareholders to promote transparency and accountability within the organization. In a nutshell, the dividend payout ratio plays a pivotal role in achieving objectives related to cash profit distribution, financial stability, capital allocation, shareholder value, and corporate governance.

There are several forms of dividend payout policy, including cash dividends, stock dividends, and options/warrants (Zaman, 1986). Cash dividends are the most dominant practice (Allen & Michaely, 2003) due to several advantages. First, they help mitigate potential overinvestment by management. Distributing excess cash to shareholders prevents managers from allocating funds to projects that may not benefit them. Second, cash dividends promote the alignment of interests between managers and shareholders. By returning cash to shareholders, managers signal transparency and a focus on generating returns. Third, the threat of disciplinary actions encourages management to commit to cash dividends, preventing value-destroying activities. Lastly, paying dividends in cash signals stability and financial strength in the market, maintaining a positive perception among shareholders and potential investors. In summary, cash dividends serve as a mechanism to prevent overinvestment, align interests, enhance transparency, and uphold a positive market perception of the firm (Allen & Michaely, 2003).

Various factors influence dividends, with the macroeconomic condition being one of the most important ones. The role of the macroeconomy in dividend payout is straightforward. According to Chen (2021) and Ki and Adhikari (2022), macroeconomic conditions provide business prospects that subsequently predict the future cash earning capacity of the company. This future earning capacity informs management whether to distribute more cash earnings as dividends or hold them as sources of internal growth (or precautionary motives). Jermann and Quadrini (2012) discovered that when the economy is performing well, companies are more likely to share profits with their shareholders, but when times are tough, they're more likely to pay back debt instead. They observed that the more a company gives out to its shareholders, the less likely it is to pay off its debts, indicating that businesses often face a choice between sharing profits and paying off debt. Additionally, during difficult economic times, businesses usually try to adjust by reducing the amount of debt they take on and cutting back on the money they distribute to shareholders.

Aretz, Bartram, and Pope (2010) explore the crucial role of classifying macroeconomic factors into short-term and long-term dimensions to understand their impact on asset pricing. Short-term macroeconomic factors (STMF), characterized by immediate and transient economic indicators like changes in economic growth expectations, inflation rates, and exchange rates, wield significant impact on market sentiment and investor behaviour. Conversely, long-term macroeconomic factors (LTMF) encapsulate enduring aspects, such as the term structure of interest rates and aggregate default risk, reflecting broader economic trends with lasting effects on asset pricing. By distinguishing between these two temporal dimensions, this paper could gain deeper insights into how different economic variables shape asset pricing dynamics. Short-term factors illuminate immediate market reactions and sentiment shifts, while long-term factors unveil the structural forces guiding asset prices over extended periods. This nuanced understanding enhances the effectiveness of asset pricing models, offering valuable insights for investors and policymakers in navigating and mitigating risks within financial markets.

The existing research reveals two main gaps: a lack of studies on the relationship between macroeconomic factors and dividend payout in developing regions and a specific neglect of ASEAN countries. While there has been extensive research in developed nations (Bhatt & Jain, 2022; Maquieira, Arias, & Espinosa-Méndez, 2023) there is a significant deficiency in the literature regarding developing regions, especially ASEAN. This gap is crucial because ASEAN, as one of the world's most dynamic regions (Le, Nguyen, & Tran, 2019) has diverse economies and rapid growth rates that can offer unique and valuable insights into how macroeconomic factors affect dividend distribution strategies.

To address these gaps, the present study undertakes several initiatives. By concentrating specifically on ASEAN countries, this study fills the regional gap in the existing literature, generating insights that are both specific to ASEAN and potentially relevant to other developing regions with similar economic profiles. The research examines a wide array of macroeconomic factors to understand their impact on dividend payout policies in ASEAN countries, ensuring a comprehensive analysis that considers various dimensions of the macroeconomic environment. Additionally, the study contrasts the findings from ASEAN with those from developed countries, highlighting any distinct trends and patterns in dividend payout strategies within developing economies, which is essential for determining the applicability of findings from developed nations to developing regions. The results are reliable because they were gathered using advanced statistical methods and strict empirical methods. This supports strong conclusions about how macroeconomic factors affect dividend payout policies in ASEAN countries. Beyond filling an academic gap, the study aims to provide practical insights, helping policymakers and investors make better-informed decisions, thereby enhancing the economic stability and investment appeal of the region.

Therefore, this paper contains 6 subheadings, including abstract, introduction, literature review and hypothesis construction, data and methodology, results, and conclusion. The abstract offers a brief overview that includes the study's purpose, methods, main findings, and conclusions. The introduction sets up the research by providing the background, the aim of the study, the research gap, the research question, and the contribution of the current work. The literature review examines existing studies, highlights gaps in knowledge, and positions the current research within this context. Hypothesis construction involves developing specific, testable statements based on the literature review. The data and methodology section details the research design, data sources, collection methods, sampling procedures, and analytical techniques, ensuring the study's transparency and reproducibility. The results and discussion section presents the findings, interprets them in the context of the hypotheses, and explores their broader implications. Finally, the conclusion summarizes the key findings, discusses their importance, acknowledges the study's limitations, and suggests future research directions. This six-subheadings format ensures that the research is thorough, well-organized, and clearly presented.

2. LITERATURE REVIEW AND HYPOTHESIS CONSTRUCTION

Dividend policy and its determinants are a compelling subject in financial literature. The dividend payout, which determines the amount of dividend to distribute, defines the firm's dividend policy. In such instances, firms consider which strategy to adopt: maintaining a constant payout ratio to provide a positive signal to the market or adjusting it according to external conditions to protect themselves from future uncertainties (Peixoto & Jucá, 2021).

Current literature has developed two theories: signaling theory (John & Williams, 1985) and agency theory (Jensen, 1986). Signaling theory is used to analyze how the market reacts to changes in dividend payouts and the implications for a firm's future earnings (Miletić, 2011). Meanwhile, agency theory is applied to explore the factors influencing dividend policy at both micro and macro levels, including aspects such as corporate governance characteristics (Sarwar, Xiao, Husnain, & Naheed, 2018) investor protection (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2002) and managerial ability (Sarwar, Ming, & Husnain, 2020).

The impact on dividend payout policy has been characterized by two interrelated factors. The first one focuses on uncertainty at the firm level, such as cash flow (An, Gao, Li, & Ye, 2022; Chay & Suh, 2009). The second one concentrates on uncertainty in the firm's environment, such as economic and political uncertainty (Ahmad, Aziz, El-Khatib, & Kowalewski, 2023; Huang, Wu, Yu, & Zhang, 2015; Karimov, Balli, Ozer-Balli, & de Bruin, 2021). Macroeconomic the firm's environment as more critical, especially in developing countries where short-term macroeconomic management and long-term structural progression are not yet established (Joof & Azimli, 2022).

The role of macroeconomic factors in dividend payout is actually straightforward. According to Chen (2021) and Ki and Adhikari (2022) macro conditions provide business prospects that subsequently predict the future cash-earning

capacity of the company. This future earning capacity informs management whether to distribute more cash earnings as dividends or hold them as sources for internal growth (or precautionary motive).

Further, Aretz et al. (2010) classified macroeconomic factors into two types: Short-Term Macro Factors (STMF) and Long-Term Macro Factors (LTMF). Changes in economic growth expectations, inflation, and exchange rate fluctuations generally influence STMF, a short-term indicator. This is useful for companies to assess market sentiment and changes in investor behavior. On the other hand, LTMF, as a long-term indicator, is generally influenced by factors that have a long-term impact on the overall performance and economic structure of a country or region over a prolonged period, usually spanning years or decades. These factors can largely determine the trajectory of economic growth, development, and stability, such as environmental sustainability and institutional quality. With the classification of macroeconomic factors, firms can analyze the variables that constitute macroeconomic risk. While STMF explains market reactions, LTMF reveals structural forces. This offers valuable insights for investors and firms in navigating and mitigating risks in financial markets.

This paper uses economic policy uncertainty (EPU) and exchange rate volatility as proxies for short-term macroeconomic factors (STMF). The environment of uncertainty resulting from macro changes encourages varied dividend policies (Ranajee, Pathak, & Saxena, 2018).

The EPU index focuses on measuring uncertainty arising from fiscal and monetary policy changes by analyzing media coverage related to economic uncertainty. The concept behind the EPU index is quite straightforward: uncertainty increases when media coverage of economic uncertainty increases (Čižmešija, Lolić, & Sorić, 2017). Changes in the EPU index can lead to varying dividend payout decisions. When EPU is high, firms often retain more internal resources as a precaution, resulting in lower dividend payments (Maquieira et al., 2023). Increased EPU volatility can heighten investor risk perception and affect dividend stability, leading to a higher cost of capital for firms (Huang et al., 2015). Consequently, companies may adjust their dividend policies based on anticipated future earnings (Benito & Young, 2003).

Sarwar, Kutan, Ming, and Husnain (2020) found that during high EPU, firms that paid dividends in the past are likely to stop their dividend payments. Bliss, Cheng, and Denis (2015) reported that during the 2008-2009 financial crisis, which was characterized by elevated uncertainty, firms chose to reduce their dividends. Further, Demir and Ersan (2017) observed that firms tend to increase their cash holdings during times of high uncertainty. However, more recent research by Attig, El Ghoul, Guedhami, and Zheng (2021) investigated the relationship between EPU and dividend policy across 19 countries, revealing that higher EPU correlates with increased dividend payouts. Firms that are sensitive to agency problems pay more dividends during high EPU. Their study found that firms facing significant agency problems tend to distribute more dividends during periods of high EPU. They also noted that in China, skilled managers are less likely to cut dividends, demonstrating confidence in maintaining dividend levels despite high EPU (Sarwar, Kutan, et al., 2020).

The fluctuation of exchange rates represents a significant element that amplifies financial risk (Hassan & Dantama, 2017). As a result, there has been renewed focus on the volatility of exchange rates and the factors that influence them for individual countries. Changes in indirect exchange rate volatility occur because of alterations in all the factors influencing foreign exchange supply and demand. Numerous factors contribute to the volatility of the real exchange rate, with the impact of each contingent upon the economic conditions prevailing in countries worldwide (Kiliçarslan, 2018). These factors include output level, inflation, interest rates, geopolitical events, central bank independence, international capital movements, developments in information and communication technologies, and monetary and fiscal policies. Additionally, speculative trading, news, and expectations that influence the interaction of these variables will indirectly impact exchange rate volatility (Ajao, 2015; Hassan & Dantama, 2017).

Research by Li, Sarkar, and Wang (2003) investigates that when exchange rate volatility is interpreted as uncertainty, it becomes a key input to many firms' investment decisions, suggesting that firms may adjust dividends in response to exchange rate fluctuations. Additionally, Froot and Dabora (1999) conducted research on the impact

of financial constraints on firms' ability to smooth dividends in response to exchange rate movements. The findings suggested that firms facing greater financial constraints were less likely to adjust dividends in line with changes in exchange rates, resulting in a negative impact on dividend payouts. This leads to the first hypothesis:

Hypothesis 1: STMF has a negative relationship with dividend payout.

This paper uses the country's governance indicator (CGI) as a measure of country-level governance for long-term macroeconomic factors (LTMF). CGI involves measuring and ranking the effectiveness of governance structures, policies, and practices within a particular domain, such as countries, states, organizations, or institutions. This is usually done through a comprehensive framework that assesses various dimensions of governance, such as voice and accountability, political stability and absence of violence and terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. These dimensions are quantified using a variety of data sources, including surveys, expert assessments, and objective data. The scores are then compiled into an index, which provides a snapshot of the governance performance in the areas measured (Kaufmann, Kraay, & Mastruzzi, 2011).

La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000) are influenced by effective country-level governance, with higher payouts observed in nations with strong governance frameworks. Furthermore, Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) found that variations in investor protections across countries are linked to better governance, which leads to greater financial development, reduced expropriation of shareholder wealth, and increased dividend payout. Benavides, Berggrun, and Perafan (2016) noted a positive relationship between dividend payout and CGIs. Higher governance scores are associated with more stable dividends and less variability in payout amounts.

The rise of globalization has made country-level governance one of the most general and crucial issues in the financial industry (Low, Roberts, & Whiting, 2015). Country-level governance refers to how authority, grounded in established customs, laws, and institutions, is wielded to manage a nation's social and economic assets for advancement on behalf of its citizens. Strengthened governance is characterized by improved contract enforcement, safeguarding of property rights, freedom of expression, maintenance of political stability, provision of public services, and reduction of corruption and expropriation risks. This is a factor in bolstering the stability of the financial sector and facilitating participation in financial markets, crucial for investment and development (Kaufmann et al., 2011). It will encourage investors to support markets by ensuring good protection of their interests and assets from potential expropriation by governments, elites, or other stakeholders (Awartani, Belkhir, Boubaker, & Maghyereh, 2016).

Seifert and Gonenc (2016) stated that as the quality of governance improves within a country, the necessity for firms to hold cash decreases. They can obtain funds from markets where investors are inclined to broaden their funding options under more favorable terms whenever the need arises. This empirical study forms the basis of the relationship between country-level governance and dividends. As the quality of government improves, firms convince investors by providing good protection, thereby enhancing confidence in their external financing and leading to the provision of dividends in return.

Empirical studies by Giannetti and Koskinen (2010) demonstrate that the quality of governance at the country level significantly influences corporate policies and financial market activities. This impact is evident in various aspects such as stock market performance, cost of capital, corporate valuations, investment quality, and external financing. The quality of governance can notably affect dividend payouts (Bakri, Abd Jalil, & Hassan, 2021). Previous studies have identified a positive correlation between governance quality and market liquidity (Karmani, Ajina, & Boussaada, 2015). High governance quality enhances investor confidence and contributes to the expansion and development of capital markets (Amer Al-Jaifi, Hussein Al-rassas, & Ali AL-Qadasi, 2017). It also helps protect shareholders' rights by mitigating problematic insider behavior (Amer Al-Jaifi et al., 2017). The notion of encouraging higher dividend payments to internal shareholders (Petrasek, 2012) is supported by this empirical evidence. Chang, Dutta, Saadi, and Zhu (2018) also found that firms under better governance tend to pay higher dividends, although this effect is more pronounced in countries with weaker shareholder protection rights. This leads to the second hypothesis:

Hypothesis 2: LTMF has a positive relationship with dividend payout.

3. DATA AND METHODOLOGY

3.1. Model Setting

To investigate the relationship of macroeconomic factors on dividend payout as discussed in previous section, here's the following constructed dynamic panel data regression model:

$$DIV_{it} = a_0 + a_1 \sum_{l=1}^{L} DIV_{t-l} + a_2 STMF_{jt} + a_3 LTMF_{jt} + a_4 VAL_{it} + a_5 ROE_{it} + a_6 CASH_{it} + a_7 SIZE_{it} + a_8 LEV_{it} + \in_{it} \quad (1)$$

Where i, t, and j refer to the index of company, year, and country, respectively. DIV represents the dependent variable. The regression is dynamic in nature, as represented by the lag term of DIV (following Arellano and Bond (1991)). STMF and LTMF are the variables of interest, and VAL, ROE, CASH, SIZE, and LEV are the control variables. ∈_it is the error term. A detailed description of each variable is provided in Table 1.

Table 1. Variables definition.

Variables	Definitions
Dividend payout (DIV)	Measured as the dividend per share divided by earnings per share
Short term macroeconomic factor (STMF)	Measured by two proxies: 1. STMF is the uncertainty index from world uncertainty index.com/Data/. The raw data is modified with following formula STMF = (1-Uncertainty index)/10[1] 2. VOL is defined as standard deviation of LCU to USD during year t divided by average of LCU to USD during year t
Long term macroeconomic factor (LTMF)	LTMF is calculated by averaging the sum of the six CGI indicators for each country every year. The results of LTMF are modified with the following formula: (CGI/100) [2] . CGI data is taken from databank.world bank.org/Source/Worldwide-governance-indicators. For subsequent robustness check, this study also uses the components of CGI comprises of: 1. Control of corruption (CC) 2. Government effectiveness (GE) 3. Political stability and absence of violence/Terrorism (PS) 4. Regulatory quality (RQ) 5. Rule of law (ROL) 6. Voice and accountability (VA)
Company market valuation (VAL)	Measured my price-to-book value (PBV) ratio, defined as the ratio of a company's share price, or market value, to its equity book value
Return on equity (ROE)	Return on equity (ROE) ratio is a measure of company's net profit divided by capital
Cash ratio (CASH)	Cash ratio is defined as cash and cash equivalent divided by total assets
Company size (SIZE)	Company size is measured as log (Total assets)
Company leverage (LEV)	Leverage is calculated as total asset minus capital. The result of this subtraction is then divided by total assets

Note: This table describes definitions and measurements of variables in study, with the first column listing the variable names and the second column detailing the descriptions and formulas associated with each variable.

[1] Data is modified for the normalization of data, ensuring that all variables are on a comparable scale and avoiding any single variable from exerting undue influence on the analysis solely because of its larger numerical values.

[2] Modification data due to the normalization procedure guarantees that the values are reduced to a more practical scale, aiding analysis, and visualization. Dividing by 100 makes the values more understandable and convenient for analysis, particularly if the original values were excessively large and spanned beyond the desired range for analysis.

This paper presents a dynamic model where past realizations of dividend payout would affect current dividend payout, i.e., it exhibits persistence. Dividend payout persistence has been observed and documented by Tahir, Ibrahim, Zulkafli, and Mushtaq (2020), Naveed (2021) and Dahiya, Singh, and Chaudhry (2023).

Moreover, there is possibility of endogeneity due to correlation of regressors with the residual, especially since market valuation, profitability, and cash ratio might be jointly determined as part of financial planning (Akhtar, Yusheng, Haris, Ain, & Javaid, 2022; Al Farooque, Buachoom, & Sun, 2020; Dutta & Meierrieks, 2021). These two features of this model could have a profound consequence on the selection of estimator (as will be described below).

La Porta et al. (2000), Zainudin and Khaw (2021) and Anwer, Mohamad, Paltrinieri, and Hassan (2021) state that the most often applied measure of dividend payout ratios is the dividend-to-earnings ratio. Drawing on the work of Sarwar and Hassan (2021) this study analysis incorporates the economic uncertainty index as a measure for Short-Term Macroeconomic Factors (*STMF*).

The economic uncertainty index, introduced by Baker, Bloom, and Davis (2016) assesses economic uncertainty by aggregating information from various sources, including newspaper articles, tax code changes, and the diversity of economic forecasts, to gauge the level of uncertainty in economic policies. Given that the data from the website are provided on a quarterly basis, this study aggregate the figures from the first to the fourth quarter of each year and then calculates the average by dividing the total by 4[3]. The application of the economic uncertainty index has been commonly used in empirical studies; see Baker, Chang, and Ho (2021), Nie and Yin (2022) and Maquieira et al. (2023).

In line with An et al. (2022) this paper analysis utilizes governance indicators for assessing Long-Term Macroeconomic Factors (*LTMF*).

The unobserved components method formulates these governance indicators, incorporating views from a diverse pool of respondents, including businesses, citizens, and experts from both developed and developing nations. They evaluate the efficacy of governance across various dimensions such as control of corruption, government effectiveness, political stability and absence of violence/terrorism, regulatory quality, rule of law, voice, and accountability. This database, which covers over 200 countries and territories, undergoes annual updates to reflect the most recent changes in governance.

The application of governance indicators is further discussed in works by Çam and Özer (2022) and Eldomiaty, Apaydin, El-Sehwagy, and Rashwan (2023).

3.2. Sample and Collection

This study refers to Andreou, Karasamani, Louca, and Ehrlich (2017) and Al-Jalahma (2022) in setting up the control variables for this study. There are five controls: 1) Company Market Valuation (*VAL*), 2) Return on Equity (*ROE*), 3) Cash Ratio (*CASH*), 4) Company Size (*SIZE*), and 5) Company Leverage (*LEV*). The company-level data: *DIV*, *VAL*, *ROE*, *CASH*, *SIZE*, and *LEV* are obtained from OSIRIS.

The sample in this study consists of 2,193 non-financial companies in 5 ASEAN countries: Indonesia, Malaysia, Philippines, Singapore, and Thailand, which were extracted with annual frequency over the period of 2011 to 2021 from OSIRIS database. The industry classification in this study is simplified from 137 industries (based on the Global Industry Classification Standard-GICS) to 10 industry categories (following Yu, Fang, and Sun (2018)). Sample descriptions by country and industry are given in Table 2.

[3] Data is modified for the normalization of data, ensuring that all variables are on a comparable scale and avoiding any single variable from exerting undue influence on the analysis solely because of its larger numerical values.

Table 2. Sample selection and distribution.

Sample breakdown by country and industry					
Country	**Qty**	**% of samples**	**Industry**	**Qty**	**% of sample**
Indonesia	4,642	19.24	Communication	1,375	5.7
Malaysia	8,041	33.33	Consumer discretionary	1,793	7.43
Philippines	2,167	8.98	Consumer staples	1,870	7.75
Singapore	4,917	20.38	Healthcare	891	3.69
Thailand	4,356	18.06	Industrial products	7,986	33.11
			Industrial services	4,466	18.51
			Materials	814	3.37
			Oil & gas	1,122	4.65
			Real estates	3,212	13.32
			Utilities	594	2.46
All sample	24,123	100	All sample	24,123	100

Note: This table describes the sample used in the study. Description covers company country of origin and industry classifications (Simplified) of the company.

Originally, there were 3,911 companies from 8 countries: Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam, with 43,021 observations. However, a filtering approach was implemented: removing companies if 30% observations of the dependent variable or 50% observations of the independent variables within the 2011 to 2021 period were not available. To cope with outliers (defined as observations whose absolute values are greater than mean + 3 standard deviation), which are quite pervasive in the sample, winsorizing at 5th and 95th percentiles was conducted, as suggested by Gourio and Miao (2010). As documented by Boslaugh (2012) the presence of outliers could seriously hamper empirical analysis, especially regression to average type like this study.

3.3. Methodology

The steps of empirical works can be described as follows: Firstly, the study begins by providing descriptive statistics and pairwise correlation of all the variables of all the estimated variables. Descriptive statistics can aid in data evaluation by identifying outliers, highlighting significant aspects of the data, and guiding the selection of pertinent statistical techniques for further research.

Second, panel model selection is conducted. This involved deciding which type of heterogeneity is most suitable for this study's regression. As discussed by Baltagi (2008) and Wooldridge (2010) the standard approach is to begin with evaluating the following model choices: Ordinary Least Square (OLS), Fixed Effect Model (FEM), and Random Effect Model (REM). The Chow Test, Breusch Pagan Test and Hausman Test are applied to select the most suitable model for characterizing the heterogeneity of this study's regression and data. As can be seen later (see section 4 below), Fixed Effect model is selected. Serial Correlation and Heteroskedasticity tests are then conducted on this model, with modifications made as necessary. The selected regression turns out to be experiencing Serial Correlation and Heteroskedasticity (see section 4 below). To address this issue, Robust Standard Error (Robust SE), Feasible Generalized Least Squares (FGLS) and Panel Corrected Standard Error (PCSE) methods were employed. These methods are proposed by Baltagi (2008); Wooldridge (2010) and Bai, Choi, and Liao (2021).

Third, it is recognized that persistence is pervasive in regression using dividend payout as a dependent variable, as found by Powell, Shi, Smith, and Whaley (2009); Chan, Powell, Shi, and Smith (2018) and Martins, Sousa, and Girão (2021). Therefore, the Dynamic Panel Data method is utilized.

3.3.1. Generalized Method of Moment

In this study Hayakawa, Qi, and Breitung (2019) employ the current version of the Generalized Method of Moment. This version provides significant improvements over the original versions developed by Anderson and Hsiao (1981); Arellano and Bond (1991); Arellano and Bover (1995) and Blundell and Bond (1998). Broadly speaking, the presence of autoregressive terms renders the conventional (OLS Family) estimator to be inconsistent due to an

incidental parameter; a type of endogeneity (Nickell, 1981). GMM offers not only handling this type of endogeneity but also other more common types (i.e., correlation of regressor to the residuals). This is done by: (1) enabling the instrumentalization of not only lagged dependent variables but also potentially endogenous explanatory variables using "internal" instruments; (2) facilitating estimation in both levels and differences, thereby allowing for the identification of the effects of time-invariant variables (Piper, 2023).

The GMM procedure in this paper follows closely (Kripfganz & Schwarz, 2019). GMM is a complex method, implemented by setting many parameters like GMM-type instruments, standard instruments, lag length for both instruments, steps of estimation (1, 2, or iterated), level or transformation form (difference or orthogonalization) on variables. To the best of this study's knowledge, there is no consensus yet on how to address these issues; hence, the procedure remains largely experimental. Selecting appropriate specification will be based on three criteria, namely (a) overidentification (Sargan-Hansen statistics), (b) underidentification (Cragg-Donald statistics), and (c) 1st and 2nd order autocorrelation (Arellano-Bond) tests—with an ideal p-value range of 0.1 to 0.8 for each statistic. A total of 1,488 specifications were estimated for a range of reasonable parameter setups.

As can be seen in next section, the regression exercises point to employing a two-step difference robust standard errors GMM estimator with variables *DIV* and *CASH* selected as GMM-type instruments. Variables: *VAL*, *ROE*, *SIZE*, *LEV*, *STMF*, and *LTMF* are selected as standard instruments. Both instruments are lagged by 1 and 2 (the result is reported in Table 6, Section 4 below). Lastly, this GMM specification is applied through 4 robustness check schemes, which include: (1) alternative proxies, (2) country grouping, (3) industry grouping, and (4) sequential inclusion.

4. RESULTS AND DISCUSSION

Table 3 presents descriptive statistics of all main variables used in this study, complete with mean, median (50th percentile), standard deviation, minimum, maximum, 5th percentile, 95th percentile, and number of observations. The presence of missing observations was identified in some variables-*DIV*, *VAL*, *ROE*, *CASH*, *SIZE*, and *LEV*. This occurs when certain companies do not provide specific data for a particular year. Interpolation fills in the missing observations for the variables to address this issue. Winsorization is also applied to variables - *DIV*, *VAL*, *ROE*, *CASH*, and *SIZE* at 5th percentile and 95th percentile, which means that the outcome of 5th percentile will be set to the minimum value and the outcome of 95th percentile will be set to the maximum value. The fact that the standard deviations of the majority of the variables are smaller than the mean after winsorization suggests that the values are not widely dispersed, leading us to conclude that the data is reliable. Furthermore, most of the variables consistently demonstrate a high level of uniformity, with their mean and standard deviation values continually falling within the range defined by the maximum and minimum values of each series. The descriptive statistics qualitatively resemble closely related studies like Chen, Chris, Tsang, and Xiang (2022); Correa-Mejía, Correa-García, and Castaño-Ríos (2023) and Kim, Nugroho, and Budhidharma (2023).

Table 3. Descriptive statistics.

Stats	DIV	STMF	LTMF	VOL	VAL	ROE	CASH	SIZE	LEV
Mean	0.260	0.087	0.584	0.026	1.658	0.520	0.116	6.433	0.657
p50	0.000	0.089	0.585	0.024	1.125	0.180	0.079	6.080	0.752
SD	0.354	0.009	0.176	0.016	1.448	0.883	0.109	1.470	0.291
Min.	0.000	0.062	0.352	0.008	0.323	-0.233	0.006	4.562	0.000
Max.	1.172	0.100	0.899	0.091	5.826	3.324	0.398	9.682	1.001
p5	0.000	0.066	0.387	0.010	0.323	-0.233	0.006	4.562	0.000
p95	1.172	0.098	0.892	0.045	5.826	3.324	0.398	9.682	0.972
N	22450	24123	24123	24123	21091	23396	23311	23486	23486

Note: This table reports selected descriptive statistics of variables used in the study.

Table 4 demonstrates that the pairs of variables show both positive and negative correlations, with no indication of a strong correlation surpassing 0.8, which is typically considered a benchmark. There is a negative relationship observed between *STMF*, *LTMF*, *VOL*, *SIZE* and the dependent variable. Additionally, negative relationships are observed between *VOL*, *VAL*, *ROE*, *SIZE*, *LEV* and the independent variables (*STMF* and *LTMF*); *CASH* and *VOL*; *SIZE*, *LEV*, and *CASH*. The only relatively strong correlation that exists is between *LEV* and *ROE* (0.5055), while all other relationships appear to be weakly positive. Moreover, correlations between variables are present, as indicated by the absence of zero values.

Table 4. Pairwise correlation.

Stats	DIV	STMF	LTMF	VOL	VAL	ROE	CASH	SIZE	LEV
DIV	1.000								
STMF	-0.063	1.000							
LTMF	-0.037	0.342	1.000						
VOL	-0.018	-0.080	-0.167	1.000					
VAL	0.122	-0.075	-0.179	0.013	1.000				
ROE	0.178	-0.083	-0.271	0.020	0.286	1.000			
CASH	0.064	0.096	0.226	-0.029	0.101	0.045	1.000		
SIZE	-0.005	-0.136	-0.539	0.074	0.119	0.384	-0.213	1.000	
LEV	0.251	-0.106	-0.277	0.048	0.002	0.506	-0.118	0.4256	1.0000

Note: This table presents the pairwise correlation coefficients among all dependent and independent variables.

The diagnostic tests referred to in Section 3 play a crucial role in selecting the most suitable estimator models for the analysis. The result shows that FE model is more suitable than OLS and RE (see Table 5). Table 5 also indicates that the selected model, FE, experienced issues of heteroskedasticity and serial correlation, rendering the estimator standard error unreliable. As a result, Table 6 illustrates the adoption of GMM as the baseline model. GMM was selected over Robust SE, FGLS, and PCSE as it aligns with FE in terms of the directionality of effects (both positive and negative). Moreover, under specific circumstances, GMM can outperform robust standard errors, PCSE, and FGLS in terms of efficiency. This is because GMM provides a more adaptable approach to error modelling, potentially resulting in more accurate parameter estimations than the alternatives.

Table 5. Regression selection.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	FE	RE	VCE	FGLS	PCSE
STMF	-2.019***	0.777***	0.189	0.777***	-0.110***	-0.0746
	(0.263)	(0.206)	(0.205)	(0.212)	(0.0293)	(0.185)
LTMF	0.0570***	-0.289***	-0.0728**	-0.289***	-0.0199**	-0.0981***
	(0.0169)	(0.0743)	(0.0292)	(0.0743)	(0.00904)	(0.0257)
VAL	0.0279***	0.0157***	0.0208***	0.0157***	0.0264***	0.0266***
	(0.00170)	(0.00344)	(0.00249)	(0.00608)	(0.00122)	(0.00271)
ROE	0.0290***	0.000571	0.0148***	0.000571	0.00631***	0.00787**
	(0.00336)	(0.00447)	(0.00395)	(0.00644)	(0.000728)	(0.00377)
CASH	0.195***	0.167***	0.174***	0.167***	0.0519***	0.171***
	(0.0219)	(0.0269)	(0.0245)	(0.0334)	(0.00514)	(0.0237)
SIZE	-0.0379***	0.00807	-0.0308***	0.00807	-0.0355***	-0.0471***
	(0.00200)	(0.0120)	(0.00371)	(0.0137)	(0.00118)	(0.00309)
LEV	0.350***	0.111***	0.242***	0.111***	0.204***	0.321***

Variables	(1) OLS	(2) FE	(3) RE	(4) VCE	(5) FGLS	(6) PCSE
	(0.00980)	(0.0176)	(0.0130)	(0.0183)	(0.00390)	(0.0129)
Constant	0.324*** (0.0270)	0.184** (0.0815)	0.261*** (0.0380)	0.184** (0.0876)	0.273*** (0.0108)	0.377*** (0.0320)
Observations	20,707	20,707	20,707	20,707	20,704	20,707
R-squared	0.109	0.008	-	0.008	-	0.233
# Company	-	2,172	2,172	2,172	2,169	2,172
Chow test	-	8.33***	-	-	-	-
Breusch Pagan test	-	-	149.79*** (0.0000)	-	-	-
Hausman	-	12.40* (0.0881)	-	-	-	-
Heteroskedasticity	-	170.00*** (0.0000)	-	-	-	-
Serial correlation	-	99.870*** (0.0000)	-	-	-	-

Note: This table presents a comparative analysis of conventional panel regressions models. # Company stands for number of company; Statistical significance at the 1%, 5% and 10% level are indicated as ***, **, and *, respectively.

Table 6. Baseline GMM regression.

Variables	Base
L.DIV	0.434*** (0.0104)
L2.DIV	0.231*** (0.0107)
STMF	-1.298*** (0.277)
LTMF	0.0411** (0.0178)
VAL	0.0109*** (0.00175)
ROE	0.0165*** (0.00299)
CASH	0.108*** (0.0271)
SIZE	-0.0119*** (0.00167)
LEV	0.108*** (0.00882)
Constant	0.101*** (0.0233)
Observations	16,466
# Company	2,166
Sargan Hansen	0.8911
p value	0.3452
Cragg-Donald	2.370
p value	0.665
AR(1)	-1.658
p value	(0.327)
AR(2)	-1.344
p value	(0.305)

Note: This table presents the baseline used in this study employing GMM estimation. # Company stands for number of company; Statistical 1% and 5% level are indicated as *** and **.

In the baseline model, the Sargan-Hansen test yields a p-value of 0.3452, suggesting that the model has no longer a significant endogeneity issue. The two other criteria are also met. The model also meets the other two criteria. This implies that the model is stable and appropriately defined for drawing conclusions in this research. In line with the

observations made by Tan and Anchor (2016); Koussis and Makrominas (2019) and Ung, Gebka, and Anderson (2024) there is persistence in dividend payout ratio.

Additionally, the results demonstrate a significant negative relationship between *STMF* and dividend payouts and a significant positive relationship between *LTMF* and dividend payouts. These outcomes indicate growing confidence among companies in distributing significant dividends as they lean towards inorganic growth strategies, and a higher *LTMF* suggests an inclination towards internal financing, thereby increasing dividend payout. The finding of *STMF* relationship on dividend payout corroborates previous studies by Gennotte and Marsh (1993); Sarwar and Hassan (2021) and Das, Hasan, and Sutradhar (2024). On the other hand, the finding on the relationship of LTMF and dividend payout is aligned with the work of Benavides et al. (2016); Athari (2023) and Ahmad et al. (2023).

4.1. Robustness Check

Table 7 shows the results of the first robustness check by considering alternative measures on the independent variables - changing *STMF* to *VOL* and examining each of the six *LTMF* indicators (*CC*, *GE*, *PS*, *RQ*, *ROL*, and *VA*) individually. Overall, the results show that most of the independent and control variables have the expected coefficient signs and levels of significance. There was a small change in the levels of significance in some models compared to the baseline model. This consistency underscores the reliability of the results and supports this study's hypotheses (H1 and H2), aligning with prior studies (Athari & Bahreini, 2023; Do, 2022; Mitton, 2004).

As Model (2) and Model (8) show inconsistent results with the baseline, these findings echo the trends of previous research by Farooq and Dandoune (2012) and Choi and Park (2019). Farooq and Dandoune (2012) suggested that voice and accountability lessen the necessity for firms to utilize dividends to reduce information asymmetry, resulting in lower dividend payouts in countries with more voice and accountability index. Additionally, the diagnostic tests in all models yield results consistent with the baseline, indicating the validity of the instruments used.

Table 8 presents the outcomes of the second robustness check, examining individual countries within ASEAN[4]. The relationships between *STMF* and *LTMF*, being negative and positive, respectively, are consistent in both Indonesia and Thailand, with slight changes in the significance level. These findings are in line with the research, suggesting support for Hypotheses 1 and 2 and consistency with previous research (Ellahie & Kaplan, 2021; Tran, 2021). On the other hand, the results from the Philippines show variance in both sign and significance of the independent variables compared to the baseline, not supporting the hypotheses but still aligning with the findings of Nguyen and Tran (2022). Notably, the diagnostic tests in these countries indicate the validity of the instruments, as they yield statistically insignificant results.

[4] We eliminate Malaysia and Singapore because the observations are insufficient for GMM estimation.

Table 7. Robustness check: Alternative proxies of independent variables; STMF and LTMF.

Variables	(1) BASE	(2) VOL	(3) CC	(4) GE	(5) PS	(6) RQ	(7) ROL	(8) VA
L.DIV	0.434*** (0.0104)	0.435*** (0.0104)	0.434*** (0.0104)	0.432*** (0.0104)	0.434*** (0.0104)	0.434*** (0.0104)	0.430*** (0.0104)	0.408*** (0.0107)
L2.DIV	0.231*** (0.0107)	0.233*** (0.0107)	0.231*** (0.0107)	0.230*** (0.0107)	0.231*** (0.0107)	0.231*** (0.0107)	0.228*** (0.0107)	0.210*** (0.0109)
STMF	-1.298*** (0.277)		-1.392*** (0.272)	-1.594*** (0.272)	-1.266*** (0.273)	-1.348*** (0.277)	-1.819*** (0.269)	0.731*** (0.266)
VOL		0.0359 (0.137)						
LTMF	0.0411** (0.0178)	0.0117 (0.0167)						
CC			0.000447*** (0.000132)					
GE				0.00103*** (0.000191)				
PS					0.000216** (0.000104)			
RQ						0.000493*** (0.000181)		
ROL							0.00109*** (0.000143)	
VA								-0.00531*** (0.000293)
VAL	0.0109*** (0.00175)	0.0110*** (0.00175)	0.0111*** (0.00175)	0.0115*** (0.00174)	0.0109*** (0.00175)	0.0110*** (0.00174)	0.0119*** (0.00173)	0.0104*** (0.00173)
ROE	0.0165*** (0.00299)	0.0165*** (0.00301)	0.0167*** (0.00298)	0.0170*** (0.00296)	0.0165*** (0.00299)	0.0165*** (0.00298)	0.0173*** (0.00295)	0.0143*** (0.00298)
CASH	0.108*** (0.0271)	0.104*** (0.0270)	0.105*** (0.0270)	0.102*** (0.0268)	0.109*** (0.0271)	0.107*** (0.0270)	0.100*** (0.0268)	0.188*** (0.0278)
SIZE	-0.0119*** (0.00167)	-0.0128*** (0.00167)	-0.0108*** (0.00169)	-0.00773*** (0.00182)	-0.0123*** (0.00161)	-0.0114*** (0.00172)	-0.00630*** (0.00169)	0.00283* (0.00164)
LEV	0.108*** (0.00882)	0.109*** (0.00884)	0.108*** (0.00881)	0.107*** (0.00883)	0.108*** (0.00882)	0.108*** (0.00883)	0.107*** (0.00881)	0.0780*** (0.00888)
Constant	0.101***	0.0271	0.100***	0.0426	0.115***	0.0906***	0.0585**	0.115***

Variables	(1) BASE	(2) VOL	(3) CC	(4) GE	(5) PS	(6) RQ	(7) ROL	(8) VA
	(0.0233)	(0.0181)	(0.0228)	(0.0260)	(0.0223)	(0.0243)	(0.0234)	(0.0225)
Observations	16,466	16,466	16,466	16,466	16,466	16,466	16,466	16,466
# Company	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166
Sargan Hansen	0.8911	0.9543	0.9316	1.0181	0.8764	0.9179	1.0580	1.042
p value	0.345	0.329	0.334	0.3130	0.349	0.338	0.304	0.435
Cragg-Donald	2.467	2.499	2.081	2.188	2.477	2.116	2.362	2.183
p value	0.671	0.668	0.602	0.614	0.669	0.618	0.660	0.615
AR(1)	-1.646	-1.698	-1.583	-1.577	-1.597	-1.591	-1.565	-1.721
p value	0.325	0.319	0.342	0.344	0.339	0.340	0.346	0.339
AR(2)	-1.378	-1.341	-1.397	-1.289	-1.325	-1.314	-1.259	-1.848
p value	0.313	0.305	0.317	0.318	0.309	0.312	0.326	0.419

Note: This table presents robustness check regression results using alternative proxies (*STMF* represented as *VOL* and *LTMF* with individual indicators) employing GMM estimation. *DIV* is used as dependent variable. # Company stands for number of company; statistical significance at the 1%, 5% and 10% level are indicated as ***, **, and *, respectively.

Table 8. Robustness check: Country samples.

Variables	(1)	(2)	(3)	(4)
	BASE	**Indonesia**	**Philippines**	**Thailand**
L.DIV	0.434***	0.330***	0.383***	0.310***
	(0.0104)	(0.0347)	(0.0400)	(0.0215)
L2.DIV	0.231***	0.113***	0.204***	0.134***
	(0.0107)	(0.0297)	(0.0435)	(0.0225)
STMF	-1.298***	-2.183	1.632	-54.45**
	(0.277)	(1.596)	(3.585)	(21.61)
LTMF	0.0411**	2.666***	-1.946	810.6***
	(0.0178)	(0.733)	(3.810)	(303.9)
VAL	0.0109***	0.00120	0.00144	0.0228***
	(0.00175)	(0.00204)	(0.00469)	(0.00522)
ROE	0.0165***	0.0256***	0.0147	-0.00280
	(0.00299)	(0.00390)	(0.00958)	(0.00928)
CASH	0.108***	0.190***	0.319***	0.417***
	(0.0271)	(0.0587)	(0.0947)	(0.123)
SIZE	-0.0119***	0.00170	0.00922	0.00214
	(0.00167)	(0.00203)	(0.00934)	(0.0118)
LEV	0.108***	0.00882	0.0793***	0.0875
	(0.00882)	(0.0104)	(0.0261)	(0.0733)
Constant	0.101***	-1.147***	0.530	-350.4***
	(0.0233)	(0.238)	(1.270)	(131.3)
Observations	16,466	3,361	1,522	2,645
# Company	2,166	419	190	394
Sargan Hansen	0.8911	0.0200	2.0892	0.0031
p value	(0.3452)	(0.8875)	(0.1483)	(0.9557)
Cragg-Donald	3.467	3.966	3.933	3.422
p value	(0.454)	(0.397)	(0.400)	(0.461)
AR(1)	-1.625	-1.872	-1.905	-1.980
p value	0.333	0.369	0.375	0.390
AR(2)	-1.378	-1.57	-1.756	-1.385
p value	0.313	(0.356)	0.398	0.314

Note: This table presents robustness check regression results using the samples of countries employing GMM estimation. *DIV* is used as dependent variable. # Company stands for number of company; Statistical significance at the 1% and 5% level are indicated as *** and **.

Table 9 presents the findings from the third robustness analysis, which explores the impact of specific industry sectors within ASEAN companies. The outcomes for Models (2), (5), (6), (7), and (10) align with the initial model, suggesting these results are stable across different estimation methods. Notably, Model (10) stands out with the most statistically significant coefficients, lending support to Hypotheses 1 and 2 and mirroring the conclusions of studies by Das et al. (2024) and Ahmad et al. (2023). Conversely, the rest of the models differ in the sign and significance of the independent variables from the baseline. While these results may not seem as robust, they still correspond with the findings from studies by Maquieira et al. (2023) and Theiri and Hamad (2023) where they argue for the importance of reinforcing shareholder trust and upholding confidence in the financial stability of the company during periods of uncertainty. Furthermore, the analysis shows variability in the signs and significance levels of the control variables across all models in comparison to the baseline. Importantly, the diagnostic tests for all models confirm the instruments' validity by producing statistically insignificant outcomes.

Table 9. Robustness check: Industry samples.

Variables	(1) BASE	(2) Communication	(3) Consumer discretionary	(4) Consumer staples	(5) Healthcare	(6) Industrial products	(7) Industrial services	(8) Materials	(9) Oil & Gas	(10) Real estates	(11) Utilities
L.DIV	0.434***	0.459***	0.450***	0.408***	0.437***	0.391***	0.440***	0.354***	0.361***	0.441***	0.509***
	(0.0104)	(0.0404)	(0.0411)	(0.0373)	(0.0512)	(0.0176)	(0.0242)	(0.0386)	(0.0524)	(0.0321)	(0.0420)
L2.DIV	0.231***	0.236***	0.208***	0.265***	0.203***	0.206***	0.200***	0.214***	0.200***	0.303***	0.153***
	(0.0107)	(0.0383)	(0.0363)	(0.0345)	(0.0448)	(0.0193)	(0.0250)	(0.0452)	(0.0492)	(0.0316)	(0.0556)
STMF	-1.298***	-1.122	-0.847	1.350	-2.630**	-1.772***	-0.878	-0.830	-1.957	-2.954***	0.564
	(0.277)	(1.121)	(1.108)	(0.994)	(1.259)	(0.456)	(0.654)	(1.158)	(1.251)	(0.855)	(2.220)
LTMF	0.0411**	0.157*	-0.0539	-0.0757	0.164*	0.0121	0.0311	-0.0306	-0.0280	0.178***	-0.133
	(0.0178)	(0.0869)	(0.0796)	(0.0689)	(0.0990)	(0.0311)	(0.0399)	(0.0925)	(0.0635)	(0.0449)	(0.105)
VAL	0.0109***	0.0159**	0.0160***	0.0139***	0.00146	0.0170***	0.0119**	-0.00459	0.00727	-0.00263	0.00862
	(0.00175)	(0.00636)	(0.00586)	(0.00508)	(0.00701)	(0.00400)	(0.00490)	(0.00764)	(0.00665)	(0.00420)	(0.0144)
ROE	0.0165***	0.0264**	0.00630	0.0130	-0.0103	0.00578	0.0444***	0.0640***	0.0395***	0.00467	-0.0111
	(0.00299)	(0.0103)	(0.0142)	(0.00832)	(0.0120)	(0.00519)	(0.0102)	(0.0217)	(0.0148)	(0.00866)	(0.0148)
CASH	0.108***	-0.0368	0.297***	0.00706	0.0189	0.218***	0.127**	0.132	0.413***	0.0867	-0.0865
	(0.0271)	(0.0980)	(0.101)	(0.1000)	(0.170)	(0.0475)	(0.0613)	(0.113)	(0.151)	(0.0928)	(0.301)
SIZE	-0.0119***	-0.0194***	-0.0206***	-0.0324***	-0.0250***	-0.0122***	-0.0129***	-0.0155**	0.00332	-0.00135	0.00957
	(0.00167)	(0.00703)	(0.00611)	(0.00555)	(0.00921)	(0.00308)	(0.00491)	(0.00763)	(0.0104)	(0.00380)	(0.0246)
LEV	0.108***	0.110***	0.129***	0.161***	0.273***	0.160***	0.102***	0.0381	0.0645***	0.0150	0.135*
	(0.00882)	(0.0386)	(0.0334)	(0.0282)	(0.0560)	(0.0159)	(0.0215)	(0.0400)	(0.0231)	(0.0238)	(0.0808)
Constant	0.101***	0.0691	0.121	0.106	0.104	0.124***	0.0634	0.148	0.0800	0.172**	-0.0804
	(0.0233)	(0.103)	(0.104)	(0.0802)	(0.107)	(0.0400)	(0.0544)	(0.120)	(0.137)	(0.0669)	(0.211)
Observations	16,466	914	1,193	1,287	581	5,607	2,966	550	730	2,242	396
# Company	2,166	124	160	169	81	718	397	71	101	291	54
Sargan Hansen	0.8911	0.2753	1.2932	0.2549	0.0927	1.2792	0.2481	0.1814	0.3824	5.3686	1.9939
p value	0.3452	0.599	0.255	0.614	0.761	0.258	0.618	0.670	0.536	0.0205	0.158
Cragg-Donald	4.467	2.12	1.500	2.947	2.610	1.770	1.183	1.340	1.589	2.306	1.403
p value	0.352	0.743	0.420	0.535	0.603	0.890	0.934	0.912	0.904	0.683	0.909
AR(1)	-1.622	-1.564	-1.787	-1.290	-1.569	-1.669	-1.843	-1.382	-1.478	-1.886	-1.904
p value	0.334	0.346	0.352	0.42	0.345	0.329	0.363	0.392	0.291	0.371	0.375
AR(2)	-1.378	-1.214	-1.290	-1.915	-0.6949	-1.535	-1.128	-1.562	-1.007	-1.685	-1.140
p value	0.313	0.338	0.317	0.214	0.487	0.342	0.393	0.118	0.452	0.119	0.254

Note: This table presents robustness check regression results using the samples of industries employing GMM estimation. *DIV* is used as dependent variable. # Company stands for number of company; statistical significance at the 1%, 5% and 10% level are indicated as ***, **, and *, respectively.

Table 10 presents the findings of the final robustness check, wherein independent variables from the model are eliminated to assess their impact on the results. The sign and significance of these variables, along with the control variables, remain uniform across both models. The robustness tests corroborate the primary results, thereby validating the hypotheses (H1 and H2) and resonating with the findings from studies (Kim et al., 2023; Shao, Kwok, & Guedhami, 2010). Moreover, the diagnostic tests across all models confirm the reliability of the instruments used, as evidenced by their statistically non-significant outcomes.

Table 10. Robustness check: Sequential inclusion.

Variables	(1)	(2)	(3)
	BASE	SI 1	SI 2
L.DIV	0.434***	0.434***	0.435***
	(0.0104)	(0.0104)	(0.0104)
L2.DIV	0.231***	0.232***	0.233***
	(0.0107)	(0.0107)	(0.0107)
STMF	-1.298***	-0.969***	-
	(0.277)	(0.257)	
LTMF	0.0411**	-	0.0109
	(0.0178)		(0.0164)
VAL	0.0109***	0.0105***	0.0110***
	(0.00175)	(0.00175)	(0.00175)
ROE	0.0165***	0.0161***	0.0165***
	(0.00299)	(0.00297)	(0.00300)
CASH	0.108***	0.116***	0.104***
	(0.0271)	(0.0265)	(0.0270)
SIZE	-0.0119***	-0.0138***	-0.0129***
	(0.00167)	(0.00141)	(0.00167)
LEV	0.108***	0.108***	0.109***
	(0.00882)	(0.00893)	(0.00884)
Constant	0.101***	0.114***	0.0283
	(0.0233)	(0.0224)	(0.0178)
Observations	16,466	16,466	16,466
# Company	2,166	2,166	2,166
Sargan Hansen	0.8911	0.7353	0.9484
p value	0.345	0.391	0.331
Cragg-Donald	2.467	2.127	2.888
p value	0.692	0.597	0.745
AR(1)	-1.646	-1.452	-1.691
p value	0.329	0.373	0.333
AR(2)	-1.378	-1.771	-1.331
p value	0.313	0.231	0.308

Note: This table presents robustness check regression results using sequential inclusion employing GMM estimation. *DIV* is used as dependent variable. # Company stands for number of company; Statistical significance at the 1% and 5% level are indicated as *** and **.

5. CONCLUSION

The state of the macroeconomy plays a crucial role in shaping a company's dividend distribution strategy. This economic backdrop shapes business opportunities, which, in turn, forecast a firm's potential future income. Such predictions enable corporate decision-makers to choose between distributing increased earnings as dividends or retaining them for reinvestment and cautionary purposes. The economic landscape can be divided into short-term and long-term macro factors. Despite the apparent straightforwardness of this concept, there is still a considerable lack of agreement among scholars. This study contributes to the ongoing discourse by further examining how macroeconomic elements affect the dividend policies of non-financial firms, particularly in the dynamically growing ASEAN region. This research encompasses 2,193 firms within ASEAN, analysing data collected annually from 2011 to 2022, totalling 24,123 data points. Utilizing the General Method of Moments (GMM) for the paper's panel regression analysis, this study discovered a negative correlation between short-term macro factors and dividend

payouts, while long-term macro factors exhibited a positive correlation. This distinction between short-term and long-term influences carries significant implications for both practice and policy-making. The results demonstrate strong reliability through comprehensive robustness checks.

5.1. Implications

This study has important implications for practitioners and regulators alike. Regulators need to maintain the transparency, continuity, and stability of economies, which in turn affects firms' dividend policies. There is a need to maintain a stable environment for firms by reducing policy uncertainties. Regulators may recognize the importance of strong governance frameworks in fostering investor confidence. By ensuring that companies adhere to high governance standards, regulators can help attract investment and support economic growth. Regulators may prioritize initiatives that promote positive governance practices at the country level. This could involve implementing regulations or guidelines that enhance transparency, accountability, and integrity. For practitioners, they need to remain vigilant, adaptable, and well-informed in response to economic policy uncertainty, as it can impact dividend income and investment returns. By understanding the implications of policy uncertainty and implementing appropriate strategies, investors can navigate market challenges and pursue their long-term financial goals more effectively.

5.2. Limitations

The main limitation of this study refers to the lack of companies' market data for some periods, which reduces the number of observations of companies from 3,911 to 2,193. Furthermore, this study does not encompass all ASEAN countries. The unavailability of data on companies from other ASEAN countries, including Myanmar, Timor-Leste, Vietnam, Cambodia, and others that are not included in this paper, leads to this limitation. Therefore, this study only includes five sample countries—Indonesia, Malaysia, Philippines, Singapore, and Thailand—that have comprehensive data and can represent the overall population.

5.3. Future Research

For future research, broadening the scope to include comparative studies in ASEAN regions would offer a wider view of the impact of macroeconomic factors on dividend payouts. Improvements to the study could include employing both micro and macro analytical methods to refine these strategies, thereby improving causal connections and capturing a wider array of effects. Looking ahead, extending the research to incorporate countries from the Americas or Europe for a comparative analysis with ASEAN could shed light on the applicability of the findings across diverse market contexts. Such cross-regional comparisons might reveal valuable insights into the universality of the study's conclusions.

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