

THE DETERMINANTS OF DIVIDEND POLICY: AN EMPIRICAL STUDY OF INCONSISTENT DISTRIBUTION OF DIVIDENDS USING BALANCED PANEL DATA ANALYSIS

Powell Gian Hartono

Graduate Program Student, Gadjah Mada University, Sleman, Indonesia

Email: powell.g.h@mail.ugm.ac.id (corresponding author)

Wahyuni Rusliyana Sari

Department of Management, Faculty of Economics and Business, Trisakti University, West Jakarta, Indonesia

Email: wahyuni.rusliyana@trisakti.ac.id

Georgina Maria Tinungki

Department of Statistics, Faculty of Mathematics and Natural Sciences, Hasanuddin University, Makassar, Indonesia

Email: georgina@unhas.ac.id

Jakaria

Department of Economics, Faculty of Economics and Business, Trisakti University, West Jakarta, Indonesia

Email: jakaria.fe@trisakti.ac.id

Agus Budi Hartono

AMI Maritime Polytechnic, Makassar, Indonesia

Email: agusbd377@gmail.com

Received: February 2021; Accepted: May 2021; Available online: July 2021

Abstract

The inconsistent distribution of dividends is a unique phenomenon and it needs to be examined. Therefore, the purpose of this study is to examine ten predictors affecting dividend policy of the inconsistent distribution of dividends. This study used the purposive sampling method to analyze the data that were obtained from a total sample of 133 observation objects collected in the 19 real estates, property, and building construction companies listed on the IDX Between 2013-2019. Furthermore, the method used is hypotheses testing and statistical analysis tool used is the hierarchical multiple panel data regression with the Least Squares Dummy Variables. The results obtained from panel A are firm risk, financial leverage, and investment opportunity that affect the dividend policy. Meanwhile, the panel B results are company risk, financial leverage, investment opportunity, and previous dividend, although the previous dividend had no effect due to the different direction of influence. This study proves the determinants and relevance of the parametric statistical analysis in the inconsistent distribution of dividends. Moreover, it is useful for managerial practitioners to pay attention to predictors for increasing company performances and to ensure investors obtain optimal return of their dividend.

Keywords: dividend policy; inconsistent distribution of dividend; balanced panel data; real estate; property.

Abstrak

Pembagian dividen yang tidak konsisten merupakan fenomena unik dan perlu dicermati. Oleh karena itu, tujuan dari penelitian ini adalah untuk menguji sepuluh prediktor yang mempengaruhi kebijakan dividen pada kondisi distribusi dividen yang tidak konsisten. Penelitian ini menggunakan metode purposive sampling untuk menganalisis data yang

diperoleh dari sampel sebanyak 133 objek observasi. Sampel terkumpul adalah di 19 perusahaan real estat, properti, dan konstruksi bangunan yang terdaftar di Bursa Efek Indonesia antara tahun 2013-2019. Selanjutnya metode pengujian hipotesis digunakan dan alat analisis statistik yang digunakan adalah regresi data panel berganda hierarkis dengan pendekatan *Least Squares Dummy Variables*. Hasil yang diperoleh dari panel A adalah risiko perusahaan, leverage keuangan, dan peluang investasi yang mempengaruhi kebijakan dividen. Sedangkan hasil panel B adalah risiko perusahaan, financial leverage, peluang investasi, dan dividen sebelumnya, meskipun dividen periode sebelumnya tidak berpengaruh karena arah pengaruh yang berbeda. Penelitian ini membuktikan faktor-faktor penentu dan relevansi analisis statistik parametrik dalam distribusi dividen yang tidak konsisten. Selain itu, berguna bagi praktisi manajerial untuk memperhatikan faktor-faktor penentu untuk meningkatkan kinerja perusahaan, serta bagi investor untuk mendapatkan return berupa dividen secara optimal.

Kata kunci: Kebijakan dividen; pembagian dividen inkonsisten; data panel seimbang; real estate; property.

How to Cite: Hartono, P. G., Sari, W. R., Tinungki, G. M., Jakaria, & Hartono, A. B. (2021). The Determinants of Dividend Policy: An Empirical Study of Inconsistent Distribution of Dividends Using Balanced Panel Data Analysis. *Media Ekonomi dan Manajemen*, 36(2), 89-106. doi: <http://dx.doi.org/10.24856/mem.v36i2.2023>.

INTRODUCTION

The success or failure of a company depends on how the management performs its functions optimally. This aims to increase its funds, investment, using of financial managerial functions wisely, and adapting to change. The three financial managerial functions performed by corporate companies are investment, funding, and dividend decisions (Alzomaia & Al-Khadhiri, 2013; Damodaran, 2015; Zutter & Smart, 2019).

However, companies are in need of funds which are obtained by issuing shares to support their business activities. The choice of stocks is an instrument for investors during an investment because of the benefits of high attractiveness. Their funds help in increasing welfare with the expectation of profits that include capital gains and dividend yields (Badu, 2019; Damodaran, 2015).

The increase in the value of company is carried out by distributing dividends to shareholders for net income and earnings as an effort to increase equity. However, the distribution of dividends and earnings need to consider crucial things because it relates to how investors are investing funds in the company. Dividends are balanced through optimal policy to increase share

value (Wahjudi, 2020). The assigning of dividends to shareholders is in the form of awarding and encouraging other investors to buy new shares at a higher price level (Yusof & Ismail, 2016).

The dividend policy is studied with the variation of various populations both from the type of industrial sector and its characteristics. The most common characteristic in determining the sample is consistent distribution of dividends to produce results that are generalizable (Anderson et al., 2020; Sekaran & Bougie, 2016).

Yusof & Ismail (2016) studied dividend policy from a total sample of 147 public companies listed on the Malaysia Main Stock Exchange in 2006 – 2010 on consistent dividend distribution. The analytical tools used are the fixed and random effects, pooled least squares, robust standard errors on fixed-effects and random-effects models. However, the predictors capable of affecting dividend policy are earnings, debt, size, investment, and largest shareholder. According to the study of Singla & Samanta (2018) data were obtained from a total sample of 45 construction companies in 2011 – 2016 to determine their consistently dividend distribution using panel data analysis

approach. The analytical tools used are stationary panel test, a fixed-effect, and a random-effect model with robust estimates. Moreover, the predictors capable of affecting the random effect model are profitability, life cycle, company size, and cash flow.

Wahjudi (2020) examined the dividend policies of 90 manufacturing companies listed on the Indonesia Stock Exchange in 2011 – 2015 on consistent dividend distribution. The analytical tools used are multiple linear regression with weighted least square technique. However, the predictors capable of affecting the dividend policy are growth in net assets, liquidity, and financial leverage. The study of Hartono & Matusin (2020) examined 21 real estates, property, and building construction companies listed on the Indonesia Stock Exchange by combining the consistent and inconsistent dividend distribution. Furthermore, the analytical tool used is an unbalanced panel data regression, which eliminates the object of observation unable to distribute dividends through the ordinary least square techniques. Moreover, the predictors capable of affecting the dividend policy include the firm size and previous year's dividend.

In previous studies, the factors of dividend policy were dominated by consistent distribution of dividends, or the combination of consistent and inconsistent distribution types of dividends. Previous studies rarely focus on the determinants of corporate dividend policy in the form of inconsistent distribution of dividends.

Therefore, this study examines the predictors affecting the inconsistent distribution of dividends by selecting companies as a sample in 2013 – 2019. The factors presumed to affect the dividend policy are profitability, firm risk, financial leverage, liquidity, investment opportunity, agency cost, firm size, growth, previous dividend, and firm age. The analytical tool used is the multivariate balanced panel data regression with a least

square dummy variable technique, which helps to meet the criteria for inconsistent distribution of dividends.

Moreover, this study used the real estate, property, and building construction sector companies as the population because they have a reasonably broad impact on the Indonesian economy. This is link with other industries such as the service industry, logistics, materials, and banking. The companies listed on the Indonesia Stock Exchange are not as much compared to other sectors as of 2019.

LITERATURE REVIEW

Dividend policy is refers to as the net income of the company distributed to shareholders (Thakur & Kannadhasan, 2018). This distribution is one of the attractions for the company to get funds while selling the issued shares (Tahir & Mushtaq, 2016). Moreover, dividends also indicate the certainty of return on investment to the company (Hartono & Matusin, 2020).

According to the bird in the hand theory, investors prefer returns in the form of dividends rather than capital gains. This supports the dividend relevance theory, where the distributed value is higher than the future, therefore, this condition reduces uncertainty for investors. Conversely, from the perspective of pecking order theory, companies prefer internal funding sources because it increases firm value in conditions of low cost of capital (Dewasiri et al., 2019; Ofori-Sasu et al., 2017)

The purpose of this study is to examine ten predictors affecting the inconsistent distribution of dividends including the profitability, firm risk, financial leverage, liquidity, investment opportunity, agency cost, firm size, growth, previous dividend, and firm age. This study focuses on group of companies that has the same characteristics which is dominated by inconsistently distribution of dividends (Alzomaia & Al-Khadhiri, 2013; Labhane & Das, 2015; Ranajee et al.,

2018; Sharma & Bakshi, 2019; Singla & Samanta, 2018; Yusof & Ismail, 2016).

Profitability on Dividend Policy

Profitability is refers to as the ability of the company to generate profits for its business operations. The distributions of dividends to shareholders are obtained through this profit or after the company have fulfilled its obligations. The level of profitability positively affect dividend policy that the higher the profit, the higher the dividend rate (Dewasiri et al., 2019; Yusof & Ismail, 2016).

The study of Al-Ajmi & Hussain (2011); Alzomaia & Al-Khadhiri (2013); Lestari (2018); Patra et al. (2012); Ranajee et al. (2018); Rehman (2012); Singla & Samanta (2018); Thakur & Kannadhasan (2018); and Yusof & Ismail (2016) showed that profitability positively affect dividend policy. Based on what has been described, the first hypothesis is formulated as follows:

H₁ : Profitability positively affect dividend policy.

Firm Risk on Dividend Policy

Firm risk is the uncertainty of profitability such as the rise and fall of stock prices that determine the profit of a company. An increase in the dividend rate tends to reduce the risk of future cash flows for shareholders, and then increase the share price and earnings ratio. Also, dividend rate is affected by a high price-to-earnings ratio that shows a lower level of risk. Therefore, risk is negatively related to price-to-earnings ratio and this makes it to negatively affects dividend policy. However, the price-to-earnings ratio positively affects dividend policy (Kaźmierska-Jóźwiak, 2015; Maladjian & El Khoury, 2014; Patra et al., 2012).

The study of Kuzucu (2015); and Sharma & Bakshi (2019) showed that the price-to-earnings ratio positively affect dividend policy, that price-to-earnings ratio have a negative relationship with a firm risk, thereby firm risk negatively affects

dividend policy. Based on what has been described, the second hypothesis is formulated as follows:

H₂ : Firm risk negatively affects dividend policy.

Financial Leverage on Dividend Policy

Financial leverage is an investment strategy of using debt to increase the potential return of an investment. It can also be refers to as the amount of debt a firm uses to finance assets. However, in the trade-off theory, the corporate tax shield is regarded as tax protection because of the increase in debt value that is not subject to corporate income tax. Increasing the debt level to an optimal point will definitely increase the company's value and thereby bringing about higher dividend rate. The corporate tax shield becomes irrelevant when the debt level increases above the optimal point (Modigliani & Miller, 1963; Parsian & Koloukhi, 2014; Yusof & Ismail, 2016).

According to the study of Parsian & Koloukhi (2014); and Rehman (2012), the financial leverage positively affects dividend policy. Meanwhile, Kaźmierska-Jóźwiak (2015); Patra et al. (2012); Ranajee et al. (2018); Sharma & Bakshi (2019); Wahjudi (2020); and Yusof & Ismail (2016) explained that financial leverage negatively affects dividend policy. Based on what has been described, the third hypothesis is formulated as follows:

H₃ : Financial Leverage affects dividend policy.

Liquidity on Dividend Policy

Liquidity refers to the ease with which an asset is quickly converted into ready cash to fulfill short-term debt. It is also interpreted as a company's ability to meet sudden cash needs on current assets. The higher the company's liquidity level, the more likely it will pay dividends to shareholders. However, when a company's condition prioritizes the fulfillment of short-term debt, operational costs, and

sudden cash need, it tends to reduce the dividend rate distributed to shareholders (Hartono & Matusin, 2020; Singla & Samanta, 2018; Wahjudi, 2020).

The study of Badu (2019); Bostanci et al. (2018); Patra et al. (2012); and Sharma & Bakshi (2019) showed that liquidity positively affect dividend policy. According to Wahjudi (2020) showed that liquidity negatively affects dividend policy. Based on what has been described, the fourth hypothesis is formulated as follows:

H₄ : Liquidity affects dividend policy.

Investment Opportunity on Dividend Policy

Investment opportunity shows the growth opportunities of a company to invest so as to generate profit in the future. This is also interpreted as an investment decision comprising existing assets and future choices that produce a positive net present value. However, the management of the company tends to seek favorable growth rates that are correlated with financing needs. Therefore, the investment opportunities for high growth will require internal funds. The pecking order theory specifies that the internal funds help in increasing the company earnings and reduce dividends, that Internal funds require low cost of capital (Patra et al., 2012; Rizqia et al., 2013; Sharma & Bakshi, 2019).

According to the study of Maladjian & El Khoury (2014); Patra et al. (2012); Rehman (2012); Rizqia et al. (2013); and Sharma & Bakshi (2019), investment opportunity negatively affects dividend policy. Based on what has been described, the fifth hypothesis is formulated as follows:

H₅ : Investment Opportunity negatively affects dividend policy.

Agency Cost on Dividend Policy

Agency cost help in solving the problem between the shareholders and the management of the company. However,

the company's management prioritizes free cash flow for further investment, while shareholders only want the dividends and nothing else. Companies with high free cash flow decide their capital structure by using some amount of debt to finance its asset and this tend to reduce the dividend rate. In contrast, the company's management tends to conflict with shareholders interest using profits and prioritizes investment in projects with poor capital budgeting values. In the high free cash flow condition, the company increases the dividend rate distributed, which reduces agency problems between company management and shareholders (Jensen, 1986; Labhane & Das, 2015; Parsian & Koloukhi, 2014; Pujiastuti, 2008).

According to a research carried out by Issa (2015) and Labhane & Das (2015), agency cost positively affect dividend policy. However, Parsian & Koloukhi, (2014) stated that it negatively affects dividend policy. Based on what has been described, the sixth hypothesis is formulated as follows:

H₆ : Agency Cost affects dividend policy.

Firm Size on Dividend Policy

Firm size is how big a company is and this plays a role in generating profits and business operations stability. However, a large firm tends to have the low transaction costs and high accessibility to the capital market. Accessibility to the capital market is the flexibility and ability of the company to create debt or funds in equity. Therefore, the dividend payout ratio is greater than that of smaller companies. In contrast, the pecking order theory specifies that companies prioritize internal capital sources while meeting their needs. A large firm tends to increase the profit earned and reduce dividends (Kaźmierska-Jóźwiak, 2015; Rizqia et al., 2013; Surasmi et al., 2019).

The study of Alzomaia & Al-Khadhiri (2013); Maladjian & El Khoury (2014); Patra et al. (2012); Ranajee et al. (2018); Sari (2017); Sharma & Bakshi

(2019); Singla & Samanta (2018); and Yusof & Ismail (2016) showed that firm size positively affects dividend policy. According to Hartono & Matusin (2020); Kaźmierska-Jóźwiak (2015); and Lestari (2018), the firm size negatively affects dividend policy. Based on what has been described, the seventh hypothesis is formulated as follows:

H₇ : Firm size affects dividend policy.

Growth on Dividend Policy

This brings about an increase in size and also, high growth tends to increase the internal and external funds thereby making the dividend rate to reduce. The pecking order theory specifies that firm grow positively so as to increase the retained earnings and reduce the dividend rate (Alzomaia & Al-Khadhiri, 2013; Badu, 2019; Sharma & Bakshi, 2019).

According to the study of Sharma & Bakshi (2019) firm growth negatively affects dividend policy. Based on what has been described, the eighth hypothesis is formulated as follows:

H₈ : Growth negatively affects dividend policy.

Previous Dividend on Dividend Policy

Previous year's dividend is the total amount of payment the firm made to the shareholders in the previous year. However, the announcement of security and dividend rate tends to bring an achievement to the firm. According to dividend signaling theory, the information asymmetry between a company's management regarding operations and its future prospects make shareholders to depend on distributed dividends. The signal given has a dividend distribute, which acts as a positive signal for the company's good business prospects (Dewasiri et al., 2019; Thakur & Kannadhasan, 2018).

Moreover, the study of Alzomaia & Al-Khadhiri (2013); Hartono & Matusin (2020); and Maladjian & El Khoury (2014) showed that the previous dividend

positively affects dividend policy. Based on what has been described, the ninth hypothesis is formulated as follows:

H₉ : Previous Dividend positively affects dividend policy.

Firm Age on Dividend Policy

The firm age is a description of its life cycle that is regarded by dividends and length of existence. However, if the firm age is high, the investment opportunity and funds will be reduced thereby making the firm to pay dividends. Moreover, firm that have a longer life have a better reputation that allows it to obtain external funds to finance future expansion and diversification. Financial institutions assess the firm age as one of the indicators of acting as a creditor. Therefore, the firm is able to suppress dividends because it has a good investment opportunity (Badu, 2019; Labhane & Mahakud, 2016; Ranajee et al., 2018).

According to the study of Badu (2019); and Ranajee et al. (2018), the firm age positively affects dividend policy. Meanwhile, Marfo-Yiadom & Agyei (2011) explained that it negatively affects dividend policy. Based on what has been described, the tenth hypothesis is formulated as follows:

H₁₀ : Firm age affects dividend policy.

RESEARCH METHODS

Sample, Population, Variable, Collection, and Sampling

This study tested the formulated hypothesis of the 10 predictors that affect dividend policy and they include profitability, firm risk, financial leverage, liquidity, investment opportunity, agency cost, firm size, growth, previous dividend, and firm age, with variable proxies listed in table 1. Moreover, secondary data were obtained from the financial statements of the firm accessed from www.idx.co.id, for a period of 2013 - 2019.

This study used the purposive sampling method to analyzed the data that were obtained from a total sample of 133

observation objects collected in the 19 real estates, property, and building construction companies listed on the Indonesia Stock Exchange between 2013 - 2019. The firm selected was not delisted but had a complete financial reports to meet the variable needs, and companies pay dividends at least once and a maximum of six times during the study period to meet the inconsistent dividend distribution

criteria (Sekaran & Bougie, 2016).

There are nineteen firms selected from the 90 real estate, property and building construction companies listed on the Indonesia Stock Exchange until June 2020. However, companies that do not distribute dividends in a certain period are assumed to distribute dividends of zero (0) rupiah, so it is feasible to use the balanced panel data analysis.

Table 1. Variable Description

Variable (Proxies)	Formulation	Expected Sign	Literature
Dividend Policy (Dividend Payout Ratio – DPR)	$DPR = \frac{\text{Dividend per Share}}{\text{Net Income per Share}}$	-----	(Hartono & Matusin, 2020; Ranajee et al., 2018; Sharma & Bakshi, 2019; Wahjudi, 2020)
Profitability (Earning Per Share – EPS)	$EPS = \frac{\text{Earnings After Tax}}{\text{Outstanding Shares}}$	(+)	(Al-Ajmi & Hussain, 2011; Lestari, 2018; Sharma & Bakshi, 2019)
Firm Risk (Price to Earnings Ratio – PER)	$PER = \frac{\text{Market Price per Share}}{\text{Earning Per Share}}$	(+)	(Kazmierska-Józwiak, 2015; Maladjian & El Khoury, 2014; Pratiwi & Dewi, 2012)
Financial Leverage (Debt to Equity Ratio – DER)	$DER = \frac{\text{Total Liabilities}}{\text{Total Equity}}$	(+) / (-)	(Alzomaia & Al-Khadhiri, 2013; Labhane & Das, 2015; Sari, 2017)
Liquidity (Current Ratio – CR)	$CR = \frac{\text{Current Assets}}{\text{Current Liabilities}}$	(+) / (-)	(Bostanci et al., 2018; Hartono et al., 2020; Patra et al., 2012)
Investment Opportunity (Market Price to Book Value ratio – PBR)	$PBR = \frac{\text{Market Price per Share}}{\text{Book Value per Share}}$	(-)	(Hartono & Matusin, 2020; Patra et al., 2012; Rehman & Takumi, 2012)

Table 1. Continue

Variable (Proxies)	Formulation	Expected Sign	Literature
Agency Cost (Free Cash Flow – FCF)	$FCF = \frac{\text{Earnings before Tax} + \text{depreciation} + \text{interest} - \text{capital expenditure}}{\text{Total Assets}}$	(+) / (-)	(Al-Ajmi & Hussain, 2011; Hartono & Matusin, 2020; Singla & Samanta, 2018)
Firm Size (Total Assets – TA)	$TA = \text{logarithm of total assets}$	(+) / (-)	(Każmierska-Józwiak, 2015; Muchtar et al., 2020; Rizqia et al., 2013; Surasmi et al., 2019)
Firm Growth (Growth of Revenue – GR)	$GR_{(t)} = \frac{\text{Revenue}_{(t)} - \text{Revenue}_{(t-1)}}{\text{Revenue}_{(t-1)}}$	(-)	(Alzomaia & Al-Khadhiri, 2013; Badu, 2019; Yusof & Ismail, 2016)
Previous Dividend (Previous Year's Dividend – PYD)	$PYD = \text{previous year's dividend}$	(+)	(Bostanci et al., 2018; Sari, 2017; Thakur & Kannadhasan, 2018)
Firm Age (AGE)	$AGE = \text{the square of logarithm of age}$	(+) / (-)	(Hartono & Matusin, 2020; Ranajee et al., 2018; Sharma & Bakshi, 2019)

Data Analysis Procedure

This study tested the formulated hypothesis of the ten predictors that affect dividend policy. Moreover, the tool used is multiple panel data and Pearson correlation analysis, and the data processing programs are E-views version 10 and SPSS version 22 (Gujarati & Porter, 2020; Hair et al., 2018; Sekaran & Bougie, 2016; Tinungki, 2019).

This study used a multiple panel data analysis tools comprising three models including the common-effect, fixed-effect, and random-effect model. The most appropriate model is selected using the chow test, hausman test, and Lagrange multiplier test. However, data were analyzed using a balanced panel data under the conditions of inconsistent distribution

of dividend (Gujarati & Porter, 2020; Puspitowati & Iskandar, 2020).

Data Analysis Design

This study tested ten predictors that affect dividend policy by using the hierarchical panel data estimates such as panel A and B to analyzed the econometric model (Çapar, 2020; Sari & Leon, 2020). The equation of the estimation model is as follows:

Panel A:

$$DPR_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 PER_{it} + \beta_3 DER_{it} + \beta_4 CR_{it} + \beta_5 PBR_{it} + \beta_6 FCF_{it} + \beta_7 TA_{it} + \beta_8 GR_{it} + \varepsilon_{it}$$

Panel B:

$$\begin{aligned} DPR_{it} = & \beta_0 + \beta_1 EPS_{it} + \beta_2 PER_{it} \\ & + \beta_3 DER_{it} + \beta_4 CR_{it} \\ & + \beta_5 PBR_{it} + \beta_6 FCF_{it} \\ & + \beta_7 TA_{it} + \beta_8 GR_{it} \\ & + \beta_9 PYD_{it} + \beta_{10} AGE_{it} \\ & + \varepsilon_{it} \end{aligned}$$

Where,

DPR_{it} : dividend policy with a proxy for the dividend payout ratio of company i at time t .

EPS_{it} : profitability by proxy earning per share of company i at time t .

PER_{it} : firm risk by proxy price-to-earnings ratio of company i at time t .

DER_{it} : financial leverage with the proxy debt-to-equity ratio of company i at time t .

CR_{it} : liquidity by proxy current ratio of company i at time t .

PBR_{it} : investment opportunity with the proxy of market price to book value ratio of company i at time t .

FCF_{it} : agency cost with the company's free cash flow of company i at time t .

TA_{it} : firm size by proxy of the logarithm transformation of total assets of company i at time t .

GR_{it} : growth by proxy growth of revenue of company i at time t .

PYD_{it} : previous dividend with the proxy for the previous year's dividend of company i at time t .

AGE_{it} : firm age by proxy for the transformation of the logarithm of company i at time t .

β_0 : estimation model constants.

$\beta_{1...10}$: predictor influence coefficient.

ε_{it} : residual regression model of company i at time t .

RESULT AND DISCUSSION

Descriptive statistics

The Table 2 below shows the total sample of 133 observation objects obtained from the 19 companies for seven years. However 51 observation objects out of the

total sample were in the condition of not distributing dividends and 82 were distributing dividends. Moreover, the 19 companies distributed dividends as follows; two distributed once, another two distributed twice, three distributed three times, one distributed four times, three distributed five times, and eight distributed six times.

Pearson Correlation Analysis

Table 3 shows the Pearson correlation matrix, whereby the dependent variable is proxied by dividend payout ratio, correlates with the several proxies independent variables. The dependent variable that correlations with the independent are the price to earnings ratio as a proxy for the firm risk, which has a medium and significant positive correlation, and the debt to equity ratio as a proxy for the financial leverage variable which has a feeble and significant positive correlation. Furthermore, the market price to book value ratio as a proxy for the investment opportunity variable has a moderate and significant correlation. The quadratic logarithm transformation of the company age has a feeble and significant negative correlation with the dependent variable.

Likelihood Test

The table 4 below shows the results of the Chow and Hausman test and the best model are choose by Chow test to formulate the hypothesis (Gujarati & Porter, 2020):

H_0 : Selected the Common-Effect Model

H_a : Selected the Fixed-Effect Model.

The results show that the probability value for the Chi-square cross-section is 0.006 for panel A model and 0,000 for panel B model. They are $< \alpha(5\%)$, thereby rejecting H_0 . This is then continued with the Hausman test, with the formulation of hypothesis:

H_0 : Selected the Random Effect Model
 H_a : Selected the Fixed-Effect Model.

The results show that the Cross-section Random's probability value is 0.002 for panel A model and 0,000 for panel B. They are $< \alpha(5\%)$, thereby rejecting H_0 . Therefore, the best model chosen for multiple panel data regression is the Fixed Effect Model with Least Squares Dummy Variables technique.

Goodness of Fit Test: Coefficient of Determination test, F-test, and T-test

The Fixed Effect Model is followed by a Goodness of Fit test in the form of a Coefficient of determination test, Simultaneous test or F-test, and Partial test or T-test. The coefficient of determination test is done by looking at the adjusted R-square value of the fixed-effect model. The table 5 below shows the result for panel A and B through the adjusted R-Square value. The panel A model explains the variations of the predictors on dividend policy as the dependent variable by showing a value of 0.349497 with an interpretation of 34.9397%. However, 65.0603% explains the variation of other predictors outside the panel A model and this affect dividend policy. The panel B model explains the variation of the predictors on dividend policy by showing a value of 0,414912 with an interpretation of 41.4912%.

Moreover, 58.5088% explains the variation from other predictors outside panel B model and this affect dividend policy. An adjusted R-square value is considered to be reasonable because it can be seen from the level it takes in affecting the only four significant predictors with $\alpha = 5\%$ (Gujarati & Porter, 2020; Hair et al., 2018).

The table also shows how Simultaneous tests or F-tests are carried out by looking at the p-value on the F-statistic when panel model A is 0.0000 and panel B model is 0.0000. However, the P-value for F-statistic on panel A and B model is $< \alpha(5\%)$ thereby making the predictors to affect dividend policy simultaneously. The conclusion is that at least one predictor significantly affects the dependent variable for both the panel A and B model (Anderson et al., 2020; Hair et al., 2018).

The partial test or t-test is done by looking at the significance value and the direction taking in affecting the dividend policy according to the hypothesis. There are four significant predictors. The one-tailed test was carried out by dividing the two-tailed p-value into two and the two-tailed p-value not dividing it. However, three predictors out of the four were able to prove the direction it takes in affecting the dividend policy according to the hypothesis testing (Anderson et al., 2020).

Table 2. Descriptive statistics

Proxied Variable	Mean	Std. Deviation	Max	Min
Dividend Payout Ratio	0.201	0.820	8.326	0.000
Earnings Per Share	171.416	325.926	1.264.903	-690.535
Price to Earnings Ratio	17.586	23.920	204.421	-23.170
Debt to Equity Ratio	0.960	0.523	3.701	0.084
Current Ratio	2.341	1.679	7.530	0.179
Market Price to Book Value ratio	1.596	1.843	12.770	0.193
Free Cash Flow	0.051	0.063	0.269	-0.360
Total Assets (<i>in billions</i>)	14.474	13.306	56.772	938
Growth of Revenue	0.092	0.276	1.155	-0.426
Previous Year's Dividend (<i>in billions</i>)	94	188	1.786	0.000
Firm Age	31.865	7.867	48.000	10.000

Table 3. Pearson Correlation Matrix of Variables

	DPR	EPS	PER	DER	CR	PBR	FCF	TA	GR	PYD	AGE
DPR	1.000										
EPS	-0.018	1.000									
PER	*0.432	0.064	1.000								
DER	*0.286	*-0.219	0.090	1.000							
CR	-0.111	-0.143	-0.006	*-0.224	1.000						
PBR	*0.401	*0.262	*0.228	*0.368	*-0.231	1.000					
FCF	0.074	0.167	-0.068	0.036	-0.138	*0.238	1.000				
TA	-0.049	-0.013	-0.094	0.135	*-0.385	0.098	0.013	1.000			
GR	-0.043	0.013	*-0.255	-0.032	0.045	0.053	*0.188	-0.046	1.000		
PYD	-0.013	0.092	0.049	-0.017	-0.066	*0.350	0.124	*0.180	-0.006	1.000	
AGE	*-0.025	*0.170	0.169	-0.039	0.004	*0.243	-0.131	-0.134	-0.145	0.125	1.000

Note: (*) The correlation is significant at 5 percent level.

Table 4. Chow test and Hausman test for Model A and Model B

Panel A Model

Effect Test	Statistic	d.f.	P-value
Cross-section Chi-square	36.320	18	**0.006
Test Summary	Chi-Square Statistic	Chi-square d.f.	P-value
Cross-section Random	23.870	8	**0.002

Panel B Model

Effect Test	Statistic	d.f.	P-value
Cross-section Chi-square	47.915	18	**0.000
Test Summary	Chi-Square Statistic	Chi-square d.f.	P-value
Cross-section Random	38.525	10	**0.000

Note: (**) The significant is at 1 percent level.

Table 5. Multiple Balanced Panel Data Regression Analysis

Proxies (Predictors)	Model Panel A	Model Panel B
Constant	0.3555 (0.077)	-1.0742 (-0.210)
EPS (Profitability)	-0.0005 (-1.354)	-0.0003 (-0.898)
PER (Firm Risk)	**0.0087 (2.697)	*0.0059 (1.893)
DER (Financial Leverage)	**0.8586 (3.870)	**0.8041 (3.809)
CR (Liquidity)	0.0344 (0.515)	0.0686 (1.049)
PBR (Investment Opportunity)	*-0.1969 (-2.304)	**0.2469 (-2.940)
FCF (Agency Cost)	0.5662 (0.462)	0.2352 (0.202)
TA (Firm Size)	-0.1246 (-0.190)	0.2245 (0.234)
GR (Growth)	0.3050 (1.204)	0.2445 (0.984)
PYD (Previous Dividend)	-----	** -1.47×10^{-06} (-3.708)
AGE (Firm Age)	-----	-0.3488 (-0.315)
F-statistic	3.7277	3.3431
P-value of F-statistic	**0.0000	**0.0000
Adjusted R ²	0.3495	0.4149

Note: Figures in parenthesis are the value of t-statistics. (**) The coefficient is significant at 1 percent level. (*) The coefficient is significant at 5 percent level.

Discussion

In a situation where hypothesis 1 is being rejected, profitability does not affect dividend policy. The higher or lower level of profitability does not affect the dividend policy, supported by the Pearson correlation, which is feeble and insignificant. The result of this study is the same with the explanation of Badu (2019); Hartono & Matusin (2020); Rizqia et al. (2013); Sari (2017); Sharma & Bakshi (2019); and Wahjudi (2020). This shows that the company pay dividends to shareholders, not because of the level of profit earned but due to some considerations given by the management (Badu, 2019; Wahjudi, 2020). This considerations such as investment opportunities help to

suppress dividends and increase profit earned (Rizqia et al., 2013).

Furthermore, the decision for hypothesis 2 is accepted because firm risk negatively affects dividend policy while price-to-earnings ratio positively affects dividend policy. The result of this study is the same with the explanation of Kuzucu (2015); and Sharma & Bakshi (2019). Companies with a high risk and volatility in cash flow have more challenges in making plans for further investment. This makes the company needs for external financing to result in low dividend rates. The pecking order theory help to reduce the dividend rate and increase the profit earned to avoid external financing that requires high costs. This determining

factors also contributes to the inconsistent distribution of dividend. However, the real estate, property, and building construction company requires an internal financing as a source of capital (Maladjian & El Khoury, 2014; Sharma & Bakshi, 2019).

The decision for hypothesis 3 is accepted because the financial leverage positively affect dividend policy. The result of this study is the same with the explanation of Parsian & Koloukhi, 2014; and Rehman (2012). This indicates that the company's capital structure in the form of debt is at a level that is protected by the corporate tax shield. This level tends to increase the debt as well as the dividend rate but when the debt is getting lower, it will cause a lower dividend rate because the corporate tax shield benefits are getting lower. This condition allows an inconsistent distribution of dividend (Damodaran, 2015; Parsian & Koloukhi, 2014).

The decision for hypothesis 4 is rejected because liquidity does not affect dividend policy. Furthermore, the higher or lower liquidity levels do not affect dividend policy. This is supported by the Pearson correlation results between the current and dividend payout ratios, which has a feeble negative and insignificant correlation. The result of this study is the same with the explanation of Hartono & Matusin (2020); Kaźmierska-Jóźwiak (2015); Maladjian & El Khoury (2014); and Singla & Samanta (2018). However, the absence of liquidity indicates that the company's ability to meet current liabilities to optimize the profit earned does not affect dividend policy. This is also possible because the company has a priority to meet the needs for short-term operational activities, further investment, and current liabilities (Hartono & Matusin, 2020; Singla & Samanta, 2018).

Moreover, the decision for hypothesis 5 is accepted because the investment opportunity negatively affect dividend policy. This study is in line with the explanation of Maladjian & El Khoury

(2014); Patra et al. (2012); Rehman (2012); Rizqia et al. (2013); and Sharma & Bakshi (2019). However, this proves that the company's condition will seek a positive growth rate for further investment. The dividend rate tends to be reduced when the internal funding reduces the cost of external funding. Also, the increase in the level of profit earned on the company's net profit help in reducing the dividend rate. This factor is a strong predictor of an inconsistent distribution of dividends because the company exhibits a prospective business nature that reduces the dividend rate and increases profit earned for further investment (Patra et al., 2012; Rizqia et al., 2013).

The decision for hypothesis 6 is rejected because an agency cost does not affect dividend policy. The increase and decrease in the level of free cash flow as a proxy for agency cost do not affect dividend policy. This is supported by the Pearson correlation test, which shows a feeble and insignificant correlation between free cash flow and dividend payout ratio. This study is in line with the explanation of Al-Ajmi & Hussain (2011); Hartono & Matusin (2020); and Yusof & Ismail (2016). Free cash flow is available to creditors or shareholders and it does not affect dividend policy because the company prioritizes funds to fulfill capital expenditures for further investments. The agency conflict is described as free cash flow and it does not affect dividend policy (Parsian & Koloukhi, 2014; Yusof & Ismail, 2016).

The decision for hypothesis 7 is rejected because the firm size does not affect dividend policy. Changes in increasing or decreasing the level of company size do not affect dividend policy. The Pearson correlation test between the logarithmic transformation of total assets and the dividend payout ratio shows a feeble negative and insignificant correlation, thereby supporting the rejection of hypothesis 7. This study is in line with the explanation of Al-Ajmi &

Hussain (2011); Parsian & Koloukhi (2014); Rizqia et al. (2013); and Thakur & Kannadhasan (2018). The accessibility of the company to the capital market minimizes transaction costs and flexibility over debt and funds does not affect dividend policy (Parsian & Koloukhi, 2014; Rizqia et al., 2013). According to pecking order theory, companies that are getting bigger indicate the business's ability and stability to earned profits for internal capital (Kaźmierska-Jóźwiak, 2015; Thakur & Kannadhasan, 2018).

The decision for hypothesis 8 is rejected because growth as one of the predictors does not affect dividend policy. Changes in the growth, either positively or negatively, does not affect the dividend level. This condition is supported by the Pearson correlation test, which shows a very feeble and insignificant negative correlation between changes in revenue levels and the dividend payout ratio. This study is in line with the explanation of Alzomaia & Al-Khadhiri (2013); Hartono & Matusin (2020); Lestari (2018); and Yusof & Ismail (2016). This condition aims to maintain the company's revenue to remain at a high level and even continue to increase. The funds to finance corporate investment increases when the growth rate is high. This shows that the company's revenue is prioritized for financing business expansion (Alzomaia & Al-Khadhiri, 2013; Hartono & Matusin, 2020; Yusof & Ismail, 2016).

The decision for hypothesis 9 is rejected because previous dividend does not affect dividend policy. The increase in the previous year's dividend does not affect dividend policy. This condition is supported by the Pearson correlation test, which shows a very feeble positive and insignificant correlation between the previous and current year's dividend. Hypothesis 9 was rejected because the direction of influence is inappropriate, that is, the results obtained were negative. This study is the same as the results examined by Yusof & Ismail (2016). The dividend

signaling theory is irrelevant where there is no signal that the previous year's dividend will increase that of the current year. The dividends are not more sensitive than earnings thereby making them not to affect dividend policy (Thakur & Kannadhasan, 2018; Yusof & Ismail, 2016).

More so, the decision for hypothesis 10 is rejected because firm age does not affect dividend policy. Increase in company age does not affect the dividends distributed to shareholders. This is supported by the Pearson correlation test due to the feeble and significant positive relationship between company age and dividend policy. This study is the same as the result examined by Hartono & Matusin (2020); Sari (2017); Sharma & Bakshi (2019); Singla & Samanta (2018). The firm age represents the company's maturity that is characterized by a lower level of investment opportunity. However, it is getting more mature and reputable in expansion and diversification. This reduces the dividend rate with an intention of increasing the internal funding (Labhane & Mahakud, 2016; Sharma & Bakshi, 2019).

CONCLUSION AND RECOMMENDATION

In conclusion, there are three predictors that affect dividend policy in the conditions of inconsistent distribution of dividends and they include firm risk, financial leverage, and investment opportunity. Firm risk is negatively related to price-to-earnings ratio and this makes it to negatively affects dividend policy. Financial leverage positively affects dividend policy, while investment opportunity negatively affects dividend policy.

Theoretically, this study presents empirical evidence of predictors that affect dividend policy with the inconsistent distribution of dividends in a certain period. This study used a balanced panel data method to analyze the predictors that affect dividend policy. However, dividends of zero rupiahs were distributed with three

model approaches including common-effect, the fixed-effect, and the random-effect model. In practical terms, this study provides predictors that are proven to influence dividend policy. The results can be a source of reference for managerial practitioners to improve company performance efforts related to dividend policy and for investors to obtain their dividend optimally. The hope of paying attention to these predictors tends to optimize business activities in fulfilling its primary objectives.

Furthermore, the sample of this study is not too much but limited to companies' criteria in the real estate, property, and building construction sector. The statistical tool is limited to inconsistent dividends distribution. Therefore, it is suggested to obtain data from large samples of other companies to meet statistical principles. This study can also be further developed with more in-depth, comprehensive theoretical, methodological studies, and making statistical analysis tools to be more sophisticated such as a Poisson regression. This tool is used to overcome data conditions that are over-dispersed to make the determined characteristics of the sample to be analyzed (Gabrielli et al., 2019; Hartono et al., 2021).

REFERENCES

- Al-Ajmi, J., & Hussain, H. A. (2011). Corporate dividends decisions: evidence from Saudi Arabia. *Journal of Risk Finance*, 12(1), 41–56. <https://doi.org/10.1108/15265941111100067>
- Alzomaia, T. S. F., & Al-Khadhiri, A. (2013). Determination of Dividend Policy: The Evidence from Saudi Arabia. *International Journal of Business and Social Science*, 4(1), 181–192. http://ijbssnet.com/journals/Vol_4_No_1_January_2013/20.pdf
- Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., Cochran, J. J., Fry, M. J., & Ohlmann, J. W. (2020). *Statistics for Business and Economics* (14th ed.). South-Western CENGAGE Learning.
- Badu, E. A. (2019). Determinants of Dividend Payout Policy of listed Financial Institutions in Ghana. *Business, Management and Economics Research*, 4(59), 134–141. <https://doi.org/10.32861/bmer.59.134.141>
- Bostanci, F., Kadioglu, E., & Sayilgan, G. (2018). Determinants of Dividend Payout Decisions: A Dynamic Panel Data Analysis of Turkish Stock Market. *International Journal of Financial Studies*, 6(4), 93. <https://doi.org/10.3390/ijfs6040093>
- Çapar, H. (2020). Using cryptocurrencies and transactions in medical tourism. *Journal of Economic and Administrative Sciences, ahead-of-p*. <https://doi.org/10.1108/jeas-07-2019-0080>
- Damodaran, A. (2015). *Applied Corporate Finance Fourth Edition* (4th ed.). John Wiley & Sons, Inc.
- Dewasiri, N. J., Yatiwelle Koralalage, W. B., Abdul Azeez, A., Jayarathne, P. G. S. A., Kuruppuarachchi, D., & Weerasinghe, V. A. (2019). Determinants of dividend policy: evidence from an emerging and developing market. *Managerial Finance*, 45(3), 413–429. <https://doi.org/10.1108/MF-09-2017-0331>
- Gabrielli, A., Richman, R., & Wüthrich, M. V. (2019). Neural network embedding of the over-dispersed Poisson reserving model. *Scandinavian Actuarial Journal*, 1–29. <https://doi.org/10.1080/03461238.2019.1633394>

- Gujarati, D. N., & Porter, D. C. (2020). *Basic Econometrics* (5th ed.). McGraw-Hill.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate Data Analysis* (8th ed.). Cengage.
- Hartono, P. G., Lestari, H. S., Wijaya, R., Hartono, A. B., & Tinungki, G. M. (2020). Likuiditas sebagai Prediktor Profitabilitas: Sebuah Studi Empiris pada Perusahaan Sektor Industri Manufaktur. *DERIVATIF: Jurnal Manajemen*, 14(2), 126–137. <https://doi.org/10.24127/jm.v14i2.475>
- Hartono, P. G., & Matusin, A. R. (2020). The Determinants of Dividend Policy on Real Estate, Property, and Building Construction Companies Listed in IDX using Unbalanced Panel Data Approach. *TIJAB (The International Journal of Applied Business)*, 4(2), 139–156. <https://doi.org/10.20473/tijab.V4.I2.2020.139-156>
- Hartono, P. G., Tinungki, G. M., Jakaria, J., Hartono, A. B., Hartono, P. G., & Wijaya, R. (2021). Overcoming Overdispersion on Direct Mathematics Learning Model Using the Quasi Poisson Regression. *The 1st International Conference on Mathematics and Mathematics Education (ICMMED 2020)*, 550(Advances in Social Science, Education and Humanities Research), 442–449. <https://doi.org/10.2991/assehr.k.210508.102>
- Issa, A. I. F. (2015). The Determinants of Dividend Policy: Evidence from Malaysian Firms. *Research Journal of Finance and Accounting*, 6(18), 69–87. <https://doi.org/10.1017/CBO9781107415324.004>
- Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *The American Economic Review*, 76(2), 323–329. <https://www.jstor.org/stable/1818789>
- Kaźmierska-Jóźwiak, B. (2015). Determinants of Dividend Policy: Evidence from Polish Listed Companies. *Procedia Economics and Finance*, 23(October 2014), 473–477. [https://doi.org/10.1016/s2212-5671\(15\)00490-6](https://doi.org/10.1016/s2212-5671(15)00490-6)
- Kuzucu, N. (2015). Determinants of Dividend Policy: A Panel Data Analysis for Turkish Listed Firms. *International Journal of Business and Management*, 10(11), 149–160. <https://doi.org/10.5539/ijbm.v10n11p149>
- Labhane, N. B., & Das, R. C. (2015). Determinants of Dividend Payout Ratio: Evidence from Indian Companies. *Business and Economic Research*, 5(2), 217. <https://doi.org/10.5296/ber.v5i2.8154>
- Labhane, N. B., & Mahakud, J. (2016). Determinants of Dividend Policy of Indian Companies. *Paradigm*, 20(1), 36–55. <https://doi.org/10.1177/0971890716637698>
- Lestari, H. S. (2018). Determinants of corporate dividend policy in Indonesia. *IOP Conference Series: Earth and Environmental Science*, 106(1). <https://doi.org/10.1088/1755-1315/106/1/012046>
- Maladjian, C., & El Khoury, R. (2014). Determinants of the Dividend Policy: An Empirical Study on the Lebanese Listed Banks. *International Journal of Economics and Finance*, 6(4), 240–256. <https://doi.org/10.5539/ijef.v6n4p240>

- Marfo-Yiadom, E., & Agyei, S. K. (2011). Determinants of dividend policy of banks in Ghana. *International Research Journal of Finance and Economics*, 61, 99–108.
- Modigliani, F., & Miller, M. H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *The American Economic Review*, 53(3), 433–443.
- Muchtar, S., Hartono, P. G., & Sari, W. R. (2020). The Quality of Corporate Governance and Its Effect on Sharia Bank Financial Performance in Indonesia. *International Conference on Management, Accounting, and Economy (ICMAE 2020)*, 151(Advances in Economics, Business and Management Research), 192–196. <https://doi.org/10.2991/iac-17.2018.49>
- Ofori-Sasu, D., Abor, J. Y., & Osei, A. K. (2017). Dividend Policy and Shareholders' Value: Evidence from Listed Companies in Ghana. *African Development Review*, 29(2), 293–304. <https://doi.org/10.1111/1467-8268.12257>
- Parsian, H., & Koloukhi, A. S. (2014). A study on the effect of free cash flow and profitability current ratio on dividend payout ratio: Evidence from Tehran Stock Exchange. *Management Science Letters*, 4, 63–70. <https://doi.org/10.5267/j.msl.2013.11.033>
- Patra, T., Poshakwale, S., & Ow-Yong, K. (2012). Determinants of corporate dividend policy in Greece. *Applied Financial Economics*, 22(13), 1079–1087. <https://doi.org/10.1080/09603107.2011.639734>
- Pratiwi, M. W., & Dewi, R. C. (2012). Pengaruh Ukuran Perusahaan terhadap Reaksi Pasar yang Dimoderasi Investment Opportunity Set. *Media Ekonomi Dan Manajemen*, 25(1), 58–71. <https://doi.org/10.24856/mem.v25i1.187>
- Pujiastuti, T. (2008). Agency Cost Terhadap Kebijakan Dividen Pada Perusahaan Manufaktur Dan Jasa Yang Go Public Di Indonesia. *Jurnal Keuangan Dan Perbankan*, 12(2), 183–197. <http://jurnal.unmer.ac.id/index.php/jkdp/article/download/884/530>
- Puspitowati, K. S., & Iskandar, D. D. (2020). Determinants of Structural Transformation in ASEAN. *Media Ekonomi Dan Manajemen*, 35(2), 137. <https://doi.org/10.24856/mem.v35i2.1396>
- Ranjee, R., Pathak, R., & Saxena, A. (2018). To pay or not to pay: what matters the most for dividend payments? *International Journal of Managerial Finance*, 14(2), 230–244. <https://doi.org/10.1108/IJMF-07-2017-0144>
- Rehman, A., & Takumi, H. (2012). Determinants of Dividend Payout Ratio: Evidence from Karachi Stock Exchange (KSE). *Journal of Contemporary Issues in Business Research*, 1(1), 20–27. <https://jcibr.webs.com/Archives/Volume 10012/N 1 Oct/V-1-N-1-102012JCIBR002.pdf>
- Rizqia, D. A., Aisjah, S., & Sumiati. (2013). Effect of Managerial Ownership, Financial Leverage, Profitability, Firm Size, and Investment Opportunity on Dividend Policy and Firm Value. *Research Journal of Finance and Accounting*, 4(11), 120–130. <https://iiste.org/Journals/index.php/RJFA/article/view/7168/7599>

- Sari, W. R. (2017). Dividend Policy of Indonesian State-Owned Enterprises. *Telaah Bisnis*, 18(1), 33–44. <http://journal.stimykpn.ac.id/index.php/tb/article/download/92/50>
- Sari, W. R., & Leon, F. M. (2020). The influence of investment-cash flow sensitivity and financially constrained on investment. *Jurnal Keuangan Dan Perbankan*, 24(1). <https://doi.org/10.26905/jkdp.v24i1.3475>
- Sekaran, U., & Bougie, R. (2016). *Reserach Methods for Bussiness A Skill-Bulding Approach* (7th ed.). John Wiley & Sons.
- Sharma, R. K., & Bakshi, A. (2019). An evident prescience of determinants of dividend policy of Indian real estate companies: An empirical analysis using co-integration regression and generalised method of moments. *Journal of Financial Management of Property and Construction*, 24(3), 358–384. <https://doi.org/10.1108/JFMPC-02-2019-0012>
- Singla, H. K., & Samanta, P. K. (2018). Determinants of dividend payout of construction companies: a panel data analysis. *Journal of Financial Management of Property and Construction*, 24(1), 19 – 38. <https://doi.org/10.1108/JFMPC-06-2018-0030>
- Surasmi, I. A., Widari, D. A. P. N., Warmana, G. O., & Widnyana, I. W. (2019). The Impact of Business Risk on Dividend Policy in Manufacturing Companies Listed on Indonesia Stock Exchange. *Academy of Social Science Journals*, 4(11), 1488–1493. <http://assj.info/index.php/assj/article/view/2531>
- Tahir, M., & Mushtaq, M. (2016). Determinants of Dividend Payout: Evidence from listed Oil and Gas Companies of Pakistan. *The Journal of Asian Finance, Economics and Business*, 3(4), 25–37. <https://doi.org/10.13106/jafeb.2016.vol3.no4.25>
- Thakur, B. P. S., & Kannadhasan, M. (2018). Determinants of dividend payout of Indian manufacturing companies: A quantile regression approach. *Journal of Indian Business Research*, 10(4), 364–376. <https://doi.org/10.1108/JIBR-02-2018-0079>
- Tinungki, G. M. (2019). Orthogonal iteration process of determining K value on estimator of Jackknife ridge regression parameter. *Journal of Physics: Conference Series*, 1341(9). <https://doi.org/10.1088/1742-6596/1341/9/092001>
- Wahjudi, E. (2020). Factors affecting dividend policy in manufacturing companies in Indonesia Stock Exchange. *Journal of Management Development*, 39(1), 4–17. <https://doi.org/10.1108/JMD-07-2018-0211>
- Yusof, Y., & Ismail, S. (2016). Determinants of dividend policy of public listed companies in Malaysia. *Review of International Business and Strategy*, 26(1), 88–99. <https://doi.org/10.1108/RIBS-02-2014-0030>
- Zutter, C. J., & Smart, S. B. (2019). *Principles of Managerial Finance* (15th ed.). Pearson.