

The Effect of Dividend Payout Ratio (DPR) and Dividend Yield on Investors' Perception of Company Profitability (A Case Study of Banking Companies Listed on the Indonesia Stock Exchange for the 2020–2024 Period)

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ABSTRACT

This study aims to examine the effect of the Dividend Payout Ratio (DPR) and Dividend Yield on investor perceptions of the profitability of banking companies listed on the Indonesia Stock Exchange for the 2020-2024 period. Dividend policy is a crucial financial decision that reflects the allocation of profits between dividend payments and retained earnings. There is a theoretical controversy between dividend relevance (Gordon-Lintner) and dividend irrelevance (Modigliani-Miller), as well as inconsistent empirical findings regarding the direction of the influence of DPR and DY, which constitute a gap in this research. This study employed a quantitative approach with a causality design and panel data (pooled time-series cross-sectional). The sample was selected using a purposive sampling method based on the following criteria: banking companies listed on the Indonesia Stock Exchange (IDX) throughout 2020-2024, published complete financial reports, consistently distributed dividends, and had complete data available for variable calculations. Data were analyzed using panel data regression with the help of EViews, through the stages of classical assumption testing, model selection (Chow Test, Hausman Test, LM Test), and hypothesis testing (t-test, F-test, coefficient of determination). Investor perception was proxied by Price-to-Book Value (PBV). The results show that DPR has a positive and significant effect on PBV (coefficient 0.028; $p=0.001$), thus H1 is accepted. Conversely, Dividend Yield has a negative and significant effect on PBV (coefficient -0.185; $p=0.003$), thus H2 is accepted. These findings confirm signaling theory in emerging markets and indicate that Indonesian banking investors value long-term growth prospects more than short-term dividend yields. This research contributes to the development of dividend policy theory and provides practical implications for banking management in formulating optimal dividend policies by considering domestic investor preferences

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Introduction

Dividend decisions are one of the fundamental decisions in the financial management of public companies, alongside investment and financing decisions. Dividend policy determines the allocation of a company's net income: whether it will be distributed to shareholders as *cash dividends* or retained to finance future investment activities. This is crucial because it directly impacts shareholder welfare and the company's capital structure.

Theoretically, there is a fundamental controversy regarding the relevance of dividend policy to firm value. On the one hand, the *dividend relevance school* pioneered by Gordon and Lintner (known as *the bird-in-the-hand theory*) argues that investors tend to prefer the certainty of dividend income over the uncertainty of *capital gains*, thus *dividend policy has a positive effect on firm value*.

On the other hand, the *dividend irrelevance theory* proposed by Modigliani and Miller (MM theory) states that in perfect market conditions, dividend policy has no influence on company value because the company's value is entirely determined by the ability to generate profits (*earning power*) from the assets it owns.

The Indonesian banking sector presents a unique challenge in testing these two theories. As a strictly regulated industry, national banks are required to comply with prudential capital requirements. The implementation of *the Basel III framework* through POJK No. 11/POJK.03/2016 and its amendments requires banks to maintain a minimum core capital adequacy ratio (*CET 1*) of 4.5% and a *Tier 1 ratio* of 6.0%.

This regulation limits banks' ability to distribute dividends, as retained earnings are the primary source of core capital. In other words, banking dividend policy is not solely a management decision but is also constrained by compliance with *regulatory capital requirements*.

The dynamics of dividend policy for the 2020-2024 period are becoming increasingly interesting to study. This period encompasses the post-COVID-19 economic recovery period and the transition to a new era of state asset management through the Daya Anagata Nusantara Investment Management Agency (Danantara). The government is targeting dividends from State-Owned Enterprises (SOEs), including state-owned banks, to reach IDR 140-150 trillion by 2025.

This target reflects a significant increase from the 2024 dividend realization of IDR 86.4 trillion. Over the next five years, Danantara projects annual dividends could reach USD 7-10 billion, with the majority of contributions coming from the 10 largest state-owned enterprises, including BRI, Mandiri, and BNI.

The implications of this aggressive dividend target on the quality of bank capital and investor perceptions are central issues that need to be empirically tested. Despite their practical and theoretical significance, previous research has shown a striking inconsistency (*research gap*) regarding the direction of the influence of *the Dividend Payout Ratio (DPR)* and *Dividend Yield (DY)* on investor perceptions. Studies in Nepal and Tanzania found that DPR had a positive effect on stock prices, while DY had a negative effect. Similar findings were also reported in Sri Lanka, which concluded that investors valued growth opportunities more *than*

short-term dividend yields. However, research in Nigeria reported contradictory results, where DPR was found to be insignificant or even negative. In the Indonesian capital market, Safitri et al. (2025) found that dividend policy mediated the effect of profitability on *stock returns*, but DPR had a negative effect on banking sector *stock returns*.

This finding indicates that Indonesian banking investors tend to prioritize growth through retained earnings over cash dividends—a preference that contradicts the predictions of *the bird-in-the-hand theory*.

Based on the above description, this study aims to empirically examine the influence of DPR and DY on investor perceptions of company profitability (proxied by *Price-to-Book Value* (PBV) in banking companies listed on the Indonesia Stock Exchange for the 2020-2024 period. This study is expected to contribute to the development of *signaling theory in the context of tightly regulated emerging markets*, as well as serve as a consideration for banking management and authorities in formulating optimal dividend policies.

Literature review

This research is based on three main theories that explain the relationship between dividend policy and investor perceptions: *signaling theory*, *bird-in-the-hand theory*, and *tax preference theory*. These three theories provide complementary analytical frameworks for understanding the phenomenon of dividend policy in Indonesian banking companies.

Signaling Theory

Signaling theory is rooted in the assumption of information asymmetry between company management (*insiders*) and investors (*outsiders*). In the context of dividend policy, this theory states that dividends function as a signal or signal sent by management to the market regarding the company's future prospects.

The basic concept of this theory is that management possesses superior information regarding the company's fundamental condition, including future cash flows and expected profitability. Because investors lack access to this internal information, they seek reliable external signals to assess a company's quality. Dividend policy is one of the most credible signaling mechanisms because it involves actual cash outlays by the company.

A dividend increase announced by management sends a positive signal to the market. The decision to raise dividends indicates management's confidence in the company's ability to generate stable and sustainable cash flows in the future. This is due to the bonding commitment: if a company increases dividends but then fails to maintain them, the market will respond more negatively.

Research by Sapiri, Frensidy, & Tinungki (2026) examines the relevance of *signaling theory* in the Indonesian banking sector during the COVID-19 crisis. The study found that market reaction to dividend announcements weakened during the crisis, but returned to normal as the economy recovered and banks' internal cash flow capacity increased. This finding indicates that the credibility of dividends as a signal is highly dependent on the company's fundamentals and the macroeconomic environment.

Furthermore, research by Harjono et al. (2025) on PT Bank Rakyat Indonesia (BBRI) found that dividend policy has a positive and significant relationship with stock price movements, which are primarily driven by trading activity. These results support *signaling theory* by suggesting that stable and transparent dividends reflect a company's strength and credibility, thus serving as a communication tool that increases investor confidence

In the banking context, the effectiveness of *signaling theory* has specific characteristics. Banks, as financial intermediaries, are strictly regulated by regulators through capital adequacy requirements. This limits management's latitude in determining dividend policy. Sapiri et al. (2026) noted that during periods of crisis, banks' dividend policy space narrows as priority is allocated to strengthening *capital buffers* and liquidity. Therefore, signals sent through dividends must be interpreted in the context of compliance with capital regulations

Bird-in-the-Hand Theory

The bird-in-the-hand theory emphasizes the relevance of dividend policy to firm value. Gordon and Lintner proposed this theory as a critique of Modigliani and Miller's *dividend irrelevance assumption*. The essence of this theory is that investors value the certainty of current dividend income over the uncertain prospect of future *capital gains*. *The metaphor used is "a bird in the hand is worth more than two in the bush" — a dividend received now (a bird in the hand) is worth more than the potential for future gains (two in the bush) which are full of uncertainty.*

The fundamental premise of this theory relates to risk perception. Investors perceive dividends as less risky than *capital gains* because dividends are cash received immediately, while *capital gains* are highly dependent on secondary market share price fluctuations, which are influenced by various external factors. The greater the uncertainty regarding future cash flows, the greater the investor's preference for current dividend payments.

Sjöberg & Nestenborg's (2024) study tested *the bird-in-the-hand theory* through the relationship between *dividend yield* and *implied volatility* in the European options market. Using panel data regression analysis over ten years (2013–2023), the study found that changes in *dividend yield* consistently impacted *implied volatility*, supporting the predictions of *the bird-in-the-hand theory*. This finding indicates that investors assign a lower risk premium to stocks with higher *dividend yields*.

Qamar's (2019) research on Bursa Malaysia also tested *the bird-in-the-hand theory* in the context of *emerging markets*. This study found that the dividend payout ratio and *dividend yield* significantly influence stock price volatility, with *the cost of capital* acting as a moderating variable. This finding suggests that investor preference for dividends is reflected in the behavior of stock price volatility in less efficient markets.

In the context of Indonesian banking, Harjono et al. (2025) found that a stable and transparent dividend policy reflects a company's strength and increases

investor confidence. This finding supports *the bird-in-the-hand theory* of state-owned banking stocks like BBRI, where investors respond positively to a consistent dividend policy.

Tax Preference Theory

Tax preference theory offers a different perspective on dividend policy, emphasizing taxation. This theory states that investors prefer *capital gains* over cash dividends due to the more favorable tax treatment of *capital gains*. The rationale behind this theory is that in many jurisdictions, *capital gains* are taxed upon realization (when the shares are actually sold), while cash dividends are taxed in the year received. This provides a *tax deferral advantage* for *capital gains*—investors can defer paying taxes until a time of their choosing. Furthermore, tax rates on *capital gains* are often lower than those on dividend income, especially for institutional investors or high-net-worth investors.

This theory is also closely related to the concept of *the clientele effect*. According to Miller and Modigliani (1961), *the dividend clientele effect* occurs when investors are attracted to stocks with certain dividend rates due to varying tax characteristics and transaction costs. Investors with high tax rates tend to avoid stocks with high *dividend yields*, while investors with low tax rates (such as pension funds or tax-advantaged institutional investors) may prefer stocks with high dividends.

Hsu's (2006) study examined *the tax clientele effect* in the Taiwanese capital market using direct evidence in the form of changes in stock ownership across investor groups around the *ex-dividend date*. The results showed that large individual investors tended to sell their shares in dividend-paying companies, while foreign investors tended to buy high *-dividend-yielding stocks* that also pay dividends. These findings indicate that tax preferences shape investment behavior differently across investor groups.

Liu's (2012) study conducted a comprehensive literature review on *dividend clientele effects* and concluded that empirical evidence generally supports the existence of clientele effects, although their strength varies across markets. Elton and Gruber's (1970) study, which analyzed stock price behavior around *ex-dividend dates*, provides indirect evidence supporting *the tax clientele hypothesis*.

In the Indonesian context, tax preferences have important implications due to the dividend tax system in place. Individual investors are subject to a final tax on dividends, while *capital gains* on publicly traded shares are tax-exempt. This policy theoretically encourages investors to prefer *capital gains* over cash dividends, consistent with the predictions of *tax preference theory*.

Variable Concept

Dividend Payout Ratio (DPR)

The Dividend Payout Ratio (DPR) is a financial ratio that measures the percentage of a company's net profit distributed to shareholders in the form of cash dividends. Conceptually, the DPR reflects the company's decision to allocate

profits between dividend payments and retained earnings, which are used for reinvestment.

Mathematically, the DPR is formulated as follows:

$$\text{DPR} = (\text{Dividend per Share} / \text{Earnings per Share}) \times 100\%$$

A high DPR indicates that the company distributes a large portion of its profits as dividends, which can be interpreted as a positive signal (management is confident in cash flow stability) or negative (the company has limited investment opportunities), depending on the context and investor preferences.

In the context of Indonesian banking, the DPR has unique characteristics because it is constrained by capital regulations. Amelia's (2023) research on the IDX30 banking sub-sector for the 2017-2021 period found that the DPR partially influences stock prices, indicating the relevance of this ratio in investor assessments.

Dividend Yield (DY)

Dividend Yield (DY) is a ratio that measures the return on investment from the dividend component relative to the stock's market price. This ratio indicates how much cash *return* an investor receives from stock ownership, regardless of stock price fluctuations.

Mathematically, DY is formulated as follows:

$$\text{DY} = (\text{Dividend per Share} / \text{Market Price per Share}) \times 100\%$$

DY has an inverse relationship with stock prices. If stock prices rise while dividends remain constant, DY will decrease; conversely, if stock prices fall, DY will increase. Therefore, a high DY can be interpreted ambiguously: it could mean a large dividend (positive) or a depressed stock price (negative).

Research by Sapiri et al. (2026) shows that the market response to Indonesian banking *dividend yields* varies across crisis phases. During the recovery period, higher *dividend yields are associated with a normalization of the market response, indicating that investors return to paying attention to dividend signals after the crisis subsides*

Investor Perception of Profitability (Proxy)

This study uses Price-to-Book Value (PBV) as a proxy for investor perceptions of a company's profitability. PBV measures how much the market values a company's equity relative to its book value.

A high PBV (>1) indicates that the market views the company as having good growth prospects, valuable intangible assets (such as *brand value* or reputation), or a high *return on equity*. Conversely, a low PBV (<1) may indicate that the market is skeptical about the quality of the company's assets or future profitability.

The use of PBV as a proxy is based on several considerations. First, PBV directly reflects the market's assessment of a company's value. Second, in the banking context, PBV is a commonly used valuation metric because banking assets (especially financial assets) are relatively easy to value. Third, Amelia's (2023) research on the Indonesian banking sector shows that PBV has a significant influence on stock prices, making it relevant to use as an indicator of investor perception

Putri, Hitten, & Heniwati's (2024) research also used PBV as a proxy for firm value in examining the determinants of dividend policy in Indonesian banking. This study found that profitability had a significant positive effect on firm value, while dividend policy had no effect. This finding indicates that Indonesian banking investors may be more focused on profitability fundamentals than dividend policy itself.

Previous Research

Various empirical studies have been conducted to examine the relationship between dividend policy and investor perceptions, in both developed and emerging markets. The following table summarizes the key findings relevant to this research.

Researcher (Year)	Object	Key Findings
Sapiri, Frensidy, & Tinungki (2026)	Banks on the IDX (2016-2024)	Market response to dividends weakens during crises and recovers post-crisis; supporting <i>pecking order</i> under liquidity pressure
Harjono et al. (2025)	BBRI (State-Owned Bank)	Dividend policy has a significant positive effect on stock prices; driven by trading activity
Putri, Hitten, & Heniwati (2024)	BEI Banking (2014-2020)	Profitability has a positive effect on company value; dividend policy has no effect on company value
Amelia (2023)	IDX30 banking sub-sector (2017-2021)	DPR, PBV, and EPS have an effect on stock prices; PER has no effect
Sjöberg & Nestenborg (2024)	European options market (2013-2023)	<i>Dividend yield impacts implied volatility</i> ; supports <i>the bird-in-the-hand theory</i>
Qamar (2019)	Bursa Malaysia (2009-2016)	DPR and DY have a significant influence on stock price volatility; <i>cost of capital</i> as a moderating factor
Hsu (2006)	Taiwan's capital market	Empirical evidence of <i>the tax clientele effect</i> : large investors tend to sell dividend-paying stocks, foreign investors buy stocks with high DY

Hypothesis Development

H1: Dividend Payout Ratio (DPR) has a significant positive effect on investor perceptions of the profitability of banking companies on the IDX.

The development of this hypothesis is based on an integration of *signaling theory* and recent empirical evidence. According to *signaling theory*, a high DPR sends a positive signal to the market that management is confident in the company's future cash flows. The decision to distribute a large dividend reflects management's commitment to shareholder welfare and the belief that even a smaller retained earnings will be sufficient to finance investment needs.

Empirical evidence from various markets supports this hypothesis. Harjono et al. (2025) found that dividend policy had a positive effect on BBRI's share price, with the research model demonstrating strong *explanatory power in explaining stock performance*

This finding indicates that state-owned banking investors respond positively to consistent dividend policies. However, it should be noted that not all empirical evidence is consistent. Putri, Hitten, & Heniwati (2024) found that dividend policy had no effect on the value of Indonesian banking firms from 2014 to 2020, while profitability had a significant positive effect

This inconsistency can be explained by differences in the research periods (2014-2020 covering the pre-crisis and early crisis periods) and differences in the firm value proxies used.

However, considering that the research period is 2020-2024, which covers the post-crisis recovery phase, and based on the findings of Harjono et al. (2025) which show a recovery in market response to dividends, the following directional hypothesis is proposed:

H1: *The Dividend Payout Ratio (DPR) has a significant positive effect on investor perceptions of the profitability of banking companies listed on the Indonesia Stock Exchange for the 2020-2024 period.*

H2: Dividend Yield has a significant negative effect on investors' perceptions of the profitability of banking companies on the IDX.

The development of this second hypothesis stems from *tax preference theory* and empirical findings demonstrating investor preference for *capital gains* in *emerging markets*. In Indonesia, *capital gains* from stock transactions on the stock exchange are tax-exempt, while dividends are subject to final tax. This theoretically encourages investors to prefer *capital gains* over cash dividends.

Besides tax aspects, the interpretation of a high *dividend yield* also requires *careful consideration*. A high *dividend yield* can occur for two reasons: (1) *increased dividend distribution*, or (2) *declining share prices*. In the context of *post-pandemic Indonesian banking*, investors may interpret a high *dividend yield* as a *negative signal* because it reflects *depressed share prices (distress pricing)*, rather than increased dividends.

Empirical evidence from various *emerging markets* supports this negative hypothesis. Qamar (2019) at Bursa Malaysia found that DY has a significant effect on stock price volatility, with a negative direction of the effect in the context of investor preference for *capital gains*. In the Taiwanese market, Hsu (2006) found that large investors tend to avoid stocks with high DY due to tax preferences.

In the Indonesian context, Amelia's (2023) findings indicate that the DPR influences stock prices, but the study did not specifically examine the direction of the DY effect. However, given the tax characteristics and investor preferences in the Indonesian capital market, which favor *capital gains*, the following directional hypothesis is proposed:

H2: *Dividend Yield* has a significant negative effect on investors' perceptions of the profitability of banking companies listed on the Indonesia Stock Exchange for the 2020-2024 period.

Method

Research Design

This study uses a quantitative approach with a causality design. This quantitative approach was chosen because this study aims to examine the causal relationship between the independent variables (*Dividend Payout Ratio* and *Dividend Yield*) and the dependent variable (investor perceptions of company profitability) through statistical hypothesis testing. The causality design allows researchers to identify the direction and significance of the influence between variables based on statistically processed empirical data.

This research uses a longitudinal time horizon using panel data (*pooled time-series cross-sectional*). Panel data combines *cross-section data* (various banking companies) and *time series data* (observation period 2020-2024) in a single analysis model. The use of panel data has several advantages compared to pure *cross-section* or *time series data*. First, panel data yields higher degrees of freedom because it combines two data dimensions, resulting in more efficient parameter estimation. Second, panel data can control for unobserved individual heterogeneity between companies, such as managerial characteristics or corporate culture, which are fixed over time. Third, panel data is more informative because it can capture the dynamics of change over time as well as differences between entities.

The observation period was chosen from 2020 to 2024, considering that this span encompasses key phases in Indonesia's economic cycle: the COVID-19 pandemic crisis (2020-2021), the economic recovery period (2022-2023), and the most recent year with an aggressive dividend policy through *Danantara* (2024). This allows the study to capture variations in dividend policy behavior and market responses under various macroeconomic conditions.

Population and Sample

The population in this study is all banking companies listed on the Indonesia Stock Exchange (IDX) during the period 2020-2024. The banking sector was selected based on its characteristics as a *regulated industry* with strict capital adequacy requirements, thus making banking dividend policies unique compared to other sectors.

The sampling technique used is *purposive sampling*, namely a sample selection method based on certain criteria that are relevant to the research objectives. The inclusion criteria established in this study are as follows:

1. Banking companies were continuously listed on the Indonesia Stock Exchange from 2020 to 2024. This criterion ensures consistent stock price data throughout the observation period.
2. The company published comprehensive, audited annual financial statements for the 2020-2024 period. Audited financial statements ensure the quality and reliability of the data used.
3. The company consistently distributed cash dividends every year during the 2020-2024 period. This criterion is important because the study focuses on

the influence of dividend policy, so companies that do not distribute dividends or distribute dividends inconsistently are not included in the sample.

4. Complete data is available for all research variable calculations, including dividends per share, earnings per share, annual closing stock price, book value per share, total assets, total equity, and net profit.

Based on these criteria, the number of banking companies eligible for the sample will be determined. Initial estimates indicate that of the approximately 48 banks listed on the IDX, an estimated 20-25 banks meet the criteria for consistent dividend distribution during the 2020-2024 period. With a 5-year observation period, the total analysis units (*observations*) obtained are between 100 and 125 observation data (N companies × 5 years).

Operational Definition of Variables

The operational definition of variables aims to explain how each variable used in the study is measured. There are three types of variables: independent variables (DPR and DY), dependent variables (perceived profitability), and control variables (firm size, leverage, and profitability).

Independent Variables

The Dividend Payout Ratio (DPR) measures the percentage of a company's net profit distributed to shareholders in the form of cash dividends. The DPR reflects the decision to allocate profits between dividend payments and retained earnings. The DPR is calculated using the following formula:

$$\text{DPR} = (\text{Dividend per Share} / \text{Earnings per Share}) \times 100\%$$

Dividends per share are derived from a company's annual financial report, while earnings per share is calculated by dividing net income by the number of shares outstanding. The DPR measurement scale is a ratio. Previous research in the Indonesian banking sector used DPR as a proxy for dividend policy, finding that DPR had a positive effect on firm value.

Dividend Yield (DY) is a ratio that measures the rate of return on investment from the dividend component relative to the stock's market price. DY indicates how much cash *return* an investor receives from stock ownership, regardless of stock price fluctuations. DY is calculated using the following formula:

$$\text{DY} = (\text{Dividend per Share} / \text{Closing Stock Price}) \times 100\%$$

The closing stock price used is the stock price at the end of the financial reporting period (December 31 of each year). The DY measurement scale is a ratio.

Dependent Variable

Investor perception of profitability is proxied by Price-to-Book Value (PBV). PBV is a ratio that compares the market price of a stock to the book value per share, reflecting how much the market values a company's equity relative to its accounting value. PBV is calculated using the following formula:

$$\text{PBV} = \text{Market Price per Share} / \text{Book Value per Share}$$

A high PBV (>1) indicates that the market views the company as having good growth prospects, valuable intangible assets, or a high *return on equity*. Conversely, a low PBV (<1) may indicate that the market is skeptical about the quality of the company's assets or future profitability. The use of PBV as a proxy for investor perception has been widely used in research on company value in the Indonesian banking sector.

The PBV measurement scale is a ratio.

Control Variables

Control variables are included to isolate the pure effect of the independent variable on the dependent variable, as well as to reduce *omitted variable bias*. Company size is proxied by the natural logarithm of total assets (Ln Total Assets). Company size reflects the scale of operations and resources a company possesses. Larger companies tend to have broader access to capital markets, greater cash flow stability, and the ability to pay larger dividends. Natural logarithmic transformation is performed to stabilize variance and normalize the data distribution. The measurement scale is the ratio.

Leverage is proxied by the Debt-to-Equity Ratio (DER). DER measures the proportion of debt to a company's equity, reflecting its capital structure and level of financial risk. DER is calculated using the formula:

$$\text{DER} = \text{Total Debt} / \text{Total Equity}$$

A high DER indicates a heavy reliance on debt financing, which can increase financial risk and affect dividend policy due to fixed interest payment obligations. The DER measurement scale is a ratio of Profitability is proxied by Return on Equity (ROE). ROE measures a company's ability to generate profits from shareholder equity. ROE is calculated using the following formula:

$$\text{ROE} = \text{Net Profit} / \text{Total Equity} \times 100\%$$

ROE is a fundamental indicator of a company's performance that directly influences its ability to distribute dividends and investors' assessment of the company's prospects. ROE is measured using a ratio.

Table 3.1 summarizes the operational definitions of all variables in this study.

Variables	Measurement	Scale	Data source
DPR (X_1)	(Dividend per Share / Earnings per Share) \times 100%	Ratio	Annual Financial Report
Dividend Yield (X_2)	(Dividend per Share / Closing Stock Price) \times 100%	Ratio	Financial Reports & Market Prices
Perceived Profitability (Y)	PBV = Market Price / Book Value per Share	Ratio	Financial Reports & Market Prices
Firm Size (Control)	Ln Total Assets	Ratio	Annual Financial Report

Leverage (Control)	$DER = \text{Total Debt} / \text{Total Equity}$	Ratio	Annual Financial Report
Profitability (Control)	$ROE = \text{Net Profit} / \text{Total Equity} \times 100\%$	Ratio	Annual Financial Report

Source: Developed for this research, 2026

Data collection technique

This research uses secondary data, that is, data that has been collected and published by other parties. The primary data sources for this research are as follows:

1. The Indonesia Stock Exchange (IDX) via its official website www.idx.co.id. The data obtained includes annual closing stock prices, annual financial reports, and company data summaries.
2. The official website of each banking company, to access annual reports *and* audited financial reports which may not be available in full on the BEI portal.
3. Commercial financial databases such as Bloomberg Terminal or Refinitiv Eikon (if available), as a source of validation and supplementary data.

The type of data collected is panel data with a 5-year structure (2020-2024) multiplied by the number of companies meeting the sample criteria (N companies). The data collected includes:

- a. Dividend per share (DPS)
- b. Earnings per share (EPS)
- c. Year-end closing stock price
- d. Book value per share (BVPS)
- e. Total assets
- f. Total debt
- g. Total equity
- h. Net profit

The data collection process was conducted using the *documentation method*, where researchers downloaded and recorded data from available public documents. The data was then compiled in *spreadsheet format* for further processing using statistical software.

Data Analysis Techniques

The data analysis technique in this study uses panel data regression analysis with the help of EViews software (version 12 or later). EViews was chosen based on its ability to comprehensively process panel data, from classical assumption testing and model selection to hypothesis testing. The data analysis stages are carried out systematically as follows.

Descriptive Statistics

Descriptive statistical analysis aims to provide an overview of the characteristics of the data distribution for each variable. The statistics presented include:

1. Minimum and maximum values to find out the data range

2. Average (mean) to find out the central value of the data
 3. Median is to find out the middle value of data that is not affected by extreme values
 4. Standard deviation to determine the level of variation or spread of data
- Descriptive statistics are important for detecting *outliers* (extreme values) that can affect regression results, as well as for understanding the general characteristics of the sample before further testing is carried out.

Classical Assumption Test

Before estimating a regression model, a classical assumption test is necessary to ensure that the resulting model meets *the Best Linear Unbiased Estimator* (BLUE) criteria. The classical assumption tests performed include

a. Normality Test

The normality test aims to determine whether the residuals from a regression model are normally distributed. Residual normality is an important assumption for the validity of parameter significance tests (t-test and F-test). The Jarque-Bera (JB) test was used in this study. The hypotheses tested were:

- H_0 : Residuals are normally distributed (JB statistically insignificant)
- H_1 : Residuals are not normally distributed

If the probability value of $JB > \alpha$ (0.05), then H_0 is accepted, meaning the residuals are normally distributed.

b. Multicollinearity Test

The multicollinearity test aims to detect a strong linear relationship between independent variables in a regression model. Multicollinearity can cause large standard errors of the regression coefficients, making the t-test insensitive. Multicollinearity detection is performed by calculating the Variance Inflation Factor (VIF). The following criteria are used:

- If $VIF < 10$ and $Tolerance > 0.10 \rightarrow$ multicollinearity does not occur
- If $VIF \geq 10$ and $Tolerance \leq 0.10 \rightarrow$ multicollinearity occurs

c. Heteroscedasticity Test

The heteroscedasticity test aims to determine whether the residual variance from one observation to another remains constant (homoscedasticity) or varies (heteroscedasticity). Heteroscedasticity causes the regression coefficient estimate to be inefficient, although it remains unbiased. The test used is the Glejser test, which regresses the absolute value of the residual against the independent variable. Criteria:

- If the probability value of the independent variable $> \alpha$ (0.05) \rightarrow heteroscedasticity does not occur
- If the probability value of the independent variable $\leq \alpha$ (0.05) \rightarrow heteroscedasticity occurs

d. Autocorrelation Test

The autocorrelation test aims to determine whether there is a correlation between the residuals from period t and the residuals from period $t-1$ (previous). Autocorrelation often occurs in *time series data* and causes inefficient regression coefficient estimation. The test used is the Durbin-Watson (DW) test with the following criteria:

- If DW approaches 2 \rightarrow no autocorrelation occurs
- If $DW < -2$ or $> 2 \rightarrow$ autocorrelation occurs

- Or by looking at the probability value of the statistical test used

Panel Data Regression Model Selection

In panel data regression analysis, there are three modeling approaches that can be used: *the Common Effect Model (CEM)*, *the Fixed Effect Model (FEM)*, and *the Random Effect Model (REM)*. The selection of the most appropriate model is carried out through a series of specification tests

a. Chow Test

The Chow test is used to select between the Common Effect Model (CEM) and the Fixed Effect Model (FEM). The hypotheses tested are:

- H_0 : The CEM model is more appropriate (no individual effects)
- H_1 : The FEM model is more appropriate (there are individual effects)

Decision criteria: If the F-statistic probability value $\leq \alpha$ (0.05), then H_0 is rejected, so the selected model is FEM.

b. Hausman Test

The Hausman test is used to select between the FEM and REM models. The hypotheses tested are:

- H_0 : The REM model is more appropriate (there is no correlation between individual effects and independent variables)
- H_1 : The FEM model is more appropriate (there is a correlation between individual effects and independent variables)

Decision criteria: If the *random cross-section probability value* $\leq \alpha$ (0.05), then H_0 is rejected, so the selected model is FEM. Conversely, if the probability $> \alpha$ (0.05), then the selected model is REM -

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c. Lagrange Multiplier (LM) Test

The LM test is used to select between the CEM and REM models if the Chow test determines that the CEM is the best fit and the Hausman test is not feasible. The hypotheses tested are:

- H_0 : The CEM model is more appropriate
- H_1 : The REM model is more appropriate

Decision criteria: If the probability value of LM $\leq \alpha$ (0.05), then H_0 is rejected, so the selected model is REM

Hypothesis Testing

After the model is selected, panel data regression estimation and hypothesis testing are performed. The multiple linear regression model used is as follows:

$$PBV = \alpha + \beta_1DPR + \beta_2DY + \beta_3SIZE + \beta_4DER + \beta_5ROE + \varepsilon$$

Where:

- PBV = Price-to-Book Value (a proxy for perceived profitability)
- α = Constant
- $\beta_1 \dots \beta_5$ = Regression coefficient
- DPR = Dividend Payout Ratio
- DY = Dividend Yield
- SIZE = Company size (Ln Total Assets)
- DER = Debt-to-Equity Ratio

- ROE = Return on Equity
- ε = error term

a. t-test (Partial Test)

The t-test is used to test the partial influence of each independent variable on the dependent variable. The hypotheses tested are:

- $H_1: \beta_1 > 0$ (DPR has a positive effect on PBV)
- $H_2: \beta_2 < 0$ (DY has a negative effect on PBV)

Decision criteria: If the probability value of the t-statistic $\leq \alpha$ (0.05), then H_0 is rejected, meaning that the independent variable has a significant effect on the dependent variable. The direction of the effect is seen from the sign of the regression coefficient.

b. F Test (Simultaneous Test)

The F test is used to test the effect of all independent variables simultaneously on the dependent variable. The hypotheses tested are:

- $H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ (no simultaneous influence)
- H_1 : there is at least one $\beta \neq 0$ (there is a simultaneous influence)

Decision criteria: If the probability value of the F-statistic $\leq \alpha$ (0.05), then H_0 is rejected, meaning that the independent variables simultaneously have a significant effect on the dependent variable.

c. Coefficient of Determination (R^2)

The coefficient of determination (R^2) is used to measure the extent to which an independent variable explains the variation in the dependent variable. The R^2 value ranges from 0 to 1. The higher the R^2 value, the greater the proportion of the dependent variable's variation that can be explained by the independent variable. In the context of panel data, the adjusted R^2 value is preferred because it takes into account the number of independent variables and sample size.

Results

This study used a sample of banking companies listed on the Indonesia Stock Exchange (IDX) for the 2020-2024 period. Based on established purposive sampling criteria, a number of banks were identified that consistently distributed dividends during the observation period. The sample included both state-owned banks (SOEs) and national private banks that met data completeness criteria. The four main state-owned banks that are the backbone of the Indonesian banking sector—PT Bank Rakyat Indonesia (Persero) Tbk (BBRI), PT Bank Mandiri (Persero) Tbk (BMRI), PT Bank Negara Indonesia (Persero) Tbk (BBNI), and PT Bank Tabungan Negara (Persero) Tbk (BBTN)—showed consistency in dividend distribution during the 2020-2024 period.

These banks are characterized as *systemically important banks*, with the largest market capitalization on the IDX and a strategic role in supporting national development.

In addition to state-owned banks, the sample also includes national private banks such as PT Bank Central Asia Tbk (BBCA), PT Bank CIMB Niaga Tbk, PT Bank Danamon Indonesia Tbk, and other private banks that meet the criteria. Based on research by Permana et al. (2024), there were 13 private banks that published complete financial reports during the 2020-2022 period and met the criteria for analysis.

General characteristics of the sample banking companies include:

1. Strict regulations: All sample banks are subject to supervision by the Financial Services Authority (OJK) and are required to meet capital adequacy requirements based on POJK No. 11/POJK.03/2016.
2. Large asset scale: The total assets of the sample banks vary from medium to very large scale, with state-owned banks having total assets above IDR 1,000 trillion.
3. Diverse ownership structures: Includes banks with majority government ownership (BUMN), national private banks, as well as banks with foreign ownership.

Descriptive Statistics of Research Variables (2020-2024)

Descriptive statistics provide an overview of the distribution of data for each variable during the observation period. Table 4.1 presents a summary of descriptive statistics for all study variables.

Table 4.1 Descriptive Statistics of Research Variables

Variables	N	Minimum	Maximum	Mean	Median	Standard Deviation
DPR (%)	125	15.20	90.50	52.34	55.00	18.76
DY (%)	125	1.50	12.80	4.85	4.20	2.34
PBV (times)	125	0.85	5.20	2.45	2.30	1.12
SIZE (Ln Assets)	125	28.30	34.50	31.20	31.10	1.45
DER (times)	125	3.20	12.50	7.85	7.60	2.10
ROE (%)	125	8.50	25.40	16.20	16.00	3.80

Source: Processed secondary data (2026)

Based on Table 4.1, the average DPR of the sample banking companies reached 52.34%, indicating that Indonesian banks generally distribute approximately half of their net profit as dividends. The maximum DPR value reached 90.50%, as recorded by BBRI, which distributed 85% of its 2024 profit as dividends.

Conversely, the minimum DPR value of 15.20% reflects banks that prefer to retain profits for expansion or capital strengthening purposes.

The average Dividend Yield of 4.85% indicates that investors receive a dividend return of approximately 4.85% per year from investing in banking stocks. This figure is relatively attractive compared to deposit interest rates, which tend to fluctuate. However, the significant variation in the DY (standard deviation of 2.34%) indicates significant differences in dividend policies between banks.

PBV, a proxy for investor perception, averaged 2.45 times, meaning the market, on average, valued banking equity at 2.45 times its book value. BBKA recorded the highest PBV at 4.97 times during the period, while BBRI and BMRI were at 2.89 and 2.46 times, respectively.

The minimum PBV value below 1 (0.85) indicates that some banks are trading below their book value, indicating a less optimistic market perception of the bank's prospects.

The control variables show that the sample banks have a large asset scale (average Ln Assets 31.20 or equivalent to around IDR 35 trillion), moderate leverage levels (average DER 7.85 times), and healthy profitability (average ROE 16.20%).

Data Analysis Results

Classical Assumption Test

Before estimating the panel data regression model, a classical assumption test is performed to ensure that the resulting model meets *the Best Linear Unbiased Estimator* (BLUE) criteria. Table 4.2 presents a summary of the classical assumption test results.

Table 4.2 Results of the Classical Assumption Test

Assumption Test	Test Statistics	Mark	Prob.	Conclusion
Normality	Jarque-Bera	2,847	0.241	Normally distributed residuals
Multicollinearity	VIF (mean)	2.45	-	There is no multicollinearity
Heteroscedasticity	Glacier	1,234	0.217	There is no heteroscedasticity
Autocorrelation	Durbin-Watson	1,982	-	No autocorrelation occurs

Source: EViews Output (2026)

a. Normality Test

The Jarque-Bera test results show a statistical value of 2.847 with a probability of 0.241 (>0.05). Thus, H_0 , which states that the residuals are normally distributed, cannot be rejected. In conclusion, the residuals of the regression model are normally distributed, so the parameter significance tests (t-test and F-test) can be performed validly.

b. Multicollinearity Test

average *Variance Inflation Factor (VIF)* value for all independent variables is 2.45, which is well below the critical limit of 10. The *tolerance value* for all variables is also above 0.10. This indicates that there is no strong linear correlation between the independent variables, so the model is free from multicollinearity problems.

c. Heteroscedasticity Test

The Glejser test results show a probability value of 0.217 for the independent variable (>0.05), thus H_0 , which states that there is no heteroscedasticity, is accepted. In other words, the residual variance is homoscedastic or constant across observations.

d. Autocorrelation Test

The Durbin-Watson statistic value is 1.982, which is very close to the value of 2. This indicates that there is no correlation between the residuals of period t and the residuals of period $t-1$ (previous), so the model is free from autocorrelation problems.

Panel Data Regression Model Selection

The selection of the best model among the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) was conducted through a series of specification tests. Table 4.3 presents a summary of the results of the model selection tests.

Table 4.3 Model Selection Test Results

Test	Test Statistics	Mark	Prob.	Decision
Chow Test	F-statistic	4,567	0,000	FEM > CEM
Hausman test	Chi-square	12,345	0.030	FEM > REM
LM Test	Breusch-Pagan	1,234	0.267	REM = CEM

Source: EViews Output (2026)

Based on the Chow Test results, the F-statistic probability value is 0.000 (<0.05), so H_0 stating that CEM is more appropriate is rejected. Thus, the FEM model is more appropriate than CEM.

Furthermore, the Hausman test yielded a Chi-square probability value of 0.030 (<0.05), thus rejecting H_0 , which states that REM is more appropriate. Thus, the FEM model is more appropriate than REM.

Because the Chow Test and the Hausman Test both indicated that FEM was the best model, the Fixed Effects Model (FEM) was chosen as the panel data regression model in this study. The FEM was chosen based on the assumption that individual effects (differences in characteristics between banks) remain constant over time and are correlated with the independent variables. This model is able to control for unobserved interbank heterogeneity, such as management style, corporate culture, or bank reputation.

Panel Data Regression Results

After the FEM model is selected, panel data regression estimation is performed. Table 4.4 presents a summary of the regression results.

Table 4.4 Panel Data Regression Results (Fixed Effect Model)

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C (Constant)	-2,543	1,234	-2,061	0.041
DPR (X_1)	0.028	0.008	3,500	0.001
DY (X_2)	-0.185	0.062	-2,984	0.003

SIZE (Control)	0.142	0.045	3,156	0.002
DER (Control)	-0.035	0.028	-1,250	0.214
ROE (Control)	0.087	0.021	4,143	0,000

Source: EViews Output (2026)

The regression equation model formed is as follows:

$$PBV = -2.543 + 0.028 \text{ DPR} - 0.185 \text{ DY} + 0.142 \text{ SIZE} - 0.035 \text{ DER} + 0.087 \text{ ROE} + \varepsilon$$

Hypothesis Testing

a. t-test (Partial Test)

Hypothesis 1 (H1): The influence of DPR on PBV

The DPR regression coefficient is 0.028 with a probability value of 0.001 (<0.05). These results indicate that DPR has a positive and significant effect on PBV. Thus, H1 is accepted. Every 1% increase in DPR will increase PBV by 0.028 times, assuming other variables remain constant. This finding indicates that Indonesian banking investors respond positively to a high dividend policy, which is perceived as a signal of good company prospects.

Hypothesis 2 (H2): The effect of DY on PBV

The DY regression coefficient is -0.185 with a probability value of 0.003 (<0.05). This result indicates that DY has a negative and significant effect on PBV. Thus, H2 is accepted. Every 1% increase in DY will decrease PBV by 0.185 times, assuming other variables remain constant. This finding indicates that a high DY is perceived negatively by investors, who may interpret a high DY as an indication of depressed stock prices or limited growth prospects.

b. F Test (Simultaneous Test)

The F-statistic probability value of the regression model is 0.000 (<0.05), which indicates that all independent variables (DPR, DY, SIZE, DER, ROE) simultaneously have a significant effect on the dependent variable (PBV). Thus, the regression model is suitable for predicting PBV.

c. Coefficient of Determination (R^2)

The adjusted R-squared value of the model is 0.785, meaning that 78.5% of the variation in the dependent variable (PBV) can be explained by variations in the independent variables (DPR, DY, SIZE, DER, ROE). The remaining 21.5% is explained by other variables outside the model. This relatively high adjusted R^2 value indicates that the model has good predictive ability.

Discussion

The Influence of the DPR on Investor Perception

The finding that DPR has a positive and significant effect on PBV provides empirical confirmation of *signaling theory* in the context of the Indonesian capital market. According to this theory, dividends serve as a signal sent by management to the market regarding the company's future prospects. A high DPR indicates that management is confident in the company's ability to generate stable and sustainable cash flow

This result is consistent with the findings of Rembokowati & Fadhillah (2025) on Indonesian state-owned banks for the 2019-2024 period, which found that profitability (NPM) had a significant positive effect on dividend policy, confirming that banks with good performance tend to distribute higher dividends

The study also found that *market valuation* (PBV) had a significant negative effect on DPR, meaning that banks with high valuations tended to retain earnings—a finding that complements the findings of this study

Research on BRI by (2025) also shows that the increase in Dividend Yield and DPR reflects the company's commitment to shareholders, making it an attractive choice for investors seeking stability

In the context of Indonesian banking, these findings are particularly relevant. State-owned banks like BBRI and BMRI are known for their relatively stable and high dividend policies. In 2024, BBRI recorded the highest DPR (Regional Dividend Return) at 85%, followed by BMRI at 78%, BBNI at 65%, and BBTN at 25%. The financial sector is generally known for its consistent dividend payout, with major banks distributing dividends in the range of 40-60%.

This consistency is believed by investors to be a signal of the company's fundamental health.

This finding contrasts with research in Nigeria, which reported insignificant or even negative DPR. This difference may be explained by different market characteristics: the Indonesian capital market is dominated by retail investors who tend to value dividend certainty, while the Nigerian market may have different ownership structures and risk preferences. Research in 11 *emerging* G20 countries (2025) actually found that in developing markets, dividend policy places more emphasis on reducing investor *risk aversion* than on *agency conflict* in developed markets, which is consistent with this study's findings.

The Influence of Dividend Yield on Investor Perception

The finding that DY has a significant negative effect on PBV initially seems counterintuitive, given that high dividend yields are generally considered attractive to investors. However, in the context of Indonesian banking, this finding has a rational explanation.

First, a high DY can occur due to two possibilities: (1) increased dividends or (2) declining share prices. In the 2020-2024 period, several banks experienced share price pressure even though dividends were still distributed. Investors tend to interpret a high DY as a negative signal because it reflects depressed share prices (*distress pricing*), not increased dividends.

Second, Indonesian banking investors have shown a preference for *capital gains* over short-term dividend yields. This is supported by Morgan Stanley's (2025) analysis of BBRI, which stated that while a *dividend yield* of 8.6-9.1% appears attractive, this return is achieved at the expense of *book value growth*.

. With a payout ratio of 90%, BVPS growth is only 3% per year, so most of the reward is expected to come from *yield* rather than capital appreciation. Investors who prioritize long-term growth tend to avoid stocks with these characteristics.

Third, Indonesian banking investors place greater value on growth prospects through retained earnings. Findings by Safitri et al. (2025) on the IDX indicate that dividend policy actually has a negative effect on *stock returns*, indicating that

investors prioritize *growth* through profit reinvestment. This research confirms that Indonesian banking investors do not necessarily respond positively to high dividend policies but instead consider *the trade-off* between current dividends and future growth potential.

The consistency of these findings with studies in Nepal, Tanzania, and Sri Lanka suggests that this phenomenon may be a general characteristic of *emerging markets*, where investors focus more on long-term growth than short-term dividend returns.

Conclusion

Based on the results of the analysis and discussion that have been described, this study produces three main conclusions. First, the Dividend Payout Ratio (DPR) was proven to have a positive and significant effect on investor perceptions of the profitability of banking companies listed on the Indonesia Stock Exchange for the 2020-2024 period, thus Hypothesis 1 (H1) was accepted. This finding confirms signaling theory in the Indonesian capital market, where a high dividend policy is sent as a signal of good company prospects. Investors respond positively to a high DPR because it indicates management's confidence in stable future cash flows. Second, Dividend Yield (DY) was shown to have a negative and significant effect on investor perceptions, thus Hypothesis 2 (H2) was accepted. This finding indicates that a high DY is perceived negatively by investors. This is because a high DY can be interpreted as depressed stock prices (distress pricing) or limited growth opportunities. Investors tend to avoid stocks with a high DY that sacrifice long-term capital appreciation. Third, these findings implicitly reveal that Indonesian banking investors value growth prospects more than short-term dividend yields. Investors prioritize capital gains through profit reinvestment over current cash dividends, as reflected in a negative response to high DY and a positive response to balanced DPR management.

Implications of Findings

Theoretical Implications

This research contributes to the development of *signaling theory* in the context of *emerging markets*. The finding that DPR has a positive effect on PBV confirms that dividends serve as an effective signal in the Indonesian capital market. However, the finding that DY has a negative effect indicates that not all aspects of dividend policy are perceived positively by investors. This indicates the need to modify *signaling theory* by considering local investor preferences, which may differ from those in developed markets.

This research also adds to the literature on *dividend policy* in the banking sector, which has unique characteristics as a *regulated industry*. Compliance with *capital adequacy requirements* limits banks' latitude in determining dividend policy, making the relationship between dividends and firm value more complex.

Practical Implications

For banking management, these findings provide guidance in formulating an optimal dividend policy. While a high DPR is favored by the market, dividend increases should not compromise the bank's ability to reinvest and sustain growth. Banks need to find a balance between satisfying investor dividend demands and maintaining long-term growth capacity.

For investors, these findings indicate that when assessing banking stocks, high *dividend yields are not enough*. Investors need to consider *dividend sustainability* and the potential for future *book value growth*. A very high dividend yield could be a *red flag* indicating depressed stock prices or limited growth prospects

Policy Implications

For regulators and authorities such as the Financial Services Authority (OJK) and Danantara, these findings suggest that an overly aggressive dividend policy can negatively impact investor perceptions if it sacrifices long-term growth. The IDR 150 trillion dividend target for state-owned enterprises (SOEs), including banks, requires considering *the trade-off* between short-term dividend revenue and the bank's long-term health and growth capacity.

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