



Stock Valuation Using the PER (Price to Earnings Ratio) and the PBV (Price to Book Value) Methods (Case Study of PT Cikarang Listrindo Tbk., Whose Share is Listed on the Indonesian Stock Exchange)

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Abstract

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Entering the fourth quarter of 2025, investments in bonds and deposits are considered less satisfactory by investors due to low returns resulting from interest rate cuts by Bank Indonesia. Consequently, alternative investments such as stocks are once again being explored by investors and are deemed capable of providing higher returns. Investors looking to invest in stocks must conduct a valuation to determine the position and value of the company's shares they intend to purchase. The purpose of this study is to determine whether POWR stock is overvalued, fairly valued, or undervalued by using the Price to Earnings Ratio (PER) and Price to Book Value (PBV) valuation methods. Furthermore, this study is expected to provide information that will assist stock investors in making their investment decisions. The analysis results in this study indicate that stock valuation using the PER method fluctuates and is in an overvalued position. The POWR stock position calculated using the PBV method shows an average valuation of 1.44 times and is also in an overvalued position. Stock investors should consider selling POWR stock based on the PER and PBV stock valuation methods.

Keywords: Stocks, Shares, PER, PBV.

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INTRODUCTION

In making investments, investors require investment venues that provide returns in accordance with their risk profiles in order to invest as desired by the investors. Lubis (2009) states that investors can be either individuals or institutions. The capital market is an investment place where investors can make investments. It is a market for the buying and selling of long-term financial instruments such as stocks and bonds, which connects investors with parties in need of funds, such as the government and companies, to make investments and raise capital. This market plays a crucial role in enhancing a country's economic growth and functions as a platform for long-term financing for issuers and as an investment venue for investors. The Indonesia Stock Exchange (IDX) is an organized place that brings together sellers (issuers/companies) and buyers (investors) to conduct transactions involving the purchase and sale of various securities instruments.

The securities traded on the IDX include not only stocks but also bonds, sukuk, and other capital market products. In carrying out its functions, the IDX strives to achieve three objectives. It aims to accelerate public participation in stock ownership, encourage the public to regularly accumulate funds, and achieve equitable income distribution from investments. In the capital market, one of the most sought-after assets by an investor is stocks.

When making a stock investment, a stock investor must know the fair value of the stocks they are about to buy or sell, as this will facilitate their estimation of potential profits and losses in the future. A stock investor can evaluate stocks to determine their value and make their investment decisions. Stock investors like Lo Kheng Hong typically use methods that are straightforward, simple, and yield accurate results. Investors can choose from various methods to evaluate stocks, including the Price to Earnings Ratio (PER) and Price to Book Value (PBV) approaches. With differing valuation foundations for each method, a stock investor can select the valuation method that best suits their needs.

The Price to Earnings Ratio (PER) is the result of dividing the stock price by the earnings per share. PER compares a company's stock price with its earnings per share (EPS). Stock investors like Lo Kheng Hong often use this method to calculate the value of shares. A higher PER indicates that the company is highly valued in the market and suggests that the market expects future earnings growth. Conversely, stock prices are cheaper when their P/E is lower. Experienced stock investors like Lo Kheng Hong look for wonderful companies that are undervalued with a PER of less than 9.

Price to Book Value (PBV) is a financial ratio that compares a stock's market price to its book value per share, calculated from the company's total assets minus its total liabilities. This ratio helps a stock investor determine whether a company's shares are overvalued or undervalued relative to their net asset value. This method indicates how an organization has the ability to create value in relation to the amount of capital invested. Because the book value per share is considered more appropriate for evaluating stocks than earnings per share, the PBV approach is more popular among investors who prefer not to base valuations on a company's ability to generate future profits. Consequently, a high stock price is indicated by a high PBV compared to the book value per share.

In this research, the chosen subject is POWR (PT Cikarang Listrindo Tbk.), a public independent power producer that has been established since 1993 and has been listed on the Indonesia Stock Exchange since June 17, 2016. This company belongs to the infrastructure and electric utility industry sector and falls into the category of dividend stocks with a minimum return of 10% per year. The extensive use of artificial intelligence in Indonesia from 2020 to the present has caused a rapid increase in electricity demand, as artificial intelligence requires data centers to process the available data. Data centers themselves consume electricity continuously, operating 24 hours a day without interruption. According to the Indonesian Data Center Association (IDPRO), Indonesia currently has 185 data centers with a total operating capacity of 400 MW, with a compound annual growth rate (CAGR) of electricity capacity of 18.4% until 2030. With the increasing demand for electricity from data centers, POWR, as an independent power producer supplying electricity to the five largest industrial estates in Southeast Asia, namely Jababeka Industrial Estate, MM-2100, Lippo Cikarang, Hyundai Inti Development, and EJIP (East Jakarta Industrial Park), has the potential to achieve significant net profit growth in the future. This research aims to determine the stock value and the position of POWR (PT Cikarang Listrindo Tbk.) shares, whether the stock is overvalued, fairly valued, or undervalued using the PER (Price to Earnings Ratio) and PBV (Price to Book Value) valuation methods, and to provide an overview for investors to make investment decisions based on these stock valuation methods.

LITERATURE REVIEW

Stocks

The capital market is a system or activity where parties in need of funds (such as companies or the government) and parties with excess funds (investors) meet to trade long-term financial instruments such

as stocks and bonds. Its function is to serve as a means of raising funds and as an investment vehicle that supports economic growth. The capital market offers investors the opportunity to invest their funds in various assets issued by the government. One of the assets traded in the capital market is stocks. According to Sunariyah (2003:30), stocks are a portion of ownership in a limited company or issuer. When a person purchases shares, they become a partial owner of the company, granting them rights to income in the form of dividends and the right to participate in the General Meeting of Shareholders. By purchasing shares, a stock investor is essentially buying the company's prospects. The stock price of a company will increase if its prospects improve. If an investor owns four percent of all shares distributed by a company, they also own four percent of the company. As the company's profit continues to grow each year, the company's value will also increase, which means its share price will rise as well. This aligns with what Peter Lynch, the author of the book entitled *One Up on Wall Street*, stated, that stock prices follow earnings. According to Anoraga and Pakarti (2006:58), stocks are one of the most widely traded securities in the capital market. Currently, as of September 2025, the Indonesia Stock Exchange (IDX) reports that there are approximately 7.49 million stock investors, predominantly from Generation Z, and more than 900 issuers have listed their stocks on the Indonesian capital market. This has resulted in increasingly active stock trading, with daily transaction values reaching IDR 17.92 trillion.

Price to Earnings Ratio (PER)

PER is a financial ratio that calculates the result of dividing the stock price by the earnings per share. This ratio is often used by investors to measure the relative value of a stock and reflects how many times an investor is willing to pay for each profit generated by the company. Arifin (2002:152) argues that PER indicates the amount that an investor is willing to pay for each rupiah of profit earned by the company. As its name suggests, Husnan (2003:288) adds that the PER model is based on the ratio between the price per share and earnings per share (EPS). Before determining the PER value, it is essential to examine the EPS value. The net profit available to shareholders divided by the number of outstanding shares constitutes the earnings per share (EPS) that the company can achieve during its operations. According to Syamsuddin (2007:75), EPS can be calculated using the following formula:

$$EPS = \frac{\text{Laba bersih}}{\text{Jumlah saham yang beredar}}$$

Halim (2005:27) argues that the P/E ratio essentially indicates the time required to return funds at the stock price level and the company's profits over a certain period. To understand how the market values a company's performance, represented by its earnings per share, investors will use the P/E ratio approach, which allows them to calculate how many times the value of the earnings is reflected in the stock price. The relationship between common stock prices and earnings per share is known as the P/E ratio. The higher the P/E of a stock, the more expensive the stock is relative to its earnings per share. If a stock's P/E value is lower, the stock is considered cheaper to invest in. A stock's P/E ratio should be compared with the P/E ratios of other stocks within the same industry, subsector, or sector to determine whether the stock price is low or high. The lower a stock's P/E value, the cheaper the stock is to purchase, and the higher the earnings per share, will encourage many investors to buy the stock. According to Arifin (2002:87), the P/E ratio can be calculated using the following formula:

$$PER = \frac{\text{Harga per lembar saham}}{\text{Earnings per lembar saham}}$$

Price to Book Value (PBV)

The book value of a stock serves as the basis for the stock valuation method known as PBV. Book value is the value obtained from the purchase price of assets minus total depreciation. According to Syamsuddin (2007:75), to determine the book value of a company, the following formula must be used:

$$BV = \frac{\text{Jumlah Modal Saham Biasa}}{\text{Jumlah Lembar Saham Biasa}}$$

Syamsudin (2007:75) also noted that PBV is a financial ratio that indicates the market's valuation of a company's book value. The higher this ratio, the greater the market's confidence in the company's future. Jogyanto (2003:79) also noted that if the PBV ratio exceeds one, it is a common characteristic of a profitable company, indicating that the market value of its shares exceeds its book value. The PBV ratio can be calculated by dividing the market value of the shares by the current book value of equity. The formula for PBV is as follows:

$$PBV = \frac{\text{Harga per lembar saham}}{\text{Nilai buku ekuitas per lembar saham}}$$

With the PBV method, we do not need to determine the intrinsic value of the stock being analyzed; instead, we only need to calculate the PBV value and determine whether the stock price is expensive or cheap using a cutoff of 1. A PBV value above 1 indicates that the market value of the stock is higher than its book value, whereas a PBV value below 1 indicates that the market value of the stock is lower than its book value. This is based on Husnan's theory (2003:27), which states that this ratio is usually greater than one for well-performing companies, indicating that the market value of the stock exceeds its book value. An investor's assessment of the funds invested in a stock is positively correlated with a company's PBV. Tandelilin (2010:323) also supports this statement and asserts that the ideal stock market price should approach 1 when compared to its book equity value. To achieve a higher return at a certain level of risk, a stock with a low price-to-book value ratio (PBV less than 1) would be preferable to purchase.

RESEARCH METHODOLOGY

The type of research used in this study is descriptive research. According to Mardalis (2008:26), the purpose of descriptive research is to provide a systematic, factual, and accurate depiction or description as well as to interpret actual conditions. This study only discusses one company, namely PT Cikarang Listrindo Tbk., as a case study. The determination of the object that becomes the focus of the research is as follows:

A. The Company's Financial Statement

The annual financial statements, including the balance sheet and profit and loss statement of POWR (PT Cikarang Listrindo Tbk.), have been audited over the past 10-year period.

B. Price to Earnings Ratio (PER)

PER is the ratio between the market price of a stock and its earnings per share. In other words, PER represents each rupiah an investor is willing to pay for every rupiah of net profit generated by a company. A high PER indicates that an investor is willing to pay a premium price to purchase the company's shares. The price per share used is the closing price of the stock for each period under study, from the company's initial public offering in 2016 until 2025 (first semester), and the net profit per share used is also for each period under study, from 2016 to 2025 (first semester). Mathematically, the PER can be calculated using the following formula:

$$PER = \frac{\text{Harga per lembar saham}}{\text{Earnings per lembar saham}}$$

C. Price to Book Value (PBV)

PBV is the ratio between the price per share and the book value of equity per share. The price per share used is the stock's closing price for each period under study, which spans from the company's initial public offering in 2016 until 2025 (first semester), and the book value of equity per share is calculated based on the equity value divided by the number of shares outstanding as reported in the company's financial statements during the study period from

2016 to 2025 (first semester). Mathematically, PBV can be calculated using the following formula:

$$PBV = \frac{\text{Harga per lembar saham}}{\text{Nilai buku ekuitas per lembar saham}}$$

The data analysis was conducted as follows:

- 1) Calculating the financial ratios of PT Cikarang Listrindo Tbk., which include Return on Investment (ROI), Return on Equity (ROE), Earnings Per Share (EPS), Dividend Per Share (DPS), Debt to Equity Ratio (DER), Dividend Payout Ratio (DPR), and Book Value (BV). Each ratio will be described to assess the company's condition during the observation period, which spans from 2016 to 2025 (first semester).
- 2) Calculating the Price to Earnings Ratio (PER) and Price to Book Value (PBV) for each observation period, namely from 2016 to 2025 (first semester).
- 3) Determining the stock value position using the Price to Earnings Ratio (PER) and Price to Book Value (PBV) approach under the following conditions:
 - PER: If the stock's value exceeds its price, then the stock is in an undervalued position.
 - If the stock value equals the stock price, then the stock is in a fairly valued position.
 - If the stock value is less than the stock price, then the stock is considered overvalued.
- PBV:
 - If PBV is greater than 1, the stock is considered overvalued.
 - If PBV equals 1, then the stock is in a fairly valued position.
 - If PBV is less than 1, the stock is considered to be undervalued.
- 4) Deciding whether a stock investor should sell, buy, or hold shares of PT Cikarang Listrindo Tbk. based on the results of calculations using the Price to Earnings Ratio (PER) and Price to Book Value (PBV) methods.

RESULTS AND DISCUSSION

Stocks Position

Price to Earnings Ratio (PER)

One of the initial steps to be taken in the PER method is to determine the stock's position relative to its market price. The intrinsic value of a stock is its estimated price compared to the actual stock value. The stages in estimating a stock are as follows:

Table 1: Data for Calculating the Estimated Share Price of PT Cikarang Listrindo Tbk.

Year	ROE (%)	EPS (IDR)	DPR (%)	Stock Price (IDR)
2016	17	85,90	64,34	1.285
2017	16,5	89,30	66	1.300
2018	12,1	69,88	33,63	890
2019	17,5	99,83	66,93	1.000
2020	11,5	67,73	78,88	710
2021	13	80,46	75,82	615
2022	9,9	67,07	99	660
2023	10,8	72,99	100,54	710
2024	10,4	74,23	99,45	690
2025 (semester 1)	11,5	81	91,16	680

(Source: Stockbit)

- 1) Calculating the expected earnings growth rate (g)

$$g = \text{ROE} \times b$$

- a) Determining Return on Equity (ROE)

$$\begin{aligned} \text{Average ROE} &= 17 + 16,5 + 12,1 + 17,5 + 11,5 + 13 + 9,9 + 10,8 + 10,4 + 11,5 / 10 \\ &= 13,02\% \\ &= 0,1302 \end{aligned}$$

- b) Determining the Retention Ratio (b)

$$\begin{aligned} b_{2026} &= 1 - \text{DPR}_{2025} \\ &= 1 - 0,9116 \\ &= 0,0884 \end{aligned}$$

$$g = 0,1302 \times 0,0884 = 0,0116$$

Therefore, the expected earnings growth rate is 1.16%.

- 2) Determining the estimated earnings per share

$$EPS_{t+1} = EPS_t (1+g)$$

$$EPS_{2026} = EPS_{2025} (1+g)$$

$$= \text{IDR}81 (1 + 0,0116)$$

$$= \text{IDR}81,94$$

- 3) Calculating the estimated cash dividend per share

$$DIV_{t+1} = EPS_{t+1} \times DPR_{rata-rata}$$

$$\begin{aligned} \text{Average DPR} &= 64,34 + 66 + 33,63 + 66,93 + 78,88 + 75,82 + 99 + 100,54 + 99,45 + 91,16 / 10 \\ &= 77,58\% \\ &= 0,7758 \end{aligned}$$

Thus, the estimated cash dividend per share: $Div_{2026} = \text{IDR}81 \times 0,7758 = \text{IDR}62.84$

- 4) Determining the discount rate (k)

$$k = \text{Div}_{2026} / P_{2026} + g$$

$$k = 62,84 / 700 + 0,0116$$

$$k = 0,0898 + 0,0116$$

$$k = 0,1014$$

- 5) Calculating the estimated price-to-earnings ratio (P/E ratio)

$$\begin{aligned} \text{Estimated PER} &= (\text{Div}_{2026} / EPS_{2026}) / k - g \\ &= (62,84 / 81,94) / 0,1014 - 0,0116 \\ &= 0,767 / 0,090 \\ &= 8,52 \text{ times} \end{aligned}$$

- 6) Calculating the intrinsic value of a stock

$$\begin{aligned} \text{Intrinsic value} &= \text{estimated EPS} \times \text{estimated PER}_{2026} \\ &= \text{IDR}81,94 \times 8,52 \end{aligned}$$

= IDR698

The current market price of POWR is IDR 700. Therefore, its intrinsic value is less than the market price, indicating that the shares of PT Cikarang Listrindo Tbk., when valued using the PER method, are in an **overvalued** position.

Price to Book Value (PBV)

In the PBV method, the steps that need to be taken are very simple to determine whether a stock is undervalued, fairly valued, or overvalued. All that needs to be done is to calculate the value resulting from the PBV ratio calculation, which, according to Husnan (2003:27), is usually greater than one for successful companies, indicating that the market value of the stock is greater than its book value. The higher a company's PBV ratio, the better investors perceive the funds invested in it. Tandelilin (2010:323) supports this statement by stating that the stock market price ideally should be close to 1 when compared to the book value of assets. To achieve a higher rate of return at a certain level of risk, stocks with a lower price-to-book ratio would be better to purchase. According to both statements, a PBV value above 1 indicates that investors value it well, but a PBV value above 1 is also considered expensive or overvalued. However, an expensive PBV can still increase if the business performs well and has promising prospects. The level of profit that a business can generate can indicate its prospects. To determine how well a company can generate profit based on its equity, a stock investor can look at the Return on Equity (ROE). This study focuses solely on the position of stocks in the market and does not address how investors should make informed investment decisions. Accordingly, the provisions that can be concluded for determining the position of stocks based on PBV are as follows:

If the PBV is greater than 1, then the stock is in an overvalued position.

If the PBV equals 1, then the stock is in a fairly valued position.

If PBV is less than 1, the stock is considered to be undervalued.

The position of PT Cikarang Listrindo Tbk. shares for the period 2016-2025 can be determined based on the Price Book Value method:

Table 2: The Share Position of PT Cikarang Listrindo Tbk. Based on the Price to Book Value (PBV)

Year	PBV	Stock Position
2016	2,57	overvalued
2017	2,47	overvalued
2018	1,46	overvalued
2019	1,73	overvalued
2020	1,29	overvalued
2021	0,99	undervalued
2022	0,98	undervalued
2023	1	fairvalued
2024	1	fairvalued
2025	0,92	undervalued
The average PBV from 2016-2025 (first semester)	1,44	overvalued

(Source: Stockbit)

The table above shows that since POWR's IPO in 2016 until 2025 (first semester), the shares of PT Cikarang Listrindo Tbk. have mostly been in an **overvalued** position. Only in 2021, 2022, and 2025 were POWR shares in an undervalued position, and only in 2023 and 2024 were POWR shares fairly valued. POWR's PBV value is 1.44 times the average over the observation period.

Investment Decision Making

After conducting a valuation of the company's shares considered suitable for investment, a stock investor proceeds to the final step, known as investment decision-making. In this study, the stock being valued is that of PT Cikarang Listrindo Tbk. Based on the valuation of POWR shares using the Price to Earnings Ratio (PER) and Price to Book Value (PBV) methods, the results are as follows:

Table 3: The Share Position of PT Cikarang Listrindo Tbk. Based on the PER and PBV Methods

Valuation Methods	Calculation Result	Stocks Position
Price to Earnings Ratio (PER)	Intrinsic value (IDR680) < Market Price (IDR700)	Overvalued
Price to Book Value (PBV)	PBV (1,44 times) > 1	Overvalued

(Source: The data is processed by the researchers)

According to the table above, stock investors should sell shares of PT Cikarang Listrindo Tbk. because the market price of the stock is considered high (overvalued) compared to its intrinsic value. Conversely, if valuation is conducted using the PBV method, equity investors should also sell their shares.

CONCLUSION AND SUGGESTION

Conclusion

The stock value of PT Cikarang Listrindo Tbk., calculated using the PER method, fluctuates every year, and the stock position calculated by comparing its intrinsic value with the market price indicates that POWR stock is overvalued. The stock value of PT Cikarang Listrindo Tbk., calculated using the PBV method, is similar to the PER method, meaning it fluctuates annually. The stock position calculated using the PBV method also indicates an overvalued stock. If a stock investor uses the PER method for evaluation, they should sell PT Cikarang Listrindo Tbk. shares. If they use the PBV method for evaluation, they should also sell PT Cikarang Listrindo Tbk. shares due to the overvalued status of the stock.

Suggestion

The internal condition of POWR obtained from the Stockbit application and the audited annual financial statements during the observation period of this study is only used to determine the value and position of the shares using the PER and PBV methods. Therefore, a stock investor must consider external factors such as government regulations and the increase in the number of data centers in the five industrial areas of Cikarang, which can affect the company's performance, in order for the analysis results of the value and position of the shares to be more convincing. During the ten-year observation period, the financial ratios are only described in terms of their values and movements. Furthermore, this study uses the PER and PBV methods to calculate the stock position, so it would be preferable for future researchers to also elaborate on the impact of financial ratios on the company's stock price before determining its fair value.

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