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Stock Valuation of PT. Panca Budi Idaman, Tbk. (PBID) based on Free Cash Flow to the Firm and on Relative Valuation

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ABSTRACT: The stock valuation of PT Panca Budi Idaman, Tbk. (PBID), an Indonesian plastic packaging manufacturer, is evaluated using the absolute and relative valuation. The absolute valuation is based on Discounted Cash Flow (DCF) method. In relative valuation, PBID is compared to its peers, which in this study are IPOL, PDPP, and TRST. Indonesia's significant economic growth and the vital role of the plastic industry are noting strong demand for plastic packaging despite environmental challenges and regulatory pressures. Financial performance from 2017 to 2023 is assessed through profitability, liquidity, and solvency ratios, demonstrating PBID's efficient operations and robust financial health. Future cash flows are projected, discounted using PBID's Weighted Average Cost of Capital (WACC), and the terminal value is calculated. The intrinsic value is estimated at IDR 3,987 per share, indicating undervaluation compared to the current price of IDR 1,325 per share. Relative valuation compares PBID to industry peers using EV/EBITDA, P/E, and P/B ratios, reinforcing the undervaluation finding. Investment recommendations suggest PBID's stock as a buying opportunity due to its strong market position and favourable valuation metrics.

KEYWORDS: DCF, Intrinsic Valuation, Plastic, Packaging, PBID, Relative Valuation.

1. INTRODUCTION

Indonesia, the largest country in Southeast Asia and the world's largest archipelago, boasts a population of approximately 278.7 million as of 2023. Among these, 64 million belong to the middle-affluent class, and the population continues to grow at a rate of about 1% per year until 2030 (bps.go.id), projecting further economic dynamism. As the gateway to a broader Southeast Asian market of 650 million people, the world's third-largest market, Indonesia is strategically positioned as a significant player in the global economy (bkpm.go.id). Its economy, the 16th largest in the world with a GDP exceeding $1 trillion, is expected to climb to the 7th largest by 2030 according to McKinsey & Company (2021). Indonesia's steady economic growth of over 5% per year, notwithstanding the temporary contraction during the Covid-19 pandemic, underscores its resilience and robust recovery trajectory. Since recovering in 2022, Indonesia has achieved a growth rate of +5.04% in 2023 (bps.go.id).

Manufacturing, trade, agriculture, construction, and mining account for most of the Indonesia's economy, contributing 19.08%, 12.96%, 11.39%, 10.49%, and 9.62% in 2023, respectively (bps.go.id). The industry that contributes the most each year is manufacturing. Indonesia's plastic industry, which has ranked fifth over the last ten years, makes a significant contribution to manufacturing output. Compared to food, chemicals, motor vehicles, and basic metals, which have market shares of 26.01%, 9.50%, 7.31%, and 5.64%, respectively, its share of the manufacturing industry's total output is 5.37% (bps.go.id).

Due to its many beneficial applications in many facets of human life, plastic has evolved into a necessary commodity (Brooks et al., 2018). Because of its appealing design, marketability, and effective distribution, its use in packaging has expanded twentyfold since the 1900s (Thompson et al., 2009). Because of their numerous mechanical, chemical, and everyday uses, plastics are produced and used in vast quantities all over the world (Simon, 2019). The plastics industry in Indonesia is a significant and expanding sector that encompasses upstream, intermediate, and downstream aspects. Imports of plastic raw materials, which are like polyethylene, polypropylene, PET, PVC, and polystyrene, increase every year with a CAGR of 3.5%, and the deficit (imports minus exports) also tends to increase every year with a CAGR of 2.5% over the last 10 years (bps.go.id).

Indonesia's per capita plastic consumption increased from 19.8 kg in 2017 to 22.5 kg in 2022, while Germany consumes 95.8 kg of plastic per person annually (Chalid, 2023). This surpasses the yearly plastic consumption of 41 kg per person in Vietnam in 2015, as well as the annual plastic consumption of roughly 35 kg in Malaysia and 40 kg in Thailand. The majority of plastic is used for packaging in Indonesia, where it is used at a higher rate (49.60%) than the global average (31.26%) (SEA Circular, 2020). These data indicate that there is still room for growth in Indonesia's consumption of plastic, with the packaging industry playing a major

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role in this potential. Furthermore, the packaging sector, driven by the retail, pharmaceutical, and food and beverage industries, is projected to grow by 6-8% annually (Business Indonesia, 2023). The food and beverage sector alone, which makes up 70% of packaging supplies, grows at an annual rate of 7-9%. Indonesia hosts 892 plastic packaging industries producing a variety of packaging materials.

Despite its significant contribution to Indonesia's economy, the plastic industry has a major environmental impact due to high consumption and continuous production, making plastic waste the second-largest contributor to waste in the country (Danareksa Research Institute, 2023). In response, the government has implemented various policies through the Ministry of Environment and Forestry (KLHK) to manage and reduce plastic waste. KLHK Regulation Number 75 of 2019 mandates producers to limit waste accumulation and encourages recycling through take-back programs and reuse initiatives.

PT. Panca Budi Idaman, Tbk. is an Indonesian company that manufactures, distributes, and trades in plastic packaging items. PBID operates in the Plastic Packaging, Plastic Resins, and other segments. Founded in 1979 by Djonny Taslim, Panca Budi Group now is a leading and integrated plastic bag manufacturer, controlling 32% of the plastic bags market share throughout Indonesia. PBID has manufacturing facilities across Indonesia with a yearly total production capacity of more than 138,000 tonnes. The company has over 12,000 retailer customers and is the first in Indonesia to have a brand on plastic bag finished products. It primarily uses PE, PP, and HDPE for its plastic bags, and engages in trading its raw material. The company also provides complementary packaging for everyday needs, such as food wrapping paper, cake boxes, plastic ropes, rubber bands, and straws. PBID's revenue is mainly contributed from Plastic Packaging Segment, which accounts for around 60-70% revenue, then Plastic Resins at around 20-30%, and Others Segment at below 10% (PBID's 2023 Annual Report, 2024).

Indonesia's plastic consumption is projected to rise with the food and beverage packaging industry being the largest user (SEA Circular, 2020). Factors contributing to the rise in packaging demand, aside from population growth, include the migration of 35 million people to large cities, the urbanization of the population, and increasing urbanization. The Indonesian government has implemented laws banning single-use plastics in various provinces, cities, and regencies between 2016 and 2023. However, the implementation of a plastic excise tax on plastic packaging has been postponed due to the coronavirus outbreak. (International Pollutants Elimination Network, 2022). Despite of these challenging conditions, stock prices of plastic packaging manufacturers have increased since 2019, and the revenue growth of plastic packaging companies is supported using plastic bags in traditional markets. Replacing plastic with biodegradable materials is challenging, as eco-friendly bags are expensive and difficult to find due to pulp being the main raw material.

Given the facts explained in previous paragraphs, investing in traditional plastic packaging companies such as PBID, a market leader in the industry, may present a promising opportunity, which will be explored in this study. The research objectives are: (1) To identify external and internal factors that affect PBID's stock performance; (2) To describe the financial performance of PBID from 2017 to 2023; (3) To conduct an intrinsic valuation of PBID and compare it to the stock price; (4) To conduct a relative valuation of PBID based on EV to EBITDA comparison with its peers; (5) To provide investment recommendations on whether to buy, sell, or hold PBID's stock. The scope of this study are: (1) Historical data used is from 2017 to 2023, while data for 2024 and beyond are based on projections into the future; (2) The technical, operational, and administrative components of PBID are not included in this research because the primary focus is on its financial implications; (3) The data used are secondary data.

2. LITERATURE REVIEW

2.1 Concept of Valuation

Business valuation is a critical process in financial analysis, determining the economic value of an entire business or company unit. According to the International Glossary of Business Valuation Terms, valuation is defined as the act or process of determining the value of a business, business ownership interest, security, or intangible asset. Koseoglu and Almeany (2020) further elaborate that valuation involves determining the current market value of economic assets as money. This includes appreciating and estimating the value of a firm's total assets such as current assets (like inventory), fixed assets/non-current assets (like lands, buildings, properties, machinery, plant, equipment, and vehicles), and intangible assets (like goodwill and other intangible assets).

Housel (2020) emphasizes the importance of understanding the difference between value and price before investing in something. Price is the cost of something, while value is the benefit derived from it. Damodaran (2012) cites Oscar Wilde's quote, "A cynic knows the price of everything, but the value of nothing." Understanding the value of a business is crucial, and valuation process must

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be done properly. Damodaran (2012) argues that every asset, financial or real, has a value, and the key to successful investing and management lies in understanding not only the value but also the sources of the value. Valuation is an expression of art, rather than science, and there are myths in valuation, such as the belief that valuation models are objective, that a well-researched valuation is timeless, that a good valuation provides a precise estimate of value, that a more quantitative model is better, that making money on valuation requires assuming markets are inefficient, and that the product of valuation (value) is what matters. By recognizing these myths, investors can make wiser decisions when investing.

There are two main approaches to business valuation: intrinsic valuation and relative valuation. Damodaran (2011) explains that intrinsic valuation is based on the present value of expected future cash flows, while relative valuation involves comparing the valuation of similar assets or companies in the market. Both approaches have their own merits and limitations and are often used in conjunction to provide a comprehensive assessment.

2.2 Intrinsic Valuation: Discounted Cash Flow (DCF) Valuation

Discounted Cash Flow (DCF) valuation is a method used to estimate the value of an investment based on its expected future cash flows. The fundamental principle behind DCF is that the value of an asset is determined by its ability to generate cash flows for its investors. This method is grounded in the present value principle, which posits that the value of an asset is the present value of its expected future cash flows (Damodaran, 2012).

DCF valuation incorporates the time value of money, asserting that money received today is more valuable than the same amount received in the future due to its potential earning capacity. According to Damodaran (2012), DCF valuation involves projecting the future free cash flows of a company and discounting them back to the present value using an appropriate discount rate, typically the Weighted Average Cost of Capital (WACC). This approach reflects the riskiness of the cash flows and the required return by investors.

The DCF value of a firm is calculated by summing the present value of the projected free cash flows and the present value of the terminal value. The formula is:

$$\text{DCF Value} = \sum_{t=1}^{n} \frac{FCFF_t}{(1+WACC)^t} + \frac{TV}{(1+WACC)^n}$$

where:

- $FCFF_t$ is the Free Cash Flow to the Firm in year *t*.
- WACC is the Weighted Average Cost of Capital.
- *n* is the number of years of projected cash flows.
- TV is the Terminal Value.

2.2.1 Free Cash Flow to the Firm (FCFF)

Free Cash Flow to the Firm (FCFF) is a measure of a company's profitability that shows how much cash is generated by the company's operations after accounting for capital expenditures and changes in working capital. FCFF is available to all the firm's capital providers, including debt and equity holders. Damodaran (2012) emphasizes that FCFF is crucial in intrinsic valuation as it represents the firm's ability to generate cash flow, which ultimately drives its value. The formula for calculating FCFF is:

$$\text{FCFF} = \text{EBIT} \times (1 - \text{Tax Rate}) + \text{Depreciation} + \text{Amortization} - \text{Capital Expenditures} - \Delta\text{Non-Cash Working Capital}$$

where:

- EBIT: Earnings Before Interest and Taxes. This represents the firm's operating income.
- Tax Rate: The effective tax rate applied to the EBIT.
- Depreciation and Amortization: These are non-cash charges that need to be added back to EBIT since they reduce EBIT but do not affect cash flow.
- Capital Expenditures (CapEx): Investments made by the firm in fixed assets. These are subtracted as they represent cash outflows.
- ΔNon-Cash Working Capital: The change in non-cash working capital from one period to the next, which is calculated as the non-cash working capital of the current year minus the non-cash working capital of the previous year. Non-cash working capital is calculated as current assets minus cash and cash equivalents, then minus current liabilities. By excluding cash and cash equivalents, the analysis emphasizes the efficiency of a company's operations without the distortion caused by cash holdings, which can be influenced by financing activities or other non-operational factors.

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2.2.2 Growth Rate

The growth rate is crucial in a company's valuation, as it influences future cash flow projections and the valuation outcome. It should be realistic, sustainable, and justifiable, with sustainable growth influenced by reinvestment quality (Damodaran, 2012). Overestimating or underestimating growth rates can lead to inaccurate investment decisions. Geometric growth rate, also known as the compound annual growth rate (CAGR), is appropriate for measuring long-term growth (Damodaran, 2012). Therefore, it is used for calculating projected EBIT growth. The formula is as follows:

$$\text{Geometric Growth Rate} = \left(\frac{V_n}{V_0}\right)^{\frac{1}{n}} - 1$$

where V_n is the ending value, V_0 is the beginning value, and *n* is the number of periods.

2.2.3 Weighted Average Cost of Capital (WACC)

The Weighted Average Cost of Capital (WACC) is a calculation of a firm's cost of capital, where each category of capital is proportionately weighted. It represents the average rate of return a company is expected to pay its security holders to finance its assets. WACC is crucial in DCF valuation as it accounts for the risk associated with the firm's operations and the cost of both debt and equity financing (Damodaran, 2001). WACC is calculated using the formula:

$$\text{WACC} = \left(\frac{E}{V} \times R_e\right) + \left(\frac{D}{V} \times R_d \times (1 - T_c)\right)$$

where:

- E: Market value of equity, this is the total value of the firm's equity in the market, which reflects the market capitalization.
- D: Market value of debt, this is the total value of the firm's debt, reflecting the market value of all outstanding debt instruments.
- V: The sum of the market value of equity and the book value of debt.
- R_e: Cost of equity, this is the return required by equity investors, estimated using the Capital Asset Pricing Model (CAPM)
- R_d: Cost of debt before tax, this is the return required by debt holders. For the WACC of this company, Damodaran's synthetic rating is used to compute cost of debt before tax.
- T_c: Corporate tax rate, this adjusts the cost of debt for the tax deductibility of interest expenses, reflecting the after-tax cost of debt.

The cost of equity represents the expected return investors expect on their investment in a company and reflects the compensation they require for taking on higher risk compared to risk-free investments. The cost of equity is not observable and must be estimated using models that relate risk to expected returns. The Capital Asset Pricing Model (CAPM) is the most widely used and simplest model for estimating the cost of equity, for ensuring that the expected returns meet or exceed the threshold required by investors (Damodaran, 2012). The CAPM formula is:

$$R_e = R_f + \beta(R_m - R_f)$$

where:

- R_e is the cost of equity.
- R_f is the risk-free rate, typically the yield on government bonds.
- β is the beta coefficient, measuring the stock's volatility relative to the market.
- R_m is the expected market return.
- $(R_m - R_f)$ is the equity risk premium.

The cost of debt before tax is calculated by Damodaran's synthetic rating formula. This approach involves assigning a credit rating to a firm based on its financial ratios, primarily the interest coverage ratio, and then using this synthetic rating to determine the default spread that should be added to the risk-free rate to estimate the cost of debt. By using financial metrics that are indicative of a firm's creditworthiness, investors and analysts can approximate the credit risk and the associated cost of borrowing.

2.2.4 Terminal Value

In DCF valuation, the terminal value represents the present value of a company's expected cash flows beyond the explicit forecast period. It is often calculated using the Perpetuity Growth Model (Gordon Growth Model), which assumes that free cash flows will grow at a constant rate indefinitely. The formula for terminal value is:

$$TV = \frac{FCFF_{n+1}}{WACC - g}$$

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where:

- TV is the terminal value.
- $FCFF_{n+1}$ is the free cash flow to the firm in the first year beyond the forecast period.
- WACC is the weighted average cost of capital.
- g is the terminal growth rate.

2.3 Relative Valuation

Relative valuation, also known as multiples-based valuation, involves valuing a company by comparing it to similar companies using valuation multiples. Damodaran (2012) highlights that relative valuation is based on the principle that similar assets should sell for similar prices. This method is popular due to its simplicity and reliance on market-based measures. The first step in relative valuation is identifying a set of comparable companies. These should operate in the same industry, have similar sizes, growth rates, risk profiles, and capital structures. The selection of appropriate comparable is crucial for accurate valuation. The choice of multiple depends on the industry, the company's characteristics, and the availability of data.

Price-to-Earnings (P/E) Ratio: This ratio compares a company's current share price to its earnings per share (EPS). It helps investors determine the relative value of a company's shares in the context of its earnings (Brealey et al., 2020). A high P/E ratio may indicate that a company's stock is overvalued or that investors are expecting high growth rates in the future. A low P/E ratio may indicate that the stock is undervalued or that the company is experiencing difficulties or low growth rate expectations.

Price-to-Book (P/B) Ratio: This ratio compares a company's market value to its book value. The book value is the net asset value of a company, calculated as total assets minus intangible assets (patents, goodwill) and liabilities (Brealey et al., 2020). It provides insights into how the market values the company's assets. A P/BV ratio greater than 1 suggests that the market values the company more than its book value, which could indicate potential overvaluation or indicating strong prospects or intangible assets. A P/BV ratio less than 1 may suggest that the market values the company less than its book value, which could indicate potential undervaluation or indicating financial distress.

Enterprise Value-to-EBITDA (EV/EBITDA) Ratio: This ratio measures a company's value relative to its earnings before interest, taxes, depreciation, and amortization. It is particularly valuable because it is unaffected by a company's capital structure, taxes, and non-cash accounting charges like depreciation and amortization, making it a good proxy for operating cash flow (Brealey et al., 2020). EBITDA provides a clear view of a company's operational profitability and is widely used in valuation, especially in industries where capital expenditures are high. It helps compare profitability across companies by removing the effects of financing and accounting decisions.

2.4 Conceptual Framework

The conceptual framework used in this study, as can be seen in **Figure 1.**, is a refinement from previous studies on stock valuation of another company by Azhari (2024). It describes the relationships between the key variables in the study and serves as a guide to systematically investigate and understand the problem under study (Shields & Rangarajan, 2013). This framework links the theoretical background to the research objectives and questions, aiming to conduct a comprehensive stock valuation of PBID using both intrinsic and relative valuation methods.

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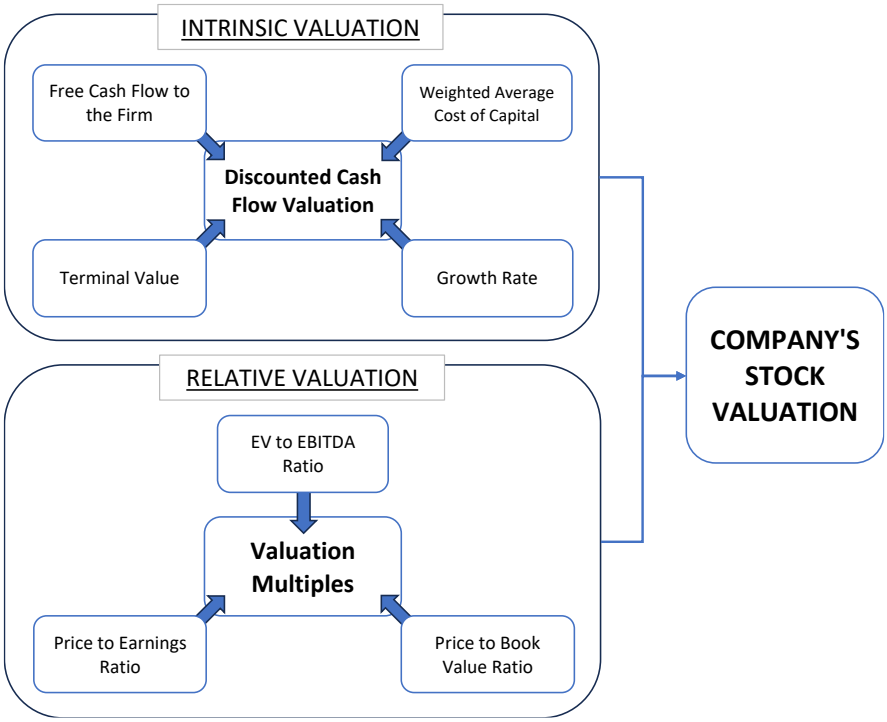

Figure 1. Conceptual Framework

Intrinsic valuation focuses on calculating the value using the DCF method, involving estimating the FCFF, discounting these cash flows using WACC, and calculating the terminal value to account for the ongoing business value beyond the forecast period. Relative valuation compares the company to similar businesses using financial multiples like EV/EBITDA, P/E, and P/B ratios.

By combining these methods, this study provides a comprehensive assessment of PBID's stock valuation, incorporating both intrinsic value and market comparison. This approach not only offers a robust valuation model for companies in the plastic packaging industry but also provides insights into how regulatory and environmental factors impact financial performance and stock valuation in emerging markets.

3. RESEARCH METHODOLOGY

This study uses a quantitative research design to determine the fair value of shares of PT. Panca Budi Idaman, Tbk. using discounted cash flow and relative valuation methods. The research methodology involves a systematic approach, starting with exploring business issues, followed by external and internal analysis. Business solutions are developed using these methods, and conclusions and recommendations are formulated. The research methodology scheme used in this study, as illustrated in **Figure 2.**, is a refinement from a previous study conducted by Azhari (2024) on stock valuation for another company.

Data was collected using a quantitative approach, including secondary data from PBID's annual reports, reference books, journal papers, and online articles or websites. The intrinsic value was determined using the Discounted Cash Flow (DCF) calculation, which forecasts EBIT, capital spending, and working capital for the next 10 years and beyond. Comparisons were made with peer companies based on EV to EBITDA, Price to Earnings, and Price to Book Value ratios. The average values of these multiple ratios were calculated and compared to PBID's ratios to determine whether PBID is undervalued or overvalued.

The collected data is analyzed using both discounted cash flow (DCF) valuation and relative valuation methods. DCF valuation is based on future free cash flows, which are discounted by the discount rate to obtain their present value. The weighted average cost of capital (WACC) is used as the discount rate in the DCF valuation. Relative valuation is performed based on PBID's multiple ratios, including enterprise value-to-EBITDA, price-to-earnings, and price-to-book value.

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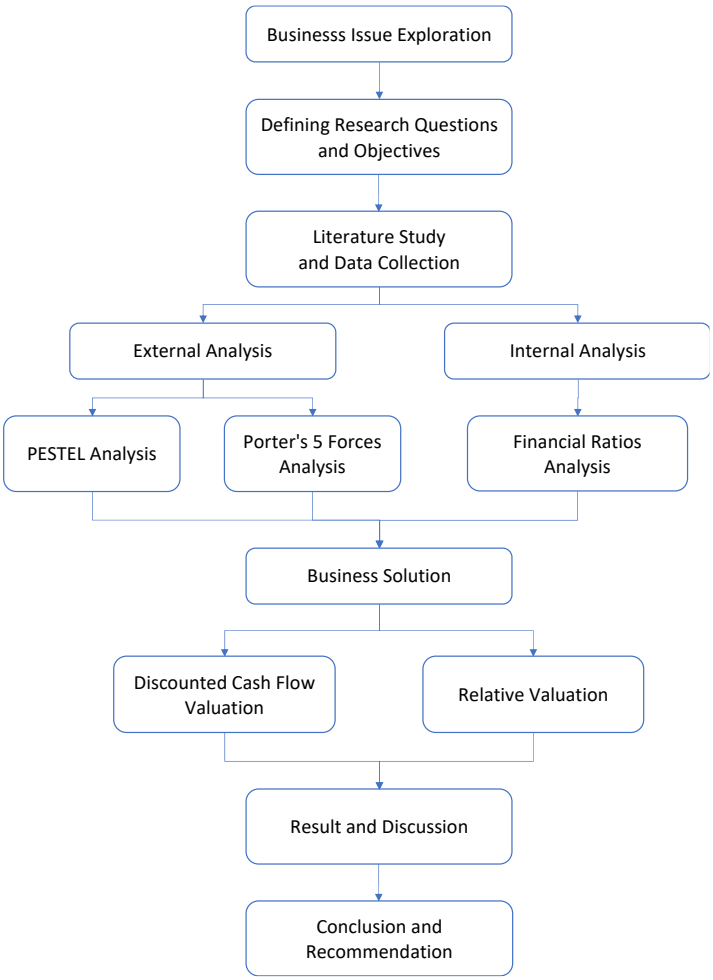

Figure 2. Business Research Methodology

4. RESULTS AND DISCUSSION

4.1 External Analysis

External analysis is conducted using the PESTEL framework to examine macro factors influencing the market, and using Porter's 5 Forces to identify factors affecting industry operations.

4.1.1 PESTEL Analysis

***Political Factors*:** Indonesia lacks clear regulations on taxing plastic used in packaging, with plans for a plastic excise tax still undefined (International Pollutants Elimination Network, 2022). This uncertainty causes industry players to hesitate in making future investments. The plastic recycling sector has potential but is hindered by inadequate regulatory and physical infrastructure (World Economic Forum, 2020). Current policies focus more on reducing plastic use rather than fostering a circular economy, which would benefit plastic producers by mitigating post-consumption waste issues (Wang and Karasik, 2022).

Economic Factors: Plastic remains the most economical packaging material due to its low production cost and efficiency in energy and raw material usage (Edina Energy & Environment, 2020). Alternatives like pulp require more energy and are less economically viable due to limited raw materials (Septiono and Ismawati, 2022). Despite the potential for recycling to mitigate the environmental impact of plastic, inadequate recycling facilities in Indonesia make plastic recycling economically unfeasible (Wang and Karasik, 2022). As a result, plastic is still seen as environmentally unfriendly due to ineffective waste management systems.

Sociocultural Factors: Environmental concerns are driving societal shifts away from plastic packaging (Anggalih, 2022). Plastic manufacturers are working to educate the public on the environmental benefits of properly managed plastic waste, arguing that the

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issue lies in post-consumption management rather than the material itself (Dauvergne and Islam, 2023). Despite these efforts, public perception of plastic remains largely negative.

Technological Factors: No current alternative packaging material surpasses plastic in terms of cost and advantageous properties. Plastic is more resource-efficient, requiring less energy and raw materials for production compared to alternatives like pulp and natural fabrics (Edina Energy & Environment, 2020 and Ekval et al., 2020). The lack of adequate recycling facilities means virgin plastic is still the cheapest and most readily available option, making the recycling business in Indonesia economically nonviable (World Economic Forum, 2020).

Environmental Factors: Biodegradable alternatives to plastic, such as pulp, also pose environmental challenges like deforestation (Edina Energy & Environment, 2020). While plastic production is more environmentally friendly compared to other materials, poor post-consumption management in Indonesia results in significant plastic pollution (World Economic Forum, 2020).

Legal Factors: Indonesian government policies are more focused on reducing plastic usage than on creating a circular economy (Wang and Karasik, 2022). Regulations ban single-use plastic in many areas, but there are no fines for improper waste disposal due to the enforcement challenges (Edina Energy & Environment, 2020). This regulatory environment does not adequately support the development of a circular economy, which would help address plastic waste issues more effectively.

4.1.2 Porter's 5 Forces Analysis

***Industry Competition*:** The competition among plastic bag manufacturers in Indonesia is segmented by region. PBID, a leading player in Jakarta and West Java, faces strong competitors in Central Java and East Java, while regions like Kalimantan have well-established local brands that dominate the market. This regional segmentation makes it challenging for new entrants to penetrate established markets. However, PBID is targeting less saturated markets in Eastern Indonesia to expand its presence (PBID Public Expose, 2022).

Although several plastic packaging manufacturers in Indonesia are publicly traded, as can be seen in **Table 1.**, PBID does not face significant competition from them due to differences in product offerings, such as plastic bottles and flexible packaging films. Most of PBID's major competitors are not publicly traded, providing a unique market position for PBID.

***Threat of Substitutes*:** The plastic packaging industry faces significant threats from the increasing use of environmentally friendly materials and supportive regulations (Anggalih, 2022). These substitutes include biodegradable materials, recycled plastics, and reusable materials like fabric. Despite this, no current substitutes offer the same economic and quality benefits as plastic. Should substitute materials improve, the plastic bag industry could see a decline, with only companies like PBID, which have cost advantages, surviving. This strategy echoes Peter Lynch's investment philosophy of investing in leading companies within declining industries for potential profit as competitors diminish.

***Threat of New Entrants*:** The likelihood of new companies entering the plastic bag production market is low due to the high competition and unfavorable government regulations towards plastic. A more considerable threat comes from new entrants using environmentally friendly materials for packaging. These include biodegradable materials, recycled plastics, and reusable materials. Although these substitutes are not yet as economically viable or high in quality as plastic, advancements in technology may increase this threat over time (Ekval et al., 2020).

***Bargaining Power of Buyers*:** The primary buyers of plastic bags are traditional markets. Transactions are often conducted using a back-to-back pricing system, where price increases in raw materials are directly passed on to product prices. This system reduces price competition among producers, who instead compete on quality and brand reputation (PBID Public Expose, 2022). Despite high demand, a shift towards cheaper alternatives could occur due to the potential imposition of plastic excise and consumer preference for lower-cost products. PBID's strength lies in its strong distribution network and partnerships with over 12,000 retail stores, despite its higher prices reflecting its quality.

***Bargaining Power of Suppliers*:** Suppliers for plastic packaging producers are mainly petrochemical companies producing PE and PP plastic pellets. Indonesia has a limited number of such producers, namely PT. Chandra Asri Pacific, Tbk., PT. Lotte Chemical Titan Nusantara, and Pertamina Group. However, globally, particularly in China, the number of producers is abundant, facilitating imports to meet domestic demand (International Pollutants Elimination Network, 2022). Government policies, such as reduced import duties from Middle Eastern countries, further support this by not hindering imports, ensuring a steady supply of raw materials for plastic packaging producers in Indonesia.

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Table 1. Publicly Traded Packaging Companies in Indonesia

No.	*Company Name*	*Ticker*	*Packaging Products*	*Revenue in 2023 (Billion IDR)*	*Revenue CAGR 7Y*
1	PT. Panca Budi Idaman, Tbk.	PBID	Plastic bags & resins	4,703	5.1%
2	PT. Trias Sentosa, Tbk.	TRST	Flexible plastic films	2,997	4.1%
3	PT. Indopoly Swakarsa Industry, Tbk.	IPOL	Flexible plastic films	2,993	1.8%
4	PT. Impack Pratama Industri, Tbk.	IMPC	Rigid plastics (building)	2,860	15.7%
5	PT. Argha Karya Prima Industry, Tbk.	AKPI	Flexible plastic films	2,724	4.7%
6	PT. Suparma, Tbk.	SPMA	Paper products and wraps	2,659	6.2%
7	PT. Satyamitra Kemas Lestari, Tbk.	SMKL	Rigid and carton boxes	1,739	-4.4%*
8	PT. Tunas Alfin, Tbk.	TALF	Laminating & printing	1,263	11.8%
9	PT. Berlina, Tbk.	BRNA	Rigid plastics	1,000	-4.4%
10	PT. Champion Pacific Indonesia, Tbk.	IGAR	Flexible plastics	858	2.0%
11	PT. Asiaplast Industries, Tbk.	APLI	Flexible & rigid films	469	3.5%
12	PT. Primadaya Plastisindo, Tbk.	PDPP	Plastic bottles	440	21.9%*
13	PT. Yanaprima Hastapersada, Tbk.	YPAS	Plastic (PP) woven bags	346	2.2%
14	PT. Megalestari Epack Sentosaraya, Tbk.	EPAC	Flexible plastic films	111	-13.8%*
15	PT. Sinergi Inti Plastindo, Tbk.	ESIP	Plastic bags	62	5.3%*

*CAGR 6Y or 5Y depends on the latest available data

4.2 Internal Analysis

Internal analysis is conducted to evaluate PBID's financial performance. This internal analysis is carried out by examining several financial ratios, which are Profitability Ratios, Liquidity Ratios, and Solvency Ratios. The charts are provided in **Figure 3.**

4.2.1 Profitability Ratios

As of 2023, PBID's GPM, OPM, and NPM are consistent or slightly increasing, with significant rises in 2020 and 2021 due to a plastic shortage, highlighting effective inventory management. A stable GPM shows PBID's ability to adjust prices according to plastic costs. Despite single-use plastic bans since 2019, PBID maintains its pricing, indicating strong market positioning. Stable OPM and NPM reflect operational efficiency and cost control (Alexander, 2020). PBID's profitability ratios demonstrate management's expertise, ensuring net profit value for shareholders even during crises like Covid-19.

4.2.2 Liquidity Ratios

The current ratio reflects a company's ability to meet short-term obligations with all its short-term assets, while the quick ratio excludes inventory and prepaid expenses, highlighting liquidity without less liquid assets (Alexander, 2020). The cash ratio focuses solely on cash and equivalents. In 2023, PBID's current, quick, and cash ratios are approximately 4x, 1.6x, and 0.8x, respectively, indicating strong liquidity and minimal risk of failing to meet short-term obligations. The stable gap between the quick and cash ratios shows effective receivable collection. An increase in the current ratio due to higher inventory from a new warehouse for market expansion does not pose a problem (Berman and Knight, 2020).

4.2.3 Solvency Ratios

In 2023, PBID's Debt to Equity Ratio (DER) and Debt to Asset Ratio (DAR) are very low, at around 7% and 5%, respectively, indicating a strong capital structure with minimal debt (Alexander, 2020). This is beneficial as it avoids significant interest burdens that could reduce net profit. The Interest Coverage Ratio (ICR), which measures the ability to pay interest expenses from operating profit, is high at about 34x, reflecting PBID's low debt levels (Berman and Knight, 2020). A decrease in DER and DAR in 2020 led to a corresponding increase in ICR, as PBID reduced interest-bearing debt.

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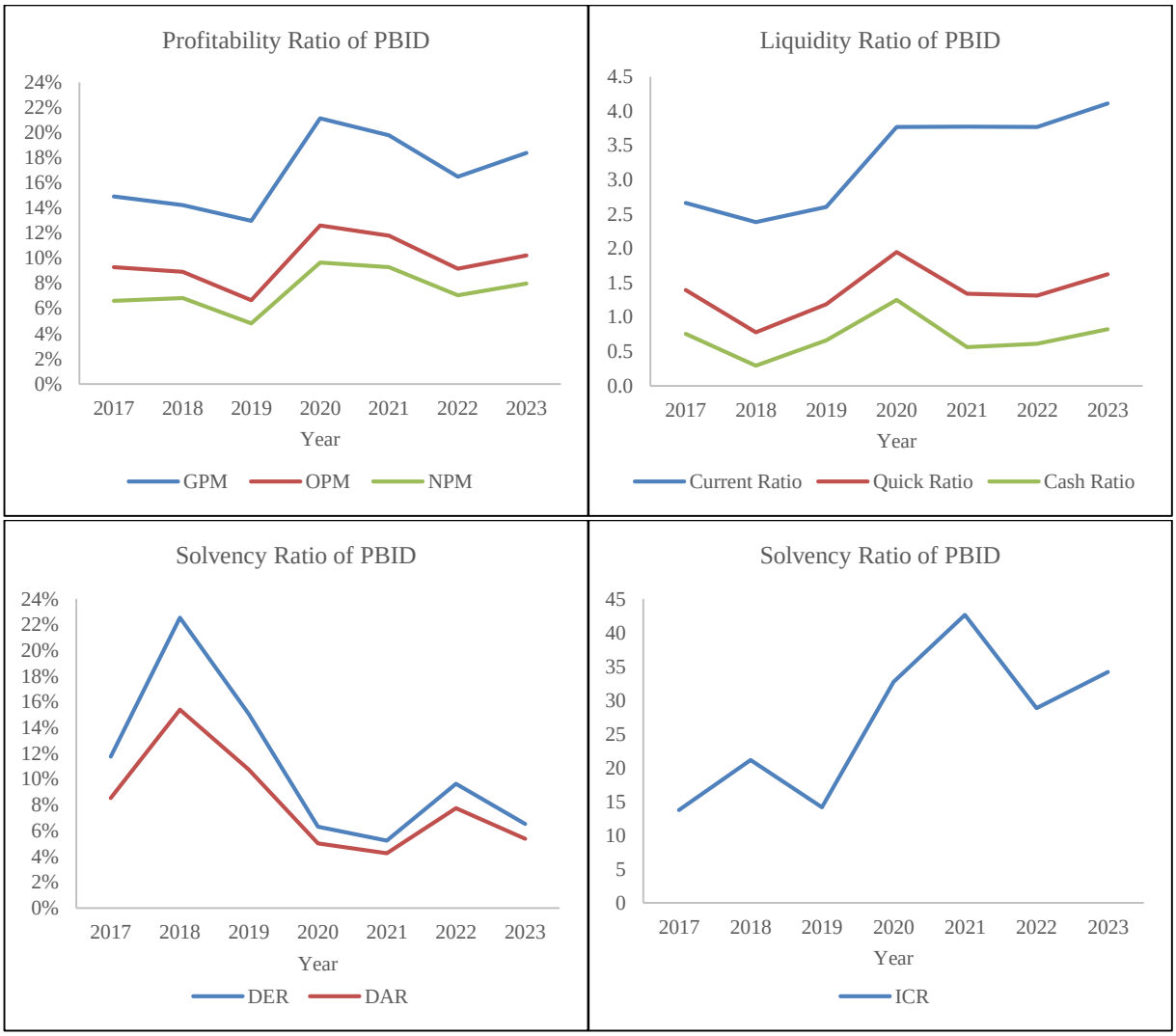

Figure 3. Financial Performance of PBID

4.3 Intrinsic Fair Valuation using FCFF

This section outlines the valuation process and analysis of PT. Panca Budi Idaman, Tbk. The valuation considers various data, assumptions, and factors influencing the results.

4.3.1 Free Cash Flow to the Firm

At first, EBIT is projected for the next 10 years and beyond, with Fiscal Year 2023 as the base year. EBIT CAGR from 2017 until 2023 is used for the growth rate in Year 1, then using mathematical growth rate, growth rate decreases it is gradually decreasing until reaching terminal growth rate. EBIT CAGR from 2017 until 2023 is used because the number reflects company's performance before COVID-19 pandemic and after recovery from the pandemic. Terminal growth rate that is used is the last 10 years Indonesia GDP CAGR at current USD value, which is slightly lower than growth rate at local currency (IDR). Therefore, growth rate at year-1 is 6.75%, and at year-10 until terminal year is 3.61%.

The tax rate that is used is at 22% (PPh Badan). Therefore, EBIT after tax can be calculated. Then, the net capital spending is substracted from the EBIT after tax. Net capital spending is the CAPEX substracted by depreciation and amortization expenses. Next, the change of non-cash working capital is substracted from the equation. PBID's non-cash working capital is decreasing from 2022 to 2023, which means that PBID's is not accumulating working capital and therefore can be expected to generate more cash addition for the shareholders. After that, the Free Cash Flow to the Firm can be calculated.

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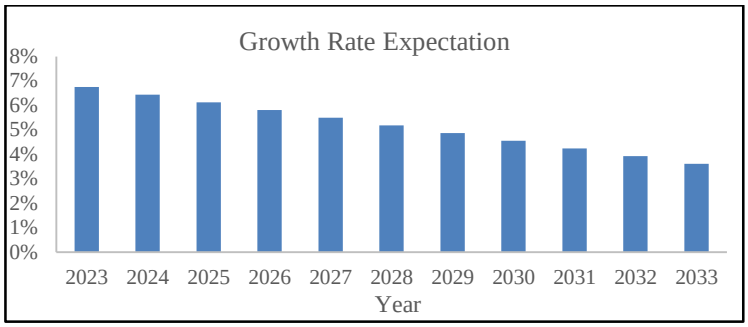

Figure 4. EBIT Growth Rate Expectation of PBID

4.3.2 Present Value of FCFF

WACC is calculated for discounting the projections's FCFF, so that the present value can be known. PBID's weight of equity is much bigger than the weight of debt, since PBID only has a small amount of debt. For the cost of equity, Indonesia's 10 years government bond yield is used, the beta is derived from the Yahoo Finance, and the equity risk premium of Indonesia is derived from Damodaran's table. For the cost of debt, Damodaran's synthetic rating is used, which due to the PBID's high interest coverage ratio, it gets Aaa/AAA rating, which is a good indicator of its capability in managing debt. Using this method, PBID's WACC calculation results in the value of 9.98%.

Next, the terminal value can be calculated using year-10 projected EBIT, terminal growth rate, and WACC. After that, the total present value of FCFF in year-1 until year-10, and the terminal value is calculated using the projected future value that is discounted using the WACC. After the sum of present value of FCFF is calculated, the current total debt is substracted from the number, and current cash is added, then finally results in the value of equity of 7,475,704,644 IDR. The result of the computation is an intrinsic value of 7.475 trillion IDR, equivalent to 3,987 IDR/share. With the current stock price of 1,325 IDR/share, PBID is undervalued. The calculation result overview can be seen in **Figure 5.**

	2023	2024	2025	2026	2027	2028
PBID.JK	*BASE YEAR*	*1*	*2*	*3*	*4*	*5*
EBIT GROWTH RATE	6.79%	6.47%	6.15%	5.84%	5.52%	5.20%
EBIT	481,437,125	512,600,761	544,151,252	575,912,938	607,696,777	639,301,878
TAX RATE	22%	22%	22%	22%	22%	22%
EBIT AFTER TAX = NOPAT = EBIT (1 - T)	375,520,958	399,828,594	424,437,976	449,212,092	474,003,486	498,655,465
LESS NET CAPITAL SPENDING	- 12,392,557	- 13,194,733	- 14,006,866	- 14,824,436	- 15,642,576	- 16,456,116
LESS CHANGE IN NON-CASH WORKING CAPITAL	34,491,392	36,724,035	38,984,393	41,259,882	43,536,958	45,801,228
FREE CASH FLOW TO THE FIRM	397,619,793	423,357,896	449,415,503	475,647,538	501,897,868	528,000,578
WEIGHTED AVERAGE COST OF CAPITAL		9.98%	9.98%	9.98%	9.98%	9.98%
PRESENT VALUE OF FCFF		384,957,453	371,585,011	357,602,428	343,111,777	328,215,994
SUM OF PRESENT VALUE OF FCFF	7,284,815,734					
LESS DEBT	- 171,632,126					
ADD CASH AND CASH EQUIVALENTS	362,521,036					
VALUE OF EQUITY	7,475,704,644					
NUMBER OF SHARES ISSUED AND OUTSTANDING	1,875,000.00					
ESTIMATED INTRINSIC VALUE PER SHARE	3,987.04					
SHARE PRICE	1,325.00					
PRICE AS A PERCENTAGE OF INTRINSIC VALUE	33%					
THE STOCK IS UNDERVALUED						

Figure 5. Calculation Overview of PBID's Intrinsic Value

4.4 Relative Valuation

4.4.1 PT. Indopoly Swakarsa Industry, Tbk. (IPOL)

IPOL and its subsidiaries operate packaging manufacturing businesses in Indonesia, China, Singapore, and the US. They produce various films, including plain, matte, metallized, heat sealable, thermal, and polypropylene films. Established in 1995, IPOL is headquartered in Jakarta, Indonesia.

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The financial report is presented in USD due to transactions primarily in USD and CNY, with a conversion rate of 15416 IDR/USD as of December 31, 2023. The company's financial performance for 2023 shows a significant difference between Enterprise Value and Market Value of Equity due to high debt levels. The significant gap between EBIT and Net Income results from substantial interest expenses. Despite a low Price to Book Value (PBV), the Price to Earnings Ratio (PER) is high due to low profitability in 2023, impacting net income. IPOL's EV to EBITDA ratio is 7.46, which will be compared with PBID and other peers.

4.4.2 PT. Primadaya Plastisindo, Tbk. (PDPP)

PDPP produces and markets plastic packaging products. Its products are PC jugs, PET preforms, PET blow bottles, PP straws, HDPE jug caps/cap-shields, HDPE jerrycans, PP bottles caps, jug, and hand sanitizer tissues. The company's headquarters are in Tangerang, Indonesia, where it was established in 2005.

Using 2023 data, the company's financial performance can be seen in the table below, the value is in IDR. The difference between EV and Market Value of Equity is small, it is because PDPP has small amount of debt. The difference between EBIT and Net Income is relatively normal, indicating that currently PDPP has quite a relatively normal amount of interest expenses. Aside from that, both PBV and PER value is relatively high, indicating that it is currently priced at a quite premium value. Its EV to EBITDA is at 18.76, which later will be used as comparison with the EV to EBITDA of PBID and that of other peers.

4.4.3 PT. Trias Sentosa, Tbk. (TRST)

TSRT, a manufacturer of flexible packaging films, serves markets in Europe, Africa, Asia, the United States, Australia, and Indonesia. The company produces biaxially oriented polypropylene (BOPP) and biaxially oriented polyester (BOPET) films, offering laminated, matte, transparent, opaque, and label products. These are used for food packaging, tobacco and box overwraps, anti-fog bags, paper look packaging, and various other applications. Founded in 1979, TSRT is based in Sidoarjo, Indonesia.

In 2023, TSRT's financial performance revealed a significant difference between Enterprise Value (EV) and Market Value of Equity due to high debt levels. The disparity between EBIT and Net Income is attributed to substantial interest expenses. TSRT's Price to Earnings Ratio (PER) is negative, reflecting a net income loss for the year. The EV to EBITDA ratio stands at 20.23, which will be used for comparison with PBID and other peers.

Table 2. Financial Indicators Comparison of PBID with Peer Companies in 2023

Financial Indicator	*PBID (IDR)*	*IPOL (IDR)*	*PDPP (IDR)*	*TSRT (IDR)*
Enterprise Value (EV)	2,293,486,090,000	2,019,111,916,737	1,231,035,495,067	3,535,359,000,000
Market Value of Equity	2,484,375,000,000	1,011,610,582,913	1,193,923,160,820	1,684,800,000,000
Book Value	2,630,524,565,000	2,728,208,106,248	385,686,892,042	2,524,417,000,000
EBITDA	544,009,286,000	270,667,637,864	65,608,619,818	174,731,000,000
EBIT	481,437,125,000	91,950,104,024	46,578,825,924	-56,540,000,000
Net Income	374,153,078,000	4,402,963,760	33,988,123,516	-243,549,000,000
EPS	199.55	0.68	11.10	-86.73
Share Price	1,325	157	390	600

4.4.4 Comparison to PBID

Out of the 4 plastic packaging manufactures, only 2 companies, PBID and PDPP, that are still having a relatively healthy profitability performance, with the EBIT and Net Income that are not too far apart. IPOL and TSRT are experiencing low performance because of the current market condition in plastic industry that is not good, with low demand and relatively high plastic price as their raw material. Despite this condition, PBID can still perform well, and has the highest profitability compared to its peers in the table below. The comparison can be seen in **Table 2.**

The PER and the PBV of PBID is undervalued relative to the average of its peers. This means that PBID is cheaper than the average of its peers. Based on EV to EBITDA, PBID also undervalued relative to the average of its peers. The comparison can be seen in **Table 3.** EBITDA is used because it eliminates the non-cash components, which is Depreciation and Amortization, and only looking purely at the profit from operation, excluding the interest and tax expense that is not related with operation. This means that PBID is cheaper than the average of its peers.

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Table 3. Market Ratio Comparison of PBID with Peer Companies in 2023

Market Ratios	*PBID*	*Average of Peer Companies*	*IPOL*	*PDPP*	*TSRT*
PER	6.6	86.0	229.8	35.1	-6.9
PBV	0.9	1.4	0.4	3.1	0.7
EV TO EBITDA	4.2	15.5	7.5	18.8	20.2

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

5.1.1 Intrinsic Valuation of PBID

PBID's intrinsic value is 7.475 trillion IDR, equivalent to 3,987 IDR/share, with a current stock price of 1,325 IDR/share, indicating it is undervalued and may eventually reach its projected intrinsic value.

5.1.2 Relative Valuation of PBID

PBID and PDPP are the only two plastic packaging manufacturers with healthy profitability performance, with EBIT and Net Income higher than those of IPOL and TSRT. IPOL and TSRT are experiencing low profitability due to low demand and high plastic raw material prices.

Based on PER, PBV, and EV to EBITDA, PBID is undervalued relative to those of the average of its peers. This shows that PBID is cheaper compared to its peers.

5.2 Recommendation

Based on the comprehensive analysis of PT Panca Budi Idaman, Tbk. (PBID), investors should consider buying PBID's stock. The Discounted Cash Flow (DCF) method indicates an intrinsic value of IDR 3,987 per share, significantly higher than the current market price of IDR 1,325 per share, suggesting strong potential for price appreciation. Relative valuation, comparing PBID to its industry peers using EV/EBITDA, P/E, and P/B ratios, also shows that PBID's stock is undervalued.

PBID has demonstrated robust financial performance from 2017 to 2023, with consistent profitability, strong liquidity, and low leverage. This stability underscores the company's resilience and growth potential. PBID's market dominance and ongoing expansion highlight its strategic growth initiatives. The company's extensive distribution network and strong brand recognition further enhance its competitive edge. Despite regulatory pressures, the demand for plastic packaging remains robust due to its cost-effectiveness.

For long-term investors, PBID presents a compelling opportunity. The company's strong fundamentals, undervaluation, and strategic growth plans indicate significant potential for capital appreciation. Therefore, given the undervaluation shown by both intrinsic and relative valuation methods, strong financial health, market leadership, and positive industry outlook, investors are recommended to buy PBID's stock.

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