

## **Stock Valuation Of Mining Sector Companies Listed In Idx Using Dividend Discounted Model (Ddm), Price To Earning Ratio (Per), Price To Book Value Ratio (Pbv), And Price To Sales Ratio (Per)**

**Devi Nadia Lotisna, Muhammad Sobarsyah, Andi Ratna Sari Dewi**

<sup>1,2</sup> Master Of Management, Faculty Of Economics And Business, Hasanuddin

### **ABSTRACT :**

*This study is conducted to analyze the intrinsic value of companies in mining sector using absolute valuation method of Dividend Discounted Model (DDM), and relative methods consisted of Price TO Earning Ratio (PER), Price to Book Value (PBV), Price to Sales (P/S) using financial reports of mining sector companies listed on Indonesia Stock Exchange in 2020 – 2022. Based on the results of this study, the author develop Investment decisions for mining sector companies by considering recommendations from the stock valuation analysis that has been reviewed. This study recommends to buy ADRO, BSSR, PTBA, ITMG, KKG, TBMS, ANTM, TPMA that are estimated undervalued and sell for the rest that are estimated overvalued but with specifics for trading or long term investments.*

*Keyword : mining sector, dividend discounted model, price earning ratio, price to book value, price to sales, stock valuation.*

Copyright (c) 2023 Devi Nadia Lotisna

---

✉ Corresponding author :

Email Address : [manizahendra@gmail.com](mailto:manizahendra@gmail.com)

### **INTRODUCTION**

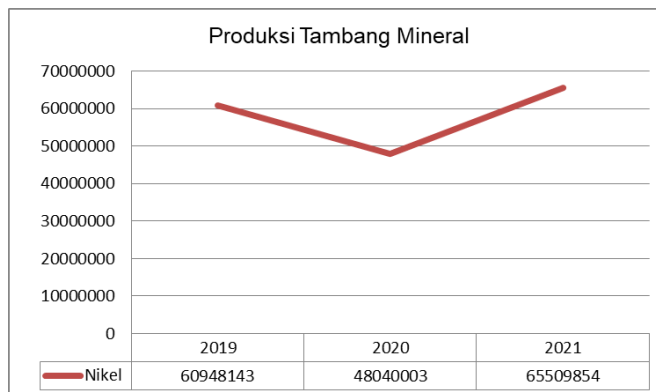
The capital market has become one of the main preferences in investing for Indonesian. Based on the data from PT Kustodian Sentral Efek Indonesia (KSEI), the number of *Single Investor Identification* (SID) at the end of semester 1 of 2022 has reached 4 million with 99.97% being local individual investors and an increase of 15.96% from the number of investors of 3.4 million in 2021. The number of investors has increased rapidly since 2020 where the number of investors reached 1.6 million. Investor data in 2022 is dominated by investors under 40 years old who hold assets of 81.64% with an asset value of IDR 14.07 trillion.

According to Samuelson (1995: 436) defines that economic growth indicates an expansion or increase in the potential Gross Domestic Product/ output of a country, and investment becomes one of the instruments that affects GDP. Capital markets play an important role in encouraging economic growth through increased investment to increase the production of goods and services in the economy. Each country has it's own capital market, in Indonesia it's Capital Market is the Indonesia Stock Exchange. The Capital Market itself is a means of funding for companies and also a means for investment activities, in the

Capital Market offers long-term instruments such as debt securities (bonds), equity (shares), mutual funds, and other financial instruments. (idx.co.id).

One of the investment products favored by investors today is shares, which is a title letter from the company, meaning that if someone buys shares then that person gets the right of ownership for a specific unit of equity in a company. Stocks are investment instruments in the Capital Market that move very quickly or have a high level of volatility, basically stocks have High Risk High Return characteristics which means the greater the potential profit obtained by investors followed by the potential for large risks.

Investors first instinct are looking for profits, investors usually look at sectors that have good prospects in the future. INDEF Industry, Trade and Investment Researcher Ahmad Heri Firdaus stated that the mining sector has the potential to boost national's economic growth, based on data from the Central Statistics Agency (BPS), the contribution of the mining and quarrying sector to national economic growth increased to 12.22% from the year-on-year (*100y*) comparison 8.98% in 2021, and 6.44% in 2020. One of the effects of this increase is Indonesia's efforts in realizing Net Zero Emission by 2060. Indonesia is making various efforts including the use of alternative energy sources that are more environmentally friendly such as nickel in *electric vehicle* (EV) batteries. According to the USGS (United State Geological Survey) report In 2015, Indonesia was the 6th largest nickel producer in the world and ranked as the 2nd largest nickel producer in Asia based on total nickel resources reaching 170,000 metric tons and existing reserves of 4.5 million tons. In 2022, Indonesia is listed as the owner of the largest nickel reserves in the world reaching 21 million metric tons and contributing up to 48.48% of the world's total nickel production throughout 2022. Alongside with the demand for coal commodities which has shown a positive trend since 2022 caused by the Ukraine-Russia conflict, suppressing coal inventories in Germany and making Europe turn to Indonesia for coal supply. Soaring coal commodity prices in 2022 encouraged coal exports in Indonesia to contribute as much as 4.5% to total GDP in the first quarter of 2022, with positive export performance, Indonesia's trade balance reached USD 9.3M in the first quarter of 2022. However, in addition to the outlook for the sector, stock valuation is also needed to see the fair value of shares in making investment decisions.



Source : Publication of Non-Oil and Gas Mining Statistics; [www.bps.go.id](http://www.bps.go.id)

Valuation of stocks produces intrinsic value information that will be compared with the market price of shares to find a sell or buy position on a company's stock (Tandelilin, 2017). So by knowing the intrinsic value, an investor can find out the current market stock price category is *undervalued*, *overvalued*, or *correctly valued*. Stock price deviations are divided into two, namely the stock price is higher than the fair price (*overvalued*) and the stock price is lower than the fair price (*undervalued*). *Mispricing* occurs when there is a discrepancy between the market price and the fundamental price. Analyzing stock *mispricing* can help us in

making investment decisions, when the fundamental price  $>$  the market price, it is recommended for investors to buy the stock because it is still in a low price condition, while when the fundamental price  $<$  the market price, it is advisable for investors to sell the stock when it is in a high price condition.

Fundamental Analysis is an analysis that focuses on assessing the fair price of a stock using data from the company's financial statements. Fair price valuation with fundamental analysis has two approaches, namely Absolute Valuation and Relative Valuation. Absolute Valuation, which analyzes the absolute value of the company, based on the assets owned. This approach is suitable for analyzing long-term stocks, the method that can be used is the Dividend Discount Model (DDM). While Relative Valuation is a method of valuation or valuation of stocks that is simple and faster than other valuation tools, by measuring relative value rather than intrinsic value, besides that Valuation is relatively suitable for analyzing from companies that have the same sector. The method used in Relative Valuation uses Price to Earning Ratio (PER) Price to Book Value (PBV), and Price to Sales Ratio (P/S).

## LITERATURE REVIEW

**Capital Market** according to Law No. 8 of 1995 is an activity related to public offerings and trading of securities, public companies related to the securities they issue, and institutions and professions related to securities. In general, the capital market serves to connect investors with companies or institutions that offer ownership rights which can be in the form of shares, bonds, and etc. According to Weston and Brigham (1994) the stock market price is the market value of securities that investors can obtain if investors sell or buy shares determined based on the closing price or closing price.

Dividend Discounted Model (DDM): is used to calculate the fair price stock. In this model, the fair price of a stock is the present value of the estimated the dividends. By calculating the estimated dividend in the future, the fair price of a stock can be calculated, because the current fair price of the stock is the present value of future dividends indefinitely (Damodaran, 2002). This method utilizes the theory that the current value of the stock price is equal to the total amount of future dividend payments when discounted back to the current value. According to (Damodaran, 2012b) the rationale of this Dividend Discounted Model (DDM) model is that in the present value approach, the fair value of all assets is the present value of all expected future cash flows, then discounted at a level corresponding to the discounted cash flow risk.

Price to Earning Ratio (PER) According to (Tandelilin, 2017) the PER approach is also called the multiplier approach, which means that investors will calculate the number of times the value of earnings reflected in the price of a stock. PER describes the ratio or comparison between the company's stock price to earnings (EPS). If for example the PER of a share as much as 3 times means that the stock price is equal to 3 times the value of the company's earnings. PER provides information on how many rupiah the price that investors must pay to get every Rp.1 of company earnings.

Price to Book Value (PBV) According to (Tandelilin, 2017) the relationship between stock market price and book value per share can also be used as an alternative approach to determine the value of a stock. Because theoretically the market value of a stock should reflect it's book value. Rosenberg 1985 (in Tandelilin, 2017:324) found that stocks that have a low price/book value ratio will produce significantly higher returns than stocks that have a high price/book value ratio. Thus Rosenberg 1985 (in Tandelilin, 2017:324) recommends buying stocks that have a low price/book value ratio if you expect greater returns at a certain level of risk.

Price to Sales Ratio is used to assess the fair price of shares through sales, to calculate this ratio used the formula of stock price divided by sales per share (Guinan, 2010). This ratio helps investors understand the valuation of a company based on the stock price and revenue earned by a company. Therefore, this ratio can help you read the development potential of a company. If the ratio shows a low value, then the stock can be *undervalued* and vice versa, when the value is high, the stock can be valued as *overvalued*.

## RESEARCH METHODOLOGY

The object of research in this scientific paper is a mining company with a purposive sampling method based on criteria

	Criterion	Number of Issuers
1.	Listed on the Indonesia Stock Exchange in the Mining Sector and not in the process of <i>delisting</i> during the period 2020 – 2022	63
2.	Not conducting a <i>stock split</i> during the period 2020 – 2022; <i>Stock Split</i> negatively affects PER and PBV( Wilen, Nicholas)	(2)
3.	Distribute dividends during the period 2020 – 2022	(49)
4.	Provide completed annual financial report data for the period 2020 – 2022	12

Issuer	Sub-Sector	Stock Code
PT. Adaro Energy Tbk	Coal Mine	ADRO
PT. Baramulti Suksessarana Tbk	Coal Mine	BSSR
PT. Indo Tambangraya Megah Tbk	Coal Mine	ITMG
PT. Natural Resources Indonesia Tbk	Coal Mine	KKGI
PT. Mitrabara Adiperdana Tbk	Coal Mine	MBAP
PT. Bukit Asam Tbk	Coal Mine	PTBA
PT. Pelita Samudera Shipping Tbk	Coal Mine	PSSI
PT. Dana Brata Luhur Tbk	Coal Mine	TEBE
PT. Trans Power Marine Tbk	Coal Mine	TPMA
PT. Aneka Tambang Tbk	Metals & Minerals	ANTM
PT. Copper Mulia Semanan Tbk	Copper	TBMS
PT. Cita Mineral Investindo Tbk	Aluminium	CITA

This research uses secondary data in the form of the company's financial statements for 2020-2022 obtained from the official website of the Indonesia Stock Exchange for quantitative analysis. The author will analyze stock valuation in formulating recommendations for investment decisions in companies in the mining sector using the *Dividend Discounted Model* (DDM), Price To Earning Ratio (PER), Price To Book Value Ratio (PBV), and Price To Sales Ratio (PER) methods

The general model of the *Dividend Discounted Model* (DDM) quotes constant growth from (Brigham and Houston, 2011) as follows:

$$V_0 = \frac{D}{r - g}$$

Information:

$V_0$  : Intrinsic Value of Stocks

D : Dividend per share  
r : Expected rate of return  
g : Expected growth

## RESEARCH RESULTS

### VALUE RECONCILIATION

Price Market	Method	Variable Fund	Multiples	Weight	Weight Value	Value	Information	Recommendation
1983,46	PER	616,61	6,66	0,33	1368,75	4106,24	UNDERVALUE	BUY
1983,46	PBV	2292,18	0,82	0,33	626,85	1880,55	OVERVALUE	SELL
1983,46	P/S	2245,01	0,89	0,33	663,35	1990,04	UNDERVALUE	BUY
					2658,94		UNDERVALUE	BUY
2755,27	PER	892,15	6,28	0,33	1867,58	5602,75	UNDERVALUE	BUY
2755,27	PBV	1244,61	2,24	0,33	930,86	2792,59	UNDERVALUE	BUY
2755,27	P/S	3849,10	0,84	0,33	1075,49	3226,48	UNDERVALUE	BUY
					3873,94		UNDERVALUE	BUY
18484,02	PER	7,44	7355,50	0,33	18239,88	54719,65	UNDERVALUE	BUY
18484,02	PBV	14,06	3367,51	0,33	15781,34	47344,02	UNDERVALUE	BUY
18484,02	P/S	29,97	590,16	0,33	5894,92	17684,76	OVERVALUE	SELL
					39916,14		UNDERVALUE	BUY
3640,16	PER	1431,86	3,38	0,33	1610,99	4832,98	UNDERVALUE	BUY
3640,16	PBV	2353,52	1,45	0,33	1140,48	3421,43	OVERVALUE	SELL
3640,16	P/S	3841,74	0,89	0,33	1141,25	3423,74	OVERVALUE	SELL
					3892,72		UNDERVALUE	BUY
1952,47	PER	671,96	4,16	0,33	932,40	2797,20	UNDERVALUE	BUY
1952,47	PBV	2028,50	0,97	0,33	657,76	1973,28	UNDERVALUE	BUY
1952,47	P/S	2581,89	0,81	0,33	696,56	2089,69	UNDERVALUE	BUY
					2286,72		UNDERVALUE	BUY
350,67	PER	68,69	5,49	0,33	125,76	377,29	UNDERVALUE	BUY
350,67	PBV	324,44	1,02	0,33	110,78	332,33	OVERVALUE	SELL
350,67	P/S	268,54	1,23	0,33	110,19	330,58	OVERVALUE	SELL
					346,73		OVERVALUE	SELL
578,00	PER	127,35	-70,97	0,33	-3012,80	-9038,39	OVERVALUE	SELL
578,00	PBV	654,62	0,88	0,33	191,16	573,48	OVERVALUE	SELL
578,00	P/S	370,36	1,87	0,33	230,70	692,09	UNDERVALUE	BUY
					-2590,94		OVERVALUE	SELL
280,81	PER	52,41	-0,64	0,33	-11,11	-33,34	OVERVALUE	SELL
280,81	PBV	300,50	0,92	0,33	92,52	277,57	OVERVALUE	SELL
280,81	P/S	449,94	0,73	0,33	108,80	326,41	UNDERVALUE	BUY
					190,21		OVERVALUE	SELL
339,68	PER	43,46	14,67	0,33	212,56	637,67	UNDERVALUE	BUY
339,68	PBV	452,75	0,75	0,33	112,75	338,26	OVERVALUE	SELL
339,68	P/S	268,03	1,28	0,33	114,77	344,30	UNDERVALUE	BUY
					440,08		UNDERVALUE	BUY

<b>NTM</b>	1950,16	PER	80,42	139,75	0,33	3746,13	11238,39	UNDERVALUE	BUY
	1950,16	PBV	644,36	9,10	0,33	1955,44	5866,31	UNDERVALUE	BUY
	1950,16	P/S	1208,36	6,09	0,33	2453,56	7360,67	UNDERVALUE	BUY
						8155,12		<b>UNDERVALUE</b>	BUY
<b>BMS</b>	1399,84	PER	223,20	6,29	0,33	468,11	1404,33	UNDERVALUE	BUY
	1399,84	PBV	2277,17	0,61	0,33	463,05	1389,14	OVERVALUE	SELL
	1399,84	P/S	25379,59	0,06	0,33	467,62	1402,85	UNDERVALUE	BUY
						1398,78		<b>OVERVALUE</b>	SELL
<b>ITA</b>	3277,07	PER	53,97	70,04	0,33	1259,92	3779,77	UNDERVALUE	BUY
	3277,07	PBV	919,84	3,55	0,33	1088,74	3266,21	OVERVALUE	SELL
	3277,07	P/S	289,78	11,47	0,33	1107,70	3323,11	UNDERVALUE	BUY
						3456,36		<b>UNDERVALUE</b>	BUY

ISSUER	ROE	EPS	DPS	DPR	g	DPS1	r	Vo	VALUA
<b>ADRO</b>	43%	1303	141,39	10,85%	38,67%	19606,27%	44,71%	3246,48	<b>UNDER</b>
<b>BSSR</b>	109%	1350	1879,86	139,24%	-42,70%	107720,56%	-11,57%	3461,1	<b>UNDER</b>
<b>ITMG</b>	61%	16	7168,00	45861,49%	-28141,51%	-201001517,29%	-34251,09%	32899,39	<b>UNDER</b>
<b>MBAP</b>	92%	2759	524,03	18,99%	74,45%	91414,58%	88,88%	6331,1	<b>UNDER</b>
<b>PTBA</b>	44%	1109	688,52	62,07%	16,76%	80393,28%	47,70%	2598,91	<b>UNDER</b>
<b>PSSI</b>	28%	115	28,00	24,33%	21,52%	3402,44%	27,72%	548,15	<b>UNDER</b>
<b>TEBE</b>	31%	255	70,00	27,44%	22,56%	8579,38%	33,81%	763,09	<b>UNDER</b>
<b>KKGI</b>	32%	115	20,00	17,39%	26,24%	2524,89%	32,91%	378,99	<b>UNDER</b>
<b>TPMA</b>	19%	97	12,00	12,41%	17,06%	1404,66%	20,54%	403,02	<b>UNDER</b>
<b>ANTM</b>	16%	159	38,74	24,36%	12,19%	4345,80%	14,47%	1906,49	<b>OVERLY</b>
<b>TBMS</b>	8%	209	44,51	21,25%	6,68%	4748,50%	9,73%	1558,51	<b>UNDER</b>
<b>CITA</b>	4%	34	55,00	162,85%	-2,21%	5378,46%	-0,81%	3855,61	<b>UNDER</b>

## Valuation Analysis

- **ADRO**

ADRO noted that the excellent performance outlook throughout 2022 was influenced by soaring coal prices and followed by an increase in thermal and metallurgical coal sales by ADRO. In addition, ADRO posted an increase in average selling price by 73% and succeeded in reducing production costs. For the prospect of coal, 2023 is not as good as in 2022 due to declining coal demand from Europe and increased competition for coal supply from India, Australia, and China which focus on increasing coal production so that coal prices in 2023 will moderate but relatively stable in the range of USD 200 per ton. The recommendation for ADRO shares is BUY and HOLD seeing ADRO's bottom line performance throughout the first quarter reaching a run rate of 31.45% accompanied by a decrease in income tax expense of 20.77% yoy due to IUPK-KOP from PT Adaro Indonesia. In addition, the weather forecast also supports mining operations and demand from a number of countries such as China, Korea, Malaysia, and Japan remain stable.

- **BSSR**

Just like mining companies in the coal subsector, BSSR also recorded significant growth in production, sales, and net profit yoy in 2022 and BSSR seeks to continue this positive trend in infrastructure development and the implementation of several strategies to reap high net profits in 2023 such as conducting umbrella agreements with suppliers and equating cost

component with the index and focusing on increasing production so that for long-term investment recommended BUY and HOLD for BSSR shares. In addition, BSSR has also promised to distribute dividends totaling USD 60 million in 2023.

- ITMG

Due to the drastic changes in share prices and dividends that soared in 2022 due to an increase in the price of coal in 2022, the energy sector index (IDXENERGY) led the sectoral gains with an extraordinary increase of 100.05%. This was supported by market sentiment of rising global commodity prices, including coal, which was influenced by tight supply in Germany as the Russia-Ukraine war erupted. In March 2023, China recorded the most coal imports compared to other countries with seaborne thermal coal imports reaching 26.82 million tons, the results of PER, PBV, P/S and DDM model estimated ITMG is undervalued therefore, it is recommended to BUY ITMG shares. Although the positive trend does not continue in 2023 but it's estimated that the demand in coal will still be high especially from China as demand for fuel used to generate power and produce steel increased as China reopened it's economy after ending it's strict zero-Covid policy in December 2022.

- MBAP

Currently, coal prices are declining because Europe is reselling coal supplies that was accumulated from 2022 so the recommendation for short-term investment for MBAP shares is SELL and for long-term investment is BUY looking at MBAP's future prospects which are focusing on developing non-coal subsidiaries, MBAP Director Syadaruddin targets MBAP to be able to hold 30 megawatt peak (MWP) contracts this year. Masdar Mitra Solar Radiance has signed a 1.3 MWP power plant contract with Margamas. MBAP also develops it's subsidiary in the field of wood pallet production through Malinau Hijau Lestari (MHL). In 2023, Malinau Hijau Lestari will start the construction phase of the wood pellet plant. The plant is expected to reach the commercial operating date (COD) stage in 2025 with a capacity of 150,000 tons per year.

- PTBA

Recognizing the deteriorating coal trend in 2023, PTBA is attempting to diversify it's business into Energi Baru Terbarukan (EBT) to support the performance of the company. On April 17, 2023, the PTBA and HDF Energy, a provider of renewable energy, including hydrogen fuel, reached an agreement on a Memorandum of Understanding (MoU). In an effort to cut carbon emissions, HDF Energy and PTBA are exploring ways to work together to build extensive hydrogen fuel infrastructure in PTBA's operations areas. Green energy that is reliable and sustainable can be produced by this infrastructure and used internally by PTBA or sold on the open market. PTBA conducts Good Mining Practice with decarbonization projects to assist the Government in achieving its Net Zero Emission objective by 2060. In addition to business diversification, the phenomenon of heat waves that hit the Asian region is predicted to increase coal demand so that PTBA's performance is projected to record a positive performance in 2023 and investment recommendations are BUY and HOLD.

- PSSI

The decline in coal shipping transaction volume is due to declining coal interest compared to 2022, thus affecting PSSI's operational movements, therefore SELL is recommended.

- TEBE

The result of the analysis recommendation is that TEBE is better to SELL for trading and BUY or HOLD for long-term investment. This SELL decision can be influenced by accumulated data for relative valuations that take into account net losses recorded in the 2020 period, but seeing the development of TEBE which recorded profits in the following years makes this stock has the potential for long-term investment. TEBE management itself looks optimistic

about the positive trend of TEBE's performance, due to the development of TEBE infrastructure which focuses on adding stockpiles and land acquisition for conveyor line-4 which is projected to increase TEBE's productivity in achieving revenue in 2023.

- KKGI

There is a difference from the relative valuation of P/E and PBV which recommends SELL while P/S recommends BUY. This result is due to the P/S calculation which takes into account annual revenue and does not take into account the losses recorded in KKGI's 2020 financial statements. If you leave aside the losses recorded in the 2020 period, the DDM and P/S methods recommend BUY, in addition, KKGI's performance has scored a positive performance in the first quarter of 2023, reaching USD 85.50 million, an increase of 104.4% yoy. KKGI's performance was supported by KKGI's export and coal sales which grew by 120% and 74.11% yoy. KKGI's rapidly increasing profit growth in 2023 is predicted to allow KKGI's share price to reach Rp. 900, so the right recommendation considering KKGI's financial performance is BUY or HOLD for long-term investment.

- TPMA

As of the first quarter of 2023, TPMA achieved an increase in operating revenue by 38.86% year on year (YoY) to USD 17.08 million. Net profit for the period attributable to owners of TPMA's parent entity also soared 154.97% YoY to USD 4.87 million. Apart from the volatility of coal commodity prices, there is a promising prospect of national coal production needs throughout 2023, especially because market sentiment caused by the Ukraine-Russia conflict encourages Europe to take coal supplies from Indonesia and recommended BUY or HOLD.

- ANTM

The recommendation using the Dividend Discounted Model method on ANTM shows an overvalue estimation with a SELL recommendation showing different results from valuation using the PER, PBV, P/S method due to the influence of ANTM's stock price which has ARB and decreased compared to 2021 due to the failure of Indonesia Battery Corporation's (IBC) plan to acquire an electric vehicle company in Germany, namely StreetScooter, where IBC is a joint venture of a number of SOEs such as Mind ID, PT Pertamina, PT PLN and ANTM so that the DDM method using 2022 data estimates poor performance and does not consider financial data in 2020 and 2021 such as PER, PBV, and P/S which use 3 years of data. With this consideration encourages the author to prioritize BUY and HOLD recommendations from the PER, PBV, and P/S methods seeing ANTM's prospects in 2023 recorded to have good financial performance and follow the positive nickel commodity trend related to the realization of electric vehicles.

- TBMS

For investment trading decisions from relative valuations, SELL recommends seeing copper's prospects throughout 2023 projected to decline. Global research and consulting firm Wood Mackenzie predicts, in an accelerated energy transition scenario, copper's demand will grow slowly by around 2% per year during 2023-2025. However, for long-term investment with DDM estimation recommends BUY or HOLD because copper is one of the renewable energy sources used in the development of electric vehicles and power generation infrastructure.

- CITA

For CITA's stock investment decision, the author recommends following the stock valuation using the PBV method, namely SELL considering CITA's deteriorating performance in 2023 due to the bauxite export ban announced by the Government. The ban, which came into effect on June 10, 2023, was set in an effort to encourage downstream of metallic minerals in the



country. This decline in performance is also expected to continue in 2024 if there are no changes to the regulation. DDM's valuation results show a BUY recommendation due to the positive performance recorded by CITA in 2022, but this does not take into account the implementation of regulations in 2023, so the appropriate recommendation follows the PBV valuation, namely SELL.

## CONCLUSION

1. The study suggests BUY shares of ADRO, BSSR, ANTM, TBMS, KKGI, TPMA, ITMG, and PTBA for trading or long investment. Meanwhile for MBAP and TEBE are considered to BUY or HOLD but only for long investment since coal subsector is projected to have an increase in demand in the future although it's slower than the surge in 2022. Majority of companies in coal subsector has recorded declining performance compared to 2022 because the influence of current market's sentiments in 2023 but in general are still in good performance and engaged in diversification business and strategies to accommodate to the situation.
2. Since the decline in coal shipping transaction volume due to the decline in coal interest in 2023 compared to 2022, thus affecting PSSI's operational movements, therefore SELL is recommended following PBV and P/S recommendations. As for CITA's stock investment decision, the author recommends following the stock valuation using the PBV method, namely SELL considering CITA's deteriorating performance in 2023 due to the bauxite export ban announced by the Government.

## SUGGESTIONS

Companies in the coal subsector have a significantly different dividend and share price surge in 2022 compared to the previous year, so the projection data associated with the Dividend Discounted Model on constant growth could be less accurate in estimating the fair price of shares, so it is recommended to calculate the data with the Dividend Discounted Model on non-constant dividend growth. Other methods of absolute valuation such as Discounted Cash Flow (DCF), and Free Cash Flow to Equity (FCFE) are also recommended.

## Bibliography

- Brigham, E. F., & Houston, J. F. (2007). Fundamentals of financial management (Dasar-dasar Manajemen Keuangan). In *Engineering and Process Economics*.
- Cahyono, J. E. (2002). *Investing in JSX now? No, I'm Not That Fool : Another "22 Strategi dan Kiat Meraih Untung di Bursa Saham"*. Jakarta: PT.Alex Media Komputindo.
- Brealey, Stewart & Marcus. 2007, Fundamental Of Corporate Finance 5th edition. Mc.graw Hill.
- Brigham, E.F., and Ehrhardt, M.C. 2002. *Financial Management, Theory and Practice*, (10th ed). Nem York: Thomson Learning, Inc.
- Brigham, E.F., dan Joel F. Houston. 2001. *Fundamentals of Financial Management*.
- Terjemahan oleh Ali Akbar Yulianto. Edisi Delapan. Salempa Empat: Jakarta.
- Brigham, E.F., dan Joel F. Houston. 2011. *Fundamentals of Financial Management*.
- Terjemahan oleh Ali Akbar Yulianto. Edisi Sebelas. Salempa Empat: Jakarta.

- Damodaran, Aswath. 1996. *Investment Valuation : Tools and Techniques for Determining The Value of Any Asset*. USA: John Wiley and Sons, Inc.
- Damodaran, Aswath. 2002. *Investment Valuation Tools and Techniques for Determining the Value of Any Asset*. New Jersey: John Wiley & Sons, Inc.
- Susanto, Djoko dan Agus Sabardi. 2002. *Analisis Teknikal di Bursa Efek*. Yogyakarta : BPFE Yogyakarta.
- Eliza.2013. Hubungan Nilai Intrinsik Suatu Saham Terhadap Harga Pasar Saham Tersebut. *Jurnal Ekonomi*, Volume 4 Nomor 1, Mei 2013.