

Stock Valuation of Coal Mining Company Post Pandemic (Case Study: Adaro Energy Indonesia)

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Abstract. Coal is one of the commodity that is mined and consumed a lot in Indonesia and also the world. The thermal coal is needed for the electricity meanwhile metallurgical coal is needed in the steel making industry. Towards mid-2021, the coal price has escalated to all time high. It affects stock price performance of several coal mining companies in Indonesia. From having a bad downturn in 2020 due to Covid-19 and less energy demand, coal starts to gain more demand in 2021 in line with more industrial activities and economy recovery. In Indonesia, one of the coal mining company with the huge reserves and market capitalization is Adaro Energy. The purpose of this research is to analyze the intrinsic value of Adaro Energy to help investors gain insight especially after the world economy is recovering after two years in the pandemic crisis. The financial performance of Adaro Indonesia will be projected for the upcoming five years. From the calculation using Discounted Cash Flow, it is found that the intrinsic value is IDR3.263,56. Considering the market value of Adaro in the closing date of 2021 is IDR2.250, thus the expected rates of return is 45% or IDR1.014,00.

Keywords: *stock valuation; discounted cash flow; fair value; coal mining.*

1 Introduction

According to International Energy Agency (2019) ^[1], Southeast Asia is going to reach the universal access to electricity by 2030. It means the demand for electricity will increase significantly over the coming decades. It is recorded that the growth of electricity demand in the Southeast Asia region alone is averaging at 6% per year. It is considered as the fastest increasing electricity demand in the world.

One of the energy source for electricity that is common and very cheap to use is coal. Thus, Southeast Asia is one of the region that relies on coal energy source a lot and even had an increase of coal demand in their power mix in 2018. In the PLN's (Indonesia's electricity power company) RUPTL 2021 – 2030, the portion of coal in the fuel mix would remain around 60% until 2030 (ADB, 2020) ^[2].

Indonesia is one of the biggest producer and exporter of coal in the world. It is recorded that the country's coal exports contributes to the GDP of Indonesia for about 5%, and 12% of all export income (LPEM UI, 2022) ^[3]. One of the biggest coal mining company that listed on IDX30 index by Indonesian Stock Exchange is Adaro Energy Indonesia. IDX30 is an index that measures the price performance of 30 stocks that have high liquidity and large market capitalization and supported by good company fundamentals (IDX, 2022) ^[4]. The index is updated regularly by Indonesian Stock Exchange as the institution that manage the capital market in Indonesia. Other than Adaro Energy Indonesia, only PT Bukit Asam that is able to be listed there. Per December 2021, the market capitalization of Adaro is USD\$6.5 billion.

The 2022 and future coal market prospect is supported by the economic recovery target in most countries to catch up after the slowdown of economic activities during COVID19 pandemic. The world economy is forecasted to grow by 4.1% in 2022 according to the World Bank^[5]. Energy will be the key factor to achieve the target and coal will remain as the majority in total fuel mix. McCloskey by OPIS, a Dow Jones Company predicts that global coal demand in 2022 would grow by 2%, where 3% growth would happen in the Pacific market^[5]. Therefore, it is interesting and also important to analyze one of the biggest coal producer in Indonesia which is Adaro Energy Indonesia to gain recommendation for investors.

1.1 Business Issue



Figure 1 Adaro 5-years Stock Performance (Yahoo Finance, 2022).

The stock price of Adaro has reached the lowest on 15th March 2020 (during this past five years period) at IDR745 due to the less mobility of people, slowdown

of economy during pandemic and thus, less energy demand. The same thing happened to the stock price of other coal mining companies in Indonesia such as Bumi Resources at IDR50, and Indika Energy at IDR480. However, the stock price of Adaro is recovering to be as high as early 2018 in the end of 2021 into 2022 faster than other coal mining companies. At the beginning of January 2022, the stock price is at IDR2.310.

One of the cause is the high energy demand from China, India and several countries in Europe following the economic recovery post pandemic. Hence, the international coal price increases reaching the highest in the period of 5 years. Tracing back to the second half of 2018, due to unexpectedly hot weather across Asia and Europe, which resulted in greater energy usage for air conditioning, the thermal coal price reached its peak, the highest since 2012. China and India are expected to continue to be the world's largest coal consumers through 2023, with total coal consumption forecast to be roughly two-thirds of worldwide consumption.



Figure 2 2017-2021 Coal Price Trend (Trading Economics, 2022).

Both events have caused coal mining companies to gain more revenue, positive sentiment and increase in their stock price. Adaro as the company that exports 75% of their production is of course benefitting from the situation, but also vulnerable to the commodity price drop.

In this paper, there will be an analysis of Adaro's valuation process using Discounted Cash Flow (DCF) method and Relative Valuation method to assess the fundamental and find the fair price of Adaro Energy Indonesia. We need to recalculate the fair value of Adaro after the pandemic and whether we should invest in the company to gain return or it is not recommended. Thus, feasibly this

final project will help investors to get some insight and better judgement on Adaro Energy Indonesia.

2 Business Exploration

2.1 External Analysis

Corporate Finance Institute (2022) ^[6] mentioned that external analysis is exploring the industry environment of a company including macroeconomics, global, social, political and technological analysis. In conducting a business operation activities, the external factors may affect the company. It can lean towards positive or negative effects that drive profitability, growth, and profitability.

Threats of New Entrants (Low)

In entering a coal mining industry, a company needs a lot of resources, skill and fund to be established well. First, they need to do their research to find coal reserves, getting a license from the government, and also acquiring the land. Furthermore, to survive in the competitive industry and to survive the cyclical nature, a company needs to conduct a low cost production and find the buyers of coal which might already has contract with other companies. Thus, the threats of new entrants is considered low.

Bargaining Power of Suppliers (Medium)

The bargaining power of suppliers remains medium. Adaro Energy Indonesia has an integrated business model that allows them to cut cost and also be more flexible. Using their strategically integrated coal supply chain from pit to port through their subsidiaries, they manage to be cost effective during the peak and even the lowest cycle of the industry. It has enabled Adaro to achieve the cost leadership position in both thermal and metallurgical coal. Thus, the coal is sold at competitive cost and contributes to the highest operational EBITDA margin in the sector.

Bargaining Power of Buyers (Medium)

Considering the post pandemic situation in which every country is catching up to a faster economic development, they competitively demand for energy source. In addition, the conflict between Russia and Ukraine has made countries that rely on gas exports from Russia search for other energy source including coal. Furthermore, heat waves and also the colder winter season has increased the use of electricity for air conditioning and room heater. Meanwhile, domestic demand is still high as Indonesia is going for 100% national electrification program. However, the ceiling price is limited to US\$70 per ton as stated in Keputusan

Menteri Energi dan Sumber Daya Mineral No.255.K/30/MEM/2020^[7]. Thus, the bargaining power of buyers is considered medium.

Threats of Substitution (Medium)

Indonesia has an abundant resource of renewal energy such as geothermal, hydropower, wind power, solar power, etc. However, the program to turn Indonesia's fuel consumption into renewable energy consumption tends to be slow. For instance, Indonesia is only using 7% of their geothermal potential (ADB, 2020) ^[2]. The National Energy Policy (KEN) 2014 has set the target for the primary energy mix until 2025. Although, the institution aims for 23% contribution from the renewal energy, coal is still going to be the highest contributor in the primary energy mix at 55%. Meanwhile, for export, the country relies mainly to China and India that still heavily consume coal.

Competitive Rivalry (High)

In Indonesia itself, there are already some existing coal mining companies such as Indika Energy, Indo Tambangraya Megah, Bayan Resources, Bumi Resources, ABM Investama, Golden Energy Mines that also supply to both domestic demand and also exports to fulfil the demand from other countries. Furthermore, Indonesia is not the only country with huge number of coal reserves and exports. There are China and Australia with more amount of coal exports in the global market.

2.2 Internal Analysis

2.2.1 Adaro Financial Overview

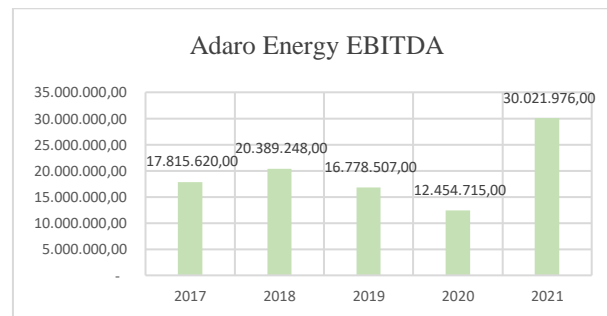


Figure 3 Adaro Energy Indonesia (Analysis, 2022).

In 2021, Adaro Energy Indonesia finally recovered from the declining financial position caused by the crisis during the Covid-19 pandemic. Not only they finally gain an increase in their EBITDA and free cash flow, but also outperformed their 2017 and 2018 financial performance. Operational EBITDA increases 138% y-

o-y in 2021 with 30.021.976 (IDR million), and 102% increase y-o-y for the free cash flow with 18.135.899 (IDR million). With the huge amount of cash generation in 2021, Adaro closed the year in a net cash position. The company's liquidity becomes at solid position of US\$2.3 billion.

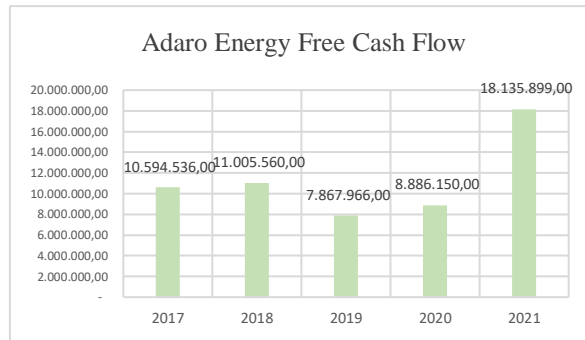
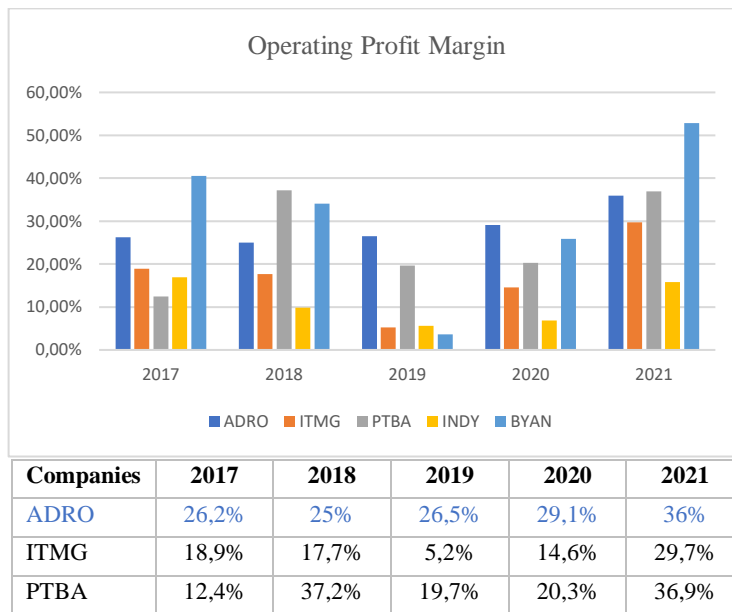


Figure 4 Adaro Energy Indonesia Free Cash Flow (Analysis, 2022).

2.2.2 Financial Ratio

There are some financial ratio that will be used to analyze the profitability, liquidity and the market value of Adaro and other coal mining companies as the comparison. These companies has the biggest market capitalization and or coal reserves.

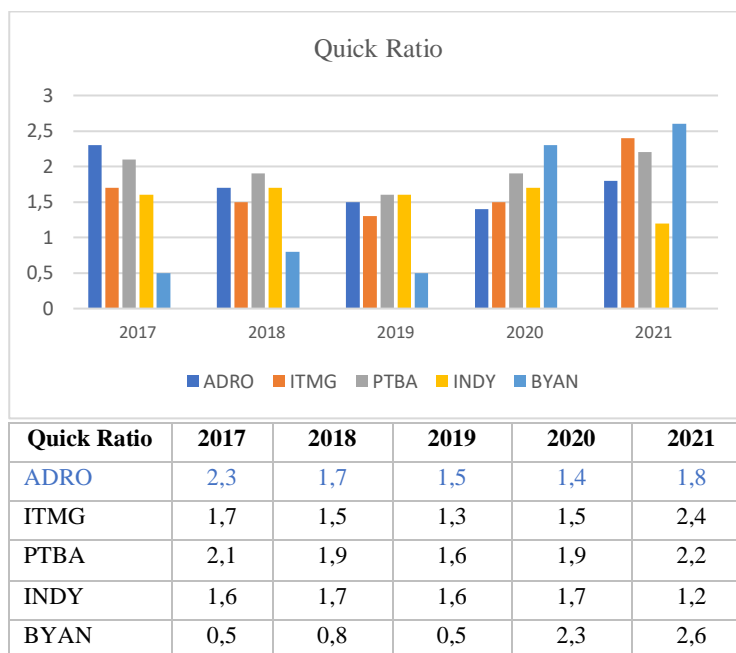
Table 1 Operating Profit Margin (Analysis, 2022).



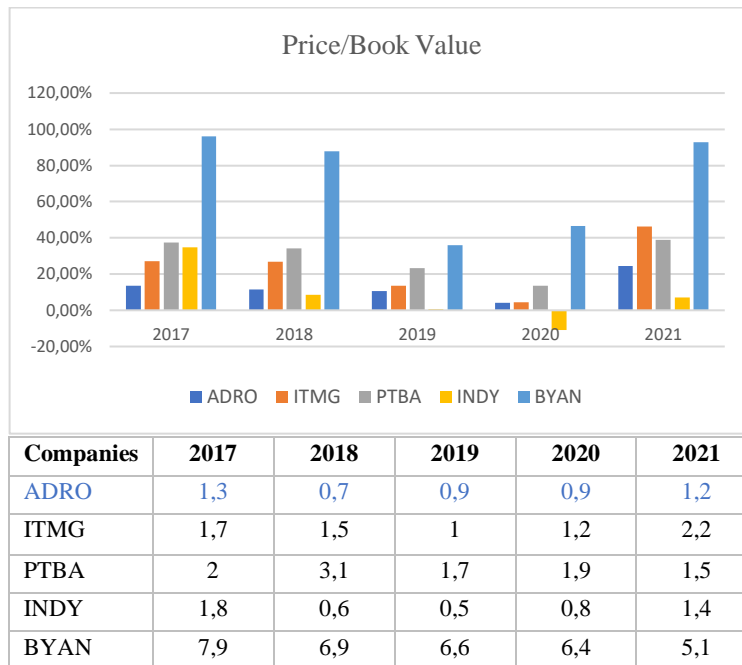
INDY	16,9%	9,8%	5,6%	6,8%	15,8%
BYAN	40,5%	34,1%	3,6%	25,9%	52,9%

Operating Profit Margin. It is a measure of how a company is able to generate profit from its operating activities. The bigger percentage is generally better. From the calculation, it is found that the operating profit margin of Adaro is consistently increasing every year and reaches 36% in 2021. In addition, based on this ratio PT Bayan Resources Tbk outperforms other companies with 52,9% followed by PT Bukit Asam at 36,9%. However, during the first year of Covid-19 pandemic in 2020, Adaro Energy managed to overcome the economic challenge with the highest operating margin.

Table 2 Quick Ratio (Analysis, 2022).



Quick Ratio. It is a measure of company's short term liquidity whether the company can meet all of its current liabilities or not using near cash or quick asset. From the calculation above, it is found that Adaro quick ratio gets better to 1,8 in 2021. Any ratio above 1 is good which means the company has enough asset to be liquidated to pay for its current liabilities.

Table 3 Price per Book Value (Analysis, 2022).

Price per Book Value. It is a measure of whether the company's stock is valued fairly, undervalue or overvalue. Higher ratio indicates that the stock is overvalued compared to its book value. In this calculation, Adaro has the lowest PBV in 2021 which might indicates that the price is more fairly priced compared to others.

2.3 Business Strategy Analysis

2.3.1 Diamond Strategy Framework

This strategy framework is created by Don Hambrick and Jim Fredrickson with the purpose to understand the business strategy of a big company with more complex operational aspects by visualizing it into five elements. They are arena, vehicle, differentiators, staging, and economic logic.

Arena is filled the answer about where will we be active; vehicle is about how will we get there; differentiators is about how will we win or achieve the target; staging is about what will be our speed or sequence of moves; and economic logic is about how will returns be obtained. Here is the diamond strategy framework for Adaro Energy Indonesia:

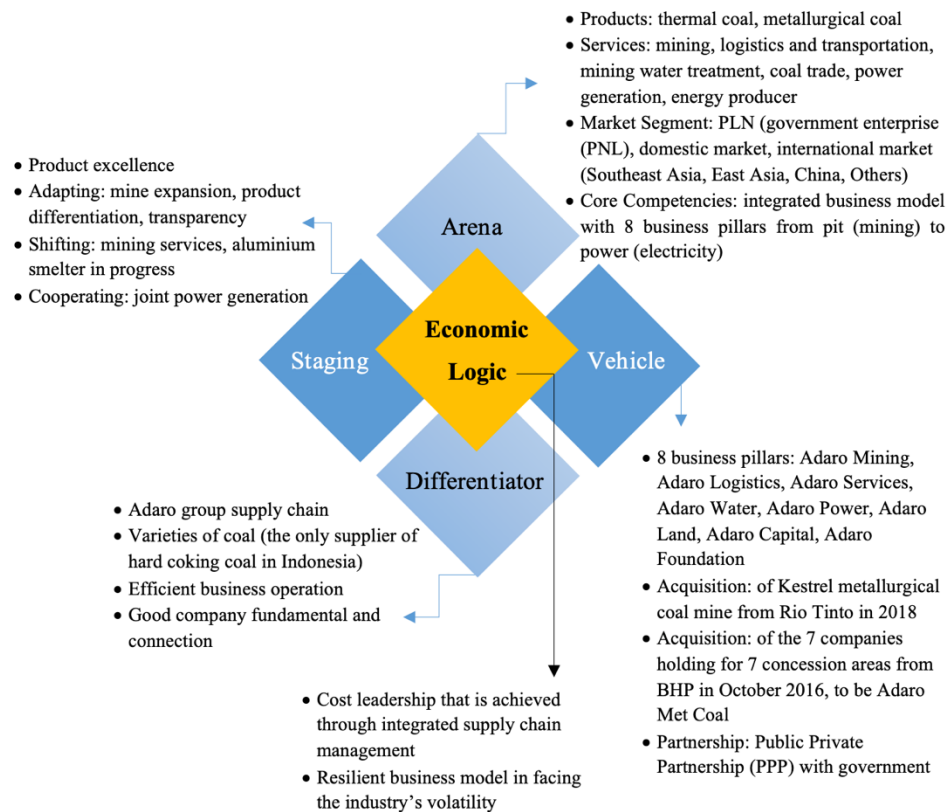


Figure 5 Diamond Strategy Framework (Analysis, 2022).

2.3.2 Root Cause Analysis

In analyzing a root cause of certain occurrence, fish bone diagram can be used since it is a causal diagram. It was first created by Kaoru Ishikawa to identify the possible causes of a problem. For this research regarding Adaro Energy Indonesia stock valuation, the problem that is faced by investor is making a wrong investment decision regarding ADRO stocks. Here is the visualization of possible causes:

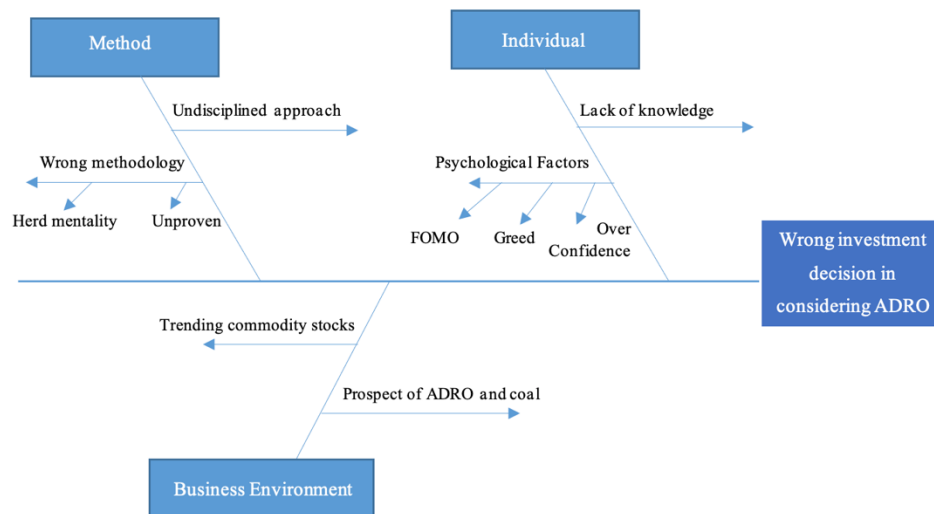


Figure 6 Root Cause Analysis (Analysis, 2022).

There are three main factors that affect the decision making process regarding investment in ADRO stock. First is the methodology used to analyze the stock. Investors might be using the wrong method because of using unproven method academically, or because they have a herd mentality which is when a person is making decision based on other people/majority decisions. Second is the behavior of the individual themselves. The investor might lack of knowledge regarding this type of investment or industry. Warren Buffet always recommends people to only invest in the business that we understand.

Furthermore, the investor might also have the fear of missing out (FOMO), they invest in this commodity because it is a trend since commodity prices is escalating rapidly. It also might linked to greed and overconfidence that leads to a biased investment decision. Meanwhile the third is business environment, the investor is affected by the popularity of commodity stocks and the prospect of the company or industry. Therefore, in this paper, the stock valuation and investment insight will be analyzed objectively using proven method such as absolute valuation and relative valuation.

3 Business Solution

3.1 Absolute Valuation

In order to calculate the fair value of Adaro stock, absolute valuation model is used. The income statement and balance statement will be projected based on the historical financial statement of Adaro. The projection uses tools such as 5 years

moving average and median to generate the free cash flow for the next five years. That free cash flow will be discounted using the discount rate from weighted average cost of capital (WACC). To calculate the WACC, first we need some assumptions to find the cost of debt and cost of equity.

Table 4 Assumption for Weighted Average Cost of Capital (Analysis, 2022).

No	Variable	Value	Remark	Source
1	Risk Free Rate	7,5%	10 years government bond yield June 2022	Bank Indonesia
2	Company Default Spread	0,63%	Adaro Interest Coverage, 2021	Damodaran
3	Country Default Spread	1,62%	Government sovereign 5 th January 2022	Moody's and Damodaran
4	Beta Stock	1,088	ADRO beta stock 3 rd March 2022	Pefindo
5	Equity Risk Premium	6,12%	Indonesia Equity Risk Premium 5 th January 2022	Damodaran
6	Country Risk Premium	1,88%	Indonesia Country Risk Premium 5 th January 2022	Damodaran
7	Tax Rate	30%	Average Tax Rate	Financial Statement

Cost of debt is an interest rates or return that is provided from the company towards their fund lender. Meanwhile, cost of equity is the rates of return that is provided for the equity investors or shareholders. The formula and calculation is as follow:

$$\begin{aligned}
 \text{Cost of Debt} &= \text{Risk Free Rate} \\
 &\quad + (\text{Company Default Spread} + \text{Country Default Spread}) \\
 &= 7,5\% + (0,63\% + 1,62\%) \\
 &= 9,75\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Cost of Equity} &= \text{Risk Free Rate} + (\beta \times \text{Equity Risk Premium}) \\
 &= 7,5\% + (1,088 \times 6,12\%) \\
 &= 14,71\%
 \end{aligned}$$

After finding the cost of debt and cost of equity, here is the calculation for the weighted average cost of capital. The total debt and total equity is obtained from the 5 years financial projection.

$$WACC = (We \times CoE) + (Wd \times CoD) \times (1 - t)$$

Table 5 Adaro Weighted Average Cost of Capital (Analysis, 2022).

Variable	Value
Total Firm's Debt (million IDR)	26.403.428,95
Total Firm's Equity (million IDR)	20.093.834,10
Total Firm's Debt + Equity (million IDR)	46.497.263,05
Weight of Debt	56,78%
Weight of Equity	43,22%
Estimated Cost of Debt	9,75%
Estimated Cost of Equity	14,21%
Corporate Tax Rate	30%
WACC	10%

Next, the free cash flow to the firm is calculated. This cash flow is considered to be the company's profitability after accounting for taxes, capital expenditures, and net-working capital. Thus, the formula is

$$FCFF = ((EBIT \times (1 - \text{tax rate})) + \text{Depreciation} - \text{Capital Expenditure} - \Delta \text{Net Working Capital})$$

All of the variables are obtained from the financial projection in million IDR. The fifth year's free cash flow which is IDR 191.649.177,34 million is calculated to find the terminal value.

$$\text{Terminal Value} = \frac{FCF_n \times (1 + \text{growth rates})}{WACC - \text{growth rates}}$$

The growth rates is assumed to be 4% since the World Bank predicts that the global economy will grow after the pandemic for approximately 4%. Although, PLN (the state enterprise that provides electricity) predicts that the demand for electricity will grow for 6% per year, Adaro Energy Indonesia sells 75% of their products abroad/exports.

Table 6 Adaro Free Cash Flow to the Firm (Analysis, 2022).

Earnings Before Interest and Taxes (EBIT)	8.834.891,18	8.735.315,32	8.822.424,71	11.648.819,88
Tax of EBIT	2.720.263,00	2.689.603,59	2.716.424,57	3.586.671,64
Net Operating Profit After Tax	6.045.711,73	6.106.000,14	8.062.148,24	8.062.148,24
Depreciation & Amortization	4.485.338,61	4.982.922,39	5.411.075,08	5.140.773,40
Operating Cash Flow	10.531.050,34	11.088.922,54	13.473.223,32	13.202.921,64
Changes in NWC	1.830.233,48	1.254.190,32	1.463.005,89	(4.340.770,35)
Changes in CAPEX	3.834.390,59	3.667.093,57	4.656.831,65	6.492.180,74
Free Cash Flow to the Firm	4.866.426,27	6.167.638,65	7.353.385,79	11.051.511,25
Terminal Value				191.649.177,34
Total Cash Flow	4.866.426,27	6.167.638,65	7.353.385,79	202.700.688,59

The terminal value of Adaro then being averaged by EV/EBITDA as the future value. Then, it will be discounted to the net present value as the Enterprise Value below. It is further calculated to find the intrinsic value per share of Adaro Energy Indonesia based on their financial performance.

Table 7 Adaro Intrinsic Value (Analysis, 2022).

Intrinsic Value	
Enterprise Value	104.905.051
Plus: Cash	25.886.320
Less: Debt	26.403.429
Equity Value	104.387.943
Equity Value/Share	3.263,56

In the intrinsic value calculation above, the total equity value is divided by the total shares outstanding which is 31.9 billion. It is found that the fair value of Adaro energy Indonesia is IDR3.363,56.

Table 8 Adaro Market Value (Analysis, 2022).

Market Value	
Market Cap	71.968.392
Plus: Debt	26.403.429
Less: Cash	25.886.320
Enterprise Value	72.485.501
Equity Value/Share	2.250,00

However, the market value per share in the closing date of 2021 is IDR2.250. Thus there is an upside between the price on the market. It is resulted in the target price upside of 45% and internal rate of return IRR of 20%.

Table 9 Adaro Rates of Return (Analysis, 2022).

Rate of Return		
Target Price Upside		45%
Internal Rate of Return (IRR)		20%
Market Value vs Intrinsic Value		
Market Value	IDR	2.250
Upside	IDR	1.014
Intrinsic Value	IDR	3.264

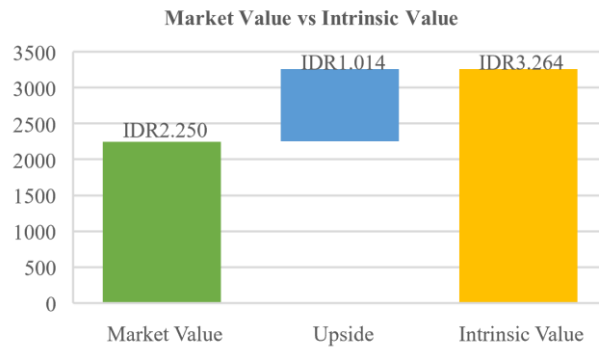


Figure 7 Adaro Market Value Compared to Intrinsic Value (Analysis, 2022)

Thus, the stock price of Adaro Energy Indonesia is undervalued relatively to its fair value. The potential reward is 45% or IDR1.014,00.

4 Conclusion and Recommendation

In conclusion, based on their historical financial performance, Adaro Energy Indonesia is a healthy and liquid company especially when the managed to increase their operating profit margin and now in a strong cash position. However, their Return on Asset and Return on Equity is outperformed by smaller sized company. Adaro just acquired Met Coal in 2016 and Kestrel 2018, they still have years ahead to utilize their asset to the maximum potential. For the PBV value, Adaro PBV is at 1,2 which is the lowest among others. It indicates that the company is more fair valued than others with higher PBV ratio.

Meanwhile, the intrinsic value is higher than the market value. Thus, the market value is considered undervalued. It is a good sign for investor to consider Adaro stock. From the calculation, the fair value is IDR3.264 which gives some room for return with the rates of 45% if using the price of closing date in 2021 at IDR2.250. As mentioned in the introduction and also business issue, the prospect of coal commodity is still quiet promising due to high demand from both domestic and international.

In conclusion, Adaro Energy Indonesia is considered a healthy and undervalued company referring to the comparison of market value and intrinsic value. However, investors should also pay attention to the current stock price and compared them to the intrinsic value calculation in this paper. In addition, it is advised to be watchful regarding the commodity price if investor is investing in commodity stock, as coal commodity price heavily influences the revenue and stock price as mentioned in the business issue.

References

- [1] IEA. (2019, October). Southeast Asia Energy Outlook 2019 – analysis. IEA. Retrieved June 23, 2022, from <https://www.iea.org/reports/southeast-asia-energy-outlook-2019>
- [2] Indonesia Energy Sector Assessment, strategy, and Road Map – Update. Asian Development Bank. (2020, December). Retrieved June 23, 2022, from <https://www.adb.org/sites/default/files/institutional-document/666741/indonesia-energy-asr-update.pdf>
- [3] Macroeconomic analysis series: Indonesia economic outlook Q2 2022. Institute for Economic and Social Research - Faculty of Economics and Business - University of Indonesia. (2022, May 6). Retrieved June 23, 2022, from <https://www.lpem.org/macroeconomic-analysis-series-indonesia-economic-outlook-q2-2022/>
- [4] Indonesia Stock Exchange Stock Index Handbook. Indonesia Stock Exchange. (2019, December). Retrieved June 23, 2022, from https://idx.co.id/media/8572/idx-stock-index-handbook-_v11-_desember-2019.pdf
- [5] Adaro Annual Report. Adaro Energy Indonesia. (2022, April). Retrieved June 23, 2022, from <https://www.adaro.com/pages/read/10/42/Annual%20Report>
- [6] Introduction to industry and company analysis. CFA Institute. (2022). Retrieved June 23, 2022, from <https://www.cfainstitute.org/en/membership/professional-development/refresher-readings/introduction-industry-company-analysis>
- [7] Kementerian Energi dan Sumber Daya Mineral Republik Indonesia. (2020, December 29). Peraturan menteri energi dan sumber daya mineral nomor 07 - ESDM. Retrieved June 23, 2022, from https://jdih.esdm.go.id/storage/document/Kepmen%20ESDM%20No.%20139.K_HK.02-MEM.B-2021_new.pdf