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Stock Valuation Using Discounted Cash Flow and Relative Valuation Methods on Cosmetics and Household Goods Sub-Sector Listed on the Indonesia Stock Exchange for 2021-2025 Projections

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Abstract:

This research aims to examine the intrinsic value of stocks in the cosmetics and household goods sub-sector listed on the Indonesia Stock Exchange. Data used were from 2016-2020 to calculate the historical performance of each company and projected from 2021-2025 based on three scenarios, pessimistic; moderate; and optimistic. The Discounted Cash Flow (DCF) method was used with the Free Cash Flow to Firm (FCFF) approach and the calculation of the Relative Valuation (RV) method with the Price to Book Value (PBV) and Price to Earning Ratio (PER) approaches. The results found that by using the DCF method, UNVR, KINO, and TCID were overvalued in all scenarios, while MBTO and MRAT were overvalued in the pessimistic and moderate scenarios and undervalued in the optimistic scenario. Meanwhile, by using the relative valuation method with the PER approach, in all scenarios, the intrinsic values of UNVR was overvalued, while KINO, TCID, MBTO and MRAT were undervalued in all scenarios. Overall, UNVR shares were overvalued by -54,67%, KINO shares were overvalued by -81,27%, TCID shares were overvalued by -45,37%, MBTO shares were overvalued by 15,65%.

Keywords: Valuation, intrinsic value, discounted cash flow, relative valuation, cosmetics and household

1. Introduction

One of the financial instruments in the capital market that many investors choose is stocks (IDX, 2020). Stocks are proof of ownership of a company. They are financial instruments that have high risk high return characteristics (Natalia et al., 2019). In making investments, according to Nugraha and Sulasmiyati(2017) the fair value of stocks or what is called the intrinsic value of the stocks to be bought or sold is very important for investors to know. Natalia et al. (2019) defined intrinsic value as the true value of the stock that reflects the company's performance. According to Damodaran(2006, p. 18) by knowing the intrinsic value of a stock, investors can decide the right price to be paid or received, so that investors do not make the wrong decisions in buying, holding, and selling stocks. Natalia et al. (2019) explained that the stock will be classified as undervalued if the market price is lower than its intrinsic value and the stock will be classified as overvalued if the market price is higher than its intrinsic value. If the market price is equal to its intrinsic value, then the stock is classified as fair-valued.

Novalia and Nindito (2016) explain that complete, relevant, accurate and timely information is needed by investors in the capital market as an analytical tool to make investment decisions. Information published as an announcement will provide a signal for investors in making investment decisions. If the announcement contains a positive value, it is expected that the market will react when the announcement is received by the market. One type of information issued by a company that can be a signal for parties outside the company, especially for investors, is the annual report. According to Damodaran (2006:483) the discounted cash flow valuation method and the relative valuation method can be used to examine the intrinsic value of stocks. According to the IDX (2020) the index that measures the price performance of all stocks listed on the Main Board and Development Board of the Indonesia Stock Exchange is called the Jakarta Composite Index (JKSE). Stock prices in the market are always fluctuating, or always changing. The following is the movement of stock prices of JKSE, UNVR, KINO, TCID, MBTO, and MRAT.



Figure 1: Stock Prices of JKSE, UNVR, KINO,TCID, MBTO, and MRAT Source: Www.Finance.Yahoo.Com (Data Processed)

According to figure 1, the movement of stock prices during January 2016 to December 2020 fluctuated. On March 24, 2020, JKSE was at its lowest price point of RP3.938 which occurred during the Covid-19 pandemic. This affects the performance of various sectors, which one is the Indonesian capital market (Okezone, 2020). According to the Cabinet Secretariat of the Republic of Indonesia (Setkab, 2020), the impact of the Covid-19 pandemic has caused the industrial sector in Indonesia to gradually reduce the number of products due to the situation and declining demand for production. According to the Press Release issued by the IDX (2020), the consumer goods sector was listed as one of the sectors that performed positively since the announcement of the first Covid-19 case in Indonesia.

The company's stock prices in the cosmetics and household goods sub-sector as well as the Jakarta Composite Index (JKSE) experienced fluctuating movements. Fluctuating stock prices are uncertain and risky for investors. In addition, there is a lot of information and sentiment circulating in the market that investors need to pay close attention to when making investment decisions. The stock price in the market (market price) has not reflected the value it should have. Intrinsic value is needed by investors as the basis for making investment decisions. Therefore, an investor needs to conduct fundamental analysis using company financial data or conduct stock valuations to support the right investment decisions.

Based on the phenomena and previous research, the purpose of this research is to examine the intrinsic value of stocks in the cosmetics and household goods sub-sectors listed on the Indonesia Stock Exchange (IDX) using historical data from 2016-2020 for the projections for 2021-2025. The objects of this research are UNVR, KINO, TCID, and MRAT using the discounted cash flow (DCF) method with free cash flow to firm (FCFF) and relative valuation (RV) approaches with the price-earnings ratio (PER) and price to book value (PBV) approaches.

2. Literature Review

Natalia et al. (2019) conducted a research to determine the intrinsic value of stocks of consumer goods sector companies listed on the IDX in 2013-2017 using the method of Dividend Discount Model, Price Earning Ratio, and Price to Book Value. The results of the research were that on average seven company stocks in 2013-2017 were undervalued, buying stocks of companies in the consumer goods sector is suggested because they are considered undervalued.

Hasan and Hendrawan(2019) conducted a research to estimate the intrinsic value of stocks in metal and mineral mining companies listed on the IDX in 2018 Using the method of Discounted Cash Flow - Free Cash Flow to the Firm and to verify the results of the Relative Valuation - PER and PBV methods. The conclusion of the research was to buy ANTM stocks and sell INCO and TINS stocks.

Cahyono and Hendarawan(2019) conducted a research to assess the fair value of share prices in Coal Mining Companies listed on IDX in 2018. The research data came from historical data for 2013-2017 which was used as a reference for the projections for 2018-2022. The used the DCF method with the FCFF approach and the RV method with the PER and PBV approaches. The conclusion was to recommend the purchase of ADRO, BYAN and PTBA stocks.

Fibrianto and Hendrawan(2019) conducted a study to analyze stock valuations in oil and gas companies MEDC, ENRG, and ELSA using historical data from 2013-2017 as the base year from 2018-2022 projections. The DCF-FCFF method and control it using the RV PER-PBV method. By comparing the results of the fair value of market share on January 2, 2019, the DCF-FCFF method concluded that the conditions for pessimistic scenario: MEDC, ENRG (overvalued), ELSA (undervalued); moderate: MEDC, ENRG, and ELSA (undervalued); optimistic: MEDC, ENRG, and ELSA (undervalued). The RV PER-PBV method showed that the MEDC, ENRG, and ELSA values were still within the Q1-2018 IDX market range. Recommendations for investors are to buy undervalued stocks and sell them in overvalued conditions.

Marenda and Rikumahu(2018) conducted research to determine the fair price value of Bank stocks included in LQ45 using RV method of the banking sector which were still included in LQ45 within 5 years (2011-2016). The results were that the PBV variable had a significant difference to the stock price of banks that have remained in the LQ45 index for the last 5 years (2013-2017). The PER variable did not have a significant difference to the stock price of banks that remained in the LQ45 index for the last 5 years (2013-2017).

Nugraha and Sulamiyati(2017)conducted research to determine the intrinsic value of stocks of companies in the tobacco manufacturing sub-sector using RV method consisting of three approaches, namely PBV, PER, and PSR. The results of this research were that based on the three methods, the stock condition of PT GudangGaramTbk was undervalued based on PER, and overvalued based on PBV and PSR. PT HM Sampoerna Tbk has stock values that tended to be overvalued. The stock value of PT WismilakInti Makmur Tbk. is overvalued based on PER, overvalued based on PBV, and undervalued based on PSR.

Ivanovski et al. (2014) conducted research to assess the intrinsic value of stock prices on the Macedonian Stock Exchange. The data taken came from the financial statements of Granit SC, Skopje, and Vitaminka-Prilep SC in 2006-2010. The method used was the company's fundamental analysis and analysis obtained from stock valuation with the DFCF model and comparison with the average market share price that occurs on the Macedonian Stock Exchange. The results of the research indicated that the stock value calculated by the DCF model is very close to the average market price, which meant that the DCF model was a reliable tool for calculating firm value in the long run.

Paramithaet.al. (2014) conducted research to determine the fair price of the issuer's stocks, analyze the factors that determine undervalue and overvalue, and determine the best valuation method. They used valuation with the Real Option method and FCFF. The results were that the logistic regression on FCFF partially, tenor, and equity variables had a positive and significant effect, while the dummy variable had a negative and significant effect. In the real option model, the tenor and implied volatility variables had a positive and significant effect, while the dummy can be and significant effect. In the real option model, the share variable had a negative and significant effect.

Inezwari (2013) conducted research to compare the prediction accuracy of various ratios in the model. The ratios were PE, PBV, PCF, and PS. The data used were stocks listed in LQ45 during the period of 2006-2010. Overall, PBV seemed to be the best ratio to predict LQ45 stocks in the Indonesian equity market. In sector industry analysis, PE and PBV were the best predictors in each of the three sectors.

Hutapeaet.al. (2013) conducted research to determine the intrinsic value of the stocks of PT Adaro Energy Tbk using the DCF method and FCFF model. The intrinsic value of PT Adaro Energy Tbk was Rp 1,570 while the share price as of July 6, 2012 was Rp 1,866, with the conclusion that the share price of PT Adaro Energy Tbk was undervalued or below the market price.

3. Methodology

This research employs the Discounted Cash Flow (DCF) method with the Free Cash Flow to Firm (FCFF) approach and the calculation of the Relative Valuation method with the Price to Book Value (PBV) and Price to Earning Ratio (PER)approaches. In this research, three scenarios were used, namely the pessimistic scenario, the moderate scenario, and the optimistic scenario for the needs of the next five years projection, namely the 2021-2025. Data used were processed from historical financial performance data from the period 2016-2020. The criteria for selecting the company sample are:

- The cosmetics and household sub-sector companies, which are listed on the IDX Composite;
- The companies that have published financial statements for the last 5 years.

3.1. Data Source

- This research used the secondary data collected from various sources as follows:
- The financial statement of the companies from 2016-2020 were obtained from the IDX website (www.idx.co.id);
- Historical share price movements data of companies from 2016 to 2020were taken from financial sites such as www.finance.yahoo.com;
- The data from Bank Indonesia (BI) related to interest rates;
- News articles regarding capital market conditions were taken from news portals on the Internet.

4. Result and Discussion

Industry growth was taken from the historical average growth of revenue of 7cosmetics and household companies listed on the Indonesia Stock Exchange using the historical data for five years, from 2016 to 2020. Using calculated sales growth, other parameters or financial ratios needed, e.g., EBITDA, depreciation and amortization, CAPEX, EBIT, etc., will follow historical trends. Furthermore, the projected value used to calculate the company's intrinsic value employed the aforementioned formula, namely the DCF-FCFF and Relative Valuation calculation formulas. After calculating sales growth and financial ratios related to stock price valuation, the fair value of each company was obtained, and it could be compared with the market price on 4 January 2021. The following are the results of calculating historical financial data for UNVR, KINO, TCID, MBTO and MRAT companies:

4.1. Share Valuation of PT Unilever Indonesia Tbk. (UNVR)

The historical data of PT Unilever Indonesia Tbk. (UNVR) as the basic assumption model for the company's FCFF projection are presented in the following table:

Descriptions	2016	2017	2018	2019	2020	Average
Revenue	40.053.732	41.204.510	41.802.073	42.922.563	42.972.474	3,38%
Growth	9,78%	2,87%	1,45%	2,68%	0,12%	,
Operation Expense	31.347.022	31.699.534	32.346.059	32.804.739	33.501.340	77,39%
	78,26%	76,93%	77,38%	76,43%	77,96%	
Depreciation & Amort	550.834	654.080	777.251	898.647	878.336	1,79%
	1,38%	1,59%	1,86%	2,09%	2,04%	
EBIT	8.155.876	8.850.896	8.678.763	9.219.177	8.592.798	20,82%
	20,36%	21,48%	20,76%	21,48%	20,00%	
EBIT (1-t)	6.116.907	6.638.172	6.509.072	6.914.383	6.444.599	
CAPEX	1.787.056	1.606.734	998.329	1.448.845	649.743	3,13%
	4,46%	3,90%	2,39%	3,38%	1,51%	
Non-Cash Current Asset	6.214.274	7.536.851	7.973.362	7.901.685	7.984.284	
Net Current Liabilities	10.878.074	12.532.304	10.995.750	12.939.129	13.244.350	
Working Capital	-4.663.800	-4.995.453	-3.022.388	-5.037.444	-5.260.066	
Change Working Capital	-531.213	-331.653	1.973.065	-2.015.056	-222.622	
	-1,33%	-0,80%	4,72%	-4,69%	-0,52%	-0,52%

 Table 1: UNVR Historical Data from 2016 to 2020 (In Millions of Rupiah)

 Source: UNVRFinancial Statement (Data Processed)

The FCFF Projection in the future was carried out by calculating the FCFF from 2021 to 2025 in which the results were used as Terminal Value (TV). FCFF was obtained from the calculation of EBIT multiplied by 1-Tax added by depreciation & amortization, subtracted by CAPEX, and finally subtracted by delta working capital. The FCFF Projection was divided into three conditions, namely pessimistic, moderate, and optimistic conditions. Meanwhile, WACC was calculated using the weighting of funding sources based on the company's financing structure multiplied by the cost of each source (Damodaran, 2012). The summary of the FCFF projection is presented in Table 2.

	2021	2022	2023	2024	Terminal	Enterprise	Equity
					Value	Value	Valuation
Pesimis (growth	5.970.497	5.604.468	5.260.879	4.938.355	75.613.882	97.388.081	97.272.167
1,73%)							
Moderat (growth	6.067.386	5.787.842	5.521.178	5.266.800	109.047.079	131.690.287	131.574.373
3,38%)							
Optimis (growth	6.115.831	5.880.637	5.654.487	5.437.035	135.944.017	159.032.006	158.916.092
4,21%)							

Table 2: FCFF projection of UNVR from 2021 to 2025 with WACC = 8.37% (in millions of Rupiah)Source: Data Processed

DCF - FCFF								
Scenario	Intrinsic Value	Market Price UNVR on 04/01/2021	Condition					
Pessimistic	2.550	7.475	Overvalued					
Moderate	3.449	7.475	Overvalued					
Optimistic	4.166	7.475	Overvalued					
		RV - PER						
	PER Company	PER Industry						
Pessimistic	19,24	17	Overvalued					
Moderate	25,61	17	Overvalued					
Optimistic	30,68	17	Overvalued					
		RV - PBV						
	PBV Company	PBV Industry						
Pessimistic	19,70	7,24	Overvalued					
Moderate	26,65	7,24	Overvalued					
Optimistic	32,19	7,24	Overvalued					

Table 3: The Valuation Results of UNVR Source: Data Processed

According to Table 3, in the DCF-FCFF method, the intrinsic value of UNVR was Rp2.550 in the pessimistic scenario, Rp3.449 in the moderate scenario, and Rp4.166 in the optimistic scenario. In all scenarios, UNVR was in an overvalued condition because it was below the market price of Rp7.475 on 4 January 2021. Meanwhile using the relative valuation method with PER approach, the intrinsic value of UNVR was 19,24 times in the pessimistic scenario, 25,61 times in the moderate scenario, and 30,68 times in the optimistic scenario. In all scenarios, UNVR was in an overvalued condition because it was above the PER industry of 17 times. Last using the relative valuation method with PBV approach, the

intrinsic value of UNVR was 19,70 times in the pessimistic scenario, 26,65 times in the moderate scenario, and 32,19 times in the optimistic scenario. In all scenarios, UNVR was in an overvalued condition because it was above the PBV industry of 7,24 times.

4.2. Share Valuation of PT Kino IndonesiaTbk. (KINO)

The historical data of PT Kino Indonesia Tbk. (KINO) as the basic assumption model for the company's FCFF projection are presented in the following table:

Descriptions	2016	2017	2018	2019	2020	Average
Revenue	3.493.028.7	3.160.637.26	3.611.694.05	4.678.868.63	4.024.971.04	3,45%
Growth	61.680	9.263	9.699	8.822	2.139	
	-3,08%	-9,52%	14,27%	29,55%	-13,98%	
Operation	3.253.946.7	2.973.830.09	3.375.667.34	4.235.188.52	3.815.196.38	93,20%
Expense	79.685	5.747	8.008	3.402	0.993	
	93,16%	94,09%	93,46%	90,52%	94,79%	
Depreciation	38.754.471.	43.634.452.9	45.802.916.3	75.798.125.3	97.628.647.5	1,56%
& Amort	276	14	46	84	88	
	1,11%	1,38%	1,27%	1,62%	2,43%	
EBIT	200.327.51	143.172.720.	190.223.795.	367.881.990.	112.146.013.	5,24%
	0.719	602	345	036	558	
	5,74%	4,53%	5,27%	7,86%	2,79%	
EBIT (1-t)	150.245.63	107.379.540.	142.667.846.	275.911.492.	84.109.510.1	
	3.039	452	509	527	69	
CAPEX	66.484.848.	35.575.886.1	57.035.809.4	353.498.677.	181.559.944.	3,33%
	448	11	25	121	234	
	1,90%	1,13%	1,58%	7,56%	4,51%	
Non Cash	1.499.502.2	1.445.180.23	1.736.206.67	2.067.362.44	2.378.193.28	
Current Asset	52.790	5.618	3.427	1.890	7.575	
Net Current	1.188.490.9	1.057.410.98	1.300.260.64	1.700.572.74	2.051.938.57	
Liabilities	60.519	3.525	6.272	3.991	4.965	
Working	311.011.29	387.769.252.	435.946.027.	366.789.697.	326.254.712.	
Capital	2.271	093	155	899	610	
Change	129.784.21	76.757.959.8	48.176.775.0	-	-	1,00%
Working	2.161	22	62	69.156.329.2	40.534.985.2	
Capital				56	89	
	3,72%	2,43%	1,33%	-1,48%	-1,01%	

Table 4: KINOHistorical Data from 2016 to 2020 (in Rupiah) Source: The KINOFinancial Statement (Data Processed)

	1	2	3	4	Terminal Value	Enterprise Value	Equity Valuation
Pesimis	43.736.051.	41.166.005.	38.746.982.	36.470.108.	584.164.271.	744.283.419.	460.056.407.
(growth 1,73%)	082	703	949	333	839	907	854
Moderat (growth 3,45%)	44.475.725. 653	42.570.198. 857	40.746.312. 829	39.000.569. 735	871.287.673. 828	1.038.080.480. 902	753.853.468. 849
Optimis	44.845.562.	43.281.126.	41.771.264.	40.314.075.	1.115.314.299.	1.285.526.328.	1.001.299.316.
(growth 4,31%)	938	279	964	135	468	784	731

 Table 5: FCFF Projection of KINOFrom 2021 to 2025 in All Scenarios with WACC = 8, 08% (In Rupiah)
 Source: Data Processed

	DCF - FCFF							
Scenario	Intrinsic Value	Market Price KINO on 04/01/2021	Condition					
Pessimistic	322	2.760	Overvalued					
Moderate	528	2.760	Overvalued					
Optimistic	701	2.760	Overvalued					
		RV - PER						
	PER Company	PER Industry						
Pessimistic	4,17	17	Undervalued					
Moderate	6,71	17	Undervalued					
Optimistic	8,84	17	Undervalued					
		RV - PBV						
	PBV Company	PBV Industry						
Pessimistic	0,18	7,24	Undervalued					
Moderate	0,29	7,24	Undervalued					
Optimistic	0,39	7,24	Undervalued					

Table 6: The Valuation Results of KINO Source: Data Processed

According to Table 6, in the DCF-FCFF method, the intrinsic value of KINO was Rp322 in the pessimistic scenario, Rp528 in the moderate scenario, and Rp701 in the optimistic scenario. In all scenarios, KINO was in an overvalued condition because it was below the market price of Rp2.760 on 4 January 2021. Meanwhile using the relative valuation method with PER approach, the intrinsic value of KINO was 4,17 times in the pessimistic scenario, 6,71 times in the moderate scenario, and 8,84 times in the optimistic scenario. In all scenarios, KINO was in an undervalued condition because it was below the PER industry of 17 times. Last using the relative valuation method with PBV approach, the intrinsic value of KINO was 0,18 times in the pessimistic scenario, 0,29 times in the moderate scenario, and 0,39 times in the optimistic scenario. In all scenarios, KINO was below the PBV industry of 7,24 times.

4.3. Share Valuation of PT Mandom IndonesiaTbk. (TCID)

The historical data of PT Mandom IndonesiaTbk. (TCID)as the basic assumption model for the company's FCFF projection are presented in the following table:

Descriptions	2016	2017	2018	2019	2020	AVERAGE
Revenue	2.526.776.164.	2.706.394.847.	2.648.754.344.	2.804.151.670.	1.989.005.993.	-1,81%
Growth	168	919	347	769	587	
	9,15%	7,11%	-2,13%	5,87%	-29,07%	
Operation	2.290.922.512.	2.481.074.303.	2.463.631.375.	2.613.357.973.	2.057.616.093.	94,40%
Expense	773	416	849	905	099	
_	90,67%	91,67%	93,01%	93,20%	103,45%	
Depreciation	111.981.538.	123.636.815.	149.887.416.	176.374.225.	177.461.493.	5,97%
&Amort	028	221	622	713	893	
	4,43%	4,57%	5,66%	6,29%	8,92%	
EBIT	123.872.113.	101.683.729.	35.235.551.	14.419.471.	-246.071.593.	-0,37%
	367	282	876	151	405	
	4,90%	3,76%	1,33%	0,51%	-12,37%	
EBIT (1-t)	92.904.085.	76.262.796.	26.426.663.	10.814.603.	-184.553.695.	
	025	962	907	363	054	
CAPEX	136.635.906.	138.149.415.	184.948.105.	81.614.949.	45.712.088.	4,54%
	614	858	859	867	702	
	5,41%	5,10%	6,98%	2,91%	2,30%	
Non-Cash	875.918.620.	844.905.007.	964.257.786.	1.142.436.397.	885.977.359.	
Current Asset	380	992	424	178	128	
Net Current	223.305.151.	259.806.845.	231.533.842.	255.852.750.	126.391.995.	
Liabilities	868	843	787	863	544	
Working	652.613.468.	585.098.162.	732.723.943.	886.583.646.	759.585.363.	
Capital	512	149	637	315	584	
Change	-17.458.462.	-67.515.306.	147.625.781.	153.859.702.	-126.998.282.	0,30%
Working	865	363	488	678	731	
Capital						
Proportion WC	-0,69%	-2,49%	5,57%	5,49%	-6,39%	

Table 7: Tcidhistorical Data from 2016 to 2020 (In Rupiah) Source: The TCIDFinancial Statement (Data Processed)

	1	2	3	4	Terminal	Enterprise	Equity
					Value	Value	Valuation
Pesimis	16.337.615.	15.687.459.	15.063.177.	14.463.738.	348.992.560.	410.544.551.	855.747.1
(growth	021	847	589	636	677	770	34.
1,73%)							905
Moderat	15.768.442.	14.613.455.	13.543.067.	12.551.081.	158.802.354.	215.278.402.	660.480.9
(growth	830	677	576	922	456	460	85.
-1,81%)							595
Optimis	15.483.856.	14.090.733.	12.822.953.	11.669.238.	118.028.410.	172.095.192.	617.297.7
(growth	735	450	129	336	562	212	75.
-3,59%)							347

Table 8: FCFF Projection of TCIDfrom 2021 To 2025 in All Scenarios With WACC = 5,95% (In Rupiah)Source: Data Processed

	DCF - FCFF							
Scenario	Intrinsic Value	Market Price TCID on 04/01/2021	Condition					
Pessimistic	4.256	6.475	Overvalued					
Moderate	3.285	6.475	Overvalued					
Optimistic	3.070	6.475	Overvalued					
		RV - PER						
	PER Company	PER Industry						
Pessimistic	(163,96)	17	Undervalued					
Moderate	(131,12)	17	Undervalued					
Optimistic	(124,80)	17	Undervalued					
		RV - PBV						
	PBV Company	PBV Industry						
Pessimistic	0,46	7,24	Undervalued					
Moderate	0,35	7,24	Undervalued					
Optimistic	0,33	7,24	Undervalued					

Table 9: The Valuation Results of TCID Source: Data Processed

According to Table 9, in the DCF-FCFF method, the intrinsic value of TCID was Rp4.256 in the pessimistic scenario, Rp3.285 in the moderate scenario, and Rp3.070 in the optimistic scenario. In all scenarios, TCID was in an overvalued condition because it was below the market price of Rp6.475 on 4 January 2021. Meanwhile using the relative valuation method with PER approach, the intrinsic value of TCID was -163,96 times in the pessimistic scenario, -131,12 times in the moderate scenario, and -124,80 times in the optimistic scenario. In all scenarios, TCID was in an undervalued condition because it was below the PER industry of 17 times. Last using the relative valuation method with PBV approach, the intrinsic value of TCID was 0,46 times in the pessimistic scenario, 0,35 times in the moderate scenario, and 0,33 times in the optimistic scenario. In all scenarios, TCID was below the PBV industry of 7,24 times.

4.4. Share Valuation of PT Martina BertoTbk. (MBTO)

The historical data of PT Martina BertoTbk.(MBTO)as the basic assumptionmodel for the company's FCFF projection are presented in the following table:

Descriptions	2016	2017	2018	2019	2020	AVERAGE
Revenue	685.443.920.	731.577.343.	502.517.714.	537.567.605.	297.216.309.	-12,73%
Growth	925	628	607	097	211	
	-1,34%	6,73%	-31,31%	6,97%	-44,71%	-
Operation	660.784.831.	752.130.978.	643.553.116.	606.548.402.	469.529.601.	119,62%
Expense	413	255	585	478	807	
	96,40%	102,81%	128,07%	112,83%	157,98%	-
Depreciation &	28.198.203.	29.271.149.	28.178.926.	25.579.364.	29.960.528.	5,71%
Amort	228	104	416	155	461	
	4,11%	4,00%	5,61%	4,76%	10,08%	
EBIT	-3.539.113.	-49.824.783.	-169.214.328.	-94.560.161.	-202.273.821.	-25,33%
	716	731	394	536	057	
	-0,52%	-6,81%	-33,67%	-17,59%	-68,06%]

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Descriptions	2016	2017	2018	2019	2020	AVERAGE
EBIT (1-t)	-2.654.335.	-37.368.587.	-126.910.746.	-70.920.121.	-151.705.365.	
	287	798	296	152	793	
CAPEX	21.999.694.986	24.620.449.209	15.680.456.223	4.203.867.693	8.187.841.526	2,65%
	3,21%	3,37%	3,12%	0,78%	2,75%	
Non Cash	466.168.751.	515.145.533.	388.358.946.	314.648.080.	180.002.174.	
Current Asset	557	292	341	914	520	
Net Current	144.602.873.	239.151.464.	227.794.194.	242.061.413.	282.040.909.	
Liabilities	151	692	635	454	453	
Working	321.565.878.	275.994.068.	160.564.751.	72.586.667.	-102.038.734.	
Capital	406	600	706	460	933	
Change	33.379.329.	-45.571.809.	-115.429.316.	-87.978.084.	-174.625.402.	-19,89%
Working	303	806	894	246	393	
Capital						
Proportion WC	4,87%	-6,23%	-22,97%	-16,37%	-58,75%	

Table 10: Mbtohistorical Data from 2016 to 2020 (In Rupiah) Source: The MBTOFinancial Statement (Data Processed)

	1	2	3	4	Terminal	Enterprise	Equity
					Value	Value	Valuation
Pesimis	8.688.897.	6.416.638.	4.738.604.6	3.499.398.3	9.881.960.	33.225.499.	-3.201.323.
(growth -	498	548	69	28	944	987	595
19,96%)							
Moderat	9.473.903.	7.628.447.	6.142.474.3	4.945.959.3	20.444.803.	48.635.588.5	12.208.764.
(growth -	673	425	30	53	785	66	984
12,73%)							
Optimis	11.043.91	10.366.31	9.730.289.0	9.133.286.1	139.726.153.	179.999.960.	143.573.137.
(growth	6.022	5.423	79	95	863	583	001
1,73%)							

 Table 11: FCFF Projection of MBTOfrom 2021 to 2025 in All Scenarios with WACC = 8, 38% (In Rupiah)
 Source: Data Processed

DCF - FCFF					
Scenario	Intrinsic Value	Market Price MBTO on 04/01/2021	Condition		
Pessimistic	-3	90	Overvalued		
Moderate	11	90	Overvalued		
Optimistic	134	90	Undervalued		
RV - PER					
	PER Company	PER Industry			
Pessimistic	0,16	17	Undervalued		
Moderate	(0,55)	17	Undervalued		
Optimistic	(5,57)	17	Undervalued		
RV - PBV					
	PBV Company	PBV Industry			
Pessimistic	(0,01)	7,24	Undervalued		
Moderate	0,02	7,24	Undervalued		
Optimistic	0,24	7,24	Undervalued		

Table 12: The Valuation Results of MBTO Source: Data Processed

According to Table 12, in the DCF-FCFF method, the intrinsic value of MBTO was -Rp3 in the pessimistic scenario, Rp11 in the moderate scenario, and Rp134 in the optimistic scenario. In the pessimistic andmoderate scenarios, MBTO was in an overvalued condition because it was below the market price of Rp90 on 4 January 2021, while in theoptimistic scenario MBTO was in an under valued condition because it was above the market price of Rp90 on 4 January 2021. Meanwhile using the relative valuation method with PER approach, the intrinsic value of MBTO was 0,16 times in the pessimistic scenario, -0,55 times in the moderate scenario, and -5,57 times in the optimistic scenario. In all scenarios,MBTO was in an undervalued condition because it was below the PER industry of 17 times. Last using the relative valuation method with PBV approach, the intrinsic value of MBTO was -0,01 times in the pessimistic scenario, 0,02 times in the moderate scenario, and 0,24 times in the optimistic scenario. In all scenarios, MBTO was in an undervalued condition because it was below the PER industry of 17 times. Last using the relative valuation method with PBV approach, the intrinsic value of MBTO was -0,01 times in the pessimistic scenario, 0,02 times in the moderate scenario, and 0,24 times in the optimistic scenario. In all scenarios, MBTO was in an undervalued condition because it was below the PBV industry of 7,24 times.

4.5. Share Valuation of PT Mustika RatuTbk. (MRAT)

The historical data of PT Mustika Ratu Tbk. (MRAT)as the basic assumption model for the company's FCFF projection are presented in the following table:

Descriptions	2016	2017	2018	2019	2020	AVERAGE
Revenue Growth	344.361.345.	344.678.666.	300.572.751.	305.224.577.	318.408.499.	-5,28%
	265	245	733	860	475	
	-19,56%	0,09%	-12,80%	1,55%	4,32%	
Operation	342.883.457.	338.989.266.	291.885.209.	296.262.137.	304.441.690.	97,54%
Expense	747	974	303	953	012	
	99,57%	98,35%	97,11%	97,06%	95,61%	
Depreciation &	7.595.647.596	7.585.005.334	7.594.471.429	6.197.964.950	5.525.575.495	2,14%
Amort	2,21%	2,20%	2,53%	2,03%	1,74%	
EBIT	-6.117.760.078	-1.895.606.063	1.093.071.001	2.764.474.957	8.441.233.968	0,32%
	-1,78%	-0,55%	0,36%	0,91%	2,65%	
EBIT (1-t)	-4.588.320.059	-1.421.704.547	819.803.251	2.073.356.218	6.330.925.476	
CAPEX	2.889.155.696	6.837.099.651	3.667.512.063	1.831.463.023	6.132.990.474	1,31%
	0,84%	1,98%	1,22%	0,60%	1,93%	
Non Cash	348.354.794.	361.409.362.	366.327.734.	402.608.212.	420.880.760.	
Current Asset	516	592	156	585	762	
Net Current	92.563.132.	106.719.900.	122.274.848.	142.471.203.	195.634.049.	
Liabilities	370	423	621	710	399	
Working Capital	255.791.662.	254.689.462.	244.052.885.	260.137.008.	225.246.711.	
	146	169	535	875	363	
Change Working	12.142.687.	-1.102.199.	-10.636.576.	16.084.123.	-34.890.297.	-1,20%
Capital	096	977	634	340	512	
Proportion WC	3,53%	-0,32%	-3,54%	5,27%	-10,96%	

Table 13.Mrathistorical Data from 2016 to 2020 (In Rupiah) Source: The MRATFinancial Statement (Data Processed)

	1	2	3	4	Terminal Value	Enterprise Value	Equity Valuation
Pesimis	6.121.640.	5.186.549.	4.394.294.	3.723.058.	20.650.203.	40.075.746.	51.434.443.
(growth -	584	242	744	510	286	366	038
8,78%)							
Moderat	6.356.840.	5.592.750.	4.920.504.	4.329.061.	31.686.549.	52.885.706.	64.244.403.
(growth -	402	772	404	777	104	460	132
5,28%)							
Optimis	6.827.240.	6.451.091.	6.095.666.	5.759.824.	98.783.167.	123.916.990.	135.275.687.
(growth	040	407	785	378	891	501	173
1,73%)							

 Table 14: FCFF Projection of MRATfrom 2021 To 2025 in All Scenarios with WACC = 7,66% (In Rupiah)
 Source: Data Processed

Dcf - Fcff					
Scenario	Intrinsic Value	Market Price Mrat On 04/01/2021	Condition		
Pessimistic	120	169	Overvalued		
Moderate	150	169	Overvalued		
Optimistic	316	169	Undervalued		
Rv - Per					
	Per Company	Per Industry			
Pessimistic	(3,98)	17	Undervalued		
Moderate	(4,79)	17	Undervalued		
Optimistic	(9,39)	17	Undervalued		
Rv - Pbv					
	Pbv Company	Pbv Industry			
Pessimistic	0,15	7,24	Undervalued		
Moderate	0,19	7,24	Undervalued		
Optimistic	0,40	7,24	Undervalued		

Table 15: The Valuation Results of Mrat Source: Data Processed According to Table 15, in the DCF-FCFF method, the intrinsic value of MRAT was Rp120 in the pessimistic scenario, Rp150 in the moderate scenario, and Rp316 in the optimistic scenario. In the pessimistic and moderate scenarios, MRAT was in an overvalued condition because it was below the market price of Rp169 on 4 January 2021, while in theoptimistic scenario MRAT was in an undervalued condition because it was above the market price of Rp169 on 4 January 2021. Meanwhile using the relative valuation method with PER approach, the intrinsic value of MRAT was -3,98 times in the pessimistic scenario, -4,79 times in the moderate scenario, and -9,39 times in the optimistic scenario. In all scenarios, MRAT was in an undervalued condition because it was below the PER industry of 17 times. Last using the relative valuation method with PBV approach, the intrinsic value of MRAT was 0,15 times in the pessimistic scenario, 0,19 times in the moderate scenario, and 0,40 times in the optimistic scenario. In all scenarios, MRAT was in an undervalued condition because it was below the PBV industry of 7,24 times.

5. Conclusion

5.1. PT Unilever IndonesiaTbk

UNVR stocks overall were rated overvalued by -54,67%. In all scenarios, UNVR was in an overvalued condition because it was below the market price of Rp7.475 on 4 January 2021.Meanwhile, the PER and PBV calculation results of UNVR were in overvalued condition.

5.2. PT Kino IndonesiaTbk

KINO stocks overall were overvalued by -81,27%. In all scenarios, KINO was in an overvalued condition because it was below the market price of Rp2.760 on 4 January 2021. Meanwhile, the PER and PBV calculation results of KINO were in undervalued condition.

5.3. PT Mandom IndonesiaTbk

TCID stocks overall were overvalued by -45,37%. In all scenarios, TCID was in an overvalued condition because it was below the market price of Rp6.475 on 4 January 2021. Meanwhile, the PER and PBV calculation results of TCID were in undervalued condition.

5.6. PT Martina BertoTbk

MBTO stocks overall were rated overvalued by -47,19%. In the pessimistic and moderate scenarios, MBTO was in an overvalued condition because it was below the market price of Rp90 on 4 January 2021, while in theoptimistic scenario MBTO was in an undervalued condition because it was above the market price of Rp90 on 4 January 2021. Meanwhile, the PER and PBV calculation results of MBTO were in undervalued condition.

5.7. PT Mustika RatuTbk

MRAT stocks overall were rated under valued by15,65%. In the pessimistic and moderate scenarios, MRAT was in an overvalued condition because it was below the market price of Rp169 on 4 January 2021, while in theoptimistic scenario MRAT was in an undervalued condition because it was above the market price of Rp169 on 4 January 2021.Meanwhile, the PER and PBV calculation results of MRAT were in undervalued condition.

As an investment decision, it is theoretically recommended to buy shares under the intrinsicvalue, investors can buy shares if they are in an overvalued condition or investors can sell shares if they are in an overvalued condition, where in this case for the DCF-FCFF method it is advisable to choose amoderate scenario because of the most likely conditions of the company's growth, the market condition value is close to its fair value. The shares for UNVR, KINO, TCID, MBTO and MRAT companies are worth selling in this condition because the market price is above the intrinsic value. Then on the RVPER-PBV method with the three pessimistic, moderate and optimistic scenarios, for the PERapproach, the TCID share price is cheaper than UNVR, KINO, MBTO, and MRAT, whereas in the PBV approach, MBTO stock prices are cheaper than UNVR, KINO, TCID and MRAT.

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