

## Valuation Analysis Using Fcfe And Rv Of Oil And Gas Sub-Sector Companies On Idx 2016-2020

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### Abstract

*This research aims at examining the intrinsic value of stocks in the oil and gas sectors in 2021. This research used 2016-2020 data to calculate the historical performance of each company, which was projected from 2021-2025 based on three scenarios: optimistic, moderate, and pessimistic. This research employed estimates of the company's financial behavior in the last five years. The methods used to assess the intrinsic value of these shares were Discounted Cash Flow (DCF) and Relative Valuation (RV). From the results of the research using the DCF method, the following results were obtained: MEDC and ELSA were undervalued in all scenarios, while ESSA was overvalued in all scenarios. With the RV method, the following results were obtained: MEDC, ESSA, and ELSA were undervalued in all scenarios. Overall, MEDC shares were overvalued by -44.7%, ESSA shares were overvalued by 4.6%, ELSA shares were undervalued by -45.6%.*

**Keywords:** Valuation; Discounted Cash Flow; Relative Valuation; Oil and Gas.

### Abstrak

Penelitian ini bertujuan untuk mengkaji nilai intrinsik saham di sektor migas pada tahun 2021. Penelitian ini menggunakan data tahun 2016-2020 untuk menghitung kinerja historis masing-masing perusahaan, yang diproyeksikan dari tahun 2021-2025 berdasarkan tiga skenario: optimis, moderat, dan pesimis. Penelitian ini menggunakan estimasi perilaku keuangan perusahaan dalam lima tahun terakhir. Metode yang digunakan untuk menilai nilai intrinsik saham tersebut adalah Discounted Cash Flow (DCF) dan Relative Valuation (RV). Dari hasil penelitian dengan menggunakan metode DCF didapatkan hasil sebagai berikut: MEDC dan ELSA undervalued pada semua skenario, sedangkan ESSA overvalued pada semua skenario. Dengan metode RV, diperoleh hasil sebagai berikut: MEDC, ESSA, dan ELSA undervalued di semua skenario. Secara keseluruhan, saham MEDC dinilai *overvalued* sebesar -44,7%, saham ESSA dinilai *overvalued* sebesar 4,6%, saham ELSA dinilai terlalu rendah sebesar -45,6%.

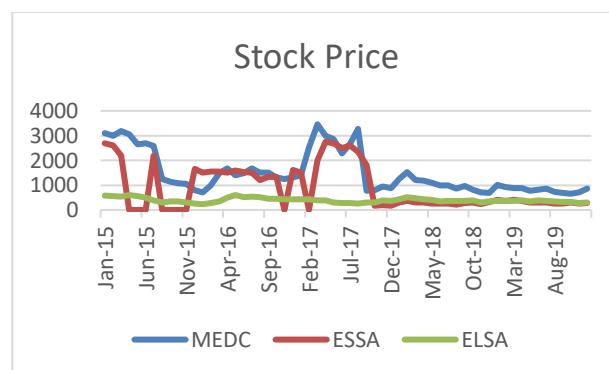
**Kata kunci:** Valuasi; Discount Cash Flow; Relative Valuation; Minyak dan Gas Bumi.

## INTRODUCTION

In investing, risk and return are inseparable parts. According to Tandelilin (2010), an investment that has a high level of risk also has a high return. Conversely, if the investment has a low level of risk, then the return to be obtained is lower. Risk is the possibility that the actual return on an investment will not match the expected return. Return is the profit or net cash flow obtained from an investment.

Assessment of the company's financial statements can be used as information needed by shareholders (investors). It is in accordance with the decree of the Chairman of the Capital Market Supervisory Agency (*Badan Pengawas Pasar Modal, Bapepam*) No. Kep.38/PM/1996, which requires companies to submit annual reports so that there is the transparency of information related to the performance of the company concerned. That way, it is easier for shareholders (investors) to get information and at the same time find out the reputation and performance of the company.

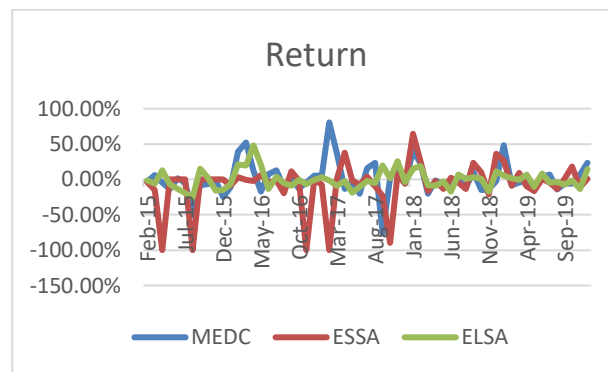
In investing, there is a term called market capitalization, which is the value of a company calculated from the total value of shares outstanding. In other words, market capitalization is the amount of money that a person or business entity has to pay to buy a company. The investor community will usually use this market capitalization figure to determine the size of a company. The term market capitalization is used by investors to determine the size of a company.



Source: Researchers' calculation

**Figure 1. Stock Price Chart of MEDC, ELSA, and ESSA**

Based on Figure 1, the stock with the highest share price was MEDC at IDR 3,460 in March 2017. Moreover, the stock with the lowest share price was ESSA at IDR 0 in April – June 2015, August – November 2015, November 2016, and February 2017.



**Figure 2. Return Chart of MEDC, ESSA, and ELSA**

Based on Figure 2, MEDC stock yielded the highest return of 0.8057554 or 80.58% in February 2017, and the same MEDC stock also yielded the lowest return of -0.762195 or -76.22% in September 2017. Based on the phenomena that have been conveyed, in order to minimize risk, it is necessary to carry out a valuation (assessment) before deciding to invest in the shares of a company.

Based on the data and phenomena presented, this study aims at evaluating the fair value analysis of shares in oil and gas sub-sector companies in 2015-2019. The selected objects are MEDC, ESSA, and ELSA using the DCF method with the FCFF approach and Relative Valuation through the Price to Earning Ratio (PER) and Price to Book Value (PBV) approaches.

## II. LITERATURE REVIEW

Several previous studies with themes related to stock price valuations include the following:

Riko Hendrawan, Rijikan, and Hiro Tugiman's 2018 research entitled "Stock Valuations in Cement Companies: Evidence from Indonesia" employed the DCF-FCFF and RV methods. The results showed that the use of the DCF-FCFF fair value showed that INTP was overvalued in all scenarios and SMCB and SMBR were overvalued in the pessimistic scenario but undervalued in the moderate and optimistic scenario.

Nadica Ivanovska, Zoran Ivanovski, and Zoran Narasanov's 2014 research was entitled "Fundamental Analysis and Discounted Free Cash Flow Valuation of Stocks at Macedonian Stock Exchange". The research evaluated stock valuations with the DCF model and comparisons with the average stock market prices of securities. In addition, it showed that the DCF model was useful for analysts and investors in MSE to choose stocks.

Research by Riko Hendrawan, Palti M.T. Sitorus, and Ernest L.P. Siagian entitled "Equity Valuation on Property and Real Estate Listed Companies" in 2018 used the DCF-FCFF method. The results showed that CTRA was undervalued in all scenarios, while LPKR and BSDE were overvalued in all scenarios.

Dimitriou (2012) research entitled "Applying the Free Cash Flow to Equity Valuation Model in Coca-Cola Hellenic" employed the DCF\_FCFE method. The results showed that the value of Coca-Cola Hellenic is calculated based on the sum of three anticipated Free Cash Flows to Equity plus the company's terminal value at  $t=3$  discounted at the required rate of return on equity. As the sum-of-the-part approach analysis showed, the majority of CCHBC's value came from established markets (Western European operations). Dividing the total value of Coca-Cola Hellenic by the number of shares outstanding gives the value of the shares. As the sensitivity analysis showed, the value per share of Coca-Cola Hellenic was very sensitive to input.

Saptono and Kristanti, (2018) research entitled "Does the Stock of Indonesian Provider Tower Industry Have a Fair Value?" used the DCF-FCFF and RV methods. Hendrawan, R.; Susilowati, N.; and Kristanti, (2020) research entitled "Share Valuation of Indonesian Regional Development Bank using Free Cash Flow to Equity and Relative Valuation Methods" employed the DCF-FCFE and RV methods with PER and PBV approaches. By using the FCFE method, the intrinsic values/fair prices of BJBR and BJTM shares were overvalued when compared to the market price. On the other hand, the intrinsic value/fair price of BEKS shares was in an undervalued position. Dr. S. K. Khatik and Mr. Milind Patil conducted research on NTPC on the National Stock Exchange of India (NSE) in 2016. The results of the DCF FCFF analysis showed that the stock price of NTPC was fair valued.

Florian Steiger conducted a sensitivity analysis of DCF, especially the FCFF method with a case study on BASF shares in 2008. The results of the analysis showed that DCF had high sensitivity, especially to industry growth rates and discount rates. Riko Hendrawan and Erniss Himawan's research entitled "Assessing Free Cash Flow to Firm and Relative Valuation Method in Agriculture Plantation Companies Listed in Indonesia Stock Exchange in 2018" employed the DCF method with the FCFF approach, and the Relative valuation method with the PER and PBV approaches. The results of this research adopting the DCF-FCFF method in the three scenarios showed that the intrinsic values of AALI and LSIP were overvalued, while the intrinsic value of SIMP was undervalued. By using the RV assessment method using the PBV and PER approaches, the values of AALI, SIMP, and LSIP were still within the industry range based on the IDX Quarter I 2018. Referring to the calculation results, this research recommended selling AALI and LSIP and buying SIMP.

Thaddeus Sim and Ronald H. Wright conducted research on 20 stocks in the Dow Jones Industrial Average (DJIA) in 2015. The research results of the DDM and Internal Rate of Return (IRR) analysis showed that eight stocks listed on the DJIA, namely INTC, MCD, HD, WMT, NKE, UTX, JNJ, and PG, showed dominance over 12 other stocks out of a total of 20 stocks sampled.

Ecryna Cyntia Hutapea, Tyara Pratiwi Poernomoputri, and Pardomuan Sihombing conducted research on ADRO on the IDX in 2012. The research results of the DCF FCFF analysis showed that ADRO's stock price was undervalued. Diestra Perdana Eryando Brilliant, Raden Rustam Hidayat, and Ari Darmawan conducted research on the cement sub-sector on the IDX in 2016. The research results of the Dividend Discount Model (DDM) analysis showed that the stock prices of SMGR, INTP, and SMCB were undervalued. The PER analysis results also showed that the stock prices of SMGR, INTP, and SMCB were undervalued.

Neaxie & Hendrawan, (2017) conducted research on the telecommunications sub-sector on the Indonesia Stock Exchange (IDX) in 2017. The results of the DCF FCFF analysis in the optimistic scenario showed that TLKM was undervalued, ISAT was overvalued, and EXCL was undervalued. The results of the DCF FCFF analysis in the moderate scenario showed that TLKM was undervalued, ISAT was overvalued, and EXCL was overvalued. The results of the DCF FCFF analysis in the pessimistic scenario showed that all stock prices were overvalued. The results of the Price to Earnings Ratio (PER) analysis showed that TLKM was undervalued, ISAT was overvalued, and EXCL was undervalued. The results of the Price to Book Value (PBV) analysis showed that TLKM was overvalued, ISAT was undervalued, and EXCL was undervalued. Arni Utamaningsih conducted research on the building construction sub-sector on the IDX in 2018. The results of the PBV analysis showed that WSKT and ADHI were undervalued, while WIKA was overvalued. Nur Hakim Fibrianto and Riko Hendrawan conducted research on the sub-sector of the oil and gas industry on the IDX in 2018. The results of the DCF FCFF analysis in the pessimistic scenario showed that MEDC and ENRG were

overvalued, while ELSA was undervalued. The results of the DCF FCFF analysis in the moderate and optimistic scenario showed that the stock prices of MEDC, ENRG, and ELSA were undervalued. The results of PER and PBV analysis showed that the stock prices of MEDC, ENRG, and ELSA were still within the industry range.

### III. METHODS

There were 13 companies in the oil and gas sub-sector listed on the IDX. This study applied purposive sampling where the research object was selected for a particular purpose based on the characteristics of the study. Two main criteria used in determining the sample were earnings before interest and tax (EBIT) and revenue growth. EBIT was used as a criterion because only companies with positive EBIT could be analyzed using the DCF method (Zemba & Hendrawan, 2018). Revenue growth was used as a criterion because DCF was considered less suitable for assessing companies with negative growth (Damodaran, 2012). From these criteria, three companies were obtained as research objects, which were PT Medco International Tbk (MEDC), PT Surya Esa Perkasa Tbk. (ESSA), and PT Elnusa Tbk (ELSA). In this study, there are several companies that report financial statements with an exchange rate of dollars (USD), namely MEDC and ESSA, so that in the calculations that will be carried out the researcher converts the entire dollar exchange rate into Rupiah with a current amount of 1 USD = Rp. 14,486.25,-.

The first step in DCF was to analyze the company's financial behavior including calculating its growth based on historical financial data from 2016 to 2020 as the basis for projected revenue and Free Cash Flow to Firm (FCFF) of the company in the next 5 years. Terminal value was calculated by the component of FCFF value at the end of the projected year, constant growth assumption, and Weighted Average Cost of Capital (WACC). WACC was derived from the company's latest capital structure, cost of debt, and cost of equity obtained through the Capital Asset Pricing Model (CAPM). Summing all FCFF and terminal values that had been projected to the present using WACC as the discount rate would produce enterprise value (EV). Subtracting EV by debt and adding it to cash and cash equivalents would produce equity value. Dividing the equity value by the number of outstanding shares would produce the intrinsic value per share. The intrinsic value obtained needed to be further validated using Relative Valuation (RV) with Price to Earnings Ratio (PER) and Price to Book Value (PBV) approaches. The valuation results were declared valid if the intrinsic value of PER and PBV were within the industry range (Fibrianto & Hendrawan, 2018). Industry range was the range between the smallest and largest PER and PBV in the industry referring to the Q4 2020 statistical data from the IDX (IDX, 2020).

According to Neaxie & Hendrawan (2017), EV is estimated in three scenarios, namely optimistic, moderate, and pessimistic. Those scenarios are determined by industry growth, company growth, and the spread of the two. The pessimistic scenario is a condition where the company experiences the lowest growth, where the growth is equivalent to whichever is smaller between industry growth and company growth. The moderate scenario is a condition where the company experiences normal growth, where the growth is equivalent to whichever is greater between industry growth and company growth. The optimistic scenario is a condition where the company experiences optimal growth, where the growth is equivalent to growth in the moderate scenario plus the spread between industry growth and company growth.

## DATA SOURCES

The data collected from the object of research are secondary data, which were collected from:

- The financial statements of each company that are officially published on the official website
- The daily IDX Composite (IHSG) and the share price of PT Medco International Tbk (MEDC), PT Surya Essa Perkasa (ESSA), and PT Elnusa (ELSA) taken from <https://www.idnfinancials.com/> and <https://finance.yahoo.com/>

## ANALYSIS OF RESEARCH RESULTS

Industrial growth referred to GDP data because it was considered the most appropriate as a company's stable growth (Steiger, 2010). The industrial growth according to the cumulative average of GDP in the last 5 years was 0.56%. The company's growth was calculated from the growth of gross income, not net income, because the movement of gross income was considered to have a more relevant correlation with time (Damodaran, 2012). Terminal value was calculated with the assumption that the company's constant growth was equivalent to growth in the pessimistic scenario.

### PT Medco International Tbk.

The financial behavior of PT Medco International Tbk (MEDC) as the basic assumption model for the company's FCFE projections is presented in Table 1. MEDC's FCFE projection for the next 5 years is presented in Table 2. Analysis of the valuation results is presented in Table 3.

Table 1 Financial behavior of MEDC based on financial statements 2016 – 2020 (IDR Billion)

	2016	2017	2018	2019	2020	Average
Revenue	253,953	381,516	362,865	310,143	261,315	<b>Revenue growth</b>
Growth	37.63%	50.23%	-4.89%	14.36%	-15.74%	10.66%
						<b>% of Revenues</b>
Total Operating Expenses	182,136	232,536	251,004	240,856	202,851	<b>70.4%</b>
Depreciation	99,163	81,672	92,405	218,775	79,629	<b>9.2%</b>
Operating Income (EBIT)	27,346	67,308	19,456	288,063	21,164	
Total Capex	14,534	16,033	87,300	198,641	32,726	<b>22.1%</b>
Total Current Asset	981,694	1,044,178	1,134,664	959,368	1,001,967	
Cash and Equivalent	210,911	280,516	245,990	131,823	315,460	
Net Current liabilities	307,169	184,644	196,949	156,112	160,988	
Working Capital	463,614	579,018	691,725	671,434	525,519	
$\Delta$ WC	29,285	115,403	112,708	20,291	145,915	<b>-2.5%</b>

Source: MEDC Financial Report (data processed)

**Table 2 MEDC's FCFF projections**

Scenario	2021F	2022F	2023F	2024F	Terminal value	Enterprise Value	Equity Value
Pessimist (growth=0.35%)	100,837	100,874	10,912	10,949	232,973	229,786	501,405
Moderate (growth=7.21%)	112,578	112,432	13,307	14,266	303,554	294,605	566,224
Optimist (growth=14.07%)	123,219	123,502	16,030	18,285	389,072	372,637	644,256

**Table 3 MEDC's valuation results**

DCF FCFF						
Scenario	Intrinsic Value (IDR)	Market Price on 30 December 2020 (IDR)			Analysis	Deviation
Pessimistic	604.15	620			Overvalued	60.1%
Moderate	612.53				Overvalued	54.9%
Optimistic	618.17				Overvalued	48.7%
RV-PER						
Scenario	PER Company	PER Industry Q4-2020			Analysis	Condition
		The Lowest	Average	The Highest		
Pessimistic	-5.73	-3.72	-8.69	116.80	Undervalued	Valid
Moderate	-6.53				Undervalued	Valid
Optimistic	-8.50				Undervalued	Valid
RV-PBV						
Scenario	PBV Company	PBV Industry Q4-2020			Analysis	Condition
		The Lowest	Average	The Highest		
Pessimistic	0.73	0.16	1.10	3.07	Undervalued	Valid
Moderate	0.80				Undervalued	Valid
Optimistic	0.95				Undervalued	Valid

In the DCF method, MEDC's shares were overvalued because MEDC's intrinsic value of IDR 1,915 in all scenarios was below the market price on December 30, 2020. MEDC's intrinsic value was IDR 604.15 in the pessimistic scenario with a deviation from the market price of 60.1%, IDR 612.53 in the moderate scenario with a deviation from the market price of 54.9%, and IDR 618.17 in the optimistic scenario with a deviation from the market price of 48.7%. In the RV PER method, MEDC shares were undervalued because the intrinsic value of MEDC's PER in all scenarios was below the industry average of -8.69. The intrinsic value of MEDC's PER was -22.96 times in the pessimistic scenario, -25.93 times in the moderate scenario, and -29.50 in the optimistic scenario. The intrinsic value of MEDC's PER in all scenarios was within the industry range. In the RV PBV method, MEDC's shares were considered undervalued because the intrinsic value of MEDC's PBV in all scenarios was below the industry average of 1.10. The intrinsic value of MEDC's PBV was 0.19 times in the pessimistic scenario, 0.22 times in the moderate scenario, and 0.25 times in the optimistic scenario. The intrinsic value of INDS's PBV in all scenarios was also within the industry range.

### PT Surya Esa Perkasa Tbk.

ESSA's financial behavior as the basic assumption model for the company's FCFE projections is presented in Table 4. MEDC's FCFE projections for the next 5 years are presented in Table 5. Analysis of valuation results is presented in Table 6.

**Table 4 ESSA's financial behaviors**

	2016	2017	2018	2019	2020	Average
Revenue	1,185,293	2,464,119	2,453,836	2,796,942	2,673,993	<b>Revenue growth</b>
Growth	21.77%	-21.88%	-0.32%	13.68%	-4.40%	1.6%
						<b>% of Revenues</b>
Total Operating Expenses	1,627,053	1,470,417	1,509,765	1,702,624	1,336,749	<b>56.6%</b>
Depreciation	689,159	658,801	2,973,216	545,232	714,597	<b>43.1%</b>
Operating Income (EBIT)	879,081	334,901	2,029,145	549,086	622,647	
Total Capex	1,017,587	482,029	424,353	560,978	328,601	<b>20.2%</b>
Total Current Asset	7,517,152	7,168,378	8,673,407	8,097,861	7,624,956	
Cash and Equivalent	785,564	696,485	671,415	635,182	1,045,237	
Net Current liabilities	4,286,566	3,829,115	5,080,270	4,719,649	3,882,918	
Working Capital	2,475,041	2,642,778	2,921,722	2,743,030	2,696,801	
$\Delta$ WC	171,073	167,737	278,944	178,692	46,229	<b>3.1%</b>

Source: ESSA Financial Report (data processed).



**Table 5 FCFF Projection of ESSA 2021 - 2025**

Scenario	2021F	2022F	2023F	2024F	Terminal value	Enterprise Value	Equity Value
Pessimist (growth=0.35%)	57,891	59,753	541,565	543,434	6,518,347	6,429,164	2,468,273
Moderate (growth=0.38%)	59,223	59,248	542,085	544,129	6,526,686	6,436,488	2,475,597
Optimist (growth=0.41%)	61,191	62,394	542,605	544,825	6,535,034	6,443,818	2,482,927

**Table 6 ESSA's valuation results**

DCF FCFF						
Scenario	Intrinsic Value (IDR)	Market Price on 30 December 2020 (IDR)			Analysis	Deviation
Pessimistic	368.95	362			Undervalued	8.1%
Moderate	371.34				Undervalued	8.5%
Optimistic	375.28				Undervalued	8.8%
RV-PER						
Scenario	PER Company	PER Industry Q4-2020			Analysis	Condition
		The Lowest	Average	The Highest		
Pessimistic	-220.45	-190.00	-8.69	112.00	Undervalued	Valid
Moderate	-224.89				Undervalued	Valid
Optimistic	-227.46				Undervalued	Valid
RV-PBV						
Scenario	PBV Company	PBV Industry Q4-2020			Analysis	Condition
		The Lowest	Average	The Highest		
Pessimistic	0.150	0.16	1.10	3.07	Undervalued	Valid
Moderate	0.151				Undervalued	Valid
Optimistic	0.152				Undervalued	Valid

Under the DCF method, ESSA shares were considered undervalued because the intrinsic value of ESSA in all scenarios was above the market price of IDR 362 on December 30, 2020. The intrinsic value of ESSA was IDR 368.95 in the pessimistic scenario with a deviation from the market price of 8.1%, IDR 371.34 in the moderate scenario with a deviation from the market price of 8.5%, and IDR 375.28 in the optimistic scenario with a deviation from the market price of 8.8%. In the RV PER method, ESSA shares were considered undervalued because the intrinsic value of ESSA's PER in all scenarios was below the industry average of -8.49. The intrinsic value of ESSA's PER was -220.45 times in the pessimistic scenario, -224.89 times in

the moderate scenario, and -227.46 in the optimistic scenario. The intrinsic value of ESSA's PER in all scenarios was within the industry range. In the RV PBV method, ESSA shares were considered undervalued because the intrinsic value of PBV of ESSA in all scenarios was below the industry average of 1.10. The intrinsic value of ESSA's PBV was 0.150 times in the pessimistic scenario, 0.151 times in the moderate scenario, and 0.152 times in the optimistic scenario. The intrinsic value of ESSA's PBV in all scenarios was also within the industry range.

### PT Elnusa Tbk.

ELSA's financial behavior as the basic assumption model for the company's FCFF projections is presented in Table 7. ELSA's FCFF projections for the next 5 years are presented in Table 8. Analysis of the valuation results is presented in Table 9.

Table 7 Financial behavior of ELSA based on financial statements 2016 – 2020 (IDR Billion)

**Table 7 ELSA's financial behaviors**

	2016	2017	2018	2019	2020	Average
Revenue	36,432	42,368	50,769	50,239	38,558	<b>Revenue growth</b>
Growth	-0.76%	16.29%	19.63%	-1.04%	23.25%	2.2%
						<b>% of Revenues</b>
Total Operating Expenses	20,239	22,961	25,108	24,952	25,688	<b>55.2%</b>
Depreciation	3,502	5,136	8,167	6,654	10,007	<b>15.4%</b>
Operating Income (EBIT)	12,438	12,271	18,494	18,633	2,863	
Total Capex	7,102	9,894	13,644	12,198	4,726	<b>21.3%</b>
Total Current Asset	110,403	121,293	131,180	129,058	132,308	
Cash and Equivalent	29,357	31,674	25,193	24,330	47,553	
Net Current liabilities	62,023	71,469	90,526	83,637	55,173	
Working Capital	19,023	18,260	15,461	31,091	29,582	
$\Delta$ WC	7,021	763	2,799	15,630	1,509	<b>0.1%</b>

Source: ELSA's Financial Report (reprocessed)

**Table 8 Projection of FCFF ELSA**

Scenario	2021F	2022F	2023F	2024F	Terminal value	Enterprise Value	Equity Value
Pessimist (growth=0.35%)	6,210	6,271	6,253	6,274	144,833	142,861	119,144
Moderate (growth=0.99%)	6,249	6,351	6,373	6,466	148,586	146,229	122,612

Optimist (growth=1.63%)	6,289	6,372	6,496	6,602	152,422	149,860	116,143
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**Table 9 Valuation Result of ELSA**

DCF FCFF						
Scenario	Intrinsic Value (IDR)	Market Price on 30 December 2020 (IDR)			Analysis	Deviation
Pessimistic	708.38	362			Undervalued	46.85%
Moderate	710.48				Undervalued	47.6%
Optimistic	712.58				Undervalued	49.94%
RV-PER						
Scenario	PER Company	PER Industry Q4-2020			Analysis	Condition
		The Lowest	Average	The Highest		
Pessimistic	-120.45	-190.00	-8.69	112.00	Undervalued	Invalid
Moderate	-124.89				Undervalued	Invalid
Optimistic	-127.46				Undervalued	Invalid
RV-PBV						
Scenario	PBV Company	PBV Industry Q4-2020			Analysis	Condition
		The Lowest	Average	The Highest		
Pessimistic	0.61	0.16	1.10	3.37	Undervalued	Valid
Moderate	0.63				Undervalued	Valid
Optimistic	0.65				Undervalued	Valid

In the DCF method, ELSA shares were considered overvalued because the intrinsic value of ELSA in all scenarios was below the market price of IDR 224 on December 30, 2020. The intrinsic value of ELSA was IDR 338.95 in the pessimistic scenario with a deviation from the market price of 46.85%, IDR 340.64 in the moderate scenario with a deviation from the market price of 47.6%, and IDR 345.88 in the optimistic scenario with a deviation from the market price of 49.94%. In the RV PBV method, ELSA's shares were considered undervalued because the intrinsic value of ELSA's PBV in all scenarios was below the industry average of 1.10. The intrinsic value of ELSA's PBV was 0.61 times in the pessimistic scenario, 0.63 times in the moderate scenario, and 0.65 times in the optimistic scenario. The intrinsic value of ELSA's PBV in all scenarios was within the industry range. In the RV PER method, ELSA shares were undervalued because the intrinsic value of ELSA'S PER in all scenarios was below the industry average of -8.64. The intrinsic value of ELSA'S PER was -120.45 times in the pessimistic scenario, -124.89 times in the moderate scenario, and -127.46 times in the optimistic scenario. The intrinsic value of ELSA's PER in all scenarios was below the minimum industry range.

#### IV. RESULTS & DISCUSSION

1. PT Medco International Tbk (MEDC)

MEDC shares as a whole were overvalued by -44.7%. The conclusion was declared valid because the intrinsic value of MEDC's PER and PBV in all scenarios was within the industry range, so the investment decision that can be recommended is to sell the shares.

2. PT Surya Esa Perkasa Tbk (ESSA)

Overall, ESSA's shares were undervalued by 4.6%. The conclusion was declared valid because the intrinsic value of ESSA's PER and PBV in all scenarios was within the industry range, so the investment decision that can be recommended is to buy the shares.

3. PT Elnusa Tbk (ELSA)

ELSA shares as a whole were overvalued by -45.6% with a valid intrinsic PBV value and an invalid PER intrinsic value. Overall, the intrinsic value of PER of ELSA deviated by 18.4% from the lower limit of the industry range. This low PER value, based on the data in Table 7, was caused by a significant decline in EBIT of 85% year-on-year from IDR 18.6 trillion in 2020, as an implication of a decrease in revenue and an increase in operating expenses in 2020. A simple simulation by replacing the value of EBIT of ELSA in 2020 with its average EBIT for the past 5 years showed that the intrinsic value of ELSA's PER was within the industry range with analysis results consistently overvalued. Referring to the research results, investors are advised to conduct a more comprehensive analysis before making investment decisions.

#### **The Effect of Accounting Computerisation to Intention in Contributing Accounting digitalisation**

The results of the inner model on hypothesis testing show that the direct effect is proven or accepted with a positive significance of 0.494 or almost 50%, this situation can be considered moderate when compared to the criteria close to 1, the stronger the significance (Hair et al., 2014). If it is seen from the results of the responses in the pre-test and post-test with relatively large results, which are above 80% positive responses to contribute to digital accounting (table 3 & table 4), the results of the 50% significance are less supportive. There is a possibility that the test that produces 50% significance is carried out in the third stage where the learning process is carried out accompanied by the accounting process algorithm on the application system accompanied by the syntax of the automation program, causing difficulties for respondents who all have accounting and management backgrounds. So the results from hypothesis testing are somewhat contradictory to the results from the pre-test and post-test. In addition, because the learning process is carried out fully online so that the need for interactive when a problem solving case occurs is the cause. The ideal best learning process is hybrid learning, not just online learning (Dwijonagoro & Suparno, 2019; Kwok et al., 2015, p. 113; Sangster et al., 2020).

#### **The Effect of Accounting Computerisation to Learning Process**

This relationship is seen from the results of the inner model on hypothesis testing (table 9.) with the largest path coefficient of 0.577 or close to 60% indicating the significant strength of the influence of accounting computers on the learning process. Judging from the results of f square (table 11.) which is included in the large effect category with a value of 0.337. from table 5 related to the learning process there are results that show a figure of 76.60% and 79.79% for the state of the learning process with the team in supporting individual understanding which is

in line with Bergdahl et al., (2020) view related to the learning process with a team that can increase motivation with positive competition among the team. Likewise with the inquiry-based learning approach pattern (Masterson, 2020) respondents explored through content providers by 74.47% and support for Asynchronous movies as additional instructions in solving cases with results of 84.04% showing that a learning environment with the support of various computer tools can stimulate desire for independent exploration (Masterson, 2020). In addition, independent exploration can improve the digital literacy of the individual concerned (Bergdahl et al., 2020). From table 5 it can also be seen that the respondent's condition for the need for more time to learn digital accounting is 85.11% and requires a repeated process of 87.23% accompanied by the condition of respondents who state that they prefer computer-based or digital accounting processes compared to manuals by 67.02%, indicating that the respondent's condition is still face difficulties in understanding accounting automation and accounting digitization. With a figure of 67.02% even though it is included in the positive response, but it is still not optimal, it shows that in the learning process there are still obstacles that require a redesign as stated by Pincus et al., (2017) in overcoming the gap in the development of knowledge and technological capabilities with readiness for accounting automation requires changes to what we teach (curriculum) and how we teach (pedagogy). From table 4, the situation of respondents who feel the need for a virtual accounting lab is 84.04% and the desire to learn more is 82.98% and table 5 with a figure of 84.04% is related to respondents' awareness of the accounting transformation process towards digitalization, it can be concluded that respondents basically willing to understand more in relation to the digitization of accounting, but with the figure of 77.66% in table 4 to contribute to the digitization of accounting has decreased, it shows as if there is a reluctance from respondents to directly contribute

## VI. CONCLUSION

The valuation with the DCF approach on MEDC stocks are overvalued, so the recommendation for MEDC stocks is to sell. Meanwhile, in relative valuation, MEDC shares show undervalued conditions, so the recommendation for MEDC shares is to buy. The result of the valuation using the DCF approach on ESSA shares shows that the stock is undervalued. With the relative valuation approach, ESSA shares also show undervalued conditions, so the recommendation for ESSA shares is to buy. The results of the valuation using the DCF and RV approach on ELSA shares indicate that the stock is in an undervalued condition in all scenarios, so the recommendation for ELSA shares is to buy.

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