

Equity Valuation on Property and Real Estate Listed Companies in 2018: Evidence from Indonesia Stock Exchange

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Keywords: Fair Value, Free Cash Flow to Firm, Market Price, Overvalued, Relative Valuation, Undervalued.

Abstract: Investment in the form of shares of stock valuation analysis is required to estimate the intrinsic value or a reasonable price of the stocks based on fundamental data. The objective of this study was to value the intrinsic value of stock price at Property and Real Estate Companies listed on IDX 2018. The valuation was carried out comprehensively by using Discounted Cash Flow (DCF) method of Free Cash Flow to Firm (FCFF) approach, and to validate the results this study used the Relative Valuation method with Price to Earnings Ratio (PER) and Price to Book Value (PBV) approaches. The methods were applied in three scenarios of pessimistic, moderate and optimistic with the historical data of the companies from 2013 to 2017 as the basis for the projections of the 2018-2022 period. By comparing the results of the fair value of the stocks in the market on January 1, 2018, the DCF-FCFF method concluded that CTRA was undervalued in all scenario, while LPKR and BSDE were overvalued in all scenario. The PER and PBV analysis found that all evaluated stocks within the industry ranged. It means that the valuation results are correct. Therefore, in conclusion, this study recommends to sell LPKR and BSDE shares and buy CTRA shares.

1 INTRODUCTION

To facilitate the investment activities, the Government of the Republic of Indonesia on December 1, 2017, merged two major Indonesian capital markets of the Jakarta Stock Exchange (JSX) and the Surabaya Stock Exchange (BES) into the Indonesia Stock Exchange (IDX). One of the most important things is that in addition to managing the current stocks, the IDX also manages sharia stocks as one of the investment tools. IDX provides a sharia index that can be a reference in investing, which is known as the Indonesia Sharia Stock Index (ISSI) launched on May 12, 2011. Currently, according to the IDX data, 366 of the 573 listed stocks are sharia stocks. On April 2018, the number of sharia stocks investors reached 29,670 investors or if it is calculated from the end of 2013 to April 2018, the number of sharia stock investors had increased by 3,594.89%.

The capital market of Indonesian sharia itself is considered to be quite competitive. ISSI was launched in 2011, and by April 2018 this index had grown by 44%. Some of the business sectors listed on the Indonesia Stock Exchange (IDX) and included in the ISSI calculation are the sectors of

property, real estate, and building construction. Following the IDX data of quarterly statistics, in the 1st quarter (IDX 2018), there were 41 companies listed on the calculation of the Indonesia Sharia Stock Index (ISSI). Up to the first quarter of 2018, there were three property and real estate sector companies having the most significant asset value. The first was PT Lippo Karawaci Tbk. (LPKR) whose value of its total asset was IDR 57.63 trillion. The next was PT Bumi Serpong Damai Tbk. (BSDE) with the total assets of IDR 48.58 trillion. The third was PT Ciputra Development Tbk. (CTRA) having its total asset of IDR 32.29 trillion.

The amount of profit and its multiplier effects encourages many investors to choose the property and real estate sector as one of their choices to invest. However, up to now, there is still a rare study of the valuation analysis of companies in determining the fair value of stocks, especially in the property and real estate sector which is included in the calculation of the Indonesia Sharia Stock Index (ISSI). Though, investors are very interested in this sector.

Based on Figure 1.1, it can be concluded that there are fluctuations in the value of stock prices and yields, both negative and positive. PT. Ciputra

Development Tbk. (CTRA) Has the highest share

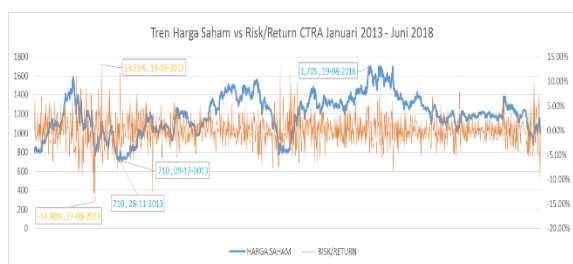


Figure 1.1: Stock Price Trends vs. CTRA Risk / Return January 2013 - June 2018.

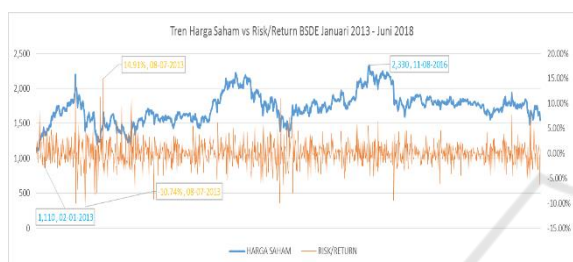


Figure 1.2: Stock Price Trends vs. BSDE Risk / Return January 2013 - June 2018.

price value on August 19, 2016, with a value of 1,705 and found its lowest price on November 28, 2013, and December 9, 2013, with a value of 710. As for the condition of risk and return from this company also increased and decreased 13.35% positive returns on September 19, 2013, and experienced negative returns on August 27, 2013, with a value of -14.48%.

Figure 1.2 shows that in the period of January 2013 to June 2018 there was an increase in the share price of PT. Bumi Serpong Damai Tbk., On August 11, 2016, amounted to 2,330 and was at its lowest point on January 2, 2013, and was at 1,110. For the highest yield occurred on July 8, 2013, namely getting a return of 14.91%, while the most significant risk occurred on July 8, 2013, which was equal to -10.74%.

Based on Figure 1.3, it can be seen that the same thing happened with PT. Lippo Karawaci Tbk.

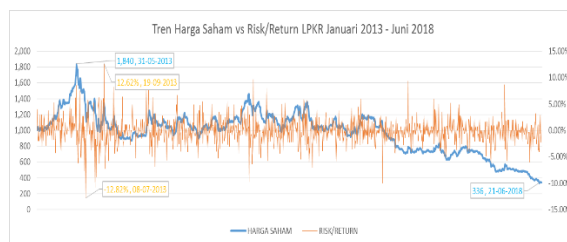


Figure 1.3: Stock Price Trends vs. LPKR Risk / Return January 2013 - June 2018.

(LPKR), this company had the highest share value on May 31, 2013, with a value of 1,840, and had the lowest share value on June 21, 2018, with a value of 336. Then for risk and return, the most significant return occurred on September 19, 2013, with an increase of 12.62% and the most significant risk occurred on July 8, 2013, with a percentage of -12.82%.

Damodaran (2006) suggested that the requirement helping investors to make the right decision in choosing an investment is to know the value of assets that will be a kind of funds investment object, which provides value to the asset. The valuation of an asset becomes very important in the world of investment because errors in the valuation of an asset will affect the return generated. Such information can help investors in deciding their investment on the company's stock, whether the stocks are bought, held or sold. For the company owners, the information is useful as a basis in evaluating their company performance when their company stocks are undervalued because their stock value is lower than the intrinsic value or fair value, and when the stocks are overvalued because in the market the stock value is higher than the intrinsic value or the fair value.

From the phenomena above, the aims of this research is to assess the fair value (intrinsic value) of the current property and real estate sub-sector companies listed on the Indonesia Stock Exchange (2013-2018) using the Discounted Cash Flow (DCF) method with the Free Cash Flow to Firm (FCFF) approach and the Relative Valuation method with Price to Earning Ratio (PER) and Price Book Value (PBV) approaches, in optimistic, moderate, and pessimistic scenarios.

In terms of research contributions, the results of the research are expected to provide many benefits including for theoretically, the results are expected to be used as a reference regarding the implementation and the use of valuation theory, especially the valuation of intrinsic stock value and the projected value of shares, and illustration for future research. Also practically benefits for

investors, this research is expected to provide appropriate information for investors regarding the fair price of shares and intrinsic value of shares through the company's fundamental value that can be used to support the decision to invest. Furthermore practically benefits for the company, this research is expected to provide input for property and real estate companies in increasing the value of the company through improving its performance so that the value of shares in the market can reflect its fair value.

2 LITERATURE REVIEW

Previous studies supporting this research are as follows:

Zemba and Hendrawan (2018) discuss valuations in the healthcare/health sector listed on the IDX using DCF and Relative Evaluation methods, to find out the fair value. Unfortunately, three out of four issuers always suffer losses, let alone having the remaining free cash flow, to finance operations in the years that are running even though they rely on debt. If this is the case, the DCF method is no longer relevant because the equity value is negative, the impact of the PER is also negative. This makes it difficult to analyze because the stock price is the slightest if the PER and FCFF are negative, the valuation is overvalued. Only MIKA whose financial performance can be processed according to the rules of valuation theory. In the optimistic scenario, moderate, pessimistic has been designed, MIKA does not have a significant difference in analysis results, all scenarios led to overvaluation from the perspective of DCF and undervalued when using Relative Valuation.

The research conducted by Neaxie and Hendrawan (2017) studied the valuation of the stock price of telecommunication industry listed on the IDX using the FCFF, relative PER, PBV, and Multiple EBITDA methods. It was concluded that using the DCF method of the FCFF approach in an optimistic scenario the fair value of TLKM was undervalued, the fair value of ISAT was overvalued and the fair value of EXCL was undervalued. Then in the moderate scenario the fair value of TLKM under undervalued conditions, the fair value of ISAT is overvalued, and the fair value of EXCL is overvalued. Furthermore, in the pessimistic scenario, the fair value of TLKM is overvalued, the fair value of ISAT is overvalued, and the fair value of EXCL is overvalued. As for using relative valuation with the PER approach, the fair value of TLKM is undervalued, the fair value of ISAT is overvalued, and the fair value of EXCL is undervalued. Then

with the PBV approach, the fair value of TLKM is overvalued, the fair value of ISAT is in overvalued conditions, and the fair value of EXCL is in an undervalued condition. Furthermore, with the multiple EBITDA approaches the fair value of TLKM is overvalued, the fair value of ISAT is undervalued, and the fair value of EXCL is undervalued.

Gounder and Venkateshwarlu (2017) discuss the Bank valuation model was designed based on the objective to fit the most applicable valuation model for banks to help in forecasting bank-specific decision and also forecast the market value of the share. The accuracy of the value estimates from the residual income model compared to the estimates from the relative valuation model for banks. The results of the comparison suggest that value estimates from the residual income model are even more reliable for banks. There was a relationship between the intrinsic value of bank share determined by the RIV model and Market price of the share. This study will be useful for forecasting the possible changes in market price.

Ivanovska, Ivanovski, and Narasanov (2015) examined the effectiveness of DDM model for the valuation of stocks on the Macedonian Stock Exchange (MSE), and it showed that DDM Model was handy when it was used together with the relative model. The results of the study show that the value of shares that are calculated using the Discounted Free Cash Flow Model results close to the fundamental value or average market value.

The research conducted by Georgios and Chris (2015) achieved to value each of the Greek Food and Beverage Company that were selected. The result seems to be fair for each company. When comparing one another, it shows that the superiority of the Public Company over the Private one, more specific when comparing their P/E ratio. The Private Company surpasses the Public one; the Private Company anticipates higher future profits. As a conclusion, the most appropriate valuation methods for the Public Company, is the EVA and the 3st-FCFE, and for the Private one are the Net Asset Value and the Goodwill Valuation methods.

Churamati and Suraj (2014), compared various models for bank stock price valuation of 14 banks belonging to BSE bank of the Indian Stock Exchange. The research resulted in the highest value of Ohlson and PBV models compared to CAPM, DDM, PER or Excess Return.

Antonios, Ioannis, and Panagiotis (2012) explore the sensitivity of three multiples in terms of bias. The three multiples under consideration are the Price-To-Sales (P/S) multiple, the Price-To-Book value of equity (P/B) multiple and the Price-To-

Earnings (P/E) multiple using both current and one-year-ahead earnings forecasts. This study offers a better understanding of the valuation approach through the use of multiples, in order analysts assumption to be more carefully and correctly chosen and their results to be more accurately produced

Sehgal and Pandey (2010) examined the important method for equity analysis and evaluation, which is highly prevalent among market practitioners was Relative Valuation. P/E, price to book value, price to cash flow and price to sales are the relative valuation toolbox. In this study, the relative efficacy of these price multiples and their combinations for equity valuation purposes were tested. With sample data 145 Indian companies belonging to 13 prominent sectors from 1990–2007, generating price forecasts based on each multiple by regressing the historical prices on relevant value drivers. As recommendation result, historical P/E (and hence EPS as a value driver) is the best approach for equity valuation in the Indian context. Also relevant for market players, such as equity analysts, portfolio managers, and global fund managers, who are continuously involved in equity valuation including the use of relative valuation criteria.

Gardner, McGowan, and Moeller (2009) who combined the concept of equity valuation, supernormal growth, equity returns are needed, and sustainable growth is to determine the long-term value of Coca Cola Corporation. The equity value of a company is defined as the present value of all future cash flow from the company to shareholders. The company value is FCFE divided by the number the rate of return needed for equity minus the rate of growth of the company's income. Free Cash Flow to Equity is defined as net income minus net capital expenditures minus the change in net working capital plus the net change in long-term debt financing. The rate of return uses CAPM. The five-year monthly return is relative to the S & P500 index. The extension of the DuPont Model calculates sustainable growth for the supernormal growth period. The long-term growth rate is assumed to be the same as the level of economic growth.

3 METHOD

The financial statement data in the period of 2013-2017 was used as the basis of calculation in this research. The underlying assumption of this research employed three scenarios of pessimistic condition (below the growth rate of the industry), optimistic

condition (above the growth rate of the industry), and moderate condition. These conditions were then calculated after looking at the data and information from situational and environmental data from the industry and businesses of property and real estate. The calculation of valuation value was done using the Discounted Cash Flow method with the Free Cash Flow to Firm approach, which was previously carried out by searching the value of Cost of Capital (WACC) of each condition. This value was calculated to get an equity value. In the end, a fair value per stock would be obtained for each of these conditions. In addition to the DCF method, the method of relative valuation with the Price Earning Ratio (PER) and Price to Book Value (PBV) approaches were also used.

3.1 The Analysis of Free Cash Flow to Firm (FCFF)

FCFF is the cash available for all company owners. In other words, it is a net cash flow available to debt holders, stockholders, and preferred stock. If the FCFF is used in a calculation, the final result of the calculation will be the enterprise value.

3.2 EBIT Analysis

EBIT is Earnings Before Interest Tax or pre-tax operating profit.

$$\text{EBIT Value} = \text{Profit (Loss)*} + \text{Financial Costs} + \text{Income Tax Expense.} \quad (1)$$

3.3 Analysis of Depreciation and Amortization

Depreciation is a reserve that will be used to buy new assets to replace old assets that are no longer productive. Amortization is a reduction in the value of intangible assets, such as trademarks, copyrights, etc., in stages within a certain period in each accounting period. This assessment can be obtained through:

$$\text{The Depreciation formula} = 100\% / \text{Life Time.} \quad (2)$$

3.4 Analysis of Capital Expenditures

Capital expenditure is a planned allocation (within the budget) to make purchases/repairs/ replacements for everything that is categorized as a company asset in accounting. The assessment of Capital

expenditure can be obtained through the following formula:

$$\text{Capex} = \text{New PPE} - \text{Old PPE} + (\text{New Accumulated Depreciation} - \text{Old Accumulated Depreciation}). \quad (3)$$

3.5 Analysis of Working Capital

Working Capital is a company's investment in the short term that is attached to current assets such as cash, marketable securities, accounts receivable and inventories. The Working Capital assessment can be obtained through the following formula:

$$\text{The Working Capital} = \text{Current Assets} - \text{Current Liabilities Formula}. \quad (4)$$

The FCFF results are then obtained through:

$$\text{EBIT} (1-\text{Tax}) + \text{Depression} - \text{Capital Expenditure} - \text{Change in Working Capital Formula}. \quad (5)$$

3.6 Analysis of Relative Valuation (RV)

Damodaran (2006) stated that relative valuation is a company valuation made by looking at the market price of similar assets. The tool used to do Relative Valuation is multiples.

3.7 Analysis of Price Earning Ratio

Price Earning Ratio (PER) is one of the most basic measures of fundamental stock analysis. Easily, PER is a comparison between stock price and a net profit of a company. It occurs when the stock price of an issuer is compared to the net profit generated by the issuer in a year. PER valuation can be obtained through the following formula:

$$\text{P/E Ratio} = \text{Stock Price} / \text{Earning Per Stock}. \quad (6)$$

3.8 Analysis of Price Book Value

Price Book Value (PBV) focuses on the company's equity value. PBV according to its meaning is explained as 'the stock price that is compared to the value of equity per stock.' It was calculated by dividing the stock price by its Book Value (BV). The BV is generated from equity divided by the average number of circulating stocks. The PBV assessment can be obtained through the following formula:

$$\text{Price Ratio to Book Value} = \text{Price per Stock Sheet} / \text{Book Value per Stock}. \quad (7)$$

4 DISCUSSION

4.1 Discounted Cash Flow - Free Cash Flow to Firm

The results of the calculation, processing, and analysis of overall stock valuation data using the Discounted Cash Flow method are as shown in Table 1.

In the pessimistic scenario, the intrinsic value of LPKR stocks is IDR 126, whereas, on January 1, 2018, the price of LPKR stocks was IDR 448. Therefore, when it is compared to its intrinsic value, the LPKR stock price is in an overvalued condition. On December 31, 2018, the price of LPKR stocks was IDR 254. As a result, the price of LPKR's stocks is overvalued compared to its intrinsic value. BSDE has

Table 1: Intrinsic Value of Stocks.

	Scenario	Intrinsic Value	Stock Price on Jan 1st 2018	Condition	Stock Price on Des 31st 2018	Condition
LPKR	PMT	126	488	Overvalued	254	Overvalued
	MDT	356	488	Overvalued	254	Undervalued
	OPT	431	488	Overvalued	254	Undervalued
BSDE	PMT	791	1700	Overvalued	1255	Overvalued
	MDT	1256	1700	Overvalued	1255	Fairvalued
	OPT	1047	1700	Overvalued	1255	Overvalued
CTRA	PMT	1610	1185	Undervalued	1010	Undervalued
	MDT	2274	1185	Undervalued	1010	Undervalued
	OPT	2599	1185	Undervalued	1010	Undervalued

Source: Author's own computations

Information:

PMT: Pessimistic ; MDT: Moderate; OPT: Optimistic

an intrinsic value of IDR 791, and on January 1, 2018, BSDE stock price was IDR 1,700. It can be said that the stock price of BSDE is overvalued when it is compared to its intrinsic value. On December 31, 2018, the price of BSDE stocks was IDR 1,255, so that it can be said that the stock price of BSDE is overvalued. Furthermore, CTRA has the intrinsic value of IDR 1,610, while, on January 1, 2018, the price of CTRA's stocks was IDR 1,185. When it is compared to its intrinsic value, the stock price of CTRA is undervalued. On December 31, 2018, the price of CTRA's stocks was IDR 1,010. Therefore, it can be said that the stock price of

CTRA is undervalued when it is compared to its intrinsic value.

In this pessimistic scenario, investors are recommended to sell LPKR and BSDE stocks because the price of the stocks in the market is overvalued, and purchase the stocks of CTRA due to its undervalued stock price. In the market, companies are to keep their stock prices near their intrinsic value. They need to improve their performance of the companies by increasing the revenue and the growing revenue as well as efficiency on all types of company expenses and costs both OPEX and CAPEX.

In a moderate scenario, the intrinsic value of LPKR stocks is IDR 356, whereas, on January 1, 2018, the price of LPKR stocks was IDR 448. It means that the stock price of LPKR is overvalued compared to its intrinsic value. On December 31, 2018, the price of LPKR stocks was IDR 254. It is smaller than its intrinsic value. Therefore, the stock price of LPKR is undervalued. The intrinsic value of BSDE is IDR 1,256, while on January 1, 2018, its stock price was IDR 1,700. Compared to its intrinsic value, it could be said that BSDE's stock price was overvalued. On December 31, 2018, BSDE's stock price was IDR 1,255. When it is compared to its intrinsic value, it could be said that the price of BSDE's stocks is fair-priced. Meanwhile, the intrinsic value of CTRA is IDR 2,274. On January 1, 2018, the stock price of CTRA was IDR 1,185. Therefore, when it is compared to its intrinsic value, it can be said that the price of CTRA's stocks is undervalued. The price of CTRA's stocks on December 31, 2018, was IDR 1,010. It can be said that the price of CTRA's stock is undervalued when it is compared to its intrinsic value.

In this moderate scenario, investors are suggested to sell LPKR and BSDE stocks or not to purchase the stocks of LPKR and BSDE, because in the market their stock prices are overvalued. Besides, investors had better buy the stocks of CTRA due to its undervalued stock prices. Except, when the prices of LPKR, BSDE, and CTRA stocks were fair valued and undervalued as occurred on December 31, 2018, under these conditions, investors are encouraged to buy those stocks. To maintain the companies' stock prices in the market to be near their intrinsic value, the companies need to improve their company performance by increasing their revenue and growth revenue as well as efficiency on all types of company expenses and costs both OPEX and CAPEX.

In an optimistic scenario, the intrinsic value of LPKR stocks is IDR 431. However, on January 1, 2018, the price of LPKR stocks was IDR 488. When it is compared to its intrinsic value, it can be said that the LPKR stock price is overvalued. The price

of LPKR stocks on December 31, 2018, was IDR 254. It is smaller than its intrinsic value, so it means that the LPKR stock price is undervalued. The intrinsic value of BSDE is IDR 1,047. On January 1, 2018, the price of BSDE's stock was IDR 1,700. When it is compared to its intrinsic value, the price of BSDE's stock is overvalued. On December 31, 2018, the price of BSDE's stock was IDR 1,255. It is bigger than its intrinsic value. It means that the price of BSDE's stock is overvalued. The intrinsic value of CTRA is IDR 2,599. The price of CTRA's stocks was IDR 1,185 on January 1, 2018. Therefore, the price of CTRA's stocks is undervalued. On December 31, 2018, the price of CTRA's stock was IDR 1,010. Similarly, when it is compared to its intrinsic value, it shows that the price of CTRA's stock was undervalued.

In this optimistic scenario, investors are suggested to sell LPKR and BSDE stocks or not to purchase the stocks of LPKR and BSDE, because in the market their stock prices are overvalued. Also, investors had better buy the stocks of CTRA due to its undervalued stock prices. Except, when the prices of LPKR, BSDE, and CTRA stocks were undervalued as occurred on December 31, 2018, under these conditions, investors are encouraged to buy those stocks. To maintain the companies' stock prices in the market to be near their intrinsic value, the companies need to improve their company performance by increasing their revenue and growth revenue as well as efficiency on all types of company expenses and costs both OPEX and CAPEX.

4.2 Relative Valuation - PER and PBV

In addition to using the Discounted Cash Flow method with the Free Cash Flow to Firm (FCFF) approach, the valuation calculation was also done by using the Relative Valuation method with the PER and PBV approaches. The results of the calculation, processing and analyzing of overall data of stock valuation using the Relative Valuation method with the PER and PBV approaches can be seen in Table 2.

The table describes that in the pessimistic scenario the LPKR PER value is 1.32 times, the BSDE PER value is 3.54 times, and CTRA is 17.52 times. The quarterly IDX data (Q1 2018) shows that the average PER value of property and real estate companies is 15.09. The lowest PER value of -267.65 times was gained by PT Nirvana Development Tbk., whereas PT Sitara Propertindo Tbk obtained the highest PER value of 22,071.60

times. It indicates that the results of research calculations are in the PER range of the market.

Furthermore, the study in the pessimistic scenario had found the value of LPKR PBV of 0.10 times, the BSDE PBV value of 0.52 times, and the CTRA PBV value of 1.93 times. According to the quarterly IDX data (Q1 2018), the average PBV value of property and real estate companies is 1.47 times with PT Hanson International Tbk. I am having the lowest PBV value of 0.00814 times and PT Sitara Propertindo Tbk and having the highest PBV value of 7.84 times. This condition indicates that the results of the research calculations are in the PBV range of the market.

Based on the results of the valuation calculation in the pessimistic scenario using the Relative Valuation method of the PER approach, it is found

Table 2: Relative Valuation - PER & PBV.

Relative Valuation	PMT Scenario		MDT Scenario		OPT Scenario	
	PER	PBV	PER	PBV	PER	PBV
LPKR	1.32	0.10	3.74	0.28	4.53	0.33
BSDE	3.54	0.52	5.62	0.83	4.68	0.69
CTRA	17.52	1.93	24.75	2.73	28.28	3.12

Source: Author's own computations

Information:

PMT: Pessimistic; MDT: Moderate; OPT: Optimistic that the price of LPKR stocks is lower than BSDE and CTRA. The value of LPKR PER is smaller than BSDE and CTRA, with the LPKR PER value of 1.32 times. It indicates that when investors buy the LPKR stocks, the capital turnover time (BEP) is around one year and three months. The time is faster than BSDE and CTRA. Therefore, investors should prefer LPKR stocks to BSDE and CTRA stocks. As for suggestions for companies, if they want to have a low PER value, the company needs to increase the earnings per stock from its stocks. When using the PBV approach, the price of LPKR stock is also lower than BSDE and CTRA, and the value of LPKR PBV is smaller than BSDE and CTRA, which is equal to 0.10 times. It means that the price of LPKR stocks is valued at 0.10 time compared to its intrinsic value.

Meanwhile, the price of BSDE's stock is 0.52 times compared to its intrinsic value, and the price CTRA's stock is valued at 1.93 times compared to its intrinsic value. Therefore, investors are recommended to choose LPKR stocks than BSDE and CTRA stocks. As for the companies, it is recommended to increase the book value of the

company by increasing the amount of equity, so that the value of the PBV will decrease.

In a moderate scenario, the results of the study show that LPKR PER value is 3.74 times, BSDE PER value is 5.62 times, and CTRA is 24.75 times. The quarterly data of IDX (Q1 2018) indicates the average PER value of property and real estate companies of 15.09 times, in which PT Nirvana Development Tbk. has the lowest PER value of -267.65 times and PT Sitara Propertindo Tbk. has the highest PER value of 22,071.60 times. It means that the values are in the PER range of the market. Furthermore, the results of the research in moderate scenarios show that the value of LPKR PBV is 0.28 times, BSDE PBV value is 0.83 times, and CTRA PBV value is 2.73 times. The quarterly data of IDX (Q1 2018) displays the average PBV value of property and real estate companies as much as 1.47 times. PT Hanson International Tbk gains the lowest PBV value of 0.00814 times. The highest PBV value of 7.84 times is obtained by PT. Sitara Propertindo Tbk. The results of research calculations indicate that the values are in the PBV range of the market.

By the results of the valuation calculation in a moderate scenario using the Relative Valuation method with the PER approach, it is found that the price of LPKR stocks is lower than BSDE and CTRA. Furthermore, the value of LPKR PER is smaller than BSDE and CTRA. With the PER value of 3.74 times, it means that when investing in LPKR stocks, it takes three years seven months to return the capital (BEP), which is faster than BSDE and CTRA. Therefore, suggestions for investors should prefer LPKR stocks compared to BSDE and CTRA stocks. The suggestion for companies if they want to have a low PER value is that the companies need to increase the earnings per stock from their stocks. By using the PBV approach, the price of LPKR stock is lower than BSDE and CTRA, and the value of LPKR PBV is smaller than BSDE and CTRA, which is equal to 0.28 times. It means that the LPKR stock price is valued at 0.28 times compared to its intrinsic value. The BSDE stock price was valued at 0.83 times compared to its intrinsic value, and CTRA's stock price was valued at 2.73 times compared to its intrinsic value. Hence, it is better for investors to purchase LPKR stocks than BSDE and CTRA stocks. For the companies, it is recommended to increase their book value by increasing the amount of equity so that their PBV value decreases.

In an optimistic scenario, the results of the study show that LPKR PER value is 4.53 times, BSDE PER value is 4.68 times, and CTRA is 28.28 times. According to the IDX quarterly data (Q1 2018), the average PER value of property and real estate companies is 15.09 times, with the lowest PER value

of -PT Nirvana Development Tbk gains 267.65 times. Moreover, the highest PER value of 22,071.60 times is obtained by PT Sitara Propertindo Tbk. This shows that the results of research calculations are in the PER range of the market.

According to the results of the research in an optimistic scenario, the PBV values of LPKR, BSDE, and CTRA are respectively 0.33 times, 0.69 times, and 3.12 times. The average PBV value of property and real estate companies shown in the IDX quarterly data (Q1 2018) is 1.47 times. PT Hanson International Tbk. Got the lowest PBV value of 0.00814 times, and PT. Sitara Propertindo Tbk. Got the highest PBV value of 7.84 times. It indicates that the results of research calculations are in the PBV range of the market.

Based on the valuation calculation results in an optimistic scenario using the Relative Valuation method with the PER approach, it is found that the price of LPKR stocks is lower than BSDE and CTRA. The value of LPKR PER of 4.53 times is smaller than BSDE and CTRA. It means that if we purchase the LPKR stocks, the return on investment (BEP) time is four years five months that is faster than BSDE and CTRA. Investors should prefer LPKR stocks to BSDE and CTRA stocks. There is a suggestion for companies that want to have a low PER value. The companies need to increase their earnings per stock from their stocks. When the PBV approach is applied, the LPKR stock price is lower than BSDE and CTRA, and the value of LPKR PBV is smaller than BSDE and CTRA, which is equal to 0.33 times. It is concluded that the price of LPKR stocks is 0.33 times when it is compared to its intrinsic value. The price of BSDE stock is valued at 0.69 times compared to its intrinsic value, and CTRA's stock price is valued at 3.12 times compared to its intrinsic value. Therefore, investors are recommended to purchase LPKR stocks than BSDE and CTRA stocks. The companies are suggested to increase their book value by increasing the amount of equity so that the value of the PBV decreases.

Based on the previous explanation presented in the three scenarios of pessimistic, moderate and optimistic, investors are recommended to buy LPKR stocks due to its lower price when it is compared to BSDE and CTRA (if using calculations with the Relative Valuation method with the PER and PBV approach).

5 CONCLUSIONS

The results of the study show that by using the DCF method in the pessimistic scenario, the fair values of CTRA, BSDE, and LPKR are undervalued,

overvalued, and overvalued respectively. In a moderate scenario, the fair values of CTRA, BSDE, and LPKR are undervalued, overvalued, and overvalued. Furthermore, in an optimistic scenario, the fair values of CTRA, BSDE, and LPKR are undervalued, overvalued, and overvalued.

The results of Relative Valuation method application using the Price to Earnings Ratio (PER) in pessimistic scenario describe that CTRA has the value of 17.52 times, BSDE has a value of 3.54 times, and LPKR has a value of 1.32 times. In a moderate scenario, a similar method resulted in the values of CTRA of 24.75 times, BSDE of 5.62 times, and LPKR of 3.74 times. Furthermore, the values of CTRA, BSDE, and LPKR obtained through the method of the Relative Valuation using the PER in the optimistic scenario are respectively 28.28 times, 4.68 times, and 4.53 times.

Meanwhile, by using a similar method with the Price Book Value (PBV) in the pessimistic scenario the values of CTRA, BSDE, LPKR are 1.93 times, 0.52 times, and 0.10 times respectively. Then, in the moderate scenario the values of CTRA, BSDE, and LPKR resulted by the Relative Valuation method with the PBV approach are 2.73 times, 0.83 times, 0.28 times. Furthermore, the results of the Relative Valuation method with PBV approach in optimistic scenario show that CTRA has a value of 3.12 times, while BSDE has a value of 0.69 times, and LPKR has a value of 0.33 times.

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