

Stock Valuation Analysis in Making Investment Decisions Covid-19 Pandemic

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This study aims to determine which stock valuation model is the most appropriate and to find the intrinsic value of the stock prices of companies affected by the COVID-19 pandemic, one way to calculate the intrinsic value of shares is using fundamental analysis with the Price to Book Value (PBV) and Dividend Discount methods. Models (DDM). The sample for this study was 28 companies from 11 sectoral indices affected by the covid-19 pandemic in the third quarter of 2021. The sampling technique in this study used purposive sampling. The data used is secondary data. The analysis tool uses SPSS 25 software. The results of the research on making investment decisions are the most appropriate to buy stocks that are undervalued (cheap). An accurate stock valuation model is the Dividend Discounted Model (DDM) based on Paired samples T-Test.

INTRODUCTION

The Covid-19 pandemic has not yet ended, although some countries have gradually recovered, but the Covid-19 pandemic is still threatening. This makes the impact of the Indonesian economy unstable as a result of the policy of implementing PPKM made by the government so that we have to reduce mobility outside the home. Although various efforts have been made, the uncertainty of when the pandemic will end creates various problems, not only in the health sector but also in the economic field.

The existence of the Capital Market in Indonesia has a very large role for national development. The existence of a capital market can help investors to invest, and there are speculators who have an impact on the prospects brought by companies in Indonesia. Fluctuations in the capital market can affect people's behavior in investing because analyzing the capital market is not just looking at numbers, but also looking at the behavioral financial or economic aspects of investment actors or investors.

Several sectors affected by the COVID-19 pandemic have had both positive and negative impacts. Such as the Property, Real Estate, and Building Construction sectors, which had a negative impact with a loss of 33.56%. Other sectors are Hospitality, Tourism, and Restaurant which recorded a loss of Rp. 70 Trillion for Tourism, Rp. 30 Trillion for Hospitality, and Rp. 40 Trillion for Restaurants the period 31 March 2020 (Chang, Mcaleer, & Wong, 2020; Nurhaliza, 2020)..

Looking at IDX data, it was noted that the sharpest decline was in the Mining sector, which fell 18.42%, and the Trade, Services and Investment sector by 20.88%. This is due to the increasingly high rate of spread of the Covid-19 virus, which requires the Indonesian Government to enforce the PPKM policy which makes the impact of the Indonesian economy worse.

In addition, from several sectors that had the sharpest and most positive increase, such as the Chemical sub-sector, which received high demand for the need for petrochemical products such as masks and Personal Protective Equipment (PPE) which were very much needed during the Covid-19 pandemic (Aldin,2020).

In addition, there are also pharmaceutical sub-sectors, such as PT Industri Jamu and Pharmaceutical Sido Muncul Tbk (SIDO) and PT Kimia Farma Tbk (KAEF) which experienced increased sales during the pandemic.

According to the company's financial report quoted from the Indonesia Stock Exchange, it can be seen that throughout 2020 sales from the herbal and supplement segment supported the company's revenue by 68.45%, followed by the food and beverage segment at 27.06% and the pharmaceutical segment which contributed 4.49% of total turnover (Böni & Zimmermann, 2020; Supriyatna & Djailani, 2020).

The Technology sector also experienced a significant increase during this pandemic because the Covid-19 caused almost all community activities to be carried out based on technology, ranging from shopping, offices, and education. Investors during the pandemic also see opportunities in the technology sector to see a shift from investment commodities to technology investments (Nugraha, 2021).

Based on IDX data as of October 4, 2021, the Technology sector index, which has 26 issuers, rose 736% throughout 2021. Shares of PT DCI Indonesia Tbk. (DCII) led the price increase by 10,829% to Rp. 45,900 per share, PT. Telefast Indonesia Tbk (TFAS) skyrocketed by 2.733% to Rp. 5,100 per share, and shares of PT Kioson Komersial Indonesia Tbk. (KIOS) followed because it skyrocketed 592% to Rp. 1,090 per share (CNBC Indonesia, 2021)

The existence of Covid-19 has had a negative impact and a positive impact on companies and the national economy. As an illustration of the performance of the Sectoral Index throughout the third quarter of 2021, it is shown in the form of a table as follows :

Sectoral Index	2021 Third Quarter Performance
IDX Energy	38,35%
IDX Trans	22,05%
IDX NonCYC	14,09%
IDX CYCLIC	(6,08%)
IDX Finance	7,28%
IDX Propert	4,23%
IDX Health	(0,64)
IDX Techno	(12,5%)
IDX Basic	(3,66%)
IDX Infra	9,56%
IDX Indust	11,97%

Source : IDX (2021)

Based on this table, it can be seen that the sectoral IDX Index has now been classified in the latest so that investors can easily perform accurate and detailed analysis. Of the 11 sectors affected by the COVID-19 pandemic, they slowly started to bounce back even though several performance sectors in the third quarter experienced strengthening and weakening due to the easing of the PPKM whose cases began to slope, with the hope that the economic recovery sentiment will recover quickly and national economic conditions will improve. From the energy sector, which at the beginning of the COVID-19 pandemic experienced poor performance, is now slowly starting to improve which makes this sector improve due to the strengthening of commodities such as coal which globally began to increase drastically, followed by the transportation sector which at the beginning of the COVID-19 pandemic 19 decreased due to the lack of community mobility, now since the easing of this PPKM sectoral has started to rise and community mobility has increased again.

Then there is the financial sector, from the beginning of the COVID-19 pandemic, which has experienced positive performance, this is due to the existence of OJK's policy on digital banking which has made mini-bank stock prices begin to fall and the health sector since the beginning of the pandemic has experienced a strengthening and positive performance even though in this quarter it experienced positive performance. a slight weakening due to the condition of this pandemic starting to improve but this sector will also continue to improve.

Seeing this phenomenon, investors must be observant and careful in viewing every capital market instrument that is used as an investment. With the Covid-19 pandemic, it can affect investment decisions in Indonesia because investors react sensitively to information provided by the market so that investors are careful in making investment decisions (Nugraha, 2021).

In addition, investors have also taken into account the weakening and strengthening in several sectoral index sectors. Investment has a weakness, namely the risk of loss. In stocks, this risk is very high but behind it also stocks have very high profits. This type of stock investment has the opportunity to earn hundreds of percent of profits in a matter of months by being balanced with the same percentage of losses if the investment is not managed properly, especially during the Covid-19 pandemic.

The risk experienced by investors in investing in stocks is not knowing the direction of the movement of a stock. Stocks have fluctuating movements. If an investor invests in this type of investment, the stock price can be the same, decrease or even increase in the future. The decline in stock prices is highly avoided by investors because it will result in losses. The amount of losses received by potential investors is proportional to the profits to be obtained by investors.

One way to prevent the risk of loss from stocks is to conduct stock valuations, also known as stock valuations. Careful assessment or valuation of shares will minimize the risk of incorrectly choosing shares. Stock price assessments often experience conditions where the stock price value does not match the market price value. This condition is said to be overvalued when the stock valuation results are lower than the market price and if the opposite occurs, it is called undervalued (Suryanto, 2016). Shares are not eligible to be purchased if the calculation result of the share valuation value is lower than the market value. Conversely, if the stock valuation shows a higher number than the market price, it means that the stock is sufficient to buy.

Fundamental analysis can be used for stock valuation. Fundamental analysis can be done using the company's financial data to calculate the intrinsic value of the stock. For fundamental analysis, there are two approaches to calculating stock values, namely the Present Value Approach and the Price Earning Ratio (PER) approach (Natalia, E.R, & Yulita, 2019).

One model that uses the dividend component to determine stock value (present value approach) is the Dividend Discounted Model (DDM), which is used to determine stock price estimates by discounting all dividend flows that will be received in the future (Tandelilin, 2017).

Based on the theory, the DDM approach is better than the PER approach. Besides DDM, there is another stock valuation method, namely Price to Book Value (PBV). PBV is an approach used to value a stock by looking at the relationship between market price and book value per share (Tandelilin, 2017; Zeren & Hizarci, 2020).

Based on this, with the phenomenon described above and previous studies, the researcher will analyze stock valuations in making investment decisions during the COVID-19 pandemic (a case study on sectoral indexes affected by the COVID-19 pandemic in the third quarter of the year 2021).

LITERATURE REVIEW

Therory Signaling

Jogiyanto (2018), the signaling theory states that good quality companies will intentionally give signals to the market. The market reaction is known by changes in stock prices when the information is announced and all market participants have received the information. Market participants interpret and analyze this information as a good signal (good news) or a bad signal (bad news). Thus investors can distinguish between good and bad quality companies. Information published as an announcement will provide a signal for investors in making investment decisions.

Investment

Kasmir (2017), investment is investment in an activity that has a relatively long period of time in various business midwives. Investment that is invested in a narrow sense is in the form of certain projects, both physical and non-physical, such as projects for the construction of factories, roads, bridges, building construction and research and development projects.

Stock

Kasmir (2017), Shares are securities that are ownership. This means that the shareholder is the owner of the company, the larger the shares he has, the greater his power in the company.

Stock Valuation

Tandellin (2017), Stock Valuation is a series of ways to change several economic variables or companies that are estimated to be forecasts about stock prices that are useful as a method for finding stock values that are a measure of investing in securities. Analysis in stock valuation consists of two of the most common techniques in stocks, namely technical and fundamental analysis. Technical analysis is an analytical method that predicts by looking at historical data on stock movements in making short-term investment decisions. Meanwhile, fundamental analysis is an analytical method that focuses on the company's financial performance such as financial statements.

The stock valuation model consists of three types of values, namely book value, market value, and intrinsic value. Book value is the value based on the books of the issuer company. The market price is the share value represented by the stock price in the capital market. Intrinsic value is the actual or expected value of the stock. Stock valuation aims to produce a comparison of the intrinsic value with the market price of a stock.

PBV (Price Book Value)

Price book value (PBV) is a stock valuation method based on book value. Book value is the value of equity divided by the number of shares outstanding or the value of equity per share. A high PBV reflects a high share price compared to the book value per share. The higher the share price, the more successful the company is at creating shareholder value. (Nugraha E. S and Sulasmiyati S, 2017).

The following is the PBV approach as follows :

$$PBV \text{ Ratio} = \frac{\text{Harga Pasar Saham}}{\text{Book Value per Share}}$$

DDM (Dividend Discounted Model)

The DDM (Dividend Discounted Model) approach is an approach contained in fundamental analysis or company analysis which is carried out by linking the expected cash flow from dividends paid by the company on the shares owned.

The present value approach uses the Dividend Discounted Model (DDM) method in which all expected future cash flows are discounted at a discount rate equal to the return expected by investors (Tandelilin, 2017).

The following is the formula for the DDM approach as follows :

$$\hat{P}_0 = \frac{D_1}{k - g}$$

Notes :

\hat{P}_0 = Intrinsic value of shares with DDM

D_1 = Dividend that will be received constantly during the period of payment of dividends in the future

k = The level of return expected by investors

g = Expected dividend growth rate of the stock

Investment Decision

Sunariyah (2012) in making investment decisions, especially stocks, an investor is recommended to first know the intrinsic value of a stock and then compare it with the market price.

METHOD

Types of Research

Based on the type of data, this research is categorized as quantitative research, namely research that uses numbers. In accordance with its form, quantitative data can be processed using statistical calculations. Based on the research design, this study uses a quantitative descriptive approach, namely research conducted to determine the value of a variable (Sugiyono, 2017).

Research Population and Sample

Sugiyono (2017), Population is a generalization area consisting of objects/subjects that have certain qualities and characteristics set by researchers to be studied and then drawn conclusions. The population in this study are companies listed on the IDX Sectoral Index for the 2021 period. Meanwhile, the sample is part of the number and characteristics possessed by the population. Sampling in this study using purposive sampling method. The sampling method is purposively based on certain considerations made by the researcher himself or intentionally in accordance with the required sample requirements, based on previously known characteristics or populations. The targets in this study are companies listed on the IDX Sectoral Index for the 2021 period.

The criteria used for sampling by researchers are as follows :

1. Companies listed on the IDX Sectoral Index for the third quarter of 2021.
2. Companies in the IDX Sectoral Index affected by the Covid-19 pandemic for the third quarter of 2021.
3. Companies in the IDX Sectoral Index affected by the Covid-19 pandemic that publish full stock prices, financial reports, and dividends during the third quarter of 2021.

Method of Collecting Data

Sugiyono (2017) The data collection method is the most strategic step in research because the main purpose of research is to obtain data. The data collection method used to obtain data, information or materials in reviewing this research is a literature study, namely by studying, reviewing, researching, and examining data related to research on the www.idx.co.id site for research use. The data used in this research is secondary data.

Sources of data used include: Data on companies incorporated in the IDX Sectoral Index obtained from statistical data published by the Indonesia Stock Exchange, Stock price data, ratios, financial reports, and IDX Sectoral Index obtained from statistical data published by the Exchange. Indonesian Effect.

DATA ANALYSIS METHOD

Sugiyono (2017) the data analysis method is a way of processing the data that has been collected so that it can then provide an interpretation. The results of data processing are then used to answer the problems that have been formulated.

The method of data analysis in this study was carried out in several steps, as follows :

1. Price to Book Value (PBV)

- a. Calculating Book Value per Share (Tambunan, 2007)

$$\text{Book Value per Share} = \frac{\text{Total Ekuitas}}{\text{Jumlah Saham Beredar}}$$

- b. Calculating Price Book Value Ratio (Tandelilin, 2017)

$$\text{PBV Ratio} = \frac{\text{Harga Pasar Saham}}{\text{Book Value per Share}}$$

- c. Calculating intrinsic value is sought by converting it into Rupiah (Tambunan, 2007)

$\text{Nilai intrinsik} = \text{Nilai BVS (Book Value per Share) saham} \times \text{PBV ratio rata-rata industri}$

2. Dividend Discounted Model (DDM)

- a. Calculating Dividend Growth Rate (g)

$$g = \text{ROE} \times \text{retention ratio}$$

$$\text{ROE} = \frac{\text{Laba Bersih}}{\text{Ekuitas}}$$

$$\text{Retention Ratio (b)} = 1 - \text{dividend payout ratio}$$

$$\text{Dividend Payout Ratio} = \frac{\text{DPS}}{\text{EPS}}$$

Note :

g = Dividend growth rate

ROE = Net profit on own capital

DPS = Dividend distributed per share

EPS = Earnings earned per share

- b. Determining the Estimated Expected Dividend in the Future (Tambunan, 2007)

$$D_t = D_0(1 + g)$$

Note :

D_t = Estimated expected dividend in year t

D_0 = Dividend last year received/distributed

g = Dividend growth rate

t = Year t

- c. Determining the Expected Return (Brigham & Houston, 2018)

$$k = \left(\frac{D_0}{P_0} \right) + g$$

Note :

k = Expected rate of return

D_0 = Dividend last year received/distributed

P_0 = Current market price

g = Dividend growth rate

- d. Calculating Intrinsic Value (Tandelilin, 2017)

$$\hat{P}_0 = \frac{D_t}{k - g}$$

Note :

\hat{P}_0 = Intrinsic value of shares with DDM

D_t = Dividends that will be received on a constant basis over the period of future dividend payments

k = Expected rate of return

g = Dividend growth rate

3. Investment Decision Making

This step for the data analysis method is to compare the Intrinsic Value with the Stock Market Price Value and provide an assessment of investment decisions.

Halim (2018), the guidelines used for investment decision making are as follows :

(1) The intrinsic value of company shares that are considered undervalued, the decision should be made to buy and for those who already own is to hold shares because the shares are priced cheaply by the market.

(2) The intrinsic value of the company's shares which are considered overvalued, the decision should be made to sell the shares for those who already own it and not buy for those who do not own because the shares are highly valued by the market.

(3) The intrinsic value of the company's shares that are assessed correctly value should be the decision not to buy the shares first until the intrinsic value is greater than the market price and hold the shares if they already own the shares in the hope that the stock price will rise in the future.

4. Hypothesis test

1. Paired Samples T-Test

Paired Samples T-Test is used to determine whether or not there is a difference between each independent variable and the dependent variable, with the aim of whether the pair has the same average or not significantly.

The t-test in this study is to see the final difference between the intrinsic value of PER with the stock price, the intrinsic value of DDM with the stock price, the intrinsic value of PBV with the stock price, and the dummy variable, namely the companies affected by Covid-19 with the stock price. If there is a difference between the intrinsic value and the stock price, the stock valuation model can properly evaluate the stock price, and vice versa if there is no difference between the intrinsic value and the stock price, the stock valuation model cannot properly evaluate the stock price. The test uses SPSS version 25 Paired Samples T-Test with a significance level of = 5% with the test criteria, if the value of Sig. (2-tailed) < 0.05, then there is a significant difference and if the value of Sig. (2-tailed) > 0.05, then there is no significant difference (Ghozali, 2016).

2. Multiple Regression

Multiple linear regression analysis was used to determine the direction and magnitude of the influence of the independent variable (independent) and the dependent variable.

Multiple linear regression equation as follows :
$$Y(\text{Stock Price}) = \alpha + \beta_1 (\text{PBV}) + \beta_2 (\text{DDM}) + \varepsilon$$

Notes :

Y = Stock Price α = Constant b1 s/d b2 = Regression coefficient

X1 = Intrinsic Value PBV X2 = Intrinsic Value DDM

e = error

Multiple Linear Regression Test which includes :

a. F Statistic Test

The F test aims as a predictive tool to test how much the independent variable is able to explain the phenomenon of the dependent variable. The model is declared feasible if the value of sig. F < 0.05.

b. Statistic t test

The t-test aims as a predictive tool to test the research hypothesis, namely how much influence the independent variables have with the independent variables individually.

c. Coefficient of Determination Test (R^2)

The coefficient of determination test (R^2) aims to determine the percentage of the influence of the independent variable on changes in the dependent variable. R^2 is at zero to one, this means that the larger R^2 value is closer to 1, which is an indicator that shows the stronger the ability to explain changes in the independent variable to the dependent variable.

RESULTS AND DISCUSSION

To determine the position of shares against prices that occur in the market (IDX), the steps that must be taken by investors and potential investors are to pay attention to the value of the calculated PBV and DDM ratios. By knowing the intrinsic value of a stock, investors and potential investors can find out the price of a stock that is cheap (undervalued) or expensive (overvalued).

The following is a table that compares the intrinsic value of shares of sectoral index companies affected by the COVID-19 pandemic for the third quarter of 2021 and investment decision making using the PBV and DDM approaches.

Table 1. Stock Valuation: PBV Method

No	Stock Code	NI PBV	Stock Price	Stock Position	Investment Decision
1	SIDO	358	770	<i>Overvalued</i>	<i>Selling Shares</i>
2	DVLA	4547	2450	<i>Undervalued</i>	<i>Buy Shares</i>
3	KLBF	1390	1430	<i>Overvalued</i>	<i>Selling Shares</i>
4	TSPC	4937	1430	<i>Undervalued</i>	<i>Buy Shares</i>
5	MTDL	1941	2900	<i>Overvalued</i>	<i>Selling Shares</i>
6	ASGR	1460	750	<i>Undervalued</i>	<i>Buy Shares</i>
7	CTRA	955	935	<i>Undervalued</i>	<i>Buy Shares</i>
8	MTLA	560	340	<i>Undervalued</i>	<i>Buy Shares</i>
9	PPRO	70	72	<i>Overvalued</i>	<i>Selling Shares</i>
10	PWON	347	484	<i>Overvalued</i>	<i>Selling Shares</i>
11	BBCA	3505	7000	<i>Overvalued</i>	<i>Selling Shares</i>
12	BBNI	14077	5375	<i>Undervalued</i>	<i>Buy Shares</i>
13	BBRI	4016	3850	<i>Undervalued</i>	<i>Buy Shares</i>
14	BMRI	9192	6150	<i>Undervalued</i>	<i>Buy Shares</i>
15	LINK	5827	4030	<i>Undervalued</i>	<i>Buy Shares</i>
16	ACES	969	1270	<i>Overvalued</i>	<i>Selling Shares</i>
17	ULTJ	3440	1530	<i>Undervalued</i>	<i>Buy Shares</i>
18	UNVR	800	3950	<i>Overvalued</i>	<i>Selling Shares</i>
19	JPFA	7654	1975	<i>Undervalued</i>	<i>Buy Shares</i>
20	ROTI	3706	1330	<i>Undervalued</i>	<i>Buy Shares</i>
21	CAMP	1292	292	<i>Undervalued</i>	<i>Buy Shares</i>
22	STTP	16870	6825	<i>Undervalued</i>	<i>Buy Shares</i>
23	CPIN	11195	6425	<i>Undervalued</i>	<i>Buy Shares</i>
24	TOTO	200	200	<i>Correctly Valued</i>	<i>Holding Shares</i>
25	SMGR	8300	8200	<i>Undervalued</i>	<i>Buy Shares</i>
26	ANTM	1211	2290	<i>Overvalued</i>	<i>Selling Shares</i>
27	PTBA	3946	2760	<i>Undervalued</i>	<i>Buy Shares</i>
28	ELSA	727	306	<i>Undervalued</i>	<i>Buy Shares</i>

Source : Processed data (2021)

Based on the results of the calculation of stock price valuations using the PBV method, it can be seen that there are 18 sectoral companies affected by the covid-19 pandemic experiencing Undervalued namely DVLA, TSPC, ASGR, CTRA, MTLA, BBNI, BBRI, BMRI, LINK, JPFA, ROTI, CAMP, CPIN , STTP, SMGR, PTBA, and ELSA. This is because the intrinsic value is greater than the stock price. Meanwhile, 1 sectoral company affected by the COVID-19 pandemic experienced Correctly Valued, namely TOTO, this was because the intrinsic value was the same as the stock price. And 9 sectoral companies affected by the COVID-19 pandemic were overvalued, namely SIDO, KLBF, MTDL, PPRO, PWON, BBCA, ACES, UNVR, and ANTM. This is because the intrinsic value is smaller than the stock price.

Based on the explanation above, making investment decisions using the PBV method is to buy 18 companies affected by the covid-19 pandemic, namely DVLA, TSPC, ASGR, CTRA, MTLA, BBNI, BBRI, BMRI, LINK, JPFA, ROTI, CAMP, CPIN, STTP , SMGR, PTBA, and ELSA. Because these stocks are undervalued or cheap. For investors who already own these shares, the right decision is to increase share ownership or hold the shares in the hope that the share price will increase in the future. Next is not to buy SIDO, KLBF, MTDL, PPRO, PWON, BBCA, ACES, UNVR, and ANTM shares because they are in overvalued or expensive conditions. If you already own the shares, it is better to sell the shares because there is a possibility that the share price will fall. And TOTO shares are in Correctly Valued condition. For investors who already own the shares, they prefer to hold back from selling or buying the shares because the stock value is still reasonable or in the range of values.

Table 2. Stock Valuation: DDM Method

No	Stock Code	NI DDM	Stock Price	Stock Position	Investment Decision
1	SIDO	896	770	<i>Undervalued</i>	<i>Buy Shares</i>
2	DVLA	2659	2450	<i>Undervalued</i>	<i>Buy Shares</i>
3	KLBF	1495	1430	<i>Undervalued</i>	<i>Buy Shares</i>
4	TSPC	1528	1430	<i>Undervalued</i>	<i>Buy Shares</i>
5	MTDL	3222	2900	<i>Undervalued</i>	<i>Buy Shares</i>
6	ASGR	797	750	<i>Undervalued</i>	<i>Buy Shares</i>
7	CTRA	1052	935	<i>Undervalued</i>	<i>Buy Shares</i>
8	MTLA	368	340	<i>Undervalued</i>	<i>Buy Shares</i>
9	PPRO	72	72	<i>Correctly Valued</i>	<i>Holding Shares</i>
10	PWON	203	484	<i>Overvalued</i>	<i>Selling Shares</i>
11	BBCA	7177	7000	<i>Undervalued</i>	<i>Buy Shares</i>
12	BBNI	5987	5375	<i>Undervalued</i>	<i>Buy Shares</i>
13	BBRI	4095	3850	<i>Undervalued</i>	<i>Buy Shares</i>
14	BMRI	6645	6150	<i>Undervalued</i>	<i>Buy Shares</i>
15	LINK	4716	4030	<i>Undervalued</i>	<i>Buy Shares</i>
16	ACES	1188	1270	<i>Overvalued</i>	<i>Selling Shares</i>
17	ULTJ	1533	1530	<i>Undervalued</i>	<i>Buy Shares</i>
18	UNVR	4536	3950	<i>Undervalued</i>	<i>Buy Shares</i>
19	JPFA	2266	1975	<i>Undervalued</i>	<i>Buy Shares</i>
20	ROTI	1290	1330	<i>Overvalued</i>	<i>Selling Shares</i>
21	CAMP	232	292	<i>Overvalued</i>	<i>Selling Shares</i>
22	STTP	8160	6825	<i>Undervalued</i>	<i>Buy Shares</i>
23	CPIN	6970	6425	<i>Undervalued</i>	<i>Buy Shares</i>
24	TOTO	200	200	<i>Correctly Valued</i>	<i>Holding Shares</i>
25	SMGR	8285	8200	<i>Undervalued</i>	<i>Buy Shares</i>
26	ANTM	2580	2290	<i>Undervalued</i>	<i>Buy Shares</i>
27	PTBA	3448	2760	<i>Undervalued</i>	<i>Buy Shares</i>
28	ELSA	304	306	<i>Overvalued</i>	<i>Selling Shares</i>

Source : Processed data (2021)

Based on the results of the calculation of stock price valuations using the DDM method, it can be seen that there are 21 sectoral companies affected by the COVID-19 pandemic experiencing Undervalued namely SIDO, DVLA, KLBF, TSPC, MTDL, ASGR, CTRA, MTLA, BBCA, BBNI, BBRI, BMRI, LINK , ULTJ, UNVR, JPFA, STTP, CPIN, SMGR, ANTM, and PTBA This is because the intrinsic value is greater than the stock price. Meanwhile, 2 sectoral companies affected by the COVID-19 pandemic experienced Correctly Valued, namely TOTO and PPRO, this was because the intrinsic value was the same as the stock price. And 5 sectoral companies affected by the COVID-19 pandemic experienced Overvalued, namely, ELSA, CAMP, ROTI, PWON, and ACES. This is because the intrinsic value is smaller than the stock price. Based on the explanation above, making investment decisions using the DDM method is to buy 21 companies affected by the COVID-19 pandemic, namely SIDO, DVLA, KLBF, TSPC, MTDL, ASGR, CTRA, MTLA, BBCA, BBNI, BBRI, BMRI, LINK, ULTJ , UNVR, JPFA, STTP, CPIN, SMGR, ANTM, and PTBA. Because these stocks are undervalued or cheap. For investors who already own these shares, the right decision is to increase share ownership or hold the shares in the hope that the share price will increase in the future. Next is not to buy ELSA, CAMP, ROTI, PWON, and ACES shares because they are in an Overvalued or expensive condition.

If you already own the shares, it is better to sell the shares because there is a possibility that the share price will fall. As well as TOTO and PPRO shares are in Correctly Valued

condition. For investors who already own these shares, they prefer to hold back from selling or buying the shares because the stock value is still reasonable or in the range of values.

Descriptive Statistical Test Analysis

Descriptive statistical analysis is used to determine the description of a data seen from the average value (mean), maximum value, and minimum value. In this study, the descriptive statistics used in the calculation are the stock prices (closing prices) of companies affected by the COVID-19 pandemic.

The descriptive statistics of companies affected by the COVID-19 pandemic are as follows.

	N	Minimum	Maximum	Mean	Std. Deviation
Harga Saham Q3 2021	28	72	8200	2689.96	2422.623
Valid N (listwise)	28				

Source: Processed data SPSS 25 (2021)

Based on the results of descriptive statistics using SPSS 25 in this table, it is known that the average closing price for companies affected by the COVID-19 pandemic is Rp. 2,689.96. While the Standard Deviation is 2422.62. The highest share price is owned by Semen Indonesia Tbk (SMGR) of Rp. 8,200 and the lowest share price is owned by PP Properti of Rp. 72.

Hypothesis Test Results

a. Paired Samples T-test

Paired samples t-Test in this study is to compare the value of the stock market price with the intrinsic value which is assessed by the Price to Book Value (PBV) and Dividend Discounted Model (DDM) methods.

The following are the results of the paired samples t-test to compare the value of the stock price with the intrinsic value obtained from the calculation of PBV and DDM in companies affected by Covid-19.

Table 3. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Harga_Saham - NI_PBV	-1363.321	3016.854	570.132	-2533.135	-193.507	-2.391	27	.024
Pair 2	Harga_Saham - NI_DDM	-235.179	332.750	62.884	-364.206	-106.151	-3.740	27	.001

Source: Processed data SPSS 25 (2021)

Based on the output results in this table, it is known that the value of Sig. (2-tailed) in the PBV method is 0.024 which is smaller than 0.05 ($0.024 < 0.05$) and the DDM method is 0.001 which is smaller than 0.05 ($0.001 < 0.05$), so as the basis for taking The decision in the paired sample T-Test can be concluded that H_0 is rejected, H_a is accepted, thus it can be concluded that there is a significant difference between the intrinsic value of shares using the PBV and DDM methods on the stock market prices of companies affected by the COVID-19 pandemic, which

means that decisions can be made the right investment because the intrinsic value of the stock is not the same as the stock price. So it can be concluded that the PBV and DDM methods can evaluate stock prices appropriately.

b. Multiple Linear Regression Test

The following are the results of the multiple linear regression test of intrinsic value obtained from the calculation of PBV and DDM in companies affected by the COVID-19 pandemic.

Table 4. Multiple Linear Regression Tests

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	34.828	63.090		.552	.586
	NI_PBV	-.035	.016	-.064	-2.248	.034
	NI_DDM	.956	.026	1.045	36.811	.000

a. Dependent Variable: Harga_Saham

Source: Processed data SPSS 25 (2021)

Based on the output results in this table, the results of multiple linear regression tests obtained the following regression equation: $Y = 34,828 - 0.035 (PBV) + 0.956 (DDM)$

Multiple linear regression test results include:

1. Test F Statistic

The following are the results of the intrinsic value F test obtained from the calculation of PBV and DDM for companies affected by the COVID-19 pandemic.

		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	157239944.940	2	78619972.470	1603.442	.000 ^b
	Residual	1225800.024	25	49032.001		
	Total	158465744.964	27			

a. Dependent Variable: Harga_Saham

b. Predictors: (Constant), NI_DDM, NI_PBV

Source: Processed data SPSS 25 (2021)

Based on the output results in this table, it is known that the calculated F value is 1,603.44. Meanwhile, based on F table with n = 28 and k = 2, then F table shows a value of 3.34. Thus, $F_{count} > F_{table}$ ($1,603.44 > 3.34$), then as the basis for decision making in the F test, it can be concluded that H_0 is rejected, H_a is accepted. Thus, it can be concluded that there is a simultaneous significant effect between intrinsic value using the Price to Book Value (PBV) and Dividend Discounted Model (DDM) methods on stock prices in companies affected by the COVID-19 pandemic, which means that the PBV and DDM methods can evaluate prices. stock properly.

2. Statistic t test

The following are the results of the intrinsic value t-test obtained from the calculation of PBV and DDM for companies affected by the COVID-19 pandemic.

		Coefficients ^a				
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	34.828	63.090		.552	.586
	NI_PBV	-.035	.016	-.064	-2.248	.034
	NI_DDM	.956	.026	1.045	36.811	.000

a. Dependent Variable: Harga_Saham

Source: Processed data SPSS 25 (2021)

Based on the results of the output in this table, it can be seen that the value of $n = 28$ at a significant 5% so that the t table value is 1.701. Value of Sig. The PBV method is 0.034 which is less than 0.05 ($0.034 < 0.05$). The results of calculations on multiple linear regression obtained t-count value of -2.248 which means $t_{count} < t_{table}$ ($-2.248 < 1.701$) which means that the intrinsic value of shares with the PBV method has no effect on stock prices. So it can be concluded that the PBV method cannot properly evaluate stock prices. Value of Sig. DDM method is 0.000 which is less than 0.05 ($0.000 < 0.05$). The results of calculations on multiple linear regression obtained t value of 36,811 which means $t_{count} > t_{table}$ ($36,811 > 1.701$) which means that the intrinsic value of shares with the DDM method has a positive effect on stock prices, meaning that if there is an increase of 1% from the intrinsic value of DDM, then the stock price will increase by 0.956. So it can be concluded that the DDM method can evaluate stock prices appropriately.

3. Test the coefficient of determination (R^2)

The following are the results of the coefficient of determination of intrinsic value obtained from the calculation of PBV and DDM for companies affected by the COVID-19 pandemic.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.996 ^a	.992	.992	221.432

a. Predictors: (Constant), NI_DDM, NI_PBV

Source: Processed data SPSS 25 (2021)

Based on the output results in this table, it is known that the adjusted R Square value is 0.992, which means that 99.2% of the stock price can be explained by intrinsics with the PBV and DDM methods in companies affected by the COVID-19 pandemic. While the remaining 0.008 share prices are explained by variables outside the research model.

DISCUSSION

Based on hypothesis testing using the paired samples t-test, it can be said that there is a difference between intrinsic value using the Dividend Discount Model (DDM) method, which means that the DDM method can evaluate stock prices correctly. Based on the Dividend

Discount model (DDM) method, stocks that are worth buying during the COVID-19 pandemic based on DDM are shares from the health sector, namely Sido Muncul Tbk (SIDO), Kalbe Farma Tbk (KLBF), Darya Varia Tbk due to the covid pandemic.

These stocks have experienced an increase even though they are currently experiencing a weakening due to the slowing down of cases of the covid pandemic and many people who need vitamins and medicines. Shares from technology, namely Metrodata Electronics Tbk (MTDL) because during the Covid-19 pandemic, shares from the technology sector experienced an increase because almost all community activities were carried out based on technology, ranging from shopping, offices, and education.

The shares that are not eligible to be purchased during the COVID-19 pandemic based on the DDM method are shares from the property sector, namely Pakuwon Jati Tbk (PWON). This is because there is still a Covid-19 pandemic situation that requires the government to implement PPKM and there is a lack of interest in buying property, then there is the non-primary consumer goods sector (retail trade), namely ACE Hardware Indonesia Tbk, which is quiet about selling household goods. where PPKM is still in effect, the sales are not maximized.

CONCLUSION

Based on the results of stock valuation analysis using the Price to Book Value (PBV) and Dividend Discounted Model (DDM) methods, for companies affected by the COVID-19 pandemic, the following conclusions can be drawn:

1. Based on Hypothesis Test, Price to Book Value (PBV) cannot properly evaluate stock prices. Making investment decisions using the PBV method is to buy 18 companies affected by the COVID-19 pandemic because the shares are undervalued or cheap and not to buy 9 companies affected by the COVID-19 pandemic because the shares are in an overvalued or overvalued condition. expensive. As well as 1 company that must hold back from selling or buying because the shares are in Correctly Valued or normal condition.
2. Based on the Dividend Discount Model (DDM) Hypothesis Testing, it is possible to properly evaluate stock prices. Making investment decisions using the DDM method is to buy 21 companies affected by the COVID-19 pandemic because the shares are undervalued or cheap and do not buy 5 companies affected by the COVID-19 pandemic because the shares are in an overvalued or overvalued condition. expensive. As well as 2 companies that have to withhold selling or buying because the shares are in Correctly Valued or normal condition.
3. Based on hypothesis test, it can be concluded that the Dividend Discounted Model (DDM) method is the most appropriate in evaluating stock prices compared to the Price to Book Value (PBV) method.

Stock price valuation using the Price to Book Value (PBV) and Dividend Discount Model (DDM) method is not the only method in assessing stock prices, but this method can be used as a reference for investors in making investment decisions during the COVID-19 pandemic. The suggestions that can be given in this research are :

1. Investors should not only use the PBV and DDM methods in valuing stock prices, because the analysis used in these two methods is the result of an estimate of something that is uncertain and has the potential to contain errors. In addition, stock price valuation analysis is only based on on the company's fundamental conditions of a financial nature, so that it does not pay attention to technical analysis, macro conditions and others.

Therefore, it is recommended to use other analyzes in order to have more accurate references and can assist in making investment decisions.

2. It is recommended for further researchers to use other methods in evaluating stock prices such as the Free Cash Flow to Firm (FCFF), Free Cash Flow to Equity (FCFE) and Discount Cash Flow (DCF) methods. With the aim of completing previous research in order to describe the actual situation in stock price valuations, so that investors can be more careful in making investment decisions.

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