

Analysis of Stock Valuations in Estimating Stock Prices in the Covid-19 Period And Investment Decision

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Submitted: March 08, 2022

Revised: June 09, 2022

Published: June 30, 2022



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DOI : <http://dx.doi.org/10.30983/es.v6i1.5377>

Abstract

The purpose of this study was to determine whether the intrinsic value of the stock is in undervalued, overvalued, and fair-valued conditions. Quantitative research methods were applied to eleven companies listed on ISSI, mainly Telecommunication, Pharmaceutical, and Finance companies. Based on the use of the PER and PBV methods and the results of the independent sample T-Test test, it was revealed that there is a significant difference between the average results of PER and PBV stock valuations. Through PER, 5 companies have shares with undervalued price conditions, namely TLKM, KAEF, KLBF, PYFA, and SIDO and 6 shares are in overvalued price conditions, namely ISAT, DVLA, MERK, TSPC, BRIS, and BTPS. Based on the use of the PBV method, 5 companies have shares with undervalued price conditions, namely DVLA, KAEF, KLBF, MERK, and SIDO, 6 companies are in overvalued price conditions, namely ISAT, TLKM, PYFA, BRIS, BTPS, and TSPC, and 6 companies with the same conditions using PER and PBV, namely KAEF, KLBF, SIDO, TSPC, BRIS and BTPS.

Keywords: stocks, sharia stock prices, stock valuation, per, pbv, investment decisions.

Abstrak

Tujuan penelitian ini adalah untuk mengetahui nilai intrinsik saham apakah berada pada kondisi undervalued, overvalued, dan fairvalued. Metode penelitian kuantitatif diterapkan pada 11 perusahaan yang terdaftar dalam subsektor Telekomunikasi, Farmasi, dan Keuangan yang tergabung dalam ISSI. Berdasarkan penggunaan melalui metode PER dan PBV didapatkan hasil uji independent sample t-test sebesar $0,032 < 0,05$ maka H_0 ditolak dan H_1 diterima artinya bahwa terdapat perbedaan signifikan antara rata-rata hasil valuasi saham PER dan PBV. Root Mean Square Error digunakan untuk mengetahui tingkat kesalahan didapatkan bahwa nilai RMSE PER (1786) < PBV (1935) artinya metode PER lebih baik dibandingkan PBV karena memiliki tingkat kesalahan lebih kecil. Melalui PER didapatkan 5 perusahaan memiliki saham dengan kondisi harga undervalued yaitu TLKM, KAEF, KLBF, PYFA, dan SIDO dan 6 saham berada dalam kondisi harga overvalued yaitu ISAT, DVLA, MERK, TSPC, BRIS, dan BTPS. Berdasarkan penggunaan metode PBV didapatkan 5 perusahaan memiliki saham dengan kondisi harga undervalued yaitu DVLA,

KAEF, KLBF, MERK, dan SIDO. Dan 6 perusahaan berada dalam kondisi barga overvalued yaitu ISAT, TLKM, PYFA, BRIS, BTPS, dan TSPC. Dan terdapat 6 perusahaan dengan kondisi yang sama dengan menggunakan PER dan PBV yaitu KAEF, KLBF, SIDO, TSPC, BRIS dan BTPS.

Kata Kunci: saham, barga saham syariah,valuasi saham, per, pbv, keputusan investasi

Introduction

Investment is an activity that is familiar in the public. This activity can be used to be an alternative to managing finance and planing for the future. A person or group who entered the investment world referred as investors. Nowadays, the most popular investment instrument, especially among the millennial investment on a stock.

Stocks are an intangible instrument of financial investment traded on the Indonesian stock exchange as a place to facilitate it. Stocks is a proof or letters with the value as evidence of participation that shows the ownership that came from and issued by a public company. So, buying stocks is the same as buying a company and business.¹

Along with its development and remember that Indonesia is on the majority Muslim population, so on stock also adapted where it has developed sharia-based stock. These stocks are shortlisted by OJK and DSN-MUI where there are some characteristics that become distinguishing like the transactions and operational on sharia stock are run by company are more dominant of elements that not approaching “MAGHRIB” (Maysir, Riba, dan Gharar).² Furthermore, stocks sharia thoroughly in and enrolled into ISSI (Indeks Saham Syariah Indonesia).

The source of profit from the stocks is gotten from dividends that are obtained from

the net income of the operational company including cash, stocks, and property.³ And the capital gain is gotten from the margins of the price of the stock itself, where the current selling price is higher than the selling price in the past.⁴

Besides the profit, stocks also can not be separated from the loss. Stocks have the concept of “high risk high return” to gain significant profit; it also has to be ready for a significant loss. This concept is different to Islamic Perspective. Islam menilai bahwa walaupun saham dikatakan syariah bahwa ini tidak terlepas dengan tanpa adanya kerugian. Islam thought that even the stocks are syariah but can not be free from the loss. Islam is familiar with the concept of loss that the optimum profit does not depend on the high risk taken but rather that the risk will arise in conjunction with the investment activities carried out. This is in line with Markowitz's concept that investors are said to have a rational attitude when making investments accompanied by risk management.⁵

From the point of view of the interest of the community to invest in stocks, it was discovered that the number grew every year, even though in the middle of this pandemic. This is proven that according to the data obtained from KSEI in 2019 was, the number of investors is 1.104.610, and by the end of December 2020, the number is increased 51,88 % to 1.688.678, and in 2021, exactly at the end

¹ Rico Bayu W, *A Helicopter View Investor Saham Jangan Investasi Tanpa Tau Ilmunya, Bahaya!* (Surabaya: Scopindo Media Pustaka, 2021), h. 8.

² Andri Soemitra, *Hukum Ekonomi Syariah Dan Fiqh Muamalah* (Jakarta: Kencana, 2019), h. 199.

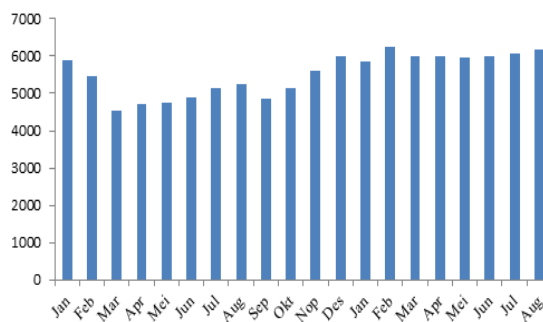
³ Erdianza Septian Effendi And Suwardi Bambang Hermanto, “Pengaruh Rasio Keuangan dan

Volume Perdagangan,” *Jurnal Ilmu Dan Riset Akuntansi* Vol. 6, No (2017): 1–23.

⁴ Bella Atika, “Pengaruh Dividen Announcement , Capital Gain Dan Kurs Terhadap Trading Volume Activity” *Jurnal Ilmiah Akuntansi*, Vol. Xix, No. 2 (2020): 1–15.

⁵ Irwan Abdullah, *Pasar Modal Syariah* (Jakarta: PT Elex Media Komputindo, 2018), h. 81.

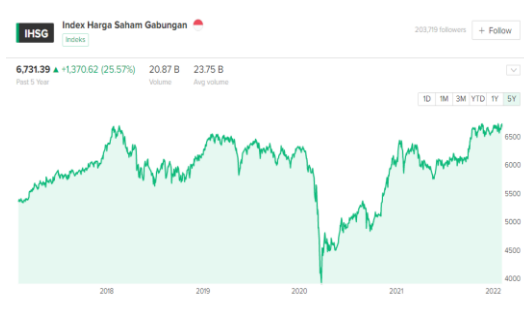
of the month of August, the total number is 2.697.832 SID (Single Investor Identification).⁶



Graph 1

The IHS Movements Jan 2020-Aug 2021⁷

Source: www.idx.co.id



Graph 2

IHS 2018-2022⁸

Source: Stockbit

As seen from IHS (the average index of overall shares) throughout 2020, precisely when the start of the pandemic emerged, IHS had fallen in the 3000s, precisely in the days of March 2020. It was noted that before the pandemic spread in Indonesia, according to Bloomberg data, IHS posted a positive return of 1.7 % from the close at the end of 2018 at a level of 6,194.49. Then IHS corrected at 19.77 points or -0.47% at level 6,199.54 at the time of the last day of trading in December 2019. This figure misses the initial prediction that IHS 2019 could reach 6,300. Since the pandemic, the corrected IHS has been very volatile, and in March, IHS was

corrected to plummet drastically to the 3,000s level. According to Inarno Djajadi, he said that this weakening was the second weakening since the 2008 crisis. In March, the percentage dropped by 11 % from 2010 in January. Since the pandemic, some investors tend to withdraw and hold on to their stocks. Aside from that, the value of daily transactions goes down. It was noted that in early April 2020, with a value of 6.93 trillion, this figure was lower than 2019, which was 9.13 trillion and the transaction value for the whole of 2020 reached 9.2 trillion. Although it has decreased, the IHS is still predicted to grow positively despite being mediated by the difficult time of the covid-19 pandemic that is happening now. The current phenomenon, the covid-19 pandemic, raises concerns for investors and people who want to join the stock world because there is a feeling of worry about higher risk or losses that might be received. In addition, many companies have experienced a low performance due to the covid-19 pandemic, and investors are always hoping for high returns on investment.

Stocks have the nature that if the profit can reach hundreds of percent, it would be followed by losses with the same percentage. For that, without good governance, especially when the covid-19 pandemic situation, the risk of stocks will be even greater. Possible risks can be raised by investors not knowing the direction of the stock's movement. Stocks have fluctuating characteristics meaning that the price of stocks at present may be very different at a later time and may decline or may even rise. A price reduction is something that investors or potential investors avoid because it will cause a loss.

⁶ KSEI, "Demografi Investor, ", https://www.ksei.co.id/publications/demografi_investor/. diakses tanggal 02 September 2021.

⁷ IDX, "Ringkasan Indeks," <https://www.idx.co.id/data-pasar/ringkasan->

[perdagangan/ringkasan-indeks/](https://www.idx.co.id/data-pasar/ringkasan-indeks/). diakses tanggal 01 September 2021"

⁸ Stockbit, "Fundachart," www.stockbit.com, 2022, <https://stockbit.com/#/symbol/AALI/fundachart>. diakses tanggal 11 Februari 2022.

In addition, many people consider that the price of stocks on the market is the actual price, even though the company's stocks are worth tens with company stocks worth thousands, not necessarily the more expensive companies with dozens of shares. This condition must be seen from internal conditions such as conditions, quality, and quantity of companies and external such as similar industries. Therefore, the investor is advised to behave smartly and have the art of sorting and choosing shares to be owned, especially in the covid-19 pandemic situation.

One of the solutions that can be applied is a stock valuation. This solution is to maintain and minimize the risk that might occur. Stock valuation is the condition when stocks are valued to know the condition of the stock price undervalued when the valuation is higher than the market price, fair value when the valuation is equal to the market price and overvalued when the valuation is lower than the market price. Stocks valuations compare the stock's actual value with ongoing market prices based on internal or company fundamental reports. Valuations are indispensable and recommended before investing with the implication that the shares are worth buying or selling.

Several supporting methods need to value the stocks. The price earning share and price book share approaches are popular approaches that are not as complex as other approaches. It is denounced that the approach has its weaknesses and strengths. Based on Neaxie and Hendrawan's research, the results between the DCF and PER methods have the same results. This research correlates positively with Ranodya, who analyzes that PER is better than DDM because this approach is the most popular. PBV, according to Fayana & Jatmiko, is better than DDM because it has a ratio that is almost close to the fair price movements of shares and almost follows the market.

During the pandemic, many companies experienced a decline in performance, eventually reducing interest in holding the company's stock to the investors. However, there is an interesting phenomenon that there are companies that can survive and even be positively affected. These appeals could be a boomerang for investors to be forced into the share price to rise dramatically due to a supportive situation, and in the end, when the situation does not support, stocks can go down drastically. In the telecommunications subsector, social restrictions on the use of telecommunications products such as the internet and increased data caused the sale of telecommunications companies to increase, the pharmaceutical subsector in the presence of a vaccination program, and in the financial subsector, Sharia banking, in the presence of an Islamic bank merger or the merger of the three sharia banks. So these three subsectors, namely telecommunications, pharmaceuticals, and finance, have a positive state that even tends to rise and can survive. This condition can be an attraction to investors.

Based on the background and description above, it is formulated to deal with a situation of falling stock prices and to minimize the risk of loss in the middle of a pandemic situation where the economy of society is not stable and tends to decline; therefore, investors are required to be careful in selecting and assigning shares to be owned so that their sustainability does not interfere with the economic activities carried out and avoid speculation that could cause harm. Speculation is something that brings enormous and fast profits in various ways. For this reason, a way to find out about the actual condition of a stock is needed, whether in reasonable conditions (fair valued), cheap conditions (undervalued), or expensive conditions (overvalued), aimed at making it easier for investors and potential investors about investment decisions in the form of stock instrument.

Theoretical Basis

Investment

In Bodie's view, "investment is a commitment of money or loyalty to existing resources in the present with the hope of reaping the benefits in the future."⁹ Alternatively, investment can also be interpreted as a principle of equity participation to obtain profits based on the nisbah or agreements obtained through the business behaviour of an object or company.¹⁰

In Islam, investment is seen as permissible and recommended. Investment goes into muamalah activities, where investing can make productive activities and provide added value or benefits for an investor.¹¹ According to Nafik, investment activities should benefit all parties, but Islam forbids the people to obtain a fortune through speculation or other activities that impact losses for various parties. Investment is an excellent activity because, with investment, the benefits of a treasure can be felt by the whole people and do not dwell and spin only on a handful of people and can contribute in the form of benefits for other people.¹²

Next are investment decisions that are interpreted as allocating capital in the form of investments under consideration of the plan and the expected rate of return on a future basis. Decision investments on stocks can be seen based on stock prices, and some recommended criteria can be described for cheap stocks (undervalued) then buy, fair stocks (fairvalued) then hold and overvalued then sell

⁹ Bodie, *Essentials Of Investments* (Asia: Mc Graw-Hill, 2007), h. 3.

¹⁰ Tri Inda Fadhila Rahma, "Analisis Faktor-Faktor Yang Mempengaruhi Yield Surat Berharga Syariah Negara Ijarah Fixed Rate (SBSN IFR)," 2014, 1–115.

¹¹ Wibowo Isa and Mei Candra Mahardika, "Effect of Solvency and Liquidity on The Profitability of Property Companies Listed on The Sharia Stock Index 2018-2020," *EKONOMIKA SYARIAH: Journal of Economic Studies* 5, no. 2 (2022): 140–52.

Sharia Stocks

Stocks are a sign of proof of inclusion issued by the company to provide ownership of capital or funds provided by investors. Stocks have profit, dividends distributed on the company's net profit set at the AGM, and capital gain is the price difference obtained from the current sale of stocks with the purchase of stocks in the past.¹³

Sharia stocks have the same context as conventional stocks, but what distinguishes them is that in sharia stocks, there is an Islamic concept surrounding them. Buying and selling transactions in stocks are referred to as *bai' al musawamah*.

Stocks categorized as shariah have if they previously entered into selections conducted by OJK and DSN MUI. Based on the provisions of OJK, some characteristics must be considered in sharia stocks, namely:¹⁴

1. Viewed from the point of view of operations and company activities that must be based on shariah principle, in its efforts not related to champions, usury, bribes, cigarette issuers, and non-shariah financial institutions.
2. Judging from the debt ratio that blends with usury, that does not exceed 45%.
3. Judging from the ratio of interest and non-halal receipts to those compared to the total receipts worth 10%.

Shariah Stock Price

Islam views price as infinite or free where transactions carried out contain elements based on like or the element of relief without coercion

¹² Muhammad Nafik HR, *Bursa Efek Dan Investasi Syaria'ah* (Jakarta: Serambi Ilmu Semesta, 2009), 55.

¹³ Soemitra, *Bank Dan Lembaga Syariah*, (Jakarta: Kencana, 2017), h. 117.

¹⁴ OJK, "Pengantar Daftar Efek Syariah," <https://www.ojk.go.id/id/kanal/syariah/data-dan-statistik/daftar-efek-syariah/default.aspx>. diakses tanggal 12 Juli 2021.

from various parties and as long as no proposition does not allow it.

According to Darmadji & Fakhrudin, the stock price is the price during trading hours on the exchange. In a matter of time, the stock price can quickly fluctuate or change even in minutes or seconds. It happens because of the activity of supply and demand, which happened to the exchange.¹⁵

Regarding the price itself, the price is determined by looking at the perspective of market resilience, which straddles the stability and acting skills of demand and supply. In addition, there is a corporate action, political conditions or even gossip and hoax issues that affect the movement of stock prices are shariah itself.¹⁶

Estimation

Estimations are interpreted as estimates, opinions, or judgments. Estimation is a process with the element of judgment and estimation of the object's value that is domiciled by knowledge and experiences. While estimating prices on stocks is the process of assessing or estimating a stock.¹⁷

Stock Valuation Method

According to Wira, Stock valuation can be interpreted as an approach that calculates the fair price or actual price of a stock. The share price of an ordinary share is referred to as an intrinsic value (intrinsic value) which means the value considered to be a rill or the actual value assuming that the value illustrates the strength of a company.¹⁸ Suppose there is a condition where the intrinsic value > market

value is considered cheap. The intrinsic value = market value. In that case, the shares are valued relatively, and the intrinsic value < market value, then the shares are valued expensive. In this case, there are two approaches to valuing shares price-earnings ratio and price-book value.

1. Price Earnings Ratio

Price Earning Ratio (PER) is the most popular approach, called the earnings multiplier approach. This approach looks at estimates of the intrinsic value obtained from the value of earnings.¹⁹ In comparison, Sugianto's view suggests that this method focuses on measurement or valuation with a ratio scale sourced from a share's price divided by the company's profit. If the ratio obtained is high, it illustrates that the company's resilience is good. On the contrary, if the ratio value obtained has a value that grows too high, then the stock is described as irrational or expensive.²⁰

$$PER = \frac{\text{Harga Saham}}{EPS}$$

2. Price Book Value

According to Tandellin, this method or approach is an interaction that involves the stock market and the book value in the stock sheet to determine the value of a stock through alternative approaches. It is denounced through theory, and then the market must reflect the book's value.²¹

$$PBV = \frac{\text{Harga Pada Saham}}{\text{Book Value Per Share}}$$

¹⁵ Tjiptono Darmadji and Hendi M Fakhrudin, *Pasar Modal Di Indonesia*, 3rd ed. (Jakarta: Salemba Empat, 2011), 111.

¹⁶ Adiwarman A Karim, *Ekonomi Mikro Islam* (Jakarta: PT Raja Grafindo Persada, 2011), h. 144.

¹⁷ Eman, dkk, "Estimasi Biaya Kontruksi Menggunakan Metode Parameter Pada Proyek Pemeliharaan Berkala Jalan Di Kota Manado," *Jurnal Ilmiah Media Engineering* Vo.8, No.2 (2018): 1–18.

¹⁸ Desmond Wira, *Analisis Fundamental Saham* (Jakarta: Exceed, 2014), h. 116.

¹⁹ Nur Ahmadi Bi Rahmani, "Pengaruh Return On Asset Dan Return On Equity Terhadap Price Earning Ratio Pada Perusahaan Yang Terdaftar Di JII," *Jurnal Tansiq* Vol. 1, No. 1 (2018): 7.

²⁰ Sugianto, *Pasar Modal (2nd Ed)* (Bandung: Alfabeta, 2008), h. 28.

²¹ Eduardus Tandellin, *Pasar Modal Manajemen Portofolio & Investasi* (Depok: PT. Kanisius, 2017), h. 314.

Hypothesis

Based on the above concepts and thought frameworks, two alternative hypotheses in this study are proposed as follows:

H₀= There is no significant difference between stock price valuation and price-earnings share and price book value to the price of sharia shares (Telecommunications, Pharmacy and Finance).

H₁= There is a significant difference between the valuation of share prices and price-earnings share and price book value to the price of sharia shares (Telecommunications, Pharmacy and Finance).

Method

In the case of sample selection using purposive sampling techniques, it is found that the existing sample is a telecommunications, pharmaceutical and financial company that consistently enters ISSI in the 2016-2020 period, the company that pays the 2016-2020 period.

This research was conducted from December 2020 to August 2021. By these criteria, 11 companies meet the requirement. While the data used is secondary data sourced from various literature such as the Indonesian Stock Exchange, Financial Services Authority, Investing.com, Stockbit.com and other reliable sources of information. Data taken contain ratios of finance, company profits, and movements of a share obtained from the financial statements of the company that have been published..

The research approach used, namely quantitative with descriptive properties. Quantitative is an approach that focuses on the scale of measurement with objective nature. It

is seen from the point of view of social phenomena that occur and is determined using adjusted number symbols on information related to variables and get the goal of getting a conclusion that can be used generally in the deepness of a parameter.²² The descriptive character referred to in Sugiyono's view is a character that elaboration related to the object to be studied. Data assist it in the form of samples that have been collected.²³ In this study, the data analysis tool used was the model (ex. Mathematics), whose results are presented with numbers and then interpreted in the deep descriptive form or description.²⁴

The data analysis tool used is SPSS 20 by conducting a data test with a normality test, the Kolmogorov Smirnov one-sample test. Then used, the independent sample t different test and the stock valuation comparison test using RMSE and MS. Excel to look for the intrinsic value of stock prices with valuations price-earnings ratio (PER) and price-book value (PBV).

According to Tandelilin, there are some steps to define the intrinsic value by using PER and PBV approach, namely:²⁵

For the approach price earning ratio, start by calculating growth rates or Expected Earnings Growth Rate(g):

$$g = ROE \times b ;$$

$$ROE = \text{Net Profit} / \text{Equity}$$

$$\text{Retention Ratio } (b) = 1 - \text{Dividend Payout Ratio}$$

$$\text{Dividend Payout Ratio} = \frac{\text{Dividen per share(DPS)}}{\text{Earning per shadare(EPS)}}$$

Remarks:

g = Growth Rate of Divident

ROE = Net profit on own capital

DPS = Divident distributed per share sheet

EPS = Earning obtained from per sheet of stocks

²² Nur Ahmadi Bi Rahmani, *Metodologi Penelitian Ekonomi* (Medan: FEBI UIN-SU Press, 2016), h. 7 .

²³ Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, Dan R&D* (Bandung: Alfabeta, 2017), h. 19.

²⁴ Azhari Akmal Tarigan, *Metodologi Penelitian Ekonomi Islam* (Medan: La-Tansa Press, 2011), h. 44.

²⁵ Eduardus Tandelilin, *Portofolio Dan Investasi: Teori Dan Aplikasi* (Yogyakarta: Konisius, 2010), h. 315.

Determine estimated cash earnings per share (EPS1)

$$EPS_1 = EPS_0 (1+g)$$

Remarks:

EPS1 = Estimation of EPS

EPS0 = The last EPS was shared

g = Divident growth rate

Determine estimated deviden per share (DPS1)

$$DPS_1 = DPS_0 (1+g)$$

Remarks:

DPS1 = Estimation of DPS

DPS0 = The last DPS was shared

g = Divident growth rate

Calculating return expected by investor (k)

$$k = DPS_1 / P_0 + g$$

Remarks:

k = The level of return hinted at

D0 = The last year DPS was shared

P0 = Existing market price

g = Divident growth rate

Calculating Estimation of PER (Price Earning Ratio)

$$PER = DPS_1 / EPS_1 / K - g$$

Remarks:

PER = Price Earning Ratio

DPR = Deviden Payout Ratio

k = The growth of return hinted at

g = Expected Earning Growth

Calculating the intrinsic value of stocks

Intrinsic Value = Estimated EPS x PER

For price book value (PBV) approach, the first step is calculated book value per share

$$Book Value Per Share = \frac{Total\ equity}{Total\ of\ stocks\ circulated}$$

Calculate price to book value ratio

$$Price\ Book\ Value\ Ratio = \frac{Price\ per\ share}{Book\ Value\ Per\ Share}$$

Calculating the value of intrinsic value of stock

Intrinsic Value = BVS x PBV similar industry

Result

Stock Price Data Analysis (*Closing Price*)

Closing Price is the price of a stock that occurs at the end of the trading hour. In transactions that occur in the case of buying and selling stocks, there are two sessions, sessions I and II, and the reference is the final price at the time of closing the exchange trading transaction. Here are the stock price movements and changes that occurred from the January 2020 to August 2021 period.²⁶

Table 1
Stock Price Movement

Stock's Code	Stock's Code	Aug 21 Code	Jan 20 Code
ISAT	2990	6325	142,52
TLKM	3800	3400	-8,22
DVLA	1190	2430	9,44
KAEF	1000	2410	235,05
KLBF	1430	1345	10,35
MERK	2450	3350	32,29
SIDO	598	795	17,23
PYFA	185	1135	228,82
TSPC	1295	1465	12,93
BRIS	310	2220	286,7
BTPS	4410	2800	-10,19

Source: Investing.co.id

Based on the table above, it is known that the change from the highest stock movement is owned by the issuer of the financial subsectors, BRIS, with a positive change in number 286.7 %. Furthermore, it found that negative changes occurred in TLKM with -8.22 and BTPS with -10.19 %. It means that the stock move fluctuated from Jan 20 to Aug 21. Most show positive trends, but issuers such as TLKM and BTPS experience decreased movements in other discontents. It means that prices at any time can change, and conditions can go up or down.

²⁶ Id.investing, "Harga Saham Indonesia,, <https://id.investing.com/equities/indonesia>. diakses tanggal 03 September 2021.

Analysis of Stock Fundamental Data

This analysis discusses internal data from financial reporting where an investor tries to observe and use financial statements to determine the fair value of a stock price. Fundamental data is needed to obtain intrinsic value data of the stock generated internally by the company.

Return On Equity (ROE) is a measuring instrument that discusses income generated by the company (originating from ordinary or preferred stockholders) for capital obtained from investors.²⁷ If the value of ROE obtained gets high, investors or potential investors highly value the company, which could cause the stock price to rise.

The Dividend Payout Ratio (DPR) is a measurement that discusses the profit presentation that will be distributed to investors in the form of a dividend.²⁸ With the higher value of the DPR, investors will significantly favor the stock. However, in other discontents, the company may experience weaknesses due to weak financial or internal supplies and vice versa.

Earnings Per Share (EPS) is a measuring instrument that discusses the amount of profit generated in each share sheet by the company.²⁹ The higher the EPS indicates that an investor's level of trust in a company's stocks will increase.

Dividend Per Share (DPS) is a measuring instrument that discusses the benefits that are gained by the company and can be shared with investors or the net profit received by investors on the net profit generated by the company.³⁰

The following are the results of the company's fundamental data analysis, viz:

Table 2
Fundamental Data Analysis

STOCK CODE	ROE	DPR	EPS	DPS
ISAT	11 %	2 %	300,04	6,93
TLKM	20 %	56 %	298,43	168
DVLA	12 %	26 %	144,71	37
KAEF	0, %	35%	3,68	1,27
KLBF	16%	47%	59,73	28
MERK	12%	76%	160,50	122
SIDO	7%	23%	17,46	4
PYFA	29%	61%	31,12	18,9
TSPC	13%	32%	185,41	60
BRIS	3%	20%	18,08	3,67
BTPS	15%	30%	110,94	33

Source: Secondary Data (processed) 2021

Based on the data described in the table above, it is found that PYFA owns the highest ROE value. KAEF owns the lowest, the highest DPR is owned by MERK, and ISAT owns the lowest. ISAT owns the highest EPS, and the lowest is owned by KAEF, the highest DPS MERK, and the lowest SIDO.

Stock Analysis By Using PER and PBV Method

This analysis is used to obtain information about a stock's intrinsic value or actual stock price. Getting intrinsic value requires an existing approach or method; among others are PER (Price Earnings Ratio) and Price Book Value (PBV).

The PER method is the most popular method or approach or called the multiplier earnings approach, meaning that this approach looks at the estimated intrinsic value obtained from the value of earnings. The lower PER value indicates, the cheaper the shares are

²⁷ Nur Ahmadi Bi Rahmani, "Pengaruh Roa (Return On Asset), Roe (Return On Equity), Npm (Net Profit Margin), Gpm (Gross Profit Margin) Dan EPS (Earning Per Share) Terhadap Harga Saham Dan Pertumbuhan Laba Pada Bank Yang Terdaftar Di Bursa Efek Indonesia Tahun 2014 -2018," *Human Falah* Vol.7, No. (2020): 104–16.

²⁸ Agus Sartono, *Manajemen Keuangan, Teori Dan Aplikasi* (Yogyakarta: BPFE Universitas Gajah Mada, 2001), h. 491.

²⁹ Andy Tambunan, *Menilai Harga Saham Wajar* (Jakarta: Alex Media Komputindo, 2017), h. 117.

³⁰ Brigham dan Houston, *Dasar-Dasar Manajemen Keuangan* (Jakarta: Salemba Empat, 2001), h. 203.

valued or vice versa. The following are the results of a stock analysis using PER:

Table 3
Price Earning Ratio (PER) Analysis

G	EPS ₁	DPS ₁	K	Es.PE R
12%	336,04	7,77	0,12	0,12
9 %	324,9	182,9	0,14	0,14
9 %	157,87	40,37	0,12	0,12
0 %	3,69	1,27	0,00202	0,0020
8 %	64,7	30,33	0,1	0,1
3 %	165,01	125,43	0,07	0,07
6 %	18,47	4,23	0,06	0,06
11 %	34,69	21,05	0,14	0,14
19 %	221,07	71,54	0,24	0,24
4 %	18,83	3,83	0,04404	0,0440
21 %	133,9	39,83	0,22	0,22

Source: Secondary Data (processed) 2021

The growth rate of the dividend (g) has a meaning that is as a representation or percentage level of a stock with a dividend that experiences annual growth within a certain period. Based on the description of the table above that, the highest g is owned by BTPS.

Estimation of Earning Per Share (EPS₁) means a piece of information that describes the expectation of current income or net income after tax of the stock sheet. Based on the description of the table above that, the highest EPS₁ is owned by ISAT.

Estimation of Dividend Per Share (DPS₁) means an expected expectation about the profits derived by the company that investors or shareholders can provide in the future in the form of a dividend. Based on the description of the table above that, the highest DPS₁ is owned by MERK.

Return expected (k) is an excitation value related to the rate of return on past investment and expected future benefits. Based on the description of the table above, that g is highest in BTPS.

The PBV method is a method or approach that focuses on circumstances with information in the form of a comparison of a company seen from market prices compared to

its book value. Companies with good characteristics usually have measurements of performance that have a ratio above one (> 1), meaning that market value is valued higher than the book value or vice versa. The following are the results of a stock analysis using PBV:

Table 4
Price Book Value (PBV) Analysis

STOCK CODE	BVPS	PBV RATIO
ISAT	2341,44	2,16
TLKM	1034,96	3,29
DVLA	1184,18	2,05
KAEF	1259,16	1,91
KLBF	371,31	3,62
MERK	1367,59	2,45
PYFA	233,09	4,87
SIDO	107,39	7,40
TSPC	1345,82	1,09
BRIS	548,31	4,05
BTPS	763,11	3,67

Source: Secondary Data (processed) 2021

Book Value Per Share is a ratio focused on the number of shares outstanding compared to stockholder equity. So BVPS provides information about how much money we receive from companies if the company experiences a dissolution. Based on the description, it is labeled that ISAT owns the highest BVPS.

Price book value ratio is the ratio of comparison about how many times the market value is valued to the book value (company) or vice versa. Based on the description in the table, SIDO owns the highest PBV Ratio.

Data Testing Analysis

Normality Test

The Normality test is used to inform a dependent and independent variable with implications on whether the variable data experiences a distribution state with normal records or is near normal. Using the Kolmogorov-Smirnov test, the provision is if the signification result > 0.05 means the residual value is distributed under normal circumstances. Moreover, if a significant value

< 0.05 , the residual value is not normally distributed. The following is a normality test table using a test Kilmogrov-Smirnov:

Table 5
Kolmogrov-Smirnov Test Result

		Unstandar dized Residual
N		11
Normal Parameters ^{a,b}	Mean	0E-7
	Std. Deviation	1294,095 68458
	Absolute	,199
Most Differences	Extreme Positive	,199
	Negative	-,108
	Kolmogorov-Smirnov Z	,658
Asymp. Sig. (2-tailed)		,779
a. Test distribution is Normal.		
b. Calculated from data.		

Source: SPSS'20 Secondary Data (processed) 2021

With Test One-Sample Kolmogorov-Smirnov, it is found that research data, namely for X1 (Intrinsic Value PER), X2 (Intrinsic Value PBV), and Y (Stock Market Price) are obtained that the data have a signification value of 0.779. It means that these data are data with normal distributed conditions as evidenced by the significance value greater than 0.05, i.e., $0.779 > 0.05$.

Independent Test t

The test of difference sample t is a test with an average measurement method of two unrelated samples (independent). With what conditions, if the value obtained is Sig. (2-tailed) > 0.05 means that H0 was accepted and H1 rejected and Sig value (2-tailed) < 0.05 then that Ho was rejected and H1 received. The following is a test table for different sample t-tests:

Table 6
Different Independent Sample Test
Results Independent Samples Test

		Unstandardized Residual
N		11
Normal Parameters ^{a,b}	Mean	0,0000000
	Std.Deviation	1294,09568457867
	Most Extreme Differences	Absolute Positive Negative
Kolmogrov- Smirnov Z		,658
Asymp.Sig. (2- tailed)		,779
a. Test distribution is Normal.		
b. Calculated		

Source: SPSS'20 Secondary Data (processed) 2021

Based on the above test calculation, the results are obtained that the value of sig. (2-tailed) is 0.032 then the number obtained is smaller than 0.05 ($0.032 < 0.05$). The intrinsic value between the PER and PBV methods experiences differences. Furthermore, the conclusion that can be explained is based on the known results, then the hypothesis is the conclusion, H 0 rejected and H 1 received.

Test Root Mean Square Error (RMSE)

Root Mean Square Error is a comparative analysis of stock valuations used to compare price data on the market with intrinsic prices on a stock that is processed to obtain information about the level of error that occurs in the calculation analysis of stock price. The following results of the RMSE analysis are:

Table 7
Root Mean Square Error Value

Approachs	Value of RMSE
PER	1786,085
PBV	1935,406

Source: Secondary Data (processed) 2021

Based on the calculation of the value of RMSE using price earning ratio and price-book value, it is found that the final value obtained by the largest RMSE is owned by the PBV approach of 1935,406 and for the smallest owned by PER which is 1786,085. Based on these results, the lowest calculation error rate is owned by the PER approach.

Discussion

Stock Valuation Price Earning Ratio and Price Book Value.

Based on calculations, the results of research obtained from the description above show differences in the results of the valuation of stocks among the two approaches. It is based on a calculation marked with the value sig. 2 (tailed) has a value smaller than 0.05, which is $0.032 < 0.05$. Therefore it is concluded that H₀ was rejected and H₁ accepted. It means that using PER and PBV, even though they are in the same approach with a relative approach, can produce different average stock price valuations on ISSI telecommunications, pharmaceutical, and exhaust subsectors at the time of the pandemic covid-19.

Where seen, the intrinsic value obtained by TLKM and PYFA is valued cheaply at PER and expensive at PBV. While DVLA, TSPC, and MERK are valued expensive at PER, they are cheap on PBV. For PER, the greater the value, the allows an entrepreneur to grow, and the implication will increase the company's value. Furthermore, the greater the PBV ratio, the more the market trusts the company's prospects.

Estimation of Intrinsic Value of Stocks Against Prices Stock

In the case of carrying out an estimate of stock, an investor or stockholder must be able to distinguish between values and price. Where value means true or fair or intrinsic value and price means the value in the market. Intrinsic value is obtained from the elements contained in the fundamentals. The following describes

the results of intrinsic values using PER and PBV.

Table 8
Intrinsic Estimates of Share Prices with Price Earning Ratio

Stock Code	Market Value	Intrinsic Value	Ratio PER	Estimation
ISAT	6.325	2.687	8,00	Expensive
TLKM	3.400	3.658	11,26	Cheap
DVLA	2.430	1.346	8,52	Expensive
KAEF	2.410	4.678	12,71	Cheap
KLBF	1.345	1.517	23,43	Cheap
MERK	3.350	3.136	19,00	Expensive
PYFA	1.135	2.115	11,45	Cheap
SIDO	795	702	20,23	Cheap
TSPC	1.465	1.061	4,8	Expensive
BRIS	2.220	1.281	67,80	Expensive
BTPS	2.800	2.254	16,83	Expensive

Source: Secondary Data (processed) 2021

Based on calculations, the value of the comparison between value and price is known. Where through the price earning share approach, it is known that there are five issuers/companies in a position undervalued, including TLKM, KAEF, KLBF, PYFA, and SIDO. It is based that all five have higher intrinsic value conditions compared to prices circulating in the market. At the same time, six other issuers/ companies are undervalued, including ISAT, DVLA, MERK, TSPC, BRIS, and BTPS. It is also based on the issuer's intrinsic value with lower conditions compared to prices circulating in the market.

Table 9
Intrinsic Estimates of Share Prices with Price Book Value

Stock Code	Market Value	Intrinsic Value	Ratio	Stock Code
ISAT	6.325	4.916	2,16	Expensive
TLKM	3.400	2.288	3,2	Expensive
DVLA	2.430	4.476	1,19	Cheap
KAEF	2.410	4.759	2,78	Cheap
KLBF	1.345	1.402	3,99	Cheap
MERK	3.350	5.171	2,4	Cheap
PYFA	1.135	3.687	4,18	Expensive
SIDO	795	2.979	7,25	Cheap
TSPC	1.465	5.088	1,04	Expensive
BRIS	2.220	1.693	2,63	Expensive

BTPS	2.800	2.358	4,91	Expensive
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Source: SPSS'20 Secondary Data (processed) 2021

Table calculations show the comparison of value and price. Where through the price book value approach, it is known that five issuers are undervalued, including DVLA, KAEF, KLBF, MERK, and SIDO. It is based on an intrinsic value in a higher condition than the market value, or the price in circulation is marketed at once. In comparison, six other issuers in position overvalued include ISAT, TLKM, PYFA, TSPC, BRIS, and BTPS. It is based on the intrinsic value, which is lower than the market value, or the price in circulation is marketed at a time.

Recommend Investment Decision Making

Based on the exposure that has been obtained by method price earning ratio, the following is a presentation table that exposes investment decision-making using PER:

Tabel 10

Decision Making with *Price Earning Ratio*

Stock Code	Condition	Decision
ISAT	Expensive	Sell
TLKM	Cheap	Buy
DVLA	Expensive	Sell
KAEF	Cheap	Buy
KLBF	Cheap	Buy
MERK	Expensive	Sell
PYFA	Cheap	Buy
SIDO	Cheap	Buy
TSPC	Expensive	Sell
BRIS	Expensive	Sell
BTPS	Expensive	Sell

Source: SPSS'20 Secondary Data (processed) 2021

The results of the valuation of the Telecommunications company show that ISAT stock price is valued at Expensive. For potential investors, it is recommended not to Buy the stocks of ISAT that are listed currently on the market. Buy is recommended when the price is below or close to intrinsic value. For investors, if they own ISAT stocks, selling ISAT stock is advised before the price decreases in the future. TLKM stock price is valued at Cheap. For potential investors, it is recommended to Buy

TLKM stock at the prices listed today in the market before the prices decline. For investors who already have TLKM, it is recommended to increase the amount of ownership before the price exceeds the intrinsic value available. Viewed from the fundamentals that TLKM is better than ISAT during the pandemic, TLKM can survive and continue to grow, and it can be seen from increased income and business profits and still sharing dividends. At the same time, ISAT experienced increased income but suffered losses in the 2020 yearbook.

The stock valuation results of Pharmaceutical companies show that seven of the company sampled are valued Cheap, namely KAEF, KLBF, PYFA, and SIDO. It is seen from the fundamentals that the four companies experienced increased income and business profits from the previous year despite being mediated by a pandemic, and companies can still share their dividends with investors. However, KAEF's debt was reduced among the four companies, and others increased. For potential investors, buying stocks of the four pharmaceutical companies is recommended. For investors, it is recommended to increase the ownership amount before the price increases. When viewed from company fundamentals Furthermore, three companies are valued as Expensive, namely, DVLA, MERK, and TSPC; when seen from company fundamentals, DVLA and MERK have decreased business profits, but in DVLA, there is an increase in revenue. Whereas in TSPC, income and business profit have increased.

Moreover, all three have a growing proportion of debt. For potential investors, it is recommended not to Buy the stocks subject to prices higher than the intrinsic value available. For investors who hold stocks, it is recommended to Sell stocks because the price is already high than the intrinsic value if the current selling price is higher than the purchase price previously obtained.

The results of the valuation of stocks with financial companies (banking) indicate that Expensive still values the share prices of BRIS and BTPS. It is seen from company fundamentals that in BRIS, income, business profit, and earnings per share are increased, and the amount of debt has decreased. At BTPS, income, business profit, and shareholding profit decreased, and the amount of debt increased. For potential investors, it is recommended to withhold purchases of these stocks. However, if they want to Buy, it is recommended to Buy BRIS stocks because fundamentals are better than BTPS. After all, BUMN's shariah banking is merged but at prices not too far from intrinsic value. For investors, it is recommended to Sell stocks that BRIS and BTPS have owned because the price is already Expensive.

Using the method of price book value, the following is a presentation table that exposes investment decision signage using PBV:

Table 11

Decision Making by Price Book Value		
Stocks Code	Condition	Decision
ISAT	Expensive	Sell
TLKM	Cheap	Buy
DVLA	Expensive	Sell
KAEF	Cheap	Buy
KLBF	Cheap	Buy
MERK	Expensive	Sell
PYFA	Cheap	Buy
Stocks Code	Condition	Decision
SIDO	Cheap	Buy
TSPC	Expensive	Sell
BRIS	Expensive	Sell
BTPS	Expensive	Sell

Source: SPSS'20 Secondary Data (processed) 2021

The results of the stock valuation at the Telecommunications company show that the stock prices of ISAT and TLKM have expensive value in the market. The fundamentals show that TLKM is better than ISAT because TLKM has growth equity and assets while ISAT has declined equity and assets from the previous year. For potential

investors, it is recommended not to Buy, but if needed to Buy, then it is recommended to Buy TLKM at a price not far from intrinsic value. For investors who own both stocks, selling at a higher price than the purchase price is recommended, especially if the price value is below the intrinsic value.

The stock valuation results at the Pharmaceutical company show that five companies are valued by Cheap: DVLA, KAEF, KLBF, MERK, and SIDO. It is seen from company fundamentals that equity and assets are growing, and only KAEF's equity and assets are decreased. For potential investors, it is advised to buy stocks because the price is still below the intrinsic value. For investors, it is recommended to increase ownership because existing stock prices in the market are still cheap. Moreover, two companies are valued as Expensive, namely, PYFA and TSPC; as seen from fundamentals, their assets and equity increase. For the potential investors, it is recommended not to Buy higher than the current intrinsic value. For investors, it is recommended that they Sell stocks of PYFA and TSPC because the price is already higher or more expensive than the intrinsic value.

The valuation of stocks in financial companies shows that BRIS and BTPS are valued as expensive in the market. When viewed from company fundamentals, BTPS has experienced growth in equity and assets, and BRIS also grows in equity but has decreased in assets. For potential investors, it is recommended to wait and not buy when it is higher than the intrinsic value. It is recommended for investors to Sell stocks because current prices are higher than the intrinsic value.

Conclusion

Stock price valuations in Telecommunications, Pharmaceutical, and Financial subsector companies with PER and PBV approaches have significant yield

differences. It means H_0 was rejected and H_1 received. It means that using the PER and PBV methods, the intrinsic results with the Telecommunications, Pharmaceutical, and Financial subsectors experience circumstances where the average stock price valuation experiences a significant difference.

Using the PER approach, It is founded that five companies in undervalued conditions, namely TLKM, KAEF, KLBF, PYFA, and SIDO, and five companies with overvalued conditions, namely ISAT, DVLA, MERK, TSPC, BRIS, and BTPS. While using the PBV approach, it is found that five companies with circumstances undervalued, namely DVLA, KLBF, MERK, SIDO, and KAEF, and six companies with circumstances overvalued, namely ISAT, TLKM, PFYA, TSPC, BRIS, and BTPS.

From the point of view of investment decision-making, based on the valuation PER, it is found that TLKM, KAEF, KLBF, PYFA, and SIDO stocks are recommended to Buy because the price is below the intrinsic value. Meanwhile, ISAT, DVLA, MERK, TSPC, BRIS, and BTPS are advised not to Buy because the price is above the intrinsic value. Furthermore, for those who already have it when the price is still below the intrinsic value, it is recommended to sell the stock. Based on the PBV valuation, it is obtained that DVLA, KLBF, MERK, SIDO, and KAEF are recommended to Buy or increase the amount of ownership because the price is still below the intrinsic value, and for ISAT, TLKM, PYFA, TSPC, BRIS, and BTPS are advised not to buy because the price is above the intrinsic value. For those who already have those stocks at a lower price, it is recommended to sell them.

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