Shares Valuation of Indonesian Telecommunication Companies using the Discounted Cash Flow Approaching the Relative Valuation Method

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Abstract

The company's stock price growth in the telecommunication sector is fluctuating, it is necessary to calculate the intrinsic value of the share price which can provide information to investors. The purpose of this study is to analyze the stock price valuation of telecommunication companies listed on the Indonesia Stock Exchange by reducing discounted cash flow. From this research, it can be seen whether the stock price of the telecommunication company is at a reasonable, cheap, or expensive level. This study uses descriptive quantitative methods with stock price data of telecommunication companies that are members of the Indonesia Stock Exchange. The results of this study show that the stock prices of telecommunication companies in Indonesia are in a reasonable position. And this is very useful information for both investors and issuers in terms of determining the actions to be taken to get good results in their business activities.

Keywords
Stock, Valuation, Price. Telecommunication, Companies.

1. Introduction
Telecommunications is an important sub-sector that supports economic growth in Indonesia. Economic growth in Indonesia provides a great opportunity for telecommunications companies to expand their business. Along with the development of technology, various kinds of telecommunication products and services began to emerge and compete with each other to improve performance to be more optimal. Companies in Indonesia have developed very rapidly along with the development of information technology. By using today's communication tools, it is certainly able to save costs. The telecommunications business is a business that continues to grow in Indonesia in the last few years. The telecommunications business in Indonesia is growing with very volatile stock prices.

The capital market is a place for investors to make buying and selling transactions of financial instruments. One of them is shares which are securities that show part of ownership of a company. According to Fibrianto and Hendrawan (2020:106) stocks are financial instruments that are classified as high-risk high-return. The stock price fluctuates over time and its movement in the short term is difficult to predict with certainty. This uncertainty causes a high risk for investors. So the decision to hold, sell or buy shares in the market is determined based on their fair price which is the result of the valuation calculation.

With the fluctuating growth of the company's stock price in the telecommunications sector, it is necessary to calculate the intrinsic value of the share price that can provide information to investors. Intrinsic value is the actual or supposed value of the stock. To obtain the intrinsic value, a stock valuation analysis must be carried out. In conducting stock valuation analysis according to Tandelilin (2010), investors can perform fundamental analysis. Fundamental analysis uses the company's fundamental data derived from the company's financial statements. Stock valuation recognizes three types of value, namely market value, book value, and stock intrinsic value. Market value is the price of shares that occur on the exchange determined by market participants. Meanwhile, book value is the value of a business according to its books or financial statements. Stock valuation will result in the intrinsic value of

the stock which will then be compared with the stock price on the stock exchange to determine the buying or selling position of a stock (Tandelilin, 2010).

According to Damodaran (2006), there are generally four approaches to valuing an asset, namely: Discounted Cash Flow Valuation, Relative Valuation, and Contingent Claim Valuation. Every investor has a difference in terms of stock valuation and causes stock prices to fluctuate (Gumanti, 2011). The difference in stock valuation is in the form of several conditions, namely optimistic, moderate, and pessimistic. Optimistic conditions are conditions where investors can sell shares at the highest price. Optimistic condition is also a condition that is considered as the highest growth condition of the company and is seen from the difference between industry growth and company management targets. Moderate conditions are conditions where the desire of investors who will buy shares is in accordance with the wishes of investors who will sell them. Moderate conditions are also the conditions where the most likely to occur in terms of the company's fundamental conditions. While the pessimistic condition is a condition where investors can buy shares at the lowest possible price. The pessimistic condition is also a condition where the company's condition is the worst or below the industry's growth. Firm value is an investor's perception of the level of success of a company in managing existing resources which is often associated with the company's stock price.

Based on the phenomena that have been written, namely the movement and growth of telecommunications company stock prices in Indonesia from year to year which fluctuates and from the results of previous studies which show that stock prices do not reflect the true value (intrinsic value), the authors conducted research on fair prices (intrinsic value).) of the shares of telecommunications companies listed on the Indonesia Stock Exchange using the Discounted Cash Flow (DCF) method with the Free Cash Flow to Firm (FCFF) approach and the Relative Valuation method with the Price to Earning Ratio (PER) and Price Book Value (PBV) approaches.).
Telecommunications is an important sub-sector that supports economic growth in Indonesia. Economic growth in Indonesia provides a great opportunity for telecommunications companies to expand their business. Along with the development of technology, various kinds of telecommunication products and services began to emerge and compete with each other to improve performance to be more optimal. Companies in Indonesia have developed very rapidly along with the development of information technology. By using today's communication tools, it is certainly able to save costs. The telecommunications business is a business that continues to grow in Indonesia in the last few years. The telecommunications business in Indonesia is growing with very volatile stock prices.

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2. Literature Review

According to Damodaran (2012: 1), every asset, both financial and real, must have value. The key to being successful in investing and being able to manage assets depends on understanding value and what is its source. Each asset can be valued and the details of the valuation will vary depending on the case. Therefore, according to Damodaran (2006: 18) knowing the value of an asset and what gives value to an asset can help investors when making decisions to invest in a portfolio, in deciding the appropriate price to be paid or accepted in a takeover, as well as in making decisions. make investment choices.

Then Thomas and Gup (2010: 259) suggest that the purpose of valuation from the managerial side is to get the right prediction, incentive, and control over a value. For a manager, valuation is all about change. It is important to know which business units add value to the company, which do not affect, or which reduce the value of the company. In addition, by doing a valuation can find out how the relationship between these values along with changes in time that occur.

According to Damodaran (2012:925), general valuation can be done by approaching through four methods. The four methods are Asset Based Valuation, Contingent Claim Valuation, Discounted Cash Flow Valuation, and Relative Valuation.

Discounted Cash Flow Valuation is looking for the value of an asset based on the cash flow it will generate in the future by discounting the cash flow at a rate that reflects the level of cash flow risk itself (Damodaran, 2006:35). Discounted Cash Flow model is a model that discounts the company's free cash flow (free cash flow to the firm), free cash flow (free cash flow to equity), or dividend flow (dividend flow) to the future with the associated cost of capital. This method looks at the company's internal conditions in the form of historical company financial data for a certain period of time.

An asset with a high cash flow can be predicted to have a higher value than an asset with a low and unstable cash flow. This method estimates the asset value as present value based on the expected cash flow. The basic formula for calculating cash flow using this method is (Damodaran, 2006: 36):

$$Value\ of\ Asset = \frac{E\ (CF_1)}{(1+r)^1} + \frac{E\ (CF_2)}{(1+r)^2} + \frac{E(CF_3)}{(1+r)^3} + \cdots + \frac{E\ (CF_n)}{(1+r)^n}$$

According to Damodaran (2006:47), Relative Valuation is a method to find the value of an asset by comparing it with other similar assets and then standardizing it against a general variable. Damodaran argued that in the relative valuation method, assets are valued based on how similar assets are valued in the market. The stage is to look for assets that are comparable to prices in the market, then standardize market prices to a general variable, and the last step is to adjust the differences in all assets when comparing their standard values (Damodaran, 2006: 446).
In relative valuation, the value of an asset is obtained from the price of a comparable asset, which is based on several variables such as income, cash flow, or book value (Damodaran, 2012: 19). Some examples are Price Earning Ratio (PER), Price Book Value (PBV), and EBITDA Multiple.

According to Damodaran (2006:450-451), the advantages of the Relative Valuation model are its weaknesses. First, the ease with which relative valuations can be combined with groups of similar companies, and can result in

inconsistent value estimates where variables such as risk, growth, or potential cash flows are ignored. Second, the fact that multiples reflect market conditions also illustrates that using the relative valuation method to value an asset can result in too high a value when the market overestimates similar companies, or vice versa, namely too low when the market underestimates similar companies. Third, the lack of transparency regarding the assumptions used in the relative valuation method makes it vulnerable to manipulation.

One approach in conducting a valuation to calculate the intrinsic value of a stock or its fundamental value is to use the company's profit value as a parameter to be standardized. According to Damodaran (2012: 468-469) Price Earning Ratio is the ratio of the stock price in the market per share to the company's profit per share. Estimation of the intrinsic value of the stock is done by using one variable from the company, namely Earning Per Share (EPS) as the denominator. This also affects companies with high growth where PER can differ depending on the size of the earnings per share used. The reason is that there are 2 factors, namely the volatility of earnings per share in the company and the company's management options. The formula for determining the intrinsic value of a stock through the Price Earning Ratio is as follows (Damodaran, 2012:471):

$$PER = \frac{Share\ Price}{Earning\ per\ Share}$$

The relationship between price and book value is of concern to investors. When shares are sold below their book value, their equity is generally considered undervalued and vice versa. The market value of equity in a company reflects market expectations of the earning power and cash flow of the company. Price Book Value (PBV) is calculated by dividing the market price per share by the current book value of equity per share (Damodaran, 2012:512):

$$PBV = \frac{Share\ Price}{Book\ Value\ of\ Equity}$$

Some of the reasons investors use PBV in their analysis is that book value provides a relatively stable measure of value compared to the market price, so it is used as a simpler benchmark. In addition, knowing that accounting standards are fairly consistent across companies, PBV can be compared across all the same companies to find out whether they are overvalued or vice versa (Damodaran, 2012:511).

In addition to the two approaches above, there is also an approach with multiple EBITDA, which is the ratio used to determine the value of a company. EBITDA multiple is the value of the company against its EBITDA which for the value of the company itself is the total market value of the company minus cash, then divided by income before interest, taxes, depreciation and amortization of the company. The formula is as follows (Damodaran, 2012: 501):

$$EBITDA\ Multiple = \frac{EV\ (Market\ Value\ of\ Equity - Market\ Value\ of\ Debt - Cash)}{EBITDA}$$

In this study, the method used in evaluating the stock value of construction companies in Indonesia is Discounted Cash Flow with Free Cash Flow to the Firm (FCFF) approach, and Relative Valuation with Price to Earning Ratio (PER) and Price Book Value (PBV) approaches.

The method used in this research is the Discounted Cash Flow method with the Free Cash Flow to the Firm (FCFF) approach, and the Relative Valuation with the Price to Earning Ratio (PER) and Price Book Value (PBV) approaches. Damodaran (2012: 11) suggests that DCF is a method that relates the value of assets to the present value of the expected future cash flows. Meanwhile, Relative Valuation is a method that assesses an asset by looking at the price of a comparable asset in the market against several general variables such as income, cash flow, book value, or sales. According to Damodaran (2012: 380), Free Cash Flow to Firm is cash flow available to all fund providers. Then Damodaran (2012: 468) suggests that the Price Earning Ratio is the ratio of stock prices in the market per share to company profits per share, and Damodaran (2012: 511) states that Price Book Value is the relationship between price and book value which is always considered by investors. Palepu and Healy (2013: 7-15) suggest that valuation is a process that changes an estimate of a performance into a price estimate. Various valuation methods can be used and no single method clearly dominates the other methods. Each method has different advantages and disadvantages, so several methods can be used simultaneously. Based on the understanding of the method used, the DCF-FCFF method provides an assessment from the company's internal side, namely the company's financial historical data. The DCF-FCFF method was chosen because the calculation only involves the company's core business, while the DCF-DDM and DCFFCFE methods still involve other income in their calculations which will cause significant results depending on the assumptions of the valuators.

The DCF-FCFF method is used by forecasting the projected EBIT value in three scenarios, namely pessimistic, moderate, and optimistic. The Relative Valuation method with PER and PBV approaches is used in this study with the aim of correcting the DCF-FCFF calculations. The Relative Valuation method is an assessment of the external side of the company by comparing it to similar companies. The PER approach is used with the aim of knowing the value of the stock to its earnings per share and the PBV approach is used to determine the value of the stock to its capital per share. The results of the DCF-FCFF calculation which are forecast results based on the company's internal conditions are then corrected against the company's external conditions or against market conditions and industry conditions so as to determine whether there is alignment or not. Inconsistency in the assessment results may occur because the basic assumptions used in each approach are different. Market prices are sometimes not directly proportional to the performance and condition of the company's fundamentals due to sentiment in the company's external environment such as political news that affects the movement of stock prices, or how often there are buying and selling offers in the capital market.

3. Research Methodology

Sekaran and Bougie (2016: 2) say an organized and systematic effort aimed at studying a specific problem and requiring a solution in an environment is called business research. This research operates by processing secondary data which is the financial report of the company that is the object of research, then stock prices on the capital market are used as comparisons. Both types of data are processed according to valuation theory to get the fair value of the shares. From the perspective of the frame of mind, research is classified into four types, namely: (1) Positivism emphasizes a scientific research that is viewed as a way to accept the truth. This view sees that everything happens as a result of causal rules that can be understood when using a scientific approach to research; (2) Constructionism which assumes to understand the rules that people use to understand the world by examining what happens to people's minds; (3) Critical realism is a combination of positivism and constructionism, the observations will lead to interpretation; and (4) Pragmatism feels that research on objective, observable phenomena and subjective meanings can form useful knowledge, depending on the research questions of the research. the emphasis of paragmatism is on practical and applied research where perspectives that are not aligned with the research and the subject being studied help in solving problems (Sekaran and Bougie, 2016:28-29).

his research itself adheres to the flow of positivism, where this school assumes that every research is determined by rules or theories, then the theory is carefully tested through supporting data. A scientific method uses deductive reasoning to test a theory about a topic starting with a theory, then reading some related academic research and then planning a research strategy to test that theory. While the inductive reasoning method works in the opposite way, works by collecting data by looking for phenomena and then connecting them with theory. The abductive approach works by collecting data to explore a phenomenon, identifying themes and revealing patterns, to generate new theories or modify existing theories to be then tested through additional data collection (Saunders et al., 2016: 145). This research is deductive because it examines a valuation theory in the Indonesian Stock Exchange situation in the telecommunications company sub-sector. Saunders et al. (2016: 165-170) classifies research into several types, namely quantitative, qualitative and mixed method research, which means a mixture of qualitative and quantitative. Quantitative research is generally associated with positivism research, especially if it is used with predetermined and structured data collection techniques. This study examines the correlation between variables measured numerically and analyzed using statistical and graphic techniques. Qualitative research is interpretive because researchers need to know the subjective meaning of the phenomena being studied. This study examines the meaning and correlation between variables, using various data collection techniques and analytical mechanisms to develop a framework of thought and theoretical contributions. Mixed research is an approach to inquiry that involves the collection of quantitative and qualitative data and analytical procedures. Using this method, the 2 methods are combined in various ways either in a simple way or in a more complex and sequential form. This research is classified as quantitative research because it presents data in the form of numbers and effects between variables.

The definition of a variable is anything that has a value, and its value can vary and vary. These values can be out of sync at various times for an object or at the same time for objects that are out of sync (Sekaran and Bougie, 2016: 72). Operationalization is done by looking at the parameters according to the concept, then categorized into elements that can be measured in order to be able to develop a concept measurement index. (Sekaran and Bougie, 2016:195).

The research variable used in this study is the intrinsic value of the stock based on the company's fundamental value (company value). then the variables will be calculated using the Discounted Cash Flow (DCF) method with the Free

Cash Flow to the Firm (FCFF) approach and the Relative Valuation with the Price to Earning Ratio (PER) approach, and the Price To Book Value Ratio (PBV) approach.

4. Result and Discussion
4.1 Research Result

Table 1. PER and PBV Telco Company in Indonesia

Company	Year	PER (x)	PBV (x)
TLKM	2021	15.8	3.74
EXCL	2021	147.2	1.83
LINK	2021	11.4	2.41
TBIG	2021	6.93	1.56
TOWR	2021	18.05	5.19
Average Industry	2021	39.87	3.02

Viewed from table 1. PER and PBV of telecommunications companies in Indonesia have varying values in 2021. At this point, PER and PBV can draw conclusions about the stock price of these companies in three possibilities, namely high prices, low prices or low prices. reasonable. These three conclusions become very important information for investors in determining their steps towards company shares. From the data above, it can be seen that some telecommunication companies have expensive prices and some are also cheap not compared to the industry average of PER and PBV.

4.2 Classic Assumption Test
The normality test is used to measure the data that has been obtained and then tested to see whether the data is normally distributed or not so that the statistical selection can be done correctly.
Decision-making guidelines are:
1. If the profitability value > 0.05 then the data is normally distributed.
2. If the profitability value <0.05 then the data is not normally distributed.
The following is a table of normality test results using the One-Sample Kolmogorov-Smirnov method and Shapiro-Wilk with the help of SPSS Software vers.26.00.

Table 2. Normality Test

Tests of Normality							
	Method	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil	PER	.251	30	.000	.322	30	.000
	PBV	.340	30	.000	.213	30	.000

Based on the table 2 of normality test results above, it shows that the value of the profitability obtained is 0.00 and the PER value is 0.00. Based on the decision-making reference, the value obtained by PBV and PER is below the reference level, which is below 0.5 or 5%. From these data PER and PBV are not normally distributed, so the next step used to perform the difference test is to use the Mann-Whitney U test method.

In this study the data used are not normally distributed so that the method used to perform a different test with data that is not normally distributed is to use the Mann-Whitney U test. The references used in decision making are:
1. If profitability > 0.05 then there is no significant difference.
2. If profitability <0.05 then there is a significant difference.

From these tests, the results of the Mann-Whitney U test are obtained as follows (table 3):

Tabel 3. Mann-White U Test

Ranks				
	Method	N	Mean Rank	Sum of Ranks
Hasil	PER	30	39.87	199.35

PBV	30	3.02	15.1
Total	60		

Based on the statistical test table 3 above, it can be seen that the mean PER ranking value is smaller, namely 39.87 compared to PBV of 3.02. So based on the test results, it can be said that H1 is accepted which means that the PER value is lower than PBV and H2 is accepted which means that the PBV value is higher than the PER value in measuring the company's financial performance.

Table 4. Mann-White U Test

Test Statistics[a]	
	Hasil
Mann-Whitney U	1600.000
Wilcoxon W	14480.000
Z	-4.887
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Method	

Based on the table 4, it shows that the resulting value of Asymp.Sig.(2-tailed) is 0.00 which means that the different test results obtained are below the reference level of 0.05 or 5%. Thus, if the result is < from the reference level, it means that there is a significant difference. So H3 is accepted because there is a significant difference between the PER and PBV ratios in measuring financial performance.

5. Conclusion

Based on the results of research and testing that has been carried out to compare PER with PBV at telecommunications companies in Indonesia, the following conclusions can be drawn:

1. Measuring financial performance using PER shows a value that fluctuates every year. However, based on the different test, the PER value obtained is lower than the PBV
2. Measuring financial performance using PBV shows an increasing value every year. Based on the different test results, the PBV value is higher than PER.
3. Based on the two measurement methods, namely PER and PBV based on the test results there are significant differences. Of the two methods, PBV is said to be better than PER in measuring financial performance because the PBV method takes into account the risks and costs of capital used by the company.

References

Tandelilin, E., Dasar-dasar Manajemen Investasi. *Manajemen Investasi*, *34*, 2010
Soelistyo, A., & Hendrawan, R. , Can We Validate the Value? Valuing Automotive and Component Sub-Sector Companies Listed on the Indonesia STOCK Exchange during the Covid-19 Pandemic Crisis. *International Journal of Multidisciplinary: Applied Business and Education Research*, *3*(2), 231-244, 2022.
Damodaran, A. , The cost of distress: survival, truncation risk and valuation. *Truncation Risk and Valuation , 2006.*.
Gumanti, T. A., & Prasetiawati, W. , Board of commisioner duality role, governance and earnings management of initial public offerings in Indonesia. *Jurnal Akuntansi dan Keuangan*, *13*(2), 80-86, 2011.

Thomas, R., & Gup, B. E. , *The valuation handbook: valuation techniques from today's top practitioners* (Vol. 480). John Wiley & Sons., 2010.
Damodaran, A. , *Investment valuation: Tools and techniques for determining the value of any asset* (Vol. 666). John Wiley & Sons, 2012.
Palepu, K. G., Healy, P. M., & Peek, E. , *Business analysis and valuation: IFRS edition*. Cengage learning, 2013.
Sekaran, U., & Bougie, R. , *Research methods for business: A skill building approach*. john wiley & sons, 2016.
Saunders, M. N., & Bezzina, F, Reflections on conceptions of research methodology among management academics. *European management journal*, *33*(5), 297-304, 2015.

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