ESTIMATING VALUE OF THE FIRM FOR TELECOMMUNICATION COMPANY CASE STUDY TELECOMMUNICATION COMPANIES: PT TELEKOMUNIKASI INDONESIA, TBK, PT XL AXIATA TBK, PT INDOSAT TBK AND PT BAKRIE TELECOM TBK

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Abstract

Telecommunication has become the primary choice for communicating indirectly and has been use by every level of society. In Indonesia, phones have become the major factor of everyday life and the backbone of economic growth. In Indonesia, phone operators are growing fast every year and now, there are four major telecommunication company in Indonesia which are PT Telekomunikasi Indonesia, PT XL Axiata, PT Indosat, and PT Bakrie Telecom. However, the trends and estimation towards the industry in the next five years suggest that the revenue will decrease because of the decreasing trends of the Average Revenue Per User (Arpu) rate. To keep the business going and gain a growth on the revenue, an operator needs to develop new strategy. An operator needs to clarify their strength and persuade customer to use more of their services to increase the usage and the ARPU. To this date, operators competing to create a newValue Added Service and bringing new technology to Indonesia such as NFC (Near Field Communication), Cloud System, and LTE (Long Term Evolution) 4G network. To apply those new technologies and keeping growth on the company, operator needs a lot of money to be invested. Bank and private investors will be happy to invest their money only if they know that the investment will be paid back. To make a guarantee for the investors, a company will calculate their value in the future. It will appeal investors to invest in the company, and whoever have a higher value, they usually will lead the competition. That's why, the calculation of the value for each company is necessary in order to see the position of the company in the market as well as the performance itself. This research will calculate the value of four different company in Indonesia telecommunication industry, the rank of company's value, and each company's condition whether it's share price is undervalued or overvalued. After calculating the value of other company, with a condition that PT Bakrie Telecom cannot be measured in this research because of its negative earnings, it turns out that XL Axiata and Indonesia have a current share price inside of the price range, while Telkom Indoneisa has a current share price below the price range. Telkom Indonesia is undervalue from both market approach and income approach perspective.

Keywords: Telkom Indonesia, Bakrie Telecom, XL Axiata, Indosat, value, valuation, estimation, assumption, discounted cash flow, p/e ratio, scenario.
Category: Finance; Business Strategy.

Introduction

In Indonesia, telecommunications has been growing massively and reach all levels of society. Development of mobile technology makes the proliferation of cellular operators in Indonesia. Each operator has their own advantages and supremacy. Boom in mobile phone usage in Indonesia to make the operators struggled to get the consumer as much as possible. This led to war between mobile phone operators. This competition includes tariff, network quality, speed of data access, even to the popularity of each brand ambassador.

The problem is that there is a trend in the telecommunication industry in Indonesia that the number of phone subscribers is already over the number of population in Indonesia itself. That means, almost everyone have a mobile phone and even one person could have more than one phone. This will affect the industry as by now the market is in a mature condition and the strategy to attract people to use mobile phone is no longer working.

This research aims to know the value of a telecommunication company in Indonesia based on the existing financial data. To make a limitation, this research will only calculate the value of four biggest telecommunication company in Indonesia, which are Telkom Indonesia, XL Axiata, Indosat, and Bakrie Telecom. The estimated value then will be compared to each other to see each of the company's position towards each other. In the end, the estimated value will also be divided by the number of shares of each company, creating an amount of share price to determine whether the company is overvalued or undervalued from its own current share price in the market. Finally, this research will provide advice and recommendation to the company to increase the value of a company with investment options and new strategies, based on assumptions related.

Theoritical Foundations

Based on Damodaran, valuation is the process that links risk and return to determine the worth of an asset. This calculation will need a financial statement of a company since it will measure all of the financial aspect. Valuation needs assumption based on the historical data of the company, the industry, and the country itself. Current condition of the company and projection towards the future will also be needed to do the valuation of a company.

Since all the company that will be calculated in this research are operating in telecommunication industry, the approaches that will be use on this research are market approach and income approach.

Market Approach (Relative Valuation)

Market approach is an approach integrated in relative valuation. It used to determine the value of the company by comparing it to the other company in the same industry. Because the method is simple and easy to use, this approach is commonly being a standard tool to calculate the value of the company by comparing it to the other company.

P/E ratio of the company is needed to calculate the value of the company. P/E Ratio basically indicates the number of money that investor willing to pay for every dollar of earning in the company. Then, it will be multiplied by the number of earnings that the company could generate, resulting the value of the company. In general, P/E ratio is useful to make a comparison of the company towards the others in the same industry. This calculation will ignore the inflation, earnings growth, and also the time value of money.

Value = P/E Ratio of The Company x Earnings

Income Approach (Discounted Cash Flow Valuation)

Income approach is a way to calculate the value of the company by using the discounting of the future net cash flow of the company. Then, the result of the present value of the future net cash flow will represents the value of the company. This approach will consider the future condition of the company by estimating future cash flow and other condition of the company. Assumption will be needed on the future condition of the company, the growth rate, expenses, and other condition that would affect the calculation of future cash flow for the company.

Methodology

To complete this research, the author is following these steps below:
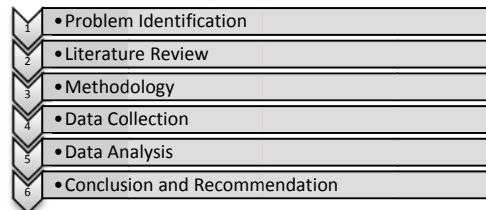
Literature Review

In this research, the literature study that will be used is mainly based on a book entitled "Book on Investment Valuation" written by AswarthDamodaran. In addition, another theoretical literature study used "Principle of Managerial Finance" book by Lawrence J. Gitman and "Corporate Finance Fundamentals" book by Ross, Westerfield, and Jordan. Other than that, some journals and articles will also be used as additional information for this research.

Data Collection

The data that used in this research will be based on the quantitative data. The quantitative data consist of financial report issued by PT Telekomunikasi Indonesia, PT XL Axiata, PT Indosat, and PT Bakrie Telecom in a period

from 2007 until 2011. The financial report shows the performance of the company over the last five years, then make estimation towards the future. The financial report will also be used to predict the future earnings, calculating the compound annual growth rate, and the nominal of free cash flow.

Model of Analysis
Since the company that will be calculated in this research is a service-based company, the liquidation and accounting valuation, also known as asset-based valuation, will not be use in this research because the cash flow of the companies are generated from the service, not from the sales of inventories. So, the other two methods that will be used in this research are relative valuation (market approach) and discounted cash flow valuation (income approach).

- Market Approach will use the P/E Ratio of each company to act as a multiplier towards the company's earning in a year in order to determine the value of the company. Each company's value then will be compared to each other to create a rank within the company and determine if the company is undervalued or overvalued.
- Income Approach will use the company's each cash flow to estimate the future cash flow of the company, then create a discounted value of it using the discount factor (WACC) and the perpetuity growth. This method will use a scenario analysis to predict some unexpected condition in the future.

Data Analysis
After the calculation using two kinds of methods above, it will generate a different value of the company. This difference indicates the different kind of methods will also generate a different result towards the value of the company. Because of that, the value of the company will be resulted as a range of value generated from all kinds of approaches before.

The range of value then will be compared to the result of the real value of each company by using their own share price and number of shares. This will generate the position of the value of each company with the competitors and determining whether the company is undervalued or overvalued. Then, the company

can analyze the action to be taken to increase the value of the company.

In this paper, the valuation method and calculation of the companies is only presented by two companies, which are PT Telekomunikasi Indonesia and PT Bakrie Telecom. Telekomunikasi Indonesia is chosen because of the status as the first public listed telecommunication company in Indonesia and Bakrie Telecom is chosen because the status of the company is in a negative earning period. The calculation of XL Axiata and Indosat will be presented in the appendix of the original research.

A good value of the company also means that the company had a good management system. So, the company also can improve its management system if the value is not as good as the competitors. A better value means the company is also more likely to generate a higher return, resulting a high supply of investor towards the company to help expanding the business

Data Analysis

To calculate the value of four different companies in telecommunication industry, there are two different approaches in order to complete and determine the value of the company, which are market approach and income approach. As a result, there are two different results from market approach and income approach. The result that generated from the calculation will be act as a value range for the company

In this paper, the valuation method and calculation of the companies is only presented by two companies, which are PT Telekomunikasi Indonesia and PT Bakrie Telecom. Telekomunikasi Indonesia is chosen because of the status as the first public listed telecommunication company in Indonesia and Bakrie Telecom is chosen because the status of the company is in a negative earning period. The calculation of XL Axiata and Indosat will be presented in the appendix of the original research.

Valuation of PT Bakrie Telecom
For this research, there is a different condition for calculating the value of PT Bakrie Telecom

Tbk. Based on the financial statement that have been issued by the company in December 2011, Bakrie Telecom is in a bad financial condition. The revenue of the company is having a declining from the 2010 reports, in a number of Rp 2,591,008,489,135 and the company has a loss in the earnings for Rp 782,699,191,424. This loss is way less from the 2010 earnings, putting the company in a bad way. This negative earnings eventually will continue in the year of 2012, since the Q2 report of Bakrie Telecom shows that the company already experiencing a loss for Rp 179,692,766,022.

Since the company is in a negative earnings period and the estimation of future performance of the company become impossible, the valuation of PT Bakrie Telecom cannot be performed anymore because the valuation needs a positive value of the earnings and the company becomes incomparable with the other company in Indonesian telecommunication industry.

Valuation of PT Telekomunikasi Indonesia
Calculating the value of Telkom Indonesia will need a two different approach, which are Market Approach and Income Approach.

Market Approach
The calculation to determine the value of the company using market approach will use P/E ratio of the company as the multiplier to know the value of the company.

Table 1. PT Telekomunikasi Indonesia Valuation Using Market Approach

TLKM Share Price 2011	TLKM EPS 2011	TLKM Earnings 2011	TLKM P/E Ratio 2011	TLKM Company Value 2011
6,998	559.67	15,481,000,000,000	12.503	193,562,704,611,646

After knowing the P/E Ratio of Telkom Indonesia by dividing the share price to the EPS, which is 12.597, the ratio will be act as a multiplier to calculate the value of the company using it's earnings in 2011. The calculation is:

Value of The Company:12.503 x Rp 15,481,000,000,000 = Rp 193,562,704,611,646
So, the value of Telkom Indonesia by using market approach as the theory of calculation is **Rp 193,562,704,611,646.**

Income Approach

The income approach will use some assumption and basic calculation in order to determine the pro forma income statement, pro forma balance sheet, free cash flow, and discounted free cash flow in the next five years. So, there will be some steps by steps calculation before estimating the value of the company.
- Risk free rate that used in this research is represented by the arithmetic average of SBI rate from 2007 until 2011, which is 7,771%
- Market risk premium is represented by the country risk premium index issued by AswarthDamodaran. For Indonesia, the risk premium is 9.60%
- For the tax rate, based on Indonesian Pocket Tax Book issued by PwC Indonesia, the company's tax obligatory is 25%
- Scenario that used in this research is consist of three different scenario, which are Optimistic, Most-Likely, and Pessimistic with 11% difference from the 100% performance from the number of growth of the Indonesian telecommunication industry
- Growth of the company will use each company's revenue performance from 2007 until 2011 and make a assumption from it using the Compound Annual Growth Rate method, while perpetuity growth will use the inflation rate of Indonesia. The CAGR is 4.88% while the perpetuity growth is 6.42%.

After determining the assumptions above, the research can calculate the value of the firm using income approach. The steps are:
a) *Beta Coefficient:* The beta coefficient is generated from the historical price of the stock

of PT Telekomunikasi Indonesia and market price (IHSG) from 2007-2011. The beta coefficient is 0.588.

*b) Cost of Equity:*By using the risk free rate, market risk premium, and beta coefficient result before, using CAPM method, the cost of equity for Telkom Indonesia is 13.42%.

*c) Cost of Debt:*To calculate the cost of debt, the author use three steps approach that issued by Aswarth Damodaran. First is to measure the interest coverage ratio by dividing the EBIT into the interest expense of the company, and the result is 20.117. After using the ratio to the rating table issued by Damodaran, since the company has a ratio above 8.50, the company rating is AAA. Based on Indonesia Market Interest Rate table issued by Harry in 2007, AAA company means that the rate to be use is 12.20%. So, the cost of debt of Telkom Indonesia is 12.20%.

*d) Proportion of Debt & Equity:*The calculation is being done by dividing each aspect into the total of Long Term Liabilities plus Total Equity of the company. The proportion of debt for Telkom Indonesia is 24.59% while the proportion of equity is 75.41%.

*e) WACC:*Calculating the Weighted Average Cost of Capital is very important because it will be used as the discount factor when estimating the discounted cash flow of the company.Using the 25% corporate tax, the WACC of Telkom Indonesia is 12.37%.

f) Pro Forma Income Statement: The calculation of pro forma income statement is needed to determine the amount of operating profit after tax to be used in the discounted free cash flow calculation. It indicates the amount of money that will be free to be used as an additional fund to expand and develop the company. Pro forma income statement will be calculated in three different scenarios, which is most likely, optimistic, and pessimistic.

*g) Pro Forma Balance Sheet:*The next step is to determine the pro forma balance sheet for the next five years. This estimation will be based on the growth rate that has been determined by the CAGR calculation before, based on the research of the industry before, which is 4.88% per year. Estimating the balance sheet is essential in order to make assumption towards the changes on depreciation, net working capital, and capital expenditure.

*h) Capital Expenditure:*Capital expenditure is the amount of changes for company's fixed asset per year that calculated on the pro forma balance sheet before. The result from each scenario is:

Most Likely Scenario for Capital Expenditure of PT Telekomunikasi Indonesia

Most Likely	2011	2012	2013	2014	2015	2016
Fixed Asset	74,897	78,551	82,384	86,404	90,620	95,041
Capital Expenditure	-	3,654	3,833	4,020	4,216	4,422

Optimistic Scenario for Capital Expenditure of PT Telekomunikasi Indonesia

Optimistic	2011	2012	2013	2014	2015	2016
Fixed Asset	74,897	78,953	83,230	87,737	92,489	97,498
Capital Expenditure	-	4,056	4,276	4,508	4,752	5,009

Pessimistic Scenario for Capital Expenditure of PT Telekomunikasi Indonesia

Pessimistic	2011	2012	2013	2014	2015	2016
Fixed Asset	74,897	78,149	81,543	85,084	88,779	92,634
Capital Expenditure	-	3,252	3,394	3,541	3,695	3,855

*i) Changes in Net Working Capital:*Net working capital is financial formula to determine the company's liquidity status by substracting the current asset by the current liability of the company. The result from each scenario is:

Most Likely Scenario for Changes in Net Working Capital of PT Telekomunikasi Indonesia

Most Likely	2011	2012	2013	2014	2015	2016
Current Asset	21,258	22,295	23,383	24,524	25,721	26,976
Current Liabilities	22,189	23,272	24,407	25,598	26,847	28,157
Net Working Capital	(931)	(976)	(1,024)	(1,074)	(1,126)	(1,181)
Change in NWC	-	(45)	(48)	(50)	(52)	(55)

Optimistic Scenario for Changes in Net Working Capital of PT Telekomunikasi Indonesia

Optimistic	2011	2012	2013	2014	2015	2016
Current Asset	21,258	22,409	23,623	24,902	26,251	27,673
Current Liabilities	22,189	23,391	24,658	25,993	27,401	28,885
Net Working Capital	(931)	(981)	(1,035)	(1,091)	(1,150)	(1,212)
Change in NWC	-	(50)	(53)	(56)	(59)	(62)

Pessimistic Scenario for Changes in Net Working Capital of PT Telekomunikasi Indonesia

Pessimistic	2011	2012	2013	2014	2015	2016
Current Asset	21,258	22,181	23,144	24,149	25,198	26,292
Current Liabilities	22,189	23,153	24,158	25,207	26,302	27,444
Net Working Capital	(931)	(971)	(1,014)	(1,058)	(1,104)	(1,151)
Change in NWC	-	(40)	(42)	(44)	(46)	(48)

*j) Discounted Cash Flow:*The last step is calculating the value of PT Telekomunikasi Indonesia by using the calculation result of discounted cash flow of the company. The steps are by determine the free cash flow of the company in every year, then create a discounted cash flow using weighted average cost of capital (WACC) as the discounted factor and the average of inflation in Indonesia from January 2007 until December 2011 to be used as the nominal for perpetuity growth of the company.
- For the most likely calculation, using a 100% performance of the company, 12.37%

discount factor, and with 6.42% perpetuity growth rate, the present value of future cash flow for PT Telekomunikasi Indonesia, which also the value of the company, is**Rp 467,517,126,179,746.**

- For the optimistic calculation, using a 111% performance of the company, 12.37% discount factor, and with 6.42% perpetuity growth rate, the present value of future cash flow for PT Telekomunikasi Indonesia, which also the value of the company, is**Rp 497,219,202,316,624**

- For the pessimistic calculation, using a 89% performance of the company, 12.37% discount factor, and with 6.42% perpetuity growth rate, the present value of future cash flow for PT Telekomunikasi Indonesia,

which also the value of the company, is**Rp 462,848,021,713,191.**

k) *Valuation* *Result:*From all the calculations above, the value of PT Telekomunikasi Indonesia is depends on which scenario is applied in the real world. To deal with it, assumptions have to be made in order to determine the real value of the company. Using a weighted approach from six points, most-likely scenario is the one that have the biggest possibility ratio with four points. So, by giving 4 points of probability to the most-likely scenario, and giving the rest of points to the other two scenarios, the calculation of the value of the company is:

Weighted Scnenarios of PT Telekomunikasi Indonesia

	Probability	**Present Value of FCF**
Optimistic	1	497,219,202,316,624
Most Likely	4	467,517,126,179,746
Pessimistic	1	462,848,021,713,191

So, using the discounted free cash flow model calculation, the value of PT Telekomunikasi Indonesia is **Rp471,698,288,124,800.**

B. Result of Value Estimation

Based on the calculation using two different methods in the point 1 and 2 above, after

calculate the value of the other company which are XL Axiata and Indosat, there are two estimated values of each company for the year of 2012:

Range of Value for Telecommunication Company (Rupiah)

Company Name	**Market Approach**	**Income Approach**
Telekomunikasi Indonesia	193,562,704,611,646	471,698,288,124,800
XL Axiata	37,618,691,332,470	99,975,965,984,703
Indosat	33,603,424,682,741	103,066,860,289,666

By subtract each company's range of value from the two approaches with the amount of the company's long term debt, then divided it with the number of shares that the company have in the market, it will show the range of price that

is visible for the company. After that, comparing it to the each current price of the stock, it will show if the company is undervalued or overvalued in the stock market.

Current Share Price Comparison to The Valuation of The Companies

	Telekomunikasi Indonesia	**XL Axiata**	**Indosat**
Current Share Price (August 14)	8,580	6,650	4,925
Number of Shares	20,159,999,280	8,518,566,332	5,443,933,500
Market Approach Share Price	8,615.02	3,388.92	2,240.89
Income Approach Share Price	22,410.98	10,709.08	15,000.68

Conclusion and Recommendation

Using market approach, Telkom Indonesia has the biggest value with Rp193,562,704,611,646 followed by XL Axiata in the second position with Rp37,618,691,332,470 and Indosat in third place with Rp33,603,424,682,741.

But, when using the income approach with the discounted cash flow method, XL Axiata dropped into the third place with Rp99,975,965,984,703 and being overtaken by Indosat with Rp103,066,860,289,666. Telkom Indonesia stayed in the first place as the best value of telecommunication company in Indonesia with Rp471,698,288,124,800.

For the share price, it turns out that XL Axiata and Indosat have a current share price inside of the price range, while Telkom Indonesia has a current share price below of the price range. It shows that Telkom Indonesia is undervalued from both market approach and income approach perspective.

This research also shows that to calculate the value of a company in telecommunication industry, the best way is by using the market approach because it has the lowest margin to the company's current share price. Using income approach will be too risky because of a lot of assumptions, scenarios, and projections that has to be made. The amount of income and revenue is big, since the company in telecommunication industry is a service based company, creating a big margin between the current share price and the share price created by income approach. However, this share price also act as the highest and the extreme number of share price that the company can achieve if the company pushed the market hard enough to make the price climb to the highest possible number.

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