# Optimal Capital Structure Analysis to Determine the Fair Price of Shares in Telecommunications Sub Sector Companies

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**Abstract:- One of the operational objectives of the company is to be able to maximize the value of the company, to meet the interests of all its stakeholders. One way to maximize company value is by implementing an optimal capital structure. To obtain an optimal capital structure, companies can use the Cost of Capital approach. The Cost of Capital approach is a method for determining the combination of capital costs, which consists of the Cost of Equity and the Cost of Debt, so that the optimal capital structure is then achieved, represented by Debt to Asset Ratio (DAR). By taking into account the company's bankruptcy costs, an optimal capital structure will imply maximized company value. Then the company value that has been obtained will be used to determine the fair price of the company's shares using the market capitalization approach. The results showed for 2019, PT. Telekomunikasi Indonesia will achieve an optimal capital structure at a DAR level of 29%, resulting in a corporate value of Rp. 280,476 billion and a fair price of shares of Rp. 2,831. While PT. Indosat achieved an optimal capital structure at a DAR level of 19%, with a company value of Rp 9,134 billion and a fair share price of Rp 1,681. While the optimal capital structure of PT. XL Axiata was achieved at a DAR level of 0%, bringing the company's value to Rp 26,620 billion and the fair price of the shares of Rp 2,491.**

*Keyword:- Capital Structure, Company Value, Fair Share Price.*

## I. INTRODUCTION

The telecommunications market for countries in the Asian Continent is one of the promising markets and has bright prospects in the future (Gruber et al., 2011) [1]. As one of the countries located on the Asian Continent, it can be said that the Indonesian telecommunications market has promising prospects for continued growth in the future.

This prospect is also supported by the field-level GDP growth (Gross Domestic Product) in the 2014 - 2018 timeframe. Within this period, the information and communication sector managed to record the highest average GDP growth rate when compared to other sectors.

The prospect of growing in the future is something encouraging for those involved in the information and communication business, especially for companies that have already released their shares on the stock exchange. Prospects for further development in the future will attract investors to invest in these companies. To be able to take advantage of these prospects, the company will need substantial funding to develop its business. Both to fund operational activities that have been running, as well as to expand on other business lines.

According to Myers (1984) [2], in funding its operational activities the company would prefer to use internal funding first before using external funding. Internal funding comes from retained earnings, where retained earnings will be derived from net income after deducting the dividends distributed. Choosing internal funding to fund operational activities tends to be difficult because in 2018 all companies used as research samples recorded a significant decrease in net profit compared to previous years.
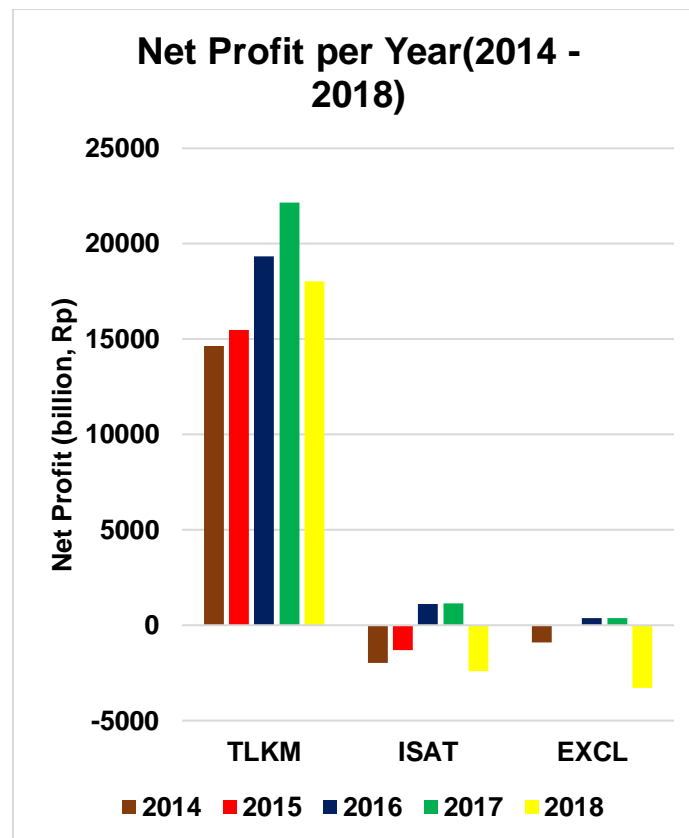
Fig 1:- Net Profit of the Company in 2014 - 2018

Forcing the use of retained earnings to finance operational activities or to expand can still be done because the accumulation of retained earnings in 2018 for the three companies is still positive. However, if you look at the net profit growth of the three sample companies over the past 5 years, then choosing internal funding will be very risky for the company. There is a solution for these companies to continue to be able to expand without having to use internal funding, namely by using external funding. External funding can be done in two ways, namely by issuing debt securities or issuing shares. Each of these methods has its advantages and disadvantages. Issuance of debt or stock will require a fee to realize it (Nosita, 2016) [3]. For a company, the cost of issuing debt securities is not necessarily the same as the cost of issuing shares. And for two companies that both want to issue bonds or shares, the costs to be incurred by both are not necessarily the same. The decision to issue bonds or issue shares must be carefully thought out before being realized because the decisions taken will affect the company's capital structure.

The company's capital structure is a composition of funding that includes short-term debt, long-term debt and equity (Utami & Darmayanti, 2017) [4]. The choice of capital structure used will affect the value of the company (Nurhikmah, 2013) [5]. The capital structure will then affect the profitability and stability of the company (Harjito, 2011) [6], which will then have a direct effect on the company's financial position (Febriana & Yulianto, 2017) [7].

Every company will expect to get an optimal capital structure, which is a capital structure that can maximize the value of the company (Fenandar & Raharja, 2012) [8]. According to Rustam (2015) [9], an optimal capital structure in a company will produce efficiencies related to capital costs, and if the market is efficient, this will be followed by a positive response in the form of rising share prices.

Determining the right capital structure is an important decision that must be made by the company because with the right debt and equity arrangements will make the company get the maximum company value, which will provide a positive outlook in the eyes of investors. Besides, the right capital structure will also make the company able to minimize the capital costs incurred by the company wanting to expand its business.

Nurhikmah (2013) researched the optimal capital structure of companies listed on the Jakarta Stock Exchange sub-sector Telecommunications for the period 2009 - 2011 using Debt to Asset Ratio (DAR) to measure capital structure, the results obtained were in 2009 the optimal debt ratio for BTEL by 17%, EXCL by 19%, ISAT by 12% and TLKM by 99%. In 2010 the optimal debt ratio for BTEL was 1%, EXCL was 16%, ISAT was 6%, INVS was 60% and TLKM was 24%. In 2011 the optimal debt ratio for EXCL was 0%, ISAT was 0%, INVS was 0% and TLKM was 0%. Then in his research, Sitorus (2013) [10] found that overall telecommunications companies in

Indonesia have an optimal capital structure at the level of Debt to Equity Ratio (DER) of 0.996.

In this study, the authors apply several research limitations, namely:

➤ Research conducted on companies listed on the Indonesia Stock Exchange.
➤ The research sample is a company that issues financial reports until 2018.
➤ Companies selected as research samples have averaged positive EBIT over the past 10 years.

Based on these restrictions, three companies become study samples, namely: PT. Telekomunikasi Indonesia (TLKM), PT. Indosat (ISAT) dan PT. XL Axiata (EXCL).

## II. LITERATURE REVIEW

### A. Pecking Order Theory

Pecking order theory is a theory about the company's capital structure, which aims to maximize the prosperity of the company's owner. This theory is based on information asymmetries that assume company managers have more information about the company's prospects. The difference in information will affect the selection regarding the source of funding to be used.

According to Myers (1984), the funding structure to be selected based on the pecking order theory is:

➤ The company will first choose internal funding. The internal funds come from the accumulated profits generated by the company, which are not distributed as dividends to shareholders.
➤ The company will determine the target dividend payout ratio by considering the opportunity to invest in the future. As much as possible the company will maintain constant dividend payments and avoid sudden changes in dividend payments.
➤ A policy of constant dividend payments, accompanied by fluctuations in profits and investment opportunities that cannot be predicted, often makes the cash flow received by the company greater than the funds needed for investment purposes. Even so, it is not uncommon for operational cash funds to be smaller than the funds needed to invest. If that happens, the company will need another alternative source of funding.
➤ If the company requires external funding, the company will first issue the safest security, bonds. Then the mixed securities that have optional characteristics, and if there are insufficient funds will issue shares.

### B. Trade-Off Theory

This theory states that the value of the company will increase along with the increase in corporate debt, due to tax savings from interest payments to a certain degree where the addition of debt will reduce the value of the company. The company is assumed to have an optimal debt level and will try to adjust its actual debt level to the optimal point.

In determining capital structure by referring to this theory, bankruptcy costs will be faced by the company. The greater the debt held by the company, the greater the interest costs that must be paid, this will increase the possibility of the company experiencing default or experiencing a financial deficit which ultimately causes the company is no longer able to repay its debt and suffer bankruptcy. According to Miller (1977) [11], balancing bankruptcy costs with tax savings from interest payments will provide an optimal capital structure for the company. This trade-off model is considered to have a fairly good performance in predicting capital structure for companies that have a typical level of debt (Ju et al., 2005) [12].

### C. Agency Theory

Agency theory is a theory put forward by Jensen & Meckling (1976) [13] in their research entitled "Theory of the Firm: Managerial Behavior, Agency Cost and Ownership Structure". This theory states about the potential problems that arise, often referred to as agency relationships, when someone or more (the principal) employs another person (the agent) to carry out some activities on their behalf (principals) that involve the delegation of authority in decision making carried out by the agent. These problems are usually caused by agents taking actions that benefit themselves (or their groups) without thinking about the interests of the principal.

### D. Capital Structure

Capital structure is a concept regarding the proportion of funding of company assets that comes from short-term debt, long-term debt and company stock (equity) (Utami & Damayanti, 2018). The choice of a company's capital structure is likely to have an attachment to the company's ability to access the debt market (Faulkender & Petersen, 2006) [14]. Most company managers do not specifically target the composition of the company's capital structure to be applied, but they will see the benefits and costs of changing capital structures as a consideration in changing the existing capital structure (Arce et al., 2015) [15]. The approach commonly used to measure a company's capital structure is to use Debt to Equity Ratio (DER) and Debt to Asset Ratio (DAR). DER shows the ratio between the company's total liabilities compared to its total equity, while DAR shows the company's total liabilities compared to their total assets.

Two decisions can be made in changing the company's capital structure, namely changing the form of debt or company equity and changing the proportion between debt and company equity. Changing the company's capital structure will have a major influence on the company's cash flow because changing the amount of debt and the amount of equity will cause payments to bondholders or shareholders to change.

### E. Company Value

The main objective of the company is to maximize the prosperity of the company owner. The prosperity of the company owner is difficult to quantify significantly, so it will be difficult to determine how to maximize that

prosperity. One approach that can be taken to try to maximize prosperity is to use the concept of corporate value.

To be able to evaluate the value of the company can be done in several ways. The valuation will be useful to determine whether the company's share price that is circulating in the market (market value), including undervalued or even overvalued. Conversely, the value of the company itself can also be reflected in the market price of its shares. So it can be said that by maximizing the value of the company, it will also directly maximize the prosperity of the company owner, even though the owner of the company is not limited to the company's shareholders. Maximizing the value of a company is not limited only by increasing profits or increasing the company's stock price. Another step to maximize company value is to adjust the company's capital structure to achieve optimal debt levels.

*F. Fair Share Price*

The Financial Accounting Standards Boards (FASB) describe the fair price as the price that will be received to sell assets or be paid to transfer liabilities, in transactions between market participants, at the measurement date. So that the fair price can generally be referred to as a price or value of an asset or payment of a liability which is considered normal by all parties involved in the transaction.

*G. Cost of Capital Approach*

The Cost of Capital usually defined as the level of profit expected or required by investors when making investments. The Cost of Capital borne by the company is a weighted average of each different type of capital used to fund the operational activities of the company. The Cost of Capital has two main components, namely the Cost of Equity and the Cost of Debt. The Weighted Average Cost of Capital (WACC) can be found by the equation:

$$WACC = (R_E \ x \ W_E) + (W_D \ x \ R_D)(1 - T_C) \qquad (2.1)$$

Where,

$R_E$      : Cost of Equity
$W_E$      : Weight of Equity Capital
$R_D$      : Cost of Debt
$W_D$      : Weight of Debt Capital
$T_C$      : Tax Rate

## III.    METHODOLOGY

There are six steps carried out in this study, namely:

➢ Perform projections to obtain EBIT, interest expense and total assets of the company for 2019.
➢ Get Cost of Equity.
➢ Get Cost of Debt.
➢ Get WACC.
➢ Obtain an optimal capital structure.
➢ Obtain maximum company value.
➢ Obtain a fair share price

## IV.    ANALYSIS AND RESULT

*A. EBIT, Interest Expense and Total Asset Projections for 2019*

Projections are made using the average harmonic historical company data over the past few years. EBIT and interest expenses projections are carried out and then used in the calculation of the Cost of Debt of the sample companies, while the projected total assets are needed as a basis for calculating the company's bankruptcy costs.

| | EBIT Projection (billion, Rp) | Interest Expense Projection (billion, Rp) | Total Asset Projection (billion, Rp) |
|---|---|---|---|
| **TLKM** | 39,847 | 2,995 | 199,879 |
| **ISAT** | 1,999 | 2,410 | 67,203 |
| **EXCL** | 4,064 | 1,696 | 41,270 |

Table 1:- Result of EBIT, Interest Expense and Total Asset Projections for 2019

*B. Get Cost of Equity*

In this study, the company's Cost of Equity will be calculated using the Capital Asset Pricing Model (CAPM) approach. CAPM can be found by the equation:

$$R_E = R_F + (\beta \ x \ (R_M - R_F)) \qquad (2.2)$$

Where,

$R_E$      : Cost of Equity
$R_F$      : Risk-Free Rate of Return
$\beta$      : Beta
$R_M - R_F$      : Market Equity Risk Premium

Risk-Free Rate of Return can be obtained using the BI 7-Day Repo Rate, which as of December 19, 2019, was at the level of 5.00%. Indonesia's market Equity Risk Premium in 2019 is valued at 8.60% (Damodaran, 2019) [16]. For company $\beta$ values, the authors use the values stated on the Reuters website.

| | Risk-Free Rate | Beta | Market Equity Risk | Cost of Equity |
|---|---|---|---|---|
| **TLKM** | 5.00% | 0.56 | 8.60% | 9.82% |
| **ISAT** | 5.00% | 1.38 | 8.60% | 16.87% |
| **EXCL** | 5.00% | 0.75 | 8.60% | 11.45% |

Table 2:- Company's Cost of Equity

*C. Get Cost of Debt*

One way to get a company's Cost of Debt is to use the Interest Coverage Ratio approach. The company's Interest Coverage Ratio is obtained by dividing the company's EBIT with the company's interest expense. After the value of the Interest Coverage Ratio is obtained, then it can be seen the equivalent bond rating that corresponds to the value of the Interest Coverage Ratio. After that, the corresponding bond rating is adjusted to the market interest rate in Indonesia which will then become the company's Cost of Debt.

| Interest Coverage Ratio | Rating | Typical Default Spread (%) |
|---|---|---|
| >12.5 | AAA | 0.75% |
| 9.5 – 12.5 | AA | 1.00% |
| 7.5 – 9.5 | A+ | 1.50% |
| 6 – 7.5 | A | 1.80% |
| 4.5 – 6 | A- | 2.00% |
| 3.5 – 4.5 | BBB | 2.25% |
| 3 – 3.5 | BB | 3.50% |
| 2.5 – 3 | B+ | 4.75% |
| 2 – 2.5 | B | 6.50% |
| 1.5 – 2 | B- | 8.00% |
| 1.25 – 1.5 | CCC | 10.00% |
| 0.8 – 1.25 | CC | 11.50% |
| 0.5 – 0.8 | C | 12.70% |
| <0.5 | D | 14.00% |

Source: Damodaran (2012) [17]

Table 3:- Equivalent Interest Coverage Ratio and Bond Rating

| Rating | Indonesian Market Interest Rate (%) |
|---|---|
| AAA | 12.20% |
| AA | 12.72% |
| A+ | 13.24% |
| A | 13.76% |
| A- | 14.28% |
| BBB | 14.80% |
| BB+ | 15.32% |
| BB | 15.84% |
| B+ | 16.36% |
| B | 16.88% |
| B- | 17.40% |
| CCC | 17.92% |
| CC | 18.44% |
| C | 18.96% |
| D | 19.48% |

Source: Nurhikmah (2013)

Table 4:- Equivalent Bond Rating and Market Interest Rate

| | Interest Coverage Ratio | Rating Obligasi | Cost of Debt |
|---|---|---|---|
| TLKM | 13.31 | AAA | 12.20% |
| ISAT | 0.83 | CC | 18.44% |
| EXCL | 2.40 | B | 16.88% |

Table 5:- Company's Cost of Debt

D. *Get WACC*

To be able to know the WACC that can maximize company value, it must be known in advance the Cost of Equity, Cost of Debt and the amount of applicable corporate tax. Based on the Law of the Republic of Indonesia Number 35 the Year 2008 concerning Income Tax, the amount of corporate tax applied in Indonesia is 25%. Then based on the results of the iteration carried out from the DAR level of 0% to 100%, the results obtained that the WACC that can maximize the value of the company is at the level of 9.62% for TLKM, 16.29% for ISAT and 11.45% for EXCL.

E. *Obtain Optimal Capital Structure*

WACC previously obtained will directly determine the optimal capital structure of the company. Based on equation (2.1), WACC has four main components, namely capital structure composition, Cost of Equity, Cost of Debt

and applicable corporate taxes. Because the WACC, the Cost of Equity, the Cost of Debt and the corporation tax are known, the composition of the capital structure can also be obtained.

Based on the results of the iteration it is known that with a WACC level of 9.62%, TLKM will reach the optimal capital structure at the DAR level of 29%. Then with a WACC level of 16.29%, ISAT will reach an optimal capital structure at a DAR level of 19%. While at a WACC rate of 11.45%, EXCL will reach an optimal capital structure at a DAR level of 0%.

F. *Obtain Maximum Company Value*

The value of the company is sought by using the equation

$$V = \frac{EBIT \; x \; (1 - T_C)}{WACC} - Bankruptcy \; Costs \quad (2.3)$$

Bankruptcy costs of a company can be obtained by multiplying the total liabilities with the probability of default of the company.

|  | EBIT (billion, Rp) | Bankruptcy Costs (billion, Rp) | Company Value (billion, Rp) |
|---|---|---|---|
| TLKM | 39,847 | 1,333 | 309,230 |
| ISAT | 1,999 | 68 | 9,134 |
| EXCL | 4,064 | - | 26,620 |

Table 6:- Maximum Company Value

G. *Obtain Fair Share Price*

The fair price of shares is obtained by dividing the market capitalization value, represented by the maximum company value, by the number of shares outstanding.

|  | Market Capitalization (billion, Rp) | Number of Shares Outstanding | Fair Share Price (Rp) |
|---|---|---|---|
| TLKM | 309,230 | 99,062,216,600 | 3,122 |
| ISAT | 9,134 | 5,433,933,500 | 1,681 |
| EXCL | 26,620 | 10,687,960,423 | 2,491 |

Table 7:- Fair Share Price

With the tax savings obtained from interest payments, there is an assumption that the value of the company will be even greater if the level of debt increases. However, it turns out that the assumption is not quite right, because according to Ross et al. (2015) [18] debt will put pressure on the company because interest payments and the principal will be calculated as a company's obligation. Broadly speaking, this research is following with what was stated by Ross, this is based on the results of research showing that the sample company will achieve optimal capital structure and maximize the value of the company by lowering the company's DAR level.

# V. CONCLUSIONS AND RECOMMENDATION

Based on the results of research conducted, several conclusions can be drawn:

1. The maximum corporate value of Rp 309,230 billion can be achieved by PT. Telekomunikasi Indonesia if adjusting its capital structure with a 29% DAR composition. With such value, the fair price of the shares of PT. Telekomunikasi Indonesia is IDR 3,122.
2. When adjusting capital structure composition to 19% DAR composition, PT. Indosat can obtain a maximum company value of Rp 9,134 billion. With such value, the fair price of the shares of PT. Indosat is Rp 1,681.
3. By changing the composition of the capital structure to be entirely derived from equity, or the composition of DAR 0%, the value of the company PT. XL Axiata can reach a maximum value of Rp. 26,620 billion. With such value, the fair price of the shares of PT. XL Axiata is IDR 2,491.

Some suggestions that can be given related to the results of research conducted, including:

1. For PT. Telekomunikasi Indonesia, PT. Indosat and PT. XL Axiata should change the composition of its capital structure by reducing company debt and replacing it by issuing new shares.
2. For those who want to do similar research, may consider making projections using different methods, or calculating the value of the company in addition to the Cost of Capital approach.

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