INFLUENCE OF FIRM SIZE AND BOARD SIZE TOWARDS CAPITAL STRUCTURE DECISION (CASE STUDY: STATE-OWNED ENTERPRISE BANK IN INDONESIA)

PENGARUH UKURAN PERUSAHAAN DAN UKURAN DEWAN TERHADAP KEPUTUSAN STRUKTUR MODAL (STUDI KASUS: BANK UMUM BADAN USAHA MILIK NEGARA DI INDONESIA)

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Abstract: The purpose of this research is to analyze the impact of Firm Size and Board Size toward Capital Structure simultaneously and partially. The objects of this research are state-owned enterprise banks that are listed in Indonesia Stock Exchange. This research is an associative study and used quantitative method which utilizes multiple regression analysis as the tool of analysis. Firm Size, Board Size and Capital Structure data of all banks were obtained for 10 years period each bank. The research results show that Firm Size did not give any significant impact toward Capital Structure partially, while Board Size, partially, gave significant impact toward Capital Structure. Simultaneously, Board Size and Firm Size give a significant impact toward Capital Structure. There are still a large part of what influences capital structure decision in Indonesian state-owned banks that should be examined, since these two variables examined in this research only provides 41.3% explanation.

Keywords: *capital structure, firm size, board size.*

Abstrak: *Tujuan dari penelitian ini adalah untuk menganalisis dampak Ukuran Perusahaan dan Ukuran Dewan terhadap Struktur Modal secara simultan dan parsial. Objek penelitian ini adalah Bank Umum BUMN yang terdaftar di Bursa Efek Indonesia. Penelitian ini merupakan penelitian asosiatif dan menggunakan metode kuantitatif yang menggunakan analisis regresi berganda sebagai alat analisis. Data Ukuran Perusahaan, Ukuran Dewan dan Struktur Modal semua bank diperoleh selama periode 10 tahun masing-masing bank. Hasil penelitian menunjukkan bahwa Ukuran Perusahaan tidak memberikan pengaruh signifikan terhadap Struktur Modal secara parsial, sedangkan Board Size secara parsial memberikan pengaruh signifikan terhadap Struktur Modal. Secara simultan, Ukuran Dewan dan Ukuran Perusahaan memberi pengaruh signifikan terhadap Struktur Modal. Masih banyak yang mempengaruhi keputusan struktur modal di bank BUMN yang harus diperiksa, karena kedua variabel yang diteliti dalam penelitian ini hanya memberikan penjelasan 41,3%.*

Kata kunci: *struktur modal, ukuran perusahaan, ukuran dewan.*

INTRODUCTION

Research Background

For every organization to have a good financing strategy is one of among the decisive factors for its success. As a result, the proportion of debt and equity which make up assets of a firm is one major issue that financial managers should worry about in order to make an optimal capital structure decision which minimizes cost of capital thereby maximizing their value.

These are the issues related to shaping the capital structure of enterprises that are fundamental problems of corporate finances. According to the persons dealing with corporate finances, the main objective, which is the maximization of financial benefits of the co-owners, is achieved among others through the optimization of the capital structure. Capital structure accounts for a combination of various debt and equity that a company uses to finance its operations. Similarly, a composition of retained profits as well as externally issued debts and shares referred to capital structure or financial structure of a firm. Capital structure decision also known as financing decision is one of the three major decisions that managers involved in corporate financial management besides capital budgeting and working capital management or operating decisions. It deals with the decision to choose between either equity or debt financing options or both in order to fund operations of a firm. An optimal capital structure is a combination of both or one of equity and debt sources of finances given the value of a firm maximum and keeping its cost of capital at minimum.

In this case, this study is interested to discuss the case of four state-owned enterprise bank (Bank BUMN) in Indonesia, namely Bank Negara Indonesia (BNI), Bank Mandiri, Bank Rakyat Indonesia (BRI) and Bank Tabungan Negara (BTN). All of those banks has went public, which means their stocks are publicly traded and listed in Indonesian Stock Exchange (IDX).

Research Objectives

Reflecting on the question addressed in this research, the objectives to be reached in this study is as follows to identify;

1. The significancy of BNI, Bank Mandiri, BRI and BTN's Firm Size and Board Size impact to their Capital Structure simultaneously.
2. The significancy of BNI, Bank Mandiri, BRI and BTN's Firm Size impact to their Capital Structure partially.
3. The significancy of BNI, Bank Mandiri, BRI and BTN's Board Size impact to their Capital Structure partially.

LITERATURE REVIEW

Financial Management

This sub-section of literature review will discuss about the grand theory of Financial Management, which consisted of its definition, its decision functions and its functions in the company. The definition part will describe few definition of Financial Management according to the experts and, the objectives of Financial Management will describe what goals it is aiming.

Furthermore, in practice the financial manager should be able to determine the basic objectives to be achieved when implementing the financial management activity. According to Paramasivan and Subramanian (2008), the objectives of Financial Management may be broadly divided into two parts, such as:

1. Profit Maximization

First, Profit maximization, the main objective of financial management is profit maximization. The finance manager tries to earn maximum profits for the company in the short-term and the long-term. He cannot guarantee profits in the long term because of business uncertainties. However, a company can earn maximum profits even in the long-term, if:

1. The Finance manager takes proper financial decisions.
2. He uses the finance of the company properly.

There are several areas that needed to be focused to achieve the maximization of profit. Generally, those areas should concern the cash flow, the efficiency, proper mobilization and utilization.

2. Wealth maximization

Wealth maximization (shareholders' value maximization) is also a main objective of financial management. Wealth maximization means to earn maximum wealth for the shareholders. So, the finance manager tries to give a maximum dividend to the shareholders. He also tries to increase the market value of the shares. The market value of the shares is directly related to the performance of the company. Better the performance, higher is the market value of shares and vice-versa. So, the finance manager must try to maximize shareholder's value.

Capital Structure Theory

Capital Structure is a mix of debt and equity capital maintained by a firm. Capital structure is also referred as financial structure of a firm. The capital structure of a firm is very important since it related to the ability of the firm to meet the needs of its stakeholders (Roshan, 2009; 5-14).

Modigliani and Miller approach to capital theory, devised in the 1950s advocates capital structure irrelevancy theory. This suggests that the valuation of a firm is irrelevant to the capital structure of a company. Whether a firm is highly leveraged or has lower debt component, it has no bearing on its market value. Rather, the market value of a firm is dependent on the operating profits of the company Modigani and Miller in Brusov (2015).

There are assumptions in Modigani-Miller approach which are:

1. There are no taxes.
2. Transaction cost for buying and selling securities as well as bankruptcy cost is nil.
3. There is a symmetry of information. This means that an investor will have access to same information that a corporate would and investors would behave rationally.
4. The cost of borrowing is the same for investors as well as companies.
5. Debt financing does not affect companies EBIT.

Capital structure theory explains that the policy of financing in the company in deteriming the mix of equity and debt aimed to optimize the value of the firm. (Dama and Tulung, 2017). Modigliani-Miller in Dama and Tulung (2017) further explained that the firm could use debt to increase its firm value if there is tax existed. In other words, if the aim of the company to increase the value of it, the company needs to use debt to do so.

Trade-Off Theory

The trade-off theory of capital structure is the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits Kraus and Litzenberger (1973). It states that there is an advantage to financing with debt, the tax benefits of debt and there is a cost of financing with debt, the costs of financial distress including bankruptcy costs of debt and non-bankruptcy costs (e.g. staff leaving, suppliers demanding disadvantageous payment terms, bondholder/stockholder infighting, etc.)

Corporate Tax

Corporate tax is also called company tax, or corporate Income tax. Corporate tax is a tax on profits and capital gains made by companies, calculated before dividends are paid. This sub-section will discuss the theories about corporate tax.

The link between debt and tax was initiated by Miller (1977). He focused on the effects of corporate and personal taxes on leverage ratio. His research also attempted to prove the existence of tax benefit that causes the preference of firm towards debt financing. However, his finding showed that leverage is still irrelevant to the firm capital structure choices.

Bankruptcy Cost

As mentioned above, debt financing not only produces tax benefit, but it also leads to bankruptcy. The question arises on how to balance between the tax benefit and the bankruptcy cost. Firm faces financial distress due to the extremely high interest payment which may lead to higher probability of bankruptcy. The probability of firm to face bankruptcy is also due to economic factors including the economic risk and financial risk. The process of firm recapitalization has been proposed by Scott (1977). In this study, bankruptcy affects the equity value, subordinated debt and secured debt differently. The finding shows that; first, the equity value of firm depends on the value of net operating income and the interest that should be paid to debt holders. Firm with small earnings compared to interest payment can avoid bankruptcy and fulfill the interest payment by selling

additional debt (such as subordinated debt), sell assets and equity. Secondly, the total market value of firm which issues only subordinated debt depends on the current value of equity and the face value of debt. For these firms, if they sell the subordinated debt only, then the optimal capital structure is irrelevant. Thirdly, the issuance of secured debt increases the firm value. As long as the firm has unutilized secured debt capacity, it can increase its total market value by issuing additional secured debt.

Pecking Theory

The Pecking Theory also called as The Pecking Order Theory. It focuses on the costs of asymmetrical information. This approach assumes that companies prioritize their financing strategy based on the path of least resistance. Internal financing is the first preferred method, followed by debt and external equity financing as a last resort.

Firm Size Theories

Company size is also a common company characteristic used in empirical research and a determinant which also provides consistent results in its relationship to leverage. The interpretation of size in a trade-off perspective is frequently that of larger companies being more diversified and therefore subject to lower default risk and less volatility in cash flows. (Frank and Goyal, 2009) Similarly, direct bankruptcy costs, are relatively fixed and therefore as a proportion of company value they decrease with company size. The trade-off theory thus predicts that company size is positively related to leverage.

Firm Size Measurements

Zadeh and Eskandari (2012) states that the firm size measurement can be carried out in several methods namely through sales, employees, assets or value add features. Normally, those using the technological theory based on economy of scale derived from capital inputs would use only sales figures or assets to for the measurement purpose. It has been found that sales and assets are not particularly apt methods of measurement for size; the main issue would be how agency, transactions and the range of costs impact the profits. Costs are normally related to the fundamental way the organisation is controlled by a hierarchy more than just the value of physical assets.

Theories of Board Size

Board composition consists of board demographics, board structure, board recruitment, board member motivation and criteria, board education and evaluation, and board leadership (Fauzi, 2012). Board composition is one of the important factors affecting firm financial performance. There are some previous studies on the relationship between board compositions and firm performance. Kang, Cheng and Gray (2007), and Sheridan and Milgate (2005) find that board composition is positively correlated with firm financial performance.

Previous Research

One of the research made by Muhammad et al. (2013) the size and risk have positive relationship with leverage; whereas profitability and liquidity have a negative relationship with the dependent variable. The researchers' also implied that asset tangibility and growth have no any significant impact with the evidence of capital structure discipline in financial markets: A study of leasing and insurance companies of Pakistan using multiple regression analysis. Lim (2012) attempts to examine the determinants of capital structure empirical evidence from financial services listed firms in china with size, growth, leverage, and capital structure as the variables and have results that the size is positively related with leverage while the others appeared a negative relationship with the dependent variable. Mohamed and Mahmoud (2013) was aiming to investigate the impact of corporate characteristics on capital structure: evidence from the Egyptian insurance companies, this research confirms that firm size, profitability, and age were positively related with leverage.

Research Hypothesis

H1: Firm Size and Board Size gives significant impact toward capital structure of the four state-owned banks simultaneously.

H2: Firm Size gives significant impact toward capital structure of the four state-owned banks partially.

H3: Board Size gives significant impact toward capital structure of the four state-owned banks partial

Conceptual Framework

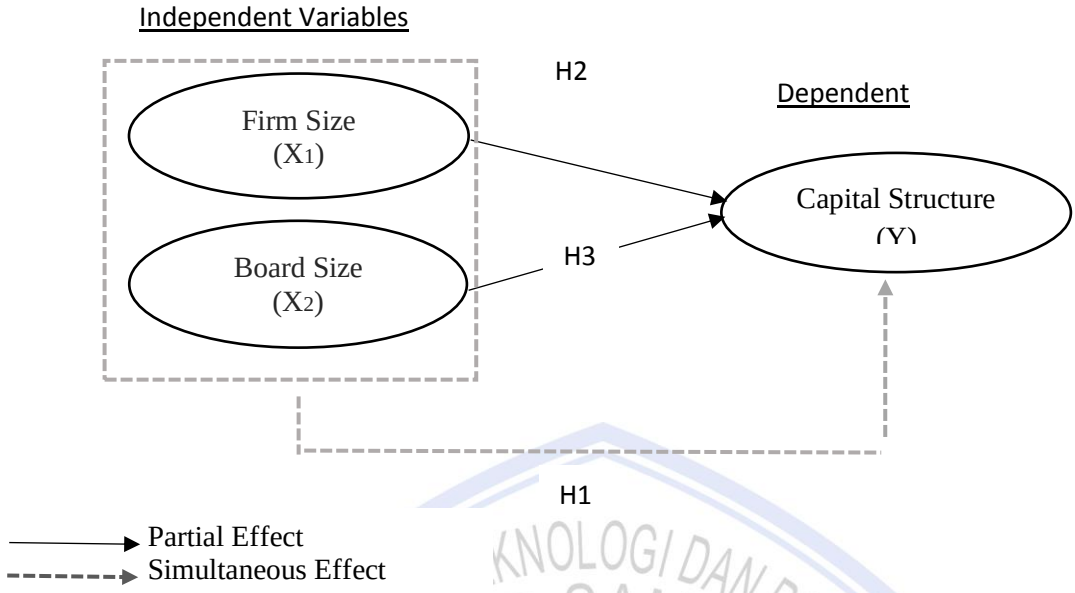

Figure 1. Conceptual Framework
Sources: Lim (2012), Mohamed and Mahmoud (2013)

RESEARCH METHOD

Type of Research

This research is categorized as causal research. Causal research is quantitative in nature as well as preplanned and structured in design. For this reason, it is also considered conclusive research. Causal research differs in its attempt to explain the cause and effect relationship between variables.

Population and Sample

This section will show the population, which is known as a complete set of elements (persons or objects) that possess some common characteristic defined by the sampling criteria established by the researcher. This section also describes the selected elements (people or objects) chosen for participation in a study; people are referred to as subjects or participants, known as sample.

Place and Time of Research

This research is conducted in Manado, North Sulawesi during the first Semester of 2017. Since this study entirely uses secondary data which obtained via internet, this research do not categorized as a field research.

Type of Data

Secondary data is used as the main source of data in this research. Secondary data refers to data that was collected by someone other than the user. Common sources of secondary data for social science include censuses, information collected by government departments, organizational records and data that was originally collected for other research purposes.

Data Analysis Method

This research uses causal-quantitative method that uses ratio calculation and regression analysis. Multiple regression analysis is used in this research.

Multiple Linear Regression Analysis

This research uses Multiple Linear Regression Analysis as a tool of analysis. Since this research is a causal research, which explains the impacts of the independent variables toward dependent variable, this tool is being put as consideration.

There are advantages of using multiple regression analysis because it allows a number of complex relationships among variables to be examined simultaneously. The formula of multiple regression used in this research is as follows:

$$\mathbf{Y = a + b_1X1 + b_2X2 + e}$$

Where:
Y = Capital Structure
a = Constant
b_1, b_2,... b_5 = Regression Coefficient
X1 = Firm Size
X2 = Board Size
e = Error

Hypothesis Test

T-test

As the first hypothesis testing tool of this research, the T-test is used. T-test will show the indicator which tells whether there is any significant relationship or not.

T-test is used to test the causal relationship between variables partially. The calculation result of t-test is shown in coefficients table, specifically in sig. (significance) column. If the significance value is less than 0.05, it concludes that significant influence exists between two variables. If the significance value is more than 0.05 then there is no significances in relationship of the two variables.

F-test

The second hypothesis test is the F-test. Similar to T-test, the F-test will indicate any significancy in relationships. The F-test results will be shown in ANOVA table.

Analysis of variance (ANOVA) can determine whether the means of three or more groups are different. ANOVA uses F-tests to statistically test the equality of means. F-test is used to test the causal relationship between independent variables and dependent variables simultaneously. The calculation result of F-test is shown in coefficients table, specifically in sig. (significance) column. If the significance value is less than 0.05, it concludes that significant influence exists between independent and dependent variables simultaneously. If the significance value is more than 0.05 then there is no significances in relationship of the variables simultaneously.

Coefficient of Determination (R-squared test)

The third indicator in regression analysis is the R-squared test, this test is also a vital part in regression analysis since it displays the coefficient of determination results.

R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determination for multiple regression. 0% indicates that the model explains none of the variability of the response data around its mean (Frost, 2013).

Research Procedure

This research uses associative-quantitative method that utilizes ratios of financial company. The steps are described as follows:

1. Access the financial data for each company in their official website.
2. Obtain the financial report (annual) data, specifically the firm size, board size and capital structure ratio for each company (for 10 years period).
3. Tabulate the data using Microsoft Excel and transfer it to SPSS.
4. Use SPSS to process the regression analysis (T-test, F-test and ANOVA)

Analyze the findings and determine the significance of board size and firm size towards the capital structure of state-owned enterprise banks in Indonesia.

RESULT AND DISCUSSION

Result

Statistics Results

This statistics results part consists of two major sub-points, which is the descriptive statistics part and regression results part. Descriptive statistics part will present the descriptive characteristics of the observation, which are the mean, standard deviation, mean, median, maximum and minimum value. Regression results part will present the findings of the regression-related test and estimation model used in processing the data. Data presented in the preceding parts are processed with SPSS 20.0 software.

Descriptive Statistics

Table 2. Descriptive Statistics Results

Variable	Mean	Std. Devation	Min	Max	N
Y	0.51	0.216	0.20	1.3	40
X1	404,279	282,092	36,693	1,038,705	40
X2	16.15	2.887	9.0	25.00	40

Source: Data Processed, 2017

Descriptive Statistics Results above shows the descriptive statistics results of the observed data. The results is showed according each variables. For Capital Structure (Y), the mean value is 0.51, the standard deviation value is 0.216. The highest value of Capital Structure in observed data is 1.3 and the minimum value of Capital Structure is 0.20. For this variable, the data are expressed in ratio.

Regression Results

This sub part consists of three main talking points, which is the model estimation, simultaneous test results, partial test results and determinant coefficient results. Model estimation concludes which estimation model will be used in this regression analysis. Both simultaneous test and partial test will determine significancy that occurs between variable, and the determinant coefficients will show how much Capital Structure is influenced by Firm Size and Board Size.

Simultaneous Test Results (F-test)

Table 3. Simultaneous Test Result

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.756	2	.378	12.998	.000[a]
	Residual	1.076	37	.029		
	Total	1.832	39			

a. Predictors: (Constant), Board_Size, Firm_Size

b. Dependent Variable: Capital_Structure

Source: Data Processed, 2017

Simultaneous Test Result shows SPSS Results for ANOVA test. As it explained by the theory, if the F-value (sig.) is lower than 0.05 ($p < 0.05$), it means that H0 (Null hypothesis) is rejected. In other words, there is a significant influence, simultaneously.

In the ANOVA test/simultaneous test, the H0 (null hypothresis is rejected), since the Sig. score is 0.000, which is lesser than 0.05, which means there is a significant influence occurred in Firm Size (X1) and Board Size (X2) towards Capital Structure (Y) simultaneously. In the other condition, where the Sig value in this test is greatrer than 0.05, the null hypothesis is accepted, and that means there is not any significant influence occurred in Firm Size (X1) and Board Size (X2) towards Capital Structure (Y) simultaneously.

Partial Test Results (T-test)

Table 4. Partial Test Result

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.450	.193		7.515	.000
	Firm_Size	2.743E-7	.000	.357	1.868	.070
	Board_Size	-.065	.014	-.866	-4.533	.000

a. Dependent Variable: Capital_Structure

Source: Data Processed, 2017

In the partial test result, if the p-value result is lesser than 0.05, then the null hypothesis (H0) is rejected, means that there is a significant influence occurred from Firm Size and Board Size (X1 and X2) towards Capital Structure (Y), partially. In the other condition, if the p-value result is greater than 0.05, the hull hypothesis is accepted and it means there is no significancy in influence occurred.

The results show varied results in each variable relationship. Firm Size (X1) does not give any significant influence toward Capital Structure (Y), based on its p-value (0.070 > 0.05), while Board Size (X2) gives significant influence towards Capital Structure (Y), based on its p-value (0.000 < 0.05).

Coefficient of Determination (R-square)

Table 5. R-square Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.642[a]	.413	.381	.17054

a. Predictors: (Constant), Board_Size, Firm_Size

Source: Data Processed, 2017

In regression, the R-square coefficient of determination is a statistical measure of how well the regression line approximates the real data points. An R-square coefficient of determination of 100% indicates that the regression line perfectly fits the data.

The results show that R-square coefficient of determination score 41.30 %. In simpler explanation, the movement of the Capital Structure (Y) is contributed more or less 41.30 % by the Firm Size (X1) and Board Size (X2) as long as the significant influence is occurred in the regression.

Discussion

The discussion part will be divided to two sub-part, which is the influence of firm size towards capital structure and the influence of board size towards capital structure.

The Influence of Firm Size Towards Capital Structure

The statistical test result indicates that firm size did not influence the capital structure significantly. The theory generalizes that, the larger a firm size is, the greater ratio of capital structure will be exist. A greater score in capital structure ratio means higher proportion of debt (leverage) used than the shareholder's equity. But that does not happened in stete-owned enterprise bank such as BNI, Mandiri, BRI and BTN combined.

This finding is consistent with the study of Widyaningrum (2013) that studies the manufacturing companies listed in Indonesian Stock Exchange. A study by Putra and Kesuma (2013) states that a large size of a firm does not determine whether it will increase its Capital Structure Ratio. Both studies agreed that many manufacturing companies listed in Indonesian Stock Exchange are using their retained profits to expand their size, rather than using leverage (debt).

The Influence of Board Size towards Capital Structure

The board of a company implements the supervising and controlling function of the operation in the company, which means to control the activity of the managers in making decision.

The statistical results found out that Board Size of the state-owned enterprise bank in Indonesia influences its Capital Structure decision significantly. This means that in the four banks, the board of commisary and director has a strong impact in making policy of the company capital structure.

This result is similar with several research that have been done across the world. Ranti (2011) found that there is a significant relationship between board size and capital structure, Duca (2013) also found the same result. In the research it was revealed tha the size of the board affects the capital structure positively and significantly. And the third reseach which has similar result, which is the study from Abdul-Qadir, Yaroson and Abdu (2015) that concluded that board size is an important variable in determining capital structure decision in company.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on results of the previous chapter, the conclusion is as follows:

1. Firm size and Board Size of Indonesian state-owned enterprise banks give significant influence towards their capital structure simultaneously.
2. Firm Size does not provide significant influence toward Capital Structure, in Indonesian state-owned enterprise banks partially.
3. Board Size gives significant influence toward Capital Structure in Indonesian state-owned enterprise banks partially.

Recommendation

There are several recommendation that can be listed based on the finding of this research :

1. The management or investors could put aside the Firm Size variable in assessing or analyzing the Capital Structure ratio of Indonesian state-owned enterprise bank. Management or investors could concentrate more in other variables which are not explained in this resarch or the Board Size variable.
2. There are still a large part of what influences capital structure decision in Indonesian state-owned banks that should be examined, since these two variables examined in this research only provides 41.3% explanation. There are more variables to be utlized in in analyzing these banks capital structure.
3. The internal entities of Indonesian state-owned enterprise banks should pay attention to Board Size in determining the suitable proportion of capital structure. The number of Board of Directors and Board of Commisary accumulated, should be in the right composition to provide optimal structure of capital.

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