

CHAPTER II

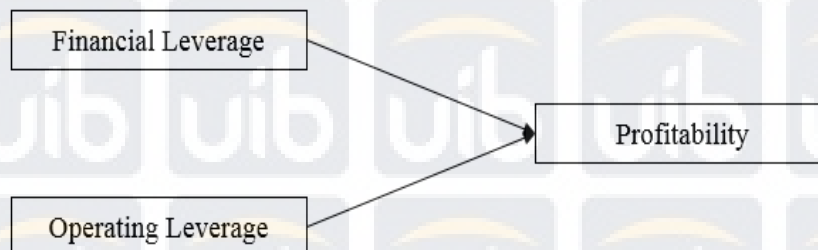
THEORETICAL FRAMEWORK AND FORMULATION OF HYPOTHESES

2.1 Previous Research Model

Research conducted by Saleem, Rahman and Sultana (2011) was a research aim to determine the relationship of *financial leverage* and *operating leverage* on *profitability* of oil and gas sector of SAARC country. *ROE*, *ROI* and *ROA* are used as the dependent variables, while the independent variables used in this research are *financial leverage* and *operating leverage*. Statistical methods of one way ANOVA and t-test were being used to analyzed the sample data in this research.

Figure 2.1

Financial leverage and operating average to profitability



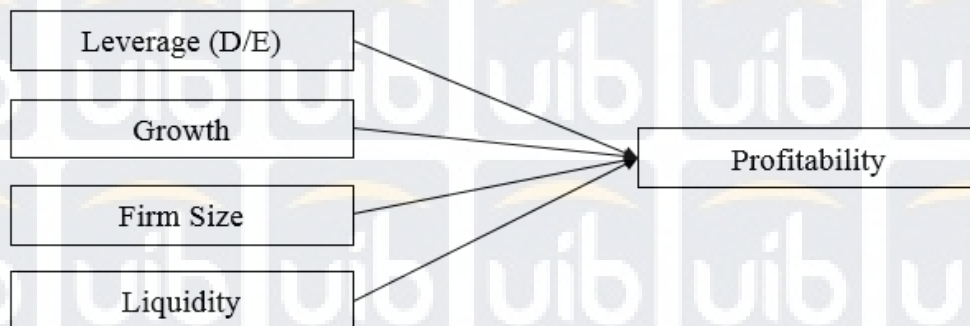
Source: Saleem *et al.*, (2011)

A study conducted by Kimathi, Galo and Melisa (2015) with the title “*Effect of Leverage on Performance of Non-financial Firms Listed at the Nairobi Securities Exchange*” used *leverage*, *growth*, *firm size* and *liquidity* as the independent variables and the dependent variable used in this study is *Return on Equity*. This target population was 61 listed company from Nairobi securities exchange on December 2013. 38 non-financials companies were then selected as

the sampling data by using purposive sampling. This research was using multiple regression model which are Test of normality, homoscedasticity, multicollinearity and correlation for research period of 6 years from 2008 to 2013.

Figure 2.2

Debt to equity, growth, firm size and liquidity to profitability



Source: Kimathi *et al.*, (2015)

A research by Barbuta-Misu (2013) is a study to determine the impacts between *leverage* and *profitability* of pharmaceutical companies. This study has completed three steps of analysis, which consists of analysis of profitability, indebtedness, and effect of leverage on ROE. Three large companies in pharmaceutical sector in Romania from the period 2008-2012 are used as the sample data in this research.

Figure 2.3

Debt to equity to profitability

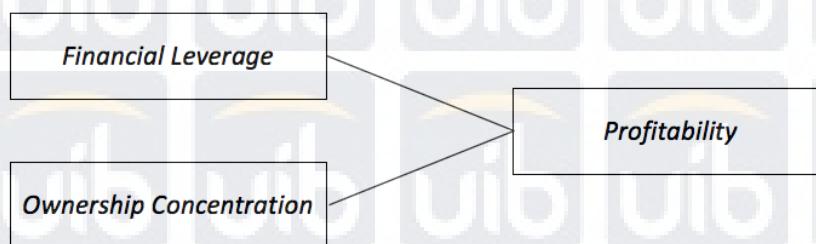


Source: Barbuta-Misu (2013)

Research conducted by Mule and Mukras (2015) aim to learn about the effect of financial leverage on the company's performance of the companies listed in Kenya. The annual data for sampling data was used from the year 2007 until 2011. The author is using *financial leverage* and *Ownership Concentration* as the independent variables and *Return on Assets*, *Return on Equity* and *Tobin's Q* as the dependent variables. This research used various panel procedures to analyzed the data.

Figure 2.4

Financial leverage and ownership concentration to profitability

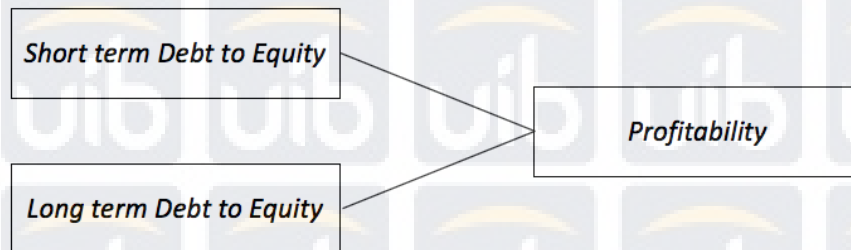


Source: Mule and Mukras (2015)

The study conducted by Nadeem, Ahmad, Ahmed, Ahmad, Batool, and Rehman (2015) aimed to learn about the relationship of leverage and profitability of the companies in cement sector listed in Karachi Stock Exchange. Short-term debt to equity and long-term debt to equity are the independent variables, and the dependent variables of this research are Return to Assets and Return to Equity. This study was using data from the time period 2008 – 2012 and used regression model and descriptive statistics to analyze the data.

Figure 2.5

Short term debt to equity and long term debt to equity to profitability

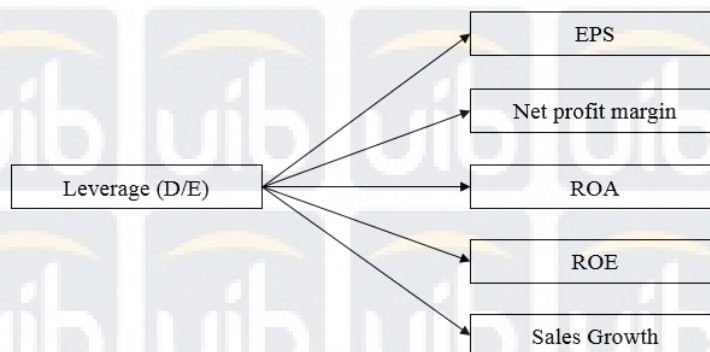


Source: Nadeem *et al.*, (2015)

A study by Rehman (2013) aim to determine the effect of *financial leverage* on *financial performance*. The annual data from year 2006 until year 2011 of the sugar companies in Pakistan were used as the sampling data in this research. This research used *earning per share*, *net profit margin*, *return on asset*, *return on equity* and *sales growth* as the dependent variables, while use *debt to equity* as the independent variable.

Figure 2.6

Debt to equity to EPS, net profit margin, ROA, ROE and sales growth



Source: Rehman (2013)

The purpose of the research by Leon (2013) is to study the impact between leverage and financial performance of listed manufacturing companies from the year 2008 to 2012 in Sri Lanka. Financial performance was analyzed in terms of accounting profitability by Return on Equity and Return on Assets. 30 listed manufacturing firms were selected as sample. Correlation and regression analysis by using SPSS were used to analyzed the data. The independent variable used in this research is leverage, while the dependent variables are return to asset and return to equity.

Figure 2.7

Leverage to ROE and ROA

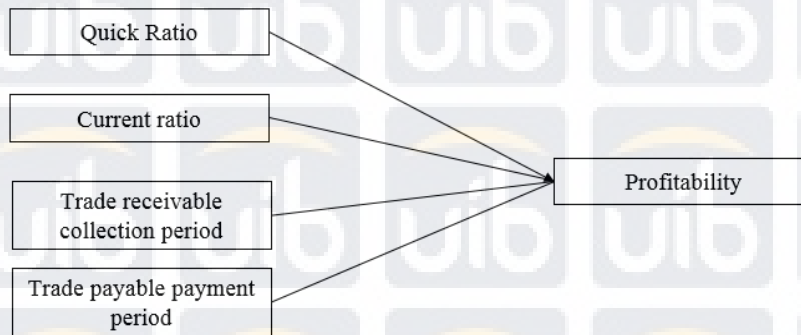


Source: Leon (2013)

A study by Ailemen, Folashade, Agwu, and Adetula (2014) determine the impact between WCM (working capital management) and profitability. The study used Nestle Nigeria Plc and Cadbury Nigeria Plc as the sample. Correlation and regression analysis are being used to analyze the data. The independent variables used in this study consists of quick ratio, current ratio, trade receivable collection period, and trade payable payment period. While profitability is used as the dependent variable in this study.

Figure 2.8

Quick ratio, current ratio, trade receivable collection period, trade payable payment period to Profitability



Source: Ailemen *et al.*, (2014)

Research conducted by Ahmad (2016) was a study to analyze the effect between liquidity and profitability of the banking sectors in Pakistan. Independent variables consists of *Current ratio*, *quick ratio*, and *net-working*, while the dependent variables consists of *return on assets*, *return on equity*, *gross profit* and *net profit*. This research was using multiple regression model for research period of 10 years from 2004 to 2013.

Figure 2.9

Current ratio, quick ratio and net-working to Profitability

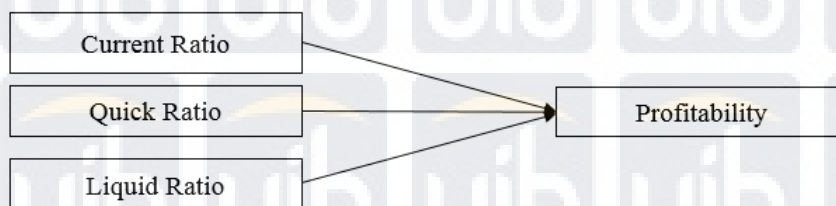


Source: Ahmad (2016)

Research conducted by Saleem and Rehman (2011) was a study of the impacts of liquidity ratios on profitability. This research is conducted between the year of 2004 and 2009. The sampling data were from Oil and Gas sector on Karachi Stock Exchange (KSE) with total 26 companies are selected. In this research, dependent variables consist of *ROA*, *ROE* and *ROI*, while *current ratio*, *quick ratio* and *liquid ratio* are the independent variables. Linear regression was used as the research model.

Figure 2.10

Current ratio, quick ratio and liquid ratio to Profitability



Source: Saleem and Rehman (2011)

A study by Alzorqan (2014) with the title “*Bank Liquidity Risk and Performance: An Empirical Study of the banking system in Jordan*” is a study to determine the impacts of *liquidity* on *profitability* of the banking system in Jordan. The dependent variables from this study are *return on investment* and *return on equity*, meanwhile, *current ratio* and *loans to deposits ratio* are the independent variables in this study. The data from this study is estimated through fixed effects regression. The purposive samples are 2 banks over the period 2008-2012.

Figure 2.11

Current ratio and loans to deposit ratio to Profitability

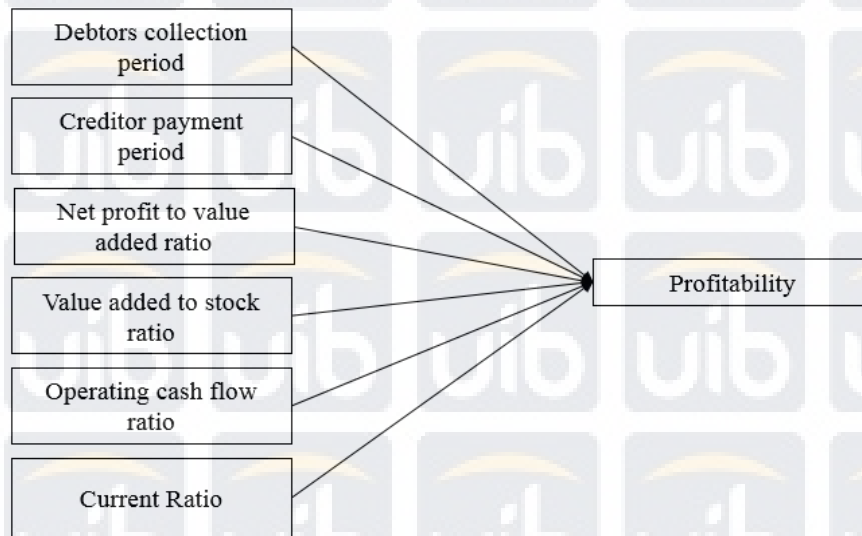


Source: Alzorqan (2014)

Research conducted by Priya and Nimalathasan (2013) aimed to learn about the impact between liquidity ratio and profitability of manufacturing firms in Sri Lanka. The sample data in this study is the manufacturing companies in Sri Lanka from year 2008-2012. The data was analyzed by using correlation and regression. *Return on asset* and *return on equity* are the dependent variables in this research, while the independent variables consists of *debtors collection period*, *creditor payment period*, *net profit to value added ratio*, *value added to stock ratio*, *operating cash flow ratio*, and *current ratio*.

Figure 2.12

Debtors collection period, creditor payment period, net profit to value added ratio, value added to stock ratio, operating cash flow ratio, and current ratio to Profitability

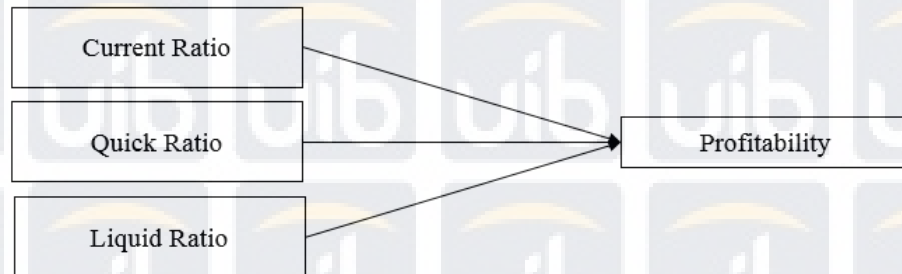


Source: Priya and Nimalathasan (2013)

The study by Niresh (2012) with the title “Trade-off between Liquidity & Profitability: A Study of Selected Manufacturing Firms in Sri Lanka” is a study to determine the impact between liquidity and profitability. The sample data in this study consisted of 31 listed manufacturing companies from 2007 - 2011. The analysis tools in this study are correlation analysis and descriptive statistics.

Figure 2.13

Current ratio, quick ratio and liquid ratio to Profitability



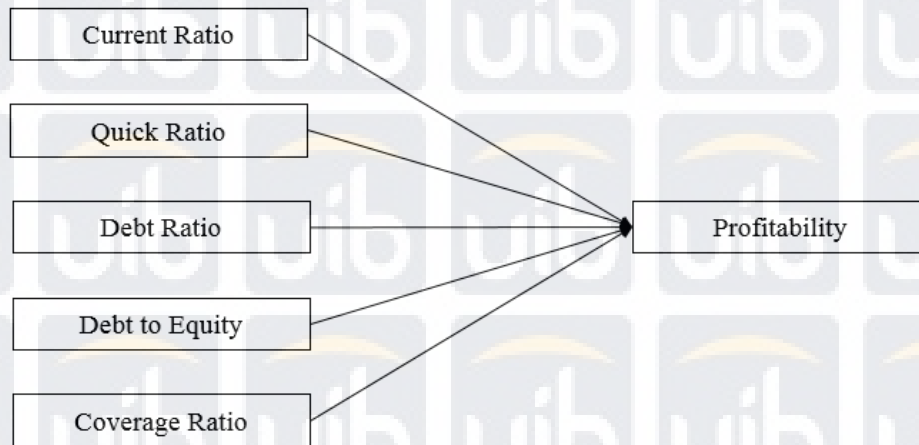
Source: Niresh (2012)

A research conducted by Khidmat and Rehman (2014) aim to study the impacts of liquidity and solvency on profitability of chemical sector of Pakistan. Out of 36 chemical companies, 9 companies were selected as the sample data from the period 2001 to 2009. This research used *return to equity* and *return to asset* as the dependent variables, while *current ratio*, *quick ratio*, *debt ratio*, *debt to equity ratio*, and *coverage ratio* were the independent variables. This research used correlation and regression as the research model.

Figure 2.14

Current ratio, quick ratio, debt ratio, debt to equity and coverage ratio to

Profitability



Source: Khidmat and Rehman (2014)

The research by Rehman, Khan, and Khokhar (2015) is a study to learn about the impact of liquidity and profitability of companies listed in Saudi Stock Exchange (Tadawul) from the period 2008 to 2012. *Return to asset* and *return to equity* are the dependent variables in this study. While, the independent variables are *current ratio*, *quick ratio*, and *cash ratio*. This research use descriptive statistics and correlation analysis to analyze the data.

Figure 2.15

Current ratio, quick ratio, and cash ratio to Profitability



Source: Rehman *et al.*, (2015)

Study conducted by John (2014) with the title “*Effect of Cash Management on Profitability of Nigerian Manufacturing Firms*” is a study to examine the relationship of cash management and profitability. Data were obtained from the audited accounts of fifteen randomly selected manufacturing companies in the Nigerian stock exchange for 2008-2012 period This study is using correlation and regression analysis to analyze the data. Cash conversion cycle represents (CCC) the independent variable on the other hand; control variables consist of debt ratio, current ratio and sales growth. Meanwhile, ROA and ROE were the dependent variables.

Figure 2.16

Cash conversion cycle, current ratio, debt ratio, and Sales growth to Profitability



Source: John (2014)

A study by Irawan and Faturhman (2015) with the title “A study of Liquidity and Profitability Relationship: Evidence from Indonesian Capital Market” aimed to identify the relationship between liquidity and profitability in Indonesia market of agriculture industry and consumer goods industry between 2005 – 2013.

Cash conversion cycle, current ratio, and quick ratio are being used as the independent variables, while *return on asset* and *return on equity* are the dependent variables. Regression panel analysis and Spearman rank correlation are used to analyze the data in this study.

Figure 2.17

Cash conversion cycle, current ratio, quick ratio to Profitability



Source: Irawan and Faturohman (2015)

The research conducted by Noor and Lodhi (2015) is a study to determine the relationship of liquidity and profitability. The liquidity ratio including *current ratio* and *quick ratio* were the independent variables, while *return to asset* and *return to equity* are the dependent variables. Five companies in automobile sector were selected as the sampling data in this research.

Figure 2.18

Current ratio, quick ratio on Profitability



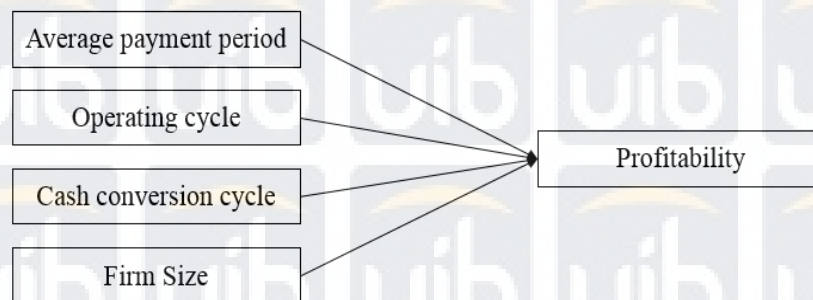
Source: Noor and Lodhi (2015)

A study by Atta, Javed, Khalil, Ahmad and Nadeem (2017) is a research to study the relationship between *working capital* and *corporate performance* in the textile sector of Pakistan. The data was collected from annual reports of the companies published during 2008 – 2012. Regression model is used for the analysis of the gathered data. Meanwhile, *return on equity* is the dependent variable and

average collection period, operating cycle, cash conversion cycle, and firm size are used as the independent variables in this study.

Figure 2.19

Average payment period, operating cycle, cash conversion cycle and firm size on profitability

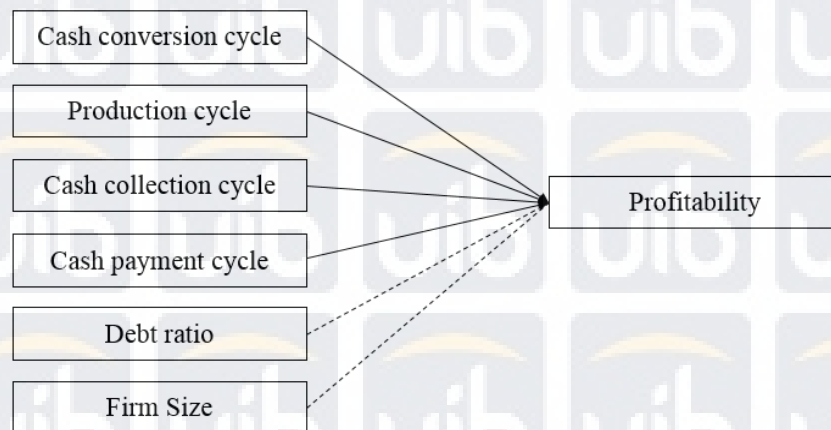


Source: Atta *et al.*, (2017)

The research conducted by Linh and Mohanlingam (2018) aim to learn about the relationship of *cash conversion cycle* and *profitability*. Total 34 companies of agriculture and food sector listed in Thailand Stock Exchange from period 2009 to 2013 were selected as the sample data. Pearson's correlation and regression analysis are used as the tools to analyze the data. *Cash conversion cycle, production cycle, cash collection cycle, and cash payment cycle* are the independent variables in this research. *Return on equity* and *return on asset* are the dependent variables. There are also *firm size* and *debt ratio* are being used as the control variables.

Figure 2.20

Cash conversion cycle, production cycle, cash collection cycle, cash payment cycle, debt ratio and firm size to profitability

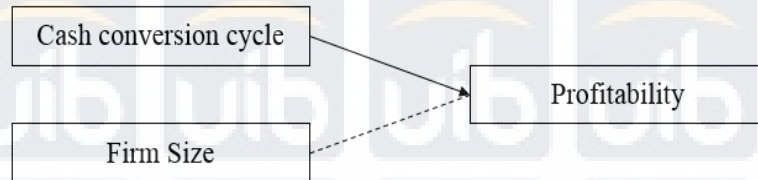


Source: Linh and Mohanlingam (2018)

A study by Majeed, Makki, Saleem, and Aziz (2013) with the title “The Relationship of Cash Conversion Cycle and Profitability of Firms: An Empirical Investigation of Pakistani Firms” is a study to determine the impact of CCC on the performance of Pakistan manufacturing firms listed in Karachi Stock Exchange. 32 companies were selected randomly for the period from 2006-2010. The correlation and regression are the analyze tools in this research. Cash conversion Cycle acted as the independent variable, firm size as the control variable, and the dependent variable in this study is ROA, ROE and operating profit.

Figure 2.21

Cash conversion cycle and firm size to profitability

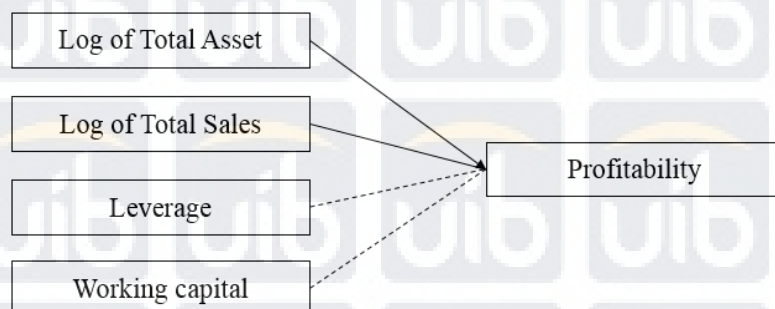


Source: Majeed *et al.*, (2013)

The research conducted by Olawale, Ilo, and lawal (2017) is a research to investigate the impact of firm size on the profitability of companies from Nigeria Stock Exchange from year 2005 to 2013. Panel data is being used to analyze the data. The dependent variable in this research is *return on equity*. Logarithm of total asset and logarithm of total sales are the independent variables, while leverage and working capital are the control variables.

Figure 2.22

Log of total asset, log of total sales, leverage and working capital to profitability



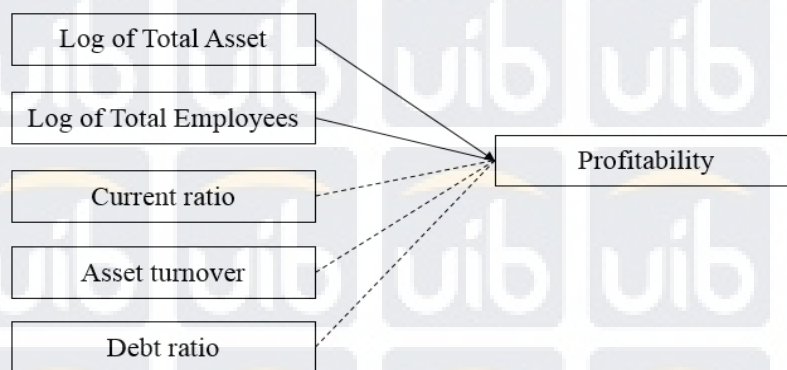
Source: Olawale *et al.*, (2017)

A study by Pervan and Višić (2012) with title “Influence of Firm Size on its Business Success” is a study to determine the impact of firm size and financial performances of companies from 2002-2010. Profitability ratio such as return to

asset, return to equity, profit margin, EBIT margin, and EBITDA margin are being used as the dependent variables and log of total asset and log of total employees are used as the independent variables. Current ratio, asset turnover and debt ratio are used as the control variable. This study is using correlation and regression panel data to analyzed the data.

Figure 2.23

Log of total asset, log of total employees, current ratio, asset turnover, and debt ratio to profitability



Source: Pervan and Višić (2012)

2.2 Definition of Dependent Variable

Dependent variable in this research is profitability as it's one of the important indicators to analyze the performance of a company. In order to measure a company's financial, usually profitability ratios are used as the tools to measure it. Whereas, the profitability ratios tells about the ultimate goal of a business. The reason to calculate the profitability ratio is to determine the efficiency of the company's operation and returns generated by a business.

Profitability ratios consists of Gross Profit Margin, Net Profit Margin, Return on Assets, Return of Equity, Return on Sales, Return on Capital Employed, Return on Investment, Earning Per Share, and Tobin' Q ratio. The most common ratio used in a research to determine a company's profitability are return on equity, return on assets and Tobin' Q ratio. In this research, the author is using return on equity ratio to measure the companies' profitability.

Return on Equity Ratio (ROE) is a profitability ratio to assess a company's ability to generate profits from the company's shareholder investment expressed in percentage. Return on equity shows how successful the company manages its capital (net worth) so that the level of profit is measured by the investment of the owner of the capital or the company's shareholders.

2.3 The relationship between the variables

2.3.1 The relationship between Leverage and Profitability

An extent where company uses fixed-income securities (debt and preferred equity) to obtain additional assets is called *financial leverage*. High financial leverage means that company uses more debt financing which lead to high interest payments and will influence the company's earnings per share negatively. When using financial leverage to control greater amounts of assets will eventually lead the returns on the owner's cash investment became bigger. When there is an increasing in value of asset, it will bring in larger gain on owner's cash. On the other hand, a decreasing in value of asset cause larger loss on the owner's cash.

In the study conducted by Shamaileh and Khanfar (2014) explained financial leverage and return on investment on profitability of Tourism firms listed in Amman Stock Exchange has a significant relationship. Also, the study made a conclusion that financial leverage explain the 4.4% percentage of changes occurring in profitability.

In the research conducted by Saleem et al., (2011) stated that financial leverage showed a significant relationship on firm's performance. Which means, the company's earning ability is affected significantly by the fixed operating expenses and financing mix decision. The leverage effect is positive when the profit is larger than the fixed financial charges to be paid for the lenders and financial institution.

Research conducted by Barbuta-Misu (2013), Leon (2013), and Nadeem et al., (2015) showed that leverage has a positive and significant relationship with the ROE.

A study by Kimathi et al., (2013) explained debt to equity ratio showed a negative impact on profitability. The study suggested the companies should prefer internal finance to increase return on equity as financial performance is associated to debt negatively. Companies are suggested to maintain a target debt level consistent with trade-off theory or to follow a financing hierarchy consistent with pecking order theory in order to improve on financial performance.

2.3.2 The relationship between Working Capital and Profitability

Working capital could help company to analyze its operational efficiency and short-term financial health. It is indicated the ability of company to cover up its

short term debt with their short term assets. If a company has more current liabilities than its current assets, it's means the company might not or have trouble to pay back the debt or might go bankrupt. Working capital can be calculated by reducing current assets by current liabilities.

In the research by Sharma and Kumar (2011) and Wanguu and Kipkirui (2015), the study made a conclusion that number of days accounts payables and number of days of inventory on profitability have negative impact with each other, which indicates that payables period negatively influences profitability. On the other side, both studies found out a positive relationship of profitability and number of days accounts receivables. The study reveals if the length of CCC is short, then it will affects the profitability negatively.

In the research by Takon and Atseye (2015), the results of the panel regression explained that working capital management and profitability are strongly related with each other. Buts, cash conversion cycle has a negative impact on ROA.

2.3.3 The relationship between Liquidity and Profitability

In finance, liquidity could explain the quickness and readiness of an asset or security can be sold inside the market without influenced the asset's price.

Market liquidity means the degree of the assets to be bought at normal prices in the market. Cash is considered as the most liquid asset. Other asset such as real estate, fine art and collectibles are the illiquid assets. Ratios such as *Current Ratio*, *Quick Ratio*, and *Cash Ratio* are being used to measure the liquidity.

Between the three liquidity ratios, *current ratio* is the simplest formula which can be calculated by dividing current assets and current liabilities. Current ratio is considered the best when its between 1.2 to 2. Current ratio equal to 1 explained that current assets is equal to current liabilities. Meanwhile, when the ratio is below 1, it's means the company doesn't have enough short-term assets to make up its short-term debt.

In the research conducted by Ikpefan et al, (2014), Priya and Nimalathan (2013), Niresh (2012) and Rehman, Khan, and Khokhar (2015) showed liquidity ratio and *return on equity* have a negative and insignificant relationship. Firms should maintain an adequate level of liquidity to meet production demands and to make sure of un-interrupted production. Companies are suggested to improve their performance and their financial liquidity position in order to increase their profit and performance.

A research by Irawan and Faturohman (2015) concluded that there is *current ratio* is statistically significant affects the *return on equity*, but when using the Spearman correlation, it's showed that current ratio and *return on equity* have a weak negative relationship. It's suggested to manage current ratio as it's proved that current ratio is statistically significant affecting profitability.

Study by Khidmat and Rehman (2014), Alzorqan (2014), and Ahmad (2016) made a conclusion that *current ratio* and *return on equity* has a positive and significant relationship with each other.

2.3.4 The relationship between Cash Conversion Cycle and Profitability

Cash conversion cycle is one of the ways to measure the liquidity level of a company. The main purpose of CCC is to measure the total of days cash is tied up in the production and cycle process, and the benefit it derives from payment terms from the company's creditors. The longer this cycle means the working capital position of this company is not liquid and vice versa.

In the research by Irawan and Faturohman (2015) concluded that cash conversion cycle is statistically affecting the *return on equity* but spearman rank correlation analysis concluded that CCC has a weak negative effect on ROE. It's suggested for financial manager to pay more attention at Cash Conversion Cycle as it statistically affect the *return on equity*. It is suggested that financial managers should improve its inventory turnover, collect receivable quickly and pay the debt slowly.

Study by John (2014) and Atta et al., (2017) concluded that *cash conversion cycle* are positively associated with the *return on equity* of companies which means CCC is affecting the profitability of the companies significantly. Management of the companies should realize the importance of the working capital and they must manage their working capital efficiently and effectively.

A research by and Majeed et al., (2013) showed *CCC* and *return on equity* has negative relationship with each other. Which means the longer *cash conversion cycle*, companies will get less profitable. The probable reason to the negative relationship could be the companies keep their inventory for a certain period of time, collecting receivables in slow pace and paying debts quickly.

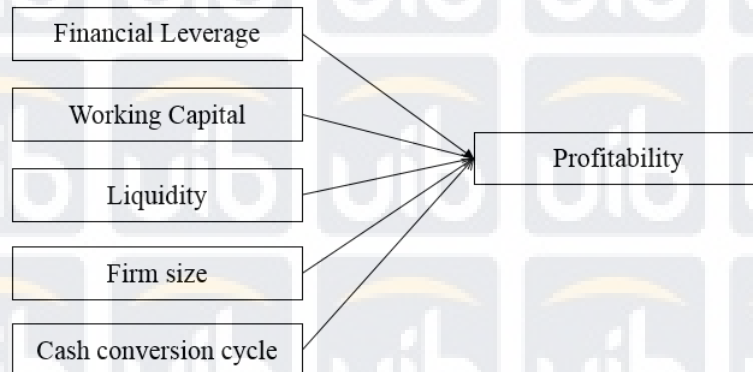
2.3.5 The relationship between Firm Size and Profitability

The firm size is a main factor in determining the profitability of a firm as related to the economies of scale concept. Compare to a smaller firms, bigger firms can produced much more items in lower production costs. Accordance to the concept, it is expected that the firm size has a positive relationship with the profitability.

According to the research by Linh and Mohanlingam (2018) concluded *firm size* has a significant positive effect on *return on equity*. But, according to the Olawale et al., (2017), they made a conclusion that *firm size* has a negative effect on *return on equity* of companies. Olawale et al., (2017) suggested companies should focus in increasing their size by boosting turnover and opening up new markets.

In the research by Pervan and Višić (2012), the result of the analysis showed *firm size* has a weak positive relationship with *profitability*. The study indicated this situation can be happened because larger companies has the monopoly in charging higher prices to earn higher profits. However, reasons of the weak relationship could be found in separation of ownership that shifter managers' focus from maximization of profit to maximization of managerial utility, inflexible organization structure and used technology and a change in strategic logic of firms.

2.4 Research Model and Hypothesis



Based on the explanation above, the variables that are going to use in this study are dependent variable and independent variable. The independent variables used in this research are *financial leverage*, *working capital*, *liquidity*, *firm size* and *cash conversion cycle (CCC)*. While the dependent variable used in this research is *profitability*. The data for this research is collected from Indonesia Stock Exchange website.

Based on the Hypothesis table above, then the hypothesis for this research are as follows:

H₁: *Financial Leverage* has a positive and significant effect on *profitability* at Indonesia stock exchange.

H₂: *Working Capital* has a positive and significant effect on *profitability* at Indonesia stock exchange.

H₃: *Liquidity* has a negative and insignificant effect on *profitability* at Indonesia stock exchange.

H₄: *Cash Conversion Cycle (CCC)* has a positive and significant effect on *profitability* at Indonesia stock exchange.

H5: *Firm size* has a positive and significant effect on *profitability* at Indonesia stock exchange.