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# **A Study of Relationship between Liquidity Risk with External and Internal Factors**

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# **HOME DEPOT INC: A STUDY OF RELATIONSHIP BETWEEN LIQUIDITY WITH EXTERNAL AND INTERNAL FACTORS**

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## **ABSTRACT**

The study's aim is an attempt to determine the liquidity risk of Home Depot Inc which involved two main factors of internal (firm-specific) and external (macroeconomics) factors. These data was interpreted and collected Home Depot annual reports of five year period from 2014 to 2018. There are four risks involved which are credit risk, operational risk, profitability, and market risk. Measurement of current ratio, quick ratio, average -collection period, debt to income ratio, operational ratio, and operating margin are used to examine the overall five years liquidity risk of Home Depot. Hence, to determine the relationship of these risk factors to the company's liquidity risk, this study used profitability, credit risk, operational risk, market risk, gross domestic products (GDP), inflation, interest rate, exchange rate, BETA, and corporate governance index. SPSS system are used to do data analysis in which by implementing stepwise method which apply the descriptive statistics, correlation, and model summary. Based on the data analysis, we can conclude that operational risk is the most significant to CR since it gives the highest impact to liquidity risk of the company. Nonetheless, the other variables give low impact to the CR and there is no significant related with.

Keywords: liquidity, operational risk,



# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

The beginning of this chapter comprises of overview of Home Depot Inc. Later, discussing the problem statement, objectives of research, the study's scope, and final research organization.

### 1.1 Overview of Home Depot Inc and its Corporate Governance

Home Depot Inc was first founded in 1978 and is now the largest home improvement retailer in the United States of America. Arthur Blank and Bernie Marcus now are billionaires along with Ken Langone who is an investment banker helped in securing necessary capital, and merchandising expert Pat Farrah also helped in founding Home Depot. Home Depot mainly supplying tools, services and construction products. On September 22, 1981 Home Depot conducted its first IPO, trading at that time on NASDAQ under the symbol HODM by entering the market with \$12 per share. However, Home Depot also conducted the stock split on nine separate occasions in the intervening years. Now after 40 years, Home Depot stocks have been one of the best long-term investments.

Excellent corporate governance is said to be in Home Depot and based on their daily operations of values and principles in recognizing their ethics to their respective shareholders, employees, customers, suppliers, and the communities in their daily operations. It is also aligned with Home Depot's mission which is practicing good corporate governance. Hence, in aligning with their mission to have good corporate governance practices, the company implement recommendations of the SEC-sponsored Blue Ribbon Committee during 1999. Later, the company has continued to commit in practicing good corporate governance practices that strengthen its compliance procedures and keep improving its financial reporting processes. In 2002 and 2003, the company implemented a few significant procedures which were a Disclosure Committee responsible to ensure that the company disclose their information complete with accuracy to their stockholders and the investment community, a Corporate Compliance Council also known as Enterprise Risk Council responsible in reviewing the company's policies of compliance and monitoring its performance, a Policy and detailed procedures for the retention of the company's independent auditors, and New Independence Standards for Board Members in ensuring that they

meet or exceed the standards proposed by the New York Stock Exchange. In 2006, the company started to adopt a majority vote standard to elect the directors in which each director is required to receive a majority of the votes cast with respect to that director. Previously, the company used a plurality vote standard in which the candidates who received the most votes would win without regard to whether those votes constituted a majority of the shares cast at the meeting. Moreover, apart from attending the Board and Committee meetings, the board members must-visit stores regularly and engage in the operational review of stores throughout the year. The majority of the directors in the Board are independent and each director serving on the Audit, Leadership Development, and Compensation, and Nominating and Corporate Governance Committees are independent. On 17<sup>th</sup> October 2018, the Business Code of Conduct and Ethics were revised. The reason why the Code was updated was to reflect administrative changes and to conform to other policy updates. As with the prior version, the revised Code applies to all members of Home Depot's Board of Directors and all associates of Home Depot worldwide.

However, in 2006, Home Depot's board has been criticized as they have been missing from annual meeting to discuss executive pay practices and chairman and chief executive Robert Nardelli about his compensation package. Apart from that, shareholders want Home Depot to disclose more diversity data reports and this has been a problem for Home Depot to the point that the company paid exceeded \$100 million for cost of discrimination lawsuits to the shareholders. Finally in 2001, Home Depot start to provide diversity reports upon request and also reversed its policy on disclosure of information.

### **1.3 Problem Statement**

It is very important for the company in management of their liquidity risks, to prevent themselves from bankruptcy. Because of risks like credit risks, operational risks, and market risks, liquidity risk often happened to company. The problem here is when company's liquidity risk increases, it will decrease the ability of the company to raise funds. Hence, this will impact company's income and capital and the worst situation could happen which is not able to pay the debts due. When the company experiences liquidity problems, this will also affect the GDP of the country and hence the entire economy. Hence, the identification of factors with liquidity, as necessary actions can be taken.

### **1.4 Research objectives**

In general, this study was designed in determining Home Depot's liquidity risk and its determinants. The objectives of this study are:

1. To investigate the firm-specific (internal) factors towards liquidity risk
2. To investigate the macroeconomic (external) factors towards liquidity risk
3. To investigate both internal and external factors towards liquidity risk

### **1.5 Research Questions**

1. Does any relationship exist between internal factors and liquidity risk?
2. Does any relationship exist between external factors and liquidity risk?
3. Does any relationship exist between both factors and liquidity risk?

### **1.6 Scope of Study**

The study sample is from Home Depot Inc. In calculating the financial ratios, data are taken from five years of annual reports from 2014 to 2018 of Home Depot Inc.

### **1.7 Organization of the Study**

This study is made up of five chapters. The first chapter is about the background of the research, which consists of research overview, problem statement, goals of research, the research scope, and research organization. Chapter two comprise of performance of the company and the determinants of it. Chapter three contains a theoretical framework, measurement of variables, methods of research, and analysis of data. Chapter four is about study's findings. Finally, chapter five is about the summary and the study's conclusion.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter allocates the review of the literature associated with the research. Consisting of two parts which are the determinants of internal factors and external factors.

#### **2.2 Corporate Governance**

Corporate governance is defined as relationship between managers, shareholders, and directors and also consist of corporation's relationship to the stakeholders and society while in much broad version, corporate governance is described as it comprised the combination of laws, regulations, rules of listings, and voluntary private-sector practices that make the company are able to attract investors to invest in their capital, execute with efficiency, making profit and meet both legal obligations and also society's expectations. It concerns how well the management performs to ensure that capital provided by the investors is being maximized for profit. (Millstein, 1998)

RI Tricker (1984) described corporate governance as the processes of how company are governed, that is with power of the directors, executives supervise and monitor their work, the concern of how the company will affect on other parties, accepting that every action are held accountable and the corporation regulate within the states' jurisdiction where it operates.

Effective corporate governance must focus on these 4 important areas or principles. First, is accountability by knowing that board members have responsibilities and governance roles and by means volunteering in ensuring in converging the interest of managers and shareholders and board will monitor this. Second, it is responsibility to ensure that the corporation abides the laws and regulations as it reflects the values of society. Third, is fairness, by ensuring to protect the rights of minority and foreign shareholders. Fourth, is transparency, by ensuring to disclose the information about company performance, governance, and ownership are accurate and clear (Millstein Report, 1998).

#### **2.3 Credit risk**

Credit risk is a risk that happened because of the increase or decrease of a borrower's creditworthiness (Tapiero, 2004). Indeed, it is very important to identify and measure institution's credit risk with accuracy as to prevent from experiencing bankruptcy (Allen, 2002).

There is two specialized ways of measuring the credit risk which is market value of default loss and exposure (Duffie and Singleton, 2003). However, these specialized measures have different ways of using financial institutions. Moreover, there are other internal measures of credit risk such as financial institutions are required to measure and report credit risks to the appropriate regulatory authorities.

## **2.4 Operational Risk**

G. Cruz (2002) defines operational risk is the risk of losses due to problems from internal controls, people, systems, and external events. Hence, operational risk is losses that are because of operational errors. Operational risk is defined as losses because of computer systems failure, fraud, and data entry errors (Dermine and Bissada, 2002). Measures to handle operational risk are scenario analysis, internal control factors, and business environments, establish causal relations and risk control and self-assessment (Hull, 2018).

## **2.5 Liquidity Risk**

According to Banks (2005), liquidity risk is the risk of loss due to cash deficiency or equivalents or, specifically defined as the risk of loss due to incapability or fail in obtaining enough funding at acceptable economic levels, or pledge or sell an asset at carrying prices, use to cover an expected or unexpected obligation. Liquidity risk is the risk of not able to liquidate a position in a timely manner at a price that is reasonable (Muranaga and Ohsawa, 2009).

Liquidity risk comprised of two which is funding liquidity risk and market liquidity risk. Funding liquidity risk happens when a trader cannot trade or not able to fund his position due to fund deficiency while market liquidity risk is a risk that happens when it is not easy for a market participant to do trading and with little cost (Jamal and Ali, 2014).



## **2.6 Market Risk**

Tapiero (2004) explained that market risk is associated with the movements of market indices. Changes in stock prices, unforeseeable interest rate variations or market liquidity can be the reasons why. Market risk comprised of four types which are interest rate risk, exchange rate risk, commodity price risk, and equity price risk (IG, 2019). Crouhy, Galai, and Mark (2001) define there is some course of action to measure market risk which is the factor sensitivity measures, other price sensitivity measures, and value at risk.

## **2.6 Ratio Performance**

Monks and Minow (2011) explained that there are many measures of corporate performance which are Generally Accepted Accounting Principles (GAAP), Market value, Earnings per share, and Economic Value Added (EVA). GAAP is considered as a language where the assets and corporations' liabilities are recorded in balance sheets and in income statements their functioning were explained Market value is calculated by sales volume, by net sales and equity capitalization market value. The bigger the price a company stated for its shares on the market, the bigger its power in raising future capital by equity sales. EVA is defined as (After Tax Operating Profit – Weighted Average Cost of Capital) × Total Capital.

Efficiency ratios can be used to measure short term or current performance of the company as it can help to analyze how well the company uses its assets and liability (Investopedia, 2019). Hagel III, Brown and Davison (2010) explained that to measure performance of a company used Return on Asset (ROA). By using ROA, it can quickly focus the management's attention on the assets required that running the business.

## **2.8 The Importance of Corporate Governance**

According to a study (R.I. Tricker, 1984), corporate governance is important as it gives an opportunity and guidance to make a contrast between governance and management. Corporate governance helps to regulate companies in society, hence misuse of power incorporation can be prevented without necessarily impeding flexibility, innovation, and entrepreneurial risk-taking. Moreover, corporate governance is important in improving the activities board's quality and ensure that boards are effective.

In a study made by Gregory and Simms (1999), corporate governance is important as it directly impacts corporations' efficiency in employing assets, is able in attracting capital that is low cost, able to meet the social expectations, and its performance in general. Law (2017), described good corporate governance helps in the regulation of risk and reduce the number of opportunities for corrupt practices, ensure the protection of its members, officers, and management, ensure that the board members meet regularly and retain control over business.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter is presenting a framework that is employed in data collection. To achieve the study's goals, this method is used, and hence obtaining perfect results by the end of the study. This study aims to further understand the mobility of Home Depot Inc and its determinants. The method used to collect data is the 25<sup>th</sup> edition of the Social Science Statistics Package (SPSS). It also used population/sampling technique, statistical technique, and data analysis.

#### **3.2 Population/Sampling Technique**

The analysis unit is the major entity being analyzed in the study. For example, individuals, groups, organizations, and many more can be the units of analytical in this study. Hence, in this study, organizations are the analysis unit. Meanwhile, this study's population is a company in the e-commerce industry in United States. To conduct the study, a sample was chosen which is Home Depot Inc. The company's data are taken from the 5-year of annual reports from 2014 to 2018 to measure the dependent variable (liquidity risk) and the independent variables (internal factors and external factors).

#### **3.3 Statistical Technique**

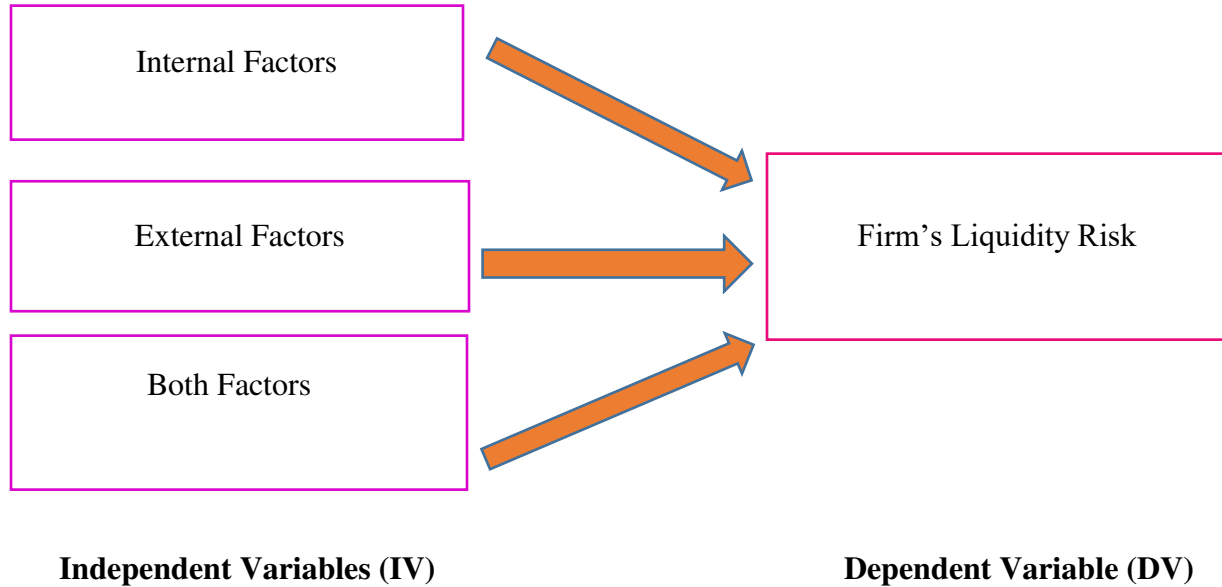
In conducting this research, we chose the United States and focus on e-commerce industry. Home Depot Inc is the choice. I have collected the company's annual reports for five years from 2014 until 2018. The detailed specific information in the income statement and balance sheet in these annual reports is used in calculating all aspects of the company from profitability, liquidity, operational and many more, also in analyzing the impact on each factor on each company, and credit. For information on non-financial performance, information regarding the audit committee, remuneration committee, board size, board meetings, experience, and total compensation are used

in calculating corporate governance index scores. In order to determine the macroeconomic factors, we acquired the five years of historical prices of the company (from 2014 to 2018), from Yahoo Finance for calculation of the beta. Moreover, GDP, exchange rates, inflation rates, and five-year interest rates were also gathered for the review of the economic trends from 2014 to 2018 and all of this information were collected from various sources such as World Bank, Bank of America and International Monetary Fund.

The major and most common technique used in this study is the ordinary least squares (OLS) regression. By using this, it can do data analysis and hence form the basis of other technologies. In order for the stimulation of the specific response variables that have been recorded, OLS is basically an integrated modeling technique that is being used. As stated by Hutcheson (2011), this application of this technique can be applied to single or multiple explanatory variables and coding classification explanatory variables. Through the sample data, by using the principle of least squares, a pre-set regression function is fitted (Pedace, n.d). This principle specifies that the squared distance between the dependent variable observations and the SRF estimates are minimized and to do that we should construct a sample regression function (SRF). Therefore, even if we need an alternative method, OLS is still the most preferred technique to estimate regression due to OLS is easier to understand than other alternative technologies and will show the desirable characteristics in the results.

### 3.4 Data Analysis

In accord with the conceptual framework for future research, it consists of a dependent variable and two independent variables in the study. The framework of research is as follow:



**Figure 3.1 Framework of Research**

To determination of the impact of independent variables on the dependent variables, is by using the multiple regression analysis. By using this type of regression technique, the influence of independent variables on the dependent variable can be described. Multiple regression formula is expressed as follow:

$$CR = \beta_0 + \beta_1ROA + \beta_2ACP + \beta_3OR + \beta_4OM + \beta_5QR + \beta_6DIR + \beta_7INDXS + e \dots\dots\dots \text{Equation 1}$$

$$CR = \beta_0 + \beta_1INFLA + \beta_2BETA + \beta_3INTR + \beta_4EXCGR + \beta_5GDP \ e \dots\dots\dots \text{Equation 2}$$

$$CR = \beta_0 + + \beta_1ROA + \beta_2ACP + \beta_3OR + \beta_4OM + \beta_5QR + \beta_6DIR + \beta_7INDXS + \beta_8NFLA + \beta_9BETA + \beta_{10}INTR + \beta_{11}EXCGR + \beta_{12}GDP \ e \dots\dots\dots \text{Equation 3}$$

**Table 3.1 Measurement of Variables**

No	Variables	Notation	Measurement
1	Current Ratio	CR	Current Asset / Current Liability
2	Average Collection-Period	ACP	Account Receivables / (Revenue / 360 days)
3	Operating Ratio	OR	Operating Expense / Net Sale
4	Return On Assets	ROA	Net Income / Total Assets

5	Beta	BETA	The 5-year daily stock price
6	Quick Ratio	QR	(Current Asset – Current Ratio – Prepaid Expenses) / Current Liability
7	Debt to Income Ratio	DIR	Total Liability / Total Income
8	Operating Margin	OM	Earning Interest Before Income and Interest / Revenue
9	Gross Domestic Products	GDP	5-year gross domestic product rate
10	Inflation	INFLA	5-year inflation rate
11	Interest Rate	INTR	5-year interest rate
12	Exchange Rate	XR	5-year exchange rate
13	Corporate Governance Index	INDXS	5-year of corporate governance index

### 3.5 Statistical Package for Social Sciences (SPSS)

For this study, we used IBM SPSS Version 25 in calculating data to get the results. SPSS or known as Social Sciences Statistical Package is indeed a great software among those who are doing research as it helps to carry out statistical data analysis (Landau & Everitt, 2004). This is due to IBM SPSS Statistics are able to carry out descriptive statistics, bivariate statistics, numerical result prediction, and recognition group prediction (Techopedia, n.d). But, for this study we only used IBM SPSS Statistics in calculating the correlation between linear regression and variables according to the quantitative data that were obtained. Quantitative data is obtained from Home Depot 5 years of annual reports and it is data about numerical variables.

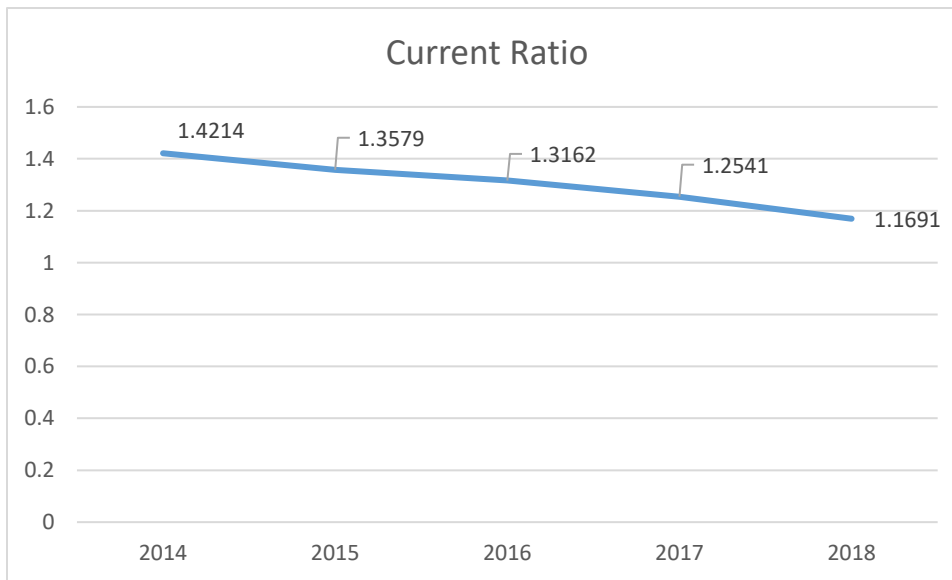
**CHAPTER FOUR**  
**FINDINGS AND ANALYSIS**

**4.1 Introduction**

Researchers are allowed to pinpoint the companies' trends through financial statement analysis by the ratios that are being compared across the five year period. Financial statements consist of three major components which are income statement, cash flow statement, and balance sheet, Through these statements, researchers can identify and do the measurement of profitability, liquidity, operational, leverage, and company wide-efficiency.

**4.2 Liquidity Risk**

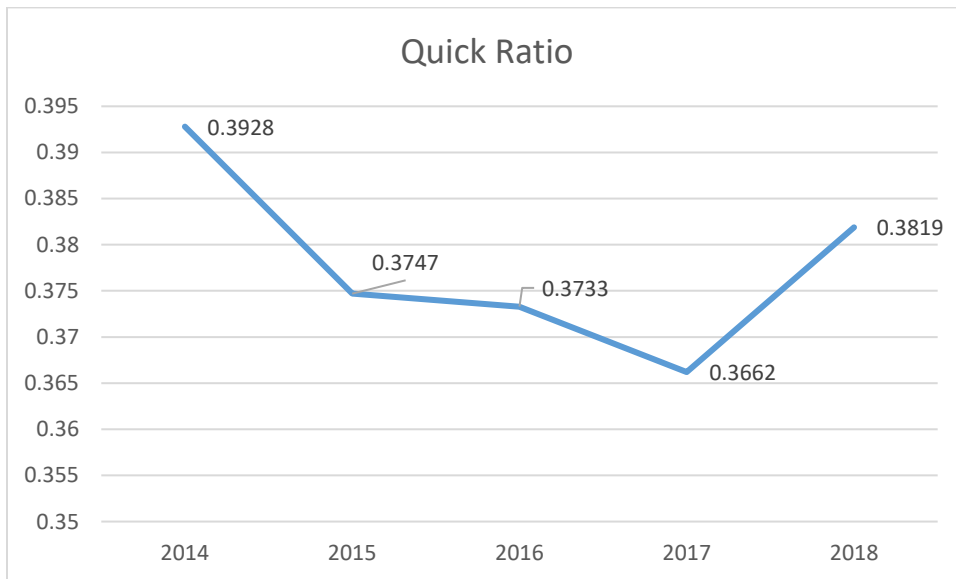
**Figure 4.1 Current ratio for each years**



The current ratio is indicating how the company's management is able to meet its current liabilities like account payable with the current assets. Hence, when the ratio increase, the company's ability to pay its short term financial obligations increase, the higher the liquidity is. A current ratio that has less than one indicates that the company might have problems. According to Figure 4.1, HD has shown a steady decrease in current ratio over the years of 2014 to 2018 but

still considered to be in safe position. However, on 2018 HD current ratio showed the lowest of 1.1691 which is more than 1, indicating HD has no problems paying short term financial obligations this year as it was shown that HD has more current assets than current liabilities. This statement is backed up by research by Welsh and White (1981), stated that a current ratio less than 1 implying insolvency and vice versa for the other. According to Table B.1, the average current ratio is 1.3037 and 0.0969 which means that \$1.3037 to bear \$1 of current liabilities. The current ratio has changed 0.0969 times. It indicates that the annual flow rate of HD does not change much insignificant.

**Figure 4.2 Quick ratio for each year**



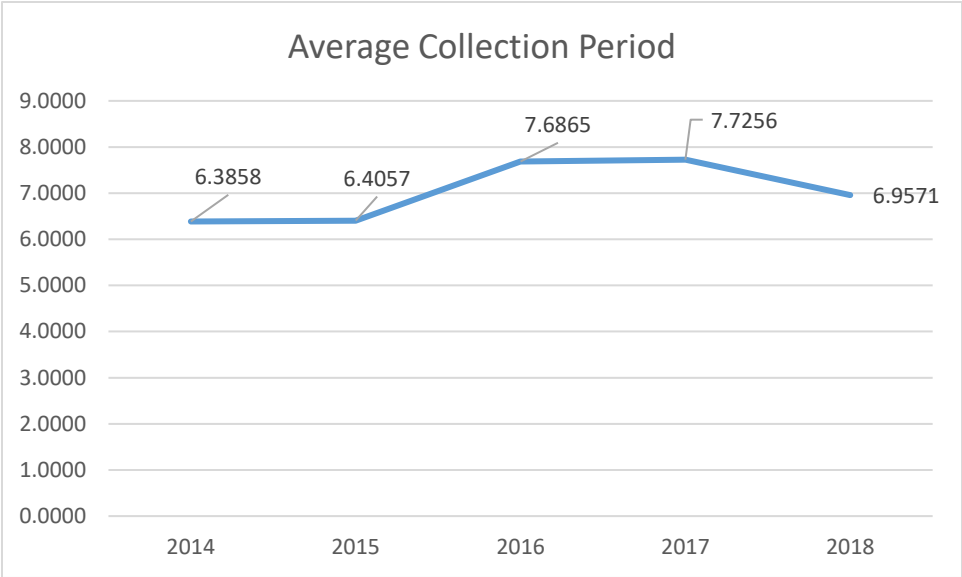
The quick ratio indicates the efficiency of management of company able to meet its current liabilities with the quick assets. When quick ratio increases, the higher the company's liquidity is. According to Figure 4.2, HD has shown decrease of quick ratio from year 2014 to 2017 (0.3928 to 0.3662), indicating that it is not acceptable as the ratio is lower than 1, which means HD might have hard time paying its current liabilities by using quick assets. According to O.Edmister (1972), quick ratio more than 1 indicating that the company has adequate assets in paying current liabilities and vice versa for the other. However in 2018, HD quick ratio raised to 0.3819 which less than 1, indicating that HD still has problems settling its current liabilities in 2018. This is due to increase number of current liabilities bigger than the quick assets. According to Table B.1, the mean of quick ratio is 0.3778 and 0.0101 for standard deviation. The mean of 0.3778 indicating that the



company is not able to meet its obligations through quick assets such as cash and marketable securities as the number is lower than 1. Meanwhile, the company quick ratio changed 0.0101 which is the HD's annual flow rate does not change significantly.

### 4.3 Credit Risk

Figure 4.3 Average collection period for each year

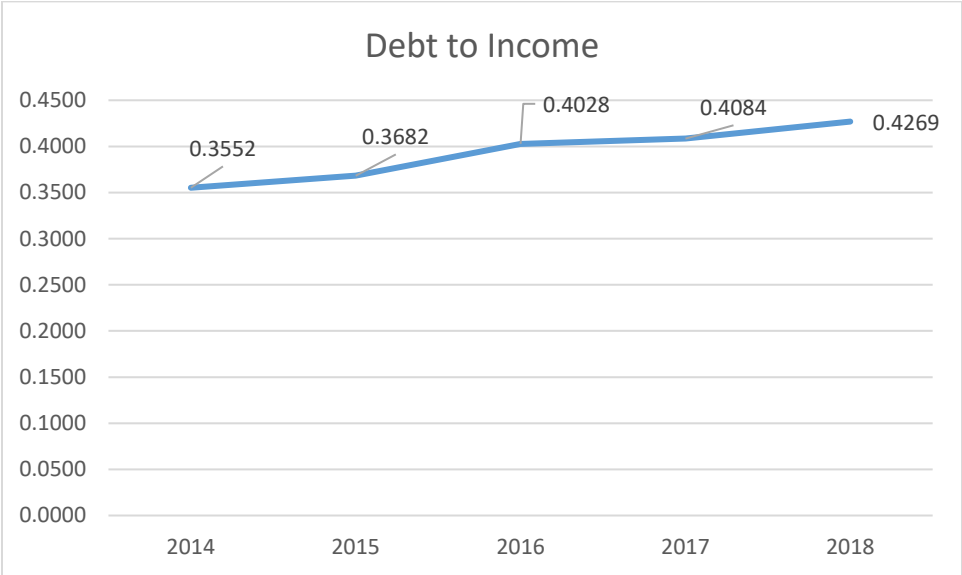


The average collection period indicates how effective is the company's management on its account receivables. When ACP decrease, the credit risk decrease. According to Figure 4.3, 20157 shows the highest number of ACP of 8 days. This indicating that the company collects payments very fast. From 2014 to 2017, HD has shown an increase number of average collection periods (from 6 days to 8 days) and considered to have low average collection periods. According to Table B.1, on average for average collection period is 7 days with standard deviation of 0.6567. Considering most companies collect within 30 days, the average-collection period is in excellent state and indicating good company's financial health.

In fact, to reduce and mitigate company credit risk can be done through tracking the new customers' credit records, or simply read through their financial statements (Melanie Carter, 2014). The company can hold a discussion of credit terms with its new customers before decided to extend the credit line for establishing relationships with customers. In the sales agreement in the credit terms part, it should be clear in order to ensure the minimization of credit risk and pay in timely

manner and also full. Moreover, in minimizing credit risk, company can do by factoring and selling their accounts receivables to factoring companies without recourse. Hence, the company does not have to wait for the amount that needs to be paid and quickly obtaining funds due to customers will pay direct to the factoring company and even if the customers back out, it does not need to take the responsibility.

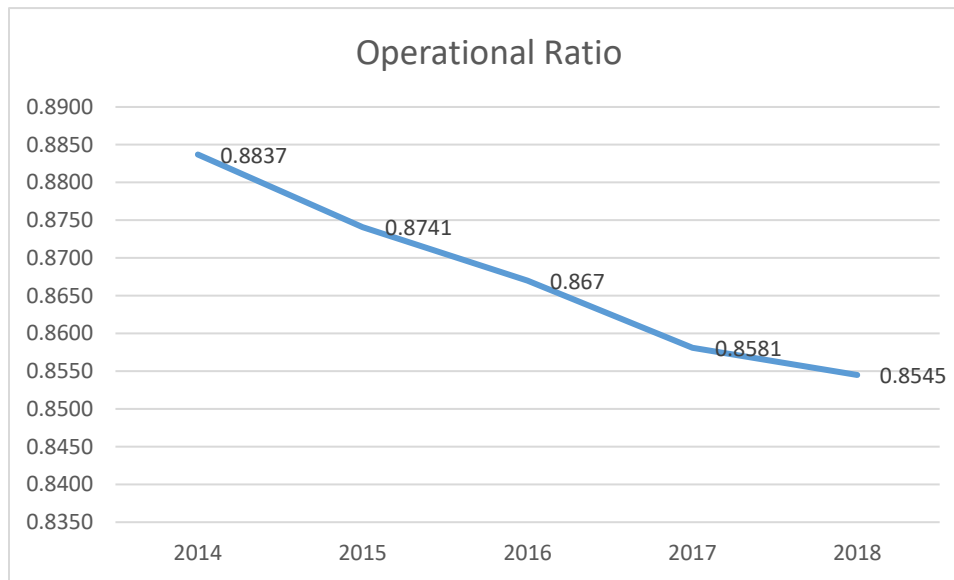
**Figure 4.4 Debt to income ratio for each year**



Debt to income ratio reveals about the company has loans or not and if they do then how its credit financing is when we compare it to its assets. In fact according to Fargo (2019), debt to income ratio functions as an indicator for overall financial health. When the ratio increase, the credit risk increase. According to Figure 4.4, from 2014 to 2018, HD showed an increase of debt to income ratio (0.3552 to 0.4269). The higher this ratio is, then it's getting more difficult for the company to borrow money as lenders might consider them as overleveraged. However, big companies like HD can have negotiable relationships with their lenders and then tend to push their liabilities side. According to Table B.1, the mean for the ratio is 0.3923 which considered low to investors. The lower the ratio is, the easier it is to borrow money. Meanwhile the standard deviation is 0.0297.

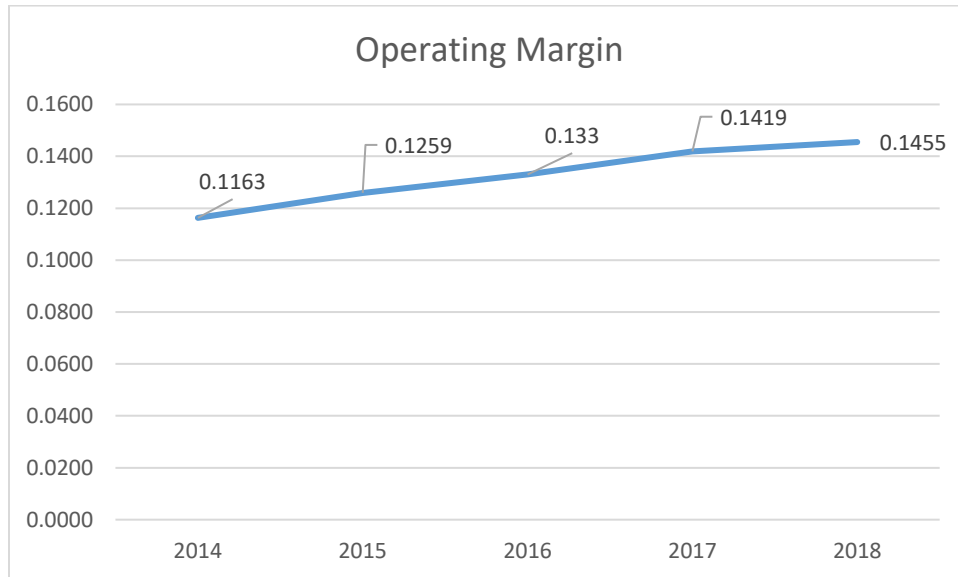
## 4.4 Operational Risk

**Figure 4.5** Operational ratio for each year



The operational ratio indicates how efficient is the management of a company by comparing the operating expenses to net sales (Murphy, 2019). Hence, the lower the operational ratio is, the lower the operational risk is. According to Figure 4.5, HD has shown a decrease of operational ratio of five years but the most significant decrease was 2018 as it decreases from 0.8837 to 0.8545, lower than the average operational ratio (0.8675). This means that HD has spent little money on operating expenses in 2018 and being efficient. According to Table B.1, the mean of operational ratio is 0.8675 and 0.0118 of standard deviation. The lower the operational ratio is, it indicates that the company has efficiency to generate the revenue while keeping the expenses cost low.

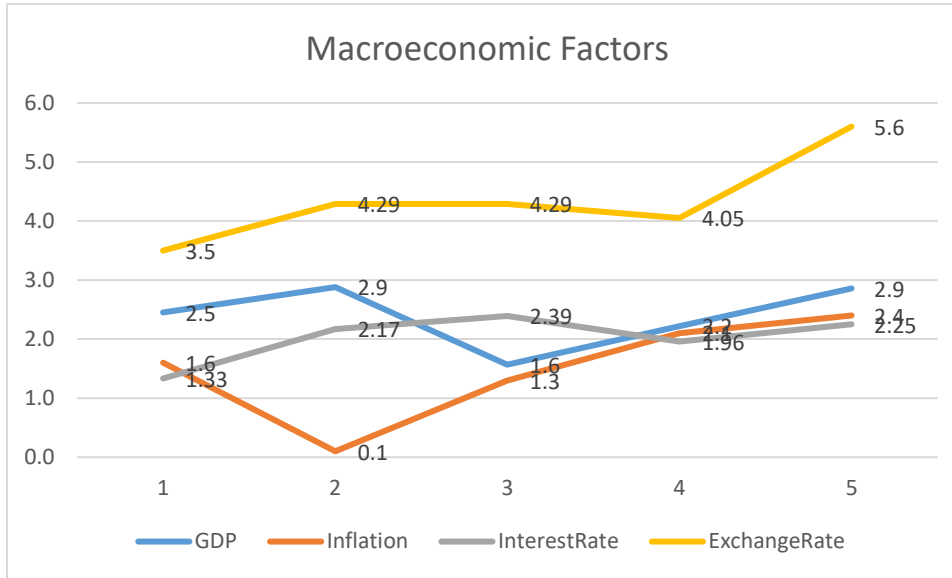
**Figure 4.6 Operating margin for each year**



Operating margin is indicating how much for each USD Dollars of revenues is left over after considering both costs of goods sold and operating expenses as this measures the company's efficiency (Kenton, 2019). When operating margin increases, the lower the operational risk is. According to Figure 4.6, HD has shown an increase in operating margin from 2014 to 2018 (0.1163 to 0.1455). The increase e of operating margin might due to the increase in sales. According to Table B.1, the mean operating margin is 0.1325 which means that for every one USD Dollar earned in revenue brings 1% of profit.

## 4.5 Market Risk

**Figure 4.7 Economic factors for each year**



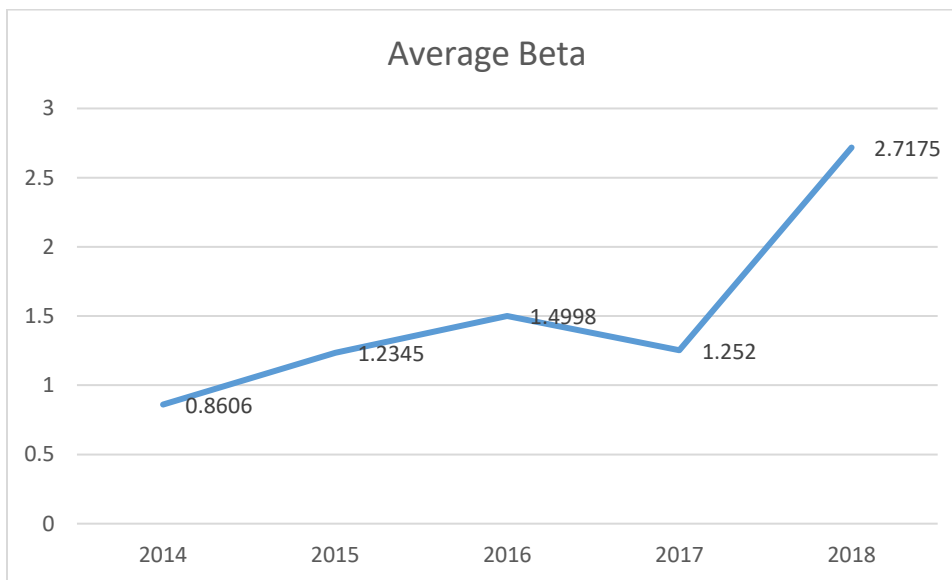
Market risk is the possibility of the company experienced loss because of factors that affect the whole performance of the financial market. The determinants of market risk are Gross Domestic Products (GDP), Inflation rate, Interest rate, Exchange rate, and many more. Figure 4.7 shows the determinants of the movement over the past five years. GDP is total market value of all finished goods and services that were produced in a country in detailed time of period. According to Figure 4.7, United States' GDP can be said to be quite stable over five years from 2014 to 2018. In 2018, United States had the highest GDP which is 2.9% which is higher than the overall average of GDP (2.39%), indicating that on that year United States' economy was at its highest. Larger GDP is better because it's signaling that the country's economy is growing. According to Table B.1, the mean for GDP is 2.39 while the standard deviation for GDP is 0.54 making a difference of 1.85.

The inflation rate is the rate of quantitative measure at which the average of goods and services' prices in an economy increase over a period of time. Inflation can show upward and downward trends. According to Figure 4.7, United States' inflation had its highest in 2018 with 2.4%. The number rose from 2.2 in 2017 to 2.4 in 2018. The higher the inflation is, the lower the currency value of the country and this is not good except if the interest rate is larger than the inflation rate on that specific year. This statement is backed up by research by Mundell (1963),

inflation is likely to lower the value of money. According to Table C.1, the mean of inflation is 1.5 while 0.89 of standard deviation.

According to Figure 4.7, the interest rate has shown a stable movement. In 2014, the interest rate was 1.33% and keep increasing to 2.39% in 2016 making it the highest interest rate in the period of five years. But then decrease to 1.96% in 2017. Then it increases significantly to 2.25% in 2018. According to Table B.1, the mean interest rate is 2.02 while 0.42 of standard deviation. The interest rate affected the country's inflation rate directly and may leading companies in issuing more bonds for expansion of business. This has been proven by Mundell (1963), stated that inflation will raise the money of interest rate than the inflation rate itself. Next, according to Figure 4.7, exchange rate shows an unstable increase and decrease over the five years period. According to Table B.1, the mean of exchange rate is 4.35 while 0.77 of standard deviation. Hence, currencies' appreciation led to a rise in the national exchange rate.

**Figure 4.8 Average Beta for each year**



Average Beta is used as one of the determinants of the market risk as it helps in measuring the corporate securities' volatility with the market. Beta is a slope coefficient obtained by doing regression analysis of company stock returns and market returns. It is showing that the company's stock market is changing as the whole market is changing. Figure 4.8 above displayed the company's average beta for period of five years from 2014 to 2018. The beta calculation is by calculating the standard deviation of daily price changes for each company for five consecutive

years. According to figure 4.8, we can that the five-year company beta is positive. 2018 shows the highest beta with 2.7175. According to Table B.1, the mean of beta is 1.51 and standard deviation is 0.71.

#### 4.6 Profitability

**Figure 4.9** Return on assets for each years

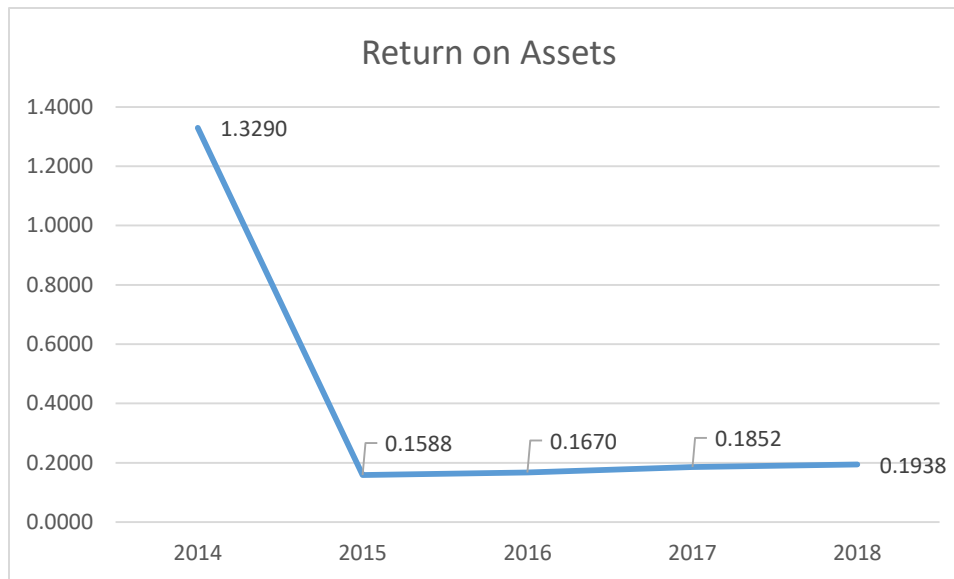
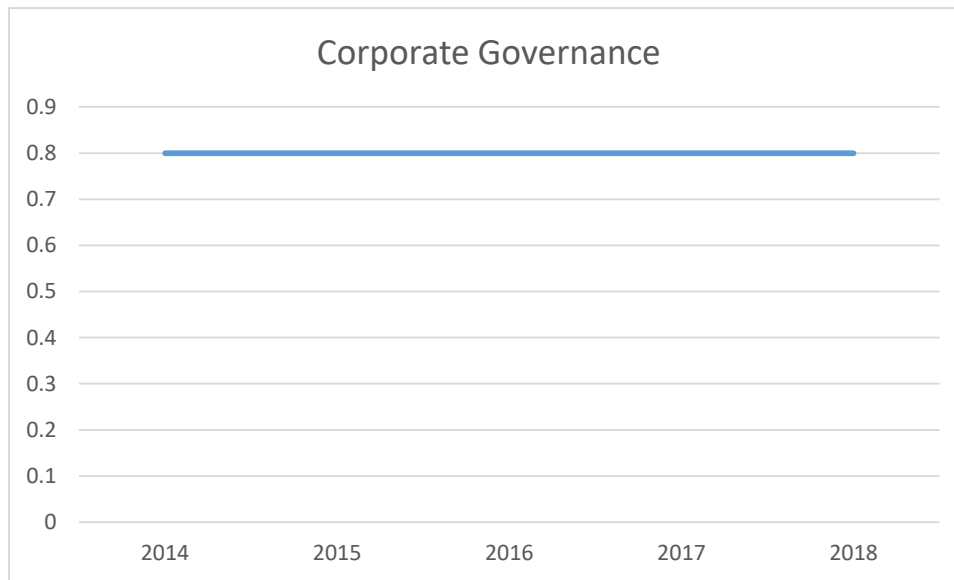


Figure 4.9 displays the average return on assets (ROA) for Home Depot of five years. The five year ROA was 0.41 (refer Table B.1). This ROA is used in indicating the profitability of the company. The highest ROA is 1.3290 in 2015. It can be said that the company makes it full use of assets to generate income When ROA is increased, the more efficiency is the company has in using its assets to generate revenue. However in 2015, the company's ROA is at its lowest 0.1588. This value is smaller than the overall ROA and indicating that the company does not has efficiency in using its assets to generate revenue that year. The ROA's standard deviation (see Table B.1) shows that the company's payout rate is 51.57% for five years. When standard deviation decreases, the smaller is the change of ROA. There is indeed existence of relationship between ROA and liquidity as when ROA change, liquidity level of a company is affected (Waemustafa and Sukri,2016).

## 4.7 Corporate Governance Index

**Figure 4.10 Corporate Governance Index for each year**



Corporate governance index is a score indicating the total corporate governance index for a company by considering the five principles of corporate governance which are accountability, independence, fairness, sustainability, and transparency. According to Figure 4.10, for five years, the company has shown a score of 1 consistently which implying that the company meets every principle in corporate governance. According to Table B.1, the mean for corporate governance index is 1.00 while 0.00 for standard deviation.

## 4.8 Correlation Analysis

The determination of the company's liquidity risk is by using variables of current ratio, quick ratio, average -collection period, debt to income ratio, operational ratio, operating margin, gross domestic product, inflation, interest rate, exchange rate, and standard deviation (STDV). The dependent variable is current ratio (CR) and also the main indicator for the liquidity risk evaluation of Home Depot Inc. The method used to produce the result is Statistical Product and Service Solutions (SPSS). Table 4.1 is used for reference and in determination of the relationship between dependent variables and independent variables.



**Table 4.1 Table Benchmark for Correlation**

Size of Correlation	Interpretation
0.90 to 1.00 (-0.90 to -1.00)	Very high positive (negative) correlation
0.70 to 0.90 (-0.70 to -0.90)	High positive (negative) correlation
0.50 to 0.70 (-0.50 to -0.70)	Moderate positive (negative) correlation
0.30 to 0.50 (-0.30 to -0.50)	Low positive (negative) correlation
0.00 to 0.30 (0.00 to -0.30)	Negligible correlation

Source: Hinkle, Wiersma, & Jurs as cited in Mukaka (2012)

#### 4.8.1 Internal Factors

Based on Table 4.2, Pearson Correlation for Home Depot shows a quick ratio 0.401 which is a low positive relationship with CR. When quick ratio increases, liquidity risk companies increase. A quick ratio less than 1 indicating that the company is not equipped fully with enough assets to liquidate to pay current liabilities. HD shows a quick ratio less than 1, meaning that it may not be able to pay its current liabilities. Average collection period showed -0.496 which indicates a low negative relationship with ROA. The lesser the average collection period is, the higher the company's liquidity risk is.

In the leverage aspect, the debt to income ratio shown -0.956 which has a negative relationship with CR, illustrating an increase of debt to income ratio means a decrease in the liquidity risk. This is due when the company used the money borrowed to finance the operating cost, it does give result of mitigating the liquidity risk as liquidity risk decreases. Meanwhile, operational ratio showed 0.973 which is a very high positive relationship with CR. The lower the operational ratio is, the lower the company's liquidity risk is. The operating ratio indicates how efficient company manages to keep costs low while generating revenue. The lower the operating ratio, it indicates the company's management is efficient hence lead to better management of mitigating the liquidity risk of the company. Next, operating margin showed -0.973 which is a high negative relationship with CR. A higher operating margin is, lower the company's liquidity risk is. The high or low of operating margin is different for each industry, but the average for e-commerce industry is around 6.29%

## 4.8.2 External Factors

According to Table 4.2, for the external variables, GDP showed -0.146 which is a negative relationship with CR. When GDP increase, the liquidity risk of the company decrease. Meanwhile, inflation showed -0.630 a moderate negative relationship with CR. It indicates that higher inflation leads to lower company's liquidity risk. When the price of goods and services increase, consumer still buy it and lead to higher profit to Home Depot and hence this profit can be used for risk management for liquidity.

Interest rate is shown -0.598 which is a moderate negative relationship with CR. The higher the interest rate is, the lower the liquidity risk is. Next, exchange rate is shown -0.861 which is a high negative relationship with CR. A higher exchange rate indicates lower company liquidity risk is. The higher exchange rate is indicating that the value of USD Dollar is decreasing.

**Table 4.2 Correlation table**

	CURRENT RATIO	
Pearson Correlation	CURRENT RATIO	1.000
	ROA	.659
	QUICK RATIO	.401
	AVERAGE-COLLECTION PERIOD	-.496
	DEBT TO INCOME	-.956
	OPERATIONAL RATIO	.973
	OPERATING MARGIN	-.973
	GDP	-.146
	Inflation	-.630
	InterestRate	-.598
	ExchangeRate	-.861
	STDV	-.876
	CGI	.

#### 4.9 Model Summary

The adjusted R square equals to 93% (refer to Table B.2). This indicates that by using all internal and external variables in Equation 3, operating margin display, the model is explaining the liquidity risk of the company 93% include the Home Depot for five years. Even though the balance of 7% of the adjusted R square shows that changes in CR of the Home Depot cannot be explained by the internal and external of Equation 3 (refer to Table B.2) variables, which providing the researchers and chance to conduct future research about the factors that are unknown. The model summary (Table A.1), is the result obtained from the company-specific factors or can be called as internal factors as independent variables of Formula 1 (Model 1) and macroeconomic factors or can be called as external factors as independent variables of Formula 2.

Based on the adjusted R-squared values obtained from Model 1 and Model 2, it shows that the firm-specific factors have more capability in explaining the changes in company's liquidity risk than the macroeconomics factors. This indicates that firm-specific factors are the primary factors in explaining the company's liquidity risk and has close relationship with liquidity risk. Moreover, ANOVA table (refer Table B.3) shows a significant value of 0.005 which means that it is lower than the alpha value ( $p < 0.05$ ). It means that this variable is very important for the representation model. Hence, the above significant value is an acceptable value, which indicates that we can accept and rely on the research.

## **CHAPTER FIVE**

### **DISCUSSION AND CONCLUSION**

#### **5.1 Introduction**

The study's aim is to study the liquidity risk of the company and its determinants of Home Depot Inc. In achieving this goal, the study used firm-specific factors (liquidity risk, credit risk, operational risk, market risk, profitability, and corporate governance index) and macroeconomic factors (GDP, inflation, interest rate, exchange rate, and BETA). Hence, in this chapter, the discussion is on the basis of the finding in chapter four. This chapter consists of conclusions and recommendations for research in the future.

#### **5.2 Discussion of Result**

In general, this study was designed in determining Home Depot's liquidity risk and its determinants. The objectives of this study are:

1. To investigate the firm-specific (internal) factors towards performance
2. To investigate the macroeconomic (external) factors towards performance
3. To investigate both internal and external factors towards performance

According to the correlation table (Table 4.2), there is the existence of proof that liquidity risk is affected by the company-specific (internal) factors and macroeconomics (external) factors. The correlation table shows that debt to income and operating margin has very high negative relationship with CR and significantly associated with liquidity risk, with a  $p$ -value of 0.001. This indicates that when debt to income and operating margin increase, the CR decrease. According to the coefficient table (Table 4.2), operational ratio is high positive relationship with CR. The operational ratio represents operational risk. Hence, these two value means that when operational risk increases, then the liquidity risk of the company increase. This is because when company experience network failure or system failure, organization failure, incorrectly applied rates in billing systems, fraud, and much more lead to liquidity risk as it weaken the ability of the company to convert its assets into cash as more assets are being used to treat the operational risk.

At the same time, the correlation table also shows that the average-collection period has low negative relationship with CR. This indicates that when ACP increases, then the CR decreases.

We can come to the conclusion that higher ACP leads to lower liquidity risk as customers might find the company to be lenient in paying their bills or installments. Longer time might lead customer be able to find money comfortably to pay their bills or installments. Moreover, the correlation table is showing that the corporate governance index is 0.00 which is indicating no correlation with Home Depot's liquidity risk. Meaning that any reduction or increase of factors in corporate governance will not affect the company's liquidity risk.

In general, we can conclude that company-specific factors and macroeconomics factors will affect the company's liquidity risk. The model summary (refer to Table B.2), shows that 93% of the models can be explained by company-firm specific variables and macroeconomic variables. Moreover, the ANOVA table (Table B.3) shows a significance of 0.005 which indicates that the model can rely on and acceptable. However, the firm-specific factors have greater impact on company's liquidity risk while macroeconomics factors have lower impact on the company's liquidity risk.

### **5.3 Limitations**

This study has limitations to Home Depot Inc. It also has limitations to companies listed in New York Stock Exchange (NYSE). This study also only covers five years of company's financial statements which are from 2014 to 2018. Hence, because of time shortage, only limited amount of information can be found and collected.

### **5.4 Recommendations**

In accordance with the results, operating margin is very significantly related to the company liquidity risk. The operating margin is under the operational risk. Hence, to decrease the company's liquidity risk, it is very important in managing company's operational risk with high efficiency. If operational risk of the company being managed in ultimate care such as implementing good system on mitigating the risk of cyberattack, indicating good financial health to investors and creditors as the company is spending operating income efficiently. There are a few ways or strategies that company can apply to manage their operational risk. One of the ways

is operational saving measures which involved low benefit and low effort such as changing the maintenance service level. Next, company should start introduce the cost-conscious company culture to its employees where the employees will develop a culture where they consistently challenging the existing cost basis. ( Arthur D.Little, 2010).

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## APPENDICES

### A. SPSS Model 1 Output

**Table A.1 Model Summary**

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.973 <sup>a</sup>	.947	.929	.0258535	1.812

a. Predictors: (Constant), OPERATING MARGIN

b. Dependent Variable: CURRENT RATIO

**Table A.2 ANOVA Table**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.036	1	.036	53.140	.005 <sup>b</sup>
	Residual	.002	3	.001		
	Total	.038	4			

a. Dependent Variable: CURRENT RATIO

b. Predictors: (Constant), OPERATING MARGIN

### B. SPSS Model 3 Output

**Table B.1 Descriptive Statistics Table**

Descriptive Statistics			
	Mean	Std. Deviation	N
CURRENT RATIO	1.303740	.0968562	5
ROA	.406760	.5157365	5
QUICK RATIO	.377780	.0100775	5
AVERAGE-COLLECTION PERIOD	7.032140	.6566748	5
DEBT TO INCOME	.392300	.0296810	5
OPERATIONAL RATIO	.867480	.0118702	5
OPERATING MARGIN	.132520	.0118702	5
GDP	2.39481936400 0000	.540762317000 000	5

Inflation	1.500	.8916	5
InterestRate	2.02020321400 0000	.415000878000 000	5
ExchangeRate	4.3460	.77171	5
STDV	1.51288498300 0000	.711036331000 000	5
CGI	.800	.0000	5

**Table B.2 Model Summary**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.973 <sup>a</sup>	.947	.929	.0258535	1.812

a. Predictors: (Constant), OPERATING MARGIN

b. Dependent Variable: CURRENT RATIO

**Table B.3 ANOVA Table**

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.036	1	.036	53.140	.005 <sup>b</sup>
	Residual	.002	3	.001		
	Total	.038	4			

a. Dependent Variable: CURRENT RATIO

b. Predictors: (Constant), OPERATING MARGIN