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# **The Impact of Liquidity Risk on Internal and External Factors**

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# **The Impact of Liquidity Risk on Internal and External Factors**

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## **1.0 INTRODUCTION**

### **1.1 Introduction**

In this chapter, we describe the overview of the industry and defined the problem statement for this study. We also stated the research objective, research question and also the scope of the study.

### **1.2 Overview of Industry**

Target Corporation was started in Minnesota in 1902. Target Corporation are known as a business that offer their customers everyday essentials and fashionable, differentiated merchandise at discounted prices. They have supply chain and technology, devotion to innovation, loyalty offerings such as REDcard Rewards and Cartwheel, and disciplined approach to managing their business and investing in future growth. This also can support to deliver a preferred shopping experience to their guests. Target Corporation operated as a single segment designed to allow guests to purchase products seamlessly in stores or through their digital channels.

### **1.3 Problem Statements**

This research is very important to the Target Corporation, it is because, they want to know their performance of the company such as the profitability, liquidity risk, operational risk, market risk, credit risk and also to know their corporate governance index. They also can make a planning if they know what kinds of things that will influence their performance of the company. So the problem is they can face a bankruptcy if they do not know what are influenced to their performance.

#### **1.4 Research Objective**

The objectives of this study:

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

#### **1.5 Research Questions**

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

#### **1.6 Scope of Study**

The study sample is Target Corporation of e-commerce industry. According to the calculation of the financial ratios, data are taken from five year of annual reports in 2014 to 2018

## **2.0 LITERATURE REVIEW**

### **2.1 Introduction**

In chapter two, we describe about the background of the company. Then we describe about the literature review of Corporate Governance, Credit Risk, Operational Risk, Liquidity Risk, Market Risk and Performance Ratio.

### **2.2 Background Company**

Target Corporation (Target) is a general merchandise retailer selling products through its stores and digital channels. In other words, it's like a general merchandise stores that offer an edited food assortment, including perishables, dry grocery, dairy and frozen items. Its known as a American mass-market retail company operating large-scale food and general-merchandise discount stores. Target Corporation owned brands include Archer Farms, Market Pantry, Sutton & Dodge, Art Class, Merona, Threshold, Ava & Viv, Pillowfort, Room Essentials, Wine Cube, Cat & Jack, Simply Balanced and Wondershop.

Target Corporation is the eighth-largest retailer in the United States. Founded by George Dayton and headquartered in Minneapolis. In June 1902, Target Corporation was named Goodfellow Dry Goods, then its renamed to the Dayton's Dry Goods Company in 1903 and become Dayton Company in 1910. After that, in 1969, Target Corporation was merging with the J.L. Hudson Company and renamed to the Dayton-Hudson Corporation. Lastly, in 2000, the parent company was renamed this company as a Target Corporation.

In the management of target Corporation, the majority of the company's non-executive directors do not own a single share of the company's common stock. Then, The restricted stock units issued to directors are not actual shares, have no voting rights, and are typically settled at the end of a director's service. The result is that a majority of the company's board of directors may never own outright a share of the company's stock. They also believe that Target would benefit from enhanced corporate governance practices by requiring nominees have at least some level of direct stock ownership prior to nomination.

According to the corporate governance principle which is accountability, transparency, independence, fairness and sustainability, the target corporation have all the principles except independence. There have a accountability because the company always meeting with the board to make any decision. Then, they have transparency because of the have hired the audit committee in their management of the company. After that, they have fairness because of they have female in their board of directors. Lastly, they have sustainability because of they have did a program such as help their customer to get profits.

## **Literature review**

### **2.3 Corporate Governance**

Corporate Governance is really important to know whether the company have a corporate governance principle or they follow the right way or not in manage their company. Corporate governance also will protect the management of every company from doing a mistake in manage the company. Then, corporate governance also can make sure the customer have their right to make a report or decision is buying product such as purchase decision, customer services and future purchases. It is because, all the customer will always stand for price and quality in product. After that, corporate governance also can protect the company from doing illegal things in their management.

### **2.4 Credit Risk**

Based on the article from Tim Xiao, Pricing the counterparty credit risk is a relatively new area of derivatives modeling and trading. Credit value adjustment (CVA) allows us to quantify counterparty credit risk as a single, measurable Profit & Loss number. Interest Rate Swap (IRS) is a typical bilateral contingent contract that can be either an asset or a liability to each party during the life of the contract. Definition of CVA is the difference between the risk-free trade value and the true or (risky or defaultable) trade value that takes into account the possibility of counterparty's default.

Sundaresan (1991), Longstaff and Schwartz (1993), and Tang and Li (2007) simplify the problem by considering the IRS as a simple exchange of loans (receivable parts and payable parts). So the authors are focusing on the valuation of defaultable IRS's in which both parties are exposed to credit risk.

Based on Waemustafa and Sukri (2013), they said that we need to understand how credit risk is formed in Islamic banks and conventional banks considering internal and external factors determinants. They suggest that banks assets mainly consist of loan while liabilities are deposit payable where any mismatch in asset and liability would contribute to liquidity risk and credit risk.

### **2.5 Operational Risk**

The operational risk are defined that uncertainty risk that might happen associated with financial institution and most specifically in case of banks in term of operational. In addition, the operational risk arises due to the human error, financial fraud and natural disasters.

Operational risk management is defined as a methodology for organizations looking to put into place real oversight and strategy when it comes to managing risk.

Based on the article from Xie Zhuang, he defined that operational risk management is identifies, measures, supervises, controls and reports the operational risk of the whole enterprise and for the financial service industry, especially for financial intermediaries such as banks, risk is always an inevitable thing to carry out business.

### **2.6 Liquidity Risk**

Liquidity risk is the hazard that an organization or bank might be not able meet short term budgetary request. This is usually happen because of the powerlessness to change over a security or hard asset of money without lost capital. Nikolaou stated that three primary liquidity thoughts, namely central bank liquidity, market liquidity and funding liquidity are characterized.

Deep and Schaefer (2004) introduced that liquidity transformation (LT) gap which was expressed as  $(\text{Liquid liabilities} - \text{Liquid assets}) / \text{total assets}$ . They considered maturity to define liquidity of both assets as well as liabilities.

Steffen, Hackethal, and Tyrell (2010) measured liquidity creation by German Banks and also determined the factors affecting liquidity creation by using multivariate dynamic panel regression and differentiated between macroeconomic factors and firms' specific factors.

## **2.7 Market Risk**

In a market, some customers are “captive” to particular sellers while others choose freely among alternative offers. Sellers need to discriminate with the consumer captive. Because such discrimination is clearly bad for the captives because they are monopolized, but competition then prevails for the custom of non-captives. In other hand, captives get some benefit of competition, but competition is weakened by their presence, making the net effect unclear.

Based on this article, they worry about employment impacts of the current technological that might increase a market risk. Some firms can move offshore as a whole, current technological change allows to split the workplace and even the operation of the different tasks of occupations (Weil, 2014). Automation and offshorability have the potential to eliminate and deeply transform many jobs in the near future across the world.

## **2.8 Performance Ratio**

A company's performance is one of the important guiding to determine whether the company is doing well or not. The performance of a firm is affected by the traditional portfolio theory, diversification or modern corporate finance theory, portfolio specialization has been widely discussed by the finance and banking field recently.

Based on this article, the company Telekom Malaysia Berhad (TM) explain the performance by using financial ratio to measure the risk of the company. Performance is one of the crucial indicator to determine whether the company is operating well and represent the reputation to the community.



Maxis Berhad stated that by having a good corporate governance structure, Maxis will be able to perform better when comparing to its competitors. Different types of committee within the corporate will improve the efficiency and independence of the company and it will also help the company to excel in financial risk management.

## **2.9 The importance of Corporate Governance**

Corporate Governance is important to give role for the Audit Committee. Audit Committee are play role in transmitting financial results to the general public, the audit committee serves as representative of shareholder interests and is required to facilitate a process whereby management, external auditors and the chief executive can be questioned and held to account. Then, Corporate Governance help the contribution of External Auditors to resolve agency problems such as agent relationship, whereby owners have an interest in maximising the value of their shares. In addition, corporate governance is important for fair values and for the finance theory which is the external auditors need to use fair value measures to effectively carry out their tasks.

## **3.0 METHODOLOGY**

### **3.1 Introduction**

Methodology is defined as the systematic, theoretical analysis of the methods applied to a field of study. Methodology also stated as a way to find out the result of a given problem on a specific matter or problem that is also referred as research problem. Research methodology is important as a means to understand various issues to solve the problem by collect and analysed the data.

### **3.2 Data and Sample**

In this study, we used the ratio analysis on the data from the sample which is the company of Target Corporation. The analysis are be run by using the data from the company's annual report which is ratio analysis for 5 years started from year 2014 until year 2018 such as the company's performance, credit risk, liquidity risk, market risk and so on.

### **3.3 Statistical Technique**

For this research, we have chosen Target Corporation. All the data from annual report (from 2014 to 2018) which is used the data in income statement and the balance sheet in the annual report to calculate all the. After all the ratio has been calculated, we used the Social Science Statistics Package (SPSS) with the 25<sup>th</sup> edition to analyse the data. The technique that we used in SPSS is linear regression to analyse the variables between the independent variables and dependent variables.

### **3.4 Data Analysis**

In this research, all the variables we used from the ratio analysis are 11 bank specifics variables and 3 macroeconomic variables. There have the Corporate Governance Index (CGI), bank specifics variables and also the macroeconomic variables. It is used as the independent variables. Then, the current ratio is used as the dependent variables.

### Variables Description

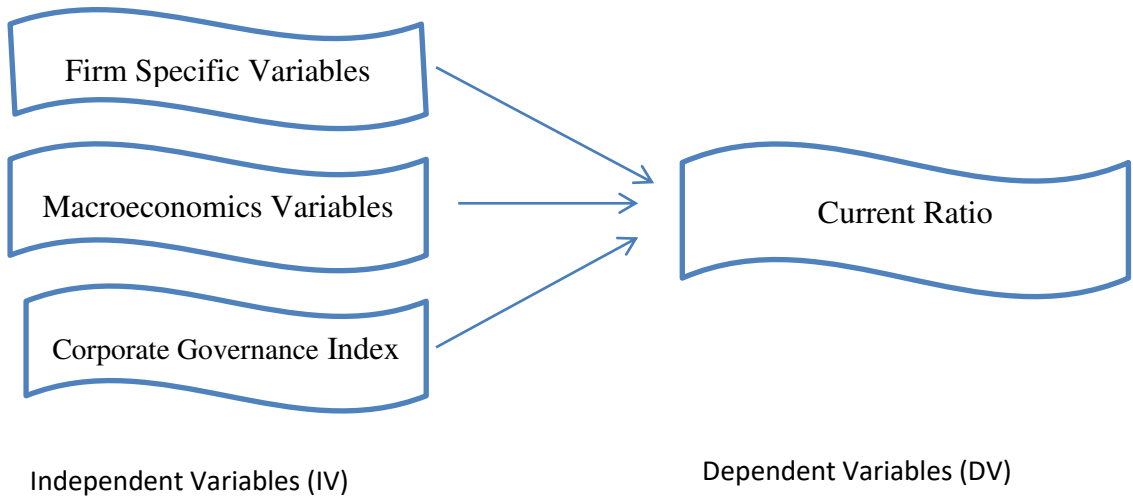


Figure 3.1 Research Framework

We used the multiple regression technique to determine the effect of independent variables on the dependent variables. The regression technique will show the influence of independent variables on the dependent variable. There are the formulas of multiple regression:

$$LR = \alpha_0 + \alpha_1ROA + \alpha_2QR + \alpha_3ACP + \alpha_4DTI + \alpha_5OPR + \alpha_6OPM + \alpha_7CGI + \vartheta \dots \text{Equation 1}$$

$$LR = \alpha + \alpha GDP + \alpha INF + \alpha UNPL + \vartheta \dots \dots \dots \text{Equation 2}$$

$$LR = \alpha + \alpha_1ROA + \alpha_2QR + \alpha_3ACP + \alpha_4DTI + \alpha_5OPR + \alpha_6OPM + \alpha_7CGI + \alpha_8GDP + \alpha_9INF + \alpha_{10}UNPL + \vartheta \dots \dots \dots \text{Equation 3}$$

**Table 3.1 Measurement of Variables**

No	Variables	Notation	Measurement
1	Return on Assets	ROA	$ROA = \frac{Net\ Income}{Total\ Asset}$
2	Current Ratio	CR	$CR = \frac{Current\ Asset}{Current\ Liability}$
3	Quick Ratio	QR	$QR = \frac{Current\ Asset - Inventory - Prepaid\ Expenses}{Current\ Liability}$
4	Average Collection Period	ACP	$ACP = \frac{Account\ Receivable}{\left(\frac{Revenue}{360days}\right)}$
5	Debt-to-Income	DTI	$DTI = \frac{Total\ Liability}{Total\ Income}$
6	Operational Ratio	OPR	$OPR = \frac{Operating\ Expenses}{Net\ sales}$
7	Operational Margin	OPM	$OPM = \frac{EBIT}{Revenue}$
8	Corporate Governance Index	CGI	The following items: i. Accountability ii. Transparency iii. Independence iv. Fairness v. Sustainability
9	Gross Domestic	GDP	Economic Growth
10	Inflation	INF	Consumer Price Index
11	Unemployment	UNPL	The Annual Percentage of Unemployment

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

Based on this study, we used IBM SPSS 25<sup>th</sup> edition to analyse the data for the results. IBM SPSS is known as the world's leading statistical software used to solve business and research problems by means of ad-hoc analysis, hypothesis testing, and predictive analytics. It is because the IBM SPSS is used by organization to understand data, analyze trends, forecast and plan to validate assumptions and drive accurate

conclusions. However, in this study, IBM SPSS statistics are used to analyse the correlation between linear regression and variables based on the data obtained in company's annual report.

## 4.0 FINDINGS AND ANALYSIS

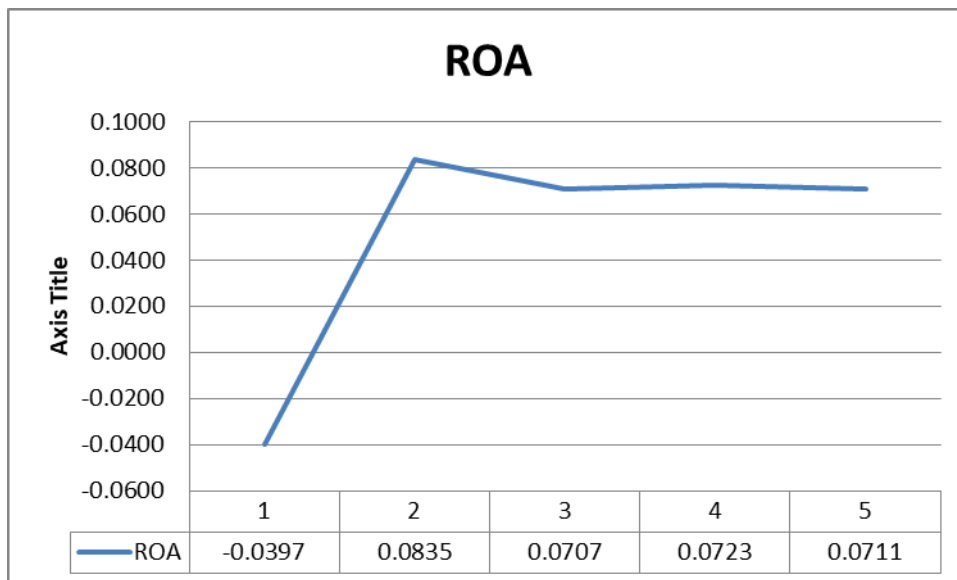
### 4.1 Introduction

The researchers used the financial statement analysis to identify the trend of the companies by comparing the ratios within five years period. In the company's annual report which is in financial statement, there have three main components namely income statement, balance sheet and cash flow statement. In this study, the researchers allowed to measure the performance, liquidity risk, credit risk, operational risk and also market risk of the company.

### 4.2 Trend Analysis

#### 4.2.1 Performance

Figure 4.1 Return on asset for each year

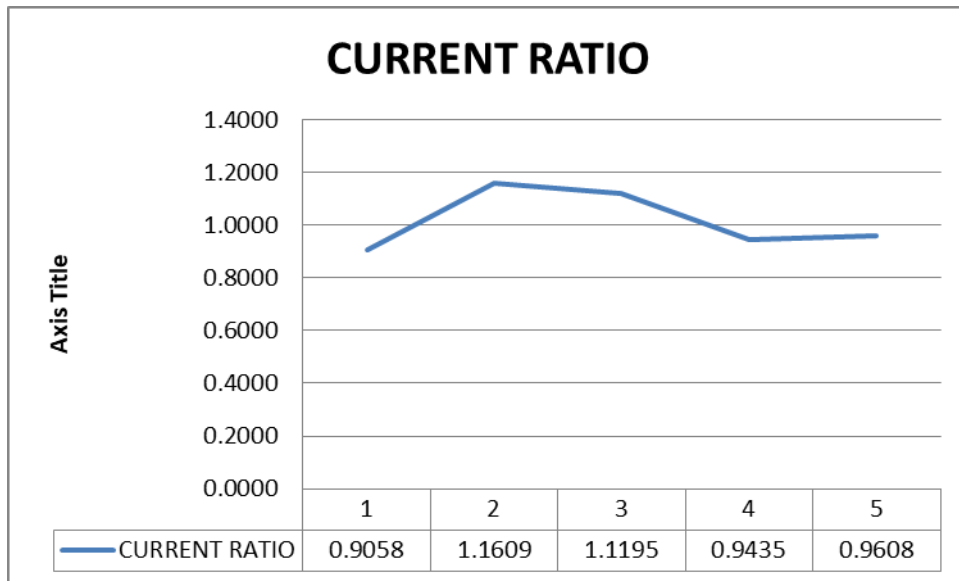


The chart above shows the Return on Assets (ROA) ratio for Target Corporation. The ROA are used to measure the profitability and also the performance of each company. The higher the ROA will show that the company are efficient in using their assets to generate revenue. Based on the graph above, we can conclude that the company have a good profitability in year 2015 with 8.35%. The company are efficient in year 2015 to generate revenue by using the assets. However, the company got a bad performance in year 2014 because their ROA is negative which is -3.97%. It is show that the company failed to generate the revenue by using

their assets. In the latest year which is 2018, the performance is quite good because they have ROA ratio 7.11%. This means that the company can generate revenue 7.11% by using their assets.

#### 4.2.2 Liquidity Risk

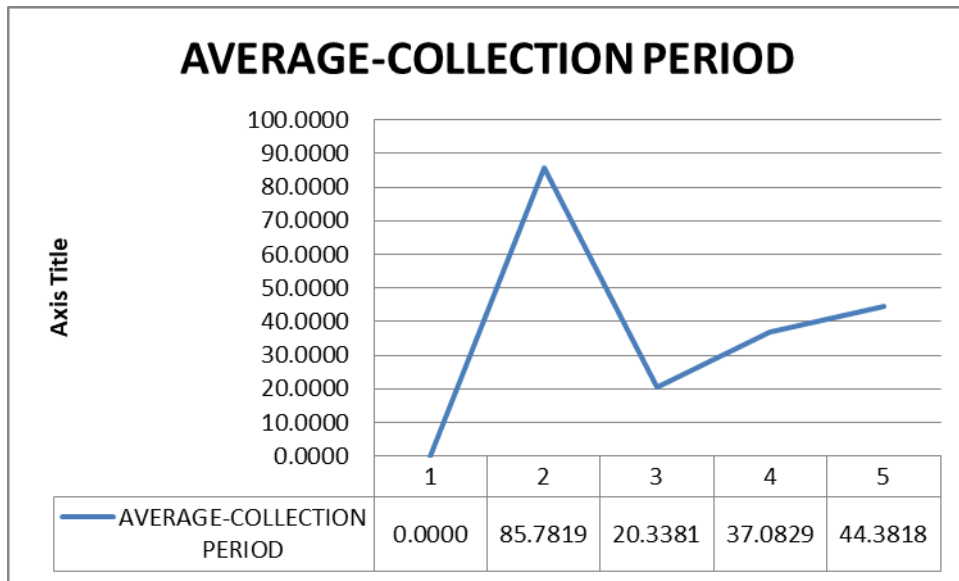
Figure 4.2 Current ratio for each years



Liquidity risk occurs when investors, companies, or financial institutions are unable to meet their short-term debt obligations. Liquidity risk will be occurs when company unable to convert the assets into cash on the spot. We calculate the current ratio to analyse the liquidity risk. According to the chart above, the current ratio for Target Corporation in 5 years are highest in 2015 with ratio 1.1609 times. So this means that the company’s current asset in 2015 were RM1.1609 to cover the current liabilities of RM1. However, the liquidity risk become higher in 2018 because the current ration in 2018 is only 0.9608 times, lower than 1. This means that the current asset in Target Corporation cannot cover the current liabilities which is only RM 0.9608 to cover the current liabilities of RM1.

### 4.2.3 Credit Risk

Figure 4.3 Average Collection Period for each year

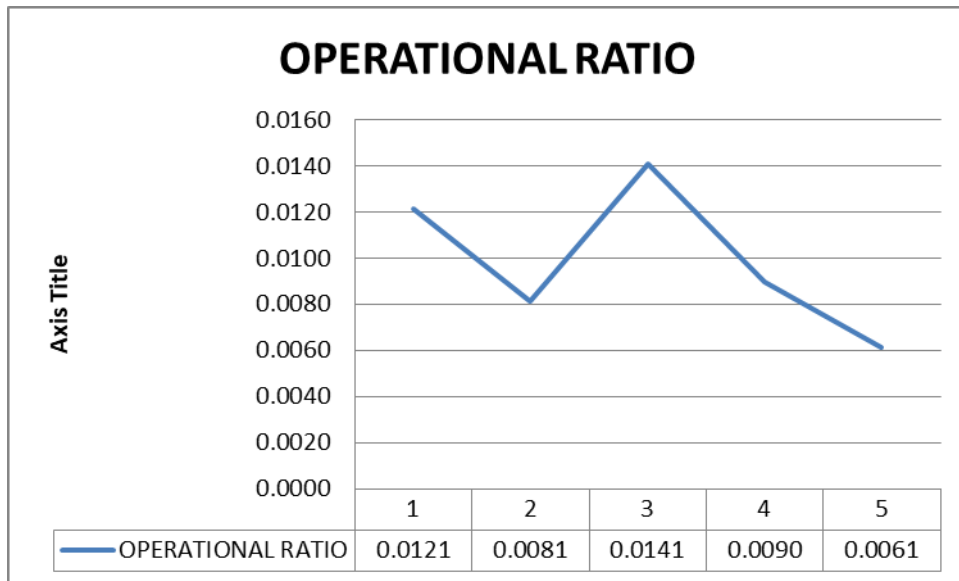


Credit risk will be occur when the borrower cannot willing to pay back the amount that they borrow. Credit risk is measured by using the average of the company in 5 years period. In this ratio, the longer the average collection period, the higher the credit risk. So based on the chart above, the longer the average collection period is occur in 2015 which is 85.7819. so 2015 is a higher credit risk for target company because the average that they can collect from the borrower in about 85 days. However, in 2016, The average collection period are decrease strongly to 20.3381. This year shown a good average collection period which is only 20 days. But, in the latest years which is 2018, the ratio increase to 44.3818 or 44 days but it is still better compared to 2015 of the average collection period.



#### 4.2.4 Operational Risk

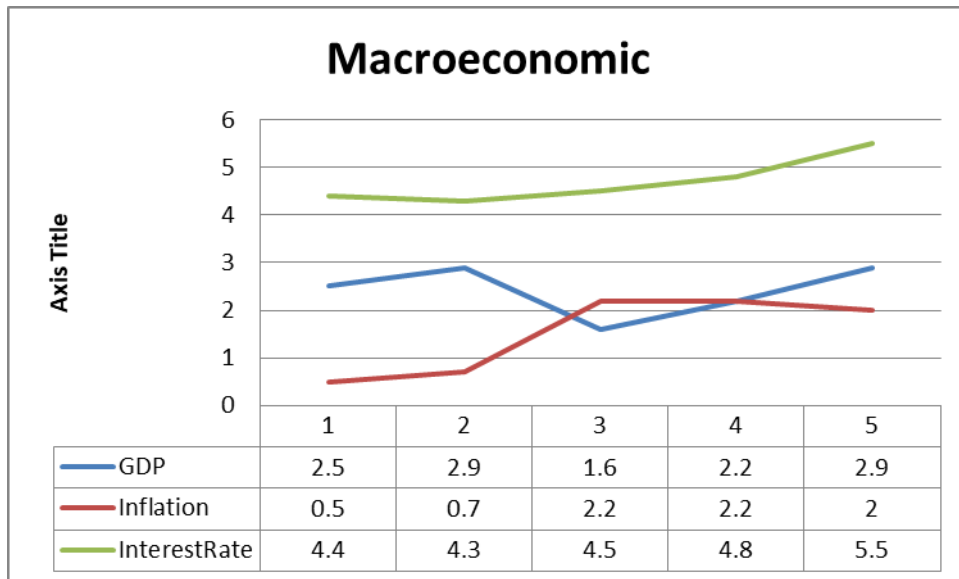
Figure 4.4 Operating Ratio for each years



Operational risks will be happen if the failure of managements, systems, processes, personnel, and external events. The serious risks may be occur if they are not manage and control the operational risks properly. We calculated the average operating rate within five years period to measure the operational risk. Based on the graph above, we can see that the average of the operating rate for 5 years is 0.99%. we can say that this Target Corporation have a good management in operational risk because they on used 0.99% of company income for operating expenses. The company have the lowest operational ratio in 2018 which is only 0.61%. this means that the company are efficient because have a lower operating rate which is only used 0.61% for operating expenses.

## 4.2.5 Market Risk

Figure 5 Macroeconomic factors



Market risk are also called systematic risk which is the risk without diversification. It is because the market risk cannot be control by the company which mean the economy of the country will control the market risk. The changes of Gross Domestic Product (GDP), Inflation and also the Interest rate are some of the component of market risk. GDP is used to measure the monetary value of a country's goods and services generated within a year. High inflation is not good for the county because affect the value of the currency and it will affect the business of the company. So based on the graph above, it show the upward and downward trends. Then, there have a higher inflation in two years which is in 2015 and 2018 with 2.9% of GDP.it is shown that the country have a bad economic.

In inflation rates, it show a quite similar trends to GDP which is upward and downward trends. Based on the graph, the country have a higher inflation started from 2016 2017 and 2018 with the rates 2.2%, 2.2% and 2%. As we can see, the country still cannot solve the problem of inflation during that 3 years. In addition, Interest rates directly affect a country's inflation rate because the companies difficult to issue more bonds to support their business expansion.

## 4.2.6 Corporate Governance Index (CGI)

### 3.1.1 Corporate Governance Index

	2014	2015	2016	2017	2018
Accountability	1	1	1	1	1
Fairness	1	1	1	1	1
Transparency	1	1	1	1	1
Independence	0	0	0	0	0
Sustainability	1	1	1	1	1
Total	4/5	4/5	4/5	4/5	4/5
Percentage (%)	80%	80%	80%	80%	80%

Table 4.1 Corporate Governance Index

Corporate Governance index is used to measure whether the company have a compliance in Corporate Governance Index there have 5 variables under the corporate governance principles which is accountability, fairness, transparency, independence and sustainability. In roughly, the accountability is measured if the company use a meeting in organization to manage or to make any decision, means that the company is accountability. Then, the transparency can be measured as 1 if the company have audit committee, if there have the audit committee means that the company have transparency. The independence of the company can be measured if the company have more than 50 of non-executive in the board of directors. Fairness can be measured if there have a female on board of directors. Lastly, the sustainability can be measure as 1 if the company have an activity of goodness such as charity, CSR, green technology and so on.

Based on this company, there have all the corporate governance principle in their company except Independence. It is because they do not have more than 50 in their board of directors.

### 4.3 Data Analysis

#### 4.3.1 Coefficients table

##### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.571	.071		8.014	.004	.344	.798		
	QUICK RATIO	1.385	.216	.965	6.420	.008	.699	2.072	1.000	1.000
2	(Constant)	.372	.038		9.779	.010	.208	.536		
	QUICK RATIO	.948	.093	.660	10.183	.010	.547	1.348	.409	2.445
	OPERATING MARGIN	6.271	1.025	.397	6.120	.026	1.862	10.680	.409	2.445

a. Dependent Variable: CURRENT RATIO

Table 4.2 Coefficients

Based on the table of regression coefficient in table 4.3 above, Current Ratio (CR) is shown as dependent variable, there is two variables that relevant which is Quick Ratio and Operating Margin. P-value is used to determine the significant between the dependent variable and independent variables. The p-value <0.001 has the most significant to the dependent variable and followed by p-value <0.05 which has moderate significant and p-value < 0.10 has the least significant. So based on the table above, independent variable of quick ratio, there have a positive correlated and moderate significant because the p-value <0.05 which is 0.026. The operating margin also same as quick ratio which is have a positive correlated and moderate significant which is 0.010.

### 4.3.2 Model Summary and Anova

**Model Summary<sup>c</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.965 <sup>a</sup>	.932	.910	.034336065921 295	
2	.998 <sup>b</sup>	.997	.993	.009468614316 739	1.597

a. Predictors: (Constant), QUICK RATIO

b. Predictors: (Constant), QUICK RATIO, OPERATING MARGIN

c. Dependent Variable: CURRENT RATIO

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

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.049	1	.049	41.217	.008 <sup>b</sup>
	Residual	.004	3	.001		
	Total	.052	4			
2	Regression	.052	2	.026	289.731	.003 <sup>c</sup>
	Residual	.000	2	.000		
	Total	.052	4			

a. Dependent Variable: CURRENT RATIO

b. Predictors: (Constant), QUICK RATIO

c. Predictors: (Constant), QUICK RATIO, OPERATING MARGIN

Table 4.3 Model Summary and Anova for model 1

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

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.715 <sup>a</sup>	.511	-.958	.159724509599 516	2.840

a. Predictors: (Constant), STDV, GDP, InterestRate

b. Dependent Variable: CURRENT RATIO

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

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.027	3	.009	.348	.811 <sup>b</sup>
	Residual	.026	1	.026		
	Total	.052	4			

a. Dependent Variable: CURRENT RATIO

b. Predictors: (Constant), STDV, GDP, InterestRate

Table 4.4 Model Summary and Anova for model 2

**Model Summary<sup>e</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.965 <sup>a</sup>	.932	.910	.034336065921 295	
2	.998 <sup>b</sup>	.997	.993	.009468614316 739	
3	1.000 <sup>c</sup>	1.000	1.000	.000670994677 706	
4	1.000 <sup>d</sup>	1.000	.	.	3.500

a. Predictors: (Constant), QUICK RATIO

b. Predictors: (Constant), QUICK RATIO, OPERATING MARGIN

c. Predictors: (Constant), QUICK RATIO, OPERATING MARGIN , InterestRate

d. Predictors: (Constant), QUICK RATIO, OPERATING MARGIN , InterestRate, GDP

e. Dependent Variable: CURRENT RATIO

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

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.049	1	.049	41.217	.008 <sup>b</sup>
	Residual	.004	3	.001		
	Total	.052	4			
2	Regression	.052	2	.026	289.731	.003 <sup>c</sup>
	Residual	.000	2	.000		
	Total	.052	4			
3	Regression	.052	3	.017	38594.948	.004 <sup>d</sup>
	Residual	.000	1	.000		
	Total	.052	4			
4	Regression	.052	4	.013	.	. <sup>e</sup>

Residual	.000	0	.		
Total	.052	4			

- a. Dependent Variable: CURRENT RATIO
- b. Predictors: (Constant), QUICK RATIO
- c. Predictors: (Constant), QUICK RATIO, OPERATING MARGIN
- d. Predictors: (Constant), QUICK RATIO, OPERATING MARGIN , InterestRate
- e. Predictors: (Constant), QUICK RATIO, OPERATING MARGIN , InterestRate, GDP

Table 4.5 Model Summary and Anova for model 3

As we know, R-squared is a goodness-of-fit measure for linear regression models. This statistic indicates the percentage of the variance in the dependent variable that the independent variables explain collectively. The used of R-squared is to measures the strength of the relationship between your model and the dependent variable (Jim frost).

The larger the R-squared, the better the regression model fits your observations. So, based on the model 1, the R-squared shows 99.7%. The results obtained from the dependent and independent variables which is the current ratio as a dependent and the firm specific variables as the independent variables. However, for the model 2, we take the macroeconomic factors as the independent variables. So, based on table for model 2, the R-squared for model 2 is only 51.1%. We can conclude that the company have faced the macroeconomic problem such as the inflation and GDP. In model 3, there have a perfect R-squared which is 100% R-squared. This means that, the company will become better if we use all the variables as the independent variables. So, the macroeconomic factors is a main factors that can change the performance of the company. In ANOVA, if the p-value is greater than the significance level, its means that the differences between the means are not statistically significant. So based on the table model 3, the ANOVA is 0.004. It is means that the value of ANOVA is lower than p-value < 0.05.

## **5.0 CONCLUSION AND RECOMMENDATION**

### **5.1 CONCLUSION**

In conclusion, the objective of this study is we can know the relationship between the dependent variables and independent variables which is the current ratio as the dependent and the firm specific variables, macroeconomic variable and corporate governance index as the independent variables. Then, we can know the effect and also the factors that can affect the performance of the company. We also can know how macroeconomic can influence the performance or profitability of the company. So, for the overall review, the macroeconomic factor is a main factor that give a big impact to the company performance.

### **5.2 RECOMMENDATION**

For the recommendation for the future research, we can add more independent variables to get better and accurate results. We also can do a research for more years to see the better trends of the ratio. It will also give the result more accurate. For the corporate governance index (CGI), we can add more variables for the principle of the corporate governance. So, the researcher can have more detailed about the corporate governance principle in every company that they choose.



APPENDIX

**Correlations**

		CURRENT RATIO	ROA	QUICK RATIO	AVERAGE-COLLECTION PERIOD	DEBT TO INCOME	OPERATIONAL RATIO	OPERATING MARGIN	GDP	Inflation	InterestRate	ExchangeRate	STDV
Pearson Correlation	CURRENT RATIO	1.000	.690	.965	.617	.202	.143	.905	-.139	-.031	-.438	.	.325
	ROA	.690	1.000	.656	.852	-.469	-.454	.560	.099	.403	.147	.	.874
	QUICK RATIO	.965	.656	1.000	.456	.322	.272	.769	-.345	.172	-.354	.	.367
	AVERAGE-COLLECTION PERIOD	.617	.852	.456	1.000	-.623	-.652	.701	.541	-.092	.013	.	.580
	DEBT TO INCOME	.202	-.469	.322	-.623	1.000	.980	.100	-.733	-.125	-.618	.	-.539
	OPERATIONAL RATIO	.143	-.454	.272	-.652	.980	1.000	.043	-.820	-.040	-.634	.	-.456
	OPERATING MARGIN	.905	.560	.769	.701	.100	.043	1.000	.124	-.401	-.627	.	.123
	GDP	-.139	.099	-.345	.541	-.733	-.820	.124	1.000	-.516	.293	.	-.085
	Inflation	-.031	.403	.172	-.092	-.125	-.040	-.401	-.516	1.000	.579	.	.734
	InterestRate	-.438	.147	-.354	.013	-.618	-.634	-.627	.293	.579	1.000	.	.408
	ExchangeRate	.	.	.	.	.	.	.	.	.	.	1.000	.

	STDV	.325	.874	.367	.580	-.539	-.456	.123	-.085	.734	.408	.	1.000
Sig. (1-tailed)	CURRENT RATIO	.	.099	.004	.134	.372	.409	.017	.412	.481	.230	.000	.297
	ROA	.099	.	.115	.033	.213	.221	.163	.437	.251	.407	.000	.026
	QUICK RATIO	.004	.115	.	.220	.299	.329	.064	.285	.391	.280	.000	.272
	AVERAGE-COLLECTION PERIOD	.134	.033	.220	.	.131	.116	.093	.173	.441	.491	.000	.153
	DEBT TO INCOME	.372	.213	.299	.131	.	.002	.436	.079	.420	.133	.000	.174
	OPERATIONAL RATIO	.409	.221	.329	.116	.002	.	.473	.044	.474	.125	.000	.220
	OPERATING MARGIN	.017	.163	.064	.093	.436	.473	.	.421	.252	.129	.000	.422
	GDP	.412	.437	.285	.173	.079	.044	.421	.	.187	.316	.000	.446
	Inflation	.481	.251	.391	.441	.420	.474	.252	.187	.	.153	.000	.079
	InterestRate	.230	.407	.280	.491	.133	.125	.129	.316	.153	.	.000	.248
	ExchangeRate	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	.000
	STDV	.297	.026	.272	.153	.174	.220	.422	.446	.079	.248	.000	.
	N	CURRENT RATIO	5	5	5	5	5	5	5	5	5	5	5
ROA		5	5	5	5	5	5	5	5	5	5	5	5
QUICK RATIO		5	5	5	5	5	5	5	5	5	5	5	5

AVERAGE-COLLECTION PERIOD	5	5	5	5	5	5	5	5	5	5	5	5	5
DEBT TO INCOME	5	5	5	5	5	5	5	5	5	5	5	5	5
OPERATIONAL RATIO	5	5	5	5	5	5	5	5	5	5	5	5	5
OPERATING MARGIN	5	5	5	5	5	5	5	5	5	5	5	5	5
GDP	5	5	5	5	5	5	5	5	5	5	5	5	5
Inflation	5	5	5	5	5	5	5	5	5	5	5	5	5
InterestRate	5	5	5	5	5	5	5	5	5	5	5	5	5
ExchangeRate	5	5	5	5	5	5	5	5	5	5	5	5	5
STDV	5	5	5	5	5	5	5	5	5	5	5	5	5

## REFERENCE

Liquidity and its determinants (20 May 2018) Basir, Yana. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/liquidity%20risk/MPRA\\_paper\\_86863.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/liquidity%20risk/MPRA_paper_86863.pdf)

Estimation of liquidity created by banks in India (5 March 2019) Sinha, Pankaj and Grover, Naina. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/liquidity%20risk/MPRA\\_paper\\_92563.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/liquidity%20risk/MPRA_paper_92563.pdf)

Systematic and Unsystematic Risk Determinants of Liquidity Risk Between Islamic and Conventional Bank (2016) Waeibrorheem Waemustafa, Suriani Sukri. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/liquidity%20risk/Systematic%20and%20Unsystematic%20Risk%20Determinants%20of%20Liquidity%20Risk%20Between%20Islamic%20and%20Conventional%20Banks\[#354646\]-366168.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/liquidity%20risk/Systematic%20and%20Unsystematic%20Risk%20Determinants%20of%20Liquidity%20Risk%20Between%20Islamic%20and%20Conventional%20Banks[#354646]-366168.pdf)

Bilateral Defaultable Financial Derivatives Pricing and Credit Valuation Adjustment (1 March 2019) Xiao, Tim. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/credit%20risk/MPRA\\_paper\\_94135.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/credit%20risk/MPRA_paper_94135.pdf)

Pricing Interest Rate Swap Subject to Bilateral Counterparty Risk (30 May 2019) Xiao, Tim. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/credit%20risk/MPRA\\_paper\\_94233.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/credit%20risk/MPRA_paper_94233.pdf)

Discriminating Against Captive Customers (8 February 2019) Armstrong, Mark and Vickers, John. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/market%20risk/MPRA\\_paper\\_92189.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/market%20risk/MPRA_paper_92189.pdf)

Tobin's Q and Its Determinants: A Study of Market Valuation in MISC Berhad (7 May 2019) Syazwani, Anis. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/market%20risk/MPRA\\_paper\\_93776.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/market%20risk/MPRA_paper_93776.pdf)

Do old and new labour market risks overlap? Automation, offshorability, and non-standard employment (July 2019) Malo, Miguel and Cueto, Begoña. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/market%20risk/MPRA\\_paper\\_95058.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/market%20risk/MPRA_paper_95058.pdf)

Study of Relationship Between Performance (ROA) And Internal And External Factors On Axiata Group Berhad (17 April 2017) Lim, Pei Shan. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/ratio%20performance/MPRA\\_paper\\_78459.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/ratio%20performance/MPRA_paper_78459.pdf)

Telekom Malaysia Berhad (TM): Study of Relationship Between Performance (ROA) and Internal, External Factor (17 April 2017) Teo, Sze Wee. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/ratio%20performance/MPRA\\_paper\\_78461.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/ratio%20performance/MPRA_paper_78461.pdf)

Study of Relationship of Company's Performance with Internal and External Factors on Maxis Berhad (17 April 2017) Koh, Way Han. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/ratio%20performance/MPRA\\_paper\\_78475.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/ratio%20performance/MPRA_paper_78475.pdf)

Research Of Operatinoal Risk Management And Its Determinants: An Analysis Of Hua Xia Bank In China (16 December 2018) Xie, Zhuang. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/operational%20risk/MPRA\\_paper\\_90568.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/operational%20risk/MPRA_paper_90568.pdf)

Operational risk and its determinants among five companies in manufacturing industry in Germany (25 May 2018) Cipriano, Nur Alisha Arfiffy and Zulkeflee, Nur Nabila and Amran, Fasiah and Shahudin, Haziiah Aishah. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/operational%20risk/MPRA\\_paper\\_87013.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/operational%20risk/MPRA_paper_87013.pdf)

Empirical Examination for Operational and Credit Risk Perspective – A Case of Commercial Banks of Pakistan (22 June 2017) Mehmood, Mian Saqib and Sheraz, Iram and Mehmood, Asif and G. Mujtaba, Bahaudin. Retrieved from:

[file:///C:/xampp/htdocs/pendaftaran\\_acara/images/corporate%20governance/operational%20risk/MPRA\\_paper\\_80491.pdf](file:///C:/xampp/htdocs/pendaftaran_acara/images/corporate%20governance/operational%20risk/MPRA_paper_80491.pdf)

The role of external auditors in corporate governance: agency problems and the management of risk (6 July 2009) Ojo, Marianne. Retrieved from: [https://mpra.ub.uni-muenchen.de/47346/1/MPRA\\_paper\\_47346.pdf](https://mpra.ub.uni-muenchen.de/47346/1/MPRA_paper_47346.pdf)

Annual report of Target Corporation. Retrieved from:

[http://www.annualreports.com/HostedData/AnnualReports/PDF/NYSE\\_TGT\\_2018.pdf](http://www.annualreports.com/HostedData/AnnualReports/PDF/NYSE_TGT_2018.pdf)

Target: Where Are The Shareholders On The Company's Board (28 May 2019) Carlton Getz, CFA. Retrieved from: <https://seekingalpha.com/article/4266757-target-shareholders-companys-board>

Liquidity Risk In Malaysia Transportation Industry Research (Mmya 21, 2018) Chen Yingqi,  
Retrieved from: <https://works.bepress.com/chen-yingqi/1/download/>