Performance and risk: logistics and transportation company in Malaysia

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PERFORMANCE AND RISK: LOGISTICS AND TRANSPORTATION COMPANY IN MALAYSIA

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Abstract

The purpose of this study is to analyse the performance of logistics company in Malaysia during five years. The analysis is applied on the sample of logistics company in Malaysia over the period between 2012 and 2016. This study using a descriptive analysis such as credit risk, liquidity risk, operational risk and also economic environment as to compare the profitability and liquidity of the logistics company. The finding show that the company profitability can be influenced by the operational risk whereas liquidity can have influenced by the economic environment which is exchange rate.

Keywords: *Profitability, Liquidity, Operating Margin, Exchange Rate*

CHAPTER ONE

INTRODUCTION

The strategic and operational risks related to transport and logistics are even more pronounced in a word with conflict, economic crisis, terrorism and instability. Due to increasing globalization, the transporting industry continues to face specific business risks. In contrast, logistics plays a huge role nowadays, many companies rely on logistics and transport to keep their business strong.

To understand more in this study, Complete Logistics Services Berhad had been chosen to future investigation the risks that face by the company. Complete Logistic Services Berhad was incorporated in Malaysia on 29 November 2005 as a private limited company under the name of Spectral Logistics Sdn Bhd. On 22 November 2006, Spectral Logistics Sdn Bhd changed its name to Complete Logistics Services Berhad. Same year 11 December Complete was converted into a public limited company. On August 2007, Complete is listed on the Main Market of Bursa Malaysia Securities Berhad.

Complete Logistic Service Berhad provides comprehensive logistics services that encompass the integration of both shipping and land transportation. Complete aim to provide a convenient solution for all customers.

CHAPTER 2

LITERATURE REVIEW

In this part, literature review will concern on ''risk and performance in logistics industry''. Improving the operational efficiency is to emulate best practice firms by setting a reliable financial performance standard (Min, H., & Jong Joo, S. 2006). The operational efficiency for any type of business must be concern by management to earn healthy and sustainable financial performances (Sufian, F. 2007). Improving operational efficiency may have direct influence on the organizations profitability. Therefore, an organization operational efficiency depends on the strategic management like proficient and skillful workers, cost control, and management skills. The firm is managing operational cost efficiently which will have an influence on its profitability (Rao & Lakew, 2012). The complex relationship between productivity and profitability requires simultaneous investigation (Zeithaml et al. ,1996). According Anderson et al. (1997), the relationship between productivity, customer satisfaction, and profitability. Productivity was operationalized as sales per employee and profitability was measured by return on asset (ROA). The internal aspects of a firm have an influence foe its financial performance variation, company must make changes based on the best operational practices to their performance goals (Narasimhan, Swink & Kim, 2005). The efficient utilization of the assets is reflected in net profit margin which relation to operating efficiency of a business. Operational risk had larger influences on the liquidity (Fiedler et al., 2002).

Exchange rate is the price of a nation's currency in terms of another currency. Exchange rate is an important macroeconomic variable used to determining international competitiveness. Macroeconomic variables have a correlation to the liquidity risk (Waeibrorheem Waemustafa and Suriani Sukri, 2016). Liquidity risk, operational risk, and credit risk could be the reason that affect the company's performance. Credit risk is one of the biggest risk that could lead to bankruptcy if the company doesn't take it seriously. Credit risk will happen when the non-performing loans increase and lead to banking crisis (Waemustafa and Sukri, 2015). According to Grilli and Roubini (1992), the interaction between liquidity and exchange rate addressed by present a two-country extension on cash-in-advance constraints in asset market. The exchange rate can be influence on the share of money. The increase in domestic bond

will appreciated the domestic currency. Then, bond supply shocks result in volatility of exchange rate.

CHAPTER THREE

METHODOLOGY

3.1   Introduction

The data that are used in this study are firstly collected from the balance sheet and income statement of Complete Logistic Services Berhad that are provided throughout their financial annual reports for the concerning period, secondly put in excel spreadsheet to calculate the ratios needed for the empirical study. This study conducts ratio analysis on the data obtained from the annual reports during 2012 until 2016. The method used to calculate the coefficient of Complete Logistic Services Berhad is stepwise method.

3.2   Data Sampling

The sample used in this study is Complete Logistic Services Berhad which are operating in Malaysia. The data are used from the annual report which are ranged from year 2012 to 2016. The data extract from the annual report are related to the performance indicators such as net income, net sales, current assets, operating expenses, current liabilities and so on.

3.3   Variables

The internal variables that used in this study consists return of asset (ROA), return of equity (ROE), current ratio, quick ratio, average collection period, debt to income, operational ratio and operating margin. For macroeconomics variables that used in this study is .in this study, correlation and regression analysis were used to determine the relationship between the dependent variables and independent variables. The formula of internal variables is shown as below:

Table 3.3: Measurement of Variables

VARIABLES	*MEASUREMENT*
ROA	Net Income/ Total Assets
ROE	Net Income/ Common Equity
Current Ratio	Current Asset/ Current Liability
Quick Ratio	(Current Asset-Current Liability-Inventory)/Current Liability
Average Collection Period	Account Receivables/ (Revenue/360 Days)
Debt to Income	Total Liability/ Total Income
Operational Ratio	Operating Expenses/ Net Sales
Operating Margin	EBIT/ Revenue

3.4 Statistical Technique

The company that chosen for this study is Complete Logistic Service Berhad in Malaysia. The data had been collected from the annual report for year 2012 until 2016. This data was used to calculate the profitability ratio, liquidity ratio, credit risk and operational risk. Also, the macroeconomic variables used to identify the potential variable that may affect the dependent variable as well.

3.5 Statistical Package for Social Science (SPSS)

SPSS is a software package that used for interactive and statistical analysis. In this study, SPSS was used to analyze the data. This software is widely used program for statistical analysis in social science. Besides that, it also used by health research, data miners, education research and so on.

CHAPTER FOUR

FINDINGS AND ANALYSIS

4.1   Credit Risk

Credit risks figure in view of the risk that a borrower unable to pay back a loan or the lender lose the principal of the loan. Interest payments is a debt obligation for the borrower while it is lender's reward. Basically, lender assuming the borrower have the funds to repay their debts. The performance of credit risks in this assessment was measured by average collection period which is depend on credit sales and account receivable.

Figure 4.1: Average-Collection Period
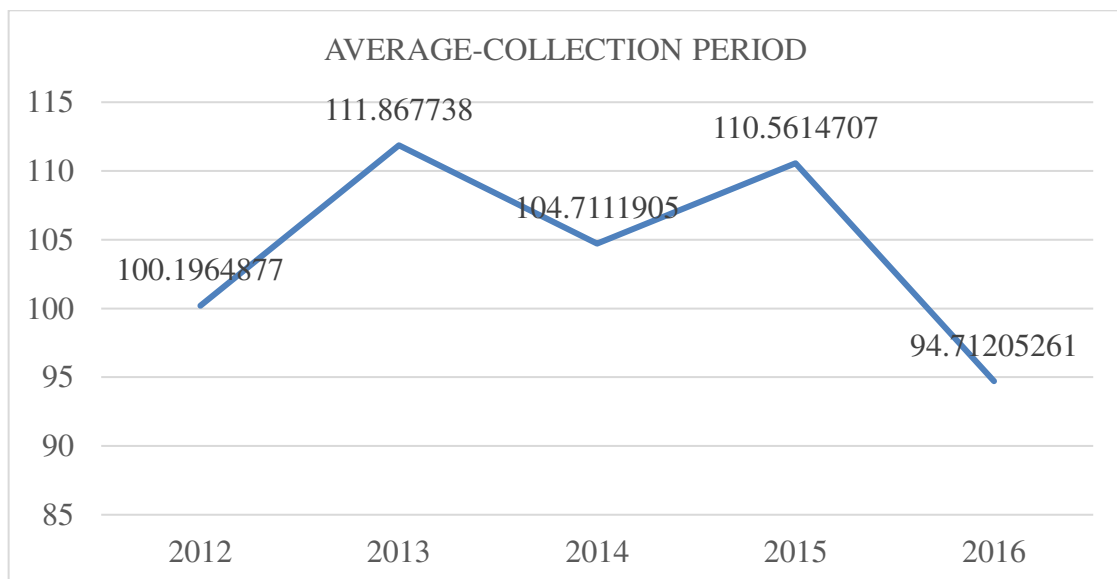
The highest average collection period among these five years is 112 days in 2013 while the lowest average collection period is 95 days in 2016. The lower the average collection period, the faster collecting the payment. This average collection period could affect the company's cash flow to pay the debts. From this analysis, company can measure how the effectiveness and efficiency of the credit control process.

4.2 Liquidity Risk

Figure 4.2: Current Ratio
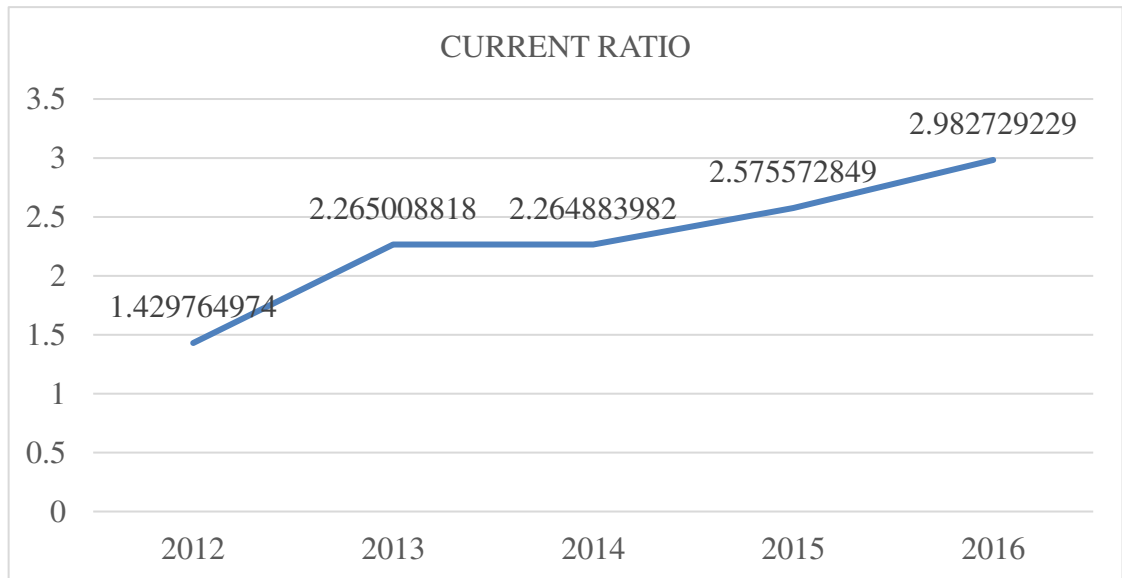
The current ratio is a liquidity ratio that measure a company's ability to pay back the liabilities with its assets. This current ratio also shows a company's financial health. From the line chart, the current ratio in year 2016 more better than year 2012 which was 2.98 compare to 1.43. It is shows that the efficiency of the company's operating cycle.

4.3 Operational Risk

Figure 4.3: Operational Ratio
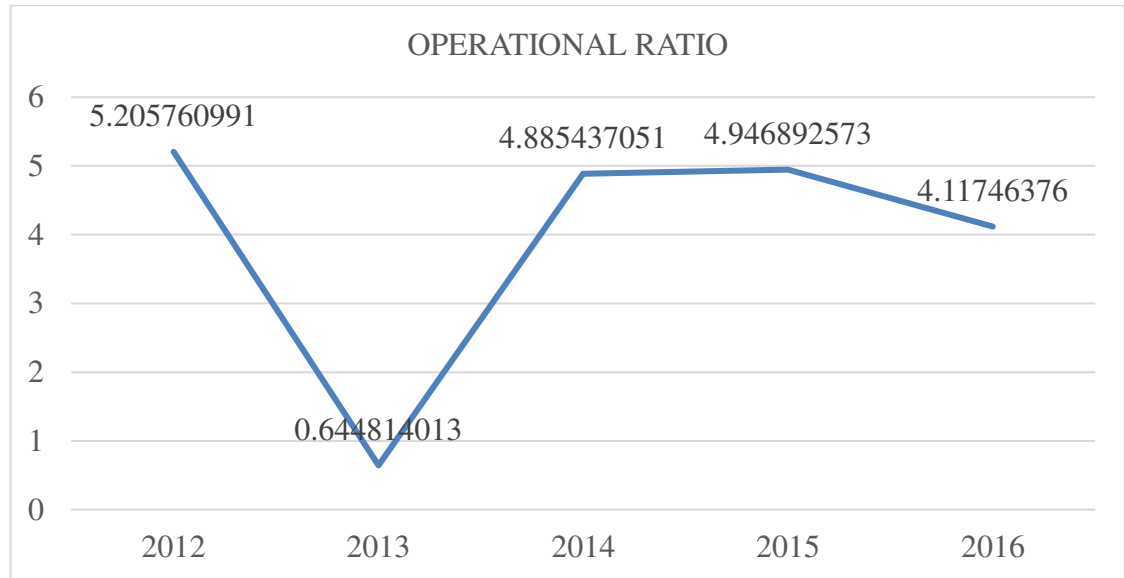
Operating ratio shows the efficiency of a company's management determine by operating expense to net sales. The smaller the ratio, the greater the company's ability to generate profit. From the line graph above, the lowest operational ratio is year 2013 which is 0.64 while the highest operational ratio is year 2012 which is 5.21. From the result, an operational efficiency in year 2013 because company use the least resource to create more revenue.

4.4 Market Risk

Figure 4.4: Market Risk
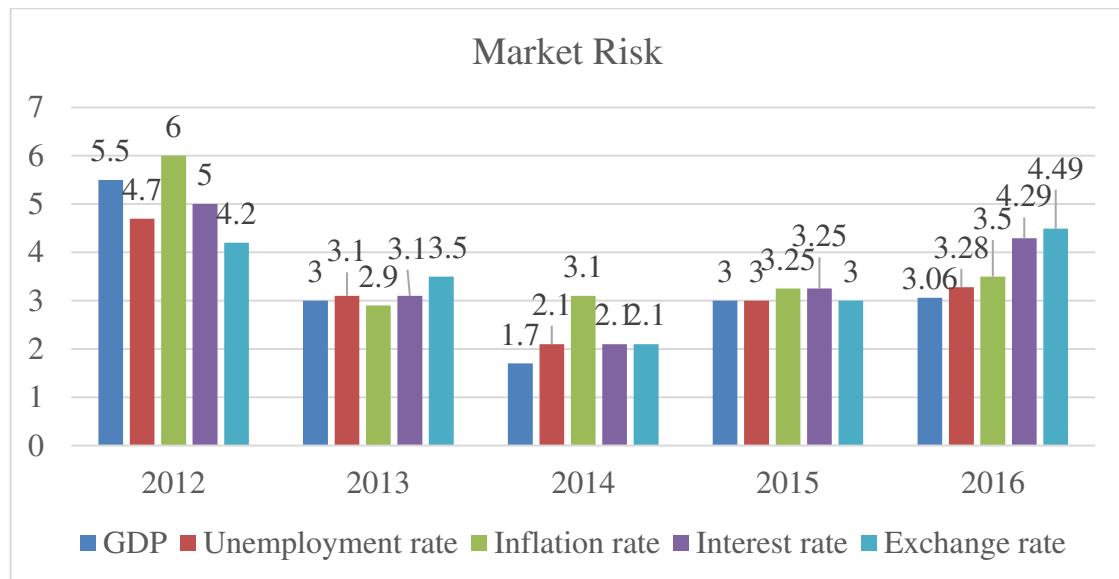
Market risk is the fluctuation of returns caused by the macroeconomic factors that affect all risky assets. Market risk is also systematic risk or non-diversifiable risk, it cannot be eliminated though diversification, but it can be hedged by using the financial instruments. The bar chart above shows the market risk that used in this analysis which is growth domestic product(GDP), unemployment rate, inflation rate, interest rate and exchange rate. From the bar chart, year 2013 experience the lowest among five years, it shows a good overall market performance. We can see that GDP only 1.7 compare to 5.5 in year 2012, this indicate there is quite a greater market risk. Besides that, year 2012 was the highest among five years, unemployment rate, inflation rate, and interest rate experienced higher, this indicate the high market risk for the year.

4.5 Price Changes

Figure 4.5: Beta
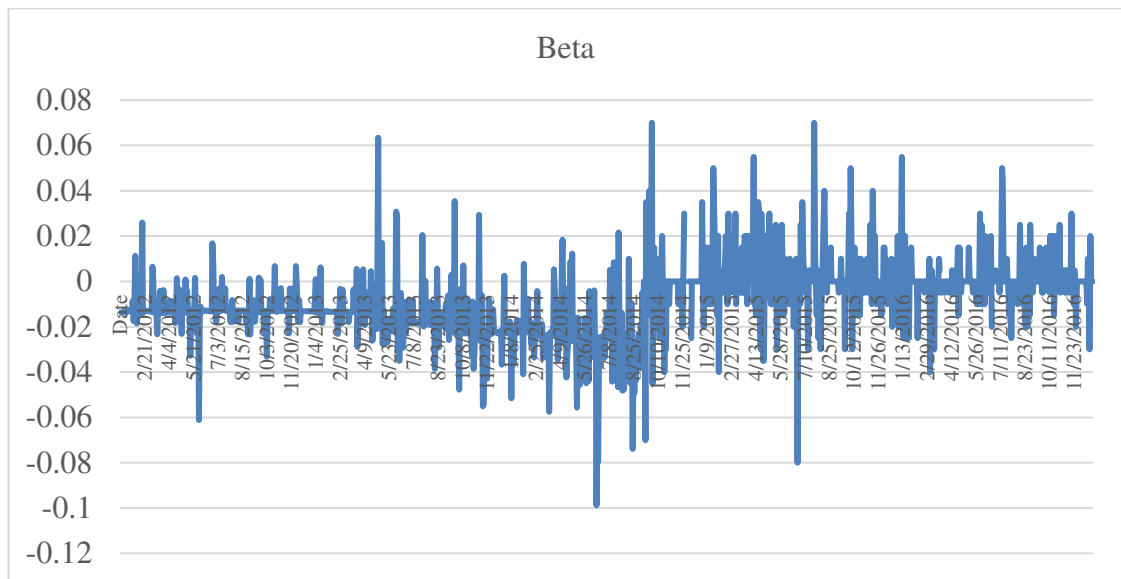
Based on the graph above, it has shown the historical price change of Complete Logistics Service Berhad stocks price for year 2012 until 2016. The price changes imply the volatility from day to day because of it depends on the demand and supply in the market. From the graph, on 17 June 2014 they experienced the best change at RM 0.10 and the least change is on 30 September 2014 and 30 July 2015 with RM 0.07. From the graph we can concluded that share price of Complete Logistics Service Berhad experienced decreases. The difference between adjusted close price and opening price become more closes.

4.6 Return on Assets

Figure 4.6: Return on Assets
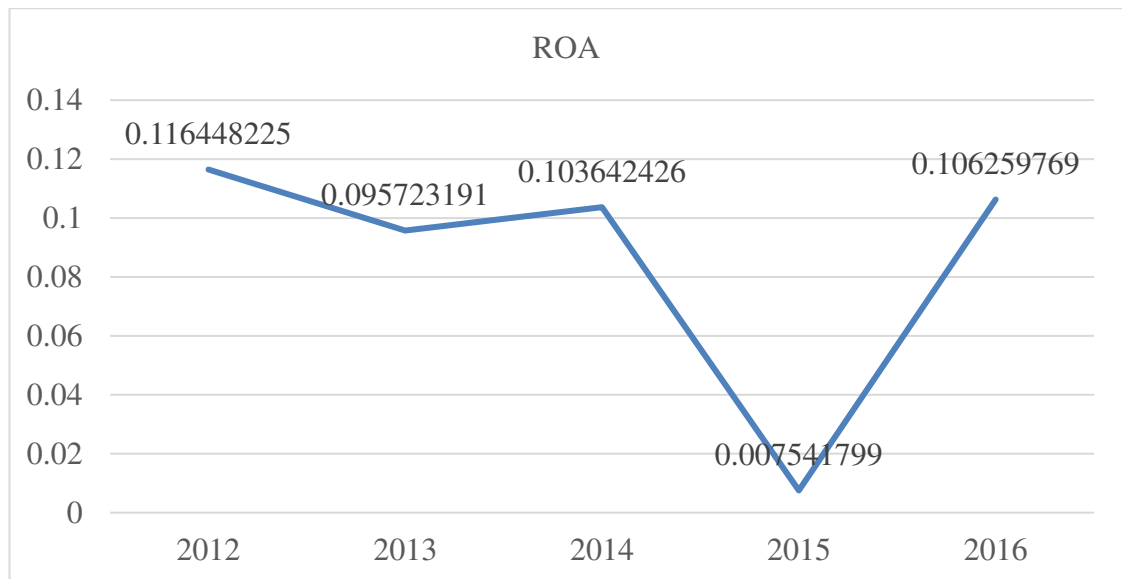
Return on assets measures how efficiency a company can manage its assets to create profits during a period. ROA helps both management and investors to identify how well the company can convert its investments in assets in to profits. Other word, this ratio measures how profitable a company's assets are. From the graph, on year 2015 decrease dramatically from 2014 which is 0.10 to 0.0075, then increase again to 0.11 in year 2016. Meaning that in year 2015, the management for Complete Logistics Service Berhad was not efficient and effective in managing its assets that cause the lowest.

4.7 Return on Equity

Figure 4.7: Return on Equity
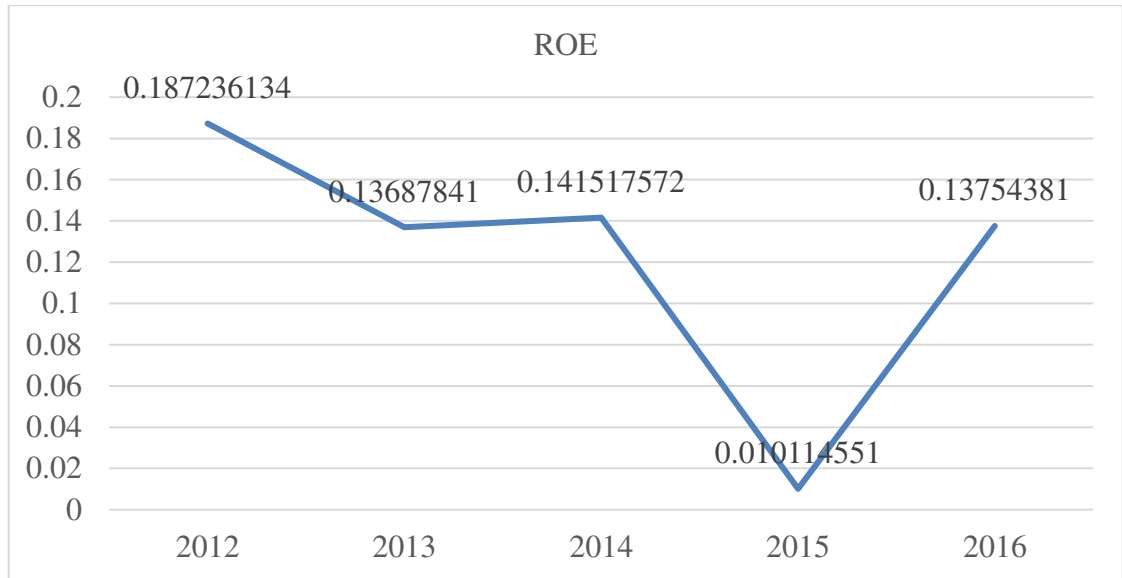
Return on equity is a measure of profitability on how many ringgits of a company generates with each ringgit of shareholders' equity. ROE shows how good the company is in generating return on the investment from the shareholders. According to the graph shows above, on year 2015 the ROE decreases from 0.14 to 0.01. But it increases to 0.14 in the following year. Furthermore, the highest ROE was 0.19 in year 2012.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1   Introduction

Table 5.1: Descriptive Statistics

Descriptive Statistics			
	Mean	Std. Deviation	N
ROA	0.085923082007511	0.044438181949953	5
ROE	0.122658095191817	0.066362365450924	5
CURRENT RATIO	2.303591970586250	0.570473838623478	5
QUICK RATIO	2.278261249045080	0.561984583517310	5
AVERAGE-COLLECTION PERIOD	104.409787898624000	7.165072109071150	5
DEBT TO INCOME	0.327297200667908	0.075121043593432	5
OPERATIONAL RATIO	3.960073677573270	1.897206108405730	5
OPERATING MARGIN	0.108067954359357	0.044656804266062	5
BETA	0.01304636160	0.004618028672	5
GDP	5.080	0.6979	5
UNEMPLOYMENT RATE	3.120	0.2280	5
INFLATION RATE	2.220	0.5215	5
INTEREST RATE	3.1000	0.13693	5
EXCHANGE RATE	3.7240	0.63153	5

The return on assets (ROA) and quick ratio is the dependent variable used to calculate as a ratio of the operating result. In this study included 5 macroeconomic variables namely Gross Domestic Product (GDP), inflation, interest, unemployment, and exchange rate which mean 5.08, 3.12, 2.22, 3.1, and 3.7

respectively. The mean of ROA of Complete Logistic Services Berhad is 0.08 while the quick ratio is 2.28 between this five years. This can conclude that the overall profitability is less than 1% whereas the liquidity is 2.28 by using the current assets to cover the current liabilities for this 5 years.

5.2 Profitability to Operational Risk

Table 5.2.1: Pearson Correlation Table

Correlations

		ROA	CURRENT RATIO	QUICK RATIO	AVERAGE-COLLECTION PERIOD	DEBT TO INCOME	OPERATIONAL RATIO	OPERATING MARGIN
Pearson Correlation	ROA	1.000	-0.348	-0.361	-0.573	0.518	-0.155	0.916
	CURRENT RATIO	-0.348	1.000	1.000	-0.094	-0.903	-0.143	-0.047
	QUICK RATIO	-0.361	1.000	1.000	-0.087	-0.911	-0.131	-0.061
	AVERAGE-COLLECTION PERIOD	-0.573	-0.094	-0.087	1.000	-0.050	-0.463	-0.433
	DEBT TO INCOME	0.518	-0.903	-0.911	-0.050	1.000	-0.116	0.204
	OPERATIONAL RATIO	-0.155	-0.143	-0.131	-0.463	-0.116	1.000	-0.329
	OPERATING MARGIN	0.916	-0.047	-0.061	-0.433	0.204	-0.329	1.000
Sig. (1-tailed)	ROA		0.283	0.275	0.156	0.185	0.402	0.014
	CURRENT RATIO	0.283		0.000	0.440	0.018	0.409	0.470
	QUICK RATIO	0.275	0.000		0.445	0.016	0.417	0.461
	AVERAGE-COLLECTION PERIOD	0.156	0.440	0.445		0.468	0.216	0.233
	DEBT TO INCOME	0.185	0.018	0.016	0.468		0.426	0.371
	OPERATIONAL RATIO	0.402	0.409	0.417	0.216	0.426		0.295
	OPERATING MARGIN	0.014	0.470	0.461	0.233	0.371	0.295	

N								
	ROA	5	5	5	5	5	5	5
	CURRENT RATIO	5	5	5	5	5	5	5
	QUICK RATIO	5	5	5	5	5	5	5
	AVERAGE-COLLECTION PERIOD	5	5	5	5	5	5	5
	DEBT TO INCOME	5	5	5	5	5	5	5
	OPERATIONAL RATIO	5	5	5	5	5	5	5
	OPERATING MARGIN	5	5	5	5	5	5	5

The dependent variable used in this study is Return on Asset (ROA) which determine the profitable of Complete Logistic Services Berhad is relative to its total assets. Independent variables include current ratio, quick ratio, average collection period, debt to income, operational ratio and operating margin. Among the variables, operating margin is found to be significant to ROA which is 0.014. This mean the operating margin had greater influenced toward the ROA. In addition, current ratio, quick ratio average collection period, debt to income, and operational ratio that show less significant to ROA.

Table 5.2.2: Multiple Regression Coefficient

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-0.013	0.027		-0.476	0.667	-0.097	0.072		
	OPERATING MARGIN	0.912	0.230	0.916	3.963	0.029	0.180	1.644	1.000	1.000

a. Dependent Variable: LR

Table above shows a coefficient of ROA and operating margin. Coefficient is used to tell us about the significant on other ways and the relationship influence whether positive or negative and t-value indicate how big is the influence. According to the table above, operating margin is near to most significant which is 0.029 compare to 0.01. The significant shows that which of the independent variables is relevant to dependent variable. The relationship between ROA and operating margin is positive. When 1% change in ROA will change 0.916% in operating margin. It means profit increases; the operating expenses increases as well. The t-value shows how big the influence of the variable. The t-value for operating variable is 3.963, that's mean the bigger the number, the bigger is the impact.

Table 5.2.3: Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.916[a]	0.840	0.786	0.020549198234044	1.312

a. Predictors: (Constant), OPERATING MARGIN

b. Dependent Variable: ROA

R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determination for multiple regression. According to the studies that are conducted, the R square is 0.840. Mean that, there are closer to the 1. If closer to the 1, there are more relevant to the operating margin. In conclusion, the higher the R-squared, the better the model fits your data.

5.3 Liquidity to Exchange Rate

Table 5.3.1: Pearson Correlation Table

Correlations

		QUICK RATIO	GDP	Unemploym ent rate	Inflation rate	Interest rate	Exchange rate
Pearson Correlation	QUICK RATIO	1.000	-0.622	0.695	0.268	0.204	0.893
	GDP	-0.622	1.000	-0.908	0.517	0.549	-0.587
	Unemploym ent rate	0.695	-0.908	1.000	-0.362	-0.480	0.725
	Inflation rate	0.268	0.517	-0.362	1.000	0.665	0.032
	Interest rate	0.204	0.549	-0.480	0.665	1.000	0.247
	Exchange rate	0.893	-0.587	0.725	0.032	0.247	1.000
Sig. (1-tailed)	QUICK RATIO		0.131	0.096	0.332	0.371	0.021
	GDP	0.131		0.017	0.186	0.169	0.149
	Unemploym ent rate	0.096	0.017		0.275	0.206	0.083
	Inflation rate	0.332	0.186	0.275		0.110	0.480
	Interest rate	0.371	0.169	0.206	0.110		0.344
	Exchange rate	0.021	0.149	0.083	0.480	0.344	
N	QUICK RATIO	5	5	5	5	5	5
	GDP	5	5	5	5	5	5
	Unemploym ent rate	5	5	5	5	5	5

Inflation rate	5	5	5	5	5	5
Interest rate	5	5	5	5	5	5
Exchange rate	5	5	5	5	5	5

The significant of the data set can be measured by using P value. From the table above test for the relationship of liquidity to macroeconomic factors. When P value greater than 0.1 indicates insignificant while if less than 0.01 meaning that it macroeconomic factor have greater influence toward the variable. From the table shows the significant of quick ratio to exchange rate is 0.021, that's mean it has greater impact to the liquidity of the company. The real exchange rate volatility can have an impact on the productivity growth.

Table 5.3.2: Multiple Regression Coefficient

Coefficients^a

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	95.0% Confidence Interval for B Upper Bound	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-0.679	0.873		-0.779	0.493	-3.457	2.098		
	Exchange rate	0.794	0.232	0.893	3.428	0.042	0.057	1.532	1.000	1.000

a. Dependent Variable: QUICK RATIO

The table above shows a coefficient of quick ratio and exchange rate. This is an alternative way to determine the significant variable to quick ratio. The less the significant of variable, the more important the company need to concern. As we can see from the table, the significant for exchange rate is 0.042, that's mean it has median significant to quick ratio. The Beta shows the positive relationship of 0.893% of impact to quick ratio. Besides that, t-value shows 3.428 meaning that the greater the number, the bigger the influence.

Table 5.3.3: Model Summary

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.893ᵃ	0.797	0.729	0.292668924942364	2.256

a. Predictors: (Constant), EXCHANGE RATE

b. Dependent Variable: QUICK RATIO

R-squared is a statistical measure that the percentage of a fund's movements and it can be explained in a benchmark index. According to the study, the R-squared is 0.797 which mean the if closer to 1, there are more relevant to quick ratio.

CHAPTER SIX

CONCLUSION

In conclusion, by looking at the return on assets (ROA) for Complete Logistic Service Berhad, it can be concluded that there have significant to concern in year 2015 as the ROA graph indicated a fluctuation movement on that period. While, Complete Logistic Services Berhad also need to concern about the macroeconomic factor which is exchange rate had greater influence toward the company liquidity. This macroeconomic risk can be mitigating by using the financial instrument such as forward contract, future contract, options and so on hedge the risk.

REFERENCES

Anderson, E. W., C. Fornell, R. T. Rust. 1997. Customer satisfaction, productivity and profitability: Differences between goods and services. Marketing Sci. 16 129–145

Fiedler, R., Brown, K., & Moloney, J. (2002). Liquidity risk: what lessons can be learnt from the crisis in Japan's banking system? Balance Sheet, 10(1), 38-42

Grilli, V., and Roubini, N., 1992. "Liquidity and exchange rates", Journal of International Economics, 32, 339 – 352.

Min, H., & Jong Joo, S. (2006). Benchmarking the operational efficiency of third party logistics providers using data envelopment analysis. *Supply chain management: An International journal*, *11*(3), 259-265.

Narasimhan, R., Swink, M., & Kim, S. W. (2005). An exploratory study of manufacturing practice and performance interrelationships: implication for capability progression. International Journal of Operations and Production Management, 25(10), 1013-1033.

Rao, K. R. M., & Lakew, T. B. (2012). "Determinants of Profitability of Commercial Banks in a Developing Country: Evidence from Ethiopia", International Journal of Accounting and Financial Management Research (IJAFMR), 2(3), 1-20

Sufian, F. (2007). The efficiency of Islamic banking industry: A non-parametric analysis with non-discretionary input variable. Islamic economic studies, 14 (1&2).

Waemustafa, W., & Sukri, S. (2015). Bank Specific and Macroeconomics DynamicDeterminants of Credit Risk in Islamic Banks and Conventional Banks. International Journal of Economics and Financial issues, 5(2): 476-481.

Waemustafa, W., & Sukri, S. (2016). Systematic and unsystematic risk determinants of liquidity risk between Islamic and conventional banks.

Zeithaml, V. A., L. L. Berry, A. Parasuraman. 1996. The behavioral consequences of service quality. J. Marketing 60 31–46