

TRADE-OFF BETWEEN LIQUIDITY & PROFITABILITY: A STUDY OF SELECTED MANUFACTURING FIRMS IN SRI LANKA

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ABSTRACT

Profitability and liquidity are the most prominent issues in the corporate finance literature. The ultimate goal for any firm is to maximize profitability. However, too much attention on profitability may lead the firm into a pitfall by diluting the liquidity position of the organization. In this way, the present study is initiated to find out the cause and effect relationship between liquidity and profitability. The study covered 31 listed manufacturing firms in Sri Lanka over a period of past 5 years from 2007 to 2011. Correlation analysis and descriptive statistics were used in the analysis and findings suggest that there is no significant relationship between liquidity and profitability among the listed manufacturing firms in Sri Lanka.

Keywords: Liquidity, Profitability, Corporate Finance, Manufacturing Firms.

INTRODUCTION:

Profitability and liquidity are the most prominent issues that management of each organization should take studying and thinking about them into account as their most important duties. Liquidity refers to the ability of a firm to meet its short term obligations. Liquidity plays a crucial role in the successful functioning of a business firm. A study of liquidity is of major importance to both the internal and external analysts because of its close relationship with day to day operations of a business (Bhunia, 2010). A weak liquidity position poses a threat to the solvency as well as profitability of a firm and makes it unsafe and unsound.

Profitability is a measure of the amount by which a firm's revenues exceeds its relevant expenses. Potential investors are interested in dividends and appreciation in market price of stock, so they pay more attention on the profitability ratios. Managers on the other hand are interested in measuring the operating performance in terms of profitability. Hence, a low profit margin would suggest ineffective management and investors would be hesitant to invest in the company.

The liquidity and profitability goals are contradictory to each other in most decisions which the finance manager takes. For example, the firm by following a lenient credit policy may be in a position to increase its sales, but its liquidity may tend to worse. In addition to this, referring to the risk return theory there is a direct relationship between risk and return. Thus, firms with high liquidity may have low risk and then low profitability. Conversely, firm that has low liquidity may face high risk results to higher return. Consequently, a firm is required to maintain a balance between liquidity and profitability in its day-to-day operations.

RESEARCH PROBLEM:

Maintaining a proper liquidity indicates that funds are confined to liquid assets thereby making them unavailable for operational use or for investment purposes for higher returns. Thus, there is an opportunity cost associated with the maintenance of those liquid assets and this might affect the overall profitability of the firm. In other words, increasing profitability would tend to reduce firm's liquidity and too much attention on liquidity would tend to affect the profitability (Smith, 1980). Therefore, firms should always strike to maintain a balance between conflicting objectives of liquidity and profitability. The firm's liquidity should not be too high or too low. Excessive dependence on liquidity indicates the accumulation of idle funds that don't fetch any profits for the firm (Smith, 1980). On the other hand, insufficient liquidity might damage the firm's goodwill, deteriorate firm's credit standings and that might lead to forced liquidation of firm's assets. Hence, the present study is initiated to identify the trade-off between liquidity and profitability of listed manufacturing firms in Sri Lanka.

OBJECTIVES:

The objectives are directed towards the following:

- * To identify the nature and extent of the relationship between liquidity and profitability.
- * To find out the factors other than liquidity influence on profitability.
- * To provide appropriate management policy recommendations.

REVIEW OF LITERATURE:

Liquidity and profitability have been extensively discussed and analyzed in the literature. While the immediate survival of a business anchors on its liquidity, its long term survival and growth depend on profitability. Thus, liquidity ensures short term survival and profitability ensures long term survival. Both are, therefore important for any firm to survive.

The research conducted by Lairodi et al. (1999) with the listed companies of London Stock Exchange for 4 years period revealed that, the cash conversion cycle (CCC), current ratio (CR) and the quick ratio (QR) have a negative association with the profitability ratios like the net profit ratio, return on assets ratio and the return on equity ratio. They also found a positive correlation between the liquidity ratios itself.

Velnampy, T. (2006) examined the financial position of the companies and the relationship between financial position and profitability with the sample of 25 public quoted companies in Sri Lanka by using the Altman Original Bankruptcy Forecasting Model. His findings suggest that, out of 25 companies only 4 companies are in the condition of going to bankrupt in the near future. He also found that, earning/total assets ratio,

market value of total equity/book value of debt ratio and sales/total assets in times are the most significant ratios in determining the financial position of the quoted companies.

Velnamby, T. and Niresh, J.A. (2012) investigated the association between capital structure and profitability of listed Sri Lankan banks over the period of 8 years from 2002 to 2009. Results of their analysis show that, there is a negative association between capital structure and profitability except the association between debt to equity and return on equity. Furthermore, Velnamby, T. made a research on value added, productivity and performance of few selected companies in Sri Lanka with the sample of 15 financial companies listed under the Colombo Stock Exchange (CSE). The study reveals that, profit before tax per employee and value added per rupee of fixed asset is positively correlated and labour cost to sales and gross profit is also positively correlated. Further the labour cost to value added is correlated with gross profit and value added per rupee of fixed asset and no relationship was found between the rest of the productivity and performance measures.

Vishnani and Shah (2007) mentioned that, the most common measure of liquidity is current ratio and return on investment for profitability. A higher current ratio indicates a larger investment in current assets which means, a low rate of return on investment for the firm, as excess investment in current assets will not yield enough return. A low current ratio means smaller investment in current assets which means a high rate of return on investment for the firm, as no unused investment is tied up in current assets. However, a low current ratio might also mean disruption in production and sales due to the frequent stock outs and the inability to pay the creditors in time due to the restrictive policy.

Velnamby, T. and Nimalathasan, B. (2008) investigated the association between organizational growth and profitability of Commercial bank Ltd in Sri Lanka over the period of 10 years from 1997 to 2006. They found that, sales are positively associated with profitability ratios except operating profit, return on equity and number of depositors are negatively correlated to the profitability ratios except operating profit and return on equity. Likewise, number of advances is also negatively correlated to the return on average shareholders' funds. Furthermore, Velnamby, T. and Nimalathasan, B. (2010) made a research regarding the association between firm size and profitability of all the branches of Bank of Ceylon and Commercial Bank of Ceylon Ltd over a period of 10 years from 1997 to 2006. Findings reveal that, there is a positive relationship between firm size and profitability in Commercial Bank of Ceylon Ltd, but there is no relationship between firm size and profitability in Bank of Ceylon.

According to Eljelly (2004), efficient liquidity management associates planning and controlling current assets and current liabilities in an efficient manner so as to eliminate the risk of non-payment of dues for short term requirements and it also avoids excessive investment in these assets. The connection between profitability and liquidity was examined, as determined by current ratio and cash conversion cycle on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. Eljelly stressed that, cash conversion cycle is the most effective tool to measure the liquidity compared to the current ratio which affects profitability. Besides that, the researcher also thinks that, the size of the firm has also a significant effect on the profitability at the industrial level. The results found were stable and it had a serious effect on the liquidity management in various Saudi Arabic companies. Thus it was clear that, there was a negative relationship between liquidity and profitability for the Saudi companies. Furthermore, the study also disclosed the fact that, there was great variation amongst the industries with respect to the measure for liquidity.

Velnamby, T. (2006) made a study on investment appraisal and profitability of toddy bottling project in Sri Lanka. He found that, the management of the project failed to achieve the budgetary results. Even though, the Net Present Value (NPV), Internal Rate of Return (IRR) and benefit cost ratio shows the project as worthwhile.

According to Smith et al. (1997) profitability and liquidity are the salient goals of working capital management. The problem arises due to the maximization of the firm's returns could seriously threaten its liquidity, and the pursuit of liquidity had a propensity to dilute returns. This piece of work appraised the association between standard and alternative working capital measures and the return on investment, mainly in the industrial firms listed in the Johannesburg Stock Exchange. The problem under investigation was to create whether the more recently developed alternative working capital concepts showed improved association with return on investment to that of the conventional working capital ratios or not. The results verified that, there were no significant difference between the years and the chosen independent variables. The results of their stepwise regression confirmed that, the total current liabilities is divided by funds flow accounted for most of the variability in return on investment. The statistical results proved that, a traditional working capital leverage ratio, current liabilities divided by funds flow, exhibited greatest association with

return on investment. Renowned liquidity concepts such as current ratio and the quick ratio showed insignificant associations whilst only one of the newer working capital concepts, the comprehensive liquidity index indicated significant association with return on investment.

Contrary to the above mentioned literature, some researchers found positive and mixed (both positive and negative) association between liquidity and profitability. Narware (2004) in his study of working capital management and profitability of NFL, a fertilizer company found both positive and negative association. According to Mukhopadhyay (2004) loans and advances and other current assets hardly had any role to contribute to the revenue generation of a firm. Furthermore, Bardia (2004) and Sur and Ganguly (2001) in their study on steel giant SAIL and aluminum producing industry believed that, there is a positive association between liquidity and profitability and this observation tallies with the observation derived by Narware (2004).

CONCEPTUALIZATION:

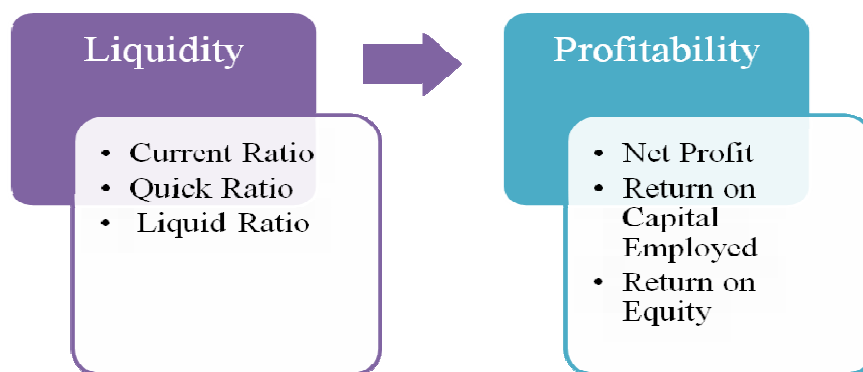


Figure 1: Conceptualization Model

HYPOTHESES OF THE STUDY:

The following hypotheses were formulated for the study.

H0:- There is no significant association between liquidity and profitability.

H1:- There is a significant association between liquidity and profitability.

METHODOLOGY:

DATA SOURCE:

The present study used secondary data for the analysis. The data utilized in this study is extracted from the income statements and balance sheets of the sample manufacturing firms attained from the Colombo Stock Exchange (CSE) database. In addition to this, scholarly articles from academic journals and relevant text books were also used.

SAMPLING DESIGN:

Sampling design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt on selecting items for the sample (Kothari, C.R., 2004). The sample of this study is confined to the manufacturing sector consists of 31 manufacturing firms out of 39 listed in the Colombo Stock Exchange (CSE). This represents 80% of the firms listed under the manufacturing sector.

MODE OF ANALYSIS:

The quantitative research approach is employed to arrive at the findings of the research study. Under which, descriptive statistics and inferential statistics were used. Descriptive statistics depict the mean, standard deviation, maximum and the minimum values for the chosen variables. It is a snapshot of the samples and

their measures and shows the exact position of the data used in the study. Inferential statistics are used to draw conclusions about the reliability and generalizability of the findings. In the present study, correlation analysis is used as a tool to identify the nature and extent of the relationship between the variables under inferential statistics.

RESEARCH MODEL:

Pearson correlation analysis was carried out to identify the trade-off between liquidity and profitability. Here, liquidity is the independent variable and profitability is the dependent variable. It can be represented as follows;

$$P = f(L)$$

Which shows profitability is the function of liquidity.

Where;

P = Profitability

L = Liquidity

In the present study, profitability is measured by using three ratios namely net profit ratio, return on capital employed and return on equity whereas liquidity is measured by using current ratio, quick ratio and liquid ratio.

RESULTS & ANALYSIS:

DESCRIPTIVE STATISTICS:

Table 1: Descriptive Statistics of the variables

Variables	N	Range	Minimum	Maximum	Mean	Std.Deviation	Coefficient of Variation
Current Ratio	31	19.188	0.558	19.746	2.266	3.453	1.52
Quick Ratio	31	19.192	0.328	19.520	1.609	3.406	2.12
Liquid Ratio	31	5.470	0.008	5.478	0.458	1.071	2.34
Net Profit	31	194.438	-86.838	107.600	4.930	29.532	5.99
Return on Capital Employed	31	139.202	-54.884	84.318	1.4	20.988	14.99
Return on Equity	31	124.920	-64.706	60.214	5.854	20.978	3.58
Valid N (listwise)	31						

The descriptive statistics show that over the period under study, the criteria used for measuring profitability including net profit, return on capital employed and return on equity averaged 4.93, 1.4 and 5.85 respectively. The coefficients of variation (standard deviation/mean) values of profitability measures were found to be higher than those of liquidity measures. Thus, reveal the high volatility of profitability measures used in the study. Furthermore, the mean values of current ratio and quick ratio were 2.27 and 1.61 respectively. The norm for current ratio is 2:1 to 3:1 and for quick ratio is 1:1 to 1.5:1. Both of these ratios were in line with those of standards.

CORRELATION ANALYSIS:

Table 2: Correlation Matrix

Variables	Current Ratio	Quick Ratio	Liquid Ratio	Net Profit Ratio	Return on Capital Employed	Return on Equity
Current Ratio	1					
Quick Ratio	0.985** (0.000)	1				
Liquid Ratio	0.863** (0.000)	0.877** (0.000)	1			

Net Profit Ratio	-0.011 (0.954)	0.045 (0.811)	-0.037 (0.841)	1		
Return on Capital Employed	-0.013 (0.943)	-0.044 (0.816)	-0.058 (0.755)	0.273 (0.138)	1	
Return on Equity	0.009 (0.963)	0.010 (0.957)	-0.012 (0.949)	0.325 (0.075)	0.831** (0.000)	1

**, Correlation is significant at the 0.01 level (2-tailed).

The above mentioned table indicates the relationship between the various independent and dependent variables used in the study. As it is observed in the table, the correlation values were found to be mixed (both positive and negative) between the independent and dependent variables. The R values were found to be negative between return on capital employed and liquidity variables as measured by current ratio, quick ratio and liquid ratio consisting the correlation values of -0.013, -0.044 and -0.058 respectively. Furthermore, liquid ratio is negatively correlated with all the profitability measures used in the study. Contrary to the above mentioned associations, positive association was observed between quick ratio and net profit ratio ($R=0.045$), current ratio and return on equity ($R=0.009$) and quick ratio and return on equity ($R=0.01$). It is apparent from the table that, the correlation values were found to be statistically insignificant between all the independent and dependent variables used in the study.

HYPOTHESES TESTING:

Table 3: Testing of Hypotheses

No	Hypotheses	Results	Tools
H0	There is no significant relationship between liquidity and profitability.	Accepted	Correlation
H1	There is a significant relationship between liquidity and profitability.	Rejected	Correlation

CONCLUSION & RECOMMENDATION:

This study examined the trade-off between liquidity and profitability in the manufacturing sector of Sri Lanka. The study covered 31 listed manufacturing firms over the period of past five years from 2007 to 2011 and the major findings of the study are summarized below:

The correlation values were found to be negative between return on capital employed and all the liquidity variables as measured by current ratio, quick ratio and liquid ratio consisting the R values of -0.013, -0.044 and -0.058 respectively. Likewise, liquid ratio is negatively correlated with all the profitability measures. Contrary to the above mentioned association, positive association was found between quick ratio and net profit, current ratio and return on equity and quick ratio and return on equity. Furthermore, the correlation values were found to be statistically insignificant between all the independent and dependent variables used in the study. Hence, null hypothesis is accepted and research hypothesis is rejected. That is, there is no significant relationship between liquidity and profitability among the listed manufacturing firms in Sri Lanka. Manufacturing firms are required to maintain an adequate level of liquidity to meet production demands and to make sure of un-interrupted production. As sales grow, firms need to invest more in inventories and debtors. These needs become very frequent and fast when sales grow continuously. Therefore, the financial manager should be aware of such needs and finance them quickly. The mean values of current ratio and quick ratio were found to be 2.27 and 1.61 respectively for the listed manufacturing firms in Sri Lanka. The standard for current ratio is 2:1 to 3:1 and for quick ratio is 1:1 to 1.5:1. It shows that, the liquidity ratios of listed manufacturing firms are in line with those of standards. Finally, the study proffers the following for policy and decision making;

1. A cautious attention has to be paid as far as the profitability is concerned. The coefficients of variation values of profitability measures were found to be higher than those of liquidity measures. Thus, reveal the high volatility of profitability measures used in the study. Therefore, manufacturing firms in Sri Lanka should focus on reducing the amount of volatility associated with the profitability measures.

2. It is better to implement moderate current assets policy fall in the middle of conservative and aggressive policies. A higher current assets/fixed assets ratio indicates a conservative current assets policy and a lower current assets/fixed assets ratio means aggressive current assets policy assuming other factors to be constant. A conservative policy implies greater liquidity and lower risk while an aggressive policy indicates higher risk and poor liquidity. Moderate current assets policy fall in the middle of conservative and aggressive policies.
3. Manufacturing firms in Sri Lanka should concentrate on maximizing profit while preserving liquidity.

LIMITATIONS & SCOPE OF FUTURE RESEARCH:

The present study is confined only to the listed manufacturing firms in the manufacturing sector of Sri Lanka. Findings and conclusions were drawn with the help of secondary data. Consequently, the results may not be fully accurate. Furthermore, data representing the period of 5 years were used for the study.

This study may be very useful for the financial managers of manufacturing industry in framing policies for managing the firm's liquidity and profitability. Furthermore, there is clearly enormous scope for more research work in the present study. Therefore, I suggest the following for further research;

1. Findings reveal that, there is no significant relationship between liquidity and profitability. This is an indication that, changes in the liquidity position of manufacturing firms exerts no remarkable changes in the profitability. Other factors such as, seasonal changes in demand, firm size, manufacturing cycle and technological changes may exert a greater influence on the profitability of manufacturing firms. Hence, this area is indicated as a scope for future research.
2. There are currently 287 companies listed in the Colombo Stock Exchange (CSE) under 20 sectors. The study covered only the listed manufacturing firms in the manufacturing sector. Therefore, further investigation is required to examine the trade-off between liquidity and profitability of firms in the different sectors.

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