

Case Study No. 1 :-

Liquidity, Risk and Profitability Analysis:

A Case Study of Maruti India Ltd.

ABSTRACT:

Liquidity risk and return both are very important aspects to be considered while making any decisions regarding company's finance. It affects the liquidity and profitability in any ways. This case study attempts to study these three elements in company's existence and their relationship.

Keywords: Liquidity, risk, Profitability

Introduction:

Liquidity management has been taken as an important tool to analyze the sustainability and liquidity position of any enterprise that may also help any organization to derive maximum profits at minimum cost. A company must maintain its ability to pay off its current obligations and have a sound base of working capital to stay for a long in the competitive market. The management of working capital is an important aspect to be considered for attaining sound liquidity position.

Profitability, in this reference may be the return earned on the total assets of the company. Every firm aims to dig up maximum profits out of the invested capital pool. The success of the company usually depends on its returns earned, keeping the liquidity prospects in view. Usually, it is a difficult task to trade off between the liquidity and profitability, as the conservative policy of working capital may ensure sound liquidity but endangers the profitability. On the other hand, aggressive policy helps in making profits but the liquidity is in not promised. Before deciding on an appropriate level of working capital investment, a firm's management has to evaluate the trade off between expected profitability and the risk that it may be unable to meet its financial obligations.¹

Finance deals with creating a proper framework to maximize profits at a given level of risk. In pursuing this balance, the firm must develop controls over the flows of funds while allowing sufficient flexibility to respond to changes in the operating environment.² Thus, the firms must attain a level of adequate liquidity at a minimum risk so as to achieve maximum profitability.

Company Snapshot:

Maruti Suzuki India Limited (MSIL) is a passenger car company. The Company is engaged in the business of manufacturing, purchase and sale of motor vehicles and spare parts (automobiles). The other activities of the Company include facilitation of pre-owned car sales, fleet management and car financing. The Company is a subsidiary of Suzuki Motor Corporation, Japan. The Company has a portfolio of 13 brands and over 150 variants across India and abroad. The Company's two manufacturing facilities are located at Gurgaon and Manesar, south of New Delhi. The Company's subsidiaries include Maruti Insurance Business Agency Limited, Maruti Insurance Distribution Services Limited, Maruti Insurance Agency Solutions Limited, Maruti Insurance Agency Network Limited and Maruti Insurance Agency Services Limited. The study is being done with the following objectives:-

To examine the association between liquidity and risk.

To test the correlation between profitability and risk.

Hypothesis of the Study:

The above stated objectives are to be achieved by testing the following hypothesis:

There is negative association between liquidity and risk.

Profitability and risk of the firm are negatively correlated.

Experimental Details:

The study is concerned with the ten years data of Maruti Suzuki India Ltd. for a period of (2001 - 2010). The data is of secondary nature and is obtained from the published annual reports of Maruti Suzuki India Ltd. The collected data has been analyzed through various liquidity and profitability ratios and drawing out the risk factor. Further, t test has been applied to test the hypothesis and draw conclusions.

Results and Discussions:

Tables given forward show the liquidity and profitability position of the company along with the risk factor has been calculated to study the inter relationship.

Liquidity Position of Maruti India Ltd.

Table No.1 exhibits the three basic ratios of test of liquidity, viz. Current Ratio, Quick Ratio and Absolute Ratio. The ratios are ranked in the order of their influence on liquidity. The higher is the ratio, the greater is the liquidity. Further, ultimate rank has been calculated from the total of the ranks of ratios. Ultimate ranking has been done on the principle that the lower the aggregate of the individual ranks, the more profitable is the liquidity position and vice versa. Current ratio is a relationship between the current assets and current liabilities and thus is used as measure of general liquidity. It can be noted from Table No.1 that the current ratio in year 2001 and 2006 is the highest at 1.77 times. The rule of thumb is 2:1 but it can vary from firm to firm. The least value of the current ratio is 1.02 in year 2010. Quick ratio is an indicator of the liquidity in sense of the relationship between the quick assets and current liabilities. Again, the higher ratio is an indicator of higher liquidity.

Absolute ratio shows the relation of absolute liquid assets viz. cash in hand and at bank and market securities with current liabilities. This ratio helps in examining the absolute liquid position. The ratio at highest in year 2008 at 0.10 and thus ranked as 1 and the lowest ratio is in year 2003, 2004 & 2006. In these years the company struggled with shortfall of cash balances to meet their short term obligations. Further, the ultimate ranks denote that in year 2001 and 2005, the company was having highest liquidity and the poorest performed year in reference of liquidity was 2010.

Profitability Position of Maruti Suzuki India Ltd.

Table No 2 exhibits the profitability position of the company by using three very basic ratios of profitability. The return on assets (ROA) percentage shows how profitable a company's assets are in generating revenue. Table 2 reveals an increasing trend in spite of the first year to give a negative percentage at -7.18%. This shows that the company is managing to get good returns out of their assets pool. Return on capital employed is the indicator of the operational efficiency of the company. The resulting ratio represents the efficiency with which capital is being utilized to generate revenue. Table 2 shows that the ratio is at negative value in year 2001 at -9.88% and is showing a fluctuating trend till 2010.

Return on net worth is the relationship between the net profit and the shareholder's funds of the company. Table 2 reveals that the ratio is showing a negative percentage in year 2001 and showing an increasing trend till 2007, but is showing some fluctuations till the end of the period.

Tradeoff between risk and profitability:

Tradeoff between risk and profitability can be made by calculating the risk factor. The analysis can be done through which it can be said about the policies adopted while managing the working capital of the company. Risk factor has been calculated & shown in Table no 3. Risk factor can be calculated through the following formula:

$$R_k = \frac{(E_j + L_j) - A_j}{C_j}$$

Where, R_k = Risk factor, E_j = Equity + Retained Earnings, L_j = Long term Loans, A_j = Fixed Assets, C_j = Current Assets

The above formula helps to know about the financing of the current assets through long term funds after fixed assets are financed in full. Based on the above formula, following inferences can be drawn:

Value of R_k is zero or less would mean that the firm is using the aggressive policy and normally the profitability would be high.

Value of R_k is 1 or close to 1 would mean that the firm is using a conservative policy and the profitability would be low.

Under aggressive policy the firm opts for a lower level of working capital thereby investing in current assets at lower proportion to total assets. When a firm adopts this policy, the profitability is high but at higher risk of liquidity. In case of conservative policy, the firm adopts a conservative approach of having high proportion of working capital. The profitability is relatively low as the return on current assets is normally less. But ensuring good liquidity as the risk of meeting current obligations is reduced. Table no 3 discloses the risk factor that has been ranked and is indicating the policy adopted by the company in various periods.

The hypothesis drawn are tested for confirming the association between the risk, liquidity and profitability. Table no 4 exhibits that there is low degree of association between liquidity and risk, further, this association is tested.

The null hypothesis stated that there is negative association between liquidity and risk. Calculated Value of 't'=1.43 and Critical value of 't'= 2.31

As the calculated value is less than the critical value, thus, the null hypothesis is accepted. Thus, it can be said that

Table-1: Liquidity Position of Maruti Suzuki India Ltd.

Year	Current Ratio		Quick Ratio		Absolute ratio		Total	Ultimate Rank (R ₁)
	Ratio in times	Rank	Ratio in times	Rank	Ratio in times	Rank		
2001	1.77	1.5	1.09	6	0.07	2.5	10	1.5
2002	1.44	6	0.97	7	0.05	4	17	6
2003	1.57	4	1.32	1.5	0.02	9	14.5	5
2004	1.17	8	0.92	8	0.02	9	25	9
2005	1.68	3	1.32	1.5	0.04	5.5	10	1.5
2006	1.77	1.5	1.31	3	0.02	9	13.5	4
2007	1.40	7	1.13	5	0.04	5.5	17.5	7
2008	1.03	9	0.70	9	0.10	1	19	8
2009	1.51	5	1.26	4	0.07	2.5	11.5	3
2010	1.02	10	0.68	10	0.03	7	27	10

Source: Annual reports of Maruti Suzuki India Ltd.

Table- 2: Profitability Position of Maruti Suzuki India Ltd.

Year	Return on Assets		Return on Capital Employed		Return on Net Worth		Total	Ultimate Rank (R ₂)
	Ratio in %	Rank	Ratio in %	Rank	Ratio in %	Rank		
2001	-7.18	10	-9.88	10	-10.19	10	30	10
2002	3.10	9	4.74	9	3.86	9	27	9
2003	4.12	8	7.40	8	4.73	8	24	8
2004	13.88	6	22.78	6	15.10	6	18	6
2005	18.21	5	26.41	4	19.49	5	14	5
2006	21.52	2	31.13	1	21.81	2	5	1
2007	20.87	3	30.06	2	22.79	1	6	2
2008	18.58	4	26.24	5	20.56	4	13	4
2009	12.13	7	17.94	7	13.04	7	21	7
2010	22.00	1	27.89	3	21.10	3	7	3

Source: Annual Reports of Maruti Suzuki India Ltd.

Table-3 Risk Factor in Rank Order

Year	Equity+ Retained Earnings (1)	Long Term Loans (2)	Fixed Assets (3)	Current Assets (4)	Risk Factor = $\frac{[(1+2) - 3]}{4}$	
					Factor (R _k)	Rank (R _k)
2001	2642.50	1112.10	2247.10	1628.60	0.92	2
2002	2707.30	656.00	2430.10	1592.30	0.59	1
2003	3098.00	456.00	2255.70	1197.50	1.08	3
2004	3591.20	311.90	1830.80	1169.40	1.78	4
2005	4378.80	307.60	1873.70	1345.50	2.09	5
2006	5452.60	71.70	1695.20	1587.60	2.41	6
2007	6853.90	630.80	2659.70	1575.40	3.06	9
2008	8415.40	900.20	3296.50	2017.50	2.98	8
2009	9344.90	698.90	4070.80	2060.20	2.90	7
2010	11835.10	821.40	5024.70	2116.90	3.61	10

Source: Annual reports of Maruti Suzuki India Ltd.

Table-4 Rank Correlation Between Risk , Liquidity and Profitability

Year	R ₁	R ₂	R _k
2001	1.5	10	2
2002	6	9	1
2003	5	8	3
2004	9	6	4
2005	1.5	5	5
2006	4	1	6
2007	7	2	9
2008	8	4	8
2009	3	7	7
2010	10	3	10
r	0.45	-0.79	
t value of r	1.43	-3.63	
Note: table value of t at (n-2) degree of freedom at 0.05 level of significance is 2.31			

Source: Calculations are done using MS Office

there is no significant association between liquidity and risk of this company.

The table shows that the profitability and risk are negatively associated but again, it has to be tested using 't' test.

The null hypothesis states that profitability and risk of the firm are negatively correlated. Calculated value of 't' = -3.63 & Table value of 't' = 2.31

As the calculated value is less than the table value, the null hypothesis is accepted. Hence, it can be said that the profitability and risk are negatively correlated.

Conclusion :

Maruti Suzuki India Ltd being an established company from past few decades is satisfactorily giving out profits and maintaining its liquidity position but at increased risk factor. The liquidity position of the company is fluctuating but is acceptable. The risk factor calculated is a needle of the working capital management and the policy adopted. The company is timely changing its policies for better results but at higher risk. The profitability is increasing at good pace showing the efficiency of the company. Thus, it can be concluded that the company is earning good profit with moderate liquidity and at higher risk.

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Case Study No. 2 :-

Ratio Analysis of Square Pharmaceuticals Ltd

Brief History

Square Pharmaceuticals Ltd. is a renowned company in Bangladesh. It is a flagship company in the pharmaceutical industry which has reached this mountain of success by fighting many potential competitors like BEXIMCO Pharma, INCEPTA, ACME, RENETA, OPSONIN, SK+F, SANOFI-AVENTIS etc. It initially started as a Partnership in 1958. It was incorporated as a Private Ltd. Company in 1964 and converted into Public Limited Company in 1991. Its initial public offering started in Dhaka and Chittagong stock exchange simultaneously in 1995. Their mission is to produce and provide quality & innovative healthcare relief for people, maintain stringently ethical standard in business operation also ensuring benefit to the shareholders, stakeholders and the society at large.

Ratio Analysis

Financial ratios are useful indicators of a firm's performance and financial situation. Financial ratios can be used to analyze trends and to compare the firm's financials to those of other firms.

Financial ratios can be classified according to the information they provide. The following types of ratios frequently are used:

- Liquidity ratios

- Asset management ratios

- Debt management ratios

- Profitability ratios

- Market value ratios.

Liquidity Ratios

Liquidity ratios are the first ones to come in the picture. These ratios actually show the relationship of a firm's cash and other current assets to its current liabilities. Two ratios are discussed under Liquidity ratios.

They are:

- Current ratio

- Quick/ Acid Test ratio.

Current ratio: This ratio indicates the extent to which current liabilities are covered by those assets expected to be converted to cash in the near future. Current assets normally include cash, marketable securities, accounts receivables, and inventories. Current liabilities consist of accounts payable, short-term notes payable, current maturities of long-term debt, accrued taxes, and other accrued expenses (principally wages).

Quick/ Acid Test ratio: This ratio indicates the firm's liquidity position as well. It actually refers to the extent to which current liabilities are covered by those assets except inventories.

Quick Ratio = (Current Assets-Inventories)/Current Liabilities

	Square Pharmaceuticals Ltd.		Industry Average	
	2009-10	2010-11	2009-10	2010-11
Current ratio	2.05	1.50	2.37	2.04
Quick ratio	0.90	0.85	1.42	1.02

From the presented chart and information it is found that both current and quick ratio of the Square Pharmaceuticals are well below the industry average. This indicates that company may fall in problem to pay its current debt in the emergency situation. As a result debtor may want to increase their cost (interest rate) for this company which will make the company difficult to manage working capital.

Asset Management Ratio

Inventory turnover measures the number of times on average the inventory is sold during the period. Its purpose is to measure the liquidity of the inventory. Day's sales outstanding measures the number of times, on average, receivables are collected during the period.

	Square Pharmaceuticals Ltd.		Industry Average	
	2009-10	2010-11	2009-10	2010-11
Inventory Turnover Ratio	2.97	3.03	2.05	2.12
Days Sales Outstanding Ratio	16.18	20.93	32.94	35.26

From the information presented above it is found that Square Pharmaceuticals perform better both in inventory turnover ratio and day's sales outstanding (DSO) ratio. Inventory of Square Pharmaceuticals takes less times to be sold and its efficiency of collecting the receivables (DSO) are also higher compared to the industry. Both of the efficiency has been increased in the year 2010-11 compared to the year 2009-10.

Debt Management Ratio

Debt management ratio refers percentage of the total assets provided by the creditors of the company and the ability of the company to meet the interest payments as they come due. If both of the ratios are favorable, it will become easier for the firm to find debt at lesser cost (interest rate). Two frequently used debt management ratios are debt-equity ratio and time interest earned ratio. These two ratios of Square Pharmaceuticals along with industry average are presented below:

	Square Pharmaceuticals Ltd.		Industry Average	
	2009-10	2010-11	2009-10	2010-11
Debt-equity Ratio	0.23	0.21	0.35	0.29
Time Interest Earned (TIE) Ratio	7.76	10.42	5.35	6.08

From the information presented above it is found that Square Pharmaceuticals has less debt compared to the industry. On the other hand its' time interest earned ratio is also much higher than the industry average, which indicates that the company has higher ability to pay for its' debt and the ability also has been increased in the recent year.

Profitability Ratio

Profitability ratios measure the income or operating success of an enterprise for a given period of time. Income, or lack of it, affects the company's ability to obtain debt and equity financing. It also affects the company's liquidity position and the company's ability to grow. As a consequence, both creditors and investors are interested in evaluating earning power – profitability. Profitability is frequently used as

the ultimate test of management's operating effectiveness. Two commonly used profitability ratios are net profit margin and return on total assets ratio. These two ratios of Square Pharmaceuticals along with industry average are presented below:

	Square Pharmaceuticals Ltd.		Industry Average	
	2009-10	2010-11	2009-10	2010-11
Net Profit Margin	18.21%	18.80%	14.77%	16.38%
Return on Total Assets Ratio	14.21%	13.50%	8.94%	9.00%

Square Pharmaceuticals has earned more return both in terms of revenue and total assets compared to the industry. It indicate that Square Pharmaceuticals is able to utilize its' assets more efficiently than most of the other companies of the industry.

Market Value Ratio

Earnings per share (EPS) are a measure of the net income earned on each share of common stock. A measure of net income earned on a per share basis provides a useful perspective for determining profitability. And the EPS of Square Pharmaceuticals indicate that its' profitability per share is better than the industry.

	Square Pharmaceuticals Ltd.		Industry Average	
	2009-10	2010-11	2009-10	2010-11
Earnings Per Share	10.60	12.90	9.43	11.65
Price Earnings Ratio	33.97	25.21	35.59	62.25
Price to Book Value Ratio	36.01	32.52	34.15	30.97

The price earnings (PE) ratio is an often quoted measure of the ratio of the market price of equity share to the earnings per share. The price earnings (PE) ratio reflects investor's assessment of the company's future earnings.

Price to book value ratio used to compare a stock's market value to its book value. A higher P/B ratio implies that investors expect management to create more value from a given set of assets, all else equal. This ratio also gives some idea of whether an investor is paying too much for what would be left if the company went bankrupt immediately.

So, from the above information it is found that investors are expecting management of Square Pharmaceuticals to create more value from a given set of assets as they are paying more than the industry average for its' share.

From the data analyzed and presented above it can be concluded that Square Pharmaceuticals Limited performs better in all materials aspects from the industry. Though its financial strength is higher than the most of the company, its' liquidity position is below the industry. This may create financing problem for the company. Other than that its' strong financial position, higher margin on sales, capabilities of managing debt, accounts receivables and inventories make it an attractive company to the investors who make informed decision.

Although Square Pharmaceuticals is performing well in the industry, still it has some scope for improvements, as it's' performance is not so much higher than the industry. For improving its operational and financial efficiency Square Pharmaceuticals can –

- Increase its liquidity position slightly to make it equal to the industry.

- Setup benchmarking in some key categories, (i.e. - turnover), and try to achieve them as fast as possible.

- Searching for new finances to expand its business to maintain an equivalent or more growth to the industry.

- Looking for new market segment within the country as well as outside the country to expand its market.