Measuring the Capacity of Short-Term Financing Facilities of NSDL & CDSL

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Abstract

Depository system was the major financial sector reform which was concentrated on strengthening the functioning and operations of capital market. This study focuses on the comparative analysis of short-term financing capacity of Indian depositories (NSDL & CDSL) and this can be achieved by analysing liquidity ratios of the two depositories. These ratios are financial metrics which are used to determine depositories' ability to pay off their current debt obligations without raising capital externally. The present study is based on secondary data. There are two depositories in India namely NSDL and CDSL. Depository works as the custodian. The principal function of depository is to dematerialize the securities. The period of present study is 2008-2018.

Keywords: Depository System, NSDL, CDSL, Short term financing, liquidity, Financial Performance.

I- Introduction

The most Revolutionary change was bought in the entire history of the Indian capital market is the depository system. The depository works as the custodian and interlinks investor with primary and secondary market. The services provided by depositories are the product of secondary market reforms in India. The principal function of the depository is to dematerialise the securities and enable their transaction in book entry form. This was the major financial sector reforms which was concentrated on strengthening the functioning and operation of capital market. The electronic technological Revolution has brought about a number of changes in the functioning of capital market. Depository is an important intermediary in the securities market.

The depository system has paved the way for instituting an infrastructure that's helps in eliminating various risks associated with capital market transactions and increased the efficiency of clearance and settlement system. Prior to the introduction of this system so many operational inefficiencies were breeding into the Indian capital market due to traditional paper-based trading and settlement system. It was a market lacking in transparency and which offered brokerage and Commission that enriched intermediaries.

Depository is an organisation where the securities of an investor are kept in electronic form. There are two depositories in India. NSDL: National Securities Depository Limited and CDSL: Central Depository Services (India) Limited. They were registered by the SEBI on 7th June 1996 and 8th February 1999 respectively. They are promoted by NSE and BSE with the support of some Banks respectively. Both the depositories are doing well, so this study focuses on the comparative analysis of short-term financing capacity of Indian depositories (NSDL & CDSL) and this can be achieved by analysing liquidity ratios of both the depositories.

II- Research Methodology

This analysis provided an overview of the direction of changes in short term financing capacity of the two depositories and helped to formulate the hypothesis. Statistical tools like mean, standard deviation, coefficient of variance, compounded annual growth rate average, charts, graphs, normality test, t-test, have been used for analysing the data. They have been used to gauge the changes in revenue generation capacity over the period of time.

The financial data has been collected from secondary data which includes annual reports of respective depository organisation, website of NSDL and CDSL. The collected data was tested for normality then hypothesis testing of non-normal data and normal data was applied, which are Wilcoxon signed rank test and student's t-test respectively. The assumed level of significance is 5%. SPSS and Microsoft Excel have been used to perform trend analysis and prepare various charts and graphs and hypothesis testing. The table value of t-test and Wilcoxon signed rank test are 2.262 and 8 respectively. The period of the study is 2008-2018.

Objective of the study:

1. To analyse the current ratio of the depositories during the period of study.

Hypothesis of the Study

(1) Null Hypothesis (H_{01}): There is no significant difference between the mean scores of current ratio of NSDL and CDSL over the period of time.

H_{01}: $\mu_1 = \mu_2$

III- An Overview of Liquidity Ratios

Ratio Analysis

Ratio analysis is one of the popular tools of financial statement analysis. The ratio is the relationship between two or more things. Usually, the ratio is stated as a percentage. Ratio analysis is the process of identifying the financial strength and weakness of an enterprise. By logically establishing relationship between the items of balance sheet & income statement and interpreting the results thereof in order to derive meaningful conclusion. Ratio analysis helps management pin point specific areas that relative form of financial data and very useful technique to check upon the efficiency of the firm. It helps the financial management in evaluating the financial position and performance of the firm. In the present study the researcher has been focused on the liquidity ratio of the two depositories organizations. This can be achieved by analyzing the current ratio.

Current Ratio

The current ratio is a liquidity ratio that gauges a firm's ability to pay short-term and long-term obligations. It is the balance-sheet financial performance measure of firm liquidity. The current ratio is termed "current" because, unlike some other liquidity ratios, it incorporates all current assets also current liabilities.

Formula

Current ratio is calculated using the following formula:

$$Current\ Ratio = \frac{Cureent\ Asset}{Current\ Liabilities}\ X\ 100$$

Analysis

The higher current ratio signifies more liquidity of the firm. Usually, adequate current ratio is 2; It represents a contented financial position for utmost enterprises. For most industrial firms, 1.5 may be an acceptable current ratio. Satisfactory current ratios vary from industry to industry. Small values for the current ratio (values less than 1) indicate that a firm may have trouble meeting current obligations. A low current ratio can often be maintained by a strong operating cash flow. If the current ratio is as well high (much more than 2), then the firm may not be using its current assets or its short-term financing facilities competently. This may also specify problems in working capital management. All other things being equal, creditors consider a high current ratio to be healthier than a low current ratio, because a high current ratio means that the firm is more probable to meet its current liabilities. A firm with a current ratio less than one does not have the capital on hand to meet its short-term obligations if they were all due at once, while a current ratio greater than one indicates the firm should be able to remain solvent in the short-term.

VI- Comparison of Short-term Financing Capacity (Ratio Analysis) of NSDL & CDSL

4.1- Current Ratio

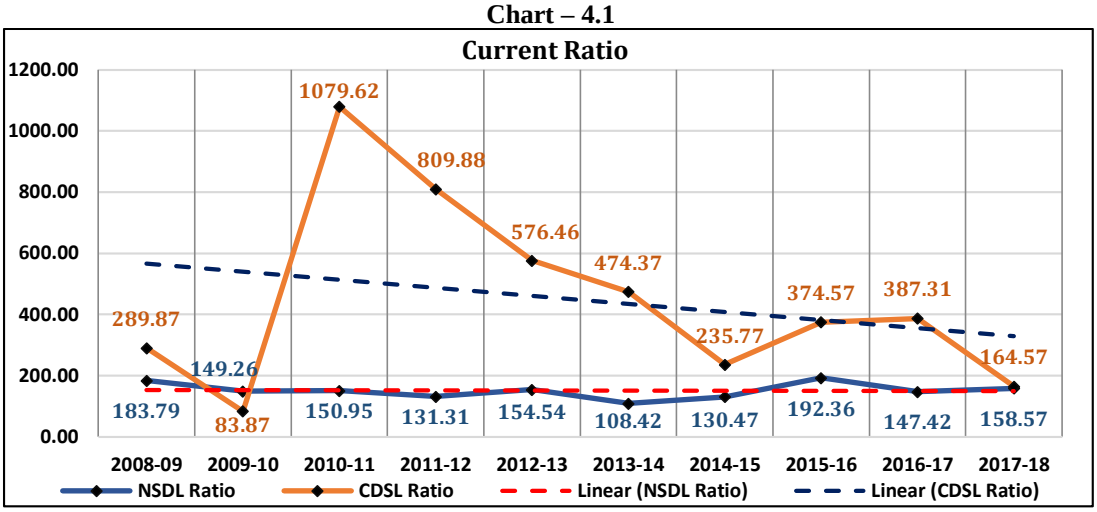
Table – 4.1 Comparative Ratio Analysis - Current Ratio of NSDL & CDSL

Year	NSDL Ratio	CDSL Ratio
2008-09	183.79	289.87
2009-10	149.26	83.87
2010-11	150.95	1079.62
2011-12	131.31	809.88
2012-13	154.54	576.46
2013-14	108.42	474.37
2014-15	130.47	235.77
2015-16	192.36	374.57
2016-17	147.42	387.31
2017-18	158.57	164.57
Average	**150.71**	**447.63**
SD	**24.70**	**305.35**
CV%	**16.39**	**68.21**
CAGR	**-1.47%**	**-5.50%**

Source: Computed from Annual reports of NSDL & CDSL downloaded from https://www.nsdl.co.in/ & https://www.cdslindia.com/ respectively.

The comparative table No. 4.1 represents the information related to current ratio of NSDL and CDSL. The mean score of current ratios in NSDL is 150.71% and in CDSL it is 447.63%. The ideal current ratio ranges between 100% to 150%. The ideal mean value in NSDL shows that comparatively **NSDL is more efficiently** using its current assets in meeting up its current liabilities than CDSL during the study period. Both the standard deviation and coefficient of variance percentage is very high in CDSL which indicates the higher level of inconsistency and more fluctuations with higher intensity in the current ratio of CDSL than NSDL. The growth rate of ratio is negative in case of both the depositories but this growth is comparatively less negative & more stable in NSDL than in CDSL this shows that NSDL is efficiently managing its current ratio growth rate than CDSL.

Chart – 4.1



The comparative Chart No. 4.1 depicts the information about the current ratio of NSDL & CDSL during study period. In the early years of study period, the pattern of fluctuation of current ratio in CDSL is decreasing & later on it again tends to shows decreasing trends after the sudden huge rise in the year 2010-2011 and in NSDL there is flatter trend with minimal increases is recorded. CDSL recorded its highest current ratio percentage 1079.62% in the year 2010-2011 and NSDL recorded its maximum current ratio percentage 192.36% in the year 2015-2016. There are more fluctuations with high intensity are recorded in CDSL than NSDL. The linear trend lines of NSDL shows flatter trend with minimal fluctuations on the other side CDSL shows constant decreasing linear trend this shows that current ratio is decreasing with high rate in CDSL than NSDL.

From the above table & chart it is concluded that in case of current ratio, if mean scores are compared than **NSDL is performing better than CDSL** because the ideal value of current ratio that a firm wants to maintain ranges between 100%-150%, in the above scenario NSDL is able to maintain the ideal ratio during the study period, but in case of CDSL this ratio is very high than the ideal ratio. This suggests that the CDSL is not productively utilizing its cash resources. But if linear trend lines of both depositories are compared then the ratio is more rapidly decreasing in CDSL and the same remains constant in case of NSDL this shows that CDSL in more efficiently managing its current assets during the end years of study period.

V- Normality test

The Shapiro-Wilk test is one of the most popular tests for normality assumption. Diagnostic which has good properties of power and it based on correlation within given observations and associated normal scores. The Shapiro-Wilk test was developed by Shapiro and Wilk (1965) for sample size up to 20. It is considered the most reliable test for non- normality for small to medium sized samples by many authors. It is the ratio of two estimates of variance of a normal distribution based on a random sample of observations.

Table: - 5.1- Summary of Normality test on the basis of Shapiro-Wilk Normality Test.

Null Hypothesis: Paired differences are normal.

S. No.	Paired Differences	Shapiro-Wilk			
		Statistic	df	Sig.	Null Hypothesis
1.	Current Ratio	.917	10	.335	Failed to Reject

VI- Hypotheses Testing

Hypotheses testing on the basis of t-test

The t-test is an inferential statistic, it is used only in case of small sample. It is used when population variance is unknown. It is used to find whether there is significant difference between the mean score of two groups. It is considered appropriate test for the significance difference of two small samples. Significance of the coefficient and partial correlations of a sample, is also judged by t-test. The calculated value of t is compared with table value of t and table value of p of a specific level of significance for concern degree of freedom to accept or reject the null hypothesis. It is based on t distribution. If t-table value is less than t-calculated value, then the null hypothesis is in the rejection region and cannot be accepted. On other hand, if the t-table value is greater than t-calculated value, then the null hypothesis is in acceptance region and is accepted. The level of significance is 5% and the table value is 2.262.

(1) **Null Hypothesis (H_{01}):** There is no significant difference between the mean scores of current ratios of NSDL and CDSL over the period of time.

H_{01}: $\mu_1 = \mu_2$

Alternate Hypothesis (H_{A1}): There is significant differences between the mean scores of Current ratios of NSDL and CDSL over the period of time.

H_{A1}: $\mu_1 < \mu_2$ or $\mu_1 > \mu_2$

Table- H_{01}, t – test on Current Ratio of NSDL and CDSL

Pair/Ratio	Mean	Std. Deviation	Std. Error Mean	df	t-calculated value ($t_{cal.}$)	Level of sig. (2-tailed)	t-table value (t_{tv})
Current Ratio of NSDL - Current Ratio of CDSL	-296.920	311.02105	98.35349	9	-3.019	.015	2.262

Table No. H_{01} indicates that calculated value of t_{cal} (t=-3.019) is more than the alpha/critical/table value of t_{tv} at 5% level of significance, 2.262, $t_{cal} > t_{tv\,(9,\,0.05)}$. (p=0.015 which is less than level of significance 5%).

Which means that at 5% level of significance H_0 is in the rejection region and cannot be accepted. Hence, the mean score of Current ratios of CDSL is higher than the NSDL over the period of time. $\mu_1 < \mu_2$

Table: 6.1 Comparison of Financial Performance of NSDL And CDSL on the Basis of t-test

S. No.	Parameters (Ratios)	NSDL		CDSL	
		Mean Ratio	Performance	Mean Ratio	Performance
1.	Current Ratio	Low	High	High	Low

In the above table 6.1 The revenue generation capacity of NSDL and CDSL has been compared. The table contains the summary of ratio analysis which have been extracted on the basis of t-test The NSDL has lower mean of current ratio which represent high-performance to meet current obligations in compare of the CDSL.

VII- Findings, Suggestions and Conclusion

1. The result of the t-test revealed that, there is significant difference is identified between the mean score of current ratios of NSDL & CDSL. The mean score of Current ratio was higher in CDSL than NSDL over the period of time. It was found that the NSDL is able to maintain the ideal current ratio during the study period, which suggests that CDSL is not productively utilizing its cash resources than NSDL. In this matter NSDL is leading over the period of time.
2. The result of hypothesis testing reveals that CDSL had a higher current ratio than NSDL over the period of time. It is suggested that CDSL should try to improve & minimise this ratio. This can be done by paying current or short-term liabilities with current or short-term assets, delaying any capital purchases that would require any cash payments, Selling the assets that are not generating a return to the business. The current ratio measures the ability to pay short term obligations. The higher current ratio of CDSL indicates the mismanagement of the current ratio of CDSL. This is a matter of prudence for CDSL. The management of CDSL must try to improve the performance of its current ratio.

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