

Financial Performance Evaluation of Depositories in India (A Comparative study of NSDL and CDSL)

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Abstract- Depository is an institution or a kind of organization which holds securities with it, in which trading is done among shares, debentures, mutual funds, derivatives, F&O and commodities. The intermediaries perform their actions in variety of securities at Depository on the behalf of their clients. These intermediaries are known as Depositories Participants. Fundamentally, there are two sorts of depositories in India. One is the National Securities Depository Limited (NSDL) and the other is the Central Depository Service (India) Limited (CDSL). The investor who is known as beneficial owner (BO) has to open a demat account through any DP for dematerialisation of his holdings and transferring securities. Depositories were setup with the objective of providing convenient, dependable and secure depository services at affordable cost to all market participants. All leading stock exchanges like the National Stock Exchange, Bombay Stock Exchange, Calcutta Stock Exchange, Delhi Stock Exchange, The Stock Exchange of Ahmedabad, etc have established connectivity with CDSL or NSDL. The paper entitled **“Financial Performance Evaluation of Depositories in India” (A Comparative study of NSDL and CDSL)** focuses on financial performance of both the depositories i.e. CDSL and NSDL of India. This study is purely based on secondary data and the period of the study is April – 2006 to March – 2011 i.e. five consecutive financial years. Main objectives of the study are (i) To comment on Financial soundness of the depositories during the period under study, (ii) To check Total Expenses to Total Income ratio of both the depositories, (iii) To check Operational Income to Total Income ratio of both CDSL and NSDL during the study period and (iv) To analyze Return on Investment of depositories during the period under review. The scope of the study is limited to Depositories and its profitability during the study period. To check the significance of Hypothesis, one – Way ANOVA has been used as a statistical tool apart from using Mean, Standard Deviation and Co-efficient of Variance.

Index Terms- Financial Performance, Depositories, Profitability, BO, DP, CDSL and NSDL

I. INTRODUCTION OF EPOSITORIES IN INDIA

Although India had a vibrant capital market which is more than a century old, the paper-based settlement of trades caused substantial problems like bad delivery and delayed transfer of title till recently. In the depository system, securities are held in depository accounts, which is more or less similar to holding funds in bank accounts. Transfer of ownership of securities is done through simple account transfers. This method

does away with all the risks and hassles normally associated with paperwork. Consequently, the cost of transacting in a depository environment is considerably lower as compared to transacting in certificates. A Depository facilitates holding of securities in the electronic form and enables securities transactions to be processed by book entry by a Depository Participant (DP)¹, who as an agent of the depository, offers depository services to investors. According to SEBI guidelines, financial institutions, banks, custodians, stockbrokers, etc. are eligible to act as DPs.

The enactment of Depositories Act in August 1996² paved the way for establishment of NSDL, the first depository in India. This depository promoted by institutions of national stature responsible for economic development of the country has since established a national infrastructure of international standards that handles most of the securities held and settled in dematerialised form in the Indian capital market. Using innovative and flexible technology systems, NSDL works to support the investors and brokers in the capital market of the country. NSDL aims at ensuring the safety and soundness of Indian marketplaces by developing settlement solutions that increase efficiency, minimise risk and reduce costs. NSDL play a quiet but central role in developing products and services that will continue to nurture the growing needs of the financial services industry.

As at the end of Nov. 2011, over 10,500 companies³ have admitted their securities (equities, bonds, debentures, and commercial papers), units of mutual funds, certificate of deposits etc. into the CDSL system. The NSDL had 13,767 DP service centers⁴ thorough out the country till Nov. 2011. The balances in the investors account recorded and maintained with CDSL can be obtained through the DP. The DP is required to provide the investor, at regular intervals, a statement of account which gives the details of the securities holdings and transactions. The depository system has effectively eliminated paper-based certificates which were prone to be fake, forged, counterfeit resulting in bad deliveries. CDSL offers an efficient and instantaneous transfer of securities. CDSL was promoted by Bombay Stock Exchange Limited (BSE) jointly with leading banks such as State Bank of India, Bank of India, Bank of Baroda, HDFC Bank, Standard Chartered Bank, Union Bank of India and Centurion Bank.

¹ www.stockholding.com

² www.sebi.gov.in

³ www.cdslindia.com

⁴ www.nsdl.co.in

II. REVIEW OF LITERATURE

This section covers the review of literature of some of the important studies, research papers and articles on the various aspects of depository system.

Shah (1996)⁵ highlighted that resolution of the single vs. multiple depositories, immobilization vs. dematerialization and role of capital adequacy norms for the custodians which is helpful in quick implementation of depository system in India.

Aggarwal and Dixit (1996)⁶ expressed their views about the legal framework for depository system in India. They also explained the benefits of the paperless trading, responsibilities of depository or participants and eligibility criteria, etc.

Sarkar (1996)⁷ analyzed the implications of the scrip less trading and share transfer based on book entry merely due to the existence of the depository ordinance 1995.

George (1996)⁸ explained the role of the NSDL in revolutionizing the paperless stock settlement system of the country. He also examined the steps taken by the depository to ensure that the scrip less trading system is a success and stressed on the importance of the role of the regulator in making the depository system successful.

Gurusamy (1996)⁹ explained that the introduction of depository system would help in transfer of securities in the capital market by a mere book entry. He also pointed out the advantages of depository system such as delay in transfer, registration, fake certificates, soaring cost of transactions, more paper work, non availability of depositories in when the transfer of securities take place by physical delivery.

Hurkat and Ved (1999)¹⁰ discussed the role of depository system in many advanced countries in the stock and capital

⁵ Shah, Mahesh (1996), "A Care for Depositories in India", *The Management Accountant*, April, pp. 259-261.

⁶ Aggarwal, V. K. and Dixit, S. K. (1996), "The Depositories Legislation: A Critical Evaluation," *Chartered Secretary*, April, pp. 367-376.

⁷ Sarkar, A. K. (1996), "Implications of Depositories Ordinance, 1995," *The Management Accountant*, June-July, pp. 473-477.

⁸ George, Philip (1996), "Towards a Paperless Settlement System", *Business World*, October, pp. 134-135.

⁹ Gurusamy, S. (1996), "Depository System-How a Viable Alternative", *The Management Accountant*, July, pp. 478-482.

¹⁰ Hurkat, Manoj and Ved, Umesh (1999), "Depository-An Inevitable Institution", *Chartered Secretary*, September, pp. 991-993.

markets the world over. They also analyzed the services offered by NSDL, dematerialization, re-materialization, trading and fee or charges, comparison of a bank and a depository for the benefits of the depository.

Ravi Shah (2002)¹¹ highlighted that NSDL and CDSL have changed the face of the Indian capital market. The move from an account period settlement in paper form only to a T+3 settlement in pure electronic form has been achieved in a record span of few years, whereas it took anywhere between 10-20 years in most of the developed countries.

Schmiedel et. al. (2006)¹² analyzed the existence and extent of economies of scale in depository and settlement systems. The study indicated the existence of significant economies of scale but degree of such economies differs by settlement, institution and region.

Kanan (2008)¹³ highlighted that dematerialization has certainly brought about lot of improvement in the investment habits in our country and is bane for the companies and has created havoc in maintaining the members register and in conducting the members meeting.

Sultan Sing (2011)¹⁴ tried to study the factors affecting the decision making of the investors in depository system. Most of the investors are of the view that shorter settlement period, safety of securities with the depositories, attitude of the staff available with the DPs, timely services provided by the DPs to the investors, reduction in transaction cost, repatriation of sales proceeds of shares/debentures by NRIs are some of the factors which affects the decision making of the investors in depository system.

The earlier studies covered the depository system and environment, which mainly pertain to depository legislation, how a viable alternative of depository, implications of depositories ordinance, internal audit of depository participants, an overview of the Depositories Act, responsibilities of auditing profession, role of depository in stock and capital market, SEBI guidelines in the depository system, services provided by different depositories or accessibility of depositories to retail investors. But it is very

¹¹ Ravi, Shah (2002), "Understanding Dematerialization", *The Management Accountant*, pp. 434.

¹² Schmiedel, HeiKo, Malkamaki, Markku and Tarkka, Juha (2006), "Economies of Scale and Technological Development Securities Depositories and Settlement System", *Journal of Banking and Finance*, Vol. 30, Issue-6, pp.1783-1806

¹³ S. Kanan (2008), "Market Comparable Approach", *Journal of Financial Services Research*, Vol. 24, No.2-3, pp. 121-148.

¹⁴ Prof. Sultan Sing and Sakshi Goyal (July 2011), "Analysis Factor Affecting the decision making of the investors in Depository system", *Journal of Banking, Financial Services and Insurance Research*, Vol. 1, pp. 13-38

important to study the financial performance of depositories itself. Therefore, the present study is an attempt to fill this gap.

III. RESEARCH METHODOLOGY

1. Rationale for the Study:

This research is based on the performance evaluation of Depositories in India. The research emphasizes on the comparative study of NSDL and CDSL. Here, eight Companies are taken for the study. This research, basically, is helpful to the Depositories to enhance their profitability and use the tools which raise their Income and reduce the expenses. Here, to check their financial performance during the study period i.e. from year 2006-2007 to the year 2010-11. Moreover, the results of the research will give the broad perspective in the field of Investment in the Equity market.

Here, on the bases of the research the selected Depositories can be effectively compared with each other. This comparison can be very helpful to both the Depositories in the efforts to increase the financial performance.

2. Statement of Problem:

A depository can be compared to a bank. A depository holds securities (like shares, debentures, bonds, Government Securities, units etc.) of investors in electronic form. Besides holding securities, a depository also provides services related to transactions in securities. NSDL and CDSL has a wide network of DPs, operating from over 6000 sites, across the country, offering convenience for an investor to select a DP based on his location. The equity shares of almost all A, B1 & B2 group companies are available for dematerialisation on Depositories, consisting of Public (listed & unlisted) Limited and Private Limited companies. These securities include equities, bonds, units of mutual funds, Govt. securities, Commercial papers, Certificate of deposits; etc. Thus, an investor can hold almost all his securities in one account with CDSL or NSDL. Considering current importance of Depositories it is very necessary to assess the Financial soundness of the depositories in India. So, the statement of the problem would be **“Financial Performance Evaluation of Depositories in India” (A Comparative study of NSDL and CDSL)**

3. Objectives of the Study:

Primary Objective:

The primary objective of the study is to check the financial stability and profitability of the selected Depositories in India.

Secondary Objectives:

1. To study the Financial Stabilization of NSDL and CDSL
2. To evaluate the Operating Income of selected Depositories
3. To check the expense pattern of the selected Depositories
4. To compare Overall profitability of NSDL and CDSL
5. To assess the soundness of the selected Depositories
6. To check the ROI of selected Depositories

4. Data Collection and Period of the Study:

The researcher will try to analyze the Performance and Financial Stability of NSDL and CDSL during the study period. The main source of data used for the study is secondary, derived from the published Annual Reports of selected units. Present study covers the financial analysis of selected Depositories for five consecutive financial years. The period of the study will start from 1st April, 2006 to 31st March, 2011. Researcher has selected the base year 2005- 06. This year is normal for the purpose of analysis and evaluation.

5. Hypothesis of the Study:

- i. There would be no significant difference in Operating Income of selected units.
- ii. There is no significant difference in Expenses Ratios in Selected units.
- iii. There is no significant difference in Financial Stability Ratios in Selected units.
- iv. There would be no significant difference in ROI in Selected units.

6. Tools and Techniques of Analysis:

- (A) Accounting Ratios: Various accounting ratios for five financial years have been calculated for the purpose of analysis and evaluation.
- (B) Statistical Tools and Techniques: Some of the statistical techniques such as Mean, Standard Deviation, Coefficient of Variation and One Way ANOVA has been used.

7. Limitations of the Study:

1. Present study is based on secondary data and secondary data has its own limitations which might affect the study.
2. Present study is done considering Accounting Ratio analysis only and there are certain ratios which won't be calculated so it will be one of the major limitations of the study.
3. Statistical tools have its own limitations and it will affect to present study.
4. The economic condition varies at different point of time and that will affect the findings of the present study.

IV. FINANCIAL ANALYSIS OF DEPOSITORIES

1. Operating Income to Total Income Ratio:

This ratio shows the Operating Income to Total Income Ratio of selected depositories during the study period. This ratio helps to assess the operational efficiency of the unit compare to total income of the depositories. The higher the ratio the better will be the profitability and affects positively to operational efficiency of the organization. The formula of the ratio is as under.

$$\text{Operating Income to Total Income Ratio} = \frac{\text{Operating Income}}{\text{Total Income}} \times 100$$

Table – 1
Operating Income to Total Income Ratio
(Figures in %)

Year	CDSL	NSDL
2006-07	77.89256	92.74984
2007-08	82.90816	91.90141
2008-09	77.68924	92.24299
2009-10	80.15795	91.65091
2010-11	82.45098	92.78713
Average	80.21978	92.26646
Standard Deviation	2.450971	0.504347
Co-efficient of Variance	3.055321	0.54662

Source: calculated from the Published Annual Reports of the Depositories during study period.

The above table shows Operating Income to Total Income ratio of CDSL and NSDL during the period under review. This ratio shows the operational efficiency of the depositories. It reveals from the above table that CDSL ratio represents increasing trend except financial year 2008-09 during the study period. It has reached at its highest level in the financial year 2007-08. The average ratio was 80.22%. The NSDL registered fluctuating trend during the study period however the Operating Income to Total Income ratio was greater than 90% during the period under review. Comparing the CV of CDSL and NSDL, the CDSL has registered with higher CV than NSDL which shows high fluctuations in the ratio whereas NSDL has low ratio which affects positively to its stability.

Ho: There is no significance difference in the Operating Income to Total Income ratio of Depositories during the period under review.

Table – 2
One way ANOVA of Operating Income to Total Income Ratio

Source of Variation	SS	Df	MS	F Cal	F crit
Between Depositories	362.806	1	362.806	115.882	5.31766
Within Depositories	25.0465	8	3.13081		
Total	387.853	9			

(at 5% Significance Level)

The above table shows one way analysis of Operating Income to Total Income ratio. Here, the hypothesis is tested at 5% significance level. Here, calculated value is much higher than tabulated value so, the null hypothesis get rejected and alternative hypothesis get accepted. So, it can be concluded that there is significance difference in NSDL's and CDSL's Operating Income to Total Income ratio during the study period.

2. Other Income to Total Income Ratio:

This ratio shows the Other Income to Total Income Ratio of selected depositories during the study period. This ratio helps to assess depositories' way of working. The higher the ratio the better will be the profitability but it can be said that the depository is unable to work operationally well. The Other Income here includes Misc. Income, Interest or Dividend Income, profit on sale of assets, etc. The formula of the ratio is as under.

$$\text{Operating Income to Total Income Ratio} = \frac{\text{Other Income}}{\text{Total Income}} \times 100$$

Table – 3
Other Income to Total Income Ratio
(Figures in %)

Year	CDSL	NSDL
2006-07	21.90083	7.250163
2007-08	16.96429	8.098592
2008-09	22.17795	7.757009
2009-10	19.84205	8.349086
2010-11	17.54902	7.212868
Average	19.68683	7.733544
Standard Deviation	2.403854	0.504347
Co-efficient of Variance	12.21047	6.521551

Source: calculated from the Published Annual Reports of the Depositories during study period.

The table - 3 shows Other Income to Total Income ratio of CDSL and NSDL during the period under review. This ratio shows income earned by depositories other than Operational one. Other Income includes Misc. Income, Interest or Dividend Income, profit on sale of assets, etc. It reveals from the above table that CDSL ratio represents decreasing trend except financial year 2008-09 during the study period. It has reached at its highest level in the financial year 2008-09. The average ratio was 19.68%. The NSDL registered fluctuating trend during the study period however the Other Income to Total Income ratio

was lower than 9% during the period under review which affects positively to company's operational efficiency. Comparing the CV of CDSL and NSDL, the CDSL has registered with higher CV than NSDL which shows high fluctuations in the ratio whereas NSDL has low ratio which shows stability in company's earning.

Ho: There is no significance difference in the Other Income to Total Income ratio of Depositories during the period under review.

Table – 4

One way ANOVA of Operating Income to Total Income Ratio

Source of Variation	SS	Df	MS	F Cal	F crit
Between Depositories	357.2025	1	357.2025	118.4186	5.31766
Within Depositories	24.13152	8	3.01644		
Total	381.334	9			

(at 5% Significance Level)

The above table reflects one way analysis of Other Income to Total Income ratio. Here, the hypothesis is tested at 5% significance level. Here, calculated value is higher than tabulated value so, the null hypothesis get rejected and alternative hypothesis get accepted. So, it can be concluded that there is significance difference in NSDL's and CDSL's Other Income to Total Income ratio during the study period.

3. Total Expenses to Total Income ratio:

This ratio shows the Total Expenses to Total Income Ratio of selected depositories during the study period. This ratio helps to assess depositories' Profitability from the view point of expenses. Higher ratio affects negatively to the profitability of depositories' income earning capacity. Total expenses include administration, and other expenses of the organization. The formula of the ratio is as under.

Total Expenses to Total Income Ratio =

$$\frac{\text{Total Expenses}}{\text{Total Income}} \times 100$$

Table – 5

Total Expenses to Total Income Ratio

(Figures in %)

Year	CDSL	NSDL
2006-07	45.45455	73.1548
2007-08	33.80102	60.96579
2008-09	38.11421	80.51402
2009-10	33.46496	66.35161
2010-11	32.84314	71.07313

Average	36.73557	70.41187
Standard Deviation	5.300489	7.343848
Co-efficient of Variance	0.144288	10.42984

Source: calculated from the Published Annual Reports of the Depositories during study period.

The table - 5 shows Total Expenses to Total Income ratio of CDSL and NSDL during the period under review. This ratio shows expenses accrued by depositories during study period. Total expenses include administration, and other expenses of the organization. It reveals from the above table that CDSL ratio represents fluctuating trend during the study period which shows that its profitability was not stable. It has reached at its highest level in the financial year 2006-07. The average ratio was 36.735%. The NSDL registered continuous decreasing trend except financial year 2008-09 and 2010-11 during the study period which affects positively to its profitability. The Total expenses to Total Income ratio was lower than 73% during the period under review which affects positively to company's operational efficiency. Comparing the CV of CDSL and NSDL, the CDSL has registered with lower CV than NSDL which shows that NSDL has less stability in term of Total Expenses to Total Income ratio during the study period.

Ho: There is no significance difference in the Total Expenses to Total Income ratio of Depositories during the period under review.

Table – 6

One way ANOVA of Total Expense to Total Income Ratio

Source of Variation	SS	Df	MS	F Cal	F crit
Between Depositories	2835.232	1	2835.232	69.12901	5.317655
Within Depositories	328.1091	8	41.01364		
Total	3163.342	9			

(at 5% Significance Level)

The above table reflects one way analysis of Total Expenses to Total Income ratio. Here, the hypothesis is tested at 5% significance level. Here, calculated value is considerably higher than tabulated value so, the null hypothesis get rejected and alternative hypothesis get accepted. So, it can be concluded that there is significance difference in NSDL's and CDSL's Total Expenses to Total Income ratio during the study period.

4. Return on Investment ratio:

This ratio shows the percentage return received by depositories on their total share holder's fund during the study period. This ratio helps to assess depositories' Profitability from the view point of share holder's fund. Higher ratio affects positively to the

profitability of depositories' income earning capacity. Total share holder fund includes share capital and reserve and surplus during one financial year. The formula of the ratio is as under.

$$ROI = \frac{\text{Profit After Tax}}{\text{Total Share Holder's Fund}} \times 100$$

Between Depositories	133.7747	4	33.44368	5.3476	5.1921
Within Depositories	31.26937	5	6.25387		
Total	165.0441	9			

(at 5% Significance Level)

Table 7
Return on Investment Ratio

Year	CDSL	NSDL
2006-07	12.31979	12.86232
2007-08	20.8286	2036474
2008-09	17.17172	9.544313
2009-10	20.58059	22.00900
2010-11	18.16118	19.50713
Average	17.81238	16.85750
Standard Deviation	3.444606	5.368971
Co-efficient of Variance	0.193383	31.84915

Source: calculated from the Published Annual Reports of the Depositories during study period.

The table - 7 shows Return on Investment ratio of CDSL and NSDL during the period under review. This ratio shows Profit earned by depositories during study period. The profit which is taken as post tax. It reveals from the above table that CDSL ratio represents fluctuating trend during the study period which shows that its profitability was not stable. It has reached at its highest level in the financial year 2007-08. The average ratio was 17.81%. The NSDL also registered fluctuating trend during the study period which also affects negatively to its profitability. The Return on Investment ratio recorded 9.54% which was the lowest during the period under review which affects negatively to company's operational efficiency. Comparing the CV of CDSL and NSDL, the CDSL has registered with lower CV than NSDL which shows that NSDL has less stability in term of Return on Investment ratio during the study period.

Ho: There is no significance difference in the Return on Investment ratio of Depositories during the period under review.

Table – 8
One way ANOVA of Return on Investment Ratio

Source of Variation	SS	Df	MS	F Cal	F crit
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The above table reflects one way analysis of Return on Investment ratio. Here, the hypothesis is tested at 5% significance level. Here, calculated value is marginally higher than tabulated value so, the null hypothesis get rejected and alternative hypothesis get accepted. So, it can be concluded that there is significance difference in NSDL's and CDSL's Return on Investment ratio during the study period.

V. FINDINGS OF THE STUDY

- Average Operating Income to Total Income ratio of NSDL was much higher than CDSL, which shows that NSDL earning higher operational income compare to CDSL.
- NSDL's Operating Income was almost 90%, so NSDL focuses on its operational income rather than other income.
- CDSL's other income was around 20% of its total income which reveals the operationally CDSL try to change its focus from other income to operational income.
- NSDL's income has almost 1.5 times higher than that of CDSL
- Total Expenses to Total Income ratio of NSDL was higher than CDSL
- It was found that there was a significant difference between Operating Income to Total Income ratio of both the depositories during study period.
- CDSL was promoted by Bombay Stock Exchange whereas NSDL was promoted by National Stock Exchange.
- The study reveals that there was significant difference between Other Income to Total Income ratio of CDSL and NSDL during the period under review.
- The financial performance of NSDL was quite better than CDSL during the study period.
- The study proves that there was a considerable difference in ROI of both the depositories during the study period.

VI. CONCLUSION

The trend of automation especially, Dematerialization, has enabled the Indian Capital Market to take the world's center stage and scale unprecedented heights. Securities market in India has grown exponentially as measured in terms of amount raised from the market, number of stock exchanges and intermediaries, the number of listed stocks, market capitalization, trading volumes, turnover on stock exchanges and investors population. The services offered by the Depositories like Pledge and Hypothecation, Account Transfer, Stock Lending and Borrowing, Nomination, Tax Information Network (TIN), Speed-E, Internet – based Demat Account Statement (Ideas), Securities Trading Information Easy Access and Delivery

(STEADY), etc bear testimony to the fact that it is perpetually progressing by leaps and bounds, thereby elevating its status to internationally acceptable standards. The analysis of the progress of National Securities Depository Limited (NSDL) and Central Depository Services (India) Limited (CDSL) in economic terms clearly reveals that both the depositories have shown a remarkable progress in terms of Demat Accounts, Demat value and quantity, Settlement value and quantity and the number of Depository Participants. In spite of its late emergence, the growth at CDSL is almost at par with that of NSDL. The exponential spurt in demat Accounts, both at NSDL and CDSL reaffirms the increased reliance of the investors on the depository System. This study reveals that both the depositories have been working financially smoothly over a period of last six financial years.

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