

## IMPACT OF LONG-TERM SOLVENCY POSITION OF NATIONAL BUILDING CONSTRUCTION COMPANY INDIA LIMITED

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Jaya Kadu Dhote\*  
Dr. S.K. Khatik\*\*

### ABSTRACT

*The present study's analysis of long-term solvency position of NBCC India the secondary data is used for the study through internet and website. The analysis of the data is done by using Ratio, Mean, Standard Deviation and Coefficient of Variation. It is important to every company to manage their long-term funds. The study finally concluded that the company had different debt equity position. Based on the study finding and suggestions is given which is applicable only to NBCC.*

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**Keywords:** Long Term Solvency, Ratio, Mean, Standard Deviation.

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### Introduction

Long term solvency means the firm's ability to meet its liability in the long run. It is derived from the capital structure of the firm. Long term solvency position is very important to every company which has profit motive. Finances regarded as life of a business. It is the foundation of all activities. Long term fund indicates the proportion between owner's and non-owner's fun. The management of long-term fund is required for profitable organisation.

India has one of the top most construction companies in the world. Easy availability of low-cost labour and manpower make India competitive at all over the world. NBCC has witness to increase the demand of construction due to his infrastructure, huge spending, ideas and technology. India has largest construction company in the world.

The long-term liability of firm is towards debenture holder's financial institutions etc. These ratios indicate firms' ability to meet their fixed interest and long-term borrowing. Usually, the following ratios are calculated to judge the long-term financial solvency of the concern. Debt equity ratio; Proprietary ratio; Interest Coverage Ratio.

### Justification of the Topic

The Study is to examine long Term solvency of the company evaluation of long-term capital assets and fixed assets helpful for future Risk and Potential. It has carried out the research study titled Impact of long-term solvency position of NBCC, since the government of India granted the NBCC with status of Navratna Company. India has experienced speedy growth in the construction and government have supported the business and reboots development.

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\* Research Scholar, Department of Commerce, Barkatullah University, Bhopal, M.P., India.

\*\* Professor and HOD, Department of Commerce, Dean Faculty of Commerce Barkatullah University, Bhopal, M.P., India.

## Review of Literature

Abdul Aziz and A.Rehman (2017) in this paper we examine the relationship between solvency ratio and profitability ratio. The study done between 3 years' 2012 to 2014 in this paper study identify solvency ratio of food industrial company they provide sets of recommendations and proposals that will work to increase the rates of profitability and solvency ratio.

Angamuthu and Sivanandam (2012) in this paper we examine long-term and short-term solvency status of Cement companies between 2000-01 and 2009-10. The five cement companies, four private owned and one Government owned are considered for the study. Results of the analysis reveals that there is no risk of solvency either in fulfilling long-term commitment in most of the cement manufacturing companies under study. Regarding short-term solvency, the study indicates that all cement companies have sufficient liquid assets to cover their short-term debt but a significant decline in short-term solvency level is found for majority of the companies as well as for all selected companies when pooled together. Overall, this study envisages that long term solvency position is good while short-term solvency level is better for cement companies.

Viral and Viswanathan (2011) financial firms raise short-term debt to finance asset purchases; this induces risk shifting when economic conditions worsen and limits their ability to roll over debt. Constrained firms de-lever by selling assets to lower-leverage firms. In turn, asset-market liquidity depends on the systemwide distribution of leverage, which is itself endogenous to future economic prospects. Good economic prospects yield cheaper short-term debt, inducing entry of higher-leverage firms. Consequently, adverse asset shocks in good times lead to greater de-leveraging and sudden drying up of market and funding liquid

Loan and Batrancea (2008) The management of bank liquidity is one of the problems that American banks currently encountered, while the crisis of real estate credits emerged at the end of the previous year in The United States tends to spread over Europe, Japan and other parts of the world, leading to a global crisis that will be greater than the global crisis from the '30s. That is why we believe that is imperiously urgent that banks should create own systems of liquidity analysis for the purpose of preventing at any moment their illiquidity and insolvability. The study that we present is an analysis guide for the liquidity state and preventing liquidity risk, where we highlight aspects regarding: the concept of bank liquidity, liquidity administration, liquidity risk management, liquidity indicators and methods for measuring liquidity risk.

Kader and Asarpota (2007) utilize bank level data to evaluate the performance of the UAE Islamic banks. Balance Sheet and income Statements of 3 Islamic banks and 5 conventional banks in the time period 2000 to 2004 are used to compile data for the study. Financial ratios are applied to examine the performance of the Islamic banks in profitability, liquidity, risk and solvency, and efficiency. The results of the study show that in comparison with UAE conventional banks, Islamic banks of UAE are relatively more profitable, less liquid, less risky, and more efficient. They conclude that there are two important implications associated with this finding: First, attributes of the Islamic profit – and-loss sharing banking in UAE. Second, UAE Islamic banks should be regulated and supervised in a different way as the UAE Islamic banks in practice are different from UAE conventional banks.

Douglas and Rajan (2005) we show in this article that bank failures can be contagious. Unlike earlier work where contagion stems from depositor panics or contractual links between banks, we argue that bank failures can shrink the common pool of liquidity, creating, or exacerbating aggregate liquidity shortages. This could lead to a contagion of failures and a total meltdown of the system. Given the costs of a meltdown, there is a possible role for government intervention. Unfortunately, liquidity and solvency problems interact and can cause each other, making it hard to determine the cause of a crisis. We propose a robust sequence of intervention.

Daniel and Wheatley (2002) Prior research has shown that accounting information available prior to a bankruptcy is associated with the likelihood of bankruptcy. We show that additionally, the accounting information available prior to bankruptcy is associated with whether or not a firm will emerge from bankruptcy. We predict that firms that exhibit low solvency risk and high liquidity risk are most likely to emerge from bankruptcy. Firms that exhibit high solvency risk and high liquidity risk are predicted to be least likely to emerge from bankruptcy. Cross-Sectional, our results support these predictions, but our findings differ across large and small firms.

Safieddin and Titman (1999) presents result consistent with use of debt being positively associated with an alignment of interest between shareholder and managers as they target of failed takeovers that subsequently increased their leverage ratio tend to experience significantly better performance than those that do not.

**Objectives of the Study**

This study has following objectives:

- To study long term solvency position of national building construction company.
- To study about the long- term financial strengths of company.
- To analyse long term obligations bearing ability of the company.
- To give the suggestions on the basis of finding of the study.

**Hypothesis of the Study**

- This study is based on the following null hypothesis (H0)
- There is no significance difference between long term Debt and Equity Capital.
- There is no significance difference between Outsider's Fund and Total Assets.

**Research Methodology**

Research methodology may be defined as a way to systematically solve the research problem. It is a process of collecting and analyzing information in order to increase our understanding of the phenomena about which bears concern or interested. Research comprises defining and re-defining problem, formulation of hypothesis or suggested solution, collecting, organizing and evaluating data, making deduction and reaching conclusion. The research study cover 10 financial years from 2011-12 to 2020-21 to make the analysis of long term solvency that are deemed quite sufficient.

**Research Design**

Research design is a path for turning the research work into a testing project. The study of research design is descriptive in nature. It is an arrangement of conditions for the collecting and analysis of data in a manner that aims to combine relevance to the research purpose with economy in produce.

These research study based on Secondary data. The sources of secondary data are annual report, budget, statistical report & other published document. The major sources of secondary data of annual reports of NBCC.

This research design is a blue print of research which are systematically analysis the research problem. The objective of the study which have been taken they will be also analyze in different chapters and hypothesis which was taken will also examine by statistical tool & test. The statistical tool will helpful to analyzing the data and testing of hypothesis will be also examine by different techniques like ratio analysis, mean, standard deviation, etc.

**Limitations of the Study**

- The Study Covers only 10 year's period i.e. 2011-12 to 2020-21 for the Solvency analysis.
- The Study have been used secondary data throw published annual reports and websites.
- The data have been grouped and sub-grouped as per the requirement of the study.
- The data dependent on audit so there may be a chance of lack of reliability.

**Analysis of Long-Term Solvency Ratios**

Solvency ratios are used to judge the long-term financial soundness of any business. Long term Solvency means the ability of the Enterprise to meet its long-term obligation on the due date. Long term lenders are basically interested in two things: payment of interest periodically and repayment of principal amount at the end of the loan period. Usually, the following ratios are calculated to judge the long-term financial solvency of the concern. Debt equity ratio; Proprietary ratio; Interest Coverage Ratio.

- **Debt to Equity Ratio**

This ratio is popularly known as debt- equity ratio (D/E ratio). A ratio high denotes greater long term debt financing than equity financing. It can be also as a relation between external equities to internal equities.

**Table 1: Statement Showing Debt Equity Ratio**

Year	Total Long-Term Debt (₹ in cr.)	Total Long-Term Fund's (₹ in cr.)	Debt Equity Ratio (Times)
2011-12	20532.24	79549.46	0.26
2012-13	26663.31	95069.33	0.28
2013-14	5322.98	114057.70	0.05

2014-15	4495.19	133839.69	0.03
2015-16	6598.00	154252.28	0.04
2016-17	19446.93	193193.33	0.10
2017-18	10651.01	222020.00	0.05
2018-19	23389.13	165672.89	0.14
2019-20	43040.51	160590.50	0.27
2020-21	43240.90	179731.24	0.24
Arithmetic Mean	20338.02	149797.64	0.15
Standard Deviation	14333.99	44529.17	0.11
Ave. Ann. Growth Rate	11.06	12.59	-0.68
C.O.V.	70.48	29.73	71.96

Source:- Annual reports of NBCC India limited from 2011-12 to 2020-21

### Interpretation

The table 1 show the relationship of total dept to equity capital fund in business. In year 2012-13 experience the highest value of 0.28 times and lower value of 0.03 times was observed in year 2014-15 during the 10 year of the study period the ratio was below 1. In year 2013-14 and 2017-18 the ratio remain same which was 0.05 Times. Equity capital had and highest value of 2220 in year 2017-18 and least was 79549.46 in year 2011-12. That equity ratio had an average value of 0.15 times equity capital experience and average annual growth rate of - 0.68. standard deviation of the ratio was 0.11 which measure the absolute variability. Coefficient of variation of the ratio was 7 1.96 which show high degree of variability.

#### • Proprietary Ratio

This ratio shows the shareholders interest which has been used for total assets. Net worth to total assets ratio is the opposite of debt ratio. A higher value of the ratio shows greater dependency on its owner's fund. It is an indicator of margin of safety available to creditor's, which suggest a sound financial Structure.

**Table 2: Statement Showing Proprietary Fund Ratio**

Year	Share Holder's Fund (₹ in cr.)	Total Assets(₹ in cr.)	Proprietary Fund Ratio (Times)
2011-12	79549.46	363722.98	0.22
2012-13	95069.33	372903.13	0.25
2013-14	114057.70	420723.64	0.27
2014-15	133839.69	476390.56	0.28
2015-16	154252.28	545925.96	0.28
2016-17	193193.33	806586.23	0.24
2017-18	222020.00	1226857.64	0.18
2018-19	165672.89	1309543.20	0.13
2019-20	160590.50	1250727.33	0.13
2020-21	179731.24	1316417.83	0.14
Arithmetic Mean	149797.64	808979.85	0.21
Standard Deviation	44529.17	421214.89	0.06
Ave. Ann. Growth Rate	12.59	26.19	-3.76
C.O.V.	29.73	52.07	30.17

Source:- Annual reports of NBCC India limited from 2011-12 to 2020-21

### Interpretation

The table number 1.2 show the ratio of net worth to total asset of the firm. The first year of ratio value of 0.22 times and increase up to 0.28 times in first 5 years. After that it was decrease 0.13 times in last year of the study the ratio is 0.14 Times. The total asset are also increases continuously in 10 year of the study. The statistical analysis of above ratio show that it had an average value of 0.21 times with an annual growth rate of -3.76 proprietary fund ratio head low standard deviation of 0.06, which indicate that the ratio show a great level of uniformity among its value. Coefficient of variation of the ratio was 30.17% which show the higher degree of relative variability.

- **Interest Coverage Ratio**

The ratio indicates how far the creditors are protected as to the return on their invested, and they can know how far the available earnings are sufficient to cover such interest rates. It can be calculated as

**Table 3: Statement Showing Interest Coverage Ratio**

Year	Net Profit before Int.& Tax (₹ in cr.)	Fixed Interest Charge (₹ in cr.)	Interest Coverage Ratio (Times)
2011-12	12758.12	738.82	17.27
2012-13	14709.16	532.31	27.63
2013-14	20590.17	2238.44	9.20
2014-15	24469.33	4024.55	6.08
2015-16	23411.78	131.62	177.87
2016-17	32323.22	2890.88	11.18
2017-18	39297.33	2491.80	15.77
2018-19	22591.41	60.74	371.94
2019-20	3745.97	668.61	5.60
2020-21	2150.86	662.24	3.25
Arithmetic Mean	19604.74	1444.00	64.58
Standard Deviation	11664.71	1360.49	120.12
Ave. Ann. Growth Rate	-8.31	-1.04	-8.12
C.O.V.	59.50	94.22	186.01

Source:- Annual reports of NBCC India limited from 2011-12 to 2020-21

**Interpretation**

The table number 1.3 of interest coverage ratio show the considerable fluctuating trends in become 3.25 times to 371.94 times. We can see from the above table interest coverage ratio is much fluctuating in nature. The interest before interest and tax was highest in year 2017-18 was 39297.33 and least in the year 2020-21 was 2150.86. Statistical analysis of table show the means 64.58 and average annual growth rate was - 8.12. the standard deviation of interest coverage ratio was coefficient of variation was 186.01.

- **Debt to Total Capital**

The debt-to-capital ratio is a measurement of a company's financial leverage. The debt-to-capital ratio is calculated by taking the company's interest-bearing debt, both short- and long-term liabilities and dividing it by the total capital. Total capital is all interest-bearing debt plus shareholders' equity which may include items such as common stock, preferred stock, and minority interest.

**Table 4: Statement Showing Debt To Total Capital Ratio**

Year	Debt (₹ in cr.)	Total Capitalization (₹ in cr.)	Debt To Total Capital Ratio (Times)
2011-12	20532.24	100081.70	0.21
2012-13	26663.31	121732.64	0.22
2013-14	5322.98	119380.68	0.04
2014-15	4495.19	138334.88	0.03
2015-16	6598.00	160850.28	0.04
2016-17	19446.93	212640.26	0.09
2017-18	10651.01	232671.01	0.05
2018-19	23389.13	189062.02	0.12
2019-20	43040.51	203631.01	0.21
2020-21	43240.90	222972.14	0.19
Arithmetic Mean	20338.02	170135.66	0.12
Standard Deviation	14333.99	48204.58	0.08
Ave. Ann. Growth Rate	11.06	12.28	-0.55
C.O.V.	70.48	28.33	65.73

Source:- Annual reports of NBCC India limited from 2011-12 to 2020-21

### Interpretation

The table number 1.4 indicate the funded debt to total capitalisation ratio show continue fluctuation in the series. The highest value in the year 2012-13 was 0.22 and least value in year 2014-15 was 0.03 during the study period of 10 years capitalisation was in increasing way. The highest value of debt in year 2020-21 was 43240.90 and least in year 2014-15 was 4495.19. The statistical analysis of above table was showing mean value was 0.04 Times. The average annual growth rate was -0.55. The standard deviation was 0.08 measure absolute variability. Coefficient of variation of the ratio was 65.7 which show high degree of variability.

- **Capital Gearing Ratio**

It is just opposite to debt-equity ratio. It indicates the measure of owners contribution per rape of total long term debt. This ratio reveals the suitability of order of company's capitalization. It is an indicator of capital structure (Debt-Equity) of the firm.

**Table 5: Statement Showing Capital Gearing Ratio**

Year	Share Holder's Fund (₹ in cr.)	Long Term Debt (₹ in cr.)	Capital Gearing Ratio (Times)
2011-12	79549.46	20532.24	3.87
2012-13	95069.33	26663.31	3.57
2013-14	114057.70	5322.98	21.43
2014-15	133839.69	4495.19	29.77
2015-16	154252.28	6598.00	23.38
2016-17	193193.33	19446.93	9.93
2017-18	222020.00	10651.01	20.84
2018-19	165672.89	23389.13	7.08
2019-20	160590.50	43040.51	3.73
2020-21	179731.24	43240.90	4.16
<i>Arithmetic Mean</i>	149797.64	20338.02	12.78
<i>Standard Deviation</i>	44529.17	14333.99	10.01
<i>Ave. Ann. Growth Rate</i>	12.59	11.06	0.73
<i>C.O.V.</i>	29.73	70.48	78.35

Source: - Annual reports of NBCC India limited from 2011-12 to 2020-21

### Interpretation

The table number 1.5 show the relationship of total equity of debt capital in business. The highest value of 29.77 times was in 2014-15 and least of 3.57 times in year 2012-13 in year 2013-14 experience the highest increase from 3.57to 21.43 Times during the study period of 10 years the ratio always above 1. The tendency of ratio is fluctuated. Capital gearing ratio had an average value of 1 2.78 times and the average annual growth rate was 0.73% statistical analysis of ratio show that the standard deviation of 10.01 and coefficient of variation was 7 measure the dispersion show higher value which is an indicator of higher variability.

### Testing of Hypothesis

Distribution is a small test use for testing of hypothesis of sample size. If the calculator value of t is less than the table value the null hypothesis will be accepted and vice versa for a given significance level it can be calculated as follows

$$t = \frac{r}{\sqrt{1-r^2}} * \sqrt{n-2}$$

r= coefficient of correlation

n=number of observations

**Null hypothesis (H<sub>0</sub>):** There is no significance difference in long term debt and equity capital.

t- test was conducted between parameter of long-term debt and equity capital for judging the solvency position. The correlation between long term debt and equity capital was 0.11 which show a positive degree of relation. Table value was calculated taking 5% level of significance for 8degrees of freedom. Calculator value and table value of t-test are as follows

$$t_{0.05}=2.31 \text{ and } t=5.9$$

**Interpretation**

Since the calculated value of  $t$  5.9 is more than table value of  $t$  is 2.31 it rejected the null hypothesis so the alternative hypothesis is accepted. So, we can say that there is significance difference between long term debt and equity capital during the period of study.

**Null hypothesis (H<sub>0</sub>):** There is no significance difference in outsider's fund and total assets

$t$ - test was conducted using parameter of outsider funds and total assets. Correlation coefficient between outsider funds and total asset was 0.77 which show a positive relations are moving in same direction. Table value was calculated taken 5% level of significance for 8degrees of freedom. Calculated value and table value of  $t$  are as follows

$$t_{0.05}=2.31 \text{ and } t=4.72$$

**Interpretation**

In this case calculated value of  $t$  4.72 is more than table value of  $t$  2.31so the null hypothesis is rejected and alternative hypothesis is accepted so we can say that there is a significance difference between outsider's fund and total assets.

**Conclusions and Suggestions**

On the basis of analysis, interpretation and testing of hypothesis we have reached the following conclusion and suggestion: -

- Solvency position of NBCC Ltd is satisfactory, because company can easily make their payment of debt capitalization because Total capitalization is much more to their borrowing capital.
- NBCC Ltd has been less employed the debt capital as comparison to capitalization which indicate conservative approach.
- Operating profit is more than their interest in the case the company can easily make the payment of interest hence which is worthwhile for the company.

On the basis of above findings suggestions are as follows:

- Company should maintain the present position is also in future.
- Company can increase their debt capital near future for betterment of the business

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