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Financial Structure and Profitability of NEDFi Ltd.: An Empirical Analysis

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Abstract

Capital structure determination of a company constitutes a very difficult decision which involves several and aggressive factors, such as risk and profitability. The decision becomes even more difficult in times when the economic environment in which the company operates a high degree of instability. Profitability is the main factor for consideration at the time of designing capital structure of a company. The purpose of this paper is to examine the extent to which growth determines the capital structure of North Eastern Development Finance Corporation Ltd. (NEDFi). This is to be done by examining some components of capital structure in relation to NEDFi and then testing the results ideas empirically. This paper may provide useful insights for the interested parties, such as owner, investors, creditors etc.

Keywords: Financial Institutions, NEDFi, Capital, Shareholders fund, leverage, working capital, profitability.

Introduction: "Development banks are unique financial institutions that act as catalytic agents in promoting balanced development of the country and thereby aid in the economic growth of the country" (Abor, 2005).

The concept of development banking originated during the post second world period. Many countries of Europe were in the stage of industrial development and special financial institutions known as development banks were set up to foster industrial growth. Development banks are financial agencies that provide medium and long term financial assistance and act as catalytic agents in promoting balanced development of a country. They are engaged in promotion and development of industry, agriculture and other key sectors.

In respect of finance to industry sector, all financial institutions located in the state including commercial banks and term lending institutions of the state continued to provide financial assistance. But the flow of funds from these institutions is not adequate and satisfactory as compared to that of the other states of the country. The IDBI Report on Development banking, 2000-01 reveals another stark reflection where it is found that the cumulative per capital sanctions and disbursements by different All India Financial Institutions' (AIFIs) in Assam from 1997-98 to 2000-01 is much less than that of all India figures of sanctions and disbursements. Accordingly, Union Finance Minister, in his Budget speech for the year 1995-96, announced the setting up of a separate development bank for the Region. Keeping in conformity with such announcement, the North Eastern Development Finance Corporation (NEDFi) Ltd. was incorporated on August 9, 1995 with Headquarters at Guwahari with a objective of providing focused attention to the industrial and infrastructural development of the region [2]. A development bank, its role was that of gap filler as it was not expected to compete with the then prevailing channels of industrial finance [3]. There is a positive relationship between a firm's performance and capital structure, measured by short term loans and total loans [4]. NEDFi has been playing a critical role in catalyzing the development of the economy of North East India as an instrumental for identifying, financing and nurturing eco-friendly and commercially viable industries.

Research Methodology: Data collection and its analysis: This work is based on the secondary data collected from annual reports of NEDFi Ltd. from 2010 to 2017, where the financial structure of the company depends. The collected data were analyzed by using statistical tools and techniques like Correlation Matrix and Regression Analysis. In order to get the results, statistical software Mx-excel and SPSS have been used. For simplifying the process of analysis chart and figures have been used.

Objectives of the Study: The main objectives of the study are to analyze the financial structure of the corporation which helps to identify the shortcoming and inadequacy of the fund to raise profit during the study period.

Hypothesis:

For analyzing the objectives of the study, the following null hypothesis has been test:

- Loan fund is not contributing towards the profitability of the corporation
- Financial leverage is not casting a favourable impact on the corporation's profitability.
- Working capital is not favourably influencing the profitability of the corporation.

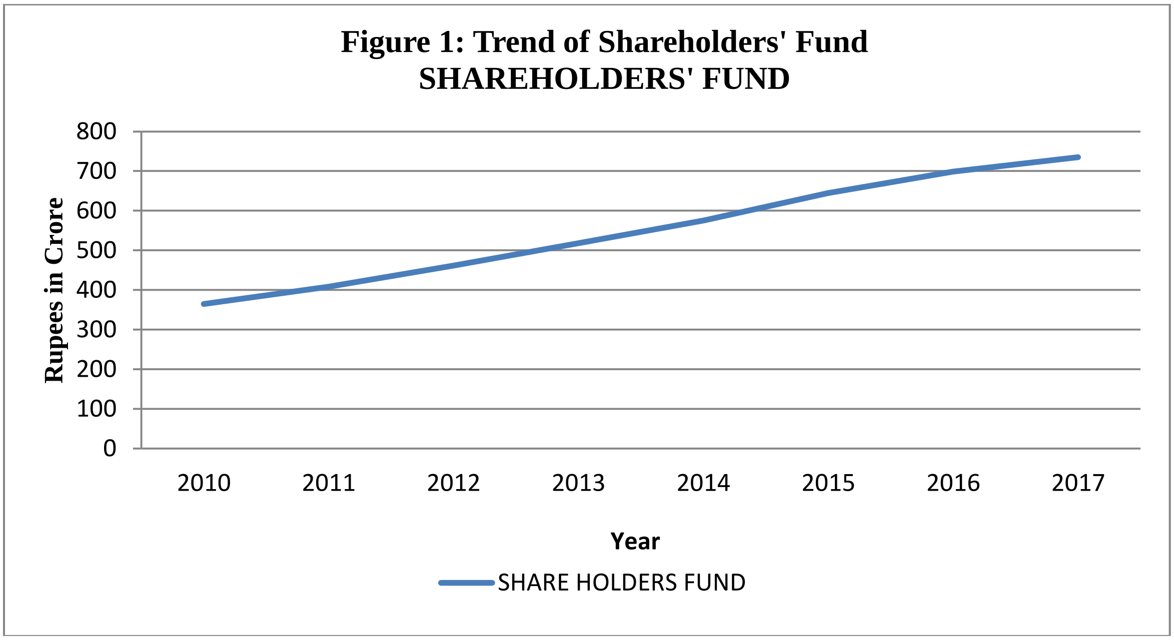
Capital Structure Of Nedfi Ltd.: Capital structure of NEDFi Ltd. consists of Equity Shares, Reserves and Surplus and Loan Funds. The capital structure of North East Development Finance Corporation Ltd. is analysed in three parts i.e., shareholders fund, loan funds and capital employed.

Table-1

Shareholders' Fund of NEDFi Ltd. (Rs. In Crore)

Year	Share Capital	Reserves & Surplus	Shareholders Funds	Changes (In Times)
2010	100.00	264.81	364.81	
2011	100.00	308.09	408.09	0.12
2012	100.00	361.11	461.11	0.13
2013	100.00	418.13	518.13	0.12
2014	100.00	475.67	575.67	0.11

2015	100.00	544.29	644.29	0.12
2016	100.00	598.68	698.68	0.08
2017	100.00	635.09	735.09	0.05
average	100.00	450.73	550.73	0.10
Source: Computed from Annual Reports of NEDFi Ltd. (2010 to 2017)				



Source: Computed from Annual Reports of NEDFi Ltd. (2010 to 2017).

Table-1 depicts that the share capital of NEDFi Ltd. remain unchanged throughout the study period due to non issue of fresh equity and preference shares and non redemption of preference shares. It reveals that the reserve & surplus of the NEDFi Ltd. in the year 2012, primarily contributed to shareholders fund due to increase in profit after tax, which increased by Rs.24.94 crores as on 31st March, 2017, which was also a major cause of change in shareholders fund by 0.13 times i.e., higher than the average change of 0.10 times during the study period. From the analysis it is clear that the shareholders' fund has shown an increasing trend during the entire study period. Table 2 shows that the loan fund of North Eastern Development Finance Corporation Ltd. has shown a increasing trend from 2010 to 2015 and showed a declining trend in the year 2016 and again increasing trend in the year 2017.

From the study of the table-2, it is clear that the solvency position of the corporation is good. But a low debt equity ratio implies use of more equity than debt which means a larger safety margin for creditors since owners' equity is treated as a margin of safety by creditors and vice versa. But traditionally, a debt-equity ratio of 2:1 is considered to be satisfactory which means debt could be twice the equity. Whereas the corporations' proportion of shareholders fund and loan funds is 73:70 (appro), which shows almost equal part of the capital was financed by loan funds. Therefore, the capital structure of NEDFi Ltd. is not much benefit of trading on equity when firms earn a rate higher the interest rate on borrowed funds. The change in the capital employed mainly affected by the changes in the loan funds.

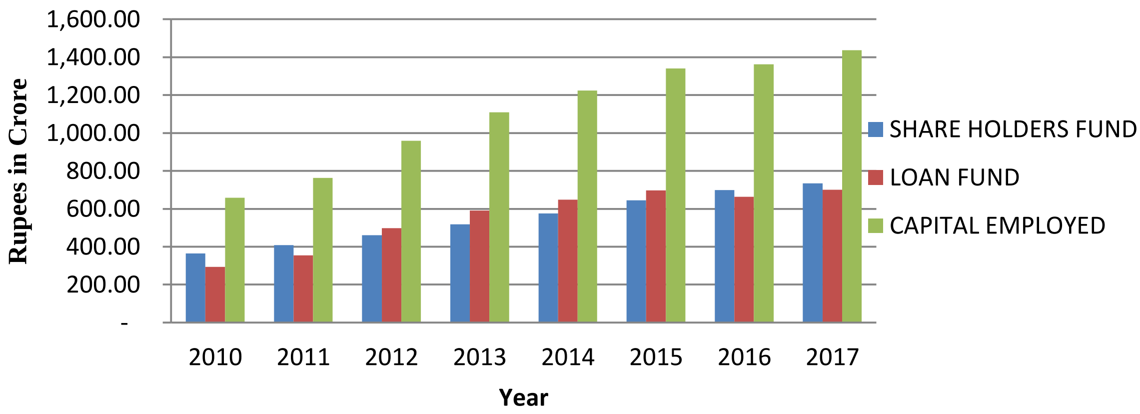
Table-2

Capital Employed of NEDFi Ltd.

YEAR	SHARE HOLDERS FUND	LOAN FUND	CAPITAL EMPLOYED	CHANGE (In times)
2010	364.81	293.08	657.89	
2011	408.09	355.09	763.17	0.16
2012	461.11	497.58	958.68	0.26
2013	518.13	591.12	1109.12	0.16
2014	575.6	648.2	1223.8	0.10
2015	644.29	696.67	1340.96	0.10
2016	698.68	663.75	1362.43	0.02
2017	735.09	701.23	1436.32	0.05

Source: Computed from Annual Reports of NEDFi Ltd. (2010 to 2017).

Figure 2: Capital Employed of NEDFi Ltd. (Rs. In Crore)



Financial Analysis: Different financial ratios are presented in Table-3 which helps in determining the financial position of North Eastern Development finance Corporation Ltd (NEDFi). Debt ratio represents the participation of loan funds in total assets. On an average

Debt ratio is 0.45 times which is higher than the standard. Highest debt ratio was 0.51 times in the year 2013 and lowest was 0.40 in 2010, which is not an ideal situation. As proprietary ratio is also calculated on the basis of total assets, it does not depict the ideal position. Highest and lowest proprietary ratio was 1 times in the year 2010 and 0.87 times in the year 2013 and 2017 respectively. Debt Equity Ration of the corporation was on an average of 2.17 times which is an adverse situation, as it should be 0.50 times (1:1). The above analysis does not represent good solvency position of the company as capital mix of NEDFi Ltd. is mainly contributed by Shareholders funds, whereas participation of loan fund is comparatively very less. Average current ratio was 3.07 times which is much higher than the standard norms of Current Ratio i.e., 2 times (2:1). In last two years of study period in 2016 and 2017current ratio was 5.82 times and 5.70 times which much higher than the ideal ratio respectively. This position of current ratio shows that the company had blocked its capital unnecessarily in current assets rather investing it in profitable opportunities. Current assets are taking large position in total assets during the study period. It means the corporation does not depict a sound profitable position as its return on assets had been between 0.08 to 0.11 times only during the study period and the average earning per share were 5.53.

Table-3

Financial Ratios of NEDFi Ltd. (In Times)

Year	Debt Ratio	Proprietary Ratio	Debt Equity Ratio	Current Assets Ratio	Current Asset To Total Asset	Return On Assets	Earning Per Share (Rs.)
2010	0.40	1.00	1.81	2.80	0.27	0.08	3.32
2011	0.42	0.87	2.16	2.22	0.20	0.09	4.56
2012	0.47	0.91	2.28	1.92	0.17	0.10	5.52
2013	0.51	0.95	2.25	2.15	0.11	0.10	6.2
2014	0.50	0.95	2.24	2.14	0.11	0.11	6.39
2015	0.49	0.94	2.21	1.80	0.10	0.10	7.56
2016	0.44	0.90	2.17	5.82	0.33	0.10	6.17
2017	0.43	0.87	2.24	5.70	0.36	0.09	4.55
Average	0.46	0.92	2.17	3.07	0.21	0.09	5.53
Source: Computed from Annual Reports of NEDFi Ltd. (2010 to 2017).							

Impact of Capital Structure on Profitability of Nedfi Ltd.

The main objective of the study is to analyze the impact of capital structure on profitability of NEDFi. To determine the effect of working capital management on profitability of corporation the researcher used the following equations:

EPS = SF+LF+CE+WC; ROA = DR +PR +DER and ROA = CR +CATA.

$Y = \beta_0 + \beta_1 SF + \beta_2 LF + \beta_3 CE + \beta_4 WC + e$………………… (1)

$Y = \beta_0 + \beta_1 DR + \beta_2 PR + \beta_3 DER + e$………………………… (2)

$Y = \beta_0 + \beta_1 CR + \beta_2 CATA + e$………………………………. .(3)

Where, EPS= Earning Per Share, SF = Shareholders Fund; CE = Capital Employed; WC = Working Capital; ROA = Return on Assets; PR = Proprietary ratio; CR = Current ratio; CATA = Current Asset to Total Assets; DR = Debt Ratio; DER = Debt Equity Ratio, e is the error term and β_0 is the constant of the regression equation and β_1, β_2, β_3 and β_4 are parameters to be estimated.

Out of these three equations, the first equation is based on absolute value of different variables. The second and third equation is based on different ration which determine the impact of returns. Further, the second equation determines the impact of capital structure on profitability and third equation establishes the effect of working capital on return on assets.

Correlation Matrix: Correlation matrix computes the correlation coefficients between the variable of the matrix. The Table-4 shows the correlation matrix for the defined variables, i.e., EPS, CE, SF and WC. From the table it is clear that EPS is positively corrected with capital employed, shareholders fund and negatively corrected with working capital. The positively corrected between SF and EPS depicts that shareholders fund was accompanied by an increase in EPS. This is due to the SF increasing at a normal rate. Positive correlation between LF and EPS suggests that the purpose of borrowing loans could be achieved since borrowing lead to an increase in earning per share (EPS) along with increasing profits. Positive correlation with capital employed (CE) with earning per share (EPS) is a good sign. Negative correlation between WC and EPS depicts that huge blocking of current assets tent to reduce the earning per share (EPS).

Table 4

Pearson Correlations

	EPS	CE	SF	LF	WC
EPS	1	.611	.514	.738*	-.214
CE	.611	1	.980**	.959**	.601
SF	.514	.980**	1	.929**	.692
LF	.738*	.959**	.929**	1	.408
WC	-.214	.601	.692	.408	1

*. Correlation is significant at the 0.05 level (2-tailed).

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

Computed from Annual Reports of NEDFi Ltd. (2010 to 2017) with the help of SPSS

In the table-5, ROA is positively correlated with DR (high degree) and DER (high degree) which is highly significant at the 0.05 level (2-tailed) and significant at the 0.01 level (2-tailed). On the other hand ROA is negatively correlated with PR (low degree), CR (low degree) and CATA (high degree). Table 4 and Table 5 demonstrate that profitability is significantly correlated with financial structure of the corporation.

Table-5
Pearson Correlations

	DR	DER	PR	CR	CATA	ROA
DR	1	.675	.187	-.451	-.781*	.854**
DER	.675	1	-.584	-.015	-.320	.754*
PR	.187	-.584	1	-.445	-.381	-.065
CR	-.451	-.015	-.445	1	.895**	-.201
CATA	-.781*	-.320	-.381	.895**	1	-.562
ROA	.854**	.754*	-.065	-.201	-.562	1

*. Correlation is significant at the 0.05 level (2-tailed).

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

Computed from Annual Reports of NEDFi Ltd. (2010 to 2017) with the help of SPSS

Multiple Regression Analysis: Further the impact of financial structure components of NEDFi on profitability is analyzed with the help of following three multiple regressions Analysis.

$Y = \beta_0 + \beta_1\, SF + \beta_2\, LF + \beta_3\, CE + \beta_4\, WC + e$………………… (4)

Table-6
Multiple Regression Results

variable	Coefficients	t-value	One sides p value
Intercept	1.070		.630
SF	.006	.639	.674
LF	-.003	-.342	.781
CE	.008	.977	.465
WC	-.009	-1.104	.119
Standard error of estimate		.615	
Coefficient of determination (R Square)		.909	
Dependent Variable:		EPS	
Computed from Annual Reports of NEDFi Ltd. (2010 to 2017) with the help of SPSS			

The Table-6 reveals that the impact of Shareholders Fund (SF), Loan Fund (LF), Capital Employed (CE) and Working Capital (WC) were insignificant as seen from the values of the regression coefficient. Regression Coefficient reveals that there is a negligible effect on Earning Per Share (EPS). For a unit increase in Shareholders’ Fund (SF) and capital Employed, profitability increased by 0.006 units and 0.008 units respectively, which are statistically insignificant at 5% percent level. Similarly, one unit decrease in Loan Fund (LF) and Working Capital (WC) would decrease the Earning Per Share (EPS) by 0.003 units and 0.009 units respectively, which is statistically insignificant at level of 5%. The independent variables explain 90% of the variations in the dependent variables (R Square).

$Y = \beta_0 + \beta_1$ DR + β_2 PR+ β_3 DER +e………………………… (5)

The Table -7 depicts the impact of ratios of capital structure of NEDFi on the profitability with the help of multiple regression analysis. Impact of Debt Ratio (DR), Debt Equity Ratio (DER) and Proprietary Ratio (PR) are examined on Return on Assets. One unit increase in Debt Ratio, Debt Equity Ratio and Proprietary Ratio increases the return on assets by 0.103 units, 0.033 units and 0.034 units respectively, which are statistically insignificant at the level of 5%. The independent variables are explain78% percent of the variations.

Table-7

Multiple Regression Result

variable	Coefficients	t- value	One-sided p value
Intercept	-.054	-.178	.867
DR	.103	.348	.746
DER	.033	.340	.751
PR	.034	.139	.896
Standard error of estimate			.005
Coefficient of determination (R Square)			.788
Dependent Variable:			ROA
Computed from Annual Reports of NEDFi Ltd. (2010 to 2017) with the help of SPSS			

$Y = \beta_0 + \beta_1$ CR+ β_2 CATA +e………………………………. .(6)

The Table 8 shows that the impact of current ration and current assets to total assets i.e., working capital ratios on the profitability ratio i.e., Return on Assets. One unit increase in current ratio (CR) increases Return on Assets by 0.008 units, which are statistically insignificant at level of 5% and one unit decrease of current assets to total assets decreases the return on assets by 0.170 units, which are not statistically significant at the level of 5%. The independent variables are explained 77 % percent of the variations.

Table-8

Multiple Regression Result

Variable	Coefficient.	t-value	One-sided p value
Intercept	.106	24.590	.000
CR	.008	3.171	.025
CATA	-.170	-4.016	.010

Variable	Coefficient.	t-value	One-sided p value
Intercept	.106	24.590	.000
CR	.008	3.171	.025
CATA	-.170	-4.016	.010
Standard error of estimate			.0051
Coefficient of determination (R Square)			.773
Dependent Variable			ROA
Computed from Annual Reports of NEDFi Ltd. (2010 to 2017) with the help of SPSS			

Conclusion: It is known fact that the financial decision of any corporation is complex task which involves the analysis of various variables. The study tries to evaluate the relationship between financial structure and return on assets. The various factors were taken in to consideration in the study to analyze the impact of loan funds, financial leverage and working capital on profitability. All these factors failed to demonstrate any effect on the increase in profit of NEDFi Ltd. It is found from the study that more than 80 percent of the total assets are financed by shareholders fund which is good sign of profitability since the liabilities of the corporations on fixed interests is lower than earning per share. The profitability was not affected by the loan funds of the corporation. The aforesaid fact is supported by the figures of corporation Debt Equity mix, which also shown an higher against standard of 2:1, i.e., 2.17 times on an average. The positively corrected between SF and EPS depicts that shareholders fund was accompanied by an increase in EPS. This is due to the SF increasing at a normal rate. During the study period, profitability measures on the basis of EPS and Return of Assets has positive correlation between LF and EPS suggests that the purpose of borrowing loans could be achieved since borrowing lead to an increase in earning per share (EPS) along with increasing profits. Positive correlation with capital employed (CE) with earning per share (EPS) is a good sign.

For testing of hypothesis, correlation and multiple regression analysis have been used. The result supports null hypothesis and proved that loan funds failed to increase profitability of the corporation. The second hypothesis of the study also proved correct due to the ineffective capital mix. Due to unfavorable impact of working capital on NEDFi’s profitability because of negative correlation and insignificant regression results, helps in accepting the third hypothesis of the study.

Suggestions: The Company should design its capital structure at optimum level of capital mix so that can earn more profit. At last it was seen that a large amount of working capital is unnecessarily retained in the business which reduces the profitability of the company. Materialization of the above suggestions is expected to increase the profitability by maintaining appropriate capital structure, leverage and working capital of NEDFi Ltd.

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