Research Article

FINANCIAL PERFORMANCE OF NON BANKING FINANCIAL COMPANIES IN INDIA: AN ECONOMETRIC STUDY

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ARTICLE INFO	ABSTRACT
	This paper, has examine the financial performance of Non Banking Financial Company in India from the year 2001 to 2005. On their line of activity NBFCs has been categorise in five categories and ten companies from each categories totalling fifty companies have been chosen and their technical and allocative efficiencies has been analysed by using Data envelopment Analysis. The study found no direct relation between the experience and performance of the companies. Different categories of company perform differently in the same year. The study revealed that not only the internal factors but a lot of external social and economical factors affects the performance of Non Banking Financial Companies.

INTRODUCTION

Non Banking Financial Companies (NBFCs) are those types of companies which are not banking companies but engaged in the business activities related to loan, finance, investment, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, Insurance business, Chit Business and other fund based activities but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property. Financial activity as principal business is when a company's financial assets constitute more than 50 per cent of the total assets and income from financial assets constitute more than 50 per cent of the gross income. These companies are required to comply with the provisions of Section 45-IA of Reserve Bank of India Act and the rules and directions thereof, in addition to the provisions of Companies Act, 1956. In terms of Section 45-IA of the RBI Act, 1934, no Non-banking Financial company can commence or carry on business of a non-banking financial institution without obtaining a certificate of registration from the Bank and without having a Net Owned Funds of Rs 25 lakhs (Rs Two crore since April 1999).

Certain categories of NBFCs which are regulated by other regulators are exempted from the requirement of registration with RBI viz. Venture Capital Fund/Merchant Banking companies/Stock broking companies registered with SEBI, Insurance Company holding a valid Certificate of Registration issued by IRDA, Nidhi companies as notified under Section 620A of the Companies Act, 1956, Chit companies as defined in clause (b) of Section 2 of the Chit Funds Act, 1982, Housing Finance Companies regulated by National Housing Bank, Stock Exchange or a Mutual Benefit company.

The importance of NBFCs can be emphasized from the structure of the financial system. In the financial system of India, Commercial bank has emerged in a dominant role in mobilizing fund and using these resources for investment. Due to their structural limitations and righty of different regulations, banks could not expand their operations in all expected area and were confined to a relatively limited sphere of financial services. Moreover, there efforts to meet long term financing with short term resources may result in asset-liability mismatch, which can create pressure on their financial base. They also could not broaden their operational horizon appreciably by offering new and innovative financial products.

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These drawbacks led to the emergence of NBFCs in India for supporting industrialization and economic growth of the country.

Non-Bank Financial Companies (NBFCs) play a significant role in meeting the diverse financial needs of various sectors of an economy and thus contribute to the economic development of the country as well as to the deepening of the country's financial system. According to Goldsmith (1969), financial development in a country starts with the development of banking institutions. As the development process proceeds, NBFIs become prominent alongside the banking sector. Both can play significant roles in influencing and mobilizing savings for investment. Their involvement in the process generally makes them competitors as they try to cater to the same needs. However, they are also complementary to each other as each can develop its own niche, and thus may venture into an area where the other may not, which ultimately strengthens the financial mobility of both.

In relatively advanced economies there are different types of non-bank financial institutions namely insurance companies, finance companies, investment banks and those dealing with pension and mutual funds, though financial innovation is blurring the distinction between different institutions. In some countries financial institutions have adopted both banking and non-banking financial service packages to meet the changing requirements of the customers. NBFIs give loans and advances for industry, commerce, agriculture, housing and real estate, carry on underwriting or acquisition business or the investment and re-investment in shares, stocks, bonds, debentures or debenture stock or securities issued by the government or any local authority; carry on the business of hire purchase transactions including leasing of machinery or equipment, and use their capital to invest in companies. The client base of NBFCs is much diversified and it depends upon the types of business activity carried out. NBFCs like Microfinance institutions are dealing with rural areas where as NBFCs like Hire-purchase and Leasing companies are mostly dealing with corporate clients.

NBFCs vs. Conventional Banks

An NBFC cannot accept demand deposits, and therefore, cannot write a checking facility. It is not a part of payment and settlement system which is precisely the reason why it cannot issue cheques to its customers. Deposit insurance facility of DICGC is not available for NBFC depositors unlike in case of banks. SARFAESI Act provisions have not currently been extended to NBFCs. Besides the above, NBFCs pretty much do everything that banks do.

Classification of NBFCs based on the Nature of its

Business:(Registered with RBI)

The NBFCs that are registered with RBI are basically divided into 5 categories depending upon its nature of business:

- Equipment leasing company;
- Hire-Purchase Company;
- Loan Company;
- Investment Company;
- Infrastructure finance company.

REVIEW OF LITERATURE

Very few studies have been done on the financial performance of NBFCs in India as well as abroad. The available literature is limited, sporadic and meager in nature. Most of the studies have used simple method of ratios analysis.

Bhole (1992) has studied the growth pattern, problems, prospects and impact of NBFCs on financial market. He maintained that as any nation become develop, NBFCs become more and more important. He compared the business volume and profitability ratio of Commercial Banks and NBFCs at aggregate level. He uses only the profitability ratio for the purpose.

Saggar (1995) has examined the financial performance of 10 leasing companies at disaggregate level and compared with other group of NBFCs for a period of 1985-90. The simple method of ratio analysis has been used to compare the financial performance. The study by Saggar does not reflect the overall performance of NBFCs as it is based on selected 10 companies. Kantawala (1997) examined the relative financial performance of different groups of NBFCs for the period 1985-86 to 1994-95 in terms of profitability, leverage and liquidity. A significant difference in the profitability ratios, leverage ratios and liquidity ratios of various categories of NBFCs was observed from the analysis and concluded that different categories of NBFCs behave differently and it is the entrepreneur's choice in the light of behavior of some the parameters which go along with the category of NBFC.

A study by Harihar (1998) throws light on overall performance of all NBFCs taken together in terms of cost of debt, operating margin, net profit margin, return on net worth and asset turnover ratio. It is revealed the aggregate performance of NBFCs which does not throw light on the financial performance of different group of NBFCs. The study has used only few ratios to analyse the financial performance.

Machiraju (1998) studied the financial performance of few selected categories of NBFCs by using ratio analysis method. The study used only the Profitability ratio. The study did not throw any light on the overall performance of all categories of NBFCs.

Guruswamy (1998) has studied the financial performance of NBFCs for the purpose of credit rating of a few numbers of NBFCs by using the methods of ratio analysis. The study used only Leverage ratios like Borrowing/Total Assets, Bank Borrowing/Total Assets, Net Worth/Total Assets, Bank Borrowings/Borrowing, Debt/Total Assets, Debt/Net Worth, Loan to Current Assets, for the purpose of study.

Kantawala (2000) has studied the financial performance of NBFCs by using the method of ratio analysis and one way analysis of variance (ANOVA). He used the Profitability ratios, leverage ratios and liquidity ratios of ten years from 1985-86 to 1994-95 of different categories of NBFCs to compare the performance. To overcome the assumption of normal distribution in case of ANOVA, Krushkal Wallies test is also applied by Kantawala but the study has not applied the modern technique of analysis like Data Envelopment Analysis (DAE). Bakker (2004) studied the development of NBFCs in European Union. By using the ratio analysis method, he showed that

NBFCs are more profitable in long run. The study used only the liquidity and profitability ratios.

Khan (2005) studied the Product options of NBFCs in Bangladesh and concludes that NBFCs with multiproduct are more financially stable in comparison with NBFCs in single business. The study used simple method of ratio analysis. Only few ratios had been taken for the study.

Ahmed (2007) studied the problems and prospects of NBFCs in Bangladesh. By employing the method of ratio analysis, he pointed out the asset liability mismatch faced by NBFCs in Bangladesh. The study used only the leverage ratios for the purpose.

Vadde (2011) analyzed the performance of non-government financial and investment companies (other than banking, insurance and chit-fund companies) during the year 2008-09. The segment of financial and investment companies in the private corporate sector was found to be highly skewed. Thus, the analysis was confined to 1,211 companies. It was observed that growth in income, both main as well as other income, decelerated during the year 2008-09. Though, growth in total expenditure also decelerated, it was higher than the income growth. The growth in expenditure was mainly driven by the growth in interest payments. As a result, operating profits of the select companies declined along with diminishing profitability during 2008-09. Business of select non-banking financial and investment companies expanded at a slower pace during 2008-09. The share of external sources in total sources declined during 2008-09 when compared with the previous years. A substantial portion of funds raised during the year was in the form of borrowings. Other significant portion of funds was in the form of raising fresh capital from the capital market. Major portion of the funds raised during the year was deployed as loans and advances in the credit market. However, its share in total uses of funds decreased. The share of 'Investments' in total uses of funds increased during 2008-09 on account of investments in the mutual funds and shares and debentures of other Indian companies.

Perumal and Satheskumar (2013) concentrated on NBFC's by examining the Asset reports and salary proclamations of two specimen organizations, viz., Sundaram Fund Restricted and Lakshmi General Account Constrained for the period 2007-2012 utilizing essential and optional information. The study was performed utilizing different measurable systems, for example, normal, standard deviation, co-proficient of variation, pattern examination, file number, and so on and reasoned that the commitment of NBFCs to monetary improvement is exceedingly huge and they have to incorporate it with the standard budgetary framework and RBI ought to be vested with more energy to screen NBFCs in a successful way.

Sowndharya and Shanmugham (2014) examined the profitability, efficiency and turnover aspects of the selected NBFCs. The findings indicated that the NBFCs differ significantly in terms of Profitability and Leverage indicators from one another.

Das (2015) compared the performance of growth of Non Banking Financial Companies with Banks and their contribution in the Indian economy. For this study, data have been collected from secondary sources and simple statistical tools, tables have been used. The results showed that during the study period, i.e. from the year 2006 to 2013, total assets of Non Banking Financial Companies have been increasing at higher rate than the Banking Sector in India and also contribution to GDP of NBFC sector has been increasing more steadily than that of banks. The return on assets was found to be better than that of banking sector. NBFCs have been growing at a steady rate and its growth rate was higher than that of banking sector. Proportion of credit provided by the NBFCs to infrastructure sector was also higher than that of banks during the study period.

Pellissery and Koshy (2015) analyzed the financial performance of the selected groups of NBFCs and banking companies during the periods 2007-2011. From the study it was found that NBFC's are showing better position in the capital markets than the selected banking companies. The companies differed significantly in terms of their financial performance indicators from one company to another. This may be due to the different services they provide and the differential interest rates. The study found no significant differences in the management of financial performance of each of the companies, except marginal deviations in some cases during the study period. Earnings per share of the selected companies also increased, whereas the operating profit per share of all companies showed an increasing trend from the year 2007 to 2010 and depicted a slight dim in the year 2011. Overall, the NBFC's have performed well, as and when compared to the banking companies. The review of above literature shows that a very few studies have been done on the financial performance of NBFCs and the available studies are not systematic. The methods employed are old as most of the studies employed ratio analysis only. Some modern technique like Data Envelopment Analysis (DEA) have been used, but not in the context of NBFCs.

Research Gaps Identified

Very few, meager, limited and sporadic studies have been done on NBFCs in India and even abroad. Even the available study did not focus on the overall performance of the NBFCs as a whole. Moreover in term of methodology only traditional ratio analysis was employed to assess the performance. The present study overcomes these drawbacks by analyzing the financial performance of NBFCs in India by using traditional Ratio analysis as well as modern non parametric technique such as Data Envelopment Analysis (DEA).

Research Questions

The discussion on the above topic leads to the following research questions,
What are the problems and prospects of NBFCs in India?
What is the financial viability of different types of NBFCs in India?
What is the operating and X-efficiency of NBFCs in India?
What is the financial performance of different categories of NBFC in India?
What is the future of the financial viability of NBFCs in India?

Objectives of the Study

The objectives of the present study are given below.

1. To assess the problems and prospects of NBFCs in India.
2. To examine the financial viability of different types of NBFCs.
3. To measure operating efficiency loan management efficiency, and X-efficiency of NBFCs.
4. To compare the financial performance of different category of NBFCs in India.

Note: X-efficiency is the effectiveness with which given set of inputs are used to produce output. A farm is producing the maximum output it can, given the resources it employed such as men and materials and the best technology available, it is set to be technically efficient. X-efficiency comprises technical and allocative efficiency.

Hypotheses

The following hypotheses are proposed to be tested.

1. NBFCs become more efficient as they gain more experienced.
2. NBFCs are more profitable in the long run.
3. Financial performance of different types of NBFCs in a given period is same.

DATA AND METHODOLOGY

Keeping in view the above mentioned objectives and hypotheses, the present study makes an attempt to examine various aspects of NBFCs in India. For the purpose of the study mostly secondary data has been used. The main source of data is be data bank of IBA, website of RBI and SEBI, RBI bulletins, data bank of CMIE, reports, statistical data and tables published on NBFCs in different journals. The study proposes to use 5 years data of different categories of NBFCs in India and the study period will be from 2001 to 2005. The rationale for choosing the study period is that in this period only, most of the NBFCs came –up in India. The main categorisations of the NBFC's in India are; Loan Companies, Investment companies, Infrastructure finance companies, Hire Purchase Companies and Equipment Leasing companies. This disaggregate study is at a company level, with the selection of the companies being done based on the availability of relevant data. 50 NBFC's were chosen in total with 10 companies from each category. All the companies chosen are listed in the RBI's list of NBFC's in India.

The following table below are the list of companies that were chosen for the purpose of this study.

Categories of NBFC's

Data on the interested variables for the study were obtained from the data base of IBA, RBI, and SEBI bulletins, data bank of CMIE, reports and statistical data and tables published by NBFCs. The study period spanned from the year 2001 to 2005. This period was chosen to represent the upward trend of NBFC's which occurred most in this period of time. Variables like Operating profit margin, Net profit ratio, Current ratio, Debt equity ratio, Fixed asset turnover ratio, Asset turnover ratio, Return on assets, Equity Capital, Total Liability, Investment were considered for analysis.

Categories	NBFC companies
Loan Companies	Bajaj Holdings
	Coral India Finance and Housing
	LIC Housing Finance
	Dewan housing
	GIC housing finance
	IFCI Limited
	India Infoline (IIFL)
	India Home Loans
	M&M Financials
	GRUH Finance
Investment companies	Blue chip investments
	Fortis Healthcare Holdings Pvt. Ltd.
	RELIGARE ENTERPRISES LIMITED
	TCI Finance
	GSB finance
	Mukesh Babu Financial Services
	JM FINANCIAL LIMITED
	Shree Global
	Reliance Capital
	Power Finance Corporation Ltd
Infrastructure finance companies	Rural Electricity Corp.
	Shristi infrastructure development corporation limited
	Marg projects and infrastructure limited
	GMR infrastructure
	Crest ventures
	Tourism Finance Corp of India
	GVK Power and infrastructure
	Power Finance corporation
	Centrum finance
	Nalin Lease finance
Asset finance companies	Ceejay Finance Ltd
	Ashirwad Capital
	Escorts finance
	Shriram transport finance company limited
	Cholamandalam investment and finance company limited
	Lkp finance
	Sakthi finance limited
	Kailash auto finance ltd
	Manapuram Asset finance Limited
Hire-purchase companies Equipment leasing companies	VLS finance Ltd
	Sundaram Finance Limited
	Magma Fincorp Ltd
	Swastika Investsmart
	Upasana finance
	Pioneer investcorp
	Choice Financial services
	Glance finance ltd
	Golden Goenka
	Capri global
	Indus finance Ltd

Methods of Analysis

The following method was used to analyze the data:

Data Envelopment Analysis (DEA): The Data Envelopment Analysis is a linear technique and non parametric method to measures the performance of organizational unit like bank and NBFCs. The DEA identify three types of efficiency namely technical, cost and allocative efficiency. The efficiency is defined as the success with which one organisation uses its resources to produce output. Cost efficiency is the maximum that an entity can reduce its cost, while still producing the same level of output. Technical efficiency is the ability to reduce variable input to produce same level of output. Allocative efficiency is the ability to choose right mix of input. The technical efficiency of each category of NBFCs was measured using Data envelopment analysis. The technical efficiency was measured by total liability, equity capital, operating profit and investment.

First two variables were considered as input variables to the company and the other two were as output variables of the company.

RESULTS AND DISCUSSION

Data Envelopment Analysis

In the study, data envelopment analysis (DEA) is used to measure the technical efficiency of NBFCs at different time periods (Years: 2001-2005).Here, the technical efficiency is measured by the total liability, equity capital, operating profit and investments. The first two variables are considered as input variables while the other two variables are considered as output variables.

Data Envelopment Analysis for the year 2005

Table 1 Efficiency score of various NBFC for the year 2005

Companies	Efficiency score
Loan companies	1.00
Investment companies	1.00
Infrastructure finance companies	0.94
Equipment leasing companies	1.00
Hire-purchase companies	1.00

Table 1 presents the technical efficiency score of various NBFC for the year 2005. Based on the highest efficiency score, loan, investment, equipment leasing and hire-purchase companies had the good technical efficiency for the year 2005 while infrastructure finance companies did not attain the good technical efficiency. In order to gain the good technical efficiency, infrastructure finance companies' input and output values were required to modify at 6 percent.

Table 2 Reference group of inefficient companies for the year 2005

	Reference unit
Infrastructure finance companies	Investment companies (1.500), Hire-purchase companies (0.764)

() denotes intensity values

Table 2 shows reference group of inefficient companies for the year 2005. From the above table, it is observed that the efficient investment companies were the reference unit of inefficient infrastructure finance companies based on the highest intensity value.

Table 3 Original and projected values of total liability and equity capital of inefficient NBFC for the year 2005

	Total liability		Equity capital	
	Original value	Projected value	Original value	Projected value
Infrastructure finance companies	5993.2	5650.9	229.2	216.1

DEA for the year 2005 specified that infrastructure finance companies of NBFC as poor technical efficient companies. In order to increase the technical efficiency of the infrastructure finance companies, DEA analysis gave the original and projected value for total liability and equity capital. The projected value of the total liability and equity capital of infrastructure finance companies were 5650.9 and 216.1 respectively.

Table 4 Original and projected values of operating profit and investments of inefficient NBFC for the year 2005

	Operating profit		Investments	
	Original value	Projected value	Original value	Projected value
Infrastructure finance companies	580.6	580.6	241.3	340.9

For attaining efficient infrastructure finance companies, investments values were necessary to change as 340.9 instead of 241.3.

Data Envelopment Analysis for the year 2004

Table 5 Efficiency score of various NBFC for the year 2004

Companies	Efficiency score
Loan companies	1.00
Investment companies	0.94
Infrastructure finance companies	1.00
Equipment leasing companies	1.00
Hire-purchase companies	1.00

Table 3 presents the technical efficiency score of various NBFC for the year 2004.On the basis of the highest efficiency score, loan companies, infrastructure finance, equipment leasing and hire-purchase companies had the good technical efficiency for the year 2004 while investment companies did not attain the good technical efficiency. In order to get the good technical efficiency, input and output values of investment companies required changing at 6 percent.

Table 6 Reference group of inefficient companies for the year 2004

	Reference unit
Investment companies	Infrastructure finance companies (0.072), Equipment leasing companies (2.915) and Hire-purchase companies (4.428)

() denotes intensity values

Table 4 shows reference group of inefficient companies for the year 2004. From the above table, it is observed that the inefficient investment companies were compared with efficient infrastructure finance, equipment leasing and hire-purchase. Based on the highest intensity values, hire-purchase companies were the more appropriate reference unit for inefficient investment companies.

Table 7 Original and projected values of total liability and equity capital of inefficient NBFC for the year 2004

	Total liability		Equity capital	
	Original value	Projected value	Original value	Projected value
Investment companies	3091.9	2904.1	138.7	130.3

DEA for the year 2004 specified that investment companies of NBFC as poor technical efficient companies. In order to augment the technical efficiency of the investment companies, DEA analysis gave the original and projected value for total liability and equity capital. The projected value of the total liability and equity capital of investment companies were 2904.1 and 130.3 respectively.

From the above table, it is inferred that there was no change required in the operating profit and investments of investment

companies for the year 2004 in order to get good technical efficiency.

Table 8 Original and projected values of operating profit and investments of inefficient NBFC for the year 2004

| | Operating profit | | Investments | |
	Original value	Projected value	Original value	Projected value
Investment companies	315.0	315.0	198.2	198.2

From the above table, it is inferred that there was no change required in the operating profit and investments of investment companies for the year 2004 in order to get good technical efficiency.

Data Envelopment Analysis for the year 2003

Table 9 Efficiency score of various NBFC for the year 2003

Companies	Efficiency score
Loan companies	1.00
Investment companies	0.83
Infrastructure finance companies	0.86
Equipment leasing companies	1.00
Hire-purchase companies	0.98

The technical efficiency score of various NBFC for the year 2003 is shown in table 62.Loan and equipment leasing companies possessed the good technical efficiency for the year 2003 based on the highest efficiency score while investment, infrastructure finance and hire-purchase companies did not attain the good technical efficiency for the year 2003. In order to get the good technical efficiency, input and output values of investment, infrastructure finance and hire-purchase companies were necessary to modify at 17, 14 and 2 percent respectively.

Table 10 Reference group of inefficient companies for the year 2003

	Reference unit
Investment companies	Loan companies (0.022), Equipment leasing companies (6.355)
Infrastructure finance companies	Equipment leasing companies (11.763)
Hire-purchase companies	Equipment leasing companies (0.949)

(.) denotes intensity values

Table 5 presents reference group of inefficient companies for the year 2003.From the above table, it is observed that the inefficient investment companies were compared with the efficient loan, and equipment leasing companies. Based on the highest intensity values, equipment leasing companies were the more appropriate reference unit for inefficient investment, infrastructure and hire-purchase companies.

Table 11 Original and projected values of total liability and equity capital of inefficient NBFC for the year 2003

| | Total liability | | Equity capital | |
	Original value	Projected value	Original value	Projected value
Investment companies	2381.1	1978.3	141.3	45.4
Infrastructure finance companies	4074.4	3510.2	229.2	79.9
Hire-purchase companies	288.1	283.3	18.4	6.4

DEA for the year 2003 deducted that investment, infrastructure finance and hire-purchase companies of NBFC as poor technical efficient companies. In order to increase the technical efficiency of the inefficient companies, DEA analysis provided the original and projected value for total liability and equity capital. The projected value of the total liability and equity capital of investment companies were 1978.3 and 45.4 respectively. Similarly, the projected value of the total liability and equity capital of infrastructure finance companies were 3510.2 and 79.9 respectively. Finally, the projected value of the total liability and equity capital of hire-purchase companies were 283.3 and 6.4 respectively.

In order to get the good technical efficiency, there was no modification necessary in the operating profit and investments of inefficient investment companies for the year 2003. However, investments in infrastructure finance and hire-purchase were required to modify as 368.2 and 29.7 respectively for attaining good technical efficiency.

Data Envelopment Analysis for the year 2002

Table 13 Efficiency score of various NBFC for the year 2002

Companies	Efficiency score
Loan companies	1.00
Investment companies	0.75
Infrastructure finance companies	0.71
Equipment leasing companies	1.00
Hire-purchase companies	0.82

Table 6 presents the technical efficiency score of various NBFC for the year 2002.On the basis of highest efficiency score, loan and equipment leasing companies had the good technical efficiency for the year 2002 while investment, infrastructure and hire-purchase companies did not attain the good technical efficiency. In order to get the good technical efficiency, input and output values of investment, infrastructure and hire-purchase companies required changing at 25, 29 and 18 percent respectively.

Table 14 Reference group of inefficient companies for the year 2002

	Reference unit
Investment companies	Loan companies (0.199), Equipment leasing companies (3.977)
Infrastructure finance companies	Equipment leasing companies (9.169)
Hire-purchase companies	Loan companies (0.001), Equipment leasing companies (0.817)

(.) denotes intensity values

Table 7 shows reference group of inefficient companies for the year 2002.

Table 15 Original and projected values of total liability and equity capital of inefficient NBFC for the year 2002

| | Total liability | | Equity capital | |
	Original value	Projected value	Original value	Projected value
Investment companies	2242.8	1690.3	141.2	46.7
Infrastructure finance companies	3289.9	2341.6	212.5	62.3
Hire-purchase companies	257.6	210.8	16.9	5.6

From the above table, it is observed that the inefficient investment companies were compared with the efficient loan, and equipment leasing companies. Based on the highest intensity values, equipment leasing companies were the more appropriate reference unit for inefficient investment, infrastructure and hire-purchase companies.

DEA for the year 2002 specified that investment, infrastructure finance and hire-purchase companies of NBFC as poor technical efficient companies. In order to increase the technical efficiency of the inefficient companies, DEA analysis provided the original and projected value for total liability and equity capital. The projected value of the total liability and equity capital of investment companies were 1690.3 and 46.7 respectively. Similarly, the projected value of the total liability and equity capital of infrastructure finance companies were 2341.6 and 62.3 respectively. Finally, the projected value of the total liability and equity capital of hire-purchase companies were 210.8 and 5.6 respectively.

Table 16 Original and projected values of operating profit and investments of inefficient NBFC for the year 2002

	Operating profit		Investments	
	Original value	Projected value	Original value	Projected value
Loan companies	327.7	327.7	790	790
Infrastructure finance companies	391.5	391.5	22	260.4
Hire-purchase companies	35.1	35.1	23.7	23.7

Table 8 revealed that there was no modification necessary in the operating profit and investments of the inefficient loan and hire-purchase companies for the year 2002. However, investments in infrastructure finance were required to modify as 260.4 instead of 22 for attaining good technical efficiency.

Data Envelopment Analysis for the year 2001

Table 17 Efficiency score of various NBFC for the year 2001

Companies	Efficiency score
Loan companies	0.93
Investment companies	1.00
Infrastructure finance companies	0.65
Equipment leasing companies	1.00
Hire-purchase companies	0.74

The technical efficiency score of various NBFC for the year 2001 is presented in table 70.Investment and equipment leasing companies possessed the good technical efficiency for the year 2001 on the basis of the highest efficiency score while loan, infrastructure finance and hire-purchase companies did not attain the good technical efficiency for the year 2001.

Table 18 Reference group of inefficient companies for the year 2001

	Reference unit
Loan companies	Investment companies (1.097), Equipment leasing companies (7.311)
Infrastructure finance companies	Equipment leasing companies (3.232)
Hire-purchase companies	Investment companies (0.020), Equipment leasing companies (0.611)

(.) denotes intensity values

In order to get the good technical efficiency, input and output values of the loan, infrastructure finance and hire-purchase companies need to modify at 7, 35 and 26 percent respectively.

Table 9 presents reference group of inefficient companies for the year 2001.The above table revealed that the inefficient loan companies were compared with efficient investment and equipment leasing companies. On the basis of the highest intensity values, equipment leasing companies were the more appropriate reference unit for an inefficient loan, infrastructure and hire-purchase companies.

Table19 Original and projected values of total liability and equity capital of inefficient NBFC for the year 2001

	Total liability		Equity capital	
	Original value	Projected value	Original value	Projected value
Loan companies	3311.6	2544.9	98.3	91.8
Infrastructure finance companies	1259.6	816.9	206.9	21.9
Hire-purchase companies	226.7	167.2	16.1	4.9

DEA for the year 2001 indicated that loan, infrastructure finance and hire-purchase companies of NBFC as poor technical efficient companies. In order to increase the technical efficiency of the inefficient companies, DEA analysis provided the original and projected value for total liability and equity capital. The projected value of the total liability and equity capital of loan companies were 2544.9 and 91.8 respectively. Similarly, the projected value of the total liability and equity capital of infrastructure finance companies were 816.9 and 21.9 respectively. Finally, the projected value of the total liability and equity capital of hire-purchase companies were 167.2 and 4.9 respectively.

Table 20 Original and projected values of operating profit and investments of inefficient NBFC for the year 2001

	Operating profit		Investments	
	Original value	Projected value	Original value	Projected value
Loan companies	358.5	358.5	595.1	595.1
Infrastructure finance companies	149.3	149.3	12.7	74.9
Hire-purchase companies	28.6	28.6	22	22

From the above table, it is observed that there was no modification necessary in the operating profit and investments of the inefficient loan and hire-purchase companies for the year 2001. However, investments in infrastructure finance were required to modify as 74.9 instead of 12.7 for attaining good technical efficiency.

Summary of Findings

It is observed from the analysis that the loan companies were found to be efficient across the NBFC categories consecutively from 2002, onwards while all the other categories were found to be inefficient during this time period. It can be attributed to an extent to the boom phase of overall economy which resulted in increased assets demand.

In case of infrastructure finance companies, the segment is found to be inefficient from 2001 to 2005. It is reported that the segment had been experiencing severe delay in completion of

the projects especially due to the hold-up in the clearances from the respective governments.

Investment and hire purchase companies were found to be inefficient from 2002 to 2005. During this period, though overall economic performance was reported to be better especially due to the boom in the service sector, the demand from the industrial sector was lagging behind and the segment was found to be flooded with higher level of idle liquidity.

Recommendations

The performance of inefficient NBFCs can be improved either by reducing total liability and equity capital or by increasing operating profit and investment, because idle fund lay with NBFCs are costing to their balance sheet.

Loan companies need to increase their asset turnover ratio and boost their non-performing asset management.

- Investment companies need to focus on increasing their profitability ratio and fund management.
- In order to improve the performance of infrastructure companies, asset turnover ratio, fixed asset turnover ratio and profitability ratio needs to be increased. At the same time, focus should also be made on eliminating the policy paralysis from the government which has a significant negative impact on the infrastructure projects.
- In case of hire purchase and equipment leasing companies, the focus should be given on enhancing profitability ratio and policy level measures should be taken by the government to increase the demand from the industrial sector.

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