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AN ASSESSMENT OF PRODUCTIVE EFFICIENCY OF THE SELECT PRIVATE SECTOR NON-BANKING FINANCE COMPANIES IN INDIA

Dr. N. DEEPA
ASST. PROFESSOR
DEPARTMENT OF COMMERCE
SRI VASAVI COLLEGE
ERODE

Dr. V. THILAGAVATHI
ASST. PROFESSOR
DEPARTMENT OF COMMERCE (CA)
VELLALAR COLLEGE FOR WOMEN (AUTONOMOUS)
ERODE

ABSTRACT

Non Banking Financial Companies (NBFCs) play a crucial role in broadening access to financial services, enhancing competition and diversification of the financial sector. They are increasingly being recognised as complementary to the banking system, capable of absorbing shocks and spreading risks at times of financial distress. This paper explains the process of measuring and analyzing NBFC's Total Factor Productivity (TFP) using Data Envelopment Analysis and Malmquist Productivity Index (MPI) of Non-Banking Finance Companies in India for the period of 2001-2015. In this study the nature and extent of efficiency and productivity growth of select private sector NBFCs in India is investigated using non parametric frontier techniques. Employing Malmquist indices, productivity growth is decomposed into technical efficiency change and technological change for a sample of NBFCs. The results show that excepting MFL, all the select NBFCs have high efficiency score from the past 15 years, 2001-2015. The Tobit regression analysis revealed that the two factors size and management quality are the main factors determining productive efficiency of the select NBFCs. Moreover, the results show an average improvement in the productivity of NBFCs in period 2001 and 2015, respectively.

KEYWORDS

production frontiers, technological progress, technical efficiency.

1.1 INTRODUCTION

Managerial accounting systems provide useful information to support managers' decision making and organizational performance evaluation. One of the most important information that this system provides is about organizational productivity. One of the most famous non-parametric techniques in measuring the productivity of similar Decision Making Units (DMUs) is Data Envelopment Analysis (DEA). DEA is a mathematical programming that generates production function or efficient frontier using observed or available data. In addition to DEA, one can apply Malmquist Productivity Index (MPI) to measure productivity growth for a firm. This paper is to explain the process of measuring and analyzing NBFC's Total Productivity (TP) and Productivity Growth (PG) using DEA and Malmquist Productivity Index (MPI). For this purpose, a result of an empirical study (case of Non-Banking Finance Companies in India) is provided. In this paper an attempt is made to examine the progressive changes in technical efficiency and technology of select private sector non-banking finance companies in India. The exercise consists of two steps. First, we calculate measures of efficiency gain, technological change, and productivity growth using nonparametric methods. Second, we calculated measures in terms of the to bit regression analysis. Technical efficiency here refers to the ability to use a minimal amount of input to make a given level of output. Over time, however, the level of output an organization is capable of producing will increase due to technological changes that affect the ability to optimally combine inputs and outputs. These technological changes cause the production possibility frontier to shift upward, as more outputs are obtainable from the same level of inputs. Thus for any organization in an industry, productivity improvements over time may be either technical efficiency improvements or technological improvements or both.

1.2 LITERATURE REVIEW

A review of this analysis is important in order to develop an approach that can be employed in the context of the present study. Therefore, a review of earlier studies related to financial performance has been given.

Abdul Quyyum and Khalid Riaz examined the Technical Efficiency of 28 Pakistani Banks including 6 Islamic Banks using DEA technique and Tobit regression analysis during the period 2003-2010. The model used interest income and non-interest income as outputs and labour cost, compensation to directors and executives, user cost of fixed assets, interest cost and non interest cost as inputs. The study found that public conventional banks were the most efficient banks followed by private conventional and private Islamic banks with an average bias of 10%. The results of the study revealed that conventional banks were more efficient and the study also indicated that the market share in terms of deposits, the ratio of financing to deposits (FDR) and the public ownership of the bank had statistically significant influence on the efficiency. **Anil K. Sharma et al.** conducted a study to examine the relationship of commercial banks efficiency with the banks specific factors like bank size, age, ownership, profitability, deposits etc. They applied Data Envelopment Analysis (DEA) technique to assess the performance of Indian banking sector and further they evaluated the association of bank specific factors with the efficiency of banks using Tobit Regression Model. They found from the study that age, ownership and profitability were positively and significantly associated with the banks performance and efficiency whereas bank diversification practices were negatively and significantly affecting the banks efficiency scores. **Ashish Kumar and Sunil Kumar** investigated the efficiency of Indian public sector banks with the help of Data Envelopment Analysis (DEA). The data for the study related to a sample of 27 public sector banks operating in India during the period 2008 - 2009. It was found that the overall level of technical efficiency in these banks has been found to be 95.7 percent. The study identified that only 6 banks were efficient on the criteria of technical efficiency and 10 banks were efficient on the standard of pure technical efficiency calculated on the basis of input and output variables selected. It was suggested in the study that inefficient banks witnessing diseconomies of scale should reduce their size and those inefficient banks which were having increasing returns to scale should expand their business by deploying more resources. **Harendra Singh et al.** in their study "Efficiency Measurement of Indian Banking Sector" investigated the efficiency of 18 different private and public sector banks over the time span of 2002 - 2011. They employed Data Envelopment Analysis model to examine the efficiency score under input oriented efficiency with constant return model. The study found that State Bank of India, IDBI, ICICI and Canara Bank sustained high efficiency score from the 10 years 2002 - 2011. It was found from the study that efficiency factors related to employees were positive in J&K Bank, Bank of India, Indian Bank and Indusland Bank. The value of cash per deposit was negative in Allahabad Bank, Kotak Mahindra and Oriental Bank of Commerce, Punjab National Bank, IDBI Bank and Canara Bank. Banks like State Bank of India and Bank of India recorded negative value in cash per deposits. **WalidAbdmoulah and Belkacem Laabas** investigated the technical and allocative efficiency of the Kuwaiti commercial banks over the period 1994 - 2009 and tested whether labour market policies exerted a significant impact on this efficiency. The study used regression analysis for analysis of data along with efficiency scores. They found that overall efficiency was on an average equal to 80%, but experienced two major declines during the period between 2000 and

2003. The result indicated that bank efficiency increased with size and employing more Kuwaiti people did not hinder their efficiency when adequate skills and trainings were ensured. **Babu C. and Kasilingam R.** attempted to analyse the technical efficiency, cost efficiency and total factor productivity change of commercial banks by using DEA model. The period of the study consisted of two years, 2008-09 and 2009-10. The sample included sixty commercial banks in India consisting of 27 public sector banks, 22 private sector banks and 11 foreign banks. The results indicated that the average efficiency of public sector banks was higher than that of private sector banks. The result showed that business per employee and costs of funds were the factors which caused variations in the banks efficiency.

1.3 OBJECTIVES OF THE STUDY

The following are the main objectives of the study:

1. To investigate the productive efficiency and the factors influencing productive efficiency of the select private sector Non Banking Finance Companies in India.
2. To analyze whether the select Non-Banking Finance Companies are efficiently utilizing their resources or not?

1.4 METHODOLOGY

The study covers the period of 15 years from 2000-2001 to 2014-2015. It was decided to include only those companies having continuous and uniform data throughout the period of 15 years and the companies should have registered in Bombay Stock Exchange and the firms' capitalization more than Rs. 2000 crores. Based on the above criteria, 5 leasing and hire purchase finance non-banking financial institutions were selected as the sample for the present study such as Bajaj Finance Limited (BFL), Shriram Transport Finance Co. Ltd (STFCL), Sundaram Finance Limited (SFL), Mahindra & Mahindra Financial Services Limited (MMFSL) and Manappuram Finance Ltd (MFL).

1.5 ANALYSIS

1.5.1. PURE TECHNICAL EFFICIENCY CHANGE

This efficiency purely reflects the managerial performance to organize the inputs in the production process. Thus, it has been used as an index to capture managerial performance. The following Table 1.1 presents the Pure Technical Efficiency Changes of select NBFCs.

TABLE 1.1: PURE TECHNICAL EFFICIENCY CHANGE OF THE SELET PRIVATE SECTOR NON-BANKING FINANCE COMPANIES

Year	BFL	STFCL	SFL	MMFSL	MFL
2001-02	1.000	2.647	1.000	1.691	1.000
2002-03	1.000	1.000	1.000	1.000	1.000
2003-04	1.000	0.713	1.000	1.000	1.000
2004-05	1.000	0.361	1.000	0.760	1.000
2005-06	1.000	1.713	1.000	0.664	1.000
2006-07	1.000	2.267	1.000	1.126	1.000
2007-08	1.000	1.000	1.000	1.762	1.000
2008-09	1.000	1.000	1.000	0.536	1.000
2009-10	1.000	1.000	1.000	1.630	1.000
2010-11	1.000	1.000	1.000	1.027	1.000
2011-12	1.000	1.000	1.000	1.114	1.000
2012-13	1.000	1.000	1.000	0.774	1.000
2013-14	1.000	1.000	1.000	1.291	0.982
2014-15	1.000	1.000	1.000	0.940	1.019
G.Mean	1.000	1.072	1.000	1.034	1.000

Source: Compiled and computed from the annual reports of non-banking finance companies.

From Table 1.1 the mean values of Pure Technical Efficiency Change of sample companies vary from 1.000 to 1.072. Shriram Transport Finance Company Ltd (1.072) and Mahindra&Mahindra Ltd. (1.034) are found to be pure efficient with the efficiency score of more than 1. It implies that they followed good management practices due to efficient input utilization. The other 3 NBFCs namely Bajaj Finance Ltd (1.000), Sundaram Finance Ltd (1.000) and Manappuram Finance Ltd are considered to be efficient with the efficiency score of 1.000 implying stagnant management practices during the study period. The praiseworthy performance of the management of the sample firms in organizing resources is reflected in the study through the above results.

1.5.2 SCALE EFFICIENCY CHANGE

The measure of scale efficiency provides the ability of the management to choose the optimum size of resources i.e. to decide on the companies' size or in other words, to choose the production that will attain the expected production level. Table 1.2 presents the Malmquist Scale Efficiency Changes.

TABLE 1.2: SCALE EFFICIENCY CHANGE OF THE SELECT PRIVATE SECTOR NON – BANKING FINANCE COMPANIES

Year	BFL	STFCL	SFL	MMFSL	MFL
2001-02	1.000	1.462	1.000	1.214	1.000
2002-03	1.000	0.803	1.000	0.724	1.000
2003-04	1.000	0.457	1.000	0.540	1.000
2004-05	1.000	1.912	1.000	2.442	1.000
2005-06	1.000	1.079	1.000	0.599	1.000
2006-07	1.000	1.279	1.000	1.180	1.000
2007-08	1.000	1.033	1.000	1.483	1.000
2008-09	1.000	1.000	1.000	0.921	1.000
2009-10	1.000	0.674	1.000	0.585	1.000
2010-11	1.000	1.325	1.000	1.735	1.000
2011-12	1.000	1.119	1.000	1.023	1.000
2012-13	0.390	1.000	1.000	0.976	0.961
2013-14	1.547	1.000	1.000	1.038	1.005
2014-15	1.657	1.000	0.951	0.966	1.036
G.Mean	1.000	1.027	0.996	1.009	1.000

Source: Compiled and computed from the annual reports of non-banking finance companies.

It could be observed from the Table 1.2 the average Scale Efficiency Change of select private sector Non-Banking Finance Companies for the period from 2001-02 to 2014-15. The average efficiency of select NBFCs varies from 0.996 to 1.027. Shriram Transport Finance Company Ltd (1.027), Mahindra&Mahindra Ltd (1.921), are considered to be efficient with the efficiency score of more than 1.000 implying that the firms have produced their output on their efficient frontier. The other NBFCs Bajaj Finance Ltd (1.000), Manappuram Finance Ltd (1.000) with the efficiency score of 1 imply that there is no change in their production level and the

firms have produced their output on their efficient frontier over the study period. The Sundaram Finance Ltd (0.996) have an efficiency score of less than one 1 implies slight scale inefficiency due to underutilization of productive capacity. The company SFL for which score is less than 1 must take more care in choosing the size of resources.

1.5.3 EFFICIENCY CHANGE

This index demonstrates the firms' movement towards the frontier. That is, it shows how much closer a firm gets to the frontier (catching or falling behind). Table 1.3 presents the Malmquist Efficiency Changes of NBFCs.

TABLE 1.3: EFFICIENCY CHANGE OF THE SELECT PRIVATE SECTOR NON – BANKING FINANCE COMPANIES

Year	BFL	STFCL	SFL	MMFSL	MFL
2001-02	1.000	3.871	1.000	2.052	1.000
2002-03	1.000	0.803	1.000	0.724	1.000
2003-04	1.000	0.325	1.000	0.540	1.000
2004-05	1.000	0.690	1.000	1.855	1.000
2005-06	1.000	1.849	1.000	0.397	1.000
2006-07	1.000	2.901	1.000	1.328	1.000
2007-08	1.000	1.033	1.000	2.613	1.000
2008-09	1.000	1.000	1.000	0.494	1.000
2009-10	1.000	0.674	1.000	0.953	1.000
2010-11	1.000	1.325	1.000	1.782	1.000
2011-12	1.000	1.119	1.000	1.139	1.000
2012-13	0.390	1.000	1.000	0.756	0.961
2013-14	1.547	1.000	1.000	1.340	0.986
2014-15	1.657	1.000	0.951	0.908	1.055
G.Mean	1.000	1.101	0.996	1.043	1.000

Source: Compiled and computed from the annual reports of non-banking finance companies.

It is evident from Table 1.3 that the average Efficiency Change of select non-banking finance companies for the study period varies from 0.996 to 1.043. Shriram Transport Finance Company Ltd (1.101), considered to be more efficient with the efficiency score of more than 1.000 implying that the changes in technical efficiency of the NBFCs at the level of the operating unit, which is a movement towards the production surface. The other NBFCs Bajaj Finance Ltd (1.000), Manappuram Finance Ltd (1.000) are also considered to be efficient with the efficiency score of 1.000 implying that there are no changes in their production surface during the study period and they are producing their output on their efficient frontier. The other NBFC Sundaram Finance Ltd (0.996) is with the efficiency score of less than 1 implying that the firms did not catch up the production frontier and that they did not shift up over time. So they have to improve their production surface to give higher level output during the study period.

1.5.4 TECHNICAL EFFICIENCY CHANGE

Technical Efficiency refers to the ability to use a minimal amount of input to make a given level of output. It relates to the productivity of inputs. This, Technical Efficiency of a Frontier Index is its ability to transform multiple resources into multiple financial services. Table 1.4 presents the Malmquist Technical Efficiency Changes of the select Non-Banking Finance Companies.

TABLE 1.4: TECHNICAL EFFICIENCY CHANGE OF THE SELECT PRIVATE SECTOR NON – BANKING FINANCE COMPANIES

Year	BFL	STFCL	SFL	MMFSL	MFL
2001-02	1.285	1.230	1.840	1.315	1.302
2002-03	1.205	1.439	0.648	1.538	1.663
2003-04	0.986	2.277	2.001	1.858	1.620
2004-05	0.738	1.928	1.310	0.868	0.982
2005-06	1.323	0.413	1.334	1.063	0.328
2006-07	1.429	1.869	1.114	1.662	3.455
2007-08	0.804	1.597	1.241	1.178	0.453
2008-09	0.763	1.561	1.072	0.384	0.337
2009-10	3.062	1.617	0.302	0.682	0.417
2010-11	0.520	0.611	0.622	0.567	0.851
2011-12	0.971	1.636	1.008	1.268	0.799
2012-13	1.400	3.936	1.531	1.893	0.449
2013-14	0.565	0.678	0.909	0.649	0.519
2014-15	0.972	0.745	0.689	1.031	1.030
G.Mean	1.032	1.319	1.008	1.035	0.795

Source: Compiled and computed from the annual reports of non-banking finance companies.

Table 1.4 shows that the average Technical Efficiency Change of select private sector Non-Banking Finance Companies for the period from 2001-02 to 2014-15 varies from 0.795 to 1.319. Bajaj Finance Ltd (1.032), Shriram Transport Finance Company Ltd (1.319), Sundaram Finance Ltd (1.008) and Mahindra and Mahindra Financial Services Ltd (1.035) are considered to be efficient with the efficiency score of more than 1.000 implying that the changes in technology that is technological changes of NBFCs catch up the production frontier. The other NBFC of Manappuram Finance Ltd (0.795) indicate that the efficiency score of less than one which implies that they are technically inefficient and operating below the frontier. Hence all the select NBFCs except MFL (0.795) is considered as technically efficient and it indicates the ability of the firm to optimally combine inputs and outputs.

1.5.5 TOTAL FACTOR PRODUCTIVITY CHANGE

This total factor productivity is an overall indicator of how well an organization uses all of its resources to create its products and services. It can be implemented for measuring productivity change in many input/output cases and it can be decomposed into technical efficiency and technical change components. Table 1.5 presents the Malmquist Total Factor Productivity Changes of NBFCs.

TABLE 1.5: TOTAL FACTOR PRODUCTIVITY CHANGE OF THE SELECT PRIVATE SECTOR NON – BANKING FINANCE COMPANIES

Year	BFL	STFCL	SFL	MMFSL	MFL
2001-02	1.285	4.763	1.840	2.699	1.302
2002-03	1.205	1.156	0.648	1.113	1.663
2003-04	0.986	0.741	2.001	1.004	1.620
2004-05	0.738	1.331	1.310	1.610	0.982
2005-06	1.323	0.763	1.334	0.422	0.328
2006-07	1.429	5.424	1.114	2.207	3.455
2007-08	0.804	1.649	1.241	3.079	0.453
2008-09	0.763	1.561	1.072	0.190	0.337
2009-10	3.062	1.090	0.302	0.650	0.417
2010-11	0.520	0.810	0.622	1.010	0.851
2011-12	0.971	1.832	1.008	1.444	0.799
2012-13	0.546	3.936	1.531	1.430	0.431
2013-14	0.874	0.678	0.909	0.870	0.512
2014-15	1.611	0.745	0.655	0.936	1.087
G.Mean	1.032	1.452	1.005	1.080	0.795

Source: Compiled and computed from the annual reports of non-banking finance companies.

It is evident from the Table 1.5 that the average Total Factor Productivity Change of select Non-Banking Finance Companies for the study period varies from 0.795 to 1.452. Bajaj Finance Ltd (1.032), Shriram Transport Finance Company Ltd (1.452), Sundaram Finance Ltd (1.005), and Mahindra and Mahindra Financial Services Ltd (1.080) are considered to be efficient with the efficiency score of more than 1.000 implying that the increase in total factor productivity is a result of a positive technical efficiency change coupled with improved technological change. The other NBFC MFL indicates the efficiency score of less than 1. It implies that there is deterioration in the input productivity. It is also noted that the firms which registered lower TFP have lower levels of both efficiency change and technical change.

1.6 FACTORS INFLUENCING PRODUCTIVE EFFICIENCY

The Tobit Regression model is an extension of Probit Model developed by Tobin (1958) which is also known as truncated or censored regression model where expected errors are not equal to zero. Hence, estimation with Ordinary Least Squares (OLS) would lead to bias, since OLS assumes a normal distribution of the error term. It is employed to investigate the factors influencing efficiencies. In recent years, many DEA applications employ a two-stage procedure involving both DEA and Tobit. First, DEA is used to obtain efficiency estimates. The second stage regressions are estimated to further investigate the determinants of efficiency over time by using the Tobit regression model. With the objective to analyze the determinants of firms' efficiency, Tobit regression analysis is conducted for the select private sector Non-Banking Finance Companies for the period from 2000-01 to -2014-15. Since the efficiency score of Malmquist Index ranges from 0 to 1, Tobit regression model has been used. The efficiency scores based on technical efficiency is used as dependent variable and market share, loan intensity, size, management quality, profitability, global recession (dummy variable), age (dummy variable), bank diversification are used as independent variables.

The analysis of Tobit Regression Analysis of the select Private Sector Non-Banking Finance Companies for the year from 2000-01 to 2014-15 is presented in the following table.

TABLE 1.6: TOBIT REGRESSION ANALYSIS OF SELECT PRIVATE SECTOR NON-BANKING FINANCE COMPANIES IN INDIA

Variable	Bajaj Finance Ltd.		Shriram Transport Finance Company Ltd		Sundaram Finance Ltd.		Mahindra & Mahindra Financial Services Ltd.		Manappuram Finance Ltd	
	Coefficient	Z Statistics (Prob)	Coefficient	Z Statistics (Prob)	Coefficient	Z Statistics (Prob)	Coefficient	Z Statistics (Prob)	Coefficient	Z Statistics (Prob)
Intercept	0.396	0.239 (0.819)	0.260	0.324 (0.757)	1.733	5.281*** (0.002)	9.255	2.546** (0.044)	6.904	2.507** (0.046)
Mar Share	0.070	0.135 (0.897)	-0.047	-0.169 (0.871)	-0.604	-3.226** (0.018)	1.043	1.340 (0.229)	-0.003	-0.017 (0.987)
Loan Int	-0.650	-1.269 (0.251)	-0.204	-0.858 (0.424)	-0.333	-4.433*** (0.004)	0.193	0.919 (0.393)	0.297	0.481 (0.648)
Size	0.975	2.014* (0.091)	0.912	2.957** (0.012)	0.852	3.939*** (0.008)	1.198	2.798** (0.012)	2.074	2.716** (0.014)
Mang Quality	0.069	3.128** (0.020)	0.931	2.644** (0.042)	1.023	4.061*** (0.001)	4.388	2.527 (0.045)	0.812	2.580** (0.046)
Prof	-0.006	-0.461 (0.661)	-0.159	-1.134 (0.300)	0.098	2.881** (0.028)	0.074	0.595 (0.574)	-0.490	-0.528 (0.616)
GR_Dum	0.075	0.192 (0.854)	-0.338	-0.748 (0.483)	-0.805	-2.997** (0.024)	0.390	1.828 (0.117)	0.319	1.300 (0.241)
Age_Dum	0.173	0.683 (0.520)	0.407	0.761 (0.475)	-0.488	-1.706 (0.139)	-6.230	-2.073* (0.084)	0.004	0.015 (0.988)
Bank Div	0.229	0.875 (0.415)	-0.213	-0.288 (0.783)	-0.194	-0.779 (0.466)	-1.625	-3.122** (0.021)	-0.546	-2.445** (0.050)

Source: Compiled and computed from the annual reports of non-banking finance companies.

*significant at 10% level, ** significant at 5% level, *** significant at 1% level.

Table 1.6 reports the results for the Tobit estimation. The Market Share has positive impact on technical efficiency parameters of BFL, M&MFSL and MFCL which indicates that a firm with greater market share is more efficient due to the advantages of economies of scale which relates the findings of Grigorian and Manole (2002). However, in the case of STFCL, SFL and MFL the market share has negative impact on the technical efficiency and the relationship is not statistically significant except SFL. The measure of Loans Intensity indicates a positive relationship with firms' Technical Efficiency levels. It suggests that banks with higher loans-to-asset ratio tend to exhibit higher Technical Efficiency levels. The Loan intensity of the firm has negative impact on technical efficiency in the case of BFL, STFCL, SFL and MFCL.

The result of Panel Data Tobit regression reveals that Size has positive and significant impact on the technical efficiency of all the select private sector Non-Banking Finance Companies except SCUFL. With regards to SIZE, Hauner (2005) explains that larger banks could pay less for their inputs than their counterparts and that there could be increasing returns to scale through the allocation of fixed costs. The regression results indicate that the coefficient of Management Quality exhibit positive and significant relationship with the TE of all the firms which indicates that Management Quality is an increasing function of Technical Efficiency. Management Quality has positive and significant impact on efficiency of the all select private sector Non-Banking Finance Companies except MMFSL which has positive but insignificant impact on the efficiency of the firm. The exogenous variable profitability is positively related to technical efficiency in SFL, M&MFSL and MFCL. It indicates that the more efficient banks tend to be more profitable as expected. The profitability of the firm has negative impact on efficiency as on BFL, and MFL.

The present study is to ascertain the significance and magnitude of the impact of the sub-prime financial crisis on the non-banking system. The global recession is positively related to technical efficiency of BFL, M&MFSL and MFL in which the relationship is significant only in the case of SFL. It has negative relationship with technical efficiency of STFCL, SFL and MFCL. A significant and negative coefficient implies that the financial crisis negatively influence performance within the Non-Banking Finance Companies in India. The dummy variable age is positively associated with technical efficiency in the case of BFL, STFCL and MFL. However, the relationship is statistically significant only in the case of M&MFSL. It indicates that the management with greater year of operation has better understanding of competition, market condition and higher goodwill and hence the firms established earlier are expected to be more efficient. The age of the firm has negative impact on its efficiency in the case of SFL, M&MFSL and MFCL. The regression result indicates that the variable age does not have significant impact on all the select NBFCs except MMFSL.

Bank Diversification is positively related to technical efficiency in the case of BFL. However, the relationship is statistically significant only in the case of MMFSL and MFL. Templeton and Serveriens (1992) found that banks diversifying into other financial services would reduce unsystematic risk, while there was no effect on systematic risk. Bank Diversification has negative impact on technical efficiency in the case of STFCL, SFL, M&MFSL, MFL and MFCL. It is concluded from the above analysis that the variable size and management quality are the important determinants of efficiency of the select private sector Non-Banking Finance Companies in India.

1.7 CONCLUSION

This study attempts to investigate the efficiency of Non-Banking Finance Companies in India during the period from 2000 -2001 to 2014-2015 using Data Envelopment Analysis. DEA enables to distinguish between the different components of total factor productivity change and this allowed the simultaneous analysis of changes in best-practice due to frontier growth and changes in the relative efficiency of NBFCs towards existing frontiers. From the results of the study, it is found that the select NBFCs are efficient, in terms of TFP, in utilizing their resources except the firm MFL. STFCL ranked first in utilizing their resources efficiently followed by MMFSL. Excepting MFL, all the select NBFCs are also technically efficient in producing the maximum outputs (Loans and Advances, Investments, Other Income) from the minimum quantity of inputs (Capital, Fixed Assets, Labour Cost) and technology. The Tobit regression analysis revealed that size and management quality are the main factors in determining productive efficiency of the select private sector Non-Banking Finance Companies.

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