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Performance of Financial Institutions in Bhutan

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Abstract

The Kingdom of Bhutan is a small landlocked country in South Asia, located in the eastern Himalayas, and bordered by India and China. Bhutan is a small and fragile economy with a population of about 687,000. Nevertheless, its banking system plays an essential role in the growth and development of the country. This paper analyzes the financial performance, the development and growth of bank and non-bank financial institutions of Bhutan for the period 1999-2008 using both traditional and data envelopment analysis (DEA). The DEA analysis shows that financial institutions in are efficient and Bhutan National Bank has been the most efficient one. Overall, the paper finds that the ROE of the financial institutions in Bhutan are comparable to the international banks.

Key words: Financial institution, performance, loan, deposit, net income, Bhutan.

JEL Classification: G20; G21; G28; O16

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PERFORMANCE OF FINANCIAL INSTITUTIONS IN BHUTAN

a. Background

The role of financial system for economic growth is well researched both theoretically and empirically. As Bagehot (1873); argues the distinguishing characteristic of English financial markets to mobilize savings to finance a variety of long-term illiquid investment opportunities led to industrialization in England. Schumpeter (1911) argued that services provided by financial intermediaries and financial institutions facilitate technological innovation and economic development, thereby growth, by mobilizing resources, mobilizing savings, evaluating projects, managing risks and monitoring projects implementation. This is followed by volume of empirical research on the nexus between financial development and growth. Some of the seminal empirical works on this area establishing close relationship between economic and financial development are Goldsmith (1969); McKinnon (1973); King and Levine (1993); Roubini and Sala-i-Martin (1992); Herring and Santomero, 1991. These studies have elaborately explained the link between financial development and steady state growth[1]. There are a number of cross country empirical studies on growth (Barro, 1991; Mankiw, Romer and Weil, 1992 and Levine and Renelt, 1992; King and Levine, 1993) which have also established a strong link between financial development and growth after controlling relevant variables affecting growth. However there are also studies which advocates that financial sector development is a result of economic development (Robinson, 1952; Patrick, 1966; Jovanovic 1990). Overall, it's well established in literature that financial sector plays the significant role of a mediator among economic agents which leads to better resource mobilization, investment, risk management and overall economic development[2].

By the way, at the macro level, the performance of the financial sector needs regulated and controlled checks which may otherwise cause serious setback to the economy like the present Global economic crisis. At the micro level, competition in financial sector creates pressures on financial institutions to improve their performance and efficiency consistently. Banking institutions, which basically control the financial sector in developing and less developing countries like Bhutan, face dynamic and competitive environment due to fast paced global

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[1] However, studies such as Robinson (1952) and Lucas (1988) suggest that the role of financial development for Growth has been overstressed.
[2] See Herring and Santomero (1991) for role of financial sector in economic performance.

connectivity. While technological innovation creates more ways to deliver financial services, modern day consumers demand new services at their door step.

The financial sector in Bhutan is undergoing a transformation and is expected to efficiently fulfill the role of a mediator of resources in the economy. With the growing competition in the financial sector, the risk, profitability and balance-sheet structure management would play an important role in the stability of the financial sectors in Bhutan besides the macro-economic stability. The financial sector is an important source of financing businesses in a small economy like Bhutan[3]. Since financial sector in Bhutan is at the nascent stage, it is important to examine the performance of financial institutions the measurement of the financial performance of the financial institution is well advanced within finance and management fields. Since there is no such study on the financial sectors in Bhutan, this research systematically analyzes the financial data of Bhutanese financial institutions and examines the performance of the financial institutions for the period from 1999-2008. The data has been compiled from the published annual reports of the financial institution. One of the main contributions of this research is that it will organize the data in a comparable manner, provide an overview of the financial sector and analyze the performance[4] of the financial institution during last 10 years.

There are different approaches to analyze the efficiency and performance of financial institutions and can be broadly categorized into parametric and non-parametric[5]. We use both traditional approach and non-parametric Data Envelopment Analysis (DEA) to evaluate performance of financial institutions in Bhutan. The traditional approach includes analysis of major financial indicators of these institutions over time to reflect a comparative performance. Next we use DEA with different input-out variables on the basis of established studies in this area.

The Kingdom of Bhutan is a small landlocked country in South Asia, located in the eastern Himalayas, and bordered by India and China. The Kingdom is home to a population of about 687,000, spread over an area of approximately 47,000 sq. km., with about 70 percent of the

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[3] However, the rural population still depends on the informal source for financial business and other activities.

[4] The definition of performance or efficiency in financial institution is really broad and it depends on marketing strategy, organizational structure and human resource management (Roth and van der Velde, 1991; 1992; Heskett, Sasser and Schlesinger, 1997).

[5] See Berger and Humphery (1997) for complete review of 122 studies using alternative approaches.

land area under forest cover (World Bank, 2010). Much of the population lives in the central highlands, and almost two-thirds are classified as rural inhabitants. The terrain is mostly hilly, with alpine peaks in the north, and some sub-tropical plains in the south[6]. Despite being landlocked, with difficult terrain and a widely dispersed population, the economy of Bhutan witnessed steady growth rate of 7-8 percent over the last two decades, mainly supported by secondary sector (see table-1). However, the growth and contribution of agriculture sector has slowed down (from 44.6% in 1980 to 20.3% in 2007), particularly since 2000. While the contribution of tertiary sector did not show much change, the contribution of the finance and insurance sectors has improved marginally[7]. According to the World Bank (2010) Bhutan's per capita gross national income (GNI), one of the highest in South Asia, has consistently risen from $730 in 2000 to $1,900 in 2008.

Table-1a. Structure and Growth Bhutanese Economy: 1980-2007

	Contribution to Economy				Growth of Economy
Year	Primary	Secondary	Tertiary	Finance	Growth rate in %
1980-1985	43.73	17.07	39.22	2.25	8.05
1986-1990	38.66	21.80	39.56	3.00	10.14
1991-1995	35.08	26.24	38.66	2.54	4.70
1996-2000	31.56	30.68	37.76	3.38	6.34
2001-2005	26.52	34.88	38.62	3.92	7.64
2006-2010	21.01	39.47	36.37	5.74	9.32

Source: Estimated from National Statistical Bureau of Bhutan

Table-1b. GDP Per capita

Year	2005	2006	2007	2008	2009	2010
Per-capita GDP (USD)	1,267.62	1,350.15	1,812.50	1,854.52	1,868.35	2,186.89

Source: Estimated from National Statistical Bureau of Bhutan

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[6] It is situated in the eastern Hindu Kush Himalayan range and is surrounded by Autonomous region of Tibet China and Indian states. Bhutan is governed through three levels of administration -- the central government agencies, district administrations, and block administrations. The country is currently divided into 20 districts (Dzongkhag), which are further divided into blocks (Gewogs) Bhutan National Human Development Report, 2005).

[7] See Table No 1 in Appendix.

Figure No 1
Share and Trend of Different sectors: 1980-2007

$y = -0.0514x + 39.536$

$y = 0.8897x + 13.816$
$R^2 = 0.9365$

$y = -0.8384x + 46.647$
$R^2 = 0.9549$

$y = 0.0909x + 1.8305$

Primary — Secondary — Tertiary — Finance
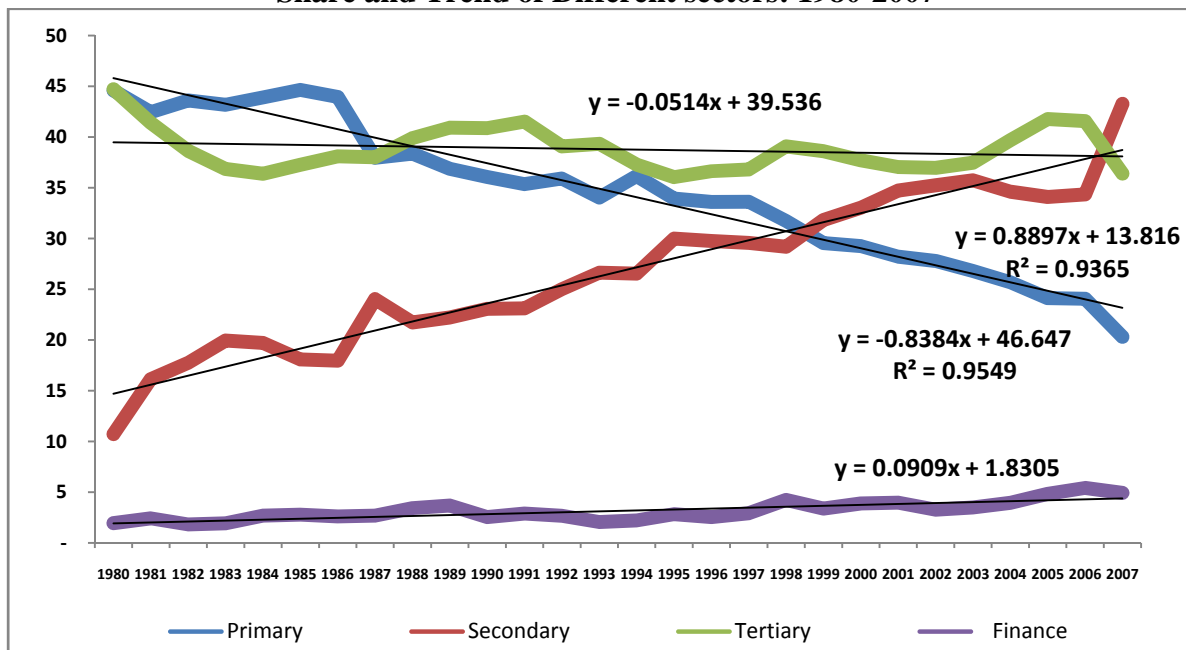
Source: Annual Report, Bank of Bhutan 1999 to 2008 and Authors calculations.

b. Bhutan: Evolution and Structure of Financial Sectors

Established in 1982, the Royal Monetary Authority of Bhutan (RMA) is the Central Bank of Bhutan which is in charge of regulating the financial sector and formulating the monetary policy. There are two commercial banks[8] and two nonbank financial institutions[9]. In addition, the Royal Securities Exchange of Bhutan (RSEB), which is the capital market and the National Pension and Provident Fund (NPPF) are an important component of the Bhutanese financial sector. In September 2009, Bhutan Insurance Limited an additional private insurance was established and two Banks namely Druk PNB and T Bank were granted license in principle in 2009 and are in operation from second and third quarter of 2010 respectively. The figure No 2 reports the structure of financial sector in Bhutan.

b.1. Bhutan: Evolution of Major Banks and financial Institutions in Bank

The Bank of Bhutan, the nation's commercial bank, was established on 28th May in 1968 as a joint venture with the Chartered Bank of India, Australia and China, which owned 25 percent of the bank. As the public sector commercial bank with a paid-up capital of Nu 2.5 million and reserve amount of same amount and rendered the function of the Central Bank until the

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[8] Bank of Bhutan and Bhutan National Bank.
[9] Royal Insurance Corporation of Bhutan and Bhutan Development Finance Corporation.

establishment of the Royal Monetary Authority of Bhutan. However, the pace of growth of BOB was marginal due to non-convertibility of the local currency till 1972 when it was reconstituted under the Royal Charter of Bank of Bhutan (1972) where in State Bank of India was partner in capital and management with 40 shares[10]. In 2008, the BOB had a network of 26 branches[11] and 3 extension counters with a paid up capital of Nu.400 million. Bank of Bhutan enjoyed complete monopoly till 1997 when the Unit Trust of Bhutan, an undertaking of the Royal Government, was converted into country's second national bank –Bhutan National Bank (BNB) - with an initial capital of Nu.2.5 million, contributed by the Royal Government and the Royal Insurance Corporation of Bhutan (RICB). The RICB was set up on 7th January 1975 as the country's only insurance company which continues to enjoy the monopoly in the insurance market in Bhutan. Traditionally, RICB managed the provident fund of the government employee and public sector companies. However, in 2000, the provident fund was removed from RICB and National Pension and Provident Fund was created to manage pension and provident fund of the government and public sector employees.

Bhutan Development Finance Corporation Limited (BDFCL) was established on January 31, 1988 as a financial institution to cater the financial needs of the micro, small and medium enterprises with special focus on agricultural development. The BDFCL took over the administration of rural financial assistance from the Royal Monetary Authority. Loans were granted for improving farmland, acquiring livestock, and meeting short-term, seasonal requirements (Worden, 1991). At least some of the funding for the corporation came from the Asian Development Bank, including an initial US$2.5 million loan in 1988 for the expansion of small- and medium-sized, private-sector industrial development. By 1991 the corporation had been privatized (Worden, 1991). The Royal Government of Bhutan owns 87 percent, and other three financial institutions own 13 percent of the total share of BDFCL. To cater to the Capital market, the Royal Securities Exchange of Bhutan Ltd. (RSEBL) was established in 1996 by the Royal Government of Bhutan under the Technical Assistance from the Asian Development Bank as a non profit organization. The RSEBL is owned by Four Brokerage Firms (BOB Securities Ltd., BNB Securities Ltd., Drook Securities Ltd. and RICB Securities Ltd.). Two new banks Druk PNB the Tashi Bank have been locally promoted where in Punjab National Bank has 51 percent ownership. Overall, there have been efforts to

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[10] However, the SBI share in Bank of Bhutan was reduced to 25 percent in 1982 and then further to 20 percent in 1987.
[11] In the year 2010, Bank of Bhutan has 27 branches

create institutions and inject competition in the financial sector to fulfill different socio-economic objectives. However, it is important to analyze the performance of these institutions to know about their efficiency and sustainability.

c. Brief survey of Previous Literature

The literature on performance of financial institutions is rich. Large number of studies either use traditional approach for analyzing financial indicators or use parametric (Stochastic frontiers analysis) and non-parametric analysis (such as DEA) to evaluate performance and efficiency of financial institutions. The definition of performance or efficiency varies across studies and therefore the approaches used to examine are also different. Since there are large numbers of studies, here we briefly review few studies which have used DEA approach for efficiency analysis.

Berger and Humphrey (1997) review 130 efficiency studies of financial institutions including commercial banks and explain that efficiency estimates of financial institutions in 21 countries vary across studies due to use of different methods used in different studies. They found that the various efficiency methods do not necessarily yield consistent results and suggest some ways that these methods might be improved to bring about findings that are more consistent, accurate and useful. Avkiran (1999) used two DEA models, taking interest expense and non-interest expense as input variables and net interest income and noninterest income as output variable, to examine the efficiency of Australian trading banks for the period 1986 to 1995 and find that efficiencies rose in the post-deregulation period and acquiring banks are more efficient than target banks.

Chen and Yeh (1998) calculated the operating efficiencies of 34 commercial banks of Taiwan's banks using the DEA model where in input variables include staff employed and interest expense and the output variables include loans, investment interest revenue, non-interest revenue and bank assets. The authors find that that a bank with better efficiency does not always mean that it has better effectiveness. Al-Shammari and Salimi (1998) have examined the comparative operating efficiency of Jordanian commercial banks from 1991-1994 using a modified version of DEA and find that the majority of banks are fairly inefficient over the period 1991-94. Noulas (2001) employed both DEA model and the traditional approach to study the effect of banking deregulation on private and publicly-owned banks. The interest expense and non-interest expense were the input variables, and interest revenue and non-interest revenue were the output variables. The results reveal that

state banks were less efficient than the private and that the gap widened during the study period.

Barr (2002) used five input variables namely, salary expense, premises and fixed assets, other noninterest expenses, interest expenses and purchased funds and four output variables namely earnings, assets, interest income and noninterest income to evaluate the productive efficiency of US Commercial banks from 1984 to 1998. The authors find strong and consistent relationships between efficiency, inputs, output, as well as independent measures of bank performance. Grigorian and Manole (2002) used DEA for 17 European countries and found that foreign banks are more cost efficient than domestic banks. Further Jemric and Vujcic (2002) examined the Efficiency of banks in Croatia by using two DEA models and find similar results that foreign banks are more efficient. Similarly, Strum and Williams (2004) and Havrylchyk (2006) use DEA and find that new foreign banks are more efficient than domestic banks in Australia and Poland respectively.

Analyzing performance and efficiency of financial institutions using DEA is very popular. The present study contributes to the literature by carrying out an analysis of performance of four major financial institutions in Bhutan by using DEA method and the traditional ratios. It is hoped that the study would be useful to scholars and policy makers.

d. Analysis of Performance: Traditional Approach

In this section we analyze the performance of four major financial institutions by analyzing Profitability/Earning/Operational strategy, productivity/efficiency, leverage and liquidity, capital adequacy, growth and aggressiveness and market shares by using traditional methods of looking at important financial indicators. All these indicators for each financial institution are reported separately in Table No 1 to Table No 6 (See Annexure).

d.1. Profitability/Earning/Operational Analysis

i. Return on Assets (ROA)

The Return on Assets (ROA) of Bank of Bhutan has been very low during 1999 to 2008 with an average ROA of 1.1. The ROA is low because as most short term volatile funds are parked with BOB by government owned companies which cannot be invested to generate revenue. The average ROA of BNB is higher at 1.7 percent during 1999 to 2008. The ROA of Bhutan National Bank has been close to 2 percent except in 2002, 2003 and 2004, where it was close to 1 percent. The average ROA of RICB is 3.5 percent, higher than BOB and BNB, with a

standard deviation of 1.6, which is significantly higher than both the Banks. The BDFC has been doing well in recent years resulting in higher average ROA (3.7 percent for 1999-2007). The ROA of non-bank financial institutions are much higher than that of banks which can only use 63 percent of the deposit base to generate income after Cash Reserve Ratio (CRR) of 17 percent and Statutory Liquidity Requirement (SLR) of 20 percent.

ii. Return on Capital

The Return on Capital (ROC) reflects the performance of the company. BOB had higher ROC in initial years but has slowed down in recent years leading to average ROC of BOB of 16.3 per cent for the whole period which is still comparable to most international standards. The average ROC of BNB and RICB is much higher at 21.7 and 19.9 percent respectively. BNB and RICB performing much better and more stable compared to other financial institutions. BDFC has lowest ROC average at 11.9 percent. Though average ROC is comparatively low, it has improved its performance since 2004. Performance of BNB, RICB and BOB with average ROC of greater than 15 percent is comparable to any global financial institution.

iii. Return on loans and investment (ROI)

The average return on loan and investment of all financial institution in Bhutan was around 4 percent during 1999-2007. The return on loans and investment of both BOB and BNB Bhutan National Bank show a lot of fluctuations with high standard deviations. Though the ROI of RICB and BDFC are comparable, they are doing much better in last few years averaging 5 percent ROI.

iv. Revenue to Asset ratio (RAR)

The revenue to assets ratio shows how well the assets are being utilized to generate the revenue for the financial institutions. The average RAR of the BOB is 5.5 where as it is 7.4 and 6.1 for BNB and RICB respectively for the reference period. The RAR of BOB is slowing down revealing inability of the bank to utilize assets optimally. The reason for declining revenue is that BOB used to deposit large chunk of assets in its current account in State Bank of India and earned revenue from the Bank in the initial years which is not possible now. Further, as mentioned before, government owned corporation and the salary of the civil servants are deposited in BOB which are short term in nature and highly volatile to

use for revenue. The average revenue to assets ratio of BDFC during last 10 years was 11 percent and it has always been greater than 10 percent.

d.2. Productivity/Efficiency Analysis

During the last 10 years the average loans and investment per employee (ALIP) of BOB and BNB are Nu.7.8 million and Nu.14.7 million respectively. Though the ALIP is increasing for both BOB and BNB, it is increasing much faster for BNB and has highest ALIP for last few years in Bhutan. Whereas, two other organizations; such as RICB and BDFC have ALIP of Nu.8.6 and Nu.7.4 million respectively for the ten years. Similarly, BNB has the highest average profit per employee was (Nu. 0.5 million) followed by 0.4 million for RICB and 0.3 million for BOB and BDFC for the reference period 1999 to 2008. Overall, we observe that all the four institutions have been improving in efficiency indictors such as ALIP and average profit per employee.

d.3. Leverage and Liquidity Analysis

The loan and investment to capital helps us to measure how leveraged the firms is? The average loans and investment to capital ratio of BOB, BNB, RICB and BDFC were 4.3, 5.8, 5.4 and 2.2 respectively. This shows that BNB was most leverage followed by RICB, BOB and BDFC. Further, the average loans and investment to total assets of BOB is 29.6 percent where it is 49.4 percent for BNB. The average loan and investment to asset of RICB and BDFC are 84.4 percent 85.5 percent respectively revealing that these two are most leveraged institutions in Bhutan. The average loan to deposit ratio of BOB and BNB are 25.5 and 51.9 percent where as the average loan and investment to deposit ratio are 34.5 and 58.2 respectively percent during last 10 years from 1999 to 2008. More importantly we observe that all four financial institutions have been continuously improving in these indicators (see table 1-4 in annexure) and almost comparable to international standard.

d.4. Capital Adequacy

i. Capital to Asset Ratio (CAR)

Measures first the financial health of the bank and second the ability of the bank to withstand the losses. The average CAR ratios of BOB, BNB, RICB and BDFC are 7 percent, 8.4 percent, 17.5 percent and 30.6 percent respectively. Although the capital to asset of the banks is very low, it should not be looked with awe because about 17 percent is in the form of CRR

and 20 per cent in the form of SLR remain uninvited. In addition, the assets of the BOB remained idle in the form of cash and balances with RMA as these are short and volatile deposits of the governments, government projects and other large government corporations. The CAR of RICB has been improving much faster since 2004 where as BDFC has fairly strong CAR from initial years.

ii. Capital to net Loan (CNL)

The CNL ratio measures the equity cushion available to absorb losses on the loan book. We observe that BOB and BDFC are in a much better position to absorb the losses in the loan book with average CNL ratios of 34.3 percent and 36.0 percent respectively. However, the CNL of BOB has declined over the period (from 40.1 in 1999 to 18.7 in 2008) where as the CNL of the BDFC has always been more than 30 percent during the last 10 years. The average CNL ratios for BNB and RICB are 20.3 percent and 22.6 percent respectively for the reference period.

iii. Capital to net Loan and investment (CNLI)

Like CNL, CNLI measures the equity cushion available to absorb losses on the loan and investment. The average CNLI of BOB, BNB, RICB and BDFC are 24.1 percent, 18.3 percent, 20.3 percent and 35.9 percent. Similar to CNL, BOB and BDFC are better placed in this indictor though their CNLI has been slowing down in recent years.

d.5. Growth & Aggressiveness

i. Bank of Bhutan (BOB)

The assets of BOB have always shown a positive growth on a year to year basis reaching Nu.21,069 million in 2008 from Nu.7, 417.7 in 1999. During the same period the loan and investment increased from Nu.2,167.1 million in 1999 to Nu.8,686.8 million in 2008. The deposits base has increased from Nu.6,323,3 million in 1999 to 18,436.8 million in 2008. The reserve and capital increased from Nu.451.3 million in 1999 to Nu.1515.8 million in 2008. Although the assets, loan & investment, deposits, revenue and reserve and surplus increased substantially in 2008, the operating cost increased marginally to Nu.197.5 million in 2008 from Nu.86.5 million in 1999.

ii. Bhutan National Bank (BNB)

We observe that BNB has been quite aggressive over the last ten years. The growth in the assets, deposit base, loans & investment has been very impressive. While assets of BNB reached Nu. 16,734.0 million in 2008 from Nu.2,8161 million in 1999, the volume of loan increased to Nu. 9,188.3 million in 2008 from Nu. 819.6 million in 1999. During the same period the loan and investment increased from Nu. 834.0 million in 1999 to Nu. 9,740.0 million in 2008. The deposit base and revenue increased from Nu. 2,489.9 million in 1999 to 14,601.4 million in 2008 and from Nu. 199.2 million in 1999 to Nu.1,149.6 in 2008 respectively. However, the operating expenses also increased from Nu. 37.6 million in 1999 to Nu. 217.2 million in 2008.

iii. Royal Insurance Corporation of Bhutan (RICB) and Bhutan Development Finance Corporation (BDFC)

The assets of RICB was Nu.2,452.6 million in 1999 which declined to Nu.1,336.8 as the government employee provident fund, which used to be managed by RICB, was moved out of to NPPF. Gradually, RICBL started building its assets reaching to Nu.2,672.8 million in 2008. Similarly, all other indicators such as loans, investment, revenue and operating cost also increased over time. BDFC has also achieved positive growth in most of the financial indicators over the last 10 years.

d.6. Market Shares

The market share of these four major financial institutions has changed over time. In 1999, the BOB, BNB, RICB and BDFC had 55.8 percent, 21.2 percent, 18.4 percent and 4.6 percent of the total assets of the financial institutions which changed to 49.0 percent, 38.9 percent, 6.2 percent and 5.9 percent respectively in 2008. While BOB and RICB shares have declined, BNB has improved its position. In terms of loans and advances, BOB's share remained unchanged around 36 to 37 percent, whereas BNB share increased from 26.8 percent in 1999 to 42.5 percent in 2008. The RICB's share in total loans decreased substantially from 22.6 percent in 1999 to 10.1 percent in 2008 while BDFC's share declined from 14.7 percent in 1999 to 10.2 percent in 2008. BOB's share on the total deposits of Banks was 71.7 percent in 1999, which gradually declined to 55.8 percent in 2008 while BNB's share increased to 44.2 percent in 2008 from 28.3 percent in 1999.

e. Data Envelopment Analysis

The definition of performance or efficiency in a financial institution is really broad and it depends on marketing strategy, organizational structure and human resource management (Roth and van der Velde, 1991; 1992; Heskett, Sasser and Schlesinger, 1997). There are different approaches to analyzing the efficiency and performance of financial institutions which can be broadly categorized into parametric and non-parametric[12].

DEA, which is a non-parametric approach, is liner programming technique which gives the set of best practices showing the optimal relations between outputs and inputs (see Charnes *et al*, 1978). We use popular DEA with different input-output variables for the efficiency analysis.

We did an input oriented constant return to scale DEA. Three different DEA were done with different input-output variables. In the first model, we used capital as input variable and revenue and profit as output variables. In the second model, we used capital and employee the as input variable and revenue and profit as output variable. In the third model, we used assets, capital and employee as input variable and revenue and profit as output variables.

Table 2
Input-Oriented CRS Efficiency (Comparison of Different FIS for Year)

Inputs	Capital				Capital & Employee				Assets, Capital & Employee			
Output	Revenue & Profit				Revenue & Profit				Revenue & Profit			
Year	BOB	BNB	RICB	BDFC	BOB	BNB	RICB	BDFC	BOB	BNB	RICB	BDFC
1999	0.99	1.00	0.55	0.33	0.99	1.00	0.55	0.33	0.99	1.00	0.58	1.00
2000	0.78	1.00	0.46	0.28	0.78	1.00	0.46	0.28	0.78	1.00	0.60	1.00
2001	1.00	1.00	0.87	0.38	1.00	1.00	0.87	0.38	1.00	1.00	1.00	1.00
2002	1.00	1.00	1.00	0.54	1.00	1.00	1.00	0.84	1.00	1.00	1.00	1.00
2003	1.00	0.76	1.00	0.66	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00
2004	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2005	0.71	1.00	0.97	0.82	0.71	1.00	0.97	0.82	0.71	1.00	1.00	1.00
2006	0.76	1.00	0.89	0.66	0.76	1.00	0.89	0.78	0.76	1.00	1.00	1.00
2007	0.76	1.00	0.82	0.44	0.76	1.00	0.82	0.49	0.76	1.00	1.00	1.00
2008	0.70	1.00	0.77	0.52	0.70	1.00	x0.77	0.52	0.70	1.00	1.00	1.00

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[12] See Berger and Humphery (1997) for complete review of 122 studies using alternative approaches.

Input-Oriented CRS Efficiency of FIs (Comparison of each financial institution across 10 years)

DMU	BOB			BNB			RICB			BDFC		
	DEA 1	DEA 2	DEA 3	DEA 1	DEA 2	DEA 3	DEA 1	DEA 2	DEA 3	DEA 1	DEA 2	DEA 3
1999	0.98	0.98	0.98	0.81	0.81	0.81	0.61	0.61	0.61	0.92	0.92	0.92
2000	0.96	0.96	0.96	1.00	1.00	1.00	0.81	0.81	0.81	0.95	0.95	0.95
2001	1.00	1.00	1.00	0.89	0.96	0.99	1.00	1.00	1.00	0.80	0.80	0.81
2002	0.78	0.85	0.85	0.77	0.80	0.80	0.90	0.90	0.90	0.86	0.86	0.87
2003	0.69	0.90	0.90	0.43	0.62	0.80	0.78	0.78	0.78	0.99	0.99	0.99
2004	0.60	0.84	0.84	0.50	0.66	0.78	1.00	1.00	1.00	1.00	1.00	1.00
2005	0.50	0.70	0.70	0.58	0.80	0.92	0.82	0.96	0.96	1.00	1.00	1.00
2006	0.60	0.94	0.94	0.61	0.77	0.83	0.87	0.98	1.00	0.94	1.00	1.00
2007	0.55	0.88	0.88	0.61	0.87	0.96	0.84	1.00	1.00	0.87	0.87	0.98
2008	0.57	1.00	1.00	0.66	1.00	1.00	0.77	1.00	1.00	1.00	1.00	1.00

DEA 1: Inputs-Capital; Output-Revenue & Profit.
DEA 2: Inputs-Capital & Number of employee; Output-Revenue & Profit.
DEA 3: Inputs-Assets, Capital & Number of employee; Output-Revenue & Profit.

BOB being the banker to the government and government owned companies; its asset is highly inflated when the large funds of government (revenue, grants etc.) and government owned companies are deposited in the banks. But most of these large deposits are short term and are withdrawn within short span of time. Therefore, BOB is not able to use short term funds to generate revenue. Therefore, the assets are volatile and when used as one of the input variables to measure efficiency, it produces misleading results. Hence, DEA result with assets, capital and employee as input variable and revenue and profit as output variable shows Bank of Bhutan (BOB) as the least efficient financial institution.

The DEA 1 (input variable: capital and output variable: revenue & profit) and DEA 2 (input variable: capital & employee and output variable: revenue & profit) on efficiency produced exactly similar result for 10 years during 1999 to 2008. The DEA 1 and DEA 2 show that Bhutan National Bank (BNB) is the most efficient financial institution in the country from 1999 to 2008 except in 2003. In 2003, BOB and RICB turned out to be most efficient. Both DEA 1 and DEA 2 show that BDFC has been the least efficient financial institution during 1999 to 2008 except in 2005. Taking BNB as benchmark, we observe that BDFC has been less than 50 percent efficient in comparison with BNB for the years 1999, 2000, 2001 and 2007. The efficiency of RICB was 89 percent, 82 percent and 77 percent in 2006, 2007 and 2008 respectively in comparison to BNB. In 2006, 2007 and 2008, the efficiency of BOB was 76 percent, 76 percent and 70 percent respectively in comparison to BNB. In 2006, 2007 and

2008 the efficiency of Bank of Bhutan was 66 percent, 44 percent and 52 percent respectively in comparison to Bhutan National Bank.

Overall, BOB has been the second most efficient financial institution in 1999 and 2000 and most efficient from 2001 to 2004. Royal Insurance Corporation of Bhutan has been most efficient in 2002, 2003 and 2004. From 2005 to 2008, Royal Insurance Corporation of Bhutan has been the second most efficient financial institution after Bhutan National Bank.

f. Recent achievements

The Bhutanese financial sectors in recent years have witnessed major positive changes despite being impacted by the global melt down[13]. Tourism and hotel industries, major contributors to the economy and livelihood of people, witnessed a decline in the tourist arrivals. Also important ferro-silicon industries suffered due to fall in the prices of the ferro-silicon products in the international market. The impact of the global melt down on the tourism and steel industries tickled to the financial sectors due to credit exposure of over 3 billion to these two sectors. As a response to the crisis as well as improving performance in the future, the ownership of the BOB has been transferred to Druk Holding Investment and there have been major efforts to modernize banking services by using Flexcube CBS technology in eight branches with the help of Tata Consultancy Services helping with implementation of the same. With the upgrading in technology, BOB was able to introduce convenient delivery channels like the SMS Banking and was also became the first bank to introduce internet banking facilities on 28th May, 2009 in the country. BoB also has constructed a $1.00 million, Tier-III, state of the art data centre, the first of its kind in Bhutan.

As Customer satisfaction is one of the major factors for the performance of banks (Roth and van der Velde, 1991; 1992), it has been given highest priority nowadays and the Bank regularly conducts feedback surveys to monitor customer satisfaction level. In order to improve the services and customer conveniences, the Sunday banking was introduced on 30th November, 2008 to provide 7 days services to the customers in addition to introduction of ATM, internet and mobile banking to improve the customer satisfaction level. Coinciding with the centenary and the coronation celebrations, BOB initiated social sector targeted loan schemes (viz. Education, Ladies Plus and Pensioners) and have increased its loan base from

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[13] Although Bhutanese economy is weakly linked with the global economy, it was not completely immune from the global recession, so the global melt down affected the economy marginally.

6000 to 20,000 customers. Empowered by the CBS, extensive branches, network switch and plans of installing 100 ATMs across the country, BOB will be able to provide "any time", "anywhere" banking in the country. The BOB has implemented the new organizational structures in order to improve the functioning where as Zonal offices were created to enable faster delivery of services. Initiatives to launch the IPO to increase the capital base and diversify ownership base is in progress and it is expected to be launched by 2010[14]. Another initiative is to give scholarship to 60 BOB employee for masters and post graduate studies outside in the next 10 years[15]. It has plans to send 3 senior officers every year for executive programs.

Similarly, the BNB upgraded the Flexcube CBS technology with higher version and also introduced new delivery channels like the SMS and internet banking besides ATMs. Further, BNB hired the services of the Ernest and Young to re-structure the bank to face the competition that is coming in the Bhutanese Financial Market with the introduction of two commercial banks.

The RICB has implemented the voluntary retirement scheme to lean down the organization and face the competition from Bhutan International Limited, a new insurance company which was introduced in September 2009. The RICB has also introduced new products and reduced the premium in their policies. BDFC has its corporate office in a new building and obtained the license in principal to accept deposits and function as a rural bank.

g. Conclusions and Recommendations

The financial sector in Bhutan has grown over a period of time both in terms of assets, loans and investment, deposit base, revenue and profit. The return on capital (ROC) and return on loan & investment (ROL) has been quite appreciable and comparable to international standards. The analysis finds that in terms of ROC and also efficiency, Bhutan National Bank has been the most efficient financial institution in Bhutan. The reason for high level of efficiency could be that it started fresh with a manageable business size. In terms of liquidity and capital adequacy, Bank of Bhutan seems to be more secured and stable while Bhutan National Bank is much more leveraged. Therefore, Bank of Bhutan has much room to expand further provided it improves it deposits, and does not lose out to new banks.

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[14] Currently BOB has also encouraged about 5 employees to undergo masters program in Thailand, Philippines, and Malaysia. Bank of Bhutan has also revised its service rules and come up with a ten year HRD master plan.
[15] Under this 60 BoB employee scholarship scheme, BoB plans to send at least 6 officials every year for the next 10 years for postgraduate studies in internationally reputed universities. Bank also

With the growth in the Bhutanese economy due to implementation of several joint venture power projects between Government of India and Royal Government of Bhutan, opening up of the tourism sector, liberalizing the economy for FDI, establishing special economic zones, liberalizing the power sector for the private sectors, establishing IT parks, allowing the leasing of agricultural land for large agro-companies and establishment of new banks, the Bhutanese financial sectors are expected to witness tremendous growth and major changes in the next decade.

References

Al-Shammari, M; and Salimi, A. (1998). Modeling the operating efficiency of banks: a nonparametric methodology. Logistics Information Management 11(1):5-17.

Annual Report, Bank of Bhutan 1999 to 2008

Annual Report, Bhutan Development Corporation of Bhutan 1999 to 2008

Annual Report, Bhutan National Bank 1999 to 2008

Annual Report, Royal Insurance Corporation of Bhutan 1999 to 2008

Annual Report, Royal Monetary Authority of Bhutan 2007

Avkiran, K. N. (1999)., "The evidence on efficiency gains: The role of mergers and the benefits to the public". *Journal of Banking and Finance* 23 (7): 991-1013.

A. V. Roth and M. van der Velde 1991. Customer-perceived quality drives retail banking in 90s. *Bank Management,* pages 29–35, November 1991.

A.V. Roth and M. van der Velde 1992. *World Class Banking: Benchmarking the Strategies of Retail Banking Leaders.* Bank Administration Institute,1992.

Bagehot, Walter. 1920. Lombard Street: A Description of the Money Market. New York: E.P. Dutton and Company. Originally published in 1873.

Barr, R.S. (2002). Evaluating the productive efficiency and performance of U.S. commercial banks. Managerial Finance 28(8):3-25.

Berger, A.N., Humphrey, D.B., (1997). Efficiency of financial institutions: International survey and directions for future research, *European Journal of Operational Research*, Vol. 98, 175- 212.

Charnes, A., Cooper, W.W., and Rhodes, E (1978), "Measuring the Efficiency of decision making Units", *European Journal of operation Research*, Vol2, PP. 429-444.

Chen, T.Y.; and Yeh, T.L. (1998), " A Study of efficiency evaluation in Taiwan's Banks", *International Journal of Service Industry Management* 9(5):402-415.

Goldsmith, R. W., (1969), '*Financial Structure and Development'*, New haven CT, yale University Press.

Grigorian, D.A. and V. Manole, (2002). 'Determinants of commercial bank performance in transition: An application of data envelopment analysis', IMF Working Paper No.02/146. IMF, Washington D.C.

Havrylchyk, O., (2006), Efficiency of the Polish banking industry: Foreign versus Domestic banks, *Journal of Banking and Finance*, mimeo.

Herring, Richard J. and Anthony M. Santomero 1911, *The Role of Financial Structure in Economic Performance*, (in Swedish) SNS Forlag, Stockholm, 1991.

Heskett, J., Sasser, W. E., & Schlesinger, L. (1997). *The Service Profit Chain*. New York: The Free Press.

Jemric, I. and B. Vujcic., (2002), "Efficiency of banks in Croatia: A DEA approach",. *Comparative Economic Studies*, Vol. 44, PP.69-193.

King, R.G and R. Levine, (1993) "Finance and growth: Schumpeter Might be Right" World bank working paper No 1083.

Levine, R and D. Renelt, (1992) "A sensitivity Analysis of Cross-country Growth Regressions" *American Economic Review*, Vol. LXXXII. PP 942-63.

Lucas, R. E Jr., (1988) "On the Mechanics of Economic Development" *Journal of Monetary Economics*, Vol. XXII, pp. 3-42.

Mankiw, N Gregory & Romer, David & Weil, David N, 1992. "A Contribution to the Empirics of Economic Growth," The Quarterly Journal of Economics, MIT Press, vol. 107(2), pages 407-37, May.

McKinnon, R. I, (1973), '*Money and Capital in Economic Development,* Washington, Brooking Institution.

Mukerjee, A.; Nath,P.; and Pal,M. N. (2002), " Performance benchmarking and strategic homogeneity of Indian Banks", *International Journal of Bank Marketing* 20(3):122-139.

Noulas, A. G. (2001), "Deregulation and operating efficiency: the case of Greek Banks". *Managerial Finance* 27(8):35-47.

Hugh T. Patrick, Financial Development and Economic Growth in Underdeveloped Countries *Economic Development and Cultural Change*, Vol. 14, No. 2. (Jan., 1966), pp. 174-189.

Rangan, N., and Grabowski, R.(1988), " The technical efficiency of US banks" *Economic Letters*, 28, pp. 169-175.

Robert J. Barro, 1991. "Economic Growth in a Cross Section of Countries," NBER Working Papers 3120

Robinson, J (1952), '*The generalization of the General Theory*" in the Rate of Interest and other essays', Macmillion, London.

Roubini, N. and X. Sala-i-Martin, (1992) "Financial Development, the Trade Regime and Economic Growth, NBER Working Paper No. 876.

Schumpeter, Joseph A. 1911, *The Theory of Economic Development* (Cambridge, MA: Harvard University Press, 1911)

Sturm, J.E. and B. Williams, (2004), "Foreign bank entry, deregulation and bank efficiency: Lessons from the Australian experience", *Journal of Banking & Finance*, Vol. 28, 1775- 1799.

Worden, Robert L. (1991). "Banking and Credit". A Country Study: Bhutan (Andrea Matles Savada, editor). Library of Congress Federal Research Division (September 1991).

World Bank. (2010). Bhutan Economic Update. Economic Policy and Poverty, and Finance and Private Sector Team South Asia Region. The World Bank

Annexure 1: Performance Indicators of Bank of Bhutan

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg.	SD
Leverage & Liquidity												
Loans & Investment/Capital Ratio	4.8	4.1	4.1	4.6	3.1	4.1	3.5	4.0	4.5	5.7	4.3	0.7
Loans & Investment/Total Assets (%)	29.2	24.6	27.7	30.2	23.5	32.2	26.9	29.4	31.1	41.2	29.6	4.9
Assets/Capital (%)	16.4	16.7	14.6	15.2	13.0	12.8	13.1	13.6	14.6	13.9	14.4	1.4
Loans & Investment to Deposits (%)	34.3	29.6	32.7	35.4	28.0	38.3	31.4	33.2	35.2	47.1	34.5	5.3
Profitability/Earning/Operation												
Return on Assets (ROA) %	1.0	1.0	1.8	1.2	1.4	1.2	0.9	1.2	0.9	0.8	1.1	0.3
Return on Capital (ROC) %	15.7	17.0	26.4	17.8	17.9	15.8	12.4	15.8	13.6	11.1	16.3	4.2
Return on Loans & Investment (ROL) %	3.3	4.1	6.5	3.9	5.9	3.8	3.4	3.9	3.0	1.9	4.0	1.3
Revenue to Assets (%)	6.6	6.3	7.5	5.7	5.9	5.0	4.2	4.6	4.1	4.5	5.5	1.1
Net Interest Margin (Net Interest/Assets)	0.9	0.5	1.9	1.2	1.5	1.4	1.1	1.5	1.7	2.0	1.4	0.5
Productivity/Efficiency												
Loans & Investment per employees	5.1	4.8	5.8	7.2	5.7	8.3	7.0	9.0	10.4	14.5	7.8	3.0
Net Profit per Employee	0.2	0.2	0.4	0.3	0.3	0.3	0.2	0.4	0.3	0.3	0.3	0.1
Interest expense/total expenses (%)	77.2	81.7	80.9	83.2	80.7	74.9	70.7	66.4	59.6	59.7	73.5	9.0
Income and sources of fund												
Share of Interest Income (%)	74.1	70.5	78.9	78.2	76.4	73.4	74.5	72.5	75.8	75.0	74.9	2.6
Credibility or cost of fund:												
Interest Expense / Deposit (IE/D) (%)	4.6	4.8	4.7	3.9	3.6	2.8	2.4	2.1	1.7	1.6	3.2	1.3
Capital Adequacy												
Capital Funds / Total Assets (%)	6.1	6.0	6.8	6.6	7.7	7.8	7.6	7.4	6.9	7.2	7.0	0.6
Capital Funds/ Net Loans & Investment	20.8	24.4	24.7	21.8	32.7	24.2	28.3	25.0	22.1	17.4	24.1	4.2
Growth and Aggressiveness												
Growth of Assets (%)		13.9	12.0	22.5	2.9	11.5	9.6	17.5	14.5	7.3	12.4	5.7
Growth of Loans & Investment (%)		-4.0	26.2	33.3	- 19.9	52.7	-8.4	28.5	21.1	42.3	19.1	24.5
Growth of Deposits (%)		11.1	14.2	23.4	1.2	11.6	11.6	21.5	14.2	6.4	12.8	6.8
Growth of profit (%)		21.9	98.4	-20.4	20.7	- 0.0	-16.3	44.5	-7.7	-8.6	14.7	37.8
Growth in Revenue (%)		9.8	33.0	-7.5	6.0	- 4.7	-7.6	28.5	2.7	17.0	8.6	15.0
Growth Reserve and Capital (%)		12.4	27.8	17.9	20.0	13.1	7.2	13.4	7.0	12.4	14.6	6.5
Market Shares												
Share to total assets (%)	55.8	58.9	59.4	61.1	59.0	58.0	57.3	56.1	57.6	49.0	57.2	3.3
Share to total loans & investment (%)	48.6	45.2	45.5	46.1	34.4	37.5	34.0	36.7	34.5	37.8	40.0	5.6
Share Deposits (%)	71.7	67.5	69.0	68.6	68.6	66.0	66.0	63.8	66.8	55.8	66.4	4.3

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Annexure 2: Performance of Indicators: Bhutan National Bank

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg.	SD
Leverage & Liquidity												
Loans & investment/Capital Ratio	4.6	3.8	4.0	6.2	4.4	6.7	6.2	6.9	7.7	7.6	5.8	1.5
Loans & Investment/Total Assets (%)	29.6	25.2	29.7	40.0	53.4	66.4	60.1	56.5	74.9	58.2	49.4	17.2
Assets/Capital	15.5	15.0	13.6	15.4	8.3	10.0	10.3	12.2	10.3	13.0	12.4	2.6
Loans & Investment to Deposits (%)	33.5	28.6	34.0	44.8	64.7	79.7	72.9	65.9	91.1	66.7	58.2	21.6
Profitability/Earning/Operation												
Return on Assets (ROA) %	1.7	2.7	1.9	0.8	1.0	1.2	1.9	1.9	2.4	1.9	1.7	0.6
Return on Capital (ROC) %	26.3	40.4	25.8	12.2	8.5	11.9	20.0	23.2	24.4	24.1	21.7	9.2
Return on Loans & Investment(ROL) %	5.7	10.7	6.4	2.0	1.9	1.8	3.2	3.4	3.2	3.2	4.1	2.8
Revenue to Assets (%)	7.1	9.0	8.9	6.8	6.9	6.8	7.6	6.8	7.7	6.9	7.4	0.9
Net Interest Margin (Net Interest/Assets) (%)	2.9	3.1	2.8	2.1	3.0	3.4	4.0	3.8	5.3	3.7	3.4	0.9
Productivity/Efficiency												
Loans & Investment per employees	6.2	6.7	7.4	11.1	13.1	19.9	16.1	17.4	24.4	25.0	14.7	7.0
Net Profit per Employee	0.4	0.7	0.5	0.2	0.3	0.4	0.5	0.6	0.8	0.8	0.5	0.2
Interest expense/total expenses (%)	70.3	75.8	79.7	76.9	72.7	67.8	67.4	62.7	60.2	62.8	69.6	6.6
Income and sources of fund diversification												
Share of Interest Income (%)	85.7	79.7	84.6	89.3	93.6	89.0	85.7	90.6	98.8	85.8	88.3	5.3
Credibility or cost of fund:												
Interest Expense / Deposit (IE/D)	3.6	4.6	5.4	4.4	4.2	3.1	3.1	2.7	2.8	2.5	3.7	1.0
Capital Adequacy												
Capital Funds / Tot Assets	6.5	6.7	7.4	6.5	12.0	10.0	9.7	8.2	9.7	7.7	8.4	1.9
Capital Funds/ Net Loans & Investment	21.8	26.4	24.7	16.2	22.5	15.0	16.2	14.5	13.0	13.2	18.4	5.0
Growth and Aggressiveness												
Growth of Assets		36.1	7.6	22.8	9.8	24.5	12.7	28.9	4.3	59.7	22.9	17.4
Growth of Loans & Investment		15.7	27.1	65.2	46.5	54.7	2.0	21.2	38.2	24.1	32.8	20.1
Growth of profit		73.4	6.2	-6.3	11.9	21.5	27.1	14.2	19.1	42.3	23.3	23.1
Growth in Revenue		115.1	-24.1	-48.7	42.0	43.9	85.2	26.5	30.1	24.4	32.7	49.6
Growth Reserve and Capital		40.3	19.0	8.3	103.3	3.2	9.9	8.8	23.9	26.1	27.0	30.9
Market Shares												
Share to total assets	21.2	26.7	25.9	26.7	27.5	30.2	30.6	32.9	30.8	38.9	29.1	4.8
Share to total loans & investment	18.7	21.0	21.3	26.7	36.4	40.3	40.6	41.3	44.4	42.4	33.3	10.2
Share Deposits	28.3	32.5	31.0	31.4	31.4	34.0	34.0	36.2	33.2	44.2	33.6	4.3

Annexure 3: Performance indicators of RICB

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg.	SD
Leverage & Liquidity												
Loans & investment/Capital Ratio	6.0	9.0	8.4	6.0	5.3	4.5	4.3	3.7	3.6	3.6	5.4	1.9
Loans & Investment/Total Assets (%)	41.2	79.1	83.2	87.1	84.7	95.1	97.1	94.0	95.3	87.1	84.4	16.3
Assets/Capital	14.7	11.4	10.1	6.9	6.3	4.7	4.4	3.9	3.8	4.1	7.0	3.8
Profitability/Earning/Operation												
Return on Assets (ROA) %	1.0	1.6	2.3	3.1	2.9	5.0	4.4	5.3	5.3	4.5	3.5	1.6
Return on Capital (ROC) %	14.5	18.6	22.9	21.5	18.5	23.9	19.5	20.7	20.0	18.5	19.9	2.7
Return on Loans & Investment(ROL) %	2.4	2.1	2.7	3.6	3.5	5.3	4.5	5.6	5.5	5.1	4.0	1.4
Revenue to Assets (%)	1.7	3.6	5.2	5.3	5.2	8.4	7.8	8.2	8.4	7.2	6.1	2.3
Productivity/Efficiency												
Loans & Investment per employees	5.0	6.1	8.3	7.4	8.0	8.3	10.0	9.7	11.3	12.3	8.6	2.2
Net Profit Per Employee	0.1	0.1	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.4	0.2
Income and sources of fund diversification												
Capital Adequacy												
Capital Funds / Tot Assets	6.8	8.8	9.9	14.5	15.9	21.1	22.6	25.4	26.3	24.2	17.5	7.3
Capital Funds/ Net Loans & Investment	16.5	11.1	11.9	16.7	18.7	22.2	23.2	27.0	27.6	27.7	20.3	6.2
Growth and Aggressiveness												
Growth of Assets		-45.5	14.5	-12.8	12.1	-2.8	13.7	6.0	15.5	32.1	3.6	22.3
Growth of Loans & Investment		4.7	20.4	-8.7	9.1	9.1	16.1	2.5	17.1	20.8	10.1	9.7
Growth of Profit		-9.8	59.1	19.9	5.3	67.0	-1.0	27.2	15.2	12.2	21.7	26.0
Growth in Revenue		16.7	67.4	-10.7	10.6	55.1	5.4	12.6	17.4	12.9	20.8	24.6
Growth Reserve and Capital		-29.7	29.2	27.4	22.7	29.0	21.7	19.3	19.4	21.5	17.9	18.2
Market Shares												
Share to total assets	18.4	9.3	9.6	7.0	7.4	6.3	6.5	5.7	5.9	6.2	8.3	3.8
Share to total loans	21.8	23.6	21.9	18.5	17.8	13.8	15.7	12.8	11.6	10.1	16.7	4.7
Share to total loans & investment	22.6	23.0	22.1	15.3	15.5	12.1	13.9	12.0	10.9	10.1	15.7	5.0

Annexure 4: Performance indicators of BDFC

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg.	SD
Leverage & Liquidity												
Loans & investment/Capital Ratio	1.7	1.6	1.9	2.3	2.6	2.3	2.3	2.0	2.4	2.7	2.2	0.4
Loans & Investment/Total Assets (%)	73.5	69.8	79.6	93.2	90.3	91.0	94.1	85.3	93.3	87.3	85.7	8.7
Assets/Capital	3.7	3.5	3.3	3.3	3.7	3.2	3.0	2.8	3.0	3.4	3.3	0.3
Profitability/Earning/Operation												
Return on Assets (ROA) %	1.4	2.9	3.0	3.2	3.3	4.9	5.5	5.5	3.6	3.7	3.7	1.3
Return on Capital (ROC) %	5.3	10.1	9.9	10.6	12.1	15.6	16.4	15.4	10.8	12.6	11.9	3.3
Return on Loans & Investment(ROL) %	1.9	4.1	3.8	3.4	3.6	5.4	5.9	6.4	3.9	4.2	4.3	1.3
Revenue to Assets (%)	10.0	10.8	9.7	10.3	10.6	12.1	11.8	11.9	11.6	11.5	11.0	0.9
Interest Income / Assets %	8.8	9.2	8.6	10.0	10.3	11.8	11.6	11.3	11.2	11.0	10.4	1.2
Net Interest Margin (%)= Net Interest/Assets	6.8	7.1	6.5	8.1	7.9	9.3	9.3	8.4	8.4	7.5	7.9	1.0
Productivity/Efficiency												
Loans & Investment per employees	3.5	3.8	5.2	6.8	8.4	8.7	8.7	8.1	9.7	10.6	7.4	2.4
Net Profit Per Employee	0.1	0.2	0.2	0.2	0.3	0.5	0.5	0.5	0.4	0.4	0.3	0.2
Income & sources of fund diversification												
Share of Interest Income %	88.4	85.4	89.0	96.9	97.3	97.2	97.8	95.3	95.9	95.2	93.8	4.5
Capital Adequacy												
Capital Funds / Tot Assets	27.2	28.5	30.4	30.3	27.1	31.2	33.6	35.6	33.5	29.0	30.6	2.9
Capital Funds/ Net Loans & Investment	37.0	40.8	38.2	32.5	30.0	34.3	35.7	41.7	35.9	33.2	35.9	3.7
Growth and Aggressiveness												
Growth of Assets		16.9	12.6	20.6	26.5	2.6	11.3	14.5	19.0	32.5	17.4	8.7
Growth of Loans & Investment		11.0	28.4	41.2	22.6	3.3	15.1	3.8	30.2	24.0	20.0	12.7
Growth in Profit		135.6	17.7	28.1	29.1	53.2	25.7	13.7	21.1	33.8	35.1	42.6
Growth of Revenue		26.9	0.5	29.1	30.1	16.9	8.8	15.0	16.6	31.3	19.5	10.7
Growth Reserve and Capital		22.3	20.4	20.1	13.1	18.0	20.1	21.2	12.0	14.8	18.0	3.8
Market Shares												
Share to total assets	4.6	5.0	5.1	5.1	6.1	5.5	5.5	5.3	5.6	5.9	5.4	0.4
Share to total loans	14.7	14.5	14.8	15.1	16.4	11.9	13.4	11.1	11.1	10.2	13.3	2.1
Share to total loans & investment	10.1	10.9	11.2	12.0	13.7	10.1	11.5	10.0	10.1	9.7	10.9	1.2

Annexure 5: Growth and Size of Financial Institution

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BOBL										
Assets	7,417.7	8,449.8	9,467.3	11,598.9	11,935.5	13,303.8	14,585.2	17,141.3	19,630.2	21,069.3
Loans & Investment	2,167.1	2,081.4	2,626.2	3,501.2	2,806.2	4,284.1	3,924.8	5,041.6	6,103.5	8,686.8
Deposits	6,323.3	7,025.8	8,025.2	9,901.5	10,019.5	11,184.3	12,486.4	15,174.5	17,330.2	18,436.8
Revenue	488.7	536.5	713.5	660.0	699.6	667.1	616.6	792.2	813.4	951.7
Net Profit	70.6	86.1	170.8	136.1	164.2	164.2	137.5	198.6	183.3	167.6
Operating Expenses	86.5	75.9	89.8	77.0	85.4	104.0	122.5	164.0	196.1	197.5
Reserve and Capital	451.3	507.4	648.2	764.6	917.3	1,037.3	1,111.7	1,260.3	1,348.2	1,515.8
BNBL										
Assets	2,816.1	3,831.5	4,124.2	5,062.7	5,559.3	6,921.6	7,799.4	10,051.8	10,481.1	16,734.0
Loans & Investment	834.0	964.7	1,226.5	2,026.4	2,969.5	4,593.8	4,685.4	5,679.5	7,850.2	9,740.0
Deposits	2,489.9	3,376.1	3,610.2	4,522.2	4,587.1	5,761.6	6,424.6	8,622.9	8,614.8	14,601.4
Revenue	199.2	345.4	366.8	343.8	384.9	467.7	594.5	678.7	808.1	1,149.6
Net Profit	47.9	102.9	78.1	40.1	56.9	81.9	151.6	191.8	249.5	310.4
Operating Expenses	37.6	49.8	50.2	60.1	71.6	85.8	96.2	140.5	162.2	217.2
Capital, Reserve and RE	181.8	254.9	303.3	328.5	668.0	689.5	757.9	824.6	1,021.7	1,288.7
RICBL										
Assets	2,452.6	1,336.8	1,530.1	1,334.0	1,495.3	1,454.0	1,652.9	1,751.3	2,023.0	2,672.8
Loans & Investment	1,009.9	1,057.1	1,272.8	1,161.7	1,267.2	1,382.3	1,605.1	1,645.5	1,927.3	2,329.1
Deposits										
Net Profit	24.2	21.9	34.8	41.7	43.9	73.3	72.6	92.3	106.3	119.3
Operating Expenses	6.0	12.9	29.8	11.4	15.8	16.8	14.7	12.5	17.6	21.0
Capital, reserve and RE	167.1	117.6	151.9	193.6	237.5	306.4	373.0	445.1	531.5	646.0
BDFC										
Assets	614.7	718.6	809.3	976.3	1,234.8	1,266.6	1,410.3	1,614.8	1,921.5	2,546.2
Loans & Investment	451.7	501.5	643.9	909.5	1,115.4	1,152.5	1,327.1	1,377.0	1,792.8	2,222.3
Deposits										
Revenue	61.2	77.7	78.1	100.8	131.2	153.3	166.9	191.8	223.7	293.8
Profit	8.8	20.7	24.4	31.3	40.4	61.8	77.7	88.3	69.6	93.2
Operating Expenses	27.7	25.6	25.9	31.8	35.9	37.3	48.9	51.7	69.7	75.0
Capital & Reserves	167.2	204.5	246.2	295.8	334.7	394.9	474.4	574.8	643.5	738.6

Annexure 6: Key Indicators

Item	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08(p)
GDP Growth and Prices (percent change)										
GDP at Constant(2000) Price (a), (b)	6.1	7.9	7.9	6.8	10.9	7.2	6.8	6.5	6.3	21.4
Consumer Prices (c)	9.2	3.6	3.6	2.7	1.8	4.6	5.5	6.2	5.9	8.8
Wholesale Prices (India) (d)	2.5	5.3	6.6	1.7	5.7	5.6	5.2	4.6	5.4	9.6
Government Budget (in millions of Nu.) (e)										
Total Revenue & Grants	6,919.5	7,859.5	8,686.7	8,826.7	7,054.3	11,113.9	10,501.1	13,452.2	16,082.1	
Of which: Foreign Grants	3,262.6	3,274.1	3,711.0	3,748.5	2,269.1	5,367.4	4,373.1	6,424.7	6,000.0	
Total Expenditure and Net Lending	7,224.4	8,624.1	11,177.6	10,052.1	9,945.3	10,534.1	12,893.7	13,770.9	15,795.0	
Money and Credit (% change, end of period)										
Broad Money, M2	21.4	20.3	6.4	17.6	43.6	4.4	10.7	26.3	8.6	
Credit to Private Sector	5.2	4.1	57.1	27.7	23.4	32.8	26.3	32.2	35.5	
Interest Rates (end of period)										
One Year Deposits	10.0	9-10	9-10	9.0	7.0	6.0	4.5	4.5	4.5	
Lending Rate	13-16	12-16	12-16	12-16	12-16	10-16	10-16	10-16	10-16	
91-day RMA Bills	7.5	7.3	6.9	4.7	3.5	3.5	3.5	3.5	3.5	
External Indicators (end of period)										
Gross Official Reserves in Millions of USD	258.3	291.1	292.6	315.3	373.3	383.3	366.5	478.8	600.4	645.7
(In months of merchandise imports)	19.3	19.3	19.0	18.9	21.2	17.6	9.3	13.6	13.3	14.6
External Debt (percent of GDP)	39.8	44.6	54.8	61.6	73.6	81.8	82.2	84.6	79.2	61.1
Debt-Service Ratio (f)	12.1	4.9	4.7	4.9	6.8	6.8	11.9	7.6	3.6	23.2
Trade Balance	-2,453.7	-3,087.3	-4,059.1	-4,795.5	-4,481.0	-4,766.0	-	-5,496.7	2,061.8	-3,086.2
With India	-738.3	-1,354.5	-2,654.3	-3,088.3	-3,911.3	-3,820.7	-3,601.2	-3,170.7	4,447.6	-853.2
Current Account Balance	384.2	1,049.6	-2,024.6	-3,127.4	-4,011.9	-3,318.0	-	-1,695.7	6,417.2	2,089.0
(In percent of GDP)	2.4	5.7	-10.1	-13.7	-15.3	-11.3	-32.4	-4.6	15.9	3.9
With India	-921.4	1,537.5	-1,918.3	-2,327.1	-4,479.3	-3,420.8	-5,253.9	-2,344.6	5,882.1	1,559.7
(In percent of GDP)	-5.8	8.4	-9.6	-10.2	-17.1	-11.7	-16.3	-6.4	14.5	2.9
Memorandum Items:										
Nominal GDP (in millions of Nu.) (a), (b)	15,813.7	18,326.5	20,111.7	22,895.0	26,422.2	29,385.6	32,320.0	36,462.6	40,448.1	51,521.5
Money Supply, M2 (end of period)	7,359.2	8,851.6	9,419.8	11,076.9	15,904.7	16,597.7	18,376.9	23,208.7	25,208.7	
Money Supply, M1 (end of period)	2,868.4	3,612.7	4,477.9	5,019.5	7,502.5	8,524.7	9,331.9	10,678.1	13,542.3	
Reserve Money , M0, of which	4,464.0	4,872.0	4,631.9	5,937.6	8,008.0	9,370.3	9,340.1	13,474.7	13,319.6	
Money Multiplier (M2/M0)	1.6	1.8	2.0	1.9	2.0	1.8	2.0	1.7	1.9	
Income Velocity (GDP/M2)	2.1	2.1	2.1	2.1	1.7	1.8	1.8	1.6	1.6	
Population Growth Rate (a), (g), (h)	-	-	-	3.1	2.4	1.3	2.5	1.3	1.3	
Unemployment Rate (a), (g),(h)	-	-	-	1.9	-	1.8	2.5	3.1	3.2	