

Performance Evaluation of Public Sector Banks and Foreign Banks in India : Using CAMEL Model

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Abstract

The study examined and compared the performance of public and foreign sector banks operating inside India during 2001-2010 using CAMEL test standard factors such as capital adequacy, asset quality, management capability, earning and profitability and liquidity position. The financial data for the study was mined from the performance highlights of public sector and foreign sector banks published by Indian Banks Association (IBA). A sample of 5 of public sector banks and 5 foreign banks were selected to measure and compare their performance. The study found that foreign banks performed better in terms of asset quality (ROA), Asset utilization, while the public sector shows high total advances to total asset ratio and total expenditure to total income ratio indicates lower management efficiency. Indian public banks consistently heading to achieve higher standards and adopting world best management practices. In this paper, we have analyzed the performance evaluation of public sector and foreign banks using different tools of methodology.

JEL Codes

G-21, L-15

Key Words

Financial performance, CAMEL ratios, India, Public banks, Foreign banks

INTRODUCTION

In 1988, The Basel Committee on Banking Supervision created a historical

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document that has since set the ground rules for international banking around the globe. The central issue of the Basel Accord, as it is called, was the stability of banking systems and the emphasis was solidly on capital adequacy of banks. Capital was categorized into different tiers and minimum limits were set for adequacy of each tier of capital depending upon the quality of the loan portfolio of the bank. The Basel Accord is not a one-time deal. Minor amendments and revisions have continued since its initiation. The Accord went a long way increasing the capital adequacy of banks around the world, with most changes, often painful for individual banks as well as economies, coming in the transitional period between 1988 and 1992.

However, a decade or so since its adoption, a need was felt to substantially alter the framework, to come up with a largely new system. It was clear that developments and innovations in financial markets had changed the nature of risks faced by banks and the risk definitions of the 1988 Accord failed to capture the entire picture. The resulting supervisory structure no longer necessarily provides the best incentives for banks or leads to the optimum asset structures for them. After years of long and intense discussions and negotiations, the Basel Committee finally came up with a revised set of regulations in June 2004, popularly called "Basel-II".

There are three major pillars of Basel-II: minimum capital requirements, supervisory review and market discipline. Regarding minimum capital requirements, Basel-II moves beyond the "one-size-fits-all" approach of the 1988 agreement to allow banks to follow one of two choices. They can either use external credit-rating agencies to assess operational risks of the borrowers or use their internal models to develop an Internal Ratings Based (IRB) approach to determining appropriate minimum capital requirements.

The second pillar stresses oversight and monitoring of bank risk management by the top management and board of the bank and allows regulators room to review the banks' choices of capital adequacy and risk management practices and require them to hold more capital if necessary. Finally, the third pillar pertains to periodic reporting of specific variables by banks so as to allow for the financial markets to appropriately value and discipline them. This covers key information about major borrowers, the types of capital of the bank, capital adequacy, credit risk evaluation methods, outside rating agencies if any and details of the credit risk assessment by the banks.

In future, Indian banks, like their counterparts around the world, will adjust and conform to Basel-II. However, it is generally believed that the Basel-II recommendations require a much greater sophistication in risk-management

practices of Indian banks as well as in Indian financial markets than currently available. Thus, the transition portends to be a challenging period for Indian banks as well as for the RBI.

The opening up of the financial sector in 1990 intended to create a viable, competitive and efficient banking system in India had resulted in entry of many private banks both Indian as well as foreign banks and increase competition among the commercial banks in India. Between the years 1991-97 there was a greater inflow of 21 foreign banks and 9 private banks in the Indian banking. In Indian banking sector the report of the Narasimham Committee was the basis for the strengthening of prudential norms and the supervisory framework. Starting with the guidelines on income recognition, asset classification, provisioning and capital adequacy there have been continuous efforts to enhance the transparency and accountability of the banking sector.

The improvements of the prudential and supervisory framework were accompanied by a paradigm shift from micro-regulation of the banking sector to a strategy of macro management. In this direction the CAMELS system of annual supervision was introduced in India in 1997. The Basle Accord capital standards were adopted in April 1992. The 8% capital adequacy ratio had to be met by foreign banks operating in India by the end of March 1993; Indian banks with a foreign presence had to reach the 8% by the end of March 1994 while purely domestically operating banks had until the end of March 1996 to implement the requirement. The performance of banks has become a major concern to planners and policy makers since the gains of real sector economy depend on how efficiently the financial sector performs the function of financial intermediation. In this regard, the present study threw a light on this issue.

OBJECTIVES

The main objectives of the study are as follows :-

- (i) To compare the financial performance of the banks under study.
- (ii) To determine the factors responsible for current financial performance.
- (iii) To suggest measures for improvement of financial performance of banks.

METHODOLOGY

In this study, the CAMEL Model was used to estimate the financial performance of banks. The model is explained as under :

CAMEL Framework

This system was adopted in India since 1997, this system consists - Capital adequacy, Asset quality, Management capability, Earnings capacity, and Liquidity. CAMEL ratios are mostly used to quantify the financial soundness and health of banks through micro analysis of balance sheets and income statement items. These ratios include various financial indicators regarding quality of assets, financial soundness and management quality, earning capacity of assets, liquidity position and risk taking behavior of banks. Therefore, the efficiency/inefficiency of sample banks evaluated in relation to the CAMEL indicators.

Sample of the study

The present study seeks to evaluate the financial performance of the five public sector banks (Bank of Baroda, Bank of India, Canara Bank, Punjab National Bank and State Bank of India) and five foreign banks (JP Morgan Chase Bank, Citibank N.A., Deutsche Bank AG, Standard chartered Bank and The Hong Kong and Shanghai Banking Corporation Ltd). These five banks were purposely selected for the study, keeping in view their investment in India.

Data and tools

The study is mainly based on secondary data drawn from the performance highlights of public sector and foreign sector banks published by Indian Banks Association (IBA). This data is related to years (2001-2010). For analysis of the data, two important statistical tools viz. mean and coefficient of variation has been used to arrive at conclusions in a scientific way.

RESULTS AND INTERPRETATION

Capital Adequacy

In the standard CAMELS framework, capital adequacy focuses on the total risk weighted capital intended to protect the depositors from the potential shocks of losses that a bank might incur. It is assessed according to: the volume of risk assets, the volume of marginal and inferior assets, bank growth experience, plans, and prospects; and the strength of management in relation to all the above factors (Sundarajan and Errico, 2002). Thereby it helps absorbing major financial risks (like credit risk, foreign exchange risk, interest rate risk and risk involved in off-balance sheet operations). Basel Committee on Banking Supervision also stipulates the CAMELS components.

As regards the capital adequacy, they grouped the factors like (a) size of the bank, (b) volume of inferior quality assets, c) bank's growth experience,

plans and prospects, d) quality of capital, e) retained earnings, f) access to capital markets, and g) non-ledger assets and sound values not shown on books (real property at nominal values, charge-offs with firm recovery values, tax adjustments) (Sahajwala and Bergh, 2000).

Capital adequacy provides insurance about financial soundness against unforeseen contingencies. It acts as a shield against expected losses associated with risk attached to banks. Tier I capital, known as core capital, provides the most permanent and readily available support to the bank against unexpected losses. It includes: (1) Paid-up capital (2) Statutory Reserves (3) Other disclosed free reserves and (4) Capital Reserves - (sub) (i) Equity investments in subsidiaries (ii) Intangible assets (iii) Accumulated loss.

Tier-II capital is less permanent in nature it consists (1) Undisclosed Reserves (2) Revaluation Reserves (3) General Provisions and Loss Reserves (4) Hybrid (debt/equity) Capital Instruments and (5) Subordinated debt the above definition adopted in India. It was further stipulated that Tier-I capital should at no point be less than 50% of the total capital. CAR reflects the ability of a bank to deal with probable loan defaults.

$$CAR = \frac{(\text{Tier I} + \text{Tier II}) \text{ Capital}}{\text{Risk Weighted Assets}} \times 100$$

Figure 1.1 : Capital Adequacy Ratio

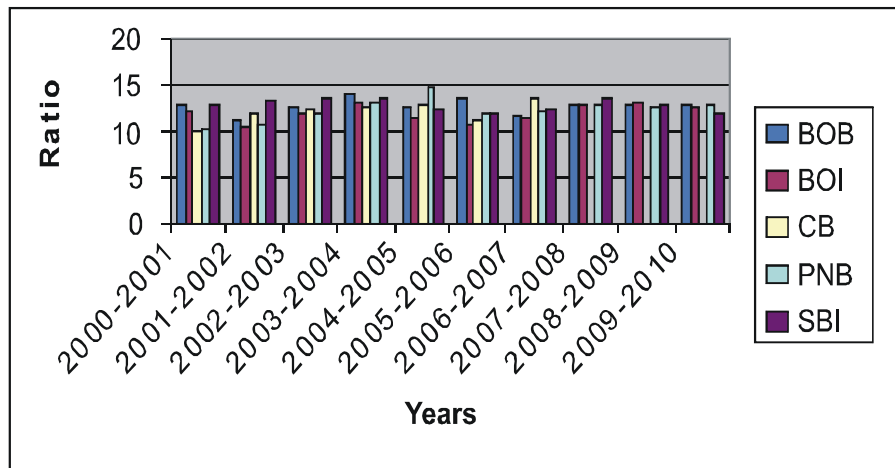


Figure 1.2 : Capital Adequacy Ratio

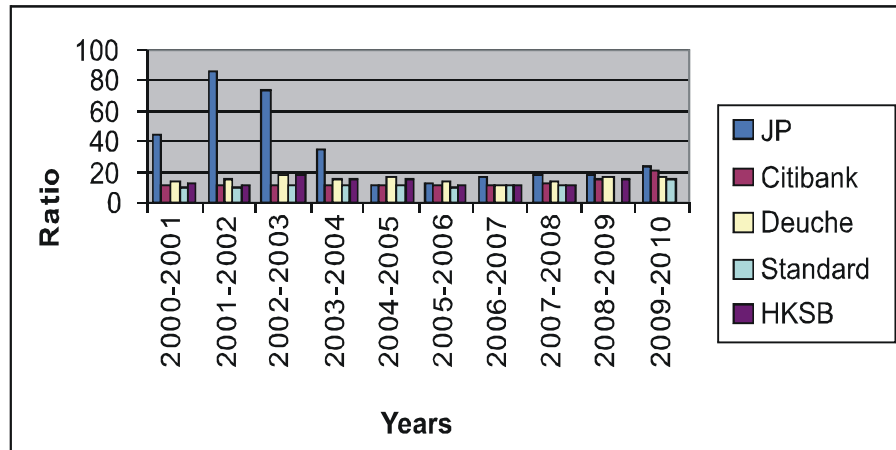
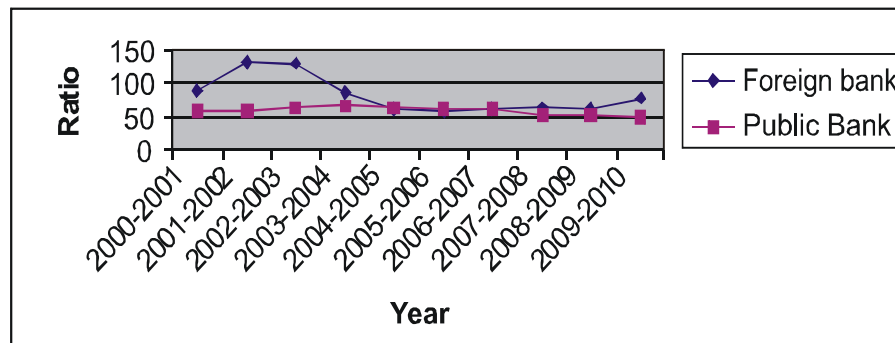


Figure 1.3 : Capital Adequacy Ratio



Capital Adequacy ratio is higher in JP Morgan Chase Bank from 2000-01 to 2003-04 among all sample foreign and public sector banks and afterward shows declining trend. This is the reason that capital adequacy is lower in public sector banks for the period 2000-01 to 2003-04. This also results in higher average for foreign sector banks. From the period 2004-05 to 2008-09 the adequacy ratio in both sectors remains at par and in the year 2009-10 foreign sector again shows rising trend.

Table 1
Capital Adequacy Ratio

Year	Public Bank	Foreign Bank
2000-01	57.9	89.71
2001-02	57.93	131.67
2002-03	62.69	130.26
2003-04	66.21	85.77
2004-05	64.14	61.68
2005-06	59.45	56.37
2006-07	61.51	59.32
2007-08	52.29	64.61
2008-09	51.65	61.12
2009-10	50.44	76.62
Mean	58.421	81.713
C.V.%	9.37	34.66

Source : Calculated

Asset Quality

In the standard CAMELS framework, asset quality is assessed according to the level, distribution, and severity of classified assets, the level and composition of non-accrual and reduced rate assets, the adequacy of valuation reserves and the demonstrated ability to administer and collect problem credits (Sundarajan and Errico, 2002). As regards the asset quality, Basel Committee on Banking Supervision highlights the factors a) volume of transactions, b) special mention loans-ratios and trends, c) level, trend and comparison of non-accrual and renegotiated loans, d) volume of concentrations, and e) volume and character of insider transactions (Sahajwala and Bergh, 2000).

(i) Return on assets (ROA)

Return on assets indicates the profitability on the assets of the firm after all expenses and taxes (Van Horne 2005). It measures how much the firm is earning after tax for each rupee invested in the assets of the firm. That is, it measures net earnings per unit of a given asset, moreover, how bank can convert its assets into earnings (Samad & Hassan 2000). Generally, a higher ratio means better managerial performance and efficient utilization of the assets of the firm and lower ratio is the indicator of inefficient use of assets. ROA can be increased by firms either by

increasing profit margins or asset turnover but they can't do it simultaneously because of competition and trade-off between turnover and margin.

ROA is calculated as under :

$$ROA = \frac{\text{Net Profit}}{\text{Average Profit}} \times 100$$

Figure 2.1 : Return on Asset

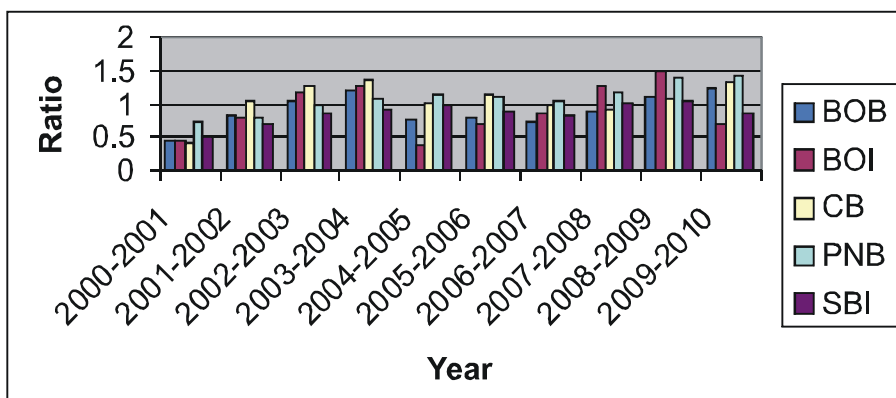


Figure 2.2 : Return on Asset

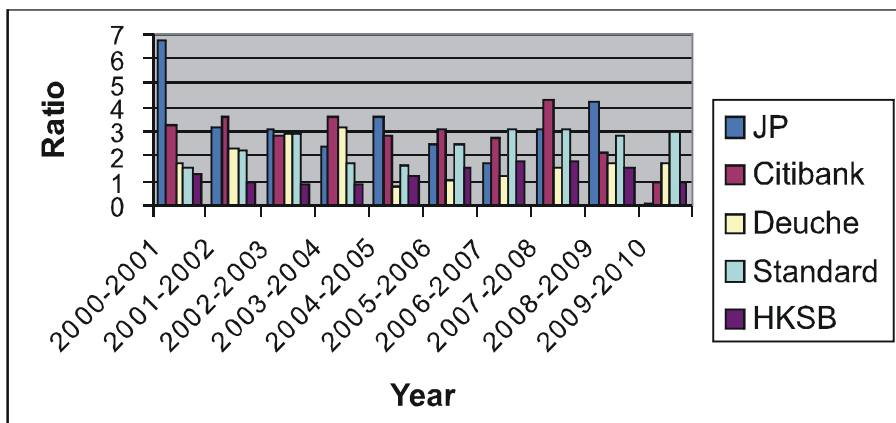


Figure 2.3 : Return on Asset

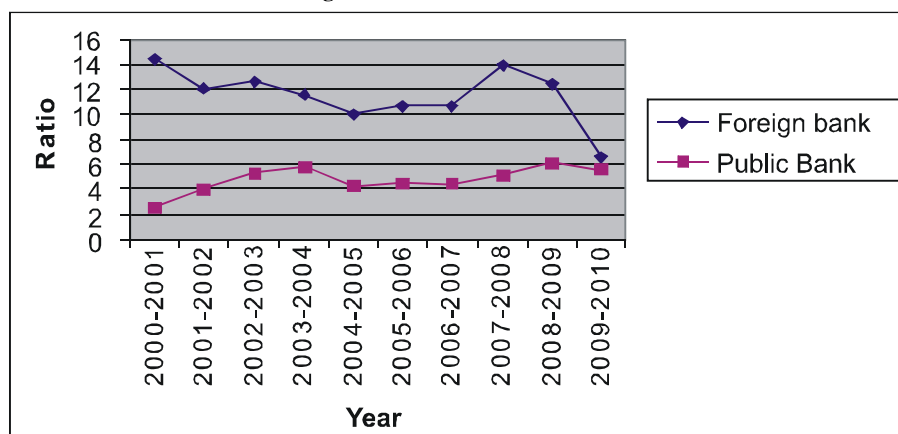


Table 2

Return on Asset Ratio

Year	Public Bank	Foreign Bank
2000-01	2.55	14.4
2001-02	4.09	12.06
2002-03	5.29	12.62
2003-04	5.81	11.58
2004-05	4.25	9.96
2005-06	4.58	10.71
2006-07	4.45	10.61
2007-08	5.22	13.91
2008-09	6.07	12.46
2009-10	5.53	6.69
Mean	4.78	11.5
C.V.%	21.61	19.14

Source : Calculated

The perusal of above table and graphs clearly indicates, ROA of foreign banks has been greater than public sector banks over time the rising return on asset ratio among foreign sector banks this depicts the better managerial efficiency of these banks. In case of public sector banks the Bank of India shows higher ratio in the year 2008-09 but again this ratio declines in 2009-10. Finally, on average, ROA of foreign banks (11.5) is higher than average ROA of public bank (4.78); however, coefficient variation is better in case of public banks which emphasise

that Indian public banks are consistent in their performance on assets.

(ii) Return on Equity (ROE)

Return on equity indicates the profitability to shareholders of the firm after all expenses incurred it measures how much the firm is earning for each Rupee invested in the firm. In other words, ROE is net earnings per rupee equity capital. It is also an indicator of measuring managerial efficiency. The higher ROE means better managerial performance; however, a higher return on equity may be due to debt (financial leverage) or higher return on assets. Financial leverage creates an important difference between ROA and ROE in that financial leverage always magnifies ROE. This will always be the case as long as the ROA (gross) is greater the interest rate on debt (Ross, Westerfiled, Jaffe 2005). Usually, there is higher ROE for high growth companies.

ROE is calculated as under :

$$\text{ROE} = \frac{\text{Net Profit}}{\text{Shareholders' Own Funds}}$$

Figure 3.1 : Return on Equity

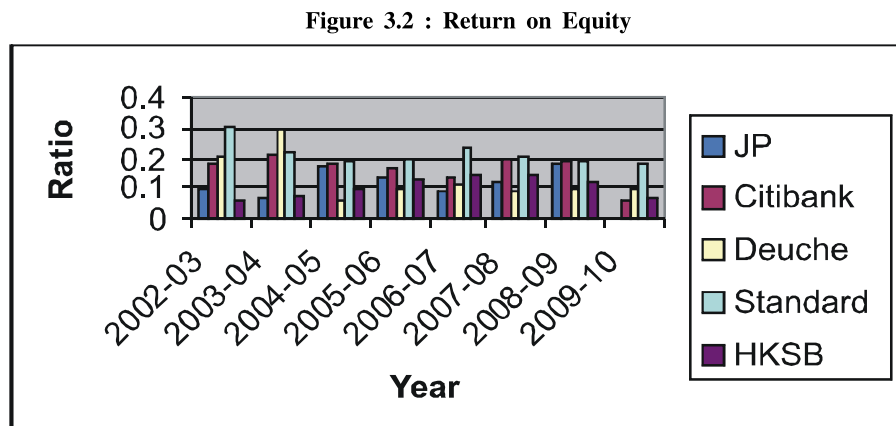


Figure 3.3 : Return on Equity

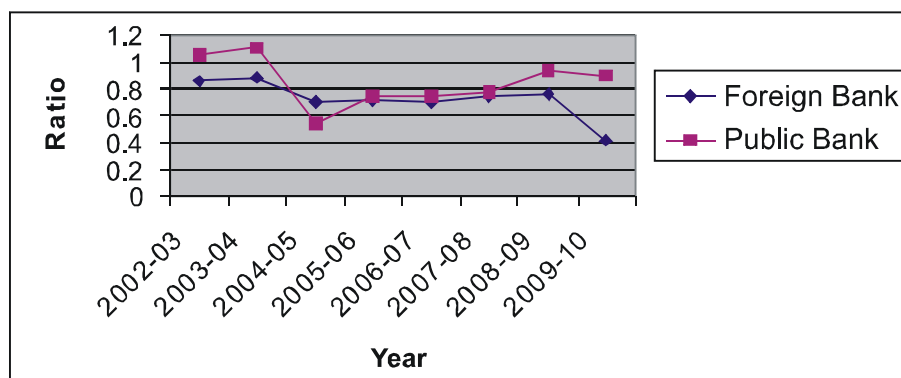


Table 3

Return on Equity Ratio

Year	Public Bank	Foreign Bank
2002-03	1.05	0.85
2003-04	1.09	0.88
2004-05	0.54	0.70
2005-06	0.74	0.71
2006-07	0.73	0.70
2007-08	0.77	0.74
2008-09	0.93	0.75
2009-10	0.89	0.40
Mean	0.84	0.72
C.V.%	21.61	19.86

Source : Calculated

The ROE ratio shows the reverse trend then ROA in which public sector banks emerge better than their foreign counterparts. The result shows that public banks ROE is consistently higher than foreign bank except in the year 2004-05. This higher increase in ROE in public sector banks is evident in the year 2002-04 and 2008-10 and more consistent.

Management

Sound management is a key pre-requisite for the strength, profitability

and growth of any financial institution. Since indicators of management quality are primarily specific to individual institution, these can not be easily aggregated across the sector. In addition, it is difficult to draw any conclusion regarding management soundness on the basis of monetary indicators, as characteristics of good management are generally qualitative in nature. The capability of the Board of Directors and internal management personnel to identify, measure, monitor and control different risks associated in the activities and to ensure a safe, sound and efficient operation in compliance with all applicable laws, regulations and especially the core risk management guidelines introduced by the central bank might be a measuring rod of that. In the standard CAMELS framework, management is evaluated according to: technical competence, leadership, and administrative ability; compliance with banking regulations and statutes; ability to plan and respond to changing circumstances; adequacy of and compliance with internal policies; tendencies toward self-dealing; and demonstrated willingness to serve the legitimate needs of the community (Sundarajan and Errico, 2002). As regards the management factors, Basel Committee on Banking Supervision highlights the aspects like a) technical competence, leadership etc. of middle and senior management, b) compliance with banking laws and regulations, c) adequacy and compliance with internal policies, d) tendencies towards self-dealing, e) ability to plan and respond to changing circumstances, f) demonstrated willingness to serve the legitimate needs of the community, g) adequacy of directors, and h) existence and adequacy of qualified staff and programmers (Sahajwala and Bergh, 2000).

However, ratios such as total expenditure to total income, operating expenses to total expenses, earnings and operating expenses per employee, and interest rate/mark-up spread are generally used to gauge management soundness. In particular, a high and increasing expenditure to income ratio indicates the operating inefficiency that could be due to weaknesses in management. Management has an extremely vital role for banks to achieve their cost efficiency. The management decides the financing modes of banking operations, choice of asset portfolio and amount of risk taken and all operational strategies.

(i) Total Expenditure to Total Income Ratio (EIR)

$$\text{EIR} = \frac{\text{Total Expenditure}}{\text{Total Income}}$$

Figure 4.1 : Total Expenditure to Total Income

Figure 4.2 : Total Expenditure to Total Income

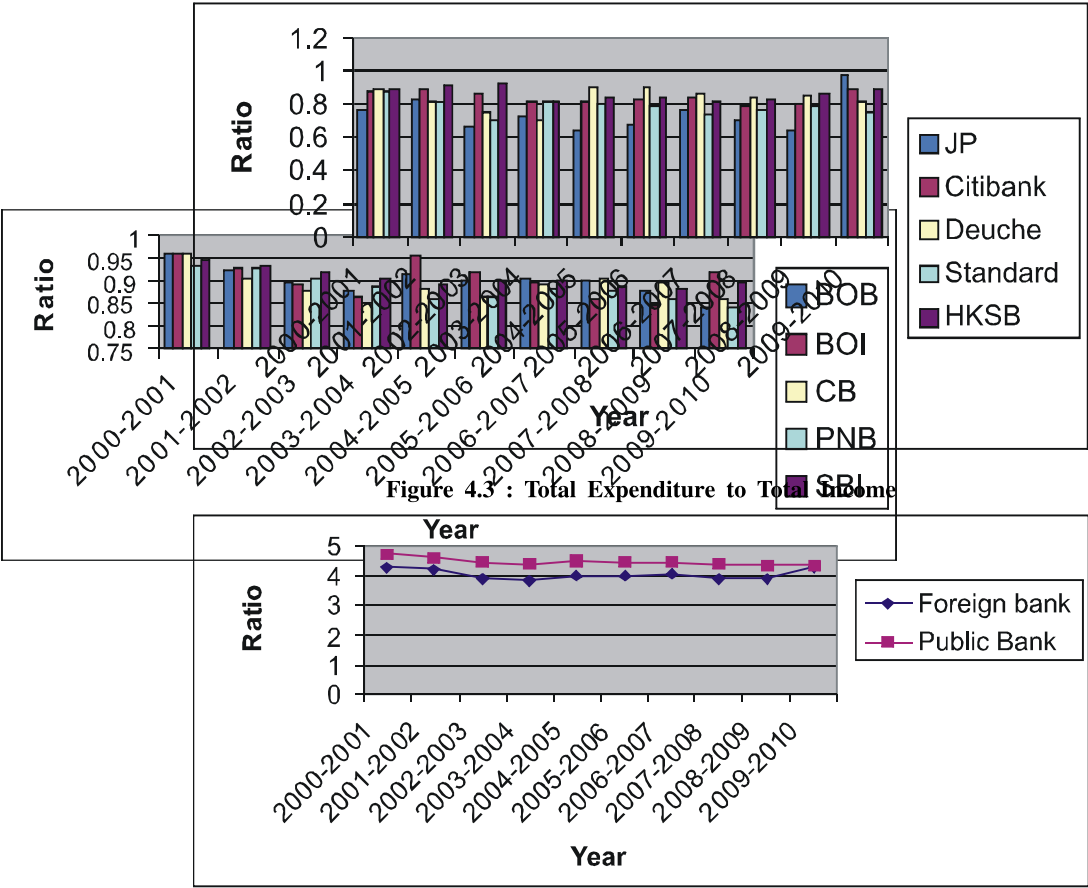


Table 4**Total Expenditure to Total Income Ratio**

Year	Public Bank	Foreign Bank
2000-01	4.74	4.26
2001-02	4.60	4.25
2002-03	4.47	3.89
2003-04	4.38	3.87
2004-05	4.49	4.00
2005-06	4.44	4.01
2006-07	4.46	4.03
2007-08	4.41	3.92
2008-09	4.35	3.92
2009-10	4.35	4.30
Mean	4.47	4.04
C.V.%	2.72	4.09

Source : Calculated

As evident the high ratio in public sector banks indicate weak management compared to foreign banks from 2000 to 2010 but the difference in average is not substantial. However, the difference in variation over the years is 1.37. In public sector Bank of Baroda (0.84) and Punjab National bank (0.84) has lower ratio in 2009-10 but in foreign banks JP Morgan Chase Bank managed to have lowest ratio (0.64) in 2004-05 and 2008-09 among sample banks.

(ii) Operating Expenditure to Total Expenditure

$$\text{OE to TE} = \frac{\text{Operating Expenditure}}{\text{Total Income}}$$

Operating expenses include establishment expenses, rent, taxes and lighting, printing and stationary, advertisement and publicity, depreciation and insurance.

Figure 5.1 : Total Expenditure to Total Expenditure

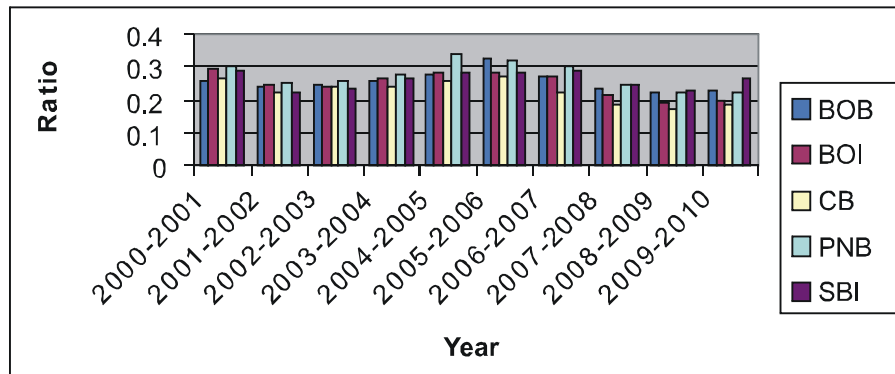


Figure 5.2 : Total Expenditure to Total Expenditure

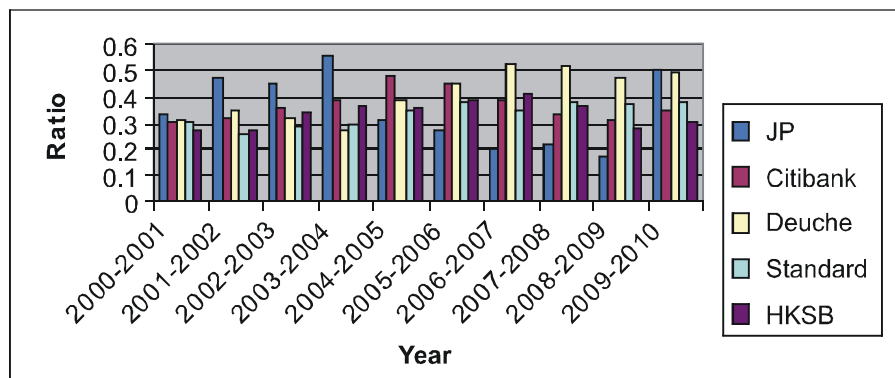


Figure 5.3 : Total Expenditure to Total Expenditure

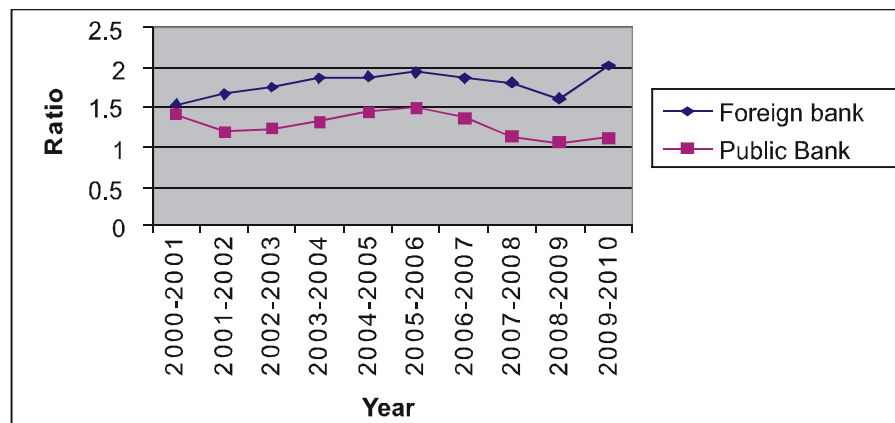


Table 5
Operating Expenditure to Total Expenditure

Year	Public Bank	Foreign Bank
2000-01	1.41	1.52
2001-02	1.19	1.66
2002-03	1.23	1.75
2003-04	1.31	1.87
2004-05	1.45	1.87
2005-06	1.48	1.94
2006-07	1.35	1.87
2007-08	1.13	1.80
2008-09	1.04	1.60
2009-10	1.10	2.01
Mean	1.274	1.793
C.V.%	12.05	8.63

Source : Calculated

The public sector manages their operating expenses out of total expenditure in case of foreign banks the top management gets hefty packages of salaries and perks which gives considerable rise in their operating expense as compared to public sector banks. The public sector banks have lower mean and high variation while foreign sector banks have high average and lower variation shows reverse trend. In 2004-05 Punjab National Bank (0.34) has higher operating expenditure ratio while JP Morgan Chase Bank (0.55) in 2003-04 and Deutsche Bank AG (0.52) in 2006-07.

Earnings and Profitability

Strong earnings and profitability profile of a bank reflect sound financial environment of banks and their ability to support present and future operations. More specifically, this determines the capacity to absorb losses by building an adequate capital base, finance its expansion and pay adequate dividends to its shareholders. In the standard CAMELS framework, earnings are assessed according to: the ability to cover losses and provide for adequate capital; earnings trend; peer group comparisons; and quality and composition of net income (Sundarajan and Errico, 2002). As regards the earnings and profitability factors, Basel Committee on Banking Supervision highlights the aspects like a) return on assets compared

to peer group averages and the bank's own trends, b) material components and income and expenses-compared to peers and the bank's own trends, c) adequacy of provisions for loan losses, d) quality of earnings, and e) dividend payout ratio in relation to the adequacy of bank capital (Sahajwala and Bergh, 2000).

Although there are various measures of earning and profitability, the best and widely used indicator is returns on assets (ROA), which is supplemented by return on equity (ROE) and net interest margin (NIM). Profitability is considered to be the most important to assess the ability of the business to generate earnings in comparison with its all expenses and other relevant costs during a specific time period. Profitability ratios are generally considered to be the basic bank financial ratio in order to evaluate how well bank is performing in terms of profit. For the most part, if a profitability ratio is relatively higher as compared to the competitor(s), industry averages or previous years' same ratios, then it is taken as indicator of better performance of the bank. This study applies following ratio to judge the profitability of the banks.

(i) Asset Utilization (AU)

This measured the income generating capacity of banks by utilizing all of its assets. The bank is presumably said to using its assets effectively in generating total revenues if the AU ratio is high. If the ratio of AU is low, the bank is not

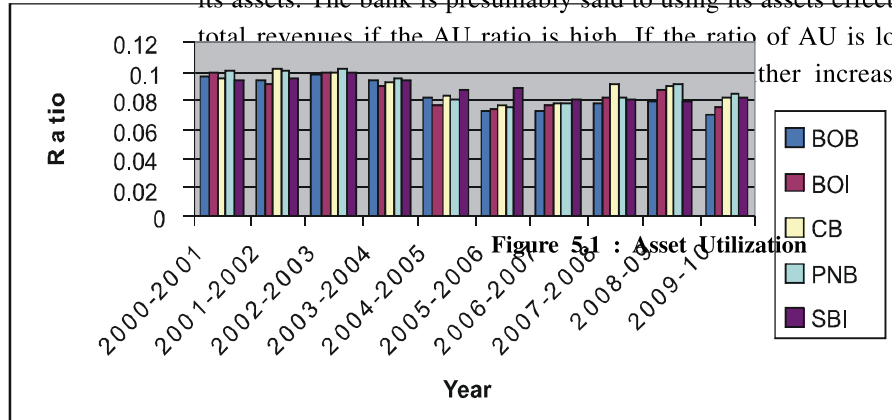


Figure 5.2 : Asset Utilization

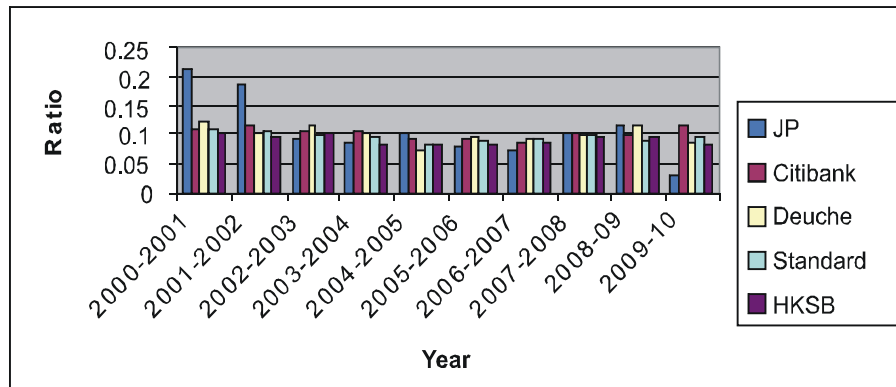


Figure 5.3 : Asset Utilization

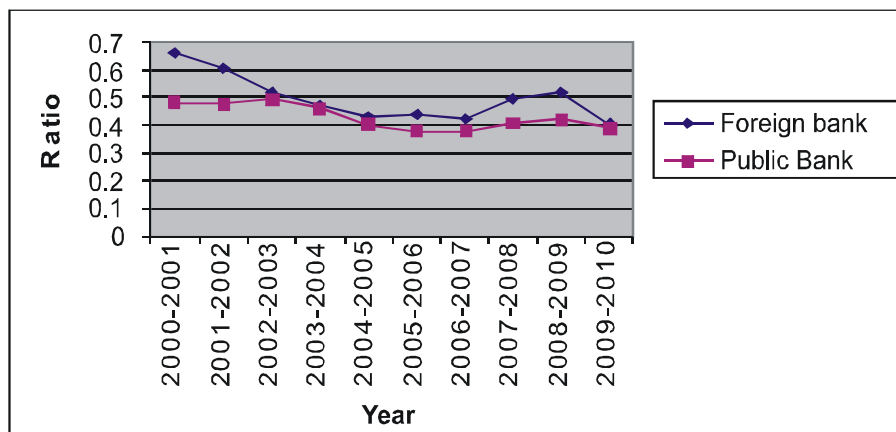


Table 6

Asset Utilization

Year	Public Bank	Foreign Bank
2000-01	0.48	0.66
2001-02	0.48	0.60
2002-03	0.49	0.51
2003-04	0.46	0.47
2004-05	0.40	0.43
2005-06	0.38	0.43
2006-07	0.38	0.42
2007-08	0.41	0.49
2008-09	0.42	0.51
2009-10	0.39	0.40
Mean	0.431	0.497
C.V.%	10.08	16.57

Source : Calculated

The behavior of the two lines in graph reveals some useful information JP Morgan Chase Bank has higher AU ratio during 2000-02 results in higher ratio of foreign sector banks in this period. Also above table shows that in each year the foreign sector banks outperformed public sector banks in utilizing their assets efficiently and maintain this trend over the last ten years.

Liquidity

In the standard CAMELS framework, liquidity is assessed according to volatility of deposits, reliance on interest-sensitive funds, technical competence relative to structure of liabilities, availability of assets readily convertible into cash, and access to inter-bank markets or other sources of cash, including lender-of-last-resort (LOLR) facilities at the central bank (Sundarajan and Errico, 2002).

As regards the liquidity factors, Basel Committee on Banking Supervision highlights the aspects like a) adequacy of liquidity sources compared to present and future needs, b) availability of assets readily convertible to cash without undue loss, c) access to money markets, d) level of diversification of funding sources: on- and off-balance sheet, e) degree of reliance on short-term volatile sources of funds, f) trend and stability of deposits, g) ability to securitize and sell certain pools of assets, and h) management competence to identify, measure,

monitor and control liquidity position (Sahajwala and Bergh, 2000).

Maintaining sufficient liquidity is necessary to meet the current and near future obligations. Liquidity ratios indicate the ability of the firm to meet recurring financial obligations. Liquidity is important for the firm to avoid defaulting on its financial obligations. These ratios measure ability of the firm to meet its short term obligations, maintain cash position and collect receivables. In general sense, the higher liquidity ratios mean bank has larger margin of safety and ability to cover its short term obligations. Because saving accounts and transaction deposits can be withdrawn at any time, there is high liquidity risk for both the banks and other depository institutions. Banks can get into liquidity problem especially when withdrawals exceed new deposits significantly over a short period of time (Samad & Hassan 2000).

(i) Advances to Total Assets Ratio (ATAR)

It measures the amount of total advances firm used to finance its total assets. It is an indicator of financial strength of the bank. It provides information about the solvency and the ability of the firm to obtain additional financing for potentially attractive investment opportunities. Higher ATAR means bank has financed most of its assets through debt as compared to the equity financing. Moreover, higher ATAR indicates that bank is involved in more risky business. ATAR is calculated as under :

$$\text{ATAR} = \frac{\text{Total Advances}}{\text{Total Assets}}$$

Figure 6.1 : Advances to Total Asset Ratio

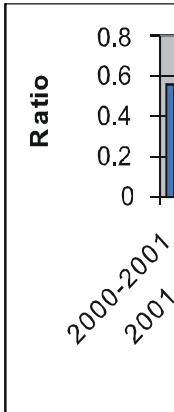


Figure 6.2 : Advances to Total Asset Ratio

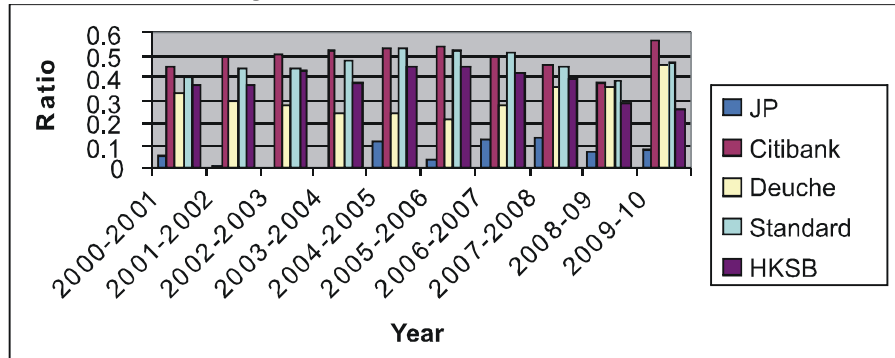


Figure 6.3 : Advances to Total Asset Ratio

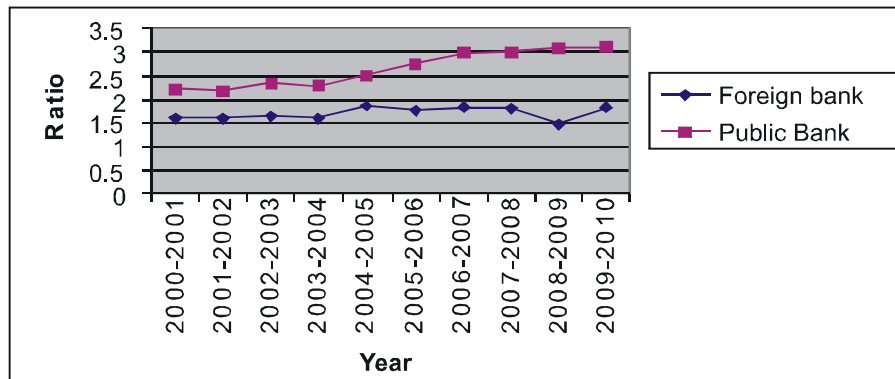


Table 7

Advances to Total Assets Ratio

Year	Public Bank	Foreign Bank
2000-01	2.24	1.62
2001-02	2.18	1.61
2002-03	2.34	1.64
2003-04	2.28	1.61
2004-05	2.51	1.87
2005-06	2.75	1.75
2006-07	2.96	1.83
2007-08	3.00	1.79
2008-09	3.08	1.47
2009-10	3.11	1.82
Mean	2.64	1.70
C.V.%	14.10	7.63

Source : Calculated

From the above table it has been evident that a public sector bank has higher advances to asset ratio as compared to foreign sector banks. Within public sector banks this ratio has not shown wider fluctuations rather sample public banks have been at par at (0.59) in 2006-07. Among foreign banks Citibank has higher ratio 0.63 for the period 2007to09 and within these selected sample banks the trends has not provide consistent trend as in case of Indian public sector banks.

CONCLUSIONS

From the above, we can conclude that these days introducing internationally followed best practices and observing universally acceptable standards and codes is necessary for strengthening the domestic financial architecture. This includes best practices in the area of corporate governance alongwith full transparency in disclosures i.e. implementation of CAMEL. In today's, globalized world, focusing on the observance of standards will help smooth integration with world financial markets. This study also supports the better management in foreign sector banks as compared to public sector banks. The face of banking is changing rapidly. Competition is going to be tough and with financial liberalization Indian public sector banks will have to benchmark themselves against the best in the world. For a strong and resilient banking and financial system, therefore, banks need to go beyond peripheral issues and tackle significant issues like improvements in profitability, management efficiency and technology and exploring available cost-effective solutions.

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