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OPERATIONAL EFFICIENCY OF PUBLIC SECTOR BANKS IN INDIA: AN ANALYTICAL STUDY

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ABSTRACT

The Growth and Financial Stability of a country depends on financial soundness of its banking sector. The banking sector in India had undergone a plethora of shifts including nationalization of banks and LPG Policy of Govt. of India. The year 2008-2009 was a difficult year for Indian Banks due to global financial crisis. Now, it's time for the banks to move from per employee business to more realistic method in measuring efficiency. This paper focuses on operational efficiency of Public Sector Banks in India, which measures efficiency as ratio of output index to an index of inputs used. The findings reveal that, out of the 28 PSBs in India, 13 banks achieved High Level of Efficiency in its operation with IDBI Bank Ltd at the top. Further, factors such as Size of Assets, network of branches and staff strength do not have much influence over operational efficiency of the PSBs.

KEYWORDS

public sector banks, financial stability, LPG policy.

INTRODUCTION

During the 20th century, in most of the nations, domestic banking was generally subjected to heavy regulations and financial repression. The growth and financial stability of the country depend on the financial soundness of its banking sector. It is also a fact that the rate of economic growth of any country has a direct link with the efficiency of its financial sector.

India being developing country largely depends on banking system for economic growth as it forms an integral and dominant part of financial system. The financial sector particularly the banking sector in India had already undergone a plethora of paradigm shifts since independence in tune with changing thrust on economic policy initiated in the country. The first phase of banking policy regime named financial repression was marked by various kinds of strict regulatory framework such as socialization of commercial banks in 60s, first phase of nationalization in 1969, second phase of nationalization of banks in 1980, etc. and therefore PSBs acquired prominent place in the financial sector of the economy. Since nationalization PSBs have achieved phenomenal and unparalleled progress in expanding geographical coverage, in mobilizing savings and providing funds for investment.

By 1991, these banks were plagued with poor profitability and undercapitalization with a high proportion of NPA. The quality of customer service was unsatisfactory and PSBs significantly lagged behind international standards in terms of introducing new technologies and product innovations. The poor financial condition of banks had an adverse effect on the investment climate in the country. Even, the state regulations over PSBs made them economically unviable, inefficient, uncompetitive, less profitable and technologically backward. In 1991, Govt. of India set up Narasimham Committee. The committee brought First Phase of Banking Reforms in 1991 and Second Generation Reforms in 1998. LPG policy of Govt. of India transformed Indian Banking from highly regulated to more market oriented system and thrown open many challenges to Indian Financial Sector.

The year 2008-09 was a year that witnessed the greatest global financial crisis and it was a very difficult year for the Indian Banks. Many large Indian banks were facing the problem of achieving a satisfactory financial performance.

Enhancing efficiency and performance of PSBs is a key objective of economic reforms in many countries including India. It is believed that private ownership helps to improve efficiency and performance. Accordingly, the Indian Govt. started diluting its equity in PSBs from early 1990s in a phased manner. Commercial Banks in India use Business per employee as a measure of their Operational Efficiency. Human Resource is not the only factor which affects efficiency; there are other resources to accomplish the organizational goals. In the post -reform banking scenario many other parameters have come into light to judge the Productivity or Operational Efficiency of banks. Productivity or efficiency of units can be measured as the ratio of output index to an input index. But there has been little research on Operational Efficiency of PSBs; hence an attempt has been made in this study to measure the Operational Efficiency of PSBs in India.

OBJECTIVES OF THE STUDY

The major objective of the study is to analyze the operational efficiency of PSBs in India. The specific objectives of the study are;

- To measure the operational Efficiency of PSBs in India.
- To Rank the banks based on Operational Efficiency.
- To identify the factors influencing Operational Efficiency of PSBs.

LITERATURE REVIEW

In the past, various studies relating to Operational Efficiency of banks have been conducted by researchers.

Sathyanarayan K, (1996 and 2000) has measured the Operational Efficiency of banks. In the study, he has identified the various factors as inputs and outputs of bank.

C. Gunjan M. Sanjeer (2009) conducted a study on efficiency of Indian PSBs and founds that the efficiency of PSBs did not increased during the period 2003- 07.

V.K. Shobhana (2010) in her study on "Operational Efficiency of PSBs in India" concluded that the Operational Efficiency of banks assumed greater significance in the prevailing financial and economic scenario. Of the 27 PSBs in India, only 9 banks had achieved High Level of Efficiency and 11 banks' efficiency level is found to be low. Oriental Bank of Commerce stood at the top in Operational Efficiency and Indian Bank secured the lowest ranking of 27. There is no relationship between bank's efficiency level and factors such as Size of Assets, Branch Network and Staff Strength.

RESEARCH METHODOLOGY

The data collected for the study pertains to a period of eight years from 2003-04 to 2010-11. The study is based on secondary data. The required information relating to the banks under study were collected from the database of Reserve Bank of India website. The numbers of PSBs in India are 27 as on 31st March 2011 comprising of 20 Nationalized Banks, SBI and seven SBI associates. But the study covers 28 banks since State Bank of Saurashtra merged with SBI in the year 2009-10 and IDBI Bank Ltd.(Financial Institution) converted into IDBI Bank from 2005-06. All these banks were included in the study.

EXHIBIT 1: ABBREVIATIONS OF BANK NAMES USED IN THE STUDY

Abbrvn.	Name of the Bank	Abbrvn.	Name of the Bank
SBI	State Bank of India	CBI	Central Bank of India
SBBJ	State Bank of Bikaner & Jaipur	COB	Corporation Bank
SBH	State Bank of Hyderabad	DB	Dena Bank
SBIN	State Bank of Indore	IB	Indian Bank
SBM	State Bank of Mysore	IOB	Indian Overseas Bank
SBP	State Bank of Patiala	OBC	Oriental Bank of Commerce
SBT	State Bank of Travancore	PSB	Punjab & Sind Bank
SBS	State Bank of Saurashtra	PNB	Punjab National Bank
ALB	Allahabad Bank	SB	Syndicate Bank
AB	Andhra Bank	UCOB	UCO Bank
BOB	Bank of Baroda	UBI	Union Bank of India
BOI	Bank of India	UNBI	United Bank of India
BOM	Bank of Maharashtra	VB	Vijaya Bank
CB	Canara Bank	IDBI	IDBI Bank Ltd.

ANALYSIS

In this study, the Operational Efficiency of PSBs is measured as ratio of output index to an index of input used. (Sathyanarayan K, 2000)

Input factors:

1. Network of Branches
2. No. of Staff
3. Wage Bill
4. Non-wage Operating Expenses

Output factors:

1. Deposits
2. Non-Deposits working funds
3. Advances
4. Investments
5. Interest Spread (Int. earned-Int. Expenses)
6. Non-Interest Income
7. Net profits

In order to facilitate the comparison of one bank to other, irrespective of size, location etc., the market share of each factor in percentage terms is taken into account instead of absolute levels. All the PSBs are considered as market for this study. Similarly, all the incorporated input and output factors are represented in the model for measuring Operational Efficiency.

AVERAGE INDEX OF INPUT BASKET SHARE

One of the Components of Efficiency / productivity Ratio is the average index of input basket share. The average index of input basket share has been calculated considering the mean market share of all the input factors such as number of branches, number of staff, Wage Bill and non-wage operating expenses.

TABLE NO. 1: INPUT BASKET SHARE OF NATIONALIZED BANKS (In percentage)

Name of the Bank	Branches	No. of Staff	Wage bill	Non-wage op. Expenses	Avg. Index - All input factors
ALB	4.06	2.62	2.47	2.83	3.00
AB	2.42	1.74	1.91	2.33	2.10
BOB	5.49	5.14	5.88	5.77	5.57
BOI	5.33	5.48	5.43	5.63	5.47
BOM	2.61	1.84	1.69	1.77	1.98
CB	5.20	7.77	5.55	5.83	6.09
CBI	6.44	4.89	4.44	3.08	4.71
COB	1.70	1.52	1.39	2.62	1.81
DB	2.09	1.36	1.41	1.47	1.58
IB	2.90	2.78	3.09	2.16	2.73
IOB	3.34	3.30	3.54	2.84	3.26
OBC	2.42	1.92	1.93	2.97	2.31
PSB	1.58	1.23	1.52	0.88	1.30
PNB	8.16	7.55	8.12	6.39	7.56
SB	4.01	3.36	3.50	2.90	3.44
UCOB	3.66	3.23	3.01	2.14	3.01
UBI	4.48	3.58	3.20	4.18	3.86
UNBI	2.67	2.22	2.03	1.49	2.10
VB	1.96	1.52	1.41	2.08	1.74
IDBI	0.76	1.04	1.44	3.98	1.81

Source: - Compiled and Computed from RBI website.

Table No.1 shows that Average index of input factors stood at the maximum of 7.56% for Punjab National Bank. Average market share of the component of the overall index namely branches, No. of staff, wage bill were greater than 7% for this bank with factor contributed to the higher input share of the bank. The next higher indices were registered by Canara Bank (6.09%), Bank of Baroda, (5.57%), Bank of India (5.47%) and Central Bank of India (4.71%). Bank with market share lower than four were: - Union Bank of India (3.86%), Syndicate Bank (3.44%), Indian Overseas Bank (3.26%), UCO Bank (3.01%). Punjab and Sind Bank operated the lowest average market share of index of all input factors at 1.30%.

TABLE NO. 2: INPUT BASKET SHARE OF SBI AND ASSOCIATES (In percentage)

Name of the Bank	Branches	No. of. Staff	Wage bill	Non-wage op. Expenses	Avg. Index - All input factors
SBI	19.34	26.36	28.65	27.06	25.35
SBBJ	1.63	1.61	1.52	1.64	1.60
SBH	1.90	1.74	1.62	1.84	1.78
SBIN	0.89	0.86	0.75	1.08	0.90
SBM	1.21	1.29	1.14	1.32	1.24
SBP	1.53	1.54	1.29	1.64	1.50
SBT	1.36	1.54	1.39	1.42	1.43
SBS	0.85	0.97	0.68	0.66	0.79

Source: - Compiled and Computed from RBI website.

Table No. 2 indicates the average index of input basket share of State Bank of India and SBI associates. It shows that, of all the factors in the State Bank of India's input basket share, Wage Bill stood at the highest of 28.65%. The mean value of average index of input factors stood at 25.35%. As regards the avg. index of all input factors of the associates of SBI, Banks with market share greater than 1% and lower than 2% were State Bank of Hyderabad (1.78%), State bank of Bikaner and Jaipur (1.60%), State Bank of Patiala (1.50%), State Bank of Travancore (1.43%) and State Bank of Maharashtra (1.24%). State Bank of Saurashtra (0.79%) and State Bank of Indore (0.90%) recorded average index of all input factors lower than one.

AVERAGE INDEX OF OUTPUT BASKET SHARE

The average index of output basket share has been calculated considering the mean market share of all the output factors such as Deposits, Non-Deposit, Working Funds, Advances, Investment, Interest spread, Non-Interest Income and Net Profit.

TABLE NO. 3: OUTPUT BASKET SHARE OF NATIONALIZED BANKS (In percentage)

Name of Bank	Deposits	Non Deposit Funds	Working Advances	Investment	Interest spread	Non-interest Income	Net Profit	Average index all output factors
ALB	2.71	2.70	2.60	2.82	3.52	2.08	3.05	2.78
AB	2.05	1.77	1.97	1.62	7.13	2.02	2.57	2.73
BOB	6.30	6.62	5.93	4.72	5.66	4.98	6.02	5.75
BOI	6.13	5.57	6.24	4.97	4.98	5.64	5.90	5.63
BOM	1.82	1.08	1.47	1.85	1.40	1.65	1.19	1.49
CB	6.70	6.54	6.44	5.85	5.16	6.27	7.05	6.29
CBI	4.43	2.54	3.70	4.34	3.18	2.51	2.31	3.30
COB	2.48	2.83	2.16	2.13	1.88	2.29	2.79	2.37
DB	1.45	1.02	1.29	1.35	1.13	1.38	1.07	1.24
IB	2.47	2.51	2.17	2.61	2.51	2.63	3.33	2.60
IOB	3.30	2.78	3.12	3.19	3.14	2.66	3.62	3.12
OBC	3.22	3.75	2.99	2.81	2.45	1.77	2.95	2.85
PSB	1.14	0.69	1.00	1.17	1.02	0.88	0.87	1.00
PNB	7.08	7.72	6.77	6.57	7.23	6.62	8.42	7.20
SB	3.57	2.18	3.37	3.00	2.74	2.25	2.74	2.86
UCOB	3.33	1.43	3.08	3.01	2.11	2.14	1.90	2.43
UBI	4.48	4.05	4.35	4.02	3.75	2.79	4.75	4.03
UNBI	1.94	0.76	1.48	2.13	1.40	1.22	1.21	1.45
UB	1.87	1.20	1.59	1.77	1.39	1.18	1.41	1.49
IDBI	3.59	5.80	5.61	4.98	7.87	3.69	3.01	4.94

Source:- Compiled and Computed from RBI website.

Table No. 3 Shows the Average Index of output factors at the highest of 7.20% for Punjab National Bank. The average market share of the components of the overall Index were greater than 7 % for this Bank which factors contributed to the higher output share. The next higher indices were registered by Canara Bank (6.29%), Bank of Baroda (5.75%), Bank of India (5.63%). Punjab and Sind Bank presented the lowest index of all output factors at 1 %.

TABLE NO. 4: OUTPUT BASKET SHARE OF SBI AND ASSOCIATES (In Percentage)

Name of Bank	Deposits	Non Deposit Funds	Working Advances	Investment	Interest spread	Non-interest Income	Net Profit	Average index all output factors
SBI	20.46	28.14	23.34	26.04	22.18	33.34	24.65	25.45
SBBJ	1.34	1.19	1.34	1.23	1.27	1.76	1.28	1.34
SBH	2.06	1.88	1.90	2.11	1.83	2.06	2.11	1.99
SBIN	0.95	0.88	1.04	0.85	0.79	0.95	0.94	0.91
SBM	1.05	0.96	1.08	0.97	0.96	1.31	1.13	1.07
SBP	1.92	1.80	1.88	1.71	1.42	1.75	1.76	1.75
SBT	1.51	1.18	1.54	1.45	1.34	1.59	1.60	1.46
SBS	0.64	0.43	0.56	0.72	0.58	0.59	0.37	0.55

Source:- Compiled and Computed from RBI website.

Table No. 4 indicate the average index of output basket share of SBI and associates of SBI. It shows that SBI's output Basket share of average index of all output factors stood at 25.45%. All the output factors of this bank contributed to this higher index.

As regard the average Index of all output factor of the associates of SBI, it was found that a greater than 1% average Index was registered by State Bank of Hyderabad (1.99%) , State Bank of Patiala (1.75%) , State Bank of Travancore (1.46%), State Bank of Bikaner and Jaipur (1.34%), and State Bank of Mysore (1.07%). State Bank of Indore recorded lower output factor Index at 0.91% and State Bank of Saurashtra recorded the lowest average output index at 0.55 %.

OPERATIONAL EFFICIENCY OF PUBLIC SECTOR BANKS

Operational Efficiency of 28 PSBs has been determined by computing the Efficiency Ratio by using the following formula.

$$\text{Efficiency Ratio} = \frac{\text{Average Index of All Output Factors} \times 100}{\text{Average Index of All Input Factors}}$$

TABLE NO. 5: OPERATIONAL EFFICIENCY RATIOS AND RANKINGS

Name of the Bank	Efficiency / Productivity Ratio	Rank	Name of the Bank	Efficiency / Productivity Ratio	Rank
IDBI	272.93	01	PNB	95.24	15
COB	130.94	02	IB	95.24	15
AB	130.00	03	ALB	92.67	17
OBC	123.38	04	SBM	86.29	18
SBP	116.67	05	VB	85.63	19
SBH	111.79	06	SBBJ	83.75	20
UBI	104.40	07	SB	83.14	21
CB	103.28	08	UCOB	80.73	22
BOB	103.23	09	DB	78.48	23
BOI	102.93	10	BOM	75.25	24
SBT	102.10	11	PSB	74.62	25
SBIN	101.11	12	CBI	70.06	26
SBI	100.40	13	SBS	69.62	27
IOB	95.71	14	UNBI	69.05	28

As per Table No. 5 the Operational Efficiency of IDBI stood at the top with the highest Productivity Ratio of 272.73% followed by Corporation Bank ranking number 2 with Efficiency Ratio 130.94%. At the bottom level, United Bank of India with Operational Efficiency 69.05% secured the lowest ranking of 28.

LEVEL OF EFFICIENCY RATIOS OF SBI AND NATIONALIZED BANKS

The 28 PSBs were classified into three categories based on their Operational Efficiency such as High, Medium, & Low Level of Efficiency. Banks with Operational Efficiency at and above 100% were classified under High Level of Efficiency; banks with productivity ratio below 85% were classified under Low Level of Efficiency and banks with ratio above 85% but below 100% under Medium Level of Efficiency. This classification shows 13 banks under High Efficiency, 6 banks under Medium Efficiency and 9 banks under Low Efficiency groups.

FACTORS INFLUENCING OPERATIONAL EFFICIENCY

In order to understand the influence of factors such as size of assets, network of branches & number of staff over the Operational Efficiency of PSBs, the further analysis has been conducted as follows:

$$\text{Mean Productivity Ratio} = \frac{\text{Productivity Ratio of Bank}}{\text{No. of Banks}}$$

SIZE OF ASSETS AND OPERATIONAL EFFICIENCY

Based on the size of assets, the 28 PSBs were classified into three categories such as those with assets above Rs. 50,000 crore as large, assets of Rs. 25,000 crore to Rs. 50,000 crore as medium and those with assets value below Rs.25000 crore as small banks. 16 banks have large size of assets, 10 banks have medium size of assets & 2 banks have small size of assets.

TABLE NO. 6: SIZE OF ASSETS AND OPERATIONAL EFFICIENCY

Size of Asset	No. of Banks / Level of Productivity				Mean Productivity Ratio
	Low	Medium	High	Total	
Small	1 (50)		1 (50)	2 (100)	85.37
Medium	5 (50)	2 (20)	3 (30)	10 (100)	90.79
Large	3 (18.75)	4 (25)	9 (56.25)	16 (100)	110.08
Total	9	6	13	28	

Note: - All the figures in parentheses show in percentage.

As per Table No. 6, among the large sized assets groups 18.75% depicted Low Level of Efficiency and 50% of the small asset group banks have Low as well as High Level of Efficiency. Majority (56.25%) of the large size group of PSBs has High Level of Efficiency. While, higher percentage (50%) of the medium size assets groups presented Low Level of Efficiency. Large assets group bank presented highest Mean Productivity Ratio and the small assets group had lowest ratio.

NETWORK OF BRANCHES AND OPERATIONAL EFFICIENCY

The 28 PSBs were classified under three categories based on their network of branches such as large, medium and small level of branches. The banks with branches at and above 5000 were classified under large size of network of branches i.e. State Bank of India, banks with medium size of network of branches are 17 (>1000 up to 5000 branches), under small size of network of branches are 10 (<1000 branches)

TABLE NO. 7: NETWORK OF BRANCHES AND OPERATIONAL EFFICIENCY

Network of Branches	No. of Banks / Level of Productivity				Mean Productivity Ratio
	Low	Medium	High	Total	
Small	3 (30)	1 (10)	6 (60)	10 (100)	115.63
Medium	6 (35.29)	5 (29.42)	6 (35.29)	17 (100)	93.5
Large			1 (100)	1 (100)	100.23
Total	9	6	13	28	

Note: - All the figures in parentheses show in percentage.

It is evident from Table No. 7 that among the PSBs with small network of branches 60% each revealed High Level of Efficiency. With the medium network of branches 35.29 % each depicted low as well as High Level of Efficiency. High percentage of the large network PSBs 100% had High Level of Efficiency. Banks with small network of branches had High Mean Productivity Ratio.

STAFF STRENGTH AND OPERATIONAL EFFICIENCY

The 28 PSBs were classified into three categories based on their number of staff such as large, medium and small size of staff strength. Bank with size of staff strength at and above 25000 were classified as large, banks with medium size of staff strength are > 13000 up to 25000 and small size of staff strength are <13000. This classification shows 8 banks of large size of staff strength, 9 banks of medium size and 11 banks of small size of staff strength.

TABLE NO. 8: STAFF STRENGTH AND OPERATIONAL EFFICIENCY

Size of Strength	No. of Banks / Level of Productivity				Mean Productivity Ratio
	Low	Medium	High	Total	
Small	4 (36.36)	2 (18.18)	5 (45.46)	11 (100)	109.72
Medium	3 (33.34)	3 (33.33)	3 (33.33)	9 (100)	107.46
large	2 (25)	1 (12.5)	5 (62.5)	8 (100)	95.17
Total	9	6	13	28	

Note: - All the figures in parentheses show in percentage.

Table No. 8 shows that large percentage (62.5%) with large staff had High Level of Efficiency. Majority of the public sector banks (45.46%) with small staff strength had high level of Operational Efficiency. Banks with small staff strength presented High Mean Productivity Ratio and bank with large staff strength had a lowest ratio.

FINDINGS

Among the Nationalized Banks, Punjab National Bank presented the maximum average market share of index of all input factors at 7.56% and highest average index of all output factors at 7.20%. SBI's basket share of average index of input factors stood at 25.35% and basket share of average index of all output factors stood at 25.45%.

Large assets group bank achieves Highest Mean Productivity Ratio and the small assets group bank have lowest ratio. . Banks with small network of branches achieves Highest Mean Productivity Ratio. Banks with small staff strength achieves High Mean Productivity ratio and banks with large staff strength had a lowest ratio.

CONCLUSION

Operational Efficiency of banks assumes greater significance in the prevailing financial and economic scenario. Of the 28 PSBs in India 13 banks achieved High Level of Efficiency, 6 banks had Medium Level of Efficiency and 9 bank's efficiency is found to be low. IDBI Bank stood at the top in Operational Efficiency and United Bank of India secured 28th rank.

To conclude, there is no relationship between bank's efficiency and factors such as Size of Assets, Branch Network and Staff Strength. Thus, it may be a paradox for the policy-makers so as to what should be the ideal size of banks.

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