TRENDS, PERFORMANCE AND EFFICIENCY OF FOREIGN BANKS IN INDIA SINCE 1991

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DECLARATION

I Shilpa, undersigned the UGC-Senior Research Fellow of Doctor of Philosophy, Mittal School of Business, Lovely Professional University, Punjab, Registration no. 11312213, hereby declare that the research work title "Trends, Performance and Efficiency of Foreign Banks in India Since 1991" is my own original work carried out under the supervision of Dr. Babli Dhiman, Professor, Mittal School of Business, Lovely Professional University.

I, further, declare that no part of my research work either partly or fully has been submitted to any other University in the world for any type of degree or diploma.

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CERTIFICATE

This is to certify that thesis title "Trends, Performance and Efficiency of Foreign Banks in India Since 1991" submitted by Shilpa for award of the Ph.D. degree in Commerce is based on research work carried out by her under my supervision and guidance. To best my knowledge and beliefs, it is original standard research work done by her. She has devoted herself to conduct of research work as per stipulated norms of Lovely Professional University, Punjab and it has not been previously submitted to any other university for award of any degree or diploma.

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I got registered myself as a UGC-NET (SRF) scheme Ph.D. Scholar under supervision of Dr. Babli Dhiman, Professor, Mittal School of Business, Faculty of Business and Arts, Lovely Professional University, Punjab. My research topic was "Trends, Performance and Efficiency of Foreign Banks in India since 1991".

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ABSTRACT

Over last few couple of decades, Indian banks have experienced different kind of responsive policies and norms. In India, early 1990s reforms have been started and continue till now. In this era of competitiveness, cross-nation presence of foreign banks is common and in trend. In India, inception of foreign banks since 80s' and increasing their presence continue from developed and developing economy. With passage of time, foreign banks have become significant internal element of Indian banking system and economic development of nation.

In emerging banking and finance era of openness, economic liberalisation and globalisation, moreover, pro-motion of "greater economic efficiency" need for an expanded role and foreign banks operations has expanded in India. In recent years, governments around world have been opening up their banking to foreign competition with expectation of making them more efficient, stable, and resilient to external shocks. Regulators and policy-makers have envisioned that banking is more closely supervised industry in world because failure of this sector ultimately adversely affected economic activities.

The presence of Foreign banks is pressured domestic banks to improve their quality of financial services, stimulate them to reduce cost, enhance efficiency. Moreover, foreign banks may also familiarize modern and efficient banking technique that are novel to host nation banks. After vast investigation from previous studies, it was found that several comparative studies have been conducted to assess commercial banks' (public, private and foreign) soundness, size, relative ownership, and pattern, from time to time at national & international level by eminent scholars.

Foreign banks have play prominent character in supporting foreign trade and contributed prominent in rapid increase of cross-border trade. Indian banking sector since last decades has attracted banks from various economies, further LPG process has enhanced entry of foreign banks in India. Moreover, existence of stiff competition in industry of banks has totally changed the phenomenon of banking business. The very few studies were found on foreign banks but, no single study in India till this date has conducted to evaluate trends, overall performance, position,

contribution, and efficiency of foreign banks (bank-wise & bank group-wise) from developing and developed economies.

Present study was undertaken to investigate what type of tastes India has experienced from multinational banks existence, management, size, business since 1991. In this study, detailed assessment on trends, performance, scale efficiency and targeted contribution of foreign banks' have been scrutinized. During research, bank-wise 14 scheduled foreign banks from different nations (individual) on basis of their banking business continuation and bank group-wise (total number foreign banks) in India have been selected Since 1991.

During research, the past trends of scheduled foreign banks in India in respect of earning like interest, net interest margin, total and other income has showed positive trend with variation. During projection period of research, it is found that increasing number of foreign banks to India from different nations will also influence distribution of various kind of earnings. The entry of foreign banks in rural India has expanded from 1997-98 and will going to expand continuous till 2029-30. Moreover, foreign banks entry from other economies has showed their interest towards Semi-Urban, Urban & Metro-Politian. It is observed that during projection period 2018-19 to 2029-30 these multinational banks will expand their business more in rural, urban and semi-urban than metro-politian areas as per regulatory authority instructed to achieve targets of financial inclusion in under and un-banked areas of India.

In addition to these, it is noticed that bank group-wise scheduled foreign banks in India has registered waves like variation in term of investment, loans and advances. However, it is examined that in future from 2018-19 to 2029-30, with more penetration of foreign banks from different nations will enhance their banking business facilities to Indian Clients in term of investment, loans and advances

The soundness of banks from different countries judged with globally accepted (CAMELS) model dimensions & sub-dimensions since 1990-1991 to 2014-2015 (25 years-bifurcated into three parts) (i) from 1990-91 to 1999-2000; (ii) 2000-01 to 2009-10; (iii) 2010-11 to 2014-15. To achieve this objective, selected bank-wise 14 foreign banks from different nations e.g. America, U.A.E, Canada, Bahrain,

Bangladesh, Muscat, Germany, Japan, Hong-Kong, U.K, and France were measured at 6 parameters & 12 sub-parameters. This research work has led to conclude that studied sample foreign banks were positioned different at varied time slot and as per model framework (characteristics & sub-characteristics) Since 1990-91 and overall, they performed on an average at par (maintained regulatory norms of Indian banking sector).

The relative efficiency of selected sample foreign banks (bank-wise) were evaluated with data envelopment analysis (non-parametric technique) from 1990-91 to 2014-15. The non-parametric technique (DEA) has power to assess efficiency of selected Decision-making units by involving its inputs & outputs mixtures to common efficient frontier. This objective has suggested that how much units if input or output should use by every inefficient DMUs (banks-sample) to become efficient. The projection summary for inefficient DMUs, summary of peers' details, counts and weights of efficient sample foreign banks has also showed for every research year.

It is noticed that during every assessment year sample DMUs (Decision making Units) from various economies have marked their scale efficiency different as per utilization capacity of scarce resources (selected outputs & inputs) in India and concluded that maximum number of time ADCB from U.A.E was found most efficient foreign bank in India during 1990-91 to 2014-15.

From analytical research, it is observed that group-wise scheduled foreign banks from developing and developed nations in India followed regulatory proposal and norms e.g. contribution (targeted finance) to total priority sector, small-scale industry and export credit under FCRA, 1976 and FCRA-foreign contribution (regulation) act, 2010. The criteria of selected foreign banks of every year differ due to participation and period of study from 1997-98 to 2011-12 because after that Reserve Bank of India (RBI) has instructed to all FBs in India that they have to finance as par Indian domestic scheduled commercial banks to prioritize sector.

The findings would seem to demonstrate that in view of essential potential for sustain growth in domestic economy and growing integration into global economy in India. The result has presented in this thesis is very prominent for development & growth of financial regulation, managers of banks, stakeholders & for strategic

formulation of policies & plans. From practical perspective, this assessment may well receive by managers of banks. The different kind of methodologies were applied in this research has potential to provide vital information about banks' financial, operational and managerial performance, effectiveness in utilization of resources, attitude in terms of banking business, various incomes and presence for benefit of bank regulators, managers and bank stock investors & policy makers not in India but at international level.

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LIST OF ACRONYMS

ABB	—	Arab Bangladesh Bank
ADB	—	Antwerp Diamond Bank
ADCB	—	Abu-Dhabi Commercial Bank
AEB	—	American Express Bank
ANBC	—	Adjusted Net Bank Credit
AQ	—	Assets Quality
ARC	—	Assets Reconstruction Companies
BB	—	Barclays Bank
BCBS	—	Banking Committee on Banking Supervision
BGs	—	Between Groups
BII	—	Bank International Indonesia
BMI	—	Bank Muscat International
BNS	—	Bank of Nova Scotia
BO	—	Bank of America
BOB & K	—	Bank of Baroda and Kuwait
BOC	—	Bank of Ceylon
BOTM	—	Bank of Tokyo Mitsubishi
BRA	—	Banking Regulation Act
BRs	—	Basic Returns to Banks
C/D	—	Cash/Deposits
C/TA	—	Cash/Total Assets
CA	—	Capital Adequacy
CAI	—	Credit Agricole Indosuez
CB	—	CitiBank

CB	—	Commerz Bank
CBs	—	Commercial Banks
CCB	—	Chinatrust Commercial Bank
CHB	—	Cho Hung Bank
CL	—	Credit Lyonnais
CRO	—	Chief Risk Officer
CRSTE	—	Constant Return to Scale
D/E	—	Debt/Equity Ratio
DB	—	Deutsche Bank
DBG	—	Deutsche Bank Group
DCBs	—	Domestic Commercial Banks
DEA	—	Data Envelopment Analysis
DF	—	Degree of Freedom
EC	—	Earning Capacity
EC	—	Export Credit
FBs	—	Foreign Banks
FCRA	—	Foreign Contribution Regulation Act
FI	—	Financial Institutions
FSLRC	—	Financial Sector Legislative Reforms Commission
G/P	—	Gross Profit
GALCO	—	Groups Assets and Liability Committee
GRC	—	Group Risk Committee
HSBC	—	Hong-Kong Banking Corporation
ICBC	—	Industrial and Commercial Bank of China
II	—	Interest Income
IPD	—	Interest Paid on Deposits

KRI	—	Key Risk Indicators
K-S	—	Kolmogorov Smirnov Test
L & A	—	Loans and Advances
LCR	—	Liquidity Conversion Ratio
LP	—	Liquidity Position
MB	—	Mashreq Bank
ME	—	Management Efficiency
MS	—	Mean Square
N/P	—	Net Profit
NBs	—	Nationalised Banks
NIM	—	Net Interest Margin
NSFR	—	Net Stable Funding Ratio
OCB	—	Overseas Chinese Bank
OIB	—	Oman International Bank
OV	—	Original Value
P & C	—	Provisions and Contingencies
PB	—	Profile of Banks
PR	—	Parameter Rank
PSBs	—	Private Sector Banks
PSBs	—	Public Sector Banks
PSL	—	Priority Sector Lending
PV	—	Projected Value
RBI	—	Reserve Bank of India
RBS	—	Risk Based Supervision
RMF	—	Risk Management Framework
ROA	—	Return on Assets

ROE	—	Return on Equity
ROE	—	Return on Equity
RTPB	—	Report on Trends and Progress of Banking in India
SB	—	Shinhan Bank
SB	—	Sonali Bank
SBG	—	State Bank Group
SCB	—	Societe Generale Bank
SCBs	—	Scheduled Commercial Banks
SE	—	Scale Efficiency
SG	—	Societe Generale
SIG.	—	Significant Value
SM	—	Sensitivity to Market Risk
SMB	—	Sumitomo Mitsui Bank
SOS	—	Sum of Squares
SSI	—	Small Scale Industries
TA	—	Total Assets
TBTF	—	Too Big To Fail
TD	—	Total Deposits
TDB	—	Toronto Dominion Bank
TI	—	Total Income
VRSTE	—	Variable returns to scale
WGs	—	Within Groups
WOS	—	Wholly Owned Subsidiary

CHAPTER – 1
INTRODUCTION

1.1 BANKING ERA

Banking sector is considered as barometer and hub of smooth functioning of financial sector. The Indian banking sector has passed through three phases-first cover from 1950s to 1960s that demonstrated instability elements associated with laissez faire, second phase during 1970s and 1980s which has started the process of financial development and third phase since 1990s has been recommended by gradual financial deepening (Mohan and Ray, 2016).

Financial system is most significant functional and institutional vehicle for transformation of nation economy. The industry of banks plays a prominent role as facilitator of growth and development of nation (Kaur, 2010). BRA (Banking regulation act), 1949 "banking means accepting, for the purpose of lending or investment, deposits of money from public, repayable on demand or otherwise, and withdrawal by cheque, draft, order or otherwise."

The economy's sustainability and development of nation is primarily influence by banking industry growth in that specific nation. Banking is most complex industries in the world and major contributor to the country's wealth (Paradi et al, 2011). With increasing globalization and blurring of distinction between various segments of financial intermediaries, there is growing recommendation that safeguarding health of financial system is of paramount importance for sustainable financial stability. In most emerging economies, financial sector especially banking is passing through a process of change and India is no exception.

The process of liberalisation, privatisation and globalisation has increased participation of foreign players and also generated greater chances for them to work experience with their international customers in India with undeniable potential. The history of foreign banks goes back to century of 19^{th} at time of colonial period, brought with it essential for latest services of banks. The requirement and importance of participation on part of foreign banks' in India is arises to enhance efficiency and promote competition among the local banks.

During recent time, Foreign banks entry has increased great deal in EMEs (Emerging economies). Foreign Banks are defined as those in which foreign investors hold more than 50 percent of total equity. The establishment of central bank 1935, creation of RBI Act, 1934, nationalization of banks in 1960 and 1980 did not affect the cross-border presence of banks. Over period of time, foreign banks have become integral part of internal module of Indian financial sector and banking industry.

1.2 REFORMS OF BANKING SECTOR IN 1991 AND 1998: THE IMPLICATIONS OF POLICY AND FRESH OUTLOOK

Within ambit of its regulatory system, India always welcome deregulation of financial system and encourage new innovations during and after crisis, banks in India have faced more stable regulatory circumstances that allowed changes with due cognizance of global standards. It is dire need of time to assembled brilliant minds and strategies to deliberate on actions that prepare banking system to incorporate with ever-changing scenario (Sahota and Dhiman, 2016).

Few Recent Initiatives are:

(a) Re-Orientation of Banking Structure in India

The financial soundness of Indian banking system is compares positively with most of emerging and advanced nations. Banking sector in India has remained largely unaffected by global crisis but it is dire need to incorporate lessons from crisis.

Re-orientation of Indian banking sector is not discreet onetime event, but continuous and endogenous process identical structural changes taking place in Indian economy. Therefore, policy environment should impart flexibility to allow this to happen endogenously and in normal course. The spirit and thrust of re-orientation exercise are to squeeze existing policy regime in dynamic way to create enabling conditions that may pave way endogenously to emergence of more flexible banking structure. (Re-Orientation of Banking Structure in India, 2013).

Table 1.1: Traditional Banking Structure in India

Banking Structure (Existing) in India		
Commercial Banks	Public Sector Banks-PSBs	➢ State Bank of India
		➢ Associates Banks
		➢ Nationalized Banks
		➢ Other Scheduled Public Sector Banks
	Scheduled Private Sector Banks	➢ Old Scheduled Private Sector Banks
		➢ New Scheduled Private Sector Banks
	Scheduled Foreign Banks-FBs	➢ Presence in Branch Mode
	RRBS	➢ Area of Operations (limited)
	Local Area Banks-LABS	➢ Limited Area of Operations
Co-operative Banks	Urban Co-operatives Banks	➢ Multi-State Urban Co-operative Banks
		➢ Single-State Urban Co-operative Banks
	Rural Co-operatives Banks	✓ **Short Term**
		➢ State Co-operative Banks (SCBs)
		➢ District Co-operative Banks (DCBs)
		➢ Primary Agricultural Co-operatives Societies (PACs)
		✓ **Long Term**
		➢ State Co-operative Agriculture and Rural Development Banks
		➢ Primary Co-operative Agriculture and Rural Development Banks

Table 1.2: Proposed Re-Orientation Banking Structure in India

Banking Structure (Re-Orientation) in India		
First Tier **International banks**	(i) Three of Four very large Banks. (ii) Foreign Banks in India	▪ Merge SBI & its Associates ▪ Voluntary merge-scheduled public sector banks with overseas presence. ▪ Organic & in-Organic growth of large scheduled private sector banks. ▪ Scheduled Foreign banks (branches) in India.
Second Tier **National Banks**	(i) Public Sector Banks (PSBs) (ii) New Private Sector Banks.	▪ Voluntary mergers of public & private sector banks. ▪ Encourage foreign banks presence in form of subsidiary mode in India.

Contd. ...

Banking Structure (Re-Orientation) in India		
	(iii) Subsidiaries of Foreign Banks incorporated in India. (iv) Specialized Banks.	▪ Grant different licence
Third Tier **Regional Banks**	(i) Old Private Sector Banks (ii) Regional Rural Banks (RRBs). (iii) Multi-State Urban Co-operative Banks.	▪ Carry forward Regional Rural Banks's Consolidation process. ▪ Conversion of well-managed urban co-operative banks into scheduled commercial banks.
Fourth Tier **Local Banks**	(i) Local Areas Banks/Small Banks (LABs). (ii) Single-State Urban Co-operative Banks, State Co-operative Banks. (iii) District Central Co-operative Banks.	▪ Sound performance in Finance & Management of UCBs then convert into commercial banks. ▪ expand LABs business operations. ▪ Rural Co-operatives to be made financially robust to serve locals needs.

(Source: Discussion Paper on Banking Structure-RBI)

(b) Priority Sector Lending

As per RBI guidelines banks are required to lend at least 40 percent of Adjusted Net Bank Credit (ANBC) or credit is equivalent amount of off-balance sheet Exposure (CEOBSE), whichever is higher. In case of foreign banks, their targets for priority sector advances 32 percent of ANBC or CEOBSE. In addition to these, limits for overall priority sector lending, RBI has sub-sets for the certain sub-sectors within the priority sector lending such as agriculture.

(c) Liquidity Risk Framework

Liquidity Risk Framework for sound liquid supervision and risk management followed by two minimum standards for liquidity funding (i) Liquidity Coverage Ratio (LCR) (ii) Net Stable Funding Ratio-NSFR. In June 2014, RBI had issued guidelines on framework of Basel III related to liquidity standards. Liquidity Risk Monitoring Tools and LCR Disclosure standards. Presently, Indian banks have to

maintain LCR 60 percent along with SLR of 21.5 percent which adversely impact their competitiveness and efficiency.

(d) Capital for Banks

Basel III Capital Regulations will be fully phased in as on March 31, 2019, in India closer to agreed date of January 1, 2019, internationally, instead of March 31, 2018. The recent recommendations of Basel Committee on Banking Supervision, have proposed two main objectives (i) to strengthen global capital and liquidity regulations to promote more resilient banking sector, (ii) to improve banking sector's ability to absorb shocks arising from economic and financial stress.

1.3 ENTRY OF FOREIGN BANKS IN INDIA

Foreign banks have operated in India since 1860s, these banks have functioned in India far so long is indication to fact that they have successfully met challenges given by Indian economy. However, today's scenario is very complex; foreign banks are looking to enter into market of India must ready to face numerous tough and unique challenges.

1.4 ROADMAP FOR PRESENCE OF FOREIGN BANKS IN INDIA

In 2005, Reserve Bank of India, published the "Road map for presence of foreign banks in India" laying out gradualist approach. It was comprised of two tracks aimed at enhancing efficiency and stability of Indian banking industry. The track one was included consolidation of domestic banks like public and private, second track was dealt with gradual increment of scheduled foreign banks in synchronised manner. The roadmap was divided into two phases: **Phase I:** Spanning period during March 2005-2009, **Phase II:** Beginning after review of experience earned in first phase.

1) **Existing Framework:** During Phase I (March 2005-2009), foreign banks were permitted to establish presence by way of setting up Wholly Owned Subsidiary or conversion of existing branches into WOS. The guidelines were covered e.g. eligibility criteria of foreign banks' presence such as (i) ownership pattern; (ii) financial soundness; (iii) supervisory rating; (iv) international ranking. The WOS must have: (a) minimum capital of Rs. 300 crores. i.e. 3 billion; (b) ensure sound corporate governance; (c) treated on par with prevailing WTO

commitments (12 branches each year); (d) branch expansion in under-banked areas; (e) consistent with international practices and country's requirements.

2) **Proposed Agenda for Presence of Scheduled Foreign Banks in India**: Foreign banks' policy presence has followed two cardinal principles (a) Reciprocity; (b) Presence in Single Mode. The factors are mandatory for future policy are: (a) foreign banks will presence in branch form provides ring-fenced structure, (b) WOS in India must satisfy adequate prudential supervision in their home nation at par with Basel standards.

3) **Full National Treatment** for WOS, by virtue their local incorporation, full national treatment would be expected, this create risks from financial stability and soundness point of view. Further, domestic counterparts' consolidation (public & private) will take place under twin approach model articulated in "Roadmap". Under the FDI policy on 31 March, 2010 recommended by DIPP (Department of Industrial Policy and Promotion) WOS of multinational banks will be treated as scheduled foreign banks.

4) **Capital Requirement** foreign banks' WOS would be treated as New scheduled Private sector banks with minimum capital requirement as 10 percent of risk weighted assets.

5) **Branch Expansion** (a) provide differentially favourable treatment to foreign banks WOS as compared to other FBs' branches, (b) extended policy of WOS on January 1, 2010 mean that WOS would expand branches in Tier 3 to 6 centres, (c) their applications for branches in Tier1 & 2 centres would be similar to domestic counterparts; (d) FBs branch expansion network (both new entrants & existing) would strictly under WTO commitment.

6) **Benchmark of Priority Sector Lending for WOS** priority sector lending obligations on WOS have to be more burdensome than branches of foreign banks, Further, Raghuram Rajan Committee has suggested giving same rights to WOS as private sector banks it means fulfill need of PSL norms like 40 percent against 32 percent.

Table 1.3: Target Lending for Different Sectors

Sr. No.	Particulars	Target (ANBC or credit equivalent amount of off-balance sheet exposure whichever is higher)
1.	TPSL-Total Priority Sector Lending target	40 percent
2.	Export Credit (Sub-target)	12 percent
3.	Agriculture Advances (Sub-target)	10 percent (Not more than 25 % of above 10 % i.e. 2.5 percent)
4.	Small Enterprises Advances	10 percent

(Source: www.rbi.org.in)

1.5 CONCEPTUALIZATION OF TRENDS AND ITS EVALUATION

Trends gradual change pattern in a condition, process, output or an average or general tendency of data series to move in a certain direction over time, represented by line or graph. Analysis of trends in business is important and is used often to make assessment and projections of financial conditions. Financial analysts are evaluate the past performance, along with current circumstances, to determine how their company will perform in future. **Trend Strategies and Types** (i) *Moving Averages*: involves entering into long positions when short-term moving average crosses above long-term moving average, and entering short-term positions when short-term entering into long-term moving average; *(ii) Momentum Indicators*: involve entering into long positions with strong momentum and existing long positions loses its momentum; (iii) *Trend lines and Chart Pattern* involves entering long positions. *Short-term trend* implies any moment that occurs over a few hours and days. *Intermediate trend* means performance over period of time e.g. usually a few weeks to six months. *Long-term trend* explains any movement occurs over a significant period of time, often over one or several years. These types of trends are difficult to predict and are often interrupted by brief movements against trends.

Variables for Trends used by Eminent Scholars (i) Capital Adequacy Ratio; (ii) Net NPA is Gross NPA less provisioning for bad loans; (iii) Gross Advances-

Standard Advances + Gross NPAs. (iv) Net Advances = Gross Advances - Provisions for NPA Accounts – deposits insurance and export credit insurance claims received and held pending adjustment (Mohan and Ray, 2016), (Chowdhury and Ahmed, 2005): branches, employees, deposits, net income.

1.6 PERFORMANCE OF BANKS: CAMELS MODEL DIMENSIONS AND SUB-DIMENSIONS

The banking sector's performance is seen as replica of economic activities of the nation as a healthy banking system acts as the bedrock of social, economic and industrial growth of a nation (Mishra and Agarwal, 2013).

CAMELS Rating System

CAMELS: **C** – Capital Adequacy
A – Asset Quality
M – Management Efficiency
E – Earning Capacity
L – Liquidity Position
S – Sensitivity to Market Risk

CAMEL was originally developed by the Uniform Financial Institution Rating System, USA and adopted by the Federal financial Institution Examination Council on November 13, 1979 and then adopted by the National Credit Union Administration in October, 1987. In India RBI has set up a working group under the chairmanship of Shri. S. Padmanabhan in 1995 to review banking supervision system and based on certain recommendation and suggestions, an International accepted ratio-based rating model combining financial, management, system and control elements was introduced for inspection cycle for domestic and foreign banks commencing from July,1998.

Model Ranking Method Banks are ranked in the ascending/descending order based on individual sub-parameter, (i) First of all, under study banks are ranked Individual based on sub-parameters performance. (ii) Then average of banks individual rank is taken to arrive at group rank for each parameter. (iii) Finally, composite rankings for banks are arrived after computing average of Individual and Group rank. In light of

banking crisis in recent years worldwide, CAMEL is a useful tool to examine safety and soundness of banks, and help mitigate potential risks which may lead to bank failures (Sandhya, 2014). This method of analysis provides a simplistic, reader friendly version of presenting complex data regarding performance of a set of players in banking industry. The ranking system makes judging and analyzing financial data of banks much simpler for common man (Kumar et al, 2012). CAMEL approach is significant instrument to assess relative financial strength of bank and recommended necessary measures to improve weaknesses of a bank (Datey and Tiwari, 2015).

(i) **C-Capital Adequacy Ratio:** which determines capacity of bank in terms of meeting time liabilities and other risk such as credit risk, market risk, operational risk. Capital is essential and critical to eternal continuity of bank as going concern. This ratio indicates whether bank has enough capital to absorb unexpected losses. It is required to maintain depositors' confidence and preventing bank from going insolvent (Salgotra and Wadhwa, 2015).

It evaluates percentage of capital is need to support risk assets of banks (Dincer et al, 2011), (Venkatesh and Suresh) for assessment of financial stability of commercial banks from time to time, capital is considered as one of most significant factors. The adequate amount of capital acts as protection against various kinds of risks a bank is exposed to its daily operations as well as also reflects whether bank has adequate amount of capital to absorb unanticipated losses and declines in assets values: **(**Ondes et al, 2019): Equity/liabilities, equity/total assets, (Rahman and Nitu, 2018): total liabilities/capital, capital adequacy ratio, (Ghazavi and Bayraktar, 2018): CAR, Equity/total liabilities, Equity/net loans and Equity/total assets, (Zedan and Daas, 2017): CAR-Capital Adequacy ratio, (Moudud-Ul-Huq, 2017): Capital and reserve/total risk weighted assets, (Gupta, 2014): capital adequacy ratio (CAR) - (Tier1+Tier2 capital)/Risk Weighted Assets, debt/equity ratio (D/E), coverage ratio, advances/assets, government securities/total investment (GS/TI), (Kumar and Sharma, 2014): Capital Adequacy ratio, (Karri et al, 2015): CAR, D/E ratio, (Khatik and Nag, 2015): CAR-Tier1+Tier2 capital/RWA, (Sandhya, 2014): CAR (Tier1 capital-goodwill + Tier 2 capital) Risk-weighted assets, Equity capital/total assets, (Aftab et al, 2015): risk-weighted assets, (Ibrahim, 2014) total liabilities/total assets,

total liability/total equity, share capital/total assets, (Salgotra and Wadhwa, 2015): CRAR: capital funds (Tier1 + Tier 2)/RWA, (Altan et al, 2014): Capital Adequacy Ratio, Equity/Total Assets, (Equity - Permanent Assets)/Total Assets, Net On Balance Sheet Position to Equity, Net On and Off Balance Sheet Position/Equity, (Brauers et al, 2014): capital/RWA, (Mishra and Aggarwal, 2013): CAR, D/E ratio, coverage ratio, (Manoj, 2010): CAR, capital adequacy ratio-Tier1, (Mishra and Aspal, 2013): CAR, D/E, advances/assets, government securities (GS)/total investment (TI), (Kamaruddin and Mohd, 2013): capital/assets, loans/capital, (Vijayakumar, 2012): CAR, D/E, advances/total assets, GS/TI, internal capital generation rate ratio, (Prasad and Ravinder, 2012): CAR, D/E ratio, advances/assets, GS/TI, (Chandani et al, 2014): CAR, D/E, advances/asset ratio, securities/total investments, (Karthikeyan and Shangari, 2014): capital adequacy ratio, net advances/total assets, GS/TI, (Dash and Das, 2013): capital adequacy ratio, (Roman and Sargu, 2013): Total Capital Ratio Equity / Total Assets, (Reddy, 2012): CAR, D/E, coverage ratio, (Reddy and Prasad, 2011): CAR, D/E ratio, advance/asset ratio, GS/TI, (Shar et al, 2011): capital/equity, capital/assets, (Kumar et al, 2012): capital adequacy ratio, (Kaur, 2010): CAR, D/E ratio, (Sangmi and Nazir, 2010): capital adequacy ratio, leverage ratio, ratio of net worth protection, (Khatik and Nag, 2014): capital adequacy ratio, (Bansal and Mohanty, 2013): CAR, D/E ratio, (Datey and Tiwari, 2015): capital adequacy ratio (tier 1 Capital-goodwill + tier 2/RWA), equity capital/total assets, (Ghosh and Rakshit, 2014): capital adequacy ratio, advance/asset ratio, securities/total investment ratio, (Gasbarro et al, 2014): net equity/total assets, (Ferrouhi, 2014): debt/equity, (Jha and Hui, 2012): capital adequacy ratio (CAR), (Derviz and Podpiera, 2008): capital adequacy, (Baral, 2005): leverage ratio, core capital ratio, total capital ratio & supplementary capital ratio, (Gasbarro et al, 2002): net equity/total assets,

(ii) **A-Assets Quality**- As lending is primary function and business of bank. To test financial creditability of bank, quality of assets considered as important parameter. The quality of asset is depiction of asset's risk level and financial strength rate within bank. In addition, it has played significant role in measurement of current condition and financial capacity in future (Dincer et al, 2011). Asset Quality: (Ondes et al, 2019): Loans/deposits, (Rahman and Nitu, 2018): total

liabilities/total assets, total assets/turnover, (Zedan and Daas, 2017): NPL to total loans, (Moudud-Ul-Huq, 2017): non-performing loans/total loans, (Ghazavi and Bayraktar, 2018): loans/total assets, fixed assets/TA, non-performing loans/gross loans, specific provision reserve/NPL, Bearing assets/TA, (Khatik and Nag, 2015): Net non-performing assets/net advances, (Aftab et al, 2015): growth of assets (return on assets), (Karri et al, 2015): total assets turnover ratio, loan ratio, (Ferrouhi, 2014): Loan loss provisions/total loans, (Karthikeyan and Shangari, 2014): Gross NPA/net advances, net NPA/net advances, NPA/TA, TI/TA-total investment/total assets, (Brauers et al, 2014): net interest income, loans/assets, non-interest cost/total income, (Sandhya, 2014): non-performing loans/total loans, NPL/total equity, allowance for total loans/total loans, (Alber, 2014): non-performing assets/gross loans, (Altan et al, 2014): Financial Assets (net) to Total Assets, Total Loans and receivables / total assets, Total Loans and receivables to Total Deposits, Non-performing Loans NPLs (net) to Total Loans-(TL) and Receivables, Fixed Assets / Total Assets (TA), (Ibrahim, 2014): return on assets, (Gupta, 2014): NNPA-net-performing/NA-net advances, TI-total Investment/TA-total assets, SA-standard assets/TA-total assets, total investment/total assets (TI/TA), (Roman and Sargu, 2013): Impaired Loans / Gross Loans, non-performing loans Loan Loss Provisions / Net Interest Revenues, Total loans / total assets (Mishra and Agarwal, 2013): Net NPA/net advances, total investment/total assets, (Bansal and Mohanty, 2013): Net NPA/Total Advances, Gross NPA/Total advances, (Jha and Hui, 2012): non-performing loan ratio, (Kaur, 2010): net non-performing assets/total assets, net NPA/net advances, (Vijayakumar, 2012): Gross NPA/net advances, Net NPA/net advances, total investment/total assets ratio, net NPA/total assets, loan loss provisions/net interest revenue ratio, (Chandani et al, 2014): total loan/total assets, net non-performing assets/total loans, NNPA/net advances, Gross NPA/net advances, (Kamaruddin and Mohd, 2013): loans/assets, (Reddy, 2012): NNPA/NA, government securities/investment, standard advances/total advances, (Prasad and Ravinder, 2012): Net NPAs to Total Assets, Net NPAs to Net Advances (NNPAs/NA), Total Investments to Total Assets (TI/TA), Percentage Change in NPAs, (Sangmi and Nazir, 2010): loan loss cover, (Datey and Tiwari, 2015): non-performing loan/total loan, non-performing loan/ total equity, allowance for loan loss/total loans, provision for loan/total loan, (Ghosh and Rakshit, 2014):

NNPA/NA, NNPA/TA, total investment/total assets, (Shar et al, 2011): Earnings/total assets, investment/TA, Advances/total assets, (Manoj, 2010): net non-performing loans /net loans, priority sector advances/total advances, secured advances/total assets, (Derviz and Podpiera, 2008): funding spread, (Baral, 2005): non-performing loan ratios, loan loss reserve ratio, (Gasbarro et al, 2002): non-performing assets/total assets,

(iii) **M-Management Efficiency**- is another quintessential dimension of CAMEL model which ensures growth with stability of bank. This parameter shows management's adherence with set standards, norms, ability to formulate plan and respond to changing environment, and leadership capability. It consists large range of issues like education level and management experts. Thus, it is hardest one, when compare with others. Management Efficiency: (Ondes et al, 2019): non-interest expenses/average assets, (Rahman and Nitu, 2018): operating cost/total assets, interest expenses/total deposits, earning per share, (Ghazavi and Bayraktar, 2018): Current + Saving Deposits / Total Deposits, Net Income Per Branch (Growth Rate), Net Income Per Employee (Growth Rate), Non-Interest Exp. + Impairment Exp. / Total Assets, Net Interest Income / Net Income, Net Interest Income / Non-Interest Expenses, (Zedan and Daas, 2017): non-expense ratio, (Moudud-Ul-Huq, 2017): total profit/total employee, (Khatik and Nag, 2015): total business/total no. of employees, (Sandhya, 2014): total assets/growth rate, loan growth rate, earning growth rate, (Altan et al, 2014): Profit per Employee-PPE, Business per Employee-BPE, Personnel Expenses / Other Operating Expenses, Total Assets / Total Deposit (TD), Funds Borrowed / Total Assets-TA, (Brauers et al, 2014): pre-provision profit/RWA, net income/RWA, (Ibrahim, 2014): loans/total assets, investment/total assets, net interest/net interest income,(Gupta, 2014) Business per employee (BPE), profit per employee (PPE), credit/deposit ratio (C/D), return on net worth, Karri et al (2015): C/D ratio, total income/capital employed ratio, (Aftab et al, 2015): profit per employee, (Ferrouhi, 2014): net income/total loans, (Kumar and Sharma, 2014): (Kumar and Sharma, 2014): return on net worth, total asset turnover ratio, net profit/total fund ratio, (Roman and Sargu, 2013): Operating expenses / Total Assets, Interest expenses / Deposits (Mishra and Aggarwal, 2013): return on net worth, Business per employee, Profit per employee, (Mishra and Aspal, 2013): total

advances/total deposits, (Vijaya Kumar, 2012): total advances/total deposits, BPE-business per employee, PPE-profit per employee, (Prasad and Ravinder, 2012): total advances/total deposits, (Chandani et al, 2014): TA/TD, return on net worth, profit per employee, business per employee, (Karthikeyan and Shangari, 2014): TA/TD, Profit per employee, BPE-business per employee, (Dash and Das, 2013): total investment/total assets, TA/TD, (Kamaruddin and Mohd, 2013): operating expense/assets, (Jha and Hui, 2012): interest expenses/total loans, (Reddy, 2012): total advances/total deposits (C/D) ratio, (Reddy and Prasad, 2011): C/D ratio, (Kumar et al, 2012): market value to equity capital, total advances/total deposits, (Shar et al, 2011): operating expenses to total expenses, total expenses to total income, (Kaur, 2010): return on net worth, PPE, (Sangmi and Nazir, 2010): expenditure/income ratio, C/D ratio, asset utilization ratio, diversification ratio, earning per employee, expenditure per employee, (Khatik and Nag, 2014): BPE, (Bansal and Mohanty, 2013): BPE, PPE, (Datey and Tiwari, 2015): total assets growth, loan growth rate, earning growth rate, (Ghosh and Rakshit, 2014): return on net worth, BPE, PPE, (Manoj, 2010): BPE, PPE, ROA, ROE, (Derviz and Podpiera, 2008): total loans/total assets, (Baral, 2005): operating expenses ratio, earning per employee, (Gasbarro et al, 2002): interest rate charged on credit,

(iv) **E-Earning Capacity-** It measure bank's ability to earn profit as compare to expenses, and assess bank's investment decisions as compared to debt situations. Both measures are positively related to financial performance of bank and negatively to possible failure (Dincer et al, 2011). Net Interest Margin- it is difference what they receive from what they pay. This is core function of particular bank and demonstrate how management effectively manages interest rate risk. Positive value is considered to be desirable as it implies bank had made optimal lending decisions and successful in getting timely interest on loans back from clients. Earning Capacity: (Parvin et al, 2019): ROA-return on assets, (Ondes et al, 2019): Net Interest Margin, (Rahman and Nitu, 2018): return on assets, net interest income/total assets, return on equity, (Ghazavi and Bayraktar, 2018): Net Income/Total Assets, Net Income/Equity, Net Interest Margin, Non-Interest Exp./ Net Interest Income+ Non-Interest Income, Non-Interest Income./Net-Interest Income. + Non-Interest Income, (Zedan and Daas, 2017): return on assets and return on equity, (Moudud-

Ul-Huq, 2017): Net Profit/total assets, (Khatik and Nag, 2015): net profit/average assets, (Sandhya, 2014): net interest income, cost to income, return on assets, return on equity, (Altan et al, 2014): Net Profit (Losses) / Total Assets, Net Profit (Losses) / Equity, Earnings (Losses) Before Taxes and Interests / Total Assets, Net Interest Income (NIM) After Specific Provisions / Total Assets (TA), Non-interest Income (net) / Total Assets, (Brauers et al, 2014): deposits/loans, (Gupta, 2014): return on assets (ROA), net interest margin/total assets (NIM/TA), operating profit/total assets (OP/TA), interest income/total income (II/TI), Karri et al (2015): net profit ratio-net profit/total income, dividend per share-dividend on equity share capital/no. equity shares, earning per share-profit after tax-preference dividend/no. of equity shares, return on net worth, return on assets-net profit/total assets, (Aftab et al, 2015): capital/total assets, (Kumar and Sharma, 2014): operating profit per share, net profit margin, (Mishra and Aggarwal, 2013): net interest margin (NIM)/total assets, II/TI, non-interest income/total income (NII/TI), (Roman and Sargu, 2013): ROA, ROE, Cost to Income Ratio (Manoj, 2010): II/TA, NI/TA, NIM/TA, intermediation cost/total assets, burden/total assets, operating profit/total assets, (Mishra and Aspal, 2013): operating profit/total assets, net profit/total assets, II/TI, NIM/TA, (Vijayakumar, 2012): operating profits/average working funds ratio, spreads/net interest margin/total assets, net profit/average assets ratio, II/TI, NII/TI, (Prasad and Ravinder, 2012): operating profits/average working funds ratio, percentage growth in net profit, net profit/average assets ratio, (Chandani et al, 2014): operating profits/average working funds ratio, spreads/net interest margin/total assets, net profit/average assets ratio, II/TI, (Karthikeyan and Shangari, 2014): operating profits/average working funds ratio, spreads/net interest margin/total assets, net profit/average assets ratio, II/TI, (Dash and Das, 2013): return on net worth, operating profits/average working funds ratio, profit after: total assets, (Reddy, 2012): return on assets, income spread/total assets, operating profit/total assets, cost/income ratio, (Kamaruddin and Mohd, 2013): net income/assets, interest income/assets, (Reddy and Prasad, 2011): operating profits/average working funds ratio, spreads/net interest margin/total assets, net profit/average assets ratio, II-Interest income/TI, NII-Non-interest income/TI, (Shar et al, 2011): ROA, ROE, (Kumar et al, 2012): operating profits/average working funds ratio, net profit/average assets ratio, II/TI, NII/TI, (Jha and Hui, 2012): Net interest income,

(Kaur, 2010): interest income/total income, (Sangmi and Nazir, 2010): return on assets, return on equity, spread ratio, net interest margin, (Khatik and Nag, 2014): return on average assets ratio, (Bansal and Mohanty, 2013): asset turnover ratio, return on equity, net interest margin, net interest income/total funds, non-interest income/total funds, (Datey and Tiwari, 2015): NIM, cost/income ratio, return on assets, return on equity, (Ghosh and Rakshit, 2014): operating profits/average working funds ratio, return on assets, and profit after tax, (Derviz and Podpiera, 2008): value-at-risk/total assets, (Gasbarro et al, 2002): operating profit/total assets, (Ferrouhi, 2014): net income/total assets, (Baral, 2005): return on equity, return on assets and profit margin,

(v) **L-Liquidity Position –** This indicates ability of bank to pay-off its liabilities. It includes percentage of short-term funding and deposits meet obligation of liquidity position from time to time. Liquid Assets/ Total Deposits and Borrowings- It described that percentage of Total deposits and Borrowings able to meet requirements of Liquid assets as when they accrue. Liquidity Position**: (**Parvin et al, 2019): Loans to Assets Ratio (LA)-Total loans/total assets, Deposits to Assets Ratio-total deposits/total assets, (Ondes et al, 2019): Net loans/Total assets, liquid assets/total assets, (Rahman and Nitu, 2018): current assets/total deposits, current ratio, net working capital, (Ghazavi and Bayraktar, 2018): Liquid Assets/Total Assets, Liquid Assets/Total Foreign Liabilities, Gross Loans/ Deposit, Customer Deposits/ Total Funding, (Zedan and Daas, 2017): total loans/total deposits, (Moudud-Ul-Huq, 2017): total loan/total deposits, (Khatik and Nag, 2015): Liquid assets/total assets, (Sandhya, 2014): deposits/total assets, total loan/deposits, (Aftab et al, 2015): advances/deposits, (Altan et al, 2014): Liquid Assets / Total Assets, Liquid Assets / Short-term Liabilities, Liquid Assets (LA)/ Total Deposit (TD), (Ferrouhi, 2014): deposits/total assets, (Brauers et al, 2014): liquid assets, (Gupta, 2014):liquid assets/total assets (LA/TA), liquid assets/total deposits (LA/TD), liquid assets/demand deposit (LA/DD), government securities/total assets (GS/TA), (Romana and Sargu, 2013): Karri et al (2015): current ratio-current assets/current liabilities, liquidity/quick ratios, (Kumar and Sharma, 2014): (Mishra and Aggarwal, 2013): LA/TD, LA/TA, (Manoj, 2010): cash/deposit ratio, credit/deposit ratio, (Mishra and Aspal, 2013): LA/TA, LA/TD, LA/DD, approved securities/total assets, (Kamaruddin and Mohd, 2013): liquid assets/assets, liquid assets/deposits,

(Vijayakumar, 2012): LA/TA, GS/TA, LA/DD, liquid assets/total deposits, interbank ratio, (Prasad and Ravinder, 2012): LA/DD, LA/TD, LA/TA, GS/TA, approved securities/total assets, (Jha and Hui, 2012): Credit/deposits, (Chandani et al, 2014): LA/TA, GS/TA-total assets, LA/DD-demand deposits, LA/TD, (Karthikeyan and Shangari, 2014): LA/TA, GS/TA, LA/TD, (Romana and Sargu, 2013): Liquid Assets / Deposits, Net loans / Deposits and short term funding (Dash and Das, 2013): GS/TI, GS/TA, (Reddy, 2012): LA/TD, cash/total assets, government securities/total assets, (Reddy and Prasad, 2011): LA-liquid assets/TA, GS/TA-total assets, LA/DD-demand deposits, LA/TD, (Shar et al, 2011): LA/Deposits, LA/TA, Advances/Deposits, (Kumar et al, 2012): LA (liquid assets)/TA, LA/TD (total deposits), (Kaur, 2010): LA/TD (total deposits), LA/TA, (Sangmi and Nazir, 2010): LA/TA, GS/TA, liquid assets/deposits, investment/deposits, (Khatik and Nag, 2014): LA/TA, (Bansal and Mohanty, 2013): C/D ratio, investment/deposit ratio, (Datey and Tiwari, 2015): total customer deposits/total assets, total loan/total customer deposits, (Ghosh and Rakshit, 2014): liquid assets/total deposits, liquid assets, government securities/total assets, (Gasbarro et al, 2002): medium size deposits/total liabilities, (Derviz and Podpiera, 2008): leverage, (Baral, 2005): Loan/deposits, Cash and Equivalent/TA-Total Asset Ratio, Cash and Equivalent to Total Deposit (TD), Cash Balance with NRB/TD-Total Deposit Ratio.

(vi) **S-Sensitivity to Market Risk**- In 1996, FDIC (Federal Deposit Insurance Corporation) based in the U.S incorporated 6^{th} component in "CAMEL" framework for analysis of bank performance. The 6^{th} component, or the 'S' component came to known as sensitivity to market risks and it mainly looks into how a bank responds to earnings risk and capital due to changes in (i) interest rates, (ii) equity prices, (iii) commodity prices, and (iv) foreign exchange rates. (Karri et al, 2015): interest spread ratio, (Ghazavi and Bayraktar, 2018): Securities Portfolio/Total Assets, Bearing Assets/Costly Liabilities, Net Interest Income/Total Assets.

1.7 EFFICIENCY ASSESSMENT AND SIGNIFICANCE OF DEA MODEL

At time of financial sector reforming, Indian authorities had to constantly keep issues of efficiency and equity in mind (Mohan and Ray, 2016). To determine and eliminate underlying causes of inefficiencies, helping firms to take competitive

advantage, and meet challenges (Wu et al, 2006). Data Envelopment Analysis (DEA) could be adequate approach towards identifying relative efficiency of banks in Indian environment (Saha and Ravisankar, 2000).

Efficiency expressed as ratio of output to input. More output per unit of input demonstrated as relatively greater efficiency. Further, greatest possible output of input per unit obtained, state of optimum efficiency has been accomplished.

DEA in conjunction with financial ratio analysis to aggregate puzzling ratios into meaningful dimensions (Yue, 1996). DEA is currently alternative early-warning tool that assist examiners to quantify bank's performance. The most important step in DEA to evaluate relative efficiency of firm is selection of appropriate inputs and outputs. The "intermediary approach" as banks financial intermediaries whose business is to borrow funds from depositories and lend to others for profit (banks outputs are loans and Inputs are different kind of costs-interest expense, labour, capital, and operating).

DEA is that the orientation of either input or output: How to maximize the outputs for predefined inputs is called input orientation whereas output orientation is method to minimize inputs for predefined outputs (Narasimhan and Venkatesh, 2019). DEA relate identified efficiencies with banks actual financial operating decisions (Yeh, 1996). Each single ratio must be compared with some benchmark ratios one at time while one assumes that other factors are fixed and benchmarks chosen are suitable for comparison (Yeh, 1996).

DEA computes a firm's efficiency by converting inputs into outputs relative to its peer, may provide good mechanism for deriving appropriate categories at time of 'peer group analyses' (Yeh, 1996). The term relative efficiency mean identifies efficiency of variant Decision-making units using various kind of given set of data of inputs and outputs. Original Model Developed by CCR (Charnes, Cooper and Rhodes). N= No. DMUs that coverts *I* inputs into *J* Outputs, where *I* can be larger, equal and smaller than J. Charnes et al propose use of maximum ratio of weighted outputs to weighted inputs for that unit, subject to condition that similar ratios for all other DMUs be less than or equal to one.

In DEA approach one compares generation of outputs of each individual bank relative to its peer (Staub, 2010). Under intermediation approach banks are function as financial intermediaries transferring & converting financial assets between deficit & surplus units (Staub et al, 2010). (Yue, 1992): Inputs-Expenses (non-interest), transactions (deposits & non-deposits), Outputs-Income (interest & non-interest), (Yeh, 1996): I-Total deposits and Expenses (non-interest), O-loans (total) and income (non-interest); **O** = Output, **I** = Input (Thanassoulis, 1999): I-Labour, floor space, O-Transactions; (Mostafa, 2009): I-Equity and Assets, O-ROA- return on assets, Net profit and Return on equity; (Staub et al, (2010): I-Expenses – Operational net of personnel, interest and personnel, O-Investments, Deposits, total loan-net provision loan, (Paradi, 2011): I- Intermediary Model (fixed assets or accruals, balances in cash, other liabilities and NNPL) and profitability model (occupancy expenses or computer, expenses on employees and others), O-homeowner mortgages, wealth management, customers & commercial (lending & deposits); (Athanassopoulos and Giokas, 2000): I-computer terminals, labour hours, Branch Size, O-Transaction (credit & deposits) and foreign receipts; (Luo, (2003): I-total equity, assets, and revenues, total no. of employees, O-market value, stock price and earning per share; (Camanho and Dyson, 2005): I-number of commercial staff and administrative, number of branches and account mortgages, O-number of general service transactions; (Chen, 2005): I- interest expense, non-interest expense (price of labour), interest paid on deposits (price of deposits), Price of capital (non-interest expenses/assets, O-loans, deposits and non-interest income, (Ataullah et al, 2004): I-operating and interest expenses, O-earning assets and income, (Saha and Ravisankar, 2010): I-expenditure-non establishment (excluding interest expenditure), interest, no. of branches and employees, O- Interest-total, interest and non-interest; spread, funds, deposits, investments and advances; (Camanho and Dyson, 1999): I-floor space of branch, number of external ATMs, no. of operational costs and employees, O-number of all types of accounts, transactions, general studies and external ATMs, values of savings and loans; (Mercan, 2003): I-expenses (total & personnel), O-assets (earnings), total (assets & liabilities), (Rashid and Rustam, 2014): I-number of employees and operating expenses, O-profit after tax and operating income; (Mathews, 2013): I-fixed assets and operational expenses, O-

net and non-interest income; (Mariappan et al, 2013): Input variables-operating expenses, deposits, total expenses, labour, output variables-net interest income, investment and assets, (Shahroodi and Bahraloloom, 2014): Inputs-training, experience, commission, facilities; outputs-customer satisfaction, market, income and ROA; (Alkhathlan and Malik, 2010): I-operating expenses, equity capital, and deposits, O-loans and advances (net), (Yang, 2009): I- FTE (Support, Service and other), O-transactions in number; (Sathye, 2001): I-Price (capital, labour & loanable funds), O-labour and demand deposits; (Berger et al, 2008): I-expenses (non-interest/fixed assets and interest/total deposits), O- total deposits and loans, liquid assets; (Jemric and Vujcic, 2002): I-commissions for services and its related cost, interest cost, capital and labour related administrative cost, O-revenue (interest & non-interest); (Sathye, 2003):I-non-interest and interest expenses, O-both (interest & non-interest) income, (Barr et al, 1999): Inputs- salary expense, fixed assets, other noninterest and interest expense, and purchased funds, Outputs- earning assets, interest income and non-interest income.

1.8 PRIORITY SECTOR ADVANCES

Priority sector was first time defined properly in 1972, after National Credit Council emphasized that there should be larger commercial banks' involvement in lending of priority sector. Allocating financial resources to specified priority sectors, system that has contributed to creation of assets, a green and a white revolution. The definition of Priority Sector Advances was provided by Dr. K S Krishnaswamy Committee, includes sectors which may not get adequate formal credit due to social, cultural and some economic reasons. The latest definitions of Priority Sector include: (i) Micro, Small and Medium industries, (ii) Education, (iii) Agriculture, (iv) Export Credit, (v) Renewal Energy and Social Infrastructure defined by (Naruka and Yadav, 2017). Common priority sectors include Agriculture Finance, Small Enterprises, Retail Trade, Micro Credit, Education Loans and housing loans (Lakshmi and Reddy, 2016). Level of Non-performing Assets in Agriculture sector, SSI and Weaker section of Society (Shabbir and Mujoo, 2014). Growth of Trends and Pattern of Priority Sector Advances (Agriculture advances, SSI-Small Scale Industries and other priority sector) (Ota and Sarkar, 2016, Shabbir, 2013).

Agriculture sector, SSI-Small Scale Industries, weaker section and other (housing & education) (Kumar et al, 2016).

The priority sector lending is mainly envisioned to ensure that assistance from banking system to those sectors which has not provide adequate support of institutional finance Ud-Din Ahmed (2010) agriculture and allied sectors, Small-scale and other industries, Non-performing assets (priority & non-priority).

1.9 JUSTIFICATION OF RESEARCH

Over several decades, banking system in India serves economy better. During post-financial sector reforms e.g. 1991 phase Indian commercial banks' performance has improved as compared with advanced and emerging countries. Indian commercial banks have presence overseas in form of subsidiaries; branches, representative offices, and joint-venture. Regulatory restrictions have no effects on where to open a branch decision. Further, nations with stronger law-and-order situation, which is proxy for legal system ability to enforce contracts, are more likely to host foreign subsidiaries (Claessens and Laeven, 2004). As far as concern, Scheduled Commercial banks in India has adopted norms and prudential of banking reforms as per recommendations of international and national authorities. This adaptive system no doubt, has forced banks to re-define their policies, strategies, processes, methods, technology which is directly affected the financial health and performance of banks. At present, main aim of banks is to maintain sustainability that will unaffected to outer uncertainties while same time internally sound and sensible. It is crucial to assess overall position of various kind of banks in country to identify their weak areas of performance, design appropriate policies, strategies to overcome those areas and create an era of stable banking system.

Assessment of banking sector is not an easy task in this complex scenario. Assessing their overall performance and monitoring their conditions like related to financial, operational and managerial is most significant for depositors, potential investors, owners, managers and of course regulators. In recent, governments around the world have been opening up their banking to foreign competition to make them more efficient, and resilient to shocks (Haber et al, 2012). Foreign banks may definitely have a positive effect on average efficiency of banking sector in destination country,

because they are among most efficient in their country of origin, to come from most developed banking markets, and to be located in less efficient banking sectors (Claessens and Laeven, 2004). In more recent past, foreign banks have followed Indian corporate entities in their outbound expansions. Currently foreign banks are growing tremendously in India. Many foreign banks have started operating in many parts of India giving boost to banking sector and ensuring mobilization of funds in economy (Pandya, 2014). Foreign banks tend to have some positive effects on banking sector of developing nations in respect of financial stability, inducing risk-aversion, stiff competition and can compel domestic banks to start operating more efficiently by (Claessens et al, 2001). it is frequently declared that foreign banks entry can render host nation markets more competitive, and can force domestic banks to start operating more efficiently. In long run, entry of foreign banks may improve functioning of host nation banks, with positive welfare implications (Claessens et al, 2001).

To keep in mind this comprehensive viewpoint and lack of foreign banks detailed research availability, this empirical research was undertaken to measure foreign banks various kind of past and future trends in term of (earnings, business and presence in different locality), overall performance like (capital adequacy, quality of assets, status of management efficiency, growth of earning capacity, appropriate liquidity position and performance of sensitivity to market risk), relative efficiency (utilization of resources,) with DEA and contribution to Indian economy (Total priority sector lending, small-scale industries and export credit). The study has conducted on selected individual and group-wise scheduled foreign banks in India (from developed and developing economies), It is positively expected that findings of research would be of interest to regulators, policy makers and future researchers.

1.10 CHAPTERISATION OF THESIS

Chapter 1: This introduce Indian banking sector, its brief historical background, Foreign banks entry in India and its roadmap, demonstrated detail variables definition, models their parameters and sub-parameters used by eminent scholars from 1990s to 2019 onwards.

Chapter 2: It deals with review of literature objectives-wise ((i) entry of foreign banks, (ii) studies on trends, (iii) performance of commercial banks at international level, (iv) different kind of efficiencies and its methodology and (v) description on priority sector lending) and stated research gap of study

Chapter 3: It focuses on need of study, describe objective-wise methodology, figure out models (CAMELS & DEA), framing the hypotheses of objective (second) which deals with evaluation of scheduled foreign banks performance soundness, define selected sample foreign banks (Individual), sources of data collection, nature of study.

Chapter 4: It presents empirical results of past and future trends of foreign banks (group-wise) related to their, income, geographical location and business since 1991.

Chapter 5: This Chapter has demonstrated Performance/soundness on selected different variables related to financial, operational, managerial and risk-absorption capacity of foreign banks (bank-wise) in India Since 1991.

Chapter 6: It has explained Efficiency of Foreign Banks (bank-wise) on selected inputs and outputs in India during 1990-91 to 2014-15.

Chapter 7: This chapter has measured contribution of foreign banks (group-wise) towards total priority Sector advances, small-scale industries and export-credit in India.

Chapter 8: This section has demonstrated findings of each objective, Conclusion of result, Contribution of research and further scope of study.

CHAPTER – 2

REVIEW OF LITERATURE

This chapter deals with review of academic literature which divided into sections as 2.1 implies foreign banks' entry experience at global level: the literature, Section 2.2 presents trends studies on commercial banks: An Overview, Section 2.3 defines literature on Performance assessment of banks with CAMELS Framework: An Academic review, Further section 2.4 describes previous studies on Identification of efficiency: A Comprehensive survey on literature, and Section 2.5 reveals literature on contribution of Scheduled Foreign Commercial banks towards Priority Sector Advances in India and 2.6 section presents Research gap of the study.

2.1 FOREIGN BANKS' ENTRY EXPERIENCE AT GLOBAL LEVEL: THE LITERATURE

There is vast literature available on foreign banks positions, performance, impact, efficiency and their size which was conducted by scholars from time to time. A review of literature on this topic, (Claessens and Horen, 2014) presented new, comprehensive database, made publicly available, on ownership of banks (including foreign banks' home nation). In India, (Sharda et al, 2014) summarized legal framework to understand RBI attitude towards foreign banks and their operations, opinions, experiences about Indian regulatory set-up, and how they adapted themselves to deal with these changes. (Pandya, 2014) stated that majority of ratios were recorded impressive change in their values, which further clarified dynamic approaches of these banks. Moreover, foreign banks have improved their operating efficiency in terms of business and profit per employee and capable enough to earn higher return.

Numerous studies have observed that public sector banks are significantly less efficient than their counterparts' however, private banks are at par efficient to foreign-owned (joint-venture) banks in Nepal as revealed by (Jha and Hui, 2012). It has also been observed in Eastern and Central Countries by (Havrylchyk and Jurzyk, 2011) that profitability of foreign banks in CEESs more as compare to their domestic counterpart's banks. In Estonia, Lithuania and Latvia proposed by (Aarma and Dubauskas, 2011) on basis of comparative outwards and inwards development

of international banking with three type of methods e.g. (i) Quantitative methods (theories & assumption); (ii) Qualitative methods (new theories); (iii) Hybrid methods and stated nowadays banks are need to make sensible strategic decisions in order to maintain sustainable banking businesses in future.

Several studies have been carried out in 2011, In developing nation like China, (Lin) has inferred that early stage entry of foreign banks did not impact either on incidence or long-term bank loans and (Xu) examined foreign banks' entry has impact on performance of banks with new innovative technique (spatially disaggregated) and foreign banks support more efficient and competitive banking industry. In Philippine, (Manlagnit) examined foreign banks have earned more profit when they operate in host nations with less competition, compelled host nations bank to update their techniques and technologies in order to be more cost efficient and marked more competitive pressure on them. On other hand, In Asia and Latin America, (Jeon et al) highlighted that an increase in penetration of foreign banks has enhanced competition in host countries' banking sectors, higher participation is associated with more banking competition degree among host emerging nations. Moreover, these positive penetration of foreign banks and banking competition is associated with foreign banks' spill-over effects to domestic counterparts and this effect become greater when foreign banks are enter through 'de novo' penetration rather than mergers and acquisitions. Besides, foreign banks are more profitable than host banks when they operate in nation whose banking industry is less competitive and when parent bank in home country is highly profitable as revealed by (Chen and Liao, 2011).

More attempts have been made by (Wu et al, Malhotra and Hinnings, in 2010) that in Asia, Latin America, Eastern and Central Europe during 1996 to 2003, gross fixed capital formation effects on output growth is higher in an economy with more foreign banks penetration as compare to low level. Moreover, they have suggested foreign banks play a prominent role in allocating capital in more productive way, leading to higher economic growth rate. Other researchers proposed an organizational model for understanding process of internationalization, stated different approaches for resource commitment, compare (mass, disaggregate and project-based production organization) and inferred that each organization respond differently to critical elements of internationalization process.

Many experts have investigated that In India, foreign banks' contribution to systemic efficiency and stability cannot be as high as in systems and tested it with important criteria (i) financial services access; (ii) level of efficiency; (iii) access to credit by (Mohan, 2008) and suggested that preparedness of scheduled commercial banks was not of order that was expected when RBI unveiled its road map in 2005. In order to identify, enhanced entry of foreign banks in poor nations, (Detragiache, 2008) has argued that their entry hurt clients and welfare of host domestic counterparts at time when they are better in disseminating soft information of customers and predicted that credit provide to private sector should be lower in nations with more penetration of foreign banks. In Japan, (Qian and Delios, 2008) have developed an interdisciplinary framework to examine expansion of multinational bank and demonstrated that MNBs were expand internationally to expand their intangible assets, follow domestic clients but motives for expansion can change over time.

Few scholars' were thrown comments against entry of foreign banks in host nations, as in Latin America, (Yeyati and Micco, 2007) argued that increasing foreign banks' entry has weakened banking competition. Besides, (Paula and Alves, 2007) also criticized entry of foreign banks' in Brazil and Argentina, that they did not contribute towards any improvement to sustain production and investment efficiency and suggested that unstable macroeconomic environment, growth of credit were main factors responsible for weak financial development level. To check, whether domestic and foreign banks are react differently to business cycle and banking crisis, In Eastern, Central Europe, (Haas and Lelyveld, 2006) has reported that during crises periods domestic banks were contracted their credit base while greenfield foreign banks did not, moreover, conditions of home nations matter for foreign banks growth. In India, (Karunagaran, 2006) demarcated pre and post liberalisation phases along with changing dimensions of foreign banks relative to domestic commercial banks, theoretical viewed operations of foreign banks from historical perspective, analysed contemporary policy that has promoted their aggressive expansion, brief description of foreign banks' development and genesis.

Moreover, As others have highlighted in 2004, in OECD nations, high degree of integration between destination and home nation affects location choice (Claessens

and Laeven, 2004) examined it with determinants of foreign banks' investment pattern used unique data base of 260 large banks and observed that integration marginal effect is much lower than other explanatory factors (institutional characteristics and profit opportunities). In same year, these researchers have used structural model, estimated competitiveness indicators for large cross section of nations and found that fewer activity restrictions and greater foreign banks presence in banking sector can make more competitive banking system, however restrictions on entry can reduce competition. They suggested that open and flexible new entry is most significant for competitive pressure.

In addition to these, in 2004, In Latin America, in order to understand whether increasing foreign penetration and high concentration levels impact on Latin American banks spreads during 1990s, it was examined by (Peria and Mody) that foreign banks were capable enough to charge lower spreads and cost than domestic counterparts and they suggested overall enhanced participation of foreign banks influenced spreads indirectly, however bank concentration directly and positively associated with high costs and spreads. Further, more efforts have done e.g. (Lensik and Hermes, 2004) investigated foreign banks' short-term entry effects on domestic banking sector behaviour and showed that at lower level of economic development foreign banks entry is generally related with higher cost and margin for domestic counterparts. Moreover, higher levels of economic development effects appear to be unclear, foreign banks is related to costs reduction, profits and margins of domestic counterparts.

Some experts were viewed empirically in 2003, as (Clarke et al) has stated in developed nations domestic banks were outperformed however, opposite in case of developing where foreign banks showed more efficiency and indicated enhanced restructuring via sales to foreign clients or consolidation. In Phillipine, entry of foreign banks was associated with narrow spread (interest rate), reduction of banks profit, decline in operating expenses & compels their domestic counterparts in host nations to be more efficient as examined by (Unite and Sullivan). In Latin America, (Crystal et al, 2002) have compared performance of foreign with domestic banks and revealed that foreign banks showed more robust loan growth, more aggressive

response to assets quality deterioration, absorb greater loss that further help to strengthen financial systems of their host nations.

More detail research in India reported by (Bhide et al, 2002) as they discussed on difficult challenges on banking sector, weaknesses in system, how to cope with critical issues arising as result of reforms process. The researchers observed that traditional face of banking industry is undergoing change-from mere intermediator to provider of efficient service provider and cost-efficient, moreover, types of weaknesses in system and how may it cope with these critical issues, as a result of reform process. The real issue in front of India is how to achieve best deal to reform financial sector and authors demonstrated six major issues like (i) foreign banks entry through subsidiaries; (ii) restrictions on foreign share on banking assets; (iii) number of branch licence per year; (iv) foreign banks branches investment limits in financial companies; (v) full national treatment; (vi) banking services trade through supply modes as explained by Joseph and Nisture (2002). They have expressed their suggestion that under WTO trade increasing globalisation has provided India with new opportunity and strengthen efforts related to domestic financial sector reforms.

It is observed by (Claessens et al, 2001) with 7900 bank observations from 80 countries during 1988-1995, effect and extent of foreign presence in domestic banking markets and demonstrated that foreign banks have earned higher profits in developing nations but reverse in developed. They have suggested that increased foreign banks presence was associated with reduction in net interest margin, non-interest income and operating expenses and profitability for domestic counterparts. In has been showed, in 2000 by (Eriksson et al) that variation effects in geographical scope of international business operations on development of experiential knowledge in firm internationalization and demonstrated that based on learning theory, they have developed three interrelated international exponential knowledge components e.g. (i) Internationalization; (ii) Business & (iii) Institutional and observed that variation has positive effect on experiential knowledge accumulation during internationalization of firms and component (internationalization knowledge) act as key variable that mediates variation effects on other knowledge variables.

Further examinations showed that in India, in 1993 (Chandhoke) observed that profits of foreign banks have earned not only from genuine but also from treasury operations means (portfolio management), from lending in money market (non-deposit) resources garnered essentially from financial institutions and public sector undertakings and other banks. (Kurup) has suggested that Indian banks must reduce their burden by increasing their fee income and reducing operational expenses if they want to become financially viable.

In addition to this, (Viswanathan) theoretically observed from result of Uruguay Round of Multilateral Trade Negotiations embodied 'The Draft Final Act ('Dunkel Draft') that liberalized restrictions on foreign banks have raised number of concerns for India, i.e. (i) entry of foreign banks may adversely affect competition; (ii) greater access to Indian markets will exclude use promotional development of banking industry and addition to these, hamper effectiveness of monetary policy inflow and outflow of capital and exchange rates level.

In South Africa, (Chandhoke, 1983) has demonstrated that foreign banks' economic and political support to regime not only through loan capital provision but made available through their branches, subsidiaries' technological and financial services (Johanson and Vahlne, 1977) identified common elements shared by successive decision situations, develop internationalization process model at Uppsala University and emphasised on integration, acquisition and its operations in small banks.

2.2 TRENDS STUDIES ON COMMERCIAL BANKS: AN OVERVIEW

There is considerable literature on story of Indian financial sector for period from 1950-2015, as identified by (Mohan and Ray, 2016) they have traced trends and turns of financial sector, adopted three period of classification (i) 1950s & 1960s exhibited instability elements associated with laissez faire; (ii) 1970s & 1980s experienced financial development process across nation under government auspices (with financial repression degree); (iii) period since 1990s till this date, has been accompanied by gradual liberalisation and calibrated financial deepening. From point of M & A (mergers and acquisition) view (Achim, 2015) has presented latest trends of M & A via published research papers in 2014 and found on web of

knowledge application most of studies have assessed this issue due to its international importance, in order to cite & published authors choose subjects of global relevance.

The researcher has addressed, In India, in 2014 (Joseph) assessed NPAs trends of scheduled commercial public and private banks, reported various methods to overcome from NPAs burden and stated factors were responsible for non-performing assets. In addition to this, (Yadav) has reported that banks should keep NPAs at low level because it adversely affects performance, restrict growth, success and suggested preventive measures to control NPAs in this era with risk management mechanism and credit appraisal system.

Moreover, (Kumar and Sharma) has studied State Bank of India has registered highest level of NPAs followed by ICICI. In Ghana, (Quartey and Afful-Mensah) suggested factors like interest rate in nation that need policy intervention to make cost of doing business favourable for banks and discussed some initiatives taken by financial sector that further contribute to non-banking, banking growth in terms of number, innovative products and services. In India, (Ibrahim and Thangavelu) has investigated that different type of banks' ownership had showed their loan loss assets (NPAs & GNPAs-Gross non-performing assets) differently and concluded studied banks have significantly improved their position in area of NPA. (Rani and Dinesh) has suggested that Reserve Bank of India must follow an income recognition objective policy based on actual study, selected sample (public, private and foreign) banks must establish appropriate assessment tools and mechanism of credit risk for improvement of NPAs level and summarised private banks are performing their jobs more efficiently than other sample banks.

In 2013, (Srivastava and Gupta) investigated that there is improvement in quality of assets as reflected by decline in NPAs percentage but quantum of NPAs is alarming with Public sector banks as compare to foreign, private performance in term of GNPAs and Gross advances. Besides, In India, in 2012, It is found that compound growth rate is higher for private sector banks and they were making impressive efforts to compete with public banks in certain parameters and suggested recent growth of private Banks can pose a challenge in market and may dominate public banks in fore coming years as assessed by (Ayyappan and Sakthivadivel).

2.3 PERFORMANCE ASSESSMENT OF BANKS WITH CAMELS FRAMEWORK: AN ACADEMIC REVIEW

A great stake of literature focuses on banks performance evaluation from time to time and at different nations by various eminent scholars as, A recent literature has surveyed, In 2019 In Bangladesh, (Parvin et al) determined commercial banks liquidity and bank size effect on banks' profitability and stated that bank size and loan/ asset ratio had positive relation with return on assets, which was depiction of profitability. Moreover, researcher described that there was relationship among liquidity, bank size and profitability, but profitability did not influence with size and liquidity of banks. In Turkey, (Ondes et al) compared financial performance of Islamic banks with framework of CAMELS and observed Islamic banks in Turkey were performed better than banks in U.K., can perform better in terms of risks, liquidity and quality of management.

More recent evidence in 2019, In Vietnam, (Nguyen and Liu) described that deposits, owner, overhead and non-interest earning has a negative impact on financial performance, however bank reserve requirement has a positive relation. In China, (Guan et al) added green indicator and formed the G-CAMELS evaluation system to comprehensively assess commercial banks' competitiveness, found that with entropy weight method in system of model (formed), the green index weight is quite large; it magnifies financial industry impact on environment. It is proposed that newly developed system will increase state-owned banks' rankings. Moreover, to improve banks' competitiveness they should enhance innovation of their banking business and implement green credit policy. In India, there was stiff competition exists among private, public & foreign banks from 2001-02 to 2010-11 at framework (CAMEL) however Standard Chartered Bank (foreign banks) during research was positioned best in sustaining assets quality, profitable business and effectiveness in utilization of credit/deposits ratio as calculated by (Sahota and Dhiman, 2017).

More research has tended as In Bangladesh, in 2018 (Akter et al) has explored soundness of Non-Banking financial institution with ratios of model and found that out of 33 sample NBFIs only '1' was strong, '15' were satisfactory, '13' were fair and rest '3' were marginal as model rating. In order to know, financial position of

state-owned and private commercial banks (Rahman and Nitu) with characteristics of CAMEL inferred that there was significant difference in term of capital adequacy and position of liquidity; however, found no differences among rest of model elements. In Turkey, (Ghazavi and Bayraktar) mentioned that means of model ratios are significantly different over years and its rating comparison with institutional rating described latter does lag financial indicators of companies, moreover trends between them consistent over years. In 2017, in India, (Sahota and Dhiman) presented vast academic review of DEA, CAMELS framework results with different approaches, techniques, models during 1991-2016 at international level and foreign banks penetration impact on host commercial banks. It has been demonstrated, in Kosovo, that profitability of commercial banks' was mainly driven by internal determinant factors (capital adequacy, assets quality and management efficiency), while macroeconomic factors did not impact commercial banks' financial performance (return on average equity, return on average assets and net interest margin) as presented by (Nuhiu et al).

In 2016, several studies have conducted with globally accepted CAMEL model, in India (Sahota and Dhiman) recommended this uniform, subjective rates based framework for true picture depiction of internal financial, operate and managerial positions of banks on basis of their performance (e.g.) – relative, individual and ownership category. Moreover, its soundness depends upon quality, accuracy and reliability of secondary data.. In Palestine, financial soundness and performance of Palestinian commercial banks were ranked best with total 16 components of models as defined by (Zedan and Daas). In Saudi Arab, banks with large-size were found less profitable and enhanced lending activities by domestic counterparts ultimately adversely affected foreign banks as evaluated by (Saif-Alyousf) with model characteristics. However, In Bangladesh, performance of most banks' is dependent more on managerial efficiency in formulating strategic plans and its implementation, and research recommended that banks should be more careful in enhancing of managerial grids and quality of assets measured by (Moudud-Ul-Huq).

In India, in 2015, various authors applied CAMEL methodology like (Karri et al, 2015) investigated that there is no significance difference between BOB-Bank of Baroda and PNB-Punjab National Bank's financial performance and concluded PNB

was performed slightly less compared with BOB. In similar year, (Baral) has proved that deposits of SBI was superior to HDFC Bank, loans and advances, term loans, and short-term loans of SBI were greater and no significant difference was found in recovery performance between selected sample banks during study. Moreover, (Khatik and Nag, 2015) has measured performance of private and foreign banks with model approach and found that among private sector banks ICICI bank was performed best and ADB (Antwerp Diamond Bank) among foreign banks have showed best performance. Besides, (Datey and Tiwari) has studied basic knowledge about supervision of banks with ratio-based framework, measured overall soundness of selected sample banks (ICICI & Bank of Baroda), and stated selected banks were strong in most of model parameters. Moreover, ICICI bank was overtake BOB at most of model parameters and shine out to secure first rank as per comparison based. (Salgotra and Wadhwa) demonstrated that public banks average percentage of CRAR has low coefficient of variation depicting less variations in mean over study period but public sector banks have registered negative CAGR (decline in growth rate). In Pakistan, (Aftab et al) inferred that banks have earned more profits when they are in private hands (owners) and under government control their assets quality and liquidity became irrelevant. The researcher assessed this performance with different ownership e.g. private and public owners (during 1974-1996), democratic (1953-58, 1971-77 and 1989-99) and autocratic (1958-69, 1977-88 and 1999-2008) with model framework.

Many attempts have been conducted, in India, in 2014 (Ghosh and Rakshit) described HDFC was ranked top at model dimensions and sub-dimensions. (Karthikeyan and Shangari) has measured and compared financial soundness and performance of scheduled private banks with correspondence analysis of CAMEL and found HDFC bank was more efficient than others sample banks and summarised private sector banks are as profitable as other (ownership) banks. During 2006-07 to 2012-13, Bank of Baroda was got rank first followed by Union Bank of India, Dena Bank, SBI and UCO bank among selected sample nationalized commercial banks on basis of ratios-based model (CAMEL) proved by (Khatik and Nag,).

Scholars in others nation used widely CAMEL framework as in Europe, in 2014 (Tomuleasa and Cocris) has revealed that bank specific determinants affect banks' profitability due to particularities of each nation and to various macroeconomic environments in which they operate. (Alber) has investigated effects of banking regulation on asset quality (non-performing loans ratios) in four groups of countries (i) Middle East & Africa, (ii) Europe & Central Asia, (iii) Latin America & Caribbean and (iv) East Asia & Pacific from 2006 to 2012. The result depicted that implementation of SA- "Standardized Approach" and Conserv- "Capital conservation buffer" may affect quality of assets for low-asset quality nations, while implementation of BIA- "Basic indicator approach" and Pillar2 may affect "asset quality" for high-asset quality ones. In Bahrain, (Venkatesh and Suresh) described that NBB (National Bank of Bahrain) has performed more efficient as compare to its competitor's at model parameters. In Morocco, (Ferrouhi) found that CDM-CREDIT DU MAROC was ranked best with model parameter e.g. debt equity-adequacy of capital, provision of loan loss-assets quality, return on equity-management efficiency, return on assets-earning capacity. Moreover, In Lithuania, (Brauers et al) have evaluated financial stability of registered commercial banks with bank-specific variables of model & MCDA four methods (SAW, TOPSIS, and COPRAS & PROMETHEE II) and noticed that financial system of this nation is based on households' primary sources; stability primarily depends on depositor's behaviour. In U.A.E., it was noticed by (Ibrahim) that sample banks were found financially viable and flexible. In China, (Daly and Zhang) has constructed profitability model of Chinese owned banks, proposed that model performs well for net interest margin, non-interest margin, impaired loans ratio and equity multiplier. The result showed that licensed owned banks will make more profits as compare to unlicensed and in general banks tend to perform poorly in terms of margin while profitability ranked average. In Turkey, (Altan et al) have evaluated performance & financial soundness of selected state-owned (3) & privately-owned banks (12) and demonstrated that on overall performance of Ziraat Bank was in top position followed by Ak Bank and Vakif Bank.

More evidence has been observed, in India, in 2014 found in respect of private ownership Axis Bank was outperformed and in scale of efficiency HDFC and on side of public ownership SBI and BOI were positioned inefficient, however oriented

Andhra Bank was placed most efficient as compared by (Agarwal et al). (Gupta**)** has demonstrated that significant difference was noticed among scheduled public sector banks at model characteristics and suggested banks with lower score need to improve their performance to ensure an efficient economy and sound financial sector. In addition to these, (Sandhya) has determined efficiency of CAMEL framework in bank supervision and inferred that CAMEL provides a measurement of banks current overall financial, managerial, operational and compliance performance. Parameters and sub-parameters of CAMEL proved that women are not less than men in fact, perform efficient as men and summarised that scores of models have not showed remarkable jump but slightly better as assessed by (Chandani et al) on CEOs performance of ICICI bank. In addition to this, same year, it was noticed by (Chandani and Mehta) that there is significant difference between two leader's performance at CAMEL dimensions of two private sector banks (ICICI & Axis Bank). (Haque) has examined performance of various indigenous and scheduled foreign banks and observed they were performed equally at return on assets, net interest margin, but significant mean difference was found among peer groups in term of ROE (return on equity).

Many studies have been published on CAMEL framework, in 2013, (Mohan and Gomathi) during global recession financial performance of selected Scheduled Indian sample banks e.g. (BOI, BOB and Corporation Bank) were satisfactory enough to tackle influence of recession as empirically tested for period 2001-02 to 2006-07 (pre-crisis), 2007-08 to 2012-13 (post-crisis). (Bansal and Mohanty) has tested performance (market capitalization) of selected banks and described that HDFC Bank was occupied highest position followed by SBI Bank(2^{nd}); 3rd Rank to Kotak Mahindra Bank; ICICI Bank positioned at 4th; AXIS Bank was placed at 5^{th} rank and concluded that market capitalization does not depict bank' financial performance and it is merely a market reputation.

An increasing number of studies have been found, In Tanzania, rank of 28 commercial banks in term of profitability and liquidity has increased considerably as stated by (Ally, 2013). Moreover, it is summarised that there is no significant means difference (profitability) among peer banks groups in term of ROA, however, a significance differences are existed in term of ROE, NIM ratios. With help of model

dimension (CAMEL), it was found in term of quality of assets, adequate capital, earning capacity and liquidity Sri Matha Mahila co-operative bank has got top position and in term of management efficiency Sri Lakshmi Mahila Sahakari Bank hold top position as assessed by (Acharya). Moreover, it was found that on basis of model parameters, private and foreign commercial banks were performed far better than their comparative public bank counterparts as investigated by (Dash and Das). Moreover, (Mishra and Aspal) assessed financial soundness of State Bank Group and found that overall SBI group performance was same. However, in respect of capital adequacy-SBBJ and SBP, assets quality-SBBJ, management efficiency-SBT, earning quality-SBM and State Bank of India were positioned at top rank on basis of combined model dimensions. In addition to this, it was revealed, in Bangladesh, by (Mamun) that prime banks with debt equity ratio has maintained requirement of capital (advance to assets ratio, debt equity) above regulatory norms. (Chandani, Mehta and Neeraja) has examined operational, financial and managerial efficiencies of private sector e.g. Axis Bank, ICICI, focused on women CEOs with CAMEL dimensions and revealed that performance of model variables of women CEOs was on par.

In Rome, (Roman and Sargu) based on an important set of indicators, study express that sample banks financial soundness and health reflects quite heterogeneous distribution and summarised largest bank in Rome Banca Comerciala Romana was ranked top. In India, Sharma and Kumar has proved that banking sector reforms had marked significant impact on foreign banks' growth determinants (total income, expenditure & business) and efficiency determinants (income-total & non-interest, establishment expenses, number of employees & branches) during pre-reform (1987-1990), post-reform (1996-2010) and whole study period (1987-2010). Besides, (Mishra and Agarwal) evaluated financial performance of two major banks and inferred that at capital adequacy, efficiency of management and quality of assets Central Bank of India has performed better than IB. However, Indian Bank in terms of earning capacity was better. In Malaysia, (Kamaruddin and Mohd) examined in term of capital adequacy, liquidity position BIMB-interest free Islamic bank was performed well and in respect of assets, management and at earning capacity performed at par by MAYBANK. Moreover, in terms of business (volume): total-

deposits; loans, assets, shareholders' equity and financing BIMB was far below than Maybank. In Kenya, (Ongore and Kusa) investigated that there was no effect of moderating role of ownership entry (foreign vs. domestic counterparts) on commercial banks' performance (return on assets, equity and dividend yield).

More numerous studies were found on Model, in 2012, In India, State Bank of India is the biggest commercial bank in Whole Asia and SBI and its associates were performed excellently since beginning of 21st century in respect of most important significant performance parameters as investigated by (Vijayakumar). Moreover, researcher stated that sample study banks has showed better position in maintaining ratios of capital adequacy, management efficiency, liquidity however, they have outperformed in terms of earning quality & improved its assets quality. It was investigated by (Reddy) that during research selected foreign, public & private banks on basis model like Mashreq Bank, Indian Bank, Oman International Bank, UBI, Punjab & Sind Bank, UCO Bank were shown their progress. However, (Kumar et al) has revealed that Indian scheduled private commercial banks were found more financially sound as compare to public sector banks and concluded that Public-PSBs like Union Bank and SBI have taken a backseat and demonstrated low economic soundness. Moreover, (Prasad and Ravinder) has observed Andhra bank was positioned top followed by Bank of Baroda, Punjab & Sind Bank out of selected 20 nationalized Scheduled commercial banks.

A branch of the literature has also examined, in 2011, in Pakistan (Shar et al) assessed that banking sector showed positive impact and improvement in overall performance, moreover positions of banks were under study (pre-post nationalization) found satisfactory with regard to framework of CAMEL. Besides, it was observed that Indian commercial banks during 1999-2000 to 2008-09 have improved their performance than before as observed by (Ibrahim) with deposits, credit-deposits ratio, loans and advances and investment/deposits ratio. (Reddy and Prasad, 2011) evaluated overall performance of RRBs and stated APGB (Regional rural bank) were ranked top at characteristics of model.

Other observations indicate, In U.S., (Cole and White, 2010) studied that more loan allocation to multi-family and commercial mortgage are likely to fail as researcher

used multivariate logistic model with CAMEL model during recent global crisis. In India, in 2010, (Kaur) has reported among selected sample banks of public sector (28)-Andhra & State Bank were ranked best, private sector (26) Jammu & Kashmir has bagged top position followed by HDFC and in category of foreign Banks-Antwerp Bank was occupied highest position on basis of model dimensions. (Nazir and Sangmi) examined that among sample scheduled commercial banks e.g. J & K and Punjab National Bank were financially viable to adopt prudential norms and policies. In addition to these, (Manoj) has stated that during 1999-2000 to 2008-09 all the Kerala based old private sector banks were lagged behind 'the best in Class' in financial position and remedial measures should adopt to enhance healthy competition by respective players.

Besides, in 2009 (Pat) has explained The Annual report RTPB (Report on Trend and Progress) in India published by Reserve Bank of India brought healthy position of scheduled commercial banks which got widened over years and encompasses their entire spectrum of policies and operations. Moreover, researcher demonstrated principle-based regulation consists (integrity, skills, management, market control, conduct care & diligence) and rule-based include detail of perspective rule and supervisory action. In Bangladesh, prospect of private commercial banks is very bright as (Chowdhury and Ahmed) proved during 2001-02 to 2005-06 and stated capable enough to achieve stable growth. In Addition to this, framework of risk management design should be oriented towards banks' own requirement, size, business, risk philosophy, market perception and capital level as critically explained by (Arora and Agarwal). They have also identified gaps in existing and new guidelines of risk management practice, strategies and policies.

More studies in 2008, 2005, 2004 has performed, In Rome, (Dardac and Moinescu) examined downgrade rating for credit institution, reacts especially to changes in risk profits of every bank. In Czech Republic, (Derviz and Podpiera, 2008) stated that CAMELS model and its determinants have significant explanatory power. In German, (Jakubik and Schmieder) has examined credit risk corporate variables of households' sectors with stress scenario and stated it was increased 100 percent in Czech Republic and 40 percent in German. In Nepal, during study 1999-2000 to 2009-10 observed that financial health of venture banks was better than others as

explained by (Baral, 2005) with components of CAMEL model, moreover, financial health of joint venture banks were not so strong enough to handle possible large-scale shocks and their health was fair.

It has been evaluated, in 2004, In U.K., (Kosmidou et al) has examined performance (profitability, risk, efficiency & liquidity) of foreign (32) & domestic (26) banks from 1998-2001 with multicriteria methodology and showed that domestic counterparts exhibit higher overall performance compared to foreign banks, more specifically, domestic banks have higher profit before taxes/ (loans & securities), higher net interest revenue/total earning assets and lower loan loss provisions/total assets than foreign banks. In India, (Ghosh et al) has empirically assessed risk-weighted determinants of banks capital ratios of state-owned Indian banks with bank-specific characteristics and macroeconomic factors and suggest that factors (bank-specific) has play a prominent role in influencing capital ratios of banks in India.

Further in 2002, in Indonesia, (Gasbarro et al) has assessed changing financial soundness during crisis with components of CAMEL and panel data methodology (fixed-effects & random-effects models) and result showed changing importance of model components during different economic conditions in Indonesia and concluded different factors of model (CAMEL) are significant in different economic environments. In German, private-owned banks are more efficient than mutual and public counterparts between assessment year 1989 and 1996 as measured by (Altunbas et al, 2001). In India, (Keshari and Paul, 1994) empirically evaluated efficiency of Scheduled commercial banks and demonstrated that group-wise foreign banks was 1 per cent less efficient than Domestic banks.

2.4 IDENTIFICATION OF EFFICIENCY: A COMPREHENSIVE SURVEY ON LITERATURE

Efficiency is only criteria to grow and sustain in competitive markets. Due to technological innovations and emerging global market paradigm by any business organization is compelled to better than yester-years (Narasimhan and Venkatesh, 2019). A recent review of literature on methodology DEA Model - Data Envelopment Analysis, in 2019 has carried out, In India, (Narasimhan and Venkatesh) studied efficiencies of public and private sectors banks in context of

OBS (off-balance sheet) items with two-stage DEA. They inferred that SBI associates were performed poor & ranked poorly in respect of all kind of efficiencies, few banks (public) have attained efficiency of 1 and 0.9, while others were positioned miserably in all aspects of efficiency scores and private banks outsmart at all types of efficiency scores. Moreover, suggested public sector banks consolidation is inevitable to attain efficiencies in long-run. (Lien-Wen and Altankhuyag) investigated different regulation effects on cost-efficiency of banking industry in India, Bangladesh, Malaysia and Thailand and demonstrated that bank efficiency was not significantly influenced by minimum capital requirements; however, higher capitalization helps to eradicate agency problems between managers and shareholders' moreover, it gives shareholders greater incentives to manage management's performance and ensure that their banks operate efficiently.

Numerous studies have been conducted, (Khezrimotlagh et al, 2018) proposed a new framework to significantly decrease required DEA calculation time in comparison with existing methodologies when a large set of DMUs (e.g. 20,000 or more) is present. This framework includes five steps: (i) with proposed algorithm, select sub-sample of DMUs; (ii) finding best-practice DMUs in selected sub-sample; (iii) identify exterior decision making units to hull of selected sub-sample; (iv) described all efficient decision making units set; (v) measured performance scores as those arising from traditional DEA approach. The result pointed out that running time is decreased to 99.9 percent in comparison with existing methodologies. In 2016, (Sahota and Dhiman) stated that DEA technique was found to be very beneficial in measurement of various kind of efficiencies, with different technique, approaches and methods.

Further, many efforts have been made, in 2014, In Iran, (Shahroodi and Bahraloloom) found that integrated approach of DEA and Balanced Score card has caused weakness of each model covered by other model strength. Foreign Banks from other economies in Pakistan found more efficient than local banks in minimization of inputs & maximization of output as revealed by (Rashid and Rustam). Moreover, (Rani and Dinesh, 2014) reported that average growth rate of total income is higher in HDFC as compare to ICICI on basis of total Income, total Expenses, net profit & operating profit.

In China, (Matthew, 2013) proved that there was no direct significant relationship between constructed measure of risk management practice and organizations. The researcher used qualitative & quantitative approach of DEA network. In India, (Mariappan, 2013) has described that out of sample nationalized banks only 21 percent was efficient based on input oriented technical efficiency (CRS), 31.6 percent (VRS), 21 percent were functioning effectively & efficiently and remaining banks were not performing up to expected level. In Mexico, (Haber et al, 2012) stated that entry of foreign banks has leads its domestic counterpart's banks towards greater move. Most specifically, foreign bank acquisition appears to be related with substantial decrease in non-performing loans ratio and an increase in margins (net interest).

It was observed in 2011, in Bangladesh that income and cost efficiency of selected sample banks has increased, foreign banks has statistically significant impact performance of banks positively assessed by (Uddin and Suzuki)**.** In India, (Ray) investigated with Data Envelopment Analysis that adoption of proper prudential norms promotes financial soundness and for improvement in operational efficiency healthy competition must introduce. Moreover, foreign banks were found more productive than domestic counterparts, sample banks were performed well in term of total factor productivity as followed by SBI & HSBC. In Canada, (Paradi et al) examined one performance aspect did not predict similar result in other aspects. The researcher has proved it with 816 Canadian banks branches, dimensions (intermediation, scale efficiency, profitability, geographical location and market size) with two stages DEA (CCR & BCC) and suggested that multi-dimensional performance evaluation approach may improve acceptance of practical DEA applications in real business by management.

More evidence on DEA method has found, in 2010, (Dyson and Shale) examined that model can handle uncertainty and suitable as per real world circumstances. In Saudi Arab, banks were efficient in managing financial resources, keep investors, policy-makers relate to further regulation as assessed by (Alkhathlan and Malik). In Brazil, (Staub et al) evaluated cost, technical & allocative efficiencies of banks and observed that Brazilian banks inefficiencies were high as compare to other nations (U.S and Europe) and summarized that foreign banks were less efficient which mean

global advantage hypothesis was not predominant in Brazil. It has been traced, in 2009, In Taiwan (Chen et al) proposed new linear programming problem for evaluating the efficiency of DMUs (decision-making units) and this model differs from traditional and demonstrated better performance than existing model.

In Canada, (Yang) presented an evaluation of 240 branches of one big Canadian bank in GTA (Greater Toronto Area) using data envelopment analysis with special emphasised on how to present result to management, provide guidance to them on what to manage well and accomplish changes. In Arab, (Mostafa) has evaluated efficiency of commercial banks with DEA, Neural Network & Probabilistic neural network & traditional technique and found that NN models were quite similar to traditional statistical methods and revealed that great potential for banks due to their robustness & flexibility. Further support managers of banks in allocation of finance, identifying priorities for inspection and improvement in performance. In addition to this, efficiency of Arabian banks was recorded incorrect and there is room for improvement as observed by (Emrouznejad and Anouze).

In China, (Berger et al, 2008) predicted efficiency of Chinese banks and inferred that big four banks were far least efficient, foreign banks were most efficient, & minority foreign ownership is associated with significantly improved efficiency. The research was carried out by group of researchers as In Latin America and Asia, (Hermes and Nhung, 2008) has investigated financial liberalisation impact on bank efficiency & observed that result was strongly support positive impact of liberalisation (financial) on efficiency of banks.

It has been demonstrated, in 2006, In Africa, state-owned banks were performed worse than private and degree of shareholding was significant explanatory variable of relative performance investigated by (Figueria et al, 2006). In Poland, (Havrylchyk) stated that foreign banks were showed higher productivity in utilization of inputs (technical efficiency) and superior in choosing (input right-mix) with data envelopment analysis-DEA and also assessed different kind of efficiencies e.g. cost, allocative, technical, pure technical & scale with multiple regression technique. The research revealed that average efficiency 52.92 & 73.23 percent in case of domestic and foreign banks however overall efficiency of banking system has not improved during study period.

In Canada, (Wu et al) compared DEA-NN results of efficiency during October to December of 142 banks, identified more efficient units & explore good performance patterns. This integrated approach provides guidance on how to improve worse performance at different efficiency ratings. Besides, in similar year, (Avkiran) has developed technical, cost & profit efficiency model for particular application with data envelopment analysis and claimed that development of efficiency models adapted by foreign banks where non-discretionary inputs based on motivations are new additions. This study has contributed finance & banking theories on foreign banks' efficiency and behaviour.

More several studies have suggested, in 2005, (Camanho and Dyson) explored assessment of cost efficiency in complex situation of price uncertainty and mainly contributed in terms of novel development to DEA technique & managerial implications for enhancement of CE (cost efficiency) includes input prices. In India, (Das et al) estimated & analysed that in spite of gradual liberalisation aimed at strengthening operational efficiency of financial system during 1990s and found that banks were still not much differentiated in terms of input or output oriented cost and technical efficiency. However, they were perform differ sharply in aspect of profit & revenue efficiencies. Moreover, factors like banks ownership, size and listed on stock exchanges have a positive impact on average profit efficiency, and to some extent, on revenue efficiency scores. Finally, during post-reform period, median efficiency scores of sample Indian banks (bigger ones) have improved.

Besides, (Sathye, 2005) evaluated that partial private sector banks have performed better and efficient as compare to public owned banks on basis of return on assets, spread to working funds, establishment expenses and loan-out ratios. It was found no significant difference in these two cohorts of banks. In Jamaica, during pre-crisis period (March, 1989) and post-liberalisation from March 1996 to 1998, presence of foreign banks limited the negative effects that associated with liberalized economy; moreover, this positive outcome was based on information not signalling effect. however, foreign banks were more efficient and profitable than host nation's counterparts as examined by (Langrin, 2005) with deposit flow interest rate.

In transition Economies, (Bonin et al) observed ownership effects especially (strategic foreign owner) on bank efficiency and computed profit & cost efficiency scores. The result support that foreign ownership leads to more efficient banks in transition nations. In China, large and smaller banks were more efficient than medium sized banks and overall Chinese banks' efficiency had increased early from 1990s as stated by (Chen et al, 2009) with three types of efficiency (cost, allocative and technical) and applied DEA.

Many attempts have been made, In 2004, as (Ataullah et al) compared efficiency (technical) of Pakistan and India during 1988-1998 (The whole period (i.e. 1988–1998) is divided into three sub-periods: (1988– 1991) refer pre-liberalization period, (1992–1994) is considered transition period, and (1995–1998) represents post-liberalization period and explained that after 1990s technical efficiency of sample commercial banks had improved gradually in India and Pakistan and banks were relatively more efficient in generating (earning assets) income. In India, (De Kumar) investigated ownership-liberalisation efficiency issues and reported that efficiency of sample banks has not improved after liberalisation & it demonstrated mix results.

It has been demonstrated with Data Envelopment Efficiency, in 2003, by (Lou) that geographical presence does not relate either to market or profit efficiency. In Turkey, government agency has performed poorly at DEA index as (Mercan) has measured financial performance index. i.e. scale effects, ownership mode, bank behaviour, cross-country movements & financial crises. Besides, it is observed mean productivity efficiency of scheduled Indian commercial banks were comparatively better than others as examined by (Sathye) and recommended existing policy related to reduction of non-performing assets and rationalization of staff and branches may be continue to achieve efficiency and make Indian banks internationally competitive (which is major aim of Government of India).

Many Experts from different nation has conducted survey on DEA from time to time, In Croatia, foreign banks on an average most efficient; smaller banks were globally efficient, larger banks were efficient for variable returns to scale & new banks are more efficient than old ones as (Jemric and Vujcic, 2002). In Australia, (Sathye, 2001) found that sample banks have low levels of overall efficiency

compared with European and U.S nations' banks and suggested that inefficiency in Australian banks can be attributed to wasting of inputs (technical efficiency) rather than selecting incorrect combinations of inputs (allocative efficiency), moreover, domestic banks were found more efficient than foreign owned banks. In India, (Saha and Ravisankar, 2000) revealed that public commercial banks have improved their efficiency scores with use of DEA.

In Greece, (Athanassopoulos and Giokas, 2000) proved that data envelopment analysis is very useful device for assessment of bank's performance & entails three integrated stages (i) model building; (ii) model selection; (iii) decision support scenario during 1987-88 to 1993-94. In Portugal, (Camanho and Dyson, 1999) assessed efficiency-profitability matrix with DEA and reported which bank branches had to increase their profits & suggested branches efficiency has positive effect on profit.

Further, several more studies have found, In U.S, (Barr et al, 1999) measured productive efficiency and performance (return on average assets, non-performing loans/gross loans, & loans/total assets) of selected commercial banks and found that there are strong and consistent relationships between efficiency and inputs, outputs, as well as bank performance. Further, results suggested that effects of varying economic conditions are mediated to some extent by relative efficiencies of banks that operate in these circumstances. Moreover, DEA (non-parametric) technique can measure efficiency-resources used, effectiveness in assessment of branch level financial risk & influence of managerial change initiatives on productivity as reported by (Thanassoulis, 1999).

In India, (Bhattacharyya et al, 1997) measured productive efficiency & observed that publicly-owned banks were positioned most efficient followed by foreign-owned banks and privately-owned banks, moreover, there was temporal improvement in foreign-owned banks performance, no trend in performance of privately-owned & temporal decline in publicly-owned banks' performance. In German, (Berger and Humphrey**,** 1997) outlined results of 130 studies of financial institutions efficiency of 21 nations, applied five different frontier approaches. The study stated that estimated efficiency from non-parametric (FDH & DEA) are similar to those from

parametric frontier e.g. SFA, DFA and TFA. In Taiwan, (Yeh, 1996) examined during 1980-81 to 1988-89 that conjunction of DEA with financial ratios analysis can effectively reclassify and aggregate the ratios into meaningful financial dimensions which further help in designing of banks' strategies and distinguish efficient from inefficient ones.

2.5 CONTRIBUTION OF SCHEDULED COMMERCIAL BANKS TOWARDS PRIORITY SECTOR ADVANCES IN INDIA: A PERFORMANCE REVIEW

Most recent studies have carried out, In India, (Manjushree and Giridhar, 2018) revealed that priority sector advance of various bank groups is increasing, However, Indian banks have not attained targets fixed by RBI for priority sector and it creates many problems for SCBs-Scheduled Commercial Banks like transaction cost, profitability, high NPAs. It is recommended that bank should take necessary steps to reach target regulate by Reserve Bank regarding priority sector advances. Priority sector lending has tremendous significance in terms of upgrading indicators of inclusive growth to society, care should be taken that such advances are not misused by people. It is suggested that rules laid down relating to poor people loans offer schemes should be simpler & easier than current processes (Naruka and Yadav, 2017).

In India, share of priority sector in total advances is also steadily improving over years. This shows the appreciable performance of Scheduled Commercial Banks investigated by (Lakshmi and Reddy, 2016). The ownership nature, size and performance (bank-specific characteristics) have impact significantly on pattern of priority sector lending described by (Kumar et al, 2016), moreover, gaps in sectoral target pattern acquiescence by different bank groups, their lending predilections and challenges faced by them in such lending.

NPAs in priority sector were more in public banks as compare to private and foreign banks. There is still require to improve NPA percentage by better valuation of loan applications and follow up (Shabbir and Mujoo, 2014). Priority Sector Advances was not homogeneously sanctioned as some parts of nation, priority sector advances is above required level, while in other it is less than mandatory level (Shabbir, 2013)

(Mukesh, 2013) presented major changes in priority sector financing of Indian banks in wake of new economic policies. Special focus has given to small and medium scale industries for promoting equitable development in society. (Ota and Sarkar, 2016) highlighted Priority sector concept, role played by Indian banking system, & measure impact of PSL on rural economy growth in India and observed that people who borrow under this category rarely pay their amount back which leads to increase Non-Performing, Government interference in lending proceedings also creates many issues. They suggested that Reserve Bank of India should take initiatives that help banks in their proceedings of lending and transfer loans sanctioning discretionary powers to banks.

(Kaur and Silony, 2011) found that priority sector & agriculture advances of public and private commercial banks have showed improvement in manifold from 1989-90 to 2007-08, however, selected sample banks still back behind in achievement of target as prescribed by RBI relate to agriculture sector. It was noticed that private banks performance as compare to all dimensions was better than public and suggested enhance attention of both sectors towards priority sector to Indian economy. The demand for priority sector funds like small entrepreneurs & agricultural sector is enormous as revealed by (Ud-din Ahmed, 2010) and suggested that there should be proper recovery of loan amount from loanee in order to restore commercial banks performance in area of lending (priority sector) otherwise banks would face crisis of liquidity.

2.6 RESEARCH GAP OF THE STUDY

From comprehensive review of previous studies related to foreign banks entry experience, performance, impact, it is understood that host emerging nations experienced wonderful from foreign banks penetration, activities and overall operations. Foreign banks performed more efficient in resource utilisation capacity, moved domestic banking industry towards greater, moreover, enhanced degree of competition in positive sense and compelled their domestic counterparts to update their technologies in imparting services and products (Sahota and Dhiman, 2017).

The last decades has marked a heavy volume of professional & academic papers stated concerns related to soundness and safety of banking industry as well as

feasibility in this rising volume of competition. After reviewed of great stake of previous studies, it was concluded that huge amount of comparative research (public, private and foreign banks) has conducted on commercial banks' different positions, ownership, size, market capitalization, efficiencies at international and national level, but very few studies on wide perspective of foreign banks past & future trends, performance, relative efficiency and contribution to Indian Priority sector advances Since 1991 to 2030 have carried out till this date in India.

To fill this gap in academic literature, this vast empirical research has carried out to know what type of experiences India has tasted from multination banks from different economies at varied time slots.

CHAPTER – 3

RESEARCH METHODOLOGY

3.1 NEED OF THE STUDY

Banks are pillars to every nation's financial system. It places crucial position in ensuring the soundness and safety of economy as whole. For every nation's financial system safety, soundness of banks is considered as fundamental. It is extensively believed that the foreign banks as compared to domestic counterparts adopt better practices of management and possess better organizational know- how and skills. Narasimham Committee (1991) has emphasised that abundant entry of foreign banks would provide spillover advantages to financial sector by improving competitive efficiency and by upgrading of technology and work culture of banking sector in India. Thus, the committee has recommended for an enhanced participation of foreign banks not only to open more branches but also allowing them to have subsidiaries and joint ventures with DBs (Keshari and Paul, 1994).

Banks acts as fuel for smooth functioning of any economy as general and financial sector as specific. During few decades, due to far-reaching changes all-round the world, central banks have improved their supervision techniques and quality. In this ever-changing complex scenario, it is prominent to evaluate and reveal overall position of banks to ensure effective financial system (Sahota and Dhiman, 2017).

Today's more open and stiff competition in banking milieu has heightened the assessment requirement of resources used by banks for doing profitable and quality banking business. Service industries attract more and more attention of scholars to analyse resource utilization capability and banks' efficiency from time to time. Foreign banks bring in serious competition for domestic players, they bring with them superior risk management practices and deeper pockets and all this should result in higher efficiency in the banking system (Mohan, 2008).

Foreign banks may serve as a network in enhancing integration of emerging economies with advanced one that are home nations of foreign banks (Wu et al, 2010). In the competitive banking world, banks are surviving through enhancing their performance and efficiency (Parvin et al, 2019). Foreign banks have provided

economies with greater access to financial markets at global standards than what their own domestic counterparts could. Multinational banks helped to introduce the latest finance related techniques, enhanced inter-bank competition, efficiency at par, and soundness in order to improve host nations' resistance to shocks. Foreign banks seem to employ competitive pressure on host nations banks, and may serve as an effective competitive force, reducing excess profits earned by domestic banks and compelling them to update their production know-hows and systems to improve their cost efficiency by (Manlagnit, 2011).

With deteriorating health of banking institutions and recent surge of bank failures as result of global financial crisis, it is justified that bank performance receives an increased investigation from both scholars and industry specialists (Nuhiu et al, 2019). It is important to distinguish between financial liberalisation and banking regulation. A more open banking sector does not mean a banking sector is free from regulation. The foreign entry is associated with improved performance of domestic banking and environment of banking in which foreign entry is closely monitored, supervised and properly regulated to ensure a healthy and efficient banking industry that further contribute to economy development & welfare of the society (Xu, 2011).

The economic development of country depends largely on industrial growth, sustainability, and modernization of agriculture, expansion of domestic as well as foreign trade. The measurement of financial sector development is under-estimated without active, adequate expansion and growth of banking industry. The performance of banking system is perceived as the bedrock of social, economy and industrial growth of economy positively.

Assessing their overall performance and monitoring their conditions like related to financial, operational and managerial is most significant for depositors, potential investors, owners, managers and of course regulators. Thus, the performance analysis in banking industry has become part of management practices. For elimination of basic causes of inefficiencies, gain competitive advantage and meet challenges at national as well as international level, top management from time to time evaluated overall performance. What is very important to the organizations in this ever changing competitive and challengeable environment is improvement over performance, efficiency and meet the stipulated norms.

The assessment of bank efficiency could be vital determinant of bank efficiency. Understanding the determinants of bank efficiency is helpful for the design of better management strategies and public policies (Staub et al, 2010).

The banking system development and increase its efficiency are related to higher growth of economy. Therefore, understanding bank determinants, efficiency is helpful for plan of better management strategies and public policies. (Staub et al, 2010). The optimum and effective utilization of scarce resources in this era of competitiveness ultimately lead to progression and sustainability of the economy. There is an emergent need for a comprehensive framework for measuring efficiency of Indian banks both from investors and regulators point of view.

The need to assess bank efficiency arises due to a variety of reasons. Firstly, a measure of efficiency provides a good indicator of success or otherwise of a bank in a competitive market; in fact, it also reflects the potentiality for banking institution failure. Studies demonstrated that banks which operate efficiently have a better chance of sustaining their business in future (Saha and Ravisankar, 2000). The measurement of efficiency of banking institutions serves two important purposes. It helps to benchmark the relative efficiency of an individual bank against the 'best practice' bank(s) and secondly, it helps to evaluate the impact of various policy measures on the efficiency (Das et al, 2005).

Under this Sectoral and Sub-sectoral target have been laid down from time to time, with aim of upliftment of these sectors and to bring about a balanced development of country. An important aspect about priority sector is whether lending to priority sector is as safe as to other sectors or not? The Foreign Banks came into this mandatory zone once India moved in the era of 1988 – 89. Till the year 2012, it was mandated that they have to lend 32 percent of their ANBC to the priority sectors like export and small-scale industries. But, as per guidelines stated by RBI in the year 2012, stated that the Foreign banks that had more than 20 branches had to lend 40 percent of their ANBC (Adjusted Net Bank Credit) similar to all domestic banks. Moreover, from past and future trends of Foreign banks position in term of their business, presence penetration locality wise is required to formulate strategic

policies, plans & norms in any particular economy as general and industry of banks in particular. It is summarised that for sustaining healthy financial system, it is compulsory to assess banks frequently for recognition of their potential strengths and timely weaknesses.

The research questions addressed in this study are: (i) what types of trends in term of earnings, business & expansion on part of foreign banks showed since 1991 in India and what will be their future trends? (ii) Are foreign banks in India perform sound as per stipulated norms recommended by national and international agencies? (iii) Are foreign banks from different nations efficient enough in utilization of resources? (iv) Do foreign banks contribute to banking industry in India as per regulations? (v) These empirical findings may provide many significant insights to investors, regulators and policy-makers.

Several studies have analyzed on relative position of Domestic Scheduled Commercial banks' overall position (such investigated the pattern, size and ownership), efficiency, net & gross non-performing trends The aim of this study is to scrutinize the detailed research on foreign banks performance soundness, resource utilisation capacity (scale efficiency), past position in term of earnings, business & presence. Moreover, foreign banks' lending attitude to total priority sector advances, small-scale industries and export credit.

3.2 OBJECTIVES OF THE STUDY

1) To examine the past and future trends of earnings, banking business and presence of foreign banks in India.
2) To evaluate the performance of foreign banks in India.
3) To measure the relative efficiency of foreign banks in India.
4) To investigate the contribution of foreign banks in Priority Sector Advances in India.

Table 3.1: Objective-Wise Research Methodology

Objective Purpose	Form of Foreign Banks	Variables Used	Definitions of Variables	Time Frame/Type of Data	Techniques & Software
Objective-1 **Trends & Projection**	Bank Group-Wise	**1. Earnings**-Interest Income, Net Interest Income, Other Income & Total Income. **2. Banking Business-**Investment / Total Assets, Loans & Advances. **3. Presence**-Total number of Foreign Banks & Total Bank Branch Expansion	**(a) Interest Income:** (i) interest/discount on advances; (ii) Income on investment; (iii) Interest on Balance with RBI. **(b) NIM:** Interest Earned-Interest Expenses; **(c) TI:** Interest Income + Other Income; **(d) Other Income: (i)** exchange & brokerage, commission, (ii) Net profit on investment sale; (iii) Net profit on sale of land & building; (iv) Net profit on exchange transaction. **(a) Investment:** (i) Government Securities; (ii) Securities (Approved); (iii) Shares; (iv) Debentures & Bonds; (v) Subsidiaries. **(b) Advances:** (i) Bills Purchased, & discounted; (ii) CC-Cash credits, OD-Overdrafts & Loans; (iii) Term Loans. **Geographical Location:** (i) Rural, (ii) Semi-Urban, (iii) Urban, (iv) Metro-Politian, (v) Total Branch Expansion, (vi) Total no. of Foreign Banks.	Trends 1991-92 to 2017-18 **(Time-Series)** Projection 2018-19 to 2029-30 **(Time Series)** Trends 1991-92 to 2017-18 **(Time Series)** Projection 2018-19 to 2029-30 **(Time Series)** Trends 1997-98 to 2017-18 **(Time Series)** Projection 2018-19 to 2029-30	(i) MS-Excel (ii) Trends Analysis-used Linear Square Trend Method. (iii) Predictive Data Analysis (iv) Line-Graphs & Stacked Column Bar

Objective Purpose	Form of Foreign Banks	Variables Used	Definitions of Variables	Time Frame/Type of Data	Techniques & Software
Objective-2 **Performance Evaluation**	Individual Foreign Banks (selected sample of 14)	**1. Capital Adequacy**-Debt/Equity ratio, (ii) Return on Equity	**(i) Debt/Equity:** financed from debt (internal) & equity (external), Debt includes Total Borrowings, Deposits & Other Liabilities and Equity includes equity capital, Reserves & Surpluses. **(ii) Return on Equity** computed- Net Profit to total capital, Reserves & Surplus.	1991-92 to 2014-15 **(Panel Data)**	**1. CAMELS Model** (Calculated (i) Individual Rank- performance of Particular bank at sub-parameter), (ii) Group Rank- Average rank of Individual, (iii) Composite Rank- Average of Group rank).
		2. Assets Quality-(i) Net Interest Margin, (ii) Total Deposits/Total Assets	**(i) Net Interest Margin:** is the difference what they receive from what they pay, **(ii) Total Deposits/Total Assets** depicts efficiency of bank to cover unanticipated deposit out of assets (total) as what & when require.	1991-92 to 2014-15 **(Panel Data)**	
		3. Management Efficiency- (i) investment/deposits, (ii) Credit/Deposits	**(i) Investment/deposits**: this ratio explained the capability of banks in the sense converts the ideal money into idle, **(ii) Credit/Deposits:** indicates out of deposits how much money is optimum utilized by banks.	1991-92 to 2014-15 **(Panel Data)**	**2. One-Way ANOVA** (Mean difference), **3. K-S Smirnov test** (Check normality of Secondary data), & SPSS (Software). (i) Individual Rank (Sub-parameters)
		4. Earning Capacity-(i) Interest Paid on Deposits, (ii) Interest Income/Total Income: percentage of interest income/TI	**(i) Interest paid on deposits** **(ii) Earned interest income out of Total Income.**	1991-92 to 2014-15 **(Panel Data)**	

Objective Purpose	Form of Foreign Banks	Variables Used	Definitions of Variables	Time Frame/Type of Data	Techniques & Software
		5. Liquidity Position: (i) Cash/Deposits, (ii) Cash/Total assets	**(i) Cash/Deposits** **(ii) Cash/Assets:** depicts banks capacity to cover drains of unanticipated deposits, and balances with reserve bank (central bank) & cash in hand.	1991-92 to 2014-15 **(Panel Data)**	(ii) Group Rank (Parameters) (iii) Composite Rank (Average of Individual & Group Rank**)**
		6. Sensitivity to Market Risk- Interest Income/Total Income, (ii) Total Income/Total assets.	**(i) Interest Income/Total Income:** this ratio described that interest earned out of total income by particular bank, **(ii) Total Income/Total Assets:** this ratio show, how much percentage of total income from total assets.	1991-92 to 2014-15 **(Panel Data)**	
Objective-3 **Relative Efficiency**	Individual Foreign Banks (selected sample of 14)	**Efficiency**-Selected Inputs/Selected Outputs.	**(a) Outputs-(i)**Interest Income, (ii) Non-Interest Income **(b) Inputs-**(i) Interest Expenses, (ii) Non-Interest Expenses	1991-92 to 2014-15 **(Panel Data)**	**(a) DEA** (Data Envelopment Analysis) with DEAP-Software (calculate scale efficiency of individual selected sample banks), **(b) Peer Weights and Counts** (Number of banks & how much percentage an inefficient DMU follow to become

Objective Purpose	Form of Foreign Banks	Variables Used	Definitions of Variables	Time Frame/Type of Data	Techniques & Software
					efficient) **(c) Targeted Summary for inefficient banks** (how much percentage of inputs & outputs used to become efficient one).
Objective-4 **Contribution to Priority Sector Advances**	Bank Group-Wise	(i) **Total Priority Sector Lending**; (ii) **Export Credit;** (iii) **Small-Scale Industries (SSI).** RBI instructed Foreign Banks to provide advances-32 percent (Total Priority Advances), 10 percent (Small-Scale Industries & 12 percent to Export Credit) Net Bank Credit or Off-Balance Sheet Items whichever is less.	Total Priority Sector Includes-Agriculture, SSI (Medium & Micro enterprises), Weaker sections, other priorities sector. Prescribed Total amount & Percentage to selected Industries & Sectors	1997-98 to 2011-12 **(Time-Series)**	(i) Trends Analysis (ii) Line-Graphs (iii) Clustered Column Bar (iv) Descriptive Data Analysis

(Source: Compiled by Author)

3.3. HYPOTHESES OF SECOND OBJECTIVE: $H_0$1:(A) Capital Adequacy: (a) Debt/Equity Ratio (b) Return on Equity

3.3.1 H_{01}: There is no significant difference in the performance of foreign banks on the basis of capital adequacy parameters and sub-parameters:

1) Time period during 1990-91 to 1999-2000
2) Time period from 2000-01 to 2009-10
3) Time period from 2010-11 to 2014-15

3.3.2 H_{02}: (B) Assets Quality: (a) Net Interest Margin/Total Assets (b) Total Deposits / Total Assets

H_{02}: There is no significant difference in the performance of foreign banks on the basis of Assets Quality parameters and sub-parameters:

1) Time period during 1990-91 to 1999-2000
2) Time period from 2000-01 to 2009-10
3) Time period from 2010-11 to 2014-15

3.3.3 H_{03}: (C) Management Efficiency: (a) Investment/Total deposits (b) Credit / Deposits

$H_{03:}$ There is no significant difference in the performance of foreign banks on the basis of Management Efficiency parameters and sub-parameters:

1) Time period during 1990-91 to 1999-2000
2) Time period from 2000-01 to 2009-10
3) Time period from 2010-11 to 2014-15

3.3.4 H_{04}: (D) Earning Capacity: (a) IPD/Deposits (b) II/Total Income

H_{04}: There is no significant difference in the performance of foreign banks on the basis of Earning Capacity parameters and sub-parameters:

1) Time period during 1990-91 to 1999-2000
2) Time period from 2000-01 to 2009-10
3) Time period from 2010-11 to 2014-15

3.3.5 H_{05}: (E) Liquidity Position: (a) Cash/Deposits (b) Cash/Total Assets

H_{05}: There is no significant difference in the performance of foreign banks on the basis of Liquidity Position parameters and sub-parameters:

1) Time period during 1990-91 to 1999-2000
2) Time period from 2000-01 to 2009-10
3) Time period from 2010-11 to 2014-15

3.3.6 H_{06}: (F) Sensitivity to Market Risk: (a) Interest Income/Total Income (b) Total Income/Total Assets

H_{06}: There is no significant difference in the performance of foreign banks on the basis of Sensitivity to Market Risk parameters and sub-parameters:

1) Time period during 1990-91 to 1999-2000
2) Time period from 2000-01 to 2009-10
3) Time period from 2010-11 to 2014-15

3.4 SOURCES OF DATA

The secondary data was collected from the published data such as RBI- Bulletin, Report on Currency and Finance, Report on Trend and progress of Banking in India, Statistical Tables Relating to Banks, Banking and Money Statistics, Bank Branch Statistic and Profile of Banks, Basic Statistical Returns of Scheduled Commercial Banks. IBA-Indian Banks Association- Bulletin, Published Annual Reports of Banks, Journal, Magazines, Websites, Database of Indian Economy and relevant sources of data collection has been used.

The data period cover from 1991-92 to 1997-98 collected in hard copies like reports (Statistical Tables relating to banks, Basic returns, Report on Trend and Progress of Banks) from Library of India's oldest Institute "Gokhale Institute of Politics and Economics", Pune, Maharashtra.

Table 3.2: Sample Size of Foreign Banks in India

Sr. No.	Name of Foreign Banks	Country of Incorporation	Nature of Banking	No. of Branches
1.	ADCB (Abu-Dhabi Commercial Bank)	U.A.E	Commercial Bank	2
2.	AEB (American Express Bank)	U.S.A	Investment & Trading Services	1
3.	BOA (Bank of America)	U.S.A	Commercial Bank	5
4.	BOB & K (Bank of Bahrain & Kuwait)	Bahrain	Personalized Banking	4
5.	BNS (Bank of Nova Scotia)	Canada	Multinational Bank	3
6.	BOTM (Bank of Tokyo Mitsubishi)	Japan	Foreign Exchange	5
7.	CB (CitiBank)	U.S.A.	Investment Banking	45
8.	DB (Deutsche Bank)	Germany	Investment Banking	18
9.	HSBC (Hong Kong Banking Corporation)	Hong Kong	Multinational Banking	50
10.	OIB (Oman International Bank)	Muscat	Banking Business	10
11.	MB (Mashreq Bank)	U.A.E	International Banking	1
12.	SG (Societe Generale)	France	Investment Banking	3
13.	SB (Sonali Bank)	Bangladesh	Export-Import Business	2
14.	SCB (Standard Chartered Bank)	U.K	Corporate & Institutional Banking	102

(Source: www.rbi.org.in)

3.5 TYPE OF STUDY

The study was Exploratory in nature.

3.6 TOOLS AND TECHNIQUES

(a) CAMELS MODEL

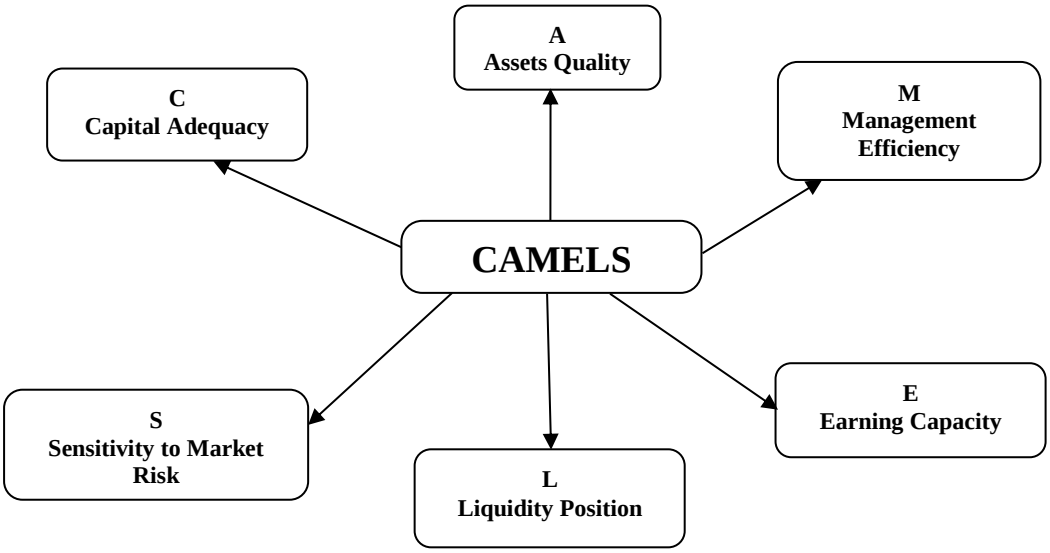


Figure 3.1: Characteristics of CAMELS

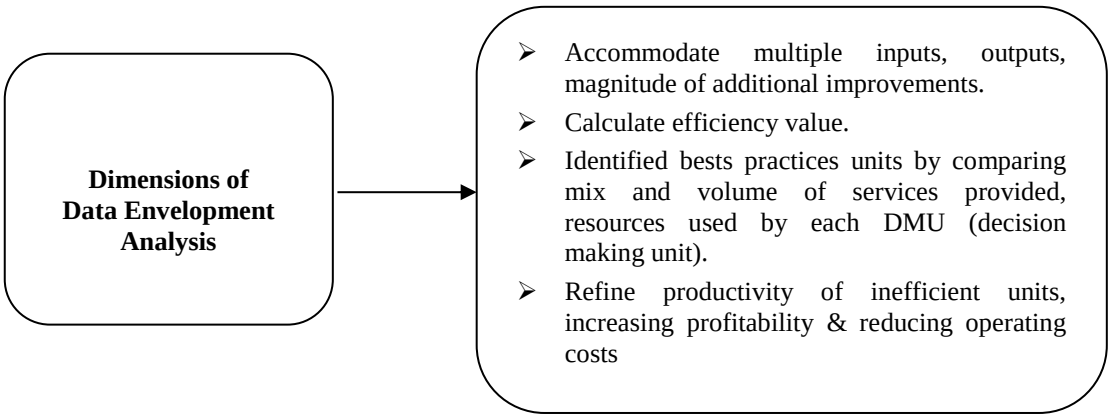


Figure 3.2: Data Envelopment Analysis

(b) DATA ENVELOPMENT ANALYSIS (DEA) MODEL

The linear programming technique is used to find the set of coefficients (μ's and *U 2019s*) that will give the highest possible efficiency ratio of outputs to inputs for the service unit being evaluated.

DEA Model:

j = Number of Service units (SU) being compared in the DEA analysis.

SUj = Service Unit number j

Ɵ = Efficiency rating of the Service unit being evaluated by DEA

Y*rj* = amount of output r used by service unit j

X*rj* = Amount of input **i** used by service unit j

i = Number of inputs used by SUs

r = Number of outputs generated by SUs

µr = Coefficient or Weight assigned by DEA to output r

Ʊr = Coefficient or Weight assigned by DEA to Input i

The data required to apply DEA are the actual observed outputs produced **Y*rj*** and the actual inputs used **X**ij, during one time period for each service unit in the set of units being evaluated. Hence, **X**ij is the observed amount of the ¡th input used by the j*th* service unit, Y*rj* is the amount of r*th* output produced by the jth service unit.

CHAPTER – 4

PAST AND FUTURE TRENDS OF EARNINGS, BANKING BUSINESS AND PRESENCE OF FOREIGN BANKS IN INDIA

The first objective of research measured the foreign banks' trends (past and future) of earnings (Interest Income, Net Interest Income, Other Income & Total Income), Banking business (Investment/Total Assets, Loans & Advances/Total Assets) and Presence (Total number of Foreign Banks & Total Bank Branch Expansion) in India. Trends analysis in business is significant and is used often to make calculation and projections of financial conditions. It is basically a clue that what has happened in past and give an estimate what will happen in future. Trend analysis is an aspect of technical analysis that assess future predictions on basis of past events and happenings. It is a "general direction and tendency". It establishes pattern for elements over a period of time and indicates grey areas in related to estimate trends. In addition to this, assess performance over time; comparing one time period and geographical area to another and making future projections.

In this objective, measured different kind of foreign banks past and future **Earnings** (i) Interest Income, (ii) Net Interest Income, (iii) Other income, (iv) Total Income, **Banking Business** (i) Investment/Total Assets, (ii) Loans & Advances/Total Assets**,** **Presence** (i) Metropolitan, (ii) Semi-Urban, (iii) Urban, (iv) Rural. The past trends of scheduled foreign banks were evaluated during (1991-92 to 2017-18) of selected variables, tested fitness of regression model with linear equation and formulate future trends during (2018-19 to 2029-30).

4.1 PAST AND FUTURE TRENDS OF EARNINGS

Table no. 4.1.1 described past trends of foreign banks in term of various earnings (interest, net interest, other & total) and entry (in total number) during 1991-92 to 2017-18 as trends of interest income from period cover 1991-92 to 1999-2000, 11.61 percent in 1992, showed variation 11.62 in 1993, 10.04 in 1994, 11.08 in 1997, decline continuous to 10.42 in 1998, 10.27 in 1999 and 9.93 in 2000 and entry of foreign banks were increased with minor difference 23 in 1992, 32 in 1996, and 45 (total number) in 1999.

Table 4.1.1: Trends of Foreign Banks Earnings/Total Assets from 1991-92 to 2017-18 (Percentage)

Years	No. of Foreign Banks	Interest Income/ Total Assets	Net Interest Income/ Total Assets	Other Income/ Total Assets	Total Income/ Total Assets	Years	No. of Foreign Banks	Interest Income/ Total Assets	Net Interest Income/ Total Assets	Other Income/ Total Assets	Total Income/ Total Assets
1991-92	23	11.61	3.92	3.16	14.81	**2005-06**	45	6.17	3.58	2.58	8.65
1992-93	22	11.62	3.56	5.79	13.82	**2006-07**	43	6.53	3.76	2.57	9.01
1993-94	24	10.04	4.21	3.56	12.10	**2007-08**	40	7.65	4.33	2.89	9.60
1994-95	24	9.88	4.24	2.50	12.36	**2008-09**	36	7.48	4.32	3.35	10.16
1995-96	32	10.46	3.74	2.34	12.79	**2009-10**	32	5.99	3.96	2.30	8.39
1996-97	31	11.08	4.13	2.51	13.60	**2010-11**	34	6.15	3.86	2.24	8.04
1997-98	42	10.42	3.92	2.93	13.32	**2011-12**	42	6.67	3.89	1.86	8.09
1998-99	45	10.27	3.47	2.43	12.69	**2012-13**	43	6.98	3.89	1.76	8.38
1999-2000	44	9.93	3.92	2.59	12.47	**2013-14**	43	6.60	3.54	1.80	7.91
2000-01	45	9.27	3.63	2.46	11.77	**2014-15**	45	6.71	3.54	1.98	8.67
2001-02	43	8.56	3.22	2.91	11.56	**2015-16**	46	6.67	3.59	1.54	7.96
2002-03	40	7.68	3.35	2.64	10.35	**2016-17**	44	6.27	3.38	1.92	8.15
2003-04	36	6.74	3.59	2.95	9.54	**2017-18**	45	5.97	3.44	1.52	7.34
2004-05	32	5.97	3.34	2.52	8.48						

(Source: Statistical Tables relating to Banks in India (Published Annual Report of RBI))

On other hand, it was noticed that percentage of net interest income 3.92 in 1992, 1998 & 2000, lowest 3.47 in 1999, maximum 4.24 in 1995, however constant decline from 4.13 to 3.47 during 1997-1999 with variation. During 2000-01 to 2007-08, presence of foreign banks from other nations were decline continuous from 45 (total in number) to 28 and has earned interest income 9.27 percent out of total assets in 2001, 5.97 percent in 2005. However, in 2006 they were earned interest income 6.17 percent which was further increases to 7.65 in 2008 and 7.48 in 2009, and 5.99 in 2009-10.

Period from 2010-11 to 2017-18, foreign banks has showed variation in term of interest income as 6.15 percent out of total assets in 2011, increase to 6.98 in 2013, downfall was noticed 6.60 in 2014, & 5.97 percent in 2018 from 6.67 in 2016. It is identified from table no. 4.1.1, net interest income during 1992-2000, it was maximum in 1995 (4.24), 3.47 in (1999) because of foreign banks entry and exit was (total number) variation trends. They have earned 3.63 in 2001, 3.22 percent in 2002, which was constant increase to 3.59 in 2004, 4.33 in 2008 from 3.34 percent out of total assets in 2004-05, again fall down to 4.32 in 2009 and 3.96 in 2010.

Same variation trend was noticed in respect of net interest earnings during 2001 to 2010, as 3.63 percent in 2001, fall down to 3.34 in 2005, and constant increase to 4.33 in 2008, with total number of multination's bank entry in India was 28 in 2007-08, rise to 30 in 2009 & 32 in 2010. The scheduled foreign banks' entry from developed & developing economies 34 which was increase to 42, 43, 45 & 46 from 2012-2016. In addition to this, maximum & minimum percentage of NIM (net interest margin) was 3.89 in 2012-13, 3.38 percent in 2017 and concluded that period from 2006-09 both income (interest & net interest) have showed increasing trend and after that in 2010 it was again decline.

It is observed that entry of foreign banks (total in number) from different economies were 23 in 1991-92, 24 during 1994-95, after 1997 continuous increase from 31 to 45, they have earned income from other sources-(Other Income) 3.16 percent of total assets in 1991-92, sharp increase to 5.79 in 1992-93, after that it has showed continuous variation, as decline to 3.56 in 1993-94, 2.50 percent in 1995, 2.34 in 1996 again rise to 2.93 in 1998, from 2.43 in 1999 to 2.59 in 1999-2000.

The research period from 2000-01 to 2007-08 foreign banks' (FBs) presence was 45 in 2001 (bank group-wise) and decrease continuous to 43 in 2002, 40 in 2003, 36 to 32 during 2004-05, from 30 to 28 in 2006-2008, again 30 in 2009 & 32 in 2010, 43

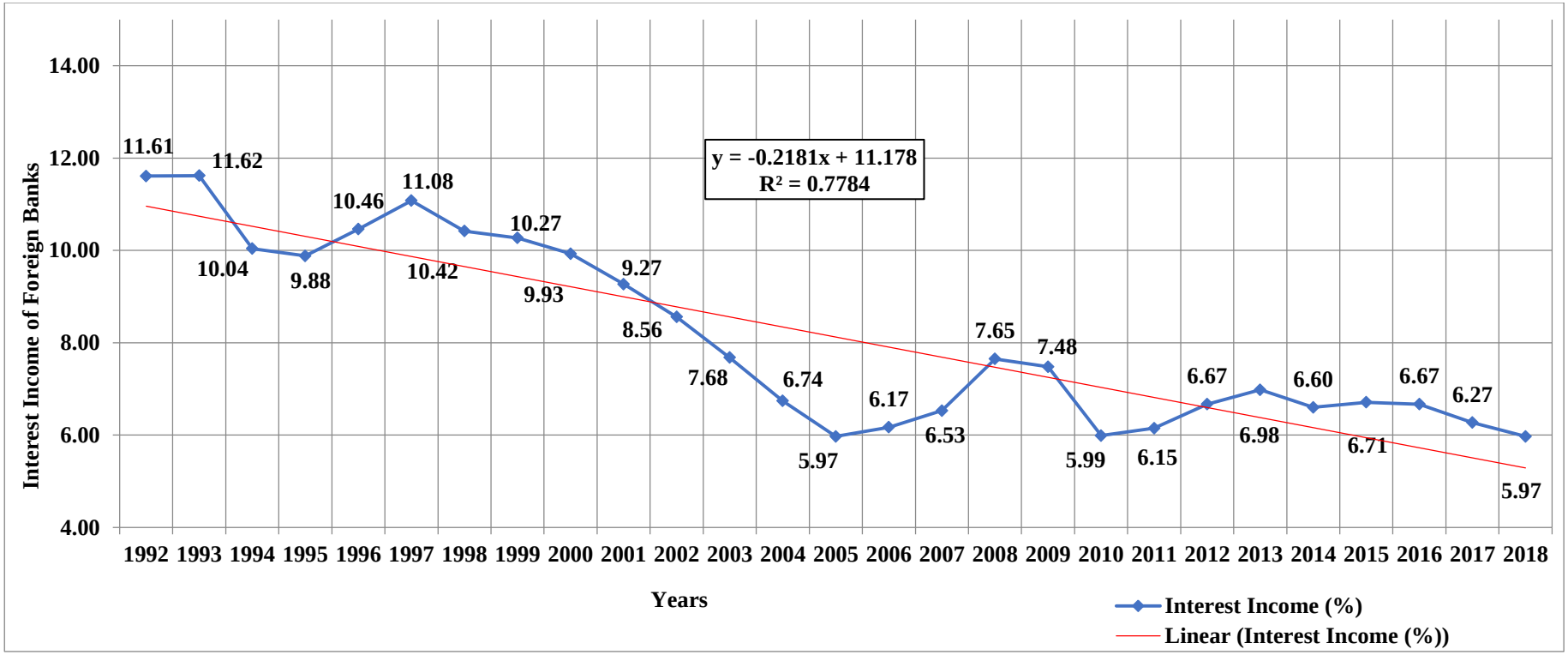
in 2014 & 45 in 2018 with variation and their income from other sources were 2.46 percent in 2001, 2.91 in 2002, 2.95 in 2004, however decreases to 2.64 in 2003, 2.52 percent in 2005, 2.30 in 2010 & increases to 2.58 percent in 2006, from 2.57 to 3.35 percent from total assets during 2007-09.

Further, this ratio was constant in decline trend from 1.86 to 1.76 (during 2011-12 to 2013-14), however, 1.98 percent in 2015 & 1.54 in 2016, and 1.52 percent out of total assets in 2018. Besides, in respect of total income maximum was earned by foreign banks (group-wise) 14.81 in 1991-92, minimum 12.10 in 1993-94, however during study minor variations was noticed as 13.82 in 1993, decline to 12.36 in 1994-95, 12.69 percent from 13.32 during 1998-99, 12.47 in 2000 and increase to 12.79 in 1996 & 13.69 in 1997 so on. The ratio of total income was measured 11.77 percent in 2001, registered decreasing trend as 11.56, 10.35, 9.54, and 8.48 during 2002-2005, however, from 2005-06 to 2008-09 it was increases to 10.16 from 8.65 percent from total assets.

Moreover, minor ups & downs were observed as 8.04 percent in 2011, 8.09 in 2012, steep rise to 8.38 in 2013, 8.67 from 7.91 percent during 2014-15, and from 7.96 percent to 8.15 during 2016-17. However, it was showed towards declining trend as 7.34 from 8.15 in 2017-18, 7.91 percent from 8.38 during 2013-14, peak rise to 8.67 in 2015, steep fall down to 7.96 in 2016, slightly increases to 8.15 percent in 2017 and however again sharp fall down in 2018 (7.34) percent.

It is summarized that foreign banks in India efficient enough in term of earnings income (other sources & total) in positive mode means no negative return was observed during this research period both (other sources & total income). Among different trend methods of Time Series Analysis, the Least Square method is most popular and widely used in practice, providing a visual demonstration of relationship between data points. The square of correlation coefficient (r^2) is called multiple determinations or squared multiple correlation coefficients and is denoted by r. The r value lies between 0 and 1. The value of r^2 is calculated by dividing sum of first errors by sum of the second errors and subtracting the derivation from 1. The higher r^2 greater percentage of variation of Y explained by regression model, that is, better the "goodness of fit" of regression model and r^2 closer to zero, worse the fit.

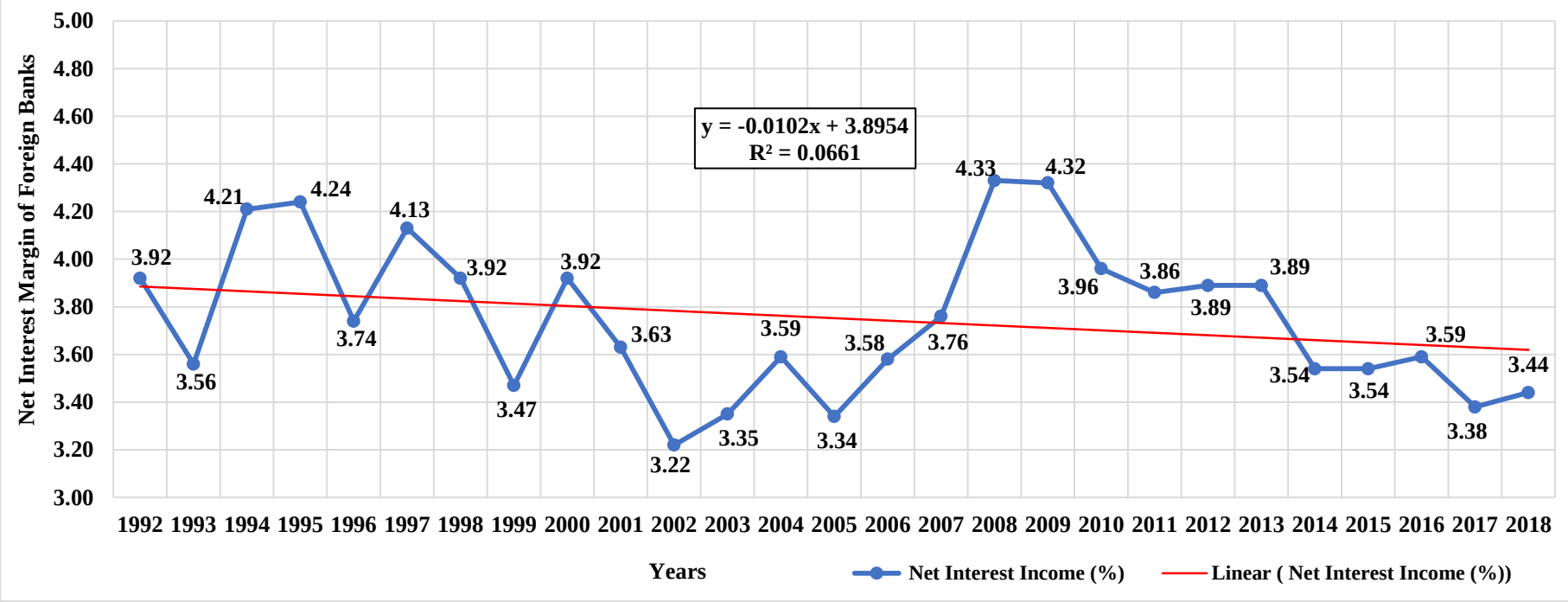
It is reflected from Figures no. 4.1.1, 4.1.2, 4.1.3, 4.1.4 that the trend equations of group-wise foreign banks related to various incomes are positive and goodness of fit.



(Source: Published Annual Reports by RBI (Statistical tables relating to Banks and Report on Trends and Progress-Various Years))

Figure 4.1.1: Interest Income Trends of Foreign Banks (1991-92 to 2017-18)

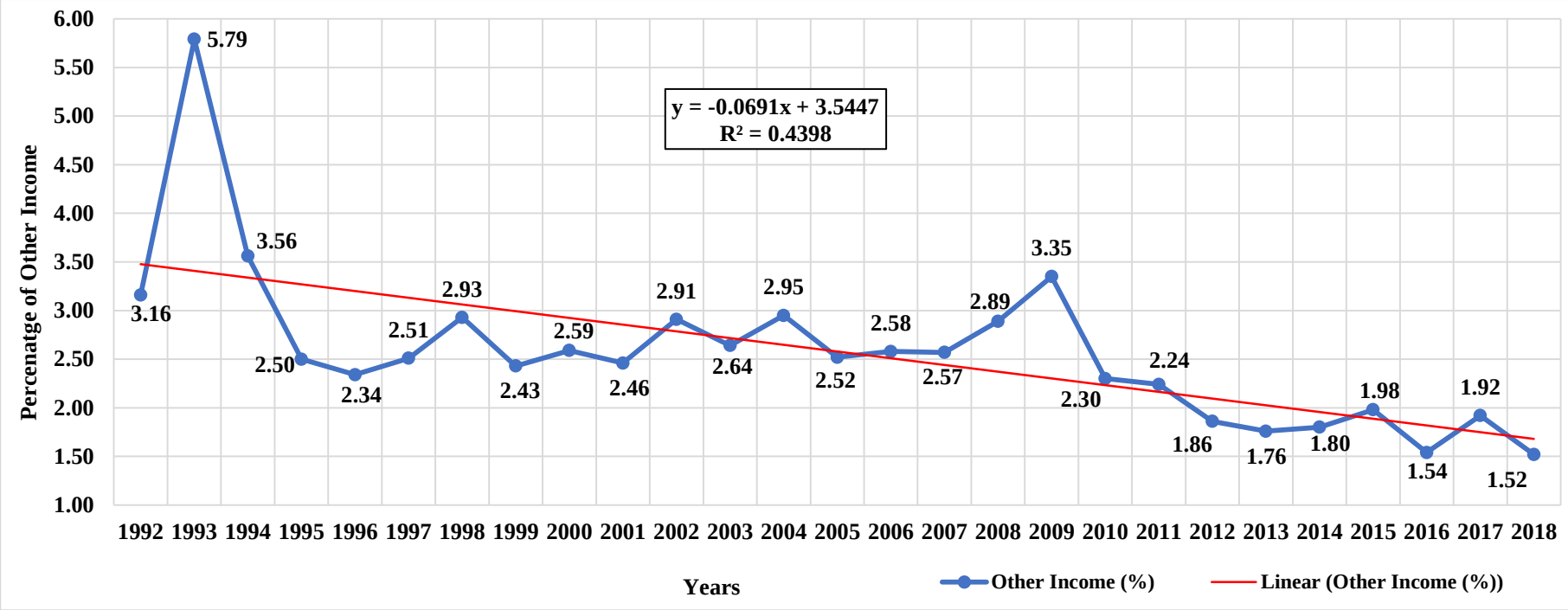
Figure no. 4.1.1 described linear trend of foreign banks' in term of interest income during 1991-92 to 2017-18, as observed steep fall from 1992 to 2005 and showed peak rise till 2008 and further fall down with minor variations during research period from 2010 to 2018. During this research period value of $R^2 = 0.78$, it means goodness of regression model fit.



(Source: RBI Published Reports includes Statistical Tables relating to banks in India and RTPB (Different years editions))

Figure 4.1.2: Net Interest Income Trends of Foreign Banks (1991-92 to 2017-18)

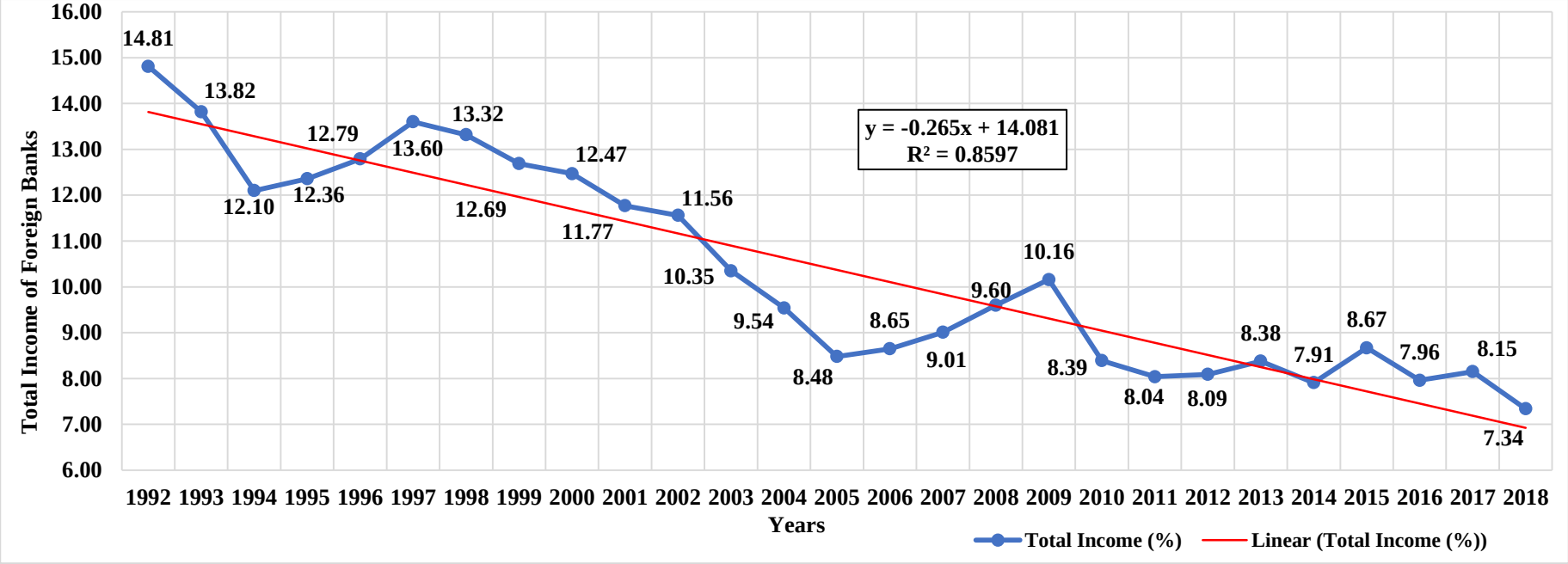
Figure no. 4.1.2 stated past linear trend of foreign banks' in respect of NIM (net interest income) from 1991-92 to 2017-18, it was noticed that throughout research this ratio was varied like wave as during 1991-92 to 2000, fall steep in 2001-02, jump very high in 2007 and after rest of research periods it has showed variation with minor mode. The calculated linear trend equation value $R^2 = 0.07$ which means it fit regression model below better mode.



(Source: Published Reports-Statistical table relating to Banks & Report on Trends and Progress of Banks (Different Years))

Figure 4.1.3: Other Income Trends of Foreign Banks (1991-92 to 2017-18)

Figure no. 4.1.3 demonstrated other income linear trend of foreign banks' (from different nations) period cover 1991-92 to 2017-18, it was understood that throughout research this ratio was sharp increase from 1991-92 to 93, fall steep in 1994-95, showed variation during 1997 to 2005, and from 2008-09 to 2017-18, this income ratio was continuous declined. During this study period value of R^2 = 0.44 which means goodness of regression model (explains all variation of response).



(Source: Published reports by Reserve Bank of India-Different Years)

Figure 4.1.4: Foreign Banks Total Income Trends in India from (1991-92 to 2017-18)

Figure no. 4.1.4 described foreign banks' (group-wise) total income linear trends during 1991-92 to 2017-18, it was observed that throughout study, the past trend of this ratio was varied like wave as during 1991 to 1993 it falls steep, from 1994 to 2005. However, it was declined with minor variation, after it was jump very high till 2009 and after rest of research periods it has showed minute ups and downs. The calculated linear trend equation value $R^2 = 0.86$ which reflects best fit of regression model (close to 1).

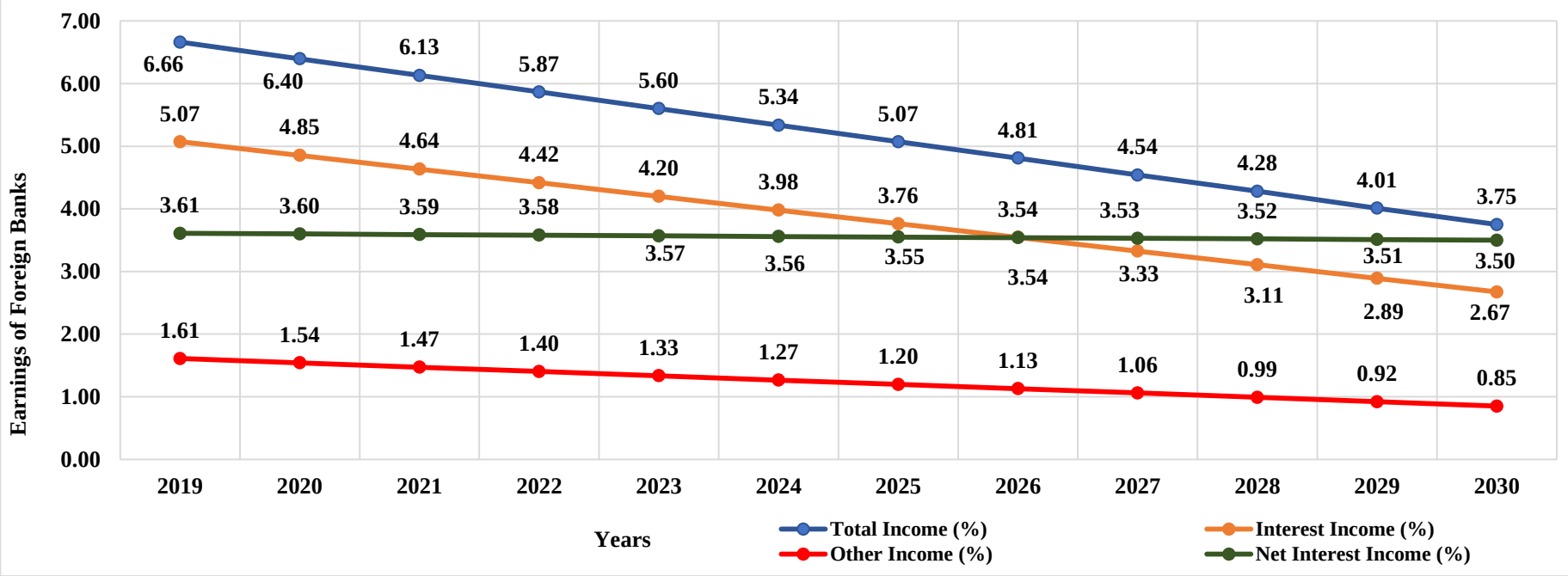
Table no. 4.1.2 described projected data of foreign banks' entry (total number), income-interest & net interest for period from 2018-19 to 2029-2030. It revealed presence of multination banks will going to increase as 44 (total no.) in 2019, 45 in 2020-21, 46 in 2022-2023, 48 in number (2026), from 49 to 50 in number during 2029-2030, their projected income like interest will fall down from 5.07 percent in 2019, 4.85 in 2020, 4.64 in 2021, to 4.42 in 2022, 4.20 percent in 2023, from 3.98 in 2024 to 3.11 during 2024-2028, 2.89 in 2029 & 2.67 in 2030. On other side of income (net interest margin) during projection 2018-19 to 2029-2030 as 3.61 percent from total assets in 2019, 3.60 in 2020, 3.59 in 2021, 3.58 in 2022 so on, means with minor fall down to 3.51 in 2029 and 3.50 percent in 2030.

Table 4.1.2: Foreign Banks Earnings/Total Assets Projection from 2018-19 to 2029-30 (Percentage)

Years	No. of Foreign Banks	Interest Income out of Total Assets	Net Interest Income to Total Assets	Other Income to Total Assets	Total Income to Total Assets
2018-19	44	5.07	3.61	1.61	6.66
2019-20	45	4.85	3.60	1.54	6.40
2020-21	45	4.64	3.59	1.47	6.13
2021-22	46	4.42	3.58	1.40	5.87
2022-23	46	4.20	3.57	1.33	5.60
2023-24	47	3.98	3.56	1.27	5.34
2024-25	47	3.76	3.55	1.20	5.07
2025-26	48	3.54	3.54	1.13	4.81
2026-27	49	3.33	3.53	1.06	4.54
2027-28	49	3.11	3.52	0.99	4.28
2028-29	50	2.89	3.51	0.92	4.01
2029-30	50	2.67	3.50	0.85	3.75

(Source: Author's Calculation)

The income from other sources of foreign banks during coming period of years 1.61 percent in 2019, 1.54 in 2020, it will decline continuous as 1.47 in 2021-2022, 1.33 percent in 2023, 1.13 percent in 2026 from 1.27 in 2024, 1.06 to 0.99, 0.92, and 0.85 during 2026-27 to 2029-2030. Moreover, their future total income will also decline constant, 6.66 percent in 2019, 6.40 in 2020, 6.13 in 2021, 5.87, 5.60, 5.34, 5.07 percent from 2022 to 2025, 4.01 from 4.81, 4.54, 4.28 during 2026-2029 & 3.75 in 2030. It is summarised that more penetration of foreign banks in India from various economies will enhance healthy competition among them in doing profitable business operations.



(Source: Author's Calculation)

Figure 4.1.5: Earnings Projection of Foreign Banks in India (2018-19 to 2029-30)

Figure no. 4.1.5 stated that during 2018-19 to 2029-30 earnings in term of interest will reveal trend (steep fall-from 5.07 to 2.67), other sources (minor decline-from 1.61 to .85) and total (sharp decrease-from 6.66 to 3.75) of foreign banks, due to more entry of foreign banks in India from various nations. However, it is observed that net interest income (Interest income-interest expenses) during projection will show increasing trend (from 3.61 to 3.50) of foreign banks (group-wise).

4.2 PAST AND FUTURE TRENDS OF FOREIGN BANKS' BUSINESS

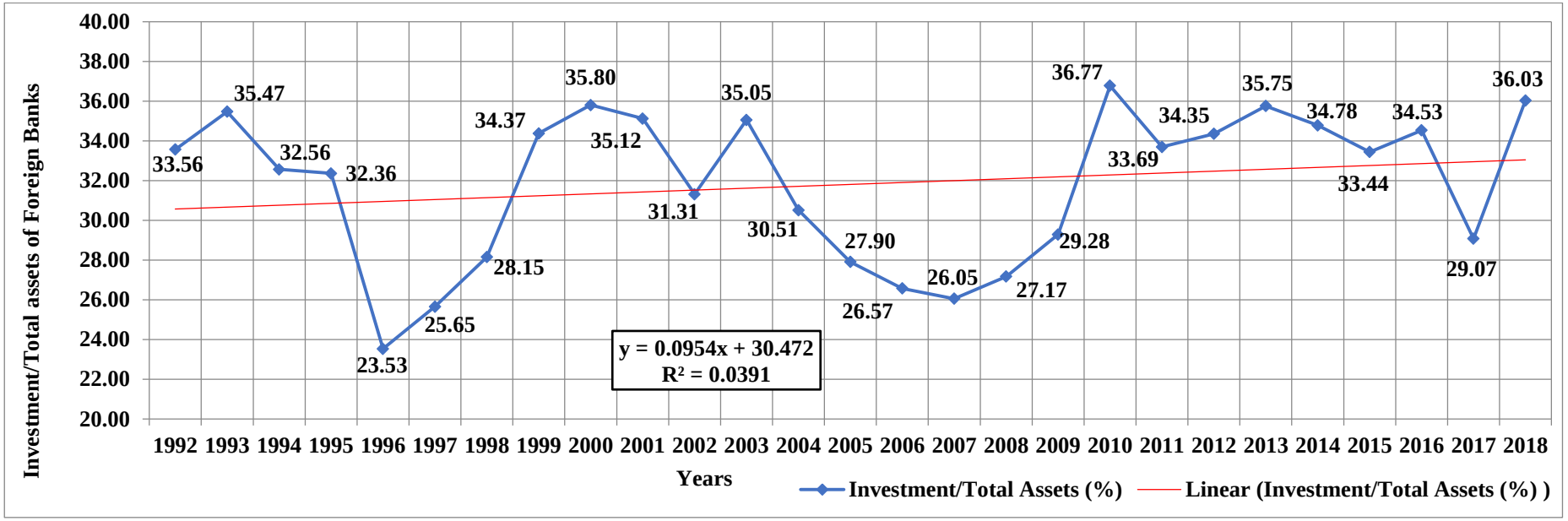
Table 4.2.1: Foreign Banks Investment/Total Assets Trends and Projection from (1991-92 to 2029-30) (Percentage)

Years	No. of Foreign Banks	Investment to TA	Loans & Advances/ Total Assets	Years	No. of Foreign Banks	Investment to TA	Loans & Advances to Total Assets	Years	No. of Foreign Banks	Investment to TA	Loans & Advances/ Total Assets
1991-92	23	33.56	36.48	**2005-06**	45	26.57	48.39	**2018-19**	44	33.14	44.35
1992-93	22	35.47	34.03	**2006-07**	43	26.05	46.04	**2019-20**	45	33.24	44.50
1993-94	24	32.56	32.01	**2007-08**	40	27.17	44.26	**2020-21**	45	33.33	44.65
1994-95	24	32.36	39.74	**2008-09**	36	29.28	37.16	**2021-22**	46	33.43	44.80
1995-96	32	23.53	47.31	**2009-10**	32	36.77	37.69	**2022-23**	46	33.53	44.95
1996-97	31	25.65	48.17	**2010-11**	34	33.36	39.81	**2023-24**	47	33.62	45.10
1997-98	42	28.15	44.86	**2011-12**	42	34.35	39.38	**2024-25**	47	33.72	45.25
1998-99	45	34.37	38.51	**2012-13**	43	35.75	41.34	**2025-26**	48	33.81	45.40
1999-2000	44	35.80	42.99	**2013-14**	43	34.78	38.88	**2026-27**	49	33.91	45.55
2000-01	45	35.12	42.23	**2014-15**	45	33.44	43.40	**2027-28**	49	34.00	45.70
2001-02	43	31.31	43.38	**2015-16**	46	34.53	44.32	**2028-29**	50	34.10	45.85
2002-03	40	35.05	44.83	**2016-17**	44	29.07	45.01	**2029-30**	50	34.19	46.00
2003-04	36	30.51	44.39	**2017-18**	45	36.03	47.28				
2004-05	32	27.90	49.02								

(Source: Reports on Trends & Progress of Banks & STRBI (Published reports of RBI)

Table no. 4.2.1 revealed that bank group-wise (foreign) has invested out of total assets 33.56 percent in 1991-92, 35.47 in 1993, which was fall down to 32.56, 32.36, 23.53 during 1993-94 to 1995-96, however percentage of investment was increases to 25.65 in 1997, 28.15 in 1998, 34.37 in 1999 & 35.80 in 2000 as entry of foreign banks during this period increase to 32 from 22. In term of loans & advances percentage, it was noticed 36.48 in 1991-92, 34.03 in 1993. The percentage loans & advances was decline to 32.01 in 1994, however increases to 39.74 in 1995, 47.31 in 1996 & 1997 as entry of commercial banks during this period has increased also and again foreign banks have skewed their investment 44.86 percent out of total assets in 1998 & 38.51 in 1999, 42.99 in 2000. During research period (2000-01 to 2009-10) total number of foreign banks (entry) was 45 in 2001 which was decline constant as 43, 40, 36, 32, 30, 28 during 2001-02 to 2007-08, however slightly increase to 30, 32 in 2009 & 2010. Foreign banks throughout study showed their investment pattern slightly ups & downs as 35.12 percent in 2001, 31.31 in 2002, 35.05 in 2003, further, it was decreases continuous to 26.05 from 30.51, during 2003-04 to 2006-07 and in financing (advances & loans) 42.23 percent in 2001, continuous increase to 49.02 in 2004-05 from 43.38 in 2001-02, however during 2005-06 to 2009-10, it was steady fall down in financing of foreign banks from 48.39 in 2006 to 37.16 in 2009.

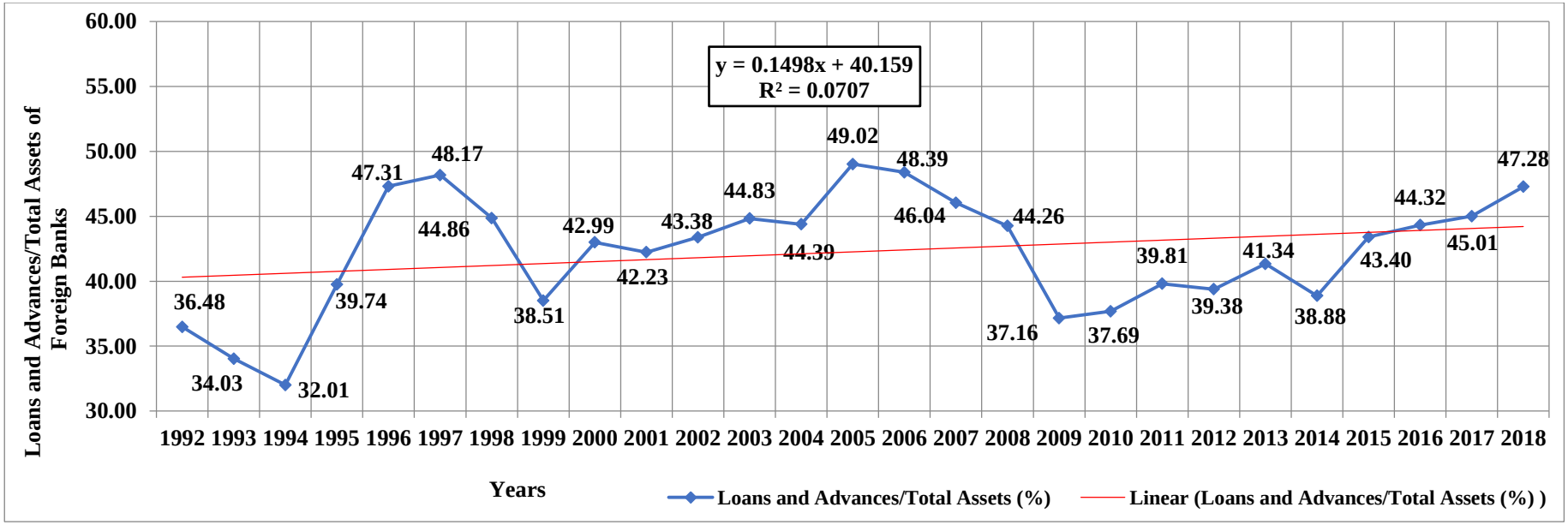
It is observed that total number of foreign banks were 34 in 2011, increase to 42 in 2012, 43 during 2013-14, 45 in 2015 and 46 in 2016 and their investment during this period has showed minor variation as 33.36 percent in 2011, 34.35 in 2012, 35.75 in 2013, 34.78 in 2014, increase to 34.53 from 33.44 during 2015-16, fall down to 29.07 in 2017 and again sharp increase to 36.03 percent in 2018. In respect of loans & advances percentage of foreign banks in India during this study period was noticed 39.81 in 2011, 39.38 in 2012, 41.34 in 2013, percentage of financing increased continuous from 38.88 in 2014, 43.40 in 2015, 44.32 in 2016, 45.01 in 2017 & 47.28 in 2018. Table no. 4.2.1 explained that during coming year's entry of foreign banks from different nations (developing & developed) in India has showed steady increasing trend. During 2018-19 to 2029-30 foreign banks were 44 (total number) in 2019, 45 in 2020-21, 46 during 2022-23, increases to 50 from 47 period cover 2023-24 to 2029-2030. The multination banks are going to invest out of total assets in India 33.14, & 33.24, 33.33, 33.43 during 2019-2020 to 2022 and they will also shows steady increasing trend as 33.72 from 33.53 during 2023-25, to 34.00 from 33.81 in 2026-28 and from 34.10 to 34.19 in 2029-30. During projection period (2018-19 to 2029-30) percentage of finance by foreign banks' will be in minor rising trend like 44.35 in 2019, 44.50 in 2020, 44.65 in 2021, from 44.80 to 45.10 during 2022-2024. Moreover, it's going to continuous increase 46 percent out of total assets from 45.25, 45.40, 45.55, 45.70, 45.85 period cover 2024-25 to 2029-30.



(Source: Various editions of Statistical & Profile reports related to Commercial Banks in India, RBI)

Figure 4.2.1: Investment to Total Assets Trend of Foreign Banks (1991-92 to 2017-18)

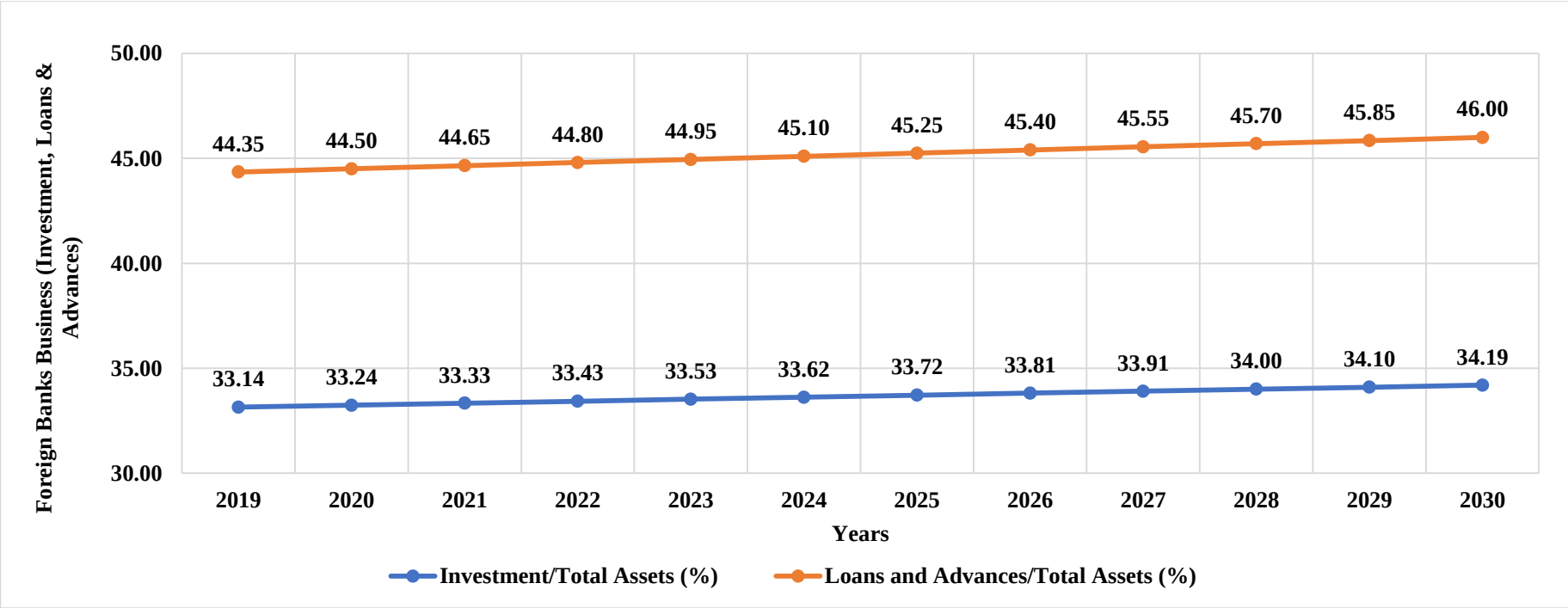
Figure no. 4.2.1 mentioned linear trend of foreign banks' (group-wise) investment throughout research period (1991-92 to 2017-18) as increase in 1991-92 to 1993, fall down in 1994, shallow decline in 1996, and steady sharp increases during 1995-96 to 1999-2000. Moreover, it was noticed that their investment pattern was 35.12 percent in 2001, fall down in 2002, again increase in 2003, steep decline during 2004-2007, turn to steady increase till 2009 and jump high in 2010. From period 2010-11 to 2017-18, it was continuous increase (slightly) from 2011 to 2013, however fall down during 2013-14 to 2014-15, rise to 34.53 percent, sharp decline in 2017 and again jump high in 2018. During this period, the calculated value of $R^2 = 0.04$ which is not fit to regression model.



(Source: Various Years Published reports by Reserve Bank)

Figure 4.2.2: Loans and Advances to Total Assets Trends of Foreign Banks in India (1991-92 to 2017-18)

Figure no. 4.2.2 during research period trend of financing by foreign banks (from developing & developed) in 1992 (36.56 percent), slightly rise in 1993, steady decline in 1994-95, sharp fall down in 1996, and from 1996-97 to 1999-2000, their financing to India steep increases in steady mode. Moreover, from 2000-01 to 2003-04, this has showed variation, jump high in 2005, from 2004-05 to 2007-08 trend line decline & steep fall in 2009. However, turn to rise in 2009-10, as straight line in 2011-12, and increase continue during 2013 to 2018. It is summarized that period from 2015-16 to 2017-18, (investment and loans & advances) pattern was registered highest, and concluded this effect due to entry of foreign banks (total number) in India. From past data response, the evaluated value of R^2 = 0.08 which is close to regression model fitness.



(Source: Author's Calculation)

Figure 4.2.3: Foreign Banks Investment, Loans and Advances/Total Assets Projection in India (2018-19 to 2029-30)

It is noticed from figure no. 4.2.3 that projection pattern of investment, loans & advances out of total assets by foreign banks (group) in India during 2018-2019 to 2029-30 will going to continuous increases in sharp mode, this due to multination banks from various country interesting in doing business with Indian multinational clients.

4.3 PAST AND FUTURE TRENDS OF FOREIGN BANKS' PRESENCE IN INDIA

Table 4.3.1: Foreign Banks Presence in Metropolitan and Semi-Urban Area from (1997-98 to 2017-18)

Years	Foreign Banks (Total Number & Branches)	Metropolitan Area		Semi-Urban Area		Years	Foreign Banks (Total Number & Branches)	Metropolitan Area		Semi-Urban Area	
		Number	Percent	Number	Percent			Number	Percent	Number	Percent
1997-98	42 (182)	163	89.60	3	1.60	**2008-09**	36 (293)	233	79.52	1	0.386
1998-99	45 (189)	169	89.40	3	1.60	**2009-10**	32 (208)	237	76.95	2	0.73
1999-2000	44 (186)	170	91.40	2	1.10	**2010-11**	34 (241)	241	76.00	2	0.72
2000-01	45 (192)	175	91.10	2	1.0	**2011-12**	42 (322)	246	76.40	4	1.37
2001-02	43 (202)	180	89.10	2	1.0	**2012-13**	43 (332)	249	75.00	6	1.95
2002-03	40 (213)	188	88.30	0	0	**2013-14**	43 (322)	259	80.43	11	3.42
2003-04	36 (219)	188	85.80	0	0	**2014-15**	45 (329)	265	80.55	11	3.34
2004-05	32 (249)	206	82.70	1	0.40	**2015-16**	46 (332)	267	80.42	11	3.31
2005-06	45 (259)	221	85.33	1	0.386	**2016-17**	44 (301)	243	80.73	9	2.99
2006-07	43 (329)	227	83.10	2	0.73	**2017-18**	45 (299)	243	81.27	10	3.34
2007-08	40 (332)	226	81.59	2	0.72						

(Source: Profile of Banks and RTPB (http://www.rbi.org.in))

Table no. 4.3.1 showed that branch expansion of foreign banks' in metro-Politian has increased continuous as 163 (number of branches) in 1998, 169 in 1999, 170 in 2000, to 206 from 175 during 2000-01 to 2004-05, from 233 to 249 during 2008-09 to 2012-13, in term of percentage (total number of foreign banks) also increased from 89.60 to 91.10 during 1998-2001, showed variation during 2001-02 to 2004-05 (89.10, 88.30, 85.80,82.70), and continuous fall down during 2006-07 to 2012-13 (from 83.10 to 75.00). However, period from 2013-14 to 2017-18 entry of FBs entry in term of number & percentage has showed variation (249, 267 & 243) and (80.43, 80.55, 80.73 & 81.27).

On other side, entry of foreign banks in (semi-urban) during 1998-99 was registered 1.60 percent 1.10 in 2000, and 1.00 percent in 2001-02, however marked no presence during 2003-04. The entry of foreign banks (percentage) 0.40 in 2005, increase to 0.73 in 2007, constant increases during 2008-09 to 2011-12 from 1.37 to 3.30, 3.42 percent in 2013-14, 3.34 in 2015, 3.31 in 2016, 2.99 in 2017, and 3.34 in 2018. Moreover, in respect of percentage (total number of FBs) also increased from 2 to 10 during this study with variation.

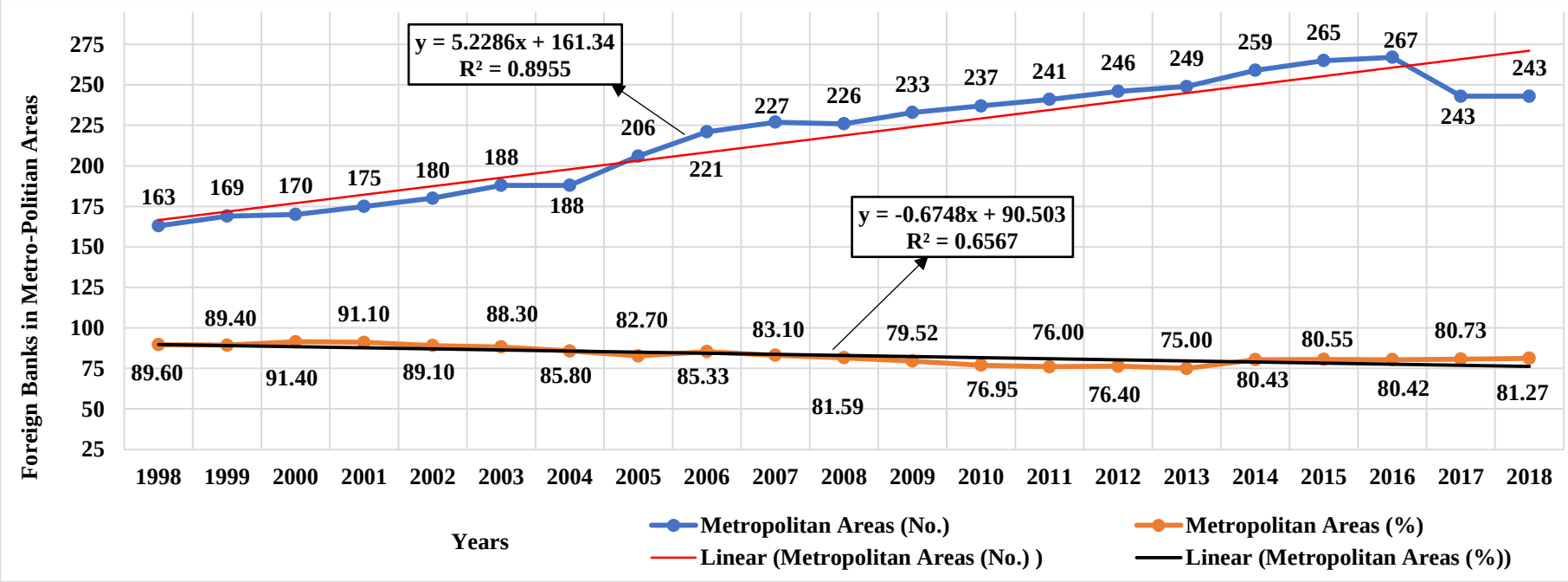
Table no. 4.3.2 described presence of foreign banks' in term of number & percentage during 1997-98 to 2029-30 in urban areas, as FBs were 16 in 1998, 17 in 1999, continuous increases from 14 in 2000, 15 in 2001, to 42 from 20 during 2002-2005 and percentage trend also rise from 7.50 to 16.90. Besides, during research, trend of foreign banks has showed waves like variation as 14.28 in 2006, 16.11 percent in 2007, 17.69 in 2008, and increased 19.48 from 17.69 in 2009-10. In respect of number it has also raised from 28 to 43 during 2005-06 to 2012-13. The expansion of foreign banks in urban locality from 2013-14 to 2017-18 has showed variation as 14.60 percent in 2014, 12.77 in 2015, 14.46 in 2016, constant decline to 12.37 from 13.28 during 2017-18.

Besides, period cover from 1997-98 to 2007-08 inferred that in India presence of foreign banks from different nations has not expanded their branches in rural areas; however in 2008-09 it enters in rural areas with 1.37 percent out of total presence, increases to 1.62 in 2009-10 (5 in branch number), and continuous increase its presence during 2010-11 to 2012-13 from 7 to 8 in number & in form of percentage (2.20 to 284 percent). It is understood that foreign banks entry in rural areas during 2013-14 to 2017-18 has expanded very fast as in form of percentage 1.55 to 3.01, & in number (branch expansion number) from 5 to 8 period cover 2013-14 to 2017-18.

Table 4.3.2: Foreign Banks Presence in Urban and Rural Area from 1997-98 to 2017-18

Years	Foreign Banks (Total Number & Branches)	Urban Area		Rural Area		Years	Foreign Banks (Total Number & Branches)	Urban Area		Rural Area	
		Number	Percent	Number	Percent			Number	Percent	Number	Percent
1997-98	42 (182)	16	8.80	0	0	**2008-09**	36	52	17.75	4	1.37
1998-99	45 (189)	17	9.0	0	0	**2009-10**	32	60	19.48	5	1.62
1999-2000	44 (186)	14	7.50	0	0	**2010-11**	34	61	19.24	7	2.20
2000-01	45 (192)	15	7.80	0	0	**2011-12**	42	61	18.90	7	2.84
2001-02	43 (202)	20	9.90	0	0	**2012-13**	43	65	19.60	8	2.40
2002-03	40 (213)	25	11.70	0	0	**2013-14**	43	47	14.60	5	1.55
2003-04	36 (219)	31	14.20	0	0	**2014-15**	45	42	12.77	6	1.82
2004-05	32 (249)	42	16.90	0	0	**2015-16**	46	48	14.46	6	1.81
2005-06	45 (259)	37	14.28	0	0	**2016-17**	44	40	13.28	9	2.99
2006-07	43 (329)	44	16.11	0	0	**2017-18**	45	37	12.37	9	3.01
2007-08	40 (332)	49	17.69	0	0						

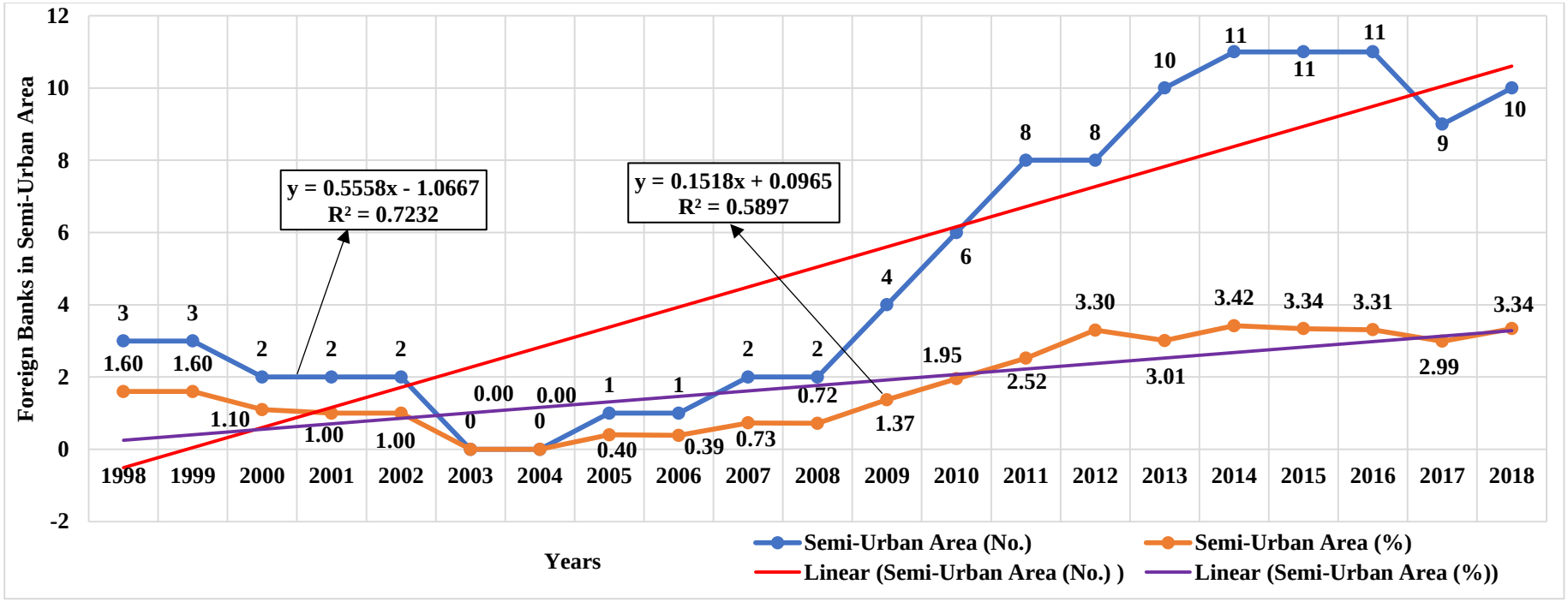
(Source: RTPB & Profile of Banks (http://www.rbi.org.in))



(Source: Published data from different Annual reports of RBI)

Figure 4.3.1: Foreign Banks Branch in Metro-Politian (1997-98 to 2017-18)

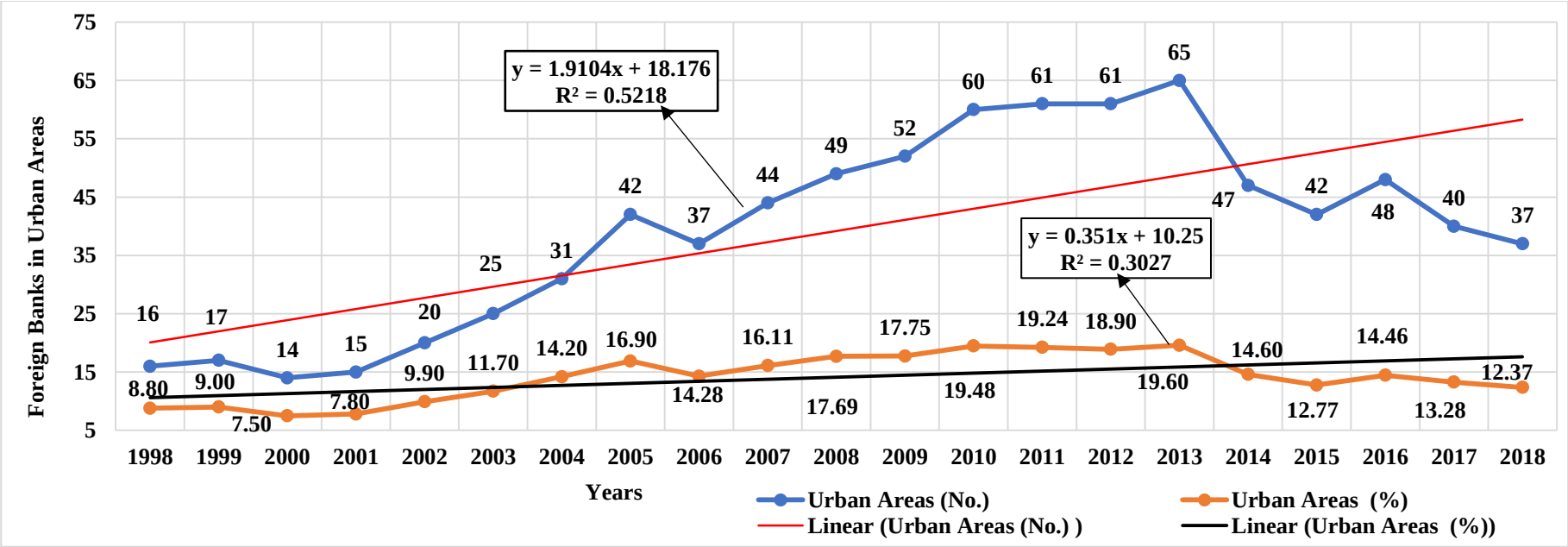
Figure no. 4.3.1 stated movement of linear trend of foreign banks' expansion in term of percentage during initial years (1997-98 to 2001-02) in metro-Politian areas has increased which was declined after 2002-03. During 2008-09 to 2017-18, their presence in term of percentage has decrease continuous. On other hand, their entry in number (branches) increases from 1998-2003, also sharply increase during 2005-2016, it has started decline slightly in 2017 and straight mode in 2017-18. It is observed that during study period 1997-98 to 2017-18, the calculated values of R^2 in term of number (0.89) and percentage (0.66) in metro-Politian are best fit to regression model.



(Source: Various Editions of Data reports published by RBI)

Figure 4.3.2: Foreign Banks Branches Trends in Semi-Urban Areas in India (1997-98 to 2017-18)

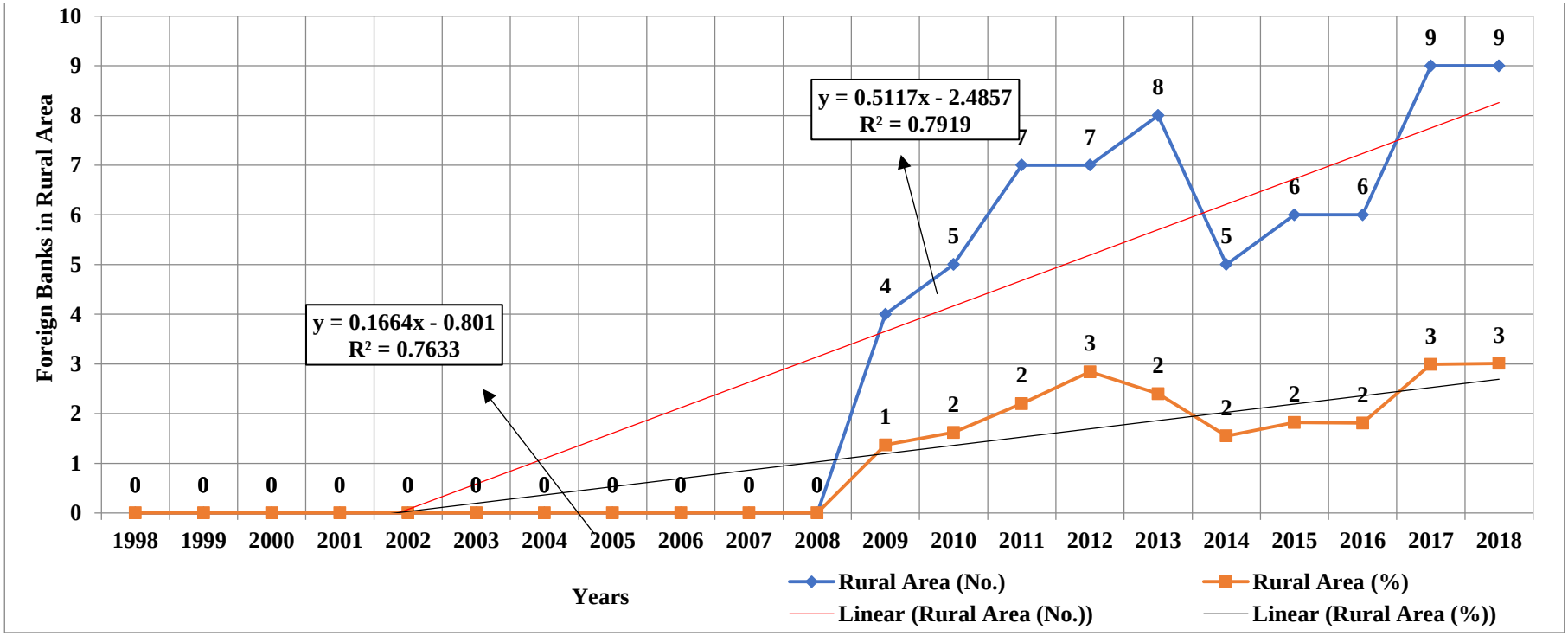
Figure no. 4.3.2 described FBs past presence trends in semi-urban areas as straight in 1998-99, 2000-01 to 2001-2002, in 2005-06 & in 2008, steep fall in 1998-99, 2001-02 (in term of percentage & number), in 2003 and 2004, no entry in semi-urban areas. It was observed that penetration of foreign banks in both form (number-branches & percentage-total FBs) has increased at fast rate with minor variation. During this period, values of R^2 of linear trend equation were measured as in term of number (0.72) and percentage (0.58), which means these are best fit the regression model.



(Source: Various Editions of data Reports-RBI (STRBI & Profile of Banks))

Figure 4.3.3: Foreign Banks Presence in Urban Areas (1997-98 to 2017-18)

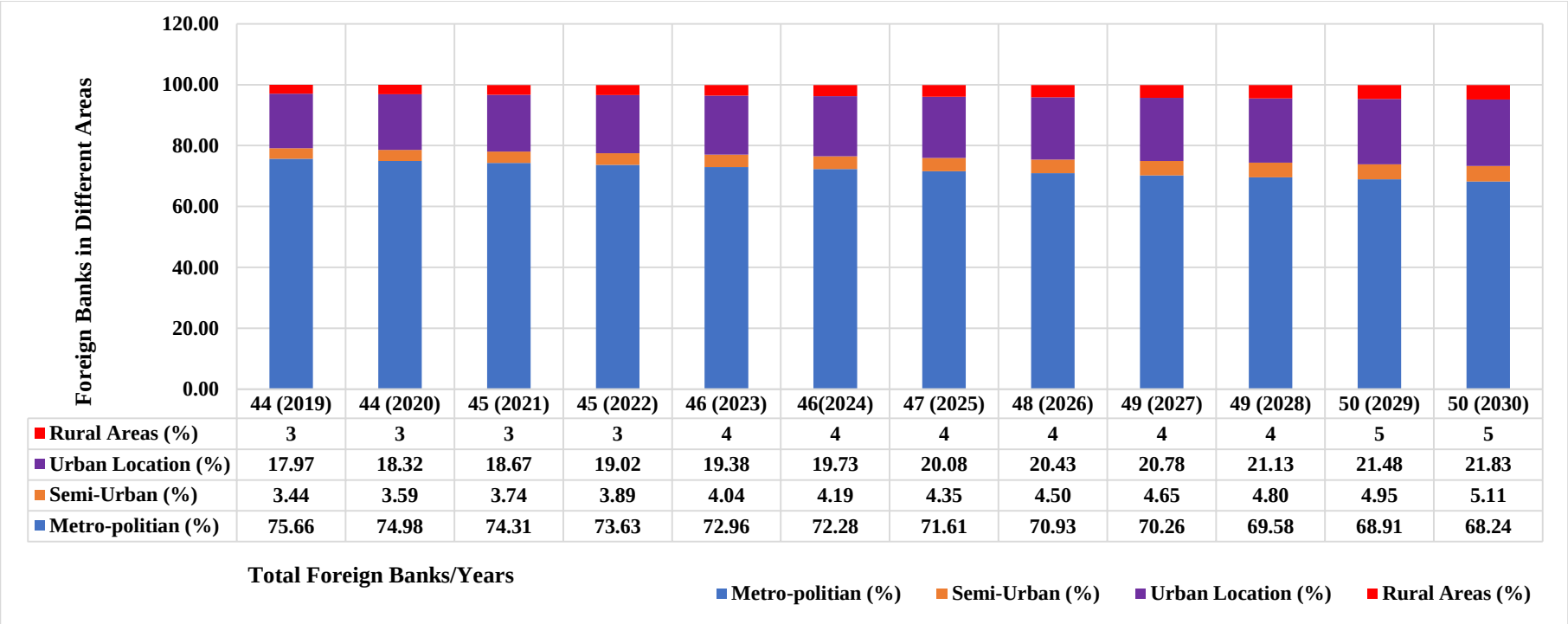
The Figure no. 4.3.3 showed trend of linear equation in form of number (total branches) during initial research period it was started increase, decline slightly in 2006, however it was continuous increased from 2007 to 2015, and variation was registered till 2018, during 2005-06 to 2007-08, in respect of percentage, expansion in urban areas was increase in slow movement from 1998 to 2005, and down was noticed in 2006, however it has increased again in steady mode from 2007-13. Moreover, their entry in urban areas has declined from 2016-2018 and summarized that during this research foreign banks' expansion has showed more interest towards urban areas in India. The calculated values of R^2 in term of number (0.52) and percentage (0.30) in urban areas are close to regression model fitness.



(Source: RBI Published Reports includes Statistical Tables relating to banks in India & Profile of Banks)

Figure 4.3.4: Foreign Banks in Rural Areas (1997-98 to 2017-18)

Figure no. 4.3.4 explained that Foreign banks has expanded their presence (in form of number & percentage) in rural areas after 2006-07. During research foreign banks has increased sharply till 2013, steep fall has registered in 2014, it was increased again from 2015- 2017 and flat mode in 2018. It is inferred that calculated values of R^2 on basis of past pattern in different areas by multination banks in term of number (0.79) and percentage (0.76) in rural areas are best fit to regression model.

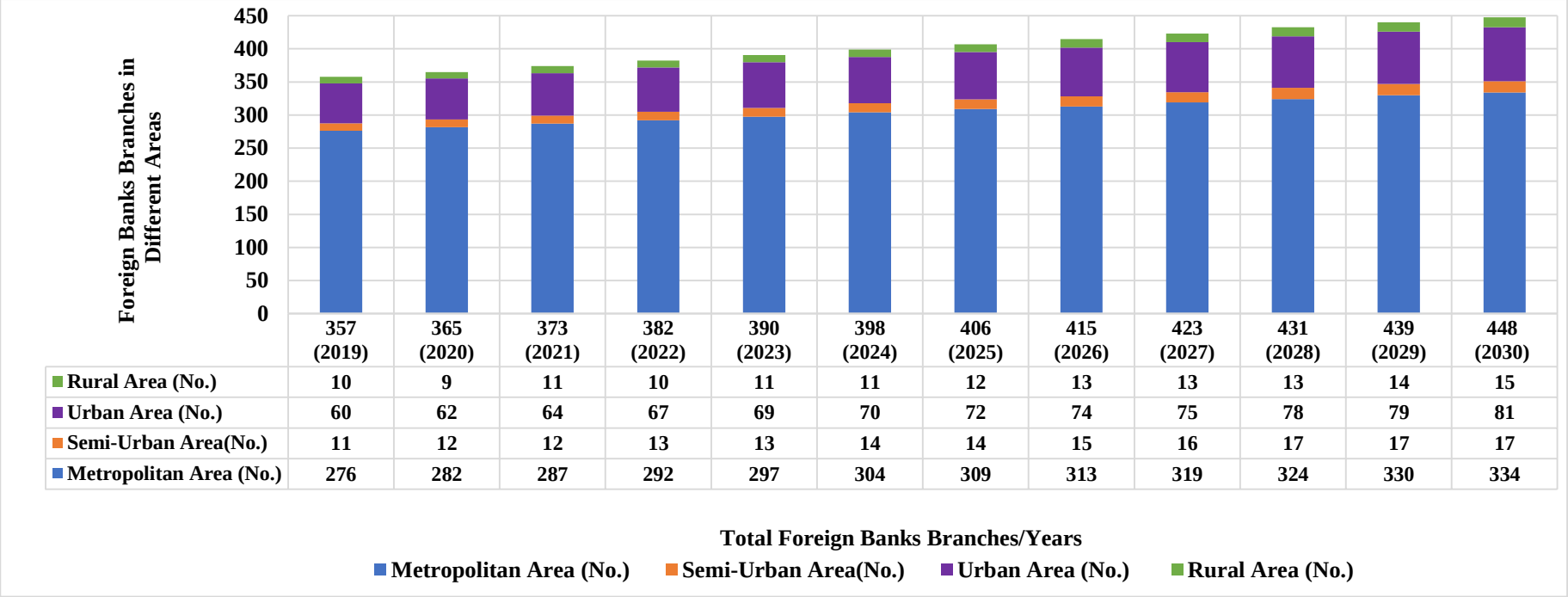


	44 (2019)	44 (2020)	45 (2021)	45 (2022)	46 (2023)	46(2024)	47 (2025)	48 (2026)	49 (2027)	49 (2028)	50 (2029)	50 (2030)
Rural Areas (%)	3	3	3	3	4	4	4	4	4	4	5	5
Urban Location (%)	17.97	18.32	18.67	19.02	19.38	19.73	20.08	20.43	20.78	21.13	21.48	21.83
Semi-Urban (%)	3.44	3.59	3.74	3.89	4.04	4.19	4.35	4.50	4.65	4.80	4.95	5.11
Metro-politian (%)	75.66	74.98	74.31	73.63	72.96	72.28	71.61	70.93	70.26	69.58	68.91	68.24

(Source: Author's Calculation)

Figure 4.3.5: Foreign Banks Presence Projection in India (2018-19 to 2029-30)

Figure no. 4.3.5 described that projection of foreign banks' entry proportion in percentage out of total number in a particular year. The projection is done from 2018-19 to 2029-30 and observed that multination banks from different economies in India will going to increase their presence (percentage out of total) continuous in Rural (from 3 to 5), Urban (from 17.97 to 21.83) and Semi-Urban (from 3.44 to 5.11), however, their entry in Metro-Politian areas will decline continue as 75.66 in 2019, to 71.61 from 74.98 during 2020-2025, from 70.93 to 68.24 period cover 2026-2030.



	357 (2019)	365 (2020)	373 (2021)	382 (2022)	390 (2023)	398 (2024)	406 (2025)	415 (2026)	423 (2027)	431 (2028)	439 (2029)	448 (2030)
Rural Area (No.)	10	9	11	10	11	11	12	13	13	13	14	15
Urban Area (No.)	60	62	64	67	69	70	72	74	75	78	79	81
Semi-Urban Area(No.)	11	12	12	13	13	14	14	15	16	17	17	17
Metropolitan Area (No.)	276	282	287	292	297	304	309	313	319	324	330	334

(Source: Author's Calculation)

Figure 4.3.6: Projection of Foreign Banks Branch Presence in India (2018-19 to 2029-30)

Figure no. 4.3.6 explained that projection of foreign banks' location proportion in term of number out of total branches in a specific year. During projection period 2018-19 to 2029-30 foreign banks from different nation in India will going to enhance their entry (in form of branch expansion) as in Rural (from 10 to 15), Urban (from 60 to 81) and Semi-Urban (from 11 to 17), in metro-Politian areas from 276 to 292 (2018-19 to 2021-22), during 2022-23 to 2025-26 (from 297 to 313), from 318 to 334 (during 2026-27 to 2029-30).

During research different movements of trends has been noticed in past in term of foreign bank's earnings, presence, business. Moreover, it has inferred that earnings of foreign banks in India will going to decline in slow mode, their finance facilitation to Indian clients will enhance from 2018-19 to 2029-30 and in coming time they will expand their presence in rural areas rather than other type of locality.

CHAPTER – 5

PERFORMANCE OF FOREIGN BANKS IN INDIA

In this second objective of study evaluated foreign banks performance with ratio-based globally accepted CAMELS model for period from 1991-92 to 2014-15 of selected 14 scheduled foreign banks from different home nations (developed & developing), on basis of their performance soundness ranked them (i) Individual on basis of (sub-parameters position), (ii) group rank on basis of (average rank of sub-parameters) and (iii) composite (average rank of all parameters) of CAMELS Model. Further, applied one-way ANOVA to calculate mean difference and K-S test (non-parametric) to test normality of published secondary data. The period of study has bifurcated into three parts (i) from 1991-92 to 1999-2000, (ii) 2000-01 to 2009-10, and (iii) 2010-11 to 2014-15. Financial ratios have been applied as cost efficient and smooth way to keep record of bank's financial condition by (Yue, 1996).

5.1 C- CAPITAL ADEQUACY RATIO (CAMELS)

Capital adequacy ratio described capacity of a bank in terms of meeting time liabilities and other risk such as (i) credit risk, (ii) market risk, and (iii) operational risk. It states how much capital is required to support the banks' risk asset. It has positive relation with financial soundness of bank and negative with possible failure (Dincer et al, 2011). In this research, Capital adequacy parameter is measured with two dimensions: (i) Debt/Equity: indicates degree of banks' leverage, and depicted how much business is financed from debt (internal) and equity (external), this sub-parameter was ranked in this objective as per balance gear-up of internal & external sources of finance, (ii) Return on Equity computed- Net Profit to total capital, Reserves and Surplus, this sub-parameter was ranked on basis of return (means maximum return lead to high rank).

Bank-specific factors, like return on equity are relevant for bank capital behaviour, relatively risk-averse. Cost of capital plays a significant role in determining capital ratios. Return on equity is not only a proxy for capital cost, but also for bank profitability and retained earnings can be used for capital augmentation (Ghosh et al, 2004),

Table no. 5.1.1 depicted the selected foreign banks performance of capital adequacy's sub-parameters (D/E ratio & ROE) for period covered 1990-91 to 1999-2000, as highest ratio of D/E 115.56, 105.90, 141.51 in 1990-91 of (ADCB, AEB and BOA), which showed continuous decline to 13.88 in 1995-96 (ADCB), 5.58 in 1996-97 (AEB) and 8.66 in 1993-94 (BOA), however variations was noticed during study. It is inferred that at initial time period, sample banks has finance maximum through external sources, but with passage of time they have geared up their financed from equity capital (means higher risk, higher returns) concept.

Table 5.1.1: Capital Adequacy for period from 1990-91 to 1999-2000

(Percentage)

Capital Adequacy (1990-91 to 1999-2000)						
Years	**Abu-Dhabi Commercial Bank-ADCB**		**American Express Bank-AEB**		**BOA-Bank of America**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
1990-91	115.56	0.59	105.96	2.21	141.51	1.76
1991-92	26.65	0.30	0.00	0.00	16.35	1.43
1992-93	22.79	0.48	20.75	0.37	9.65	0.79
1993-94	22.63	0.27	13.00	0.40	8.66	0.53
1994-95	17.72	0.30	9.51	0.34	0.00	0.00
1995-96	13.88	0.16	8.01	0.11	10.11	0.34
1996-97	21.12	0.07	5.58	0.11	10.27	0.51
1997-98	18.75	0.08	6.06	0.15	10.06	0.29
1998-99	23.93	0.08	11.89	0.03	9.81	0.23
1999-2000	19.08	0.11	9.20	0.11	3.65	0.22

*(**Source:** RBI-Statistical Tables relating to banks and Basic Returns)*

On other side of capital adequacy measurement that is Return on equity (ROE), maximum return was registered 0.59 of (ADCB), 1.76 of (BOA), 2.21 of (AEB) in 1990-91, however, throughout study period, selected sample banks have showed variations in term of return on equity when they geared down debt to equity ratio.

Table no. 5.1.2 reported performance period from 2000-01 to 2009-10, ADCB has decline its D/E ratio from 36.08 to 8.00 in (2000-01 to 2005-06), 9.20 to 4.12 in (2006-07 to 2009-10), ROE also fall down from 0.16 to 0.05 in (2001-03), 0.27 to

0.06 in (2008-09 to 2009-10), registered negative in 2004-05 (-0.70) and have earned maximum 0.66 in 2006-07 with 9.20 D/E ratio. During research, AEB has marked maximum return on equity 0.13 in 2005-06 with 7.49 of debt/equity ratio, however negative return on equity was noticed (-0.11 & -0.01) from 2003 to 04, (-0.01) in 2001 it means American bank has showed negative return on equity when it financed more from external sources than internal (11.84, 12.27 & 14.00).

Table 5.1.2: Capital Adequacy for period from 2000-01 to 2009-10

(Percentage)

Capital Adequacy (2000-01 to 2009-10)						
Years	**ADCB**		**AEB**		**BOA**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
2000-01	36.08	0.16	14.00	-0.01	7.72	0.11
2001-02	29.86	0.14	12.18	0.04	7.16	0.14
2002-03	29.46	0.05	11.84	-0.11	6.52	0.13
2003-04	26.05	0.13	12.27	-0.01	6.02	0.09
2004-05	26.04	-0.70	8.29	0.06	2.69	0.06
2005-06	8.00	0.06	7.49	0.13	2.69	0.09
2006-07	9.00	0.66	7.47	0.12	2.17	0.11
2007-08	4.28	0.27	0.00	0.00	2.22	0.13
2008-09	4.23	0.13	0.89	-.022	2.41	0.12
2009-10	4.12	0.06	1.29	-0.10	3.28	0.11

*(**Source:** RBI Annual Reports-Statistical Tables relating to banks & Basic Returns)*

In Case of Bank of America, return on equity was showed (0.11) in 2000-01 with highest 7.72 percent of D/E ratio, 0.14 and 0.13 in 2003 and 04 with 7.16 and 6.52 percentage of external to internal financed, however continuous decline (debt/equity) to 2.17 with variation trend in ROE ratio i.e. 0.09 to 0.06 & 0.11 during (2003-04 to 2006 to 2007), 0.13 in 2007-08, & decline to 0.11 in 2009-10 with 2.22, 2.41 and 3.28 internal/external ratio.

From table no. 5.1.3 it is observed that ADCB has earned return on equity 0.06 in 2010-11 which was decline continuous to 0.03 in 2014, however financing percentage marked constant variation like 2.91 in 2012, 5.56 in 2014. Moreover, AEB has showed fall down equity return from 0.04 to 0.00, negative return -.0.01,

-0.12 and -0.07 during 2012-13 and 2014-15 with varied percentage of debt/equity. However, when this bank has financed maximum through external sources, highest negative return on equity was noticed. The equity return of banks' ability depends on their effective management of finance sources (external & internal) as Bank of America when financed its capital more from external (2.93 to 3.26) during 2012-13 to 2014-15, ROE was registered (0.01) in 2013, 0.13 and 0.10 in 2014 and 15.

Table 5.1.3: Capital Adequacy for the period from 2010-11 to 2014-15

(Percentage)

Capital Adequacy (2010-11 to 2014-15)						
Years	**Abu-Dhabi Commercial Bank**		**American Express Bank**		**Bank of America**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
2010-11	5.72	0.06	1.31	0.04	0.20	0.12
2011-12	2.91	0.05	1.72	0.00	2.83	0.13
2012-13	3.95	0.06	1.53	-0.01	2.93	0.10
2013-14	5.56	0.03	2.23	-0.12	2.94	0.13
2014-15	6.31	0.04	1.64	-0.07	3.26	0.10

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Table 5.1.4: Capital Adequacy for the period from 1990-91 to 1999-2000

(Percentage)

Capital Adequacy (1990-91 to 1999-2000) **(Percentage)**						
Years	**Bank of Bahrain & Kuwait-BOB**		**Bank of Nova Scotia (BNS)**		**Bank of Tokyo Mitsubishi UFJ -BOTM**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
1990-91	197.69	2.54	177.37	0.00	309.73	4.11
1991-92	39.17	0.69	65.56	0.55	52.74	0.87
1992-93	39.63	0.64	10.41	0.14	38.01	0.81
1993-94	23.91	0.41	10.53	0.16	10.53	0.35
1994-95	15.90	0.35	11.23	0.07	0.00	0.00
1995-96	6.58	0.13	10.78	0.06	10.92	0.27
1996-97	8.91	0.07	10.15	-0.09	9.94	0.15
1997-98	16.63	-0.67	10.55	0.01	8.76	-2.60
1998-99	9.86	0.08	8.24	0.20	8.02	-0.40
1999-2000	10.07	0.10	8.22	0.14	5.46	0.33

*(**Source:** Statistical Tables relating to banks and Basic Returns)*

It is observed from table no. 5.1.4 that BOB & K has marked highest percentage of finance from external sources in 1990-91 (197.69) which was decrease continue to 6.58 during (1991-92 to 1995-96) and varied rest of study period, and in term of equity return of this bank was showed decreasing trend from 2.54 to 0.07. Sample bank (BNS) during research has showed variation in financing sources (D/E) ratio from 177.37 percent to 10.41 during (1991-93), again increase to 11.23 in 1995, decline 10.15 in 1997, 8.22 in 2000 and on equity return constant fall down was registered from 0.55 to 0.06 from 1992 to 1996, negative (-0.09) and varied rest of period. It is noticed that BOTM has maximum financed its capital from external sources mean three hundred times more than internal with highest percentage of ROE as 4.11 in 1991, after that it was steep decline continue to 10.53, during 1992 to 1994, increase to 10.92 and again decrease to 5.46 from 9.94 during 1997-2000. However, percentage of equity was registered continuous variation as sharp decline to 0.87 from 4.11 during 1990-91, increase to 0.27 from 0.19 during 1993-1996 and negative (-2.60, -0.40) from 1997-98 to 1998-99.

Table 5.1.5: Capital Adequacy for the period from 2000-01 to 2009-10

(Percentage)

Capital Adequacy (2000-01 to 2009-10)						
Years	**BOB & K**		**BNS**		**BOTM UFJ**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
2000-01	10.31	0.09	11.68	0.14	3.46	0.36
2001-02	6.77	0.09	11.91	0.13	4.78	0.25
2002-03	6.44	0.08	7.85	0.07	1.81	0.09
2003-04	6.34	0.01	10.15	0.07	1.60	0.20
2004-05	7.75	-0.34	11.62	-0.05	1.82	0.03
2005-06	5.92	-0.11	10.57	0.10	2.00	0.02
2006-07	4.35	-0.09	6.16	0.12	2.53	0.08
2007-08	4.43	0.20	8.82	0.14	2.04	0.07
2008-09	4.84	0.17	7.06	0.18	2.68	0.05
2009-10	5.76	0.02	5.99	0.19	1.38	0.03

*(**Source:** STRB and Basic Returns)*

It is observed from table no. 5.1.5 that during this research period, it was noticed that Bank of Bahrain has financed maximum 10.31 times from debt over equity in 2000-01, decrease to 4.35 during (2002-07), increase to 5.76 from 4.43 (2008-10), maximum return on equity was noticed 0.20 in 2008 with variation during study and negative was earned -0.34, -0.11, -0.09 from (2005-07). Bank of Nova Scotia in this research period was reported minor variation as 11.68 times more financed from debt in 2001, increase to 11.91 with maximum return on equity (0.19) in this period, continuous decline from 11.61 to 6.16 (2005 to 2007), and concluded sample banks with its internal finance capable enough to earn but in slow pace.

During this period, BOTM has financed from external sources not more than 4.78 in 2001-02 with 0.25 percent return on equity, however variation was noticed as decline to 1.60 (2003-04), from 2.68 to 1.38 in (2009-10), again increased from 1.60 to 2.53 (2004-07). Besides, highest return on equity percentage was registered 0.36 with 3.46 more financed from debt, 0.20 in 2004, 0.03 in 2005 and decline continuous from 0.08 to 0.03 during 2006-07 to 2009-10.

Table 5.1.6: Capital Adequacy for the period from 2010-11 to 2014-15

(Percentage)

Capital Adequacy (2010-11 to 2014-15)						
Years	**Bank of Bahrain & Kuwait**		**Bank of Nova Scotia**		**Bank of Tokyo Mitsubishi UFJ**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
2010-11	5.85	0.13	6.41	0.15	1.33	0.03
2011-12	3.32	0.08	6.31	0.16	2.53	0.07
2012-13	2.97	0.06	6.72	0.16	2.78	0.08
2013-14	2.88	0.03	4.58	0.16	3.19	0.05
2014-15	2.74	0.04	4.98	0.01	3.24	0.05

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

From Table no. 5.1.6 it is observed that Bank of Bahrain during study has financed maximum 5.85 in 2011 with 0.13 percent return on equity, continuous declined its sources to 2.74 from 5.85 (2011-15), 0.13 to 0.03 during (2011-14), however no negative return was recorded.

Bank of Nova Scotia has reported minor variation in financed from external sources like 6.41 in 2011, decline to 6.31 in 2012, increase to 6.72 in 2013 so on with constant return on equity 0.16 during (2012-14). Bank of Tokyo during research has financed maximum 3.24 in 2015, 1.33 to 3.19 during (2011-14) over equity & its return on equity was recorded 0.05 in 2014-2015, and from 0.03 to 0.08 (2011-13).

Table 5.1.7: Capital Adequacy for period from 1990-91 to 1999-2000

(Percentage)

Capital Adequacy (1990-91 to 1999-2000)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
1990-91	0.00	0.00	36.13	0.00	71.41	0.85
1991-92	24.10	0.54	37.96	0.57	26.96	0.47
1992-93	0.00	0.00	9.67	0.00	11.57	0.25
1993-94	13.66	0.17	7.31	0.18	11.43	0.21
1994-95	10.27	0.24	8.16	0.07	11.82	0.14
1995-96	9.38	0.21	6.42	0.09	6.57	0.13
1996-97	9.74	0.63	5.59	0.14	6.35	0.11
1997-98	9.66	0.12	4.86	0.22	7.48	0.09
1998-99	13.00	0.13	7.74	0.10	10.23	0.07
1999-2000	12.41	0.25	7.37	0.09	13.58	0.15

*(**Source:** Published Annual Reports of RBI)*

Table no. 5.1.7 stated that during research period CitiBank has marked variation in term of debt/equity & equity return percentage, as maximum financed from external sources was 24.10 and earned 0.54 percent return on equity in 1991-92. This sample bank has declined their external finance continue to 9.38 in 1995-96 and ROE ratio 0.12 percent in 1997-98. Deutsche Bank has financed its capital maximum in 1992 (37.96) and earned 0.57 percent equity return, rest research period it has sharply declined external sources of finance from 9.67 to 7.37 during 1993-2000, however, variation was noticed in case of ROE as 0.18 in 1994, 0.14 in 1997 and fall down to

0.09 from 0.22 for period from 1998-2000. On part of HSBC, it has financed from external sources more than 70 percent in 1991 which was steep fall down continuous from 26.96 to 11.43 during 1992-94, from 11.82 to 6.35 during 1995-97 and increase to 13.58 percent from 7.48 during 1998-2000. In addition, it has earned 0.85 percent in 1991 which was decline constant from 0.47 to 0.07 percent for period from 1992-1999.

Table 5.1.8: Capital Adequacy for period from 2000-01 to 2009-10

(Percentage)

Capital Adequacy (2000-01 to 2009-10)						
Years	**CitiBank**		**Deutsche Bank**		**Hong-Kong Banking Corporation**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
2000-01	13.13	0.22	7.50	0.15	12.78	0.18
2001-02	10.92	0.19	6.48	0.18	13.78	0.14
2002-03	10.34	0.18	5.81	0.20	8.09	0.07
2003-04	9.25	0.21	8.36	0.30	8.06	0.16
2004-05	8.63	0.18	7.24	0.06	5.96	0.01
2005-06	8.66	0.16	7.54	0.01	7.99	0.12
2006-07	7.91	0.14	7.52	0.11	7.93	0.14
2007-08	6.33	0.19	4.45	0.09	6.16	0.14
2008-09	6.24	0.19	3.80	0.09	5.32	0.12
2009-10	5.08	0.06	4.06	0.09	5.16	0.07

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

It is observed from table no. 5.1.8 that during period from 2000-01 to 2009-10 CitiBank has financed 13.13 percent debt over equity which was decline continue from 10.92 to 5.08, and on part of equity return it has marked 0.22 percent, which was showed variation during research as 0.19 in 2003, 2009, 2010, and 0.18 in 2005 fall down continue to 0.14 in 2007. Besides, during period DB has showed 7 times

more debt over equity in 2001 which was decline to 5.81 in 2003, 8.36 in 2004, 7.24 in 2005, 7.54 in 2006 which was fall to 4.06 from 7.52 during 2007-2010 and it has registered 0.15 equity return in 2001, increase to 0.30 in 2004, steep fall to 0.01 in 2006, sharp rise to 0.11 in 2007, and 0.09 during 2008-10. Hong-Kong Banking Corporation has showed 12.78 D/E ratio in 2001, 13.78 in 2002, 8.09 in 2003 which was decline to 5.96 in 2005, 7.99 in 2006 after that its continuous fall down to 5.16 from 7.93 during 2007-2010. Moreover, it has marked its return on equity 18 percent in 2001, steep decline to 0.01 during 2002-2005, 0.14 in 2007-08, from 0.12 to 0.07 for period 2009 & 2010.

Table 5.1.9: Capital Adequacy for period from 2010-11 to 2014-15

(Percentage)

Capital Adequacy (2010-11 to 2014-15)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
2010-11	1.91	0.01	3.58	0.11	4.27	0.11
2011-12	5.97	0.12	2.92	0.13	4.89	0.13
2012-13	5.74	0.16	3.72	0.13	4.98	0.13
2013-14	5.74	0.16	4.72	0.08	3.06	0.09
2014-15	5.44	0.17	4.45	0.13	6.03	0.09

*(**Source:** Reserve Bank of India-STRB & Basic Returns)*

Table no. 5.1.9 explained that CitiBank has registered their debt/equity ratio 1.91 percent in 2011, rest of period it has not financed more than 5.97 percent and earned equity 0.01 in 2011, which was increase to 0.17 from 0.12 during 2012-15. DB has financed maximum in this period 4.72 in 2014, 3.58 percent in 2011, 2.92 in 2012, 3.72 in 2013 and it has earned 0.13 percent in 2012, 2013 and 2015. On part of HSBC, it has registered 4.27 percent of debt/equity in 2011, 4.89 in 2012, 4.98 in 2013 and 6.03 in 2015 and ROE was 0.13 during 2012-13 and 0.09 for period 2014-15.

Table 5.1.10: Capital Adequacy for period from 1990-91 to 1999-2000

(Percentage)

Capital Adequacy (1990-91 to 1999-2000)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
1990-91	179.31	0.78	89.69	1.54	223.57	0
1991-92	0.00	0.00	30.46	0.49	19.07	0.33
1992-93	0.00	0.00	34.69	0.15	16.29	0.43
1993-94	16.75	0.36	13.76	0.13	23.32	0.33
1994-95	10.68	0.40	14.84	0.09	10.86	0.16
1995-96	15.04	0.22	10.88	0.16	14.34	0.09
1996-97	8.41	0.05	7.54	0.17	9.79	0.16
1997-98	5.05	-0.18	8.21	-0.08	9.83	0.12
1998-99	7.44	-0.23	10.48	-0.33	7.48	-0.27
1999-2000	11.13	-0.45	4.81	-0.55	6.97	0.00

*(**Source:** Published Annual Reports of RBI)*

From table no. 5.1.10, it is noticed that Mashreq Bank has showed variation in finance as 179.31 more from external sources with maximum return on equity (0.78) percent during research, as from 1992 and 93 no data was submitted on D/E as well as on its return, during 1996-98 from 15.04 to 5.05 of D/E, return on equity 0.22, 0.05 and -0.18 (negative).

Oman International Bank has earned on equity 1.54 with 89.69 time financed from debt equity in 1991, decline to 0.09 from 1.54 (return), 89.69 to 14.84 during 1991-95, however negative ROE was noticed as -0.08, -0.33, 0.55 with 8.21, 10.48 & 4.81 debt/equity during 1998-2000. Moreover, Societe Generale has financed (223.57) & minimum (6.97) and zero equity return in 1991 and 2000; it was steep fall of D/E ratio (223.57 to 10.86) with variation in return on equity as increase to 0.33 from 0.00, 0.43 (1991-93), decline to 0.33, 0.16, 0.09 for period from (1993-96) and negative return (equity) -0.27 in 1999 with 7.48 debt over equity in 1999.

Table 5.1.11: Capital Adequacy for period from 2000-01 to 2009-10

(Percentage)

Capital Adequacy (2000-01 to 2009-10)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
2000-01	16.92	-0.57	3.88	-0.22	6.74	0.00
2001-02	12.61	0.22	3.02	-0.19	6.68	0.19
2002-03	6.32	0.24	2.72	-0.07	2.95	-0.06
2003-04	5.20	0.11	2.42	-0.01	3.70	0.01
2004-05	4.68	0.06	1.72	-0.09	1.67	0.05
2005-06	0.36	0.06	1.65	-0.02	4.31	0.05
2006-07	0.49	0.14	1.39	-0.01	7.15	0.06
2007-08	0.40	0.11	1.30	0.05	7.37	0.11
2008-09	0.24	0.06	1.32	0.02	4.60	0.10
2009-10	0.46	0.04	1.22	0.05	5.36	0.01

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Table no. 5.1.11 described from 2001-2010, Mashreq Bank has financed maximum through debt/Equity not more than 16.92 in 2001 with negative return on equity -0.57, it was observed variation in financing during this period i.e. D/E ratio was decline from 16.92 to 6.32 (2001-03), 5.20 with 0.11 ROE in 2004, 4.68 with equity return 0.06 in 2005, moreover, ratio of D/E was decline from 0.49 to 0.24 and return from 0.14 to 0.04 during 2007-2010.

During this period, Oman Bank has financed highest 3.88 times debt/equity in 2001, continuous decline to 1.22 during 2001-10, and decline to 2.72 from 3.02 (2002-03), on other hand, negative equity return was reported from 2001 to 2007 (-0.22, -0.19, -0.07, -0.01, -0.09, -0.02 and -0.01). On part of Societe Generale throughout research, it has maximum financed 7.15 in 2008 with equity return 0.11, fall in D/E ratio from 6.74 to 2.95 (2001-03) with negative return on equity (-.019) and (-0.06), from 2002 to 2003 debt/equity ratio was increase to 7.37 from 1.67 during 2005-2008, moreover reported variation during research at sub-parameters of capital adequacy ratio.

Table no. 5.1.12 stated that period from 2010-11 to 2014-15, Mashreq Bank has financed lowest as compare to previous research period i.e. 0.60 in 2011 with 0.08 equity return, 0.09, 0.01, 0.11, 0.08 and financed 0.72, 0.99, 1.38 and 1.99 through external over internal sources. The percentage of debt/equity ratio of OIB was 1.28 percent which was decline continue to 0.55 from 0.88 during 2010-11 to 2013-14 and equity return has increased to 0.11 from 0.07 during 2011-13, however negative ROE was -0.01 and -0.00 in 2014 and 2015. The finance of OIB was registered steep decline to 2.69 in 2012 again start decline to 2.69 from 4.70 and equity return was 0.05 percent in 2011 and constant 0.04 percent during research.

Table 5.1.12: Capital Adequacy for period from 2010-11 to 2014-15

(Percentage)

Capital Adequacy (2010-11 to 2014-15)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**	**D/E Ratio**	**ROE**
2010-11	0.60	0.08	1.28	0.07	6.70	0.05
2011-12	0.72	0.09	0.88	0.08	2.69	0.04
2012-13	0.99	0.01	0.68	0.11	2.69	0.04
2013-14	1.30	0.11	0.55	-0.01	3.23	0.03
2014-15	1.99	0.08	0.58	-0.00	4.70	0.04

*(**Source:** Reserve Bank of India-STRB & Basic Returns)*

From table no. 5.1.13, observed Sonali Bank has financed its capital 75.30 through debt/equity with zero equity return in 1991, sharp decline from 75.30 to 13.10 (1990-91 to 1991-92), 13.10 to 8.00 (1992 to 93) with 0.16 percent return on equity, steep increase to 21.06 from 8.00 (1993-94) with 0.30 equity return, moreover variations were noticed from 1994-95 in D/E ratio (14.18, 7.03, 6.73, 3.24, 4.05) and ROE (0.29, 0.45 & 0.35) of capital adequacy during study.

Table 5.1.13 stated that D/E ratio of SCB was registered 115.81 with no equity return in 1991, which was increase to 199.33 with negative return (-11.85) in 1992, steep decline to 40.80 with (-10.25) equity return, showed variations in financing its

capital e.g. 5.92 from 40.80 (1993-94) with 0.02 ROE, increase to 12.70 from 7.39 with 0.29, 0.09 in 1998 and 1999.

Table 5.1.13: Capital Adequacy for period from 1990-91 to 1999-2000

(Percentage)

Capital Adequacy (1990-91 to 1999-2000)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**
1990-91	75.30	0	115.81	0
1991-92	13.10	0.34	199.33	-11.85
1992-93	8.00	0.16	40.80	-10.25
1993-94	21.06	0.30	6.48	0.15
1994-95	14.18	0.44	5.92	0.02
1995-96	7.03	0.52	6.56	0.19
1996-97	6.73	0.29	6.98	0.06
1997-98	3.24	0.29	7.39	0.09
1998-99	4.05	0.45	12.70	0.29
1999-2000	12.43	0.35	11.03	0.26

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

It is noticed from table no. 5.1.14 that Sonali Bank during 2000-01 to 2009-10 has reported minor variations as debt/equity ratio 5.19 in 2001 with highest equity return 0.26, 4.28 with ROE 0.12 in 1992, increase to 6.89 as ROE (0.11), decline debt/equity to 3.96 with 0.25 in 2005, and increase to 7.30 in 2009 with 0.18 equity return. During study period, SCB has showed variation in debt/equity financing ratio as well as ROE e.g. 9.77 from 14.50 in 2004 with 0.22 (ROE), decline to 5.07 in 2009 with minor variation from 9.10 to 5.36 with equity return from 0.19 to 0.20 during 2005-2007, and 0.18 in 2010.

Table 5.1.14: Capital Adequacy for period from 2000-01 to 2009-10

(Percentage)

Capital Adequacy (2000-01 to 2009-10)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**
2000-01	5.19	0.26	14.50	0.24
2001-02	4.28	0.12	11.06	0.27
2002-03	6.89	0.11	8.35	0.31
2003-04	5.66	0.23	9.77	0.22
2004-05	3.96	0.25	9.10	0.19
2005-06	4.36	0.11	8.34	0.20
2006-07	5.49	0.12	7.12	0.24
2007-08	4.64	0.12	5.36	0.20
2008-09	7.30	0.18	5.07	0.19
2009-10	4.98	0.11	4.97	0.18

*(**Source:** Reserve Bank of India-STRB and Basic Returns)*

Table No. 5.1.15 describes that Sonali Bank has continuously increased its debt over equity from 4.23 to 6.15, from 2011 to 2015 with equity return from 0.03 in 2011, 0.13 in 2012, 0.19 in 2013, decrease to 0.09 in 2014 & minor raise to 0.10 in 2015. Standard Chartered Bank has earned on equity 0.16 in 2011 with 5.41 more debt over equity, decrease to 5.53, 4.26, 3.83, 3.36 (D/E ratio) and equity return increase from 0.12, 0.15, 0.08 and 0.12 percent during 2012-15.

Table 5.1.15: Capital Adequacy for period from 2010-11 to 2014-15

(Percentage)

Capital Adequacy (2010-11 to 2014-15)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	D/E Ratio	**ROE**	**D/E Ratio**	**ROE**
2010-11	4.23	0.03	5.41	0.16
2011-12	3.96	0.13	5.53	0.12
2012-13	4.07	0.19	4.26	0.15
2013-14	4.78	0.09	3.83	0.08
2014-15	6.15	0.10	3.36	0.12

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

From table no. 5.1.15, noticed that SCB has financed its capital through debt/equity 7.17 times in 2011 with 0.16 ROE, increase to 7.60 in 2012, 0.07 from 5.25 during 2012 to 2015 with varied equity return e.g. 0.15 in 2012, 0.08 in 2014 and 0.12 in 2015.

5.1.1 Individual and Group Rank of Foreign Banks

In this section, each sample bank was ranked individual on basis of its sub-parameters performance as (i) debt/equity ratio, (ii) Return on equity and Group rank (Parameter Rank-PR) was calculated as per average rank performance of sub-parameters.

Table 5.1.16: Individual and Group Rank (1990-91 to 1999-2000)

Capital Adequacy-Average Rank of Parameter and Sub-Parameter (1990-91 to 1999-2000)							
Name of Foreign Banks	**D/E Ratio**	**Rank**	**ROE**	**Rank**	**Total**	**Average**	**PR**
ADCB	3.02	14	0.24	7	21	10.50	12.50
AEB	18.99	9	0.38	4	13	6.50	4
BOA	22.00	8	0.61	1	9	4.50	3
BOB & K	36.84	3	0.43	2	5	2.50	2
BNS	32.30	5	0.12	12	17	8.50	10
BOTM	45.41	1	0.39	3	4	2	1
CB	10.22	13	0.23	8	21	10.50	12.50
DB	13.12	12	0.15	10	22	11	14
HSBC	17.74	10	0.25	6	16	8	7.50
MB	25.38	6	0.09	13	19	9.50	11
OIB	22.54	7	0.18	9	16	8	7.50
SG	34.15	4	0.14	11	15	7.50	5
SB	16.51	11	0.31	5	16	8	7.50
SCB	41.30	2	-2.10	14	16	8	7.50

*(**Source:** Researcher's Calculation)*

Table no. 5.1.16 described individual and group rank of sample foreign banks on the basis of model sub-parameters and parameters performance. Individual rank (sub-parameter) Bank of Tokyo Mitsubishi from Japan has occupied rank first at (debt/equity ratio) followed by SCB (Standard Chartered Bank) from U.K., Bank of Bahrain & Kuwait, Societe Generale at fourth and so on. Another sub-parameter performance (return on equity) during this period, the highest rank was occupied by Bank of America, second, third, fourth and fifth by Bank of Bahrain, (BOTM) Bank of Tokyo Mitsubishi, American Express Bank and Sonali Bank so on and Bank of Nova Scotia, Mitsubishi Bank and SCB were placed at lowest rank e.g. twelfth, thirteen and fourteen.

The parameter rank (capital adequacy ratio) of sample foreign banks was calculated with total average rank of sub-parameters (D/E & ROE) and it was investigated that BOA has placed first rank, BOB & K, BOTM has occupied second & third and AEB, Sonali Bank & HSBC were placed at fourth, fifth and sixth, followed by ADCB, CB, Oman International Bank and Deutsche Bank and so on.

It was observed from table no. 5.1.17 that next decade these banks were occupied different rank at models dimensions like during period from 2000-01 to 2009-10, Abu-Dhabi Bank has secured top position in maintaining debt/equity ratio balance with equity return at eleven rank (individual) and occupied 6.50 rank at average performance of sub-parameters, BNS has placed at second rank in term of D/E ratio, followed by CitiBank, SCB, HSBC so on, OIB & BOTM were ranked at lowest e.g. fourteen and thirteen place. In respect of return on equity, SCB & Sonali Bank has occupied first and second rank, followed by Citibank Bank (3^{rd}), DB (4^{th}), BNS & HSBC (5.5) so on and AEB & Oman were ranked at 13^{th} and 14^{th}.

Table 5.1.17: Individual and Group Rank (2000-01 to 2009-10)

Capital Adequacy-Average Rank of Parameter and Sub-Parameter (2000-01 to 2009-10)							
Name of Foreign Banks	**D/E Ratio**	**Rank**	**ROE**	**Rank**	**Total**	**Average**	**PR**
ADCB	17.71	1	0.01	11	12	6	6.50
AEB	7.57	6	-0.01	13	19	9.50	10
BOA	3.28	12	0.11	7.50	19.50	9.75	11
BOB & K	6.29	7	0.01	11	18	9	8
BNS	9.18	2	0.11	7.50	9.50	4.75	3
BOTM	2.41	13	0.12	5.50	18.50	9.25	9
CB	8.65	3	0.17	3	6	3	2
DB	6.28	8	0.13	4	12	6	6.50
HSBC	8.12	5	0.12	5.50	10.50	5.25	4
MB	4.77	11	0.05	9	20	10	12
OIB	2.06	14	-0.05	14	28	14	14
SG	5.05	10	0.01	11	21	10.50	13
SB	5.28	9	0.16	2	11	5.50	5
SCB	8.36	4	0.22	1	5	2.50	1

*(**Source:** Author's Calculation)*

On basis of average performance of sub-parameter rank, Societe Generale from U.K was ranked first in respect of well-balanced debt/equity ratio with high return on equity during this period, as followed by CB, BNS, HSBC, Societe Generale so on, however sample banks were managed poor debt/equity ratio and its return were placed at lowest rank e.g. AEB (10^{th}), BOA (11^{th}), Mashreq (12^{th}), SG (13^{th}) and Oman (14^{th}).

Table 5.1.18: Individual and Group Rank (2010-11 to 2014-15)

Capital Adequacy-Average Rank of Parameter and Sub-Parameter (2010-11 to 2014-15)							
Name of Foreign Banks	**D/E Ratio**	**Rank**	**ROE**	**Rank**	**Total**	**Average**	**PR**
ADCB	4.89	2	0.43	1	3	1.50	1
AEB	1.69	12	-0.03	14	26	13	13.50
BOA	2.43	11	0.12	5	16	8	8
BOB & K	3.55	9	0.07	9.50	18.5	9.25	9
BNS	5.80	1	0.13	2.50	3.50	1.75	2
BOTM	2.61	10	0.06	11	21	10.50	11
CB	4.96	3	0.12	5	8	4	3
DB	3.88	8	0.12	5	13	6.50	7
HSBC	4.65	4	0.11	7.50	11.50	5.75	5
MB	1.12	13	0.07	9.50	22.50	11.25	12
OIB	0.79	14	0.05	12	26	13	13.50
SG	3.98	7	0.04	13	20	10	10
SB	4.64	5	0.11	7.50	12.50	6.25	6
SCB	4.48	6	0.13	2.50	8.50	4.25	4

*(**Source:** Researcher's Calculation)*

It is observed from table no. 5.1.18 that for period 2010-11 to 2014-15, Bank of Nova Scotia has secured first position in term of debt/equity ratio, followed by ADCB, CB, & HSBC, SB, SCB & so on. On other hand, maximum return was earned by ADCB, occupied same rank (2.50) by SCB & BNS, (5) by BOA, CB &

DB, (7.50) by HSBC & SB, (11^{th}) by BOTM, (12^{th}) by Oman, (13^{th}) by SG & (14^{th}) by American Express. During this research period, on basis of average performance (total average of sub-parameters) Abu-Dhabi has occupied rank first, followed by (2) BNS, CB (4^{th}) & (5^{th}) by SHSBC, SCB, 6^{th}, 7^{th}, 8^{th} 9^{th} by SB, DB, BOA, BOB and Societe Generale, Bank of Tokyo, MB, OIB & AEB placed at tenth to fourteen.

5.1.2 Result of ANOVA and K-S Test

The table no. 5.1.19 described statistical results of capital adequacy and its sub-parameters at 95 percent confidence level with One-way Anova and K-S test (normal distribution of secondary data) during 1990-91 to 1999-2000.

Table 5.1.19: Results of One-Way ANOVA and K-S (Normality) Test

Results of One-Way ANOVA (Mean Difference) Capital Adequacy (1990-91 to 1999-2000)					
Sub-Parameters of Model	**Sum of Squares-SOS**	**df**	**Mean Square-MS**	**F**	**Sig.**
Debt/Equity Ratio					
Between Groups	182925.349	9		21.739	0.00
Within Groups	121543.891	130	20325.039		
Total	304469.239	139	934.953		
Return on Equity					
Between Groups	25.700	9	2.856	1.049	.405
Within Groups	353.721	130	2.721		
Total	379.422	139			
Results of One-Sample Kolmogorov Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**(i) Debt/Equity Ratio**		**(ii) Return on Equity**		
N	140		140		
Normal Parameters Mean	26.1991		.2314		
Std. Deviation	46.80199		1.65217		
Test Statistic	4.015		4.158		
Asymp. Sig. (2-tailed)	.000		.000		

*(**Source:** Statistical Calculation)*

There was statistical significant difference in terms debt/equity ratio performance among selected foreign banks in India. Hence, null hypothesis of D/E - H01 (i): (a) was rejected as tabulated value 0.00 was less than significant value 0.05 and calculated *F* value was 21.739. However, no difference was found in term of equity return as- tabulated value .405 was more than *P* value 0.05 and *F* value was 1.049. Hence, null hypothesis of ROE ratio-H01 (i): (b) was accepted.

During research period, collected secondary data from different published sources was normally distributed of both sub-parameters as K-S test value of (i) Debt/Equity ratio is 4.015, (ii) Return on equity was 4.0158 means more than 0.5 (prescribed value).

Table 5.1.20: Results of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) (i) Capital Adequacy (2000-01 to 2009-10)					
Sub-Parameters of Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Debt/Equity Ratio					
Between Groups	926.349	9	102.928	3.894	0.00
Within Groups	3435.988	130	26.431		
Total	4362.337	139			
Return on Equity					
Between Groups	.254	9	.028	1.323	.231
Within Groups	2.771	130	.021		
Total	3.025	139			
Results of One-Sample Kolmogorov Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**(i) Debt/Equity Ratio**		**(ii) Return on Equity**		
N	140		140		
Normal Parameters Mean	6.8593		.0900		
Std. Deviation	5.60212		.14751		
Test Statistic	2.044		1.763		
Asymp. Sig. (2-tailed)	.000		.004		

*(**Source:** Statistical Calculation)*

The table 5.1.20 described results of capital adequacy and its sub-parameters at 95 percent confidence level with One-way Anova and K-S test (normal distribution of secondary data) for period from 2000-01 to 2009-10. During 2000-01 to 2009-10, there was statistical difference in terms D/E ratio performance among selected foreign banks in India. Hence, null hypothesis of Debt/Equity - H01 (ii): (a) was rejected as tabulated value 0.00 was less than significant 0.05 values and *F* calculated 3.894.

However, there was no significant difference in ROE ratio of these banks as tabulated value .231 was more than *P* value 0.05 and *F* value is 1.323. Hence, null hypothesis of ROE ratio-H01 (ii): (b) was accepted. During research period, collected secondary data from different published sources was normally distributed of both the sub-parameters as K-S test value of (i) Debt/Equity ratio was 2.044, (ii) Return on equity was 1.763 means more than 0.5 (prescribed value).

Table 5.1.21: Results of One-Way ANOVA and K-S Test

Results of One-Way ANOVA Test (Mean Difference) Capital Adequacy (2010-11 to 2014-15)					
Sub-Parameters of Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Debt/Equity Ratio					
Between Groups	2.843	4	.711	.209	.993
Within Groups	220.952	65	3.399		
Total	223.795	69			
Return on Equity					
Between Groups	.018	4	.004	1.387	.248
Within Groups	.208	65	.003		
Total	.226	69			

Results of One-Sample Kolmogorov Smirnov (Normality Test)		
Particulars/Name of Sub-Parameters	**(i) Debt/Equity Ratio**	**(ii) Return on Equity**
N	70	70
Normal Parameters Mean	3.5270	.0838
Std. Deviation	1.80095	.05724
Test Statistic	.556	.538
Asymp. Sig. (2-tailed)	.917	.934

*(**Source:** Statistical Calculation)*

The table 5.1.21 describes results of capital adequacy & its sub-parameters at 95 percent confidence level with One-way Anova and K-S test (normal distribution of secondary data) for period from 2010-11 to 2014-15. It is understood that there was no statistical significant difference in terms of debt/equity ratio performance among selected foreign banks in India. Hence, null hypothesis of D/E - H01 (iii): (a) was accepted as tabulated value .993 was more than significant value 0.05

The calculated *F* value was .209. However, there was no significant difference in return on equity ratio of these banks as tabulated value .248 was more than *P* value 0.05 and *F* value was 1.387. Hence, null hypothesis of ROE ratio-H01 (iii): (b) was accepted. During research period, collected secondary data from different published sources was normally distributed of both sub-parameters as K-S test value of (i) Debt/Equity ratio was .556, (ii) Return on equity was .538.

5.2 A – ASSETS QUALITY RATIO (CAMELS)

As lending is primary function & business of bank. To test financial creditability of bank's quality of assets considered as important parameter. Bank's assets quality stated assets level risks and financial strength rate within particular bank. It also has significant role in measurement of current & future financial capacity (Dincer et al, 2011). Assets Utilisation helps in examine degree at which banks earned income (net interest).

During research period, Assets quality characteristic tested with two sub-characteristics (i) NIM-Net Interest Margin: is difference what they receive from what they pay. This is core function of particular bank and reflects how management effectively manages interest rate risk, and in this research objective, each sample was ranked as per maximum margin of interest (high NIM, high rank), (ii) TD/TA: it measures bank's efficiency to cover unexpected demand deposits out of assets (total) as what and when require, and maximum coverage sample bank was ranked high.

In Latin America, Foreign banks tended to maintain greater asset liquidity and relied less on deposit financing (Crystal et al, 2002).

It is observed from 5.2.1 table, that Abu Dhabi Commercial Bank during research, has earned margin on interest 0.02 percent on total assets, increase to 0.04 in 1994-

95, decline by 0.01 from 0.03 (during 1994-97), and maximum deposits out of total assets was noticed 90 percent, minimum 0.68 percent, showed variation e.g. increase from 0.84 to 0.90 during 1991-93, fall down 0.68 from 0.90 (1993-97), it can be inferred that depositors were secured against total assets of ADCB.

Table 5.2.1: Assets Quality for period from 1990-91 to 1999-2000

(Percentage)

Assets Quality- (1990-91 to 1999-2000)						
Years	**ADCB**		**AEB**		**BOA**	
	NIM	**Total Deposits-TD**	**Net Interest Margin**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
1990-91	0.02	0.84	0.04	0.53	0.02	0.29
1991-92	0.04	0.85	0.00	0.00	0.02	0.67
1992-93	0.04	0.90	0.06	0.66	0.06	0.80
1993-94	0.03	0.89	0.06	0.76	0.05	0.79
1994-95	0.03	0.87	0.05	0.77	0.00	0.78
1995-96	0.03	0.84	0.04	0.77	0.04	0.50
1996-97	0.01	0.68	0.04	0.76	0.05	0.62
1997-98	0.02	0.85	0.03	0.61	0.05	0.56
1998-99	0.02	0.72	0.03	0.53	0.04	0.48
1999-2000	0.02	0.88	0.04	0.52	0.05	0.44

*(**Source:** Reserve Bank of India-STRB & Basic Returns)*

American Express Bank throughout study has showed variation in term of net interest margin as earned maximum 0.06 percent out of total assets in 1994, no margin on interest was reported in 1992, decline from 0.06 to 0.04 during 1994-97, 0.04 to 0.03 (1997-99) and maximum deposits/ total assets ratio was recorded 0.77 in 1995 & 1996, minimum 0.52 in 2000, fall down from 0.77 to 0.52 during 1995-2000, increase by 0.77 from 0.53 period cover 1990-91 to 1995-96.

During this period, the highest NIM ratio of BOA was 0.06 out of total assets in 1993, lowest 0.02 in 1991 & 1992, however variation was registered like decline from 0.06 to 0.04 during (1993 to 1996), and in respect of depositor's security against total assets highest percentage was noticed 0.80 in 1993, 0.50 in 1996, 0.44 in 2000, and rest of period variation was noticed.

Table 5.2.2: Assets Quality for period from 2000-01 to 2009-10

(Percentage)

Assets Quality- (2000-01 to 2009-10)						
Years	**ADCB**		**AEB**		**BOA**	
	Net Interest Margin-	**Total Deposits-TD**	**NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2000-01	0.01	0.90	0.03	0.38	0.03	0.42
2001-02	0.01	0.90	0.03	0.30	0.03	0.37
2002-03	0.01	0.93	0.04	0.75	0.03	0.31
2003-04	0.01	0.93	0.04	0.82	0.02	0.31
2004-05	0.01	0.85	0.03	0.75	0.02	0.36
2005-06	0.01	0.67	0.03	0.62	0.03	0.35
2006-07	0.02	0.60	0.03	0.66	0.04	0.43
2007-08	0.07	0.72	0.00	0.00	0.04	0.52
2008-09	0.04	0.78	0.00	0.27	0.05	0.42
2009-10	0.03	0.77	0.02	0.39	0.03	0.41

*(**Source:** RBI-Statistical Tables relating to banks and BRs)*

Table no. 5.2.2 reported that from 2000-01 to 2009-10, ADCB has earned maximum 0.07 in 2008, 0.03 in 2010, 0.01 during 2001- 2006. The ratio of secured depositors against total assets was 0.93 (highest) in 2003-04, decline continuous to 0.60 from 0.85 during 2005-07, 0.78, 0.77 in 2009 and 2010

In addition to this, American Express Bank has showed net interest margin 0.03 out of total assets during 2001-02, 2006-2007, zero margin from 2008-09, maximum

was 0.04 in 2003-04, in term of TD/TA variation was noticed, 0.82 in 2004, decline to 0.62 in 2006, 0.27 in 2009, increase to 0.82 from 0.30 during 2002- 2004.

It was reported by BOA that maximum NIM was 0.05 in 2009, 0.03 from 2001 to 2003, 0.02 during 2004-05 and 0.04 in 2007 & 08, declined from 0.42 to 0.31 during 2001-2004, increase to 0.52 from 0.35 during 2006-2008 means variations was registered in TD/TA ratio.

Table 5.2.3 showed that Abu Dhabi Commercial Bank was reported net interest margin 0.03 and negative was noticed on part of American Express Bank (-0.021) and (-0.01) in 2012 and 13, however ADCB has registered margin 0.03 in 2014, Bank of America-BOA has earned constant 0.04 from 2011-13. These sample banks e.g. Abu-Dhabi bank's depositors were 72 percent secured against total assets in 2014, decline from 0.60 to 0.43 during 2011-13, American Express Bank has reported maximum TD/TA ratio 0.30 in 2011 & minimum 0.21 in 2014, however Bank of America has secured depositors during study 0.49 in 2011 and 0.36 in 2014-2015, and showed variation in this regard.

Table 5.2.3: Assets Quality for period from 2010-11 to 2014-15

(Percentage)

Assets Quality- (2010-11 to 2014-15)						
Years	**Abu-Dhabi Commercial Bank**		**American Express Bank**		**Bank of America**	
	Net Interest Margin-NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2010-11	0.02	0.60	0.01	0.30	0.04	0.49
2011-12	0.03	0.51	0.00	0.23	0.04	0.37
2012-13	0.03	0.43	-0.01	0.27	0.04	0.40
2013-14	0.02	0.72	-0.01	0.21	0.03	0.30
2014-15	0.02	0.74	0.00	0.27	0.03	0.34

*(**Source:** Reserve Bank Reports-Statistical Tables relating to banks and Basic Returns)*

It is observed from table no. 5.2.4 that from 1990-91 to 1999-2000, Bank of Bahrain has reported NIM ratio, 0.06 & 0.05 from 1994-96, 0.01 & 0.02 during 1998-2000, the highest total deposits out of its assets was noticed 0.88 in 1993, which was decrease to 0.66 in 1998 & 2000, and to 0.59 from 0.88 during 1993-1999.

Table 5.2.4 shows that Bank of Nova Scotia has registered variation in term of net interest margin 0.06 in 1994, decline to 0.01 in 1996, and BNS has secured maximum deposits against total assets 0.72 in 1991, decline to 0.31 during 1992-96, increases to 0.72 from 0.31 from 1997-1998. BOTM during initial period 1991 has earned net interest margin 0.02, it was increased by 0.07 in 1997, and maximum total deposits/total assets was 0.81 in 1999, continuous decline to 0.58 from 0.78 during 1993-1996.

Table 5.2.4: Assets Quality for period from 1990-91 to 1999-2000

(Percentage)

Assets Quality- (1990-91 to 1999-2000)						
Years	**Bank of Bahrain & Kuwait (BOB)**		**Bank of Nova Scotia (BNS)**		**Bank of Tokyo Mitsubishi UFJ (BOTM)**	
	Net Interest Margin-NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
1990-91	0.02	0.86	0.00	0.72	0.02	0.56
1991-92	0.06	0.85	0.02	0.31	0.05	0.78
1992-93	0.06	0.88	0.04	0.26	0.06	0.75
1993-94	0.05	0.85	0.06	0.44	0.06	0.76
1994-95	0.06	0.77	0.03	0.41	0.00	0.78
1995-96	0.06	0.74	0.01	0.31	0.05	0.58
1996-97	0.02	0.74	0.04	0.59	0.07	0.62
1997-98	0.01	0.66	0.03	0.72	0.04	0.77
1998-99	0.01	0.59	0.03	0.63	0.04	0.81
1999-2000	0.02	0.66	0.03	0.53	0.06	0.72

*(**Source:** RBI-STRB & BRs)*

From table no. 5.2.5, it is observed that Bank of Bahrain has earned 0.04 maximum percentage of net interest (margin) in 2009, showed variation during study as 0.02 in

2001, 2003 & 0.03 (2007-08), and on side of total deposits out of total assets this sample bank has showed minor variation as 0.64 in 2001, increase to 0.69, in 2003, 0.78 in 2007 and so on.

Bank of Nova Scotia has inferred highest ratio of margin 0.03 in 2003 & 2010, continuous earned 0.02 during 2001-02, 2005 and from 2001 to 2010 variation was noticed. In term of TD/TA, however maximum depositors were secured 0.64 in 2006, decline to 0.43 in 2009 and lowest 0.43 in 2009.

Table 5.2.5: Assets Quality for period from 2000-01 to 2009-10

(Percentage)

Assets Quality- (2000-01 to 2009-10)						
Years	**Bank of Bahrain & Kuwait**		**Bank of Nova Scotia**		**Bank of Tokyo Mitsubishi UFJ**	
	Net Interest Margin-NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2000-01	0.02	0.64	0.02	0.62	0.06	0.67
2001-02	0.01	0.65	0.02	0.63	0.05	0.69
2002-03	0.02	0.69	0.03	0.62	0.05	0.54
2003-04	0.01	0.63	0.01	0.54	0.05	0.49
2004-05	0.02	0.66	0.02	0.48	0.04	0.47
2005-06	0.02	0.78	0.01	0.64	0.03	0.41
2006-07	0.03	0.78	0.02	0.47	0.03	0.40
2007-08	0.03	0.74	0.01	0.53	0.04	0.38
2008-09	0.04	0.77	0.05	0.43	0.03	0.46
2009-10	0.02	0.74	0.03	0.46	0.02	0.39

*(**Source:** Published Annual Reports of RBI-STRB and Basic Returns)*

In initial year 2001, Bank of Tokyo has reported highest ratio of NIM 0.06, decline to 0.03 in 2006-07, showed slight variation and minimum 0.02 in 2010 and ratio of secured depositors has showed highest 0.69 in 2002, continuous fall to 0.38 in 2008, however, 0.46 in 2009, 0.39 in 2010.

It is investigated from table no. 5.2.6 that BOB has maximum margin (net interest) 0.05 in 2012 & 13, decline to 0.03 in 2014, and deposits/total assets ratio was 0.67 in 2015, increase from 0.57 to 0.72 during 2012-14.

Table 5.2.6: Assets Quality for period from 2010-11 to 2014-15

(Percentage)

Assets Quality- (2010-11 to 2014-15)						
Years	**Bank of Bahrain**		**BNS**		**BOTM**	
	Margin (Net interest)	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin**	**Total Deposits-TD**
2010-11	0.04	0.69	0.02	0.39	0.04	0.24
2011-12	0.05	0.57	0.03	0.42	0.04	0.29
2012-13	0.05	0.60	0.02	0.44	0.04	0.31
2013-14	0.03	0.69	0.03	0.31	0.04	0.31
2014-15	0.03	0.67	0.03	0.45	0.03	0.37

*(**Source:** RBI Reports-Statistical Tables relating to banks and Basic Returns)*

BNS has showed minor variation in term of NIM e.g. 0.02 in 2011 increase to 0.03 in 2014 & 15 and earned 0.03 in 2014-2015, on side of deposits out of assets 0.39 in 2011 increase to 0.44 in 2013 & 0.45 in 2015. During this period BOTM has earned net interest 0.04, and ratio of total deposit/total assets was increased continuous from 0.24 to 0.37 percent during 2011-2015.

From table no. 5.2.7 it is observed CitiBank has registered maximum net interest margin 0.05 in 1995, 0.04 from 1996 to 1998 with variation trend. The ratio of total deposits out of assets was 0.63 in 1992, 0.85 in 1994, continuous fall to 0.70 during 1995-98, 0.73 in 1999, 0.72 in 2000.

Deutsche Bank has earned highest margin 0.07 in 1992, 1994 & 1998, decrease to 0.05 in 1995-96 & 1999-2000 and highest security to depositors out of total assets was 0.72 in 1995, continuous down to 0.47 during 1999-2000.

Table 5.2.7: Assets Quality for period from 1990-91 to 1999-2000

(Percentage)

Assets Quality- (1990-91 to 1999-2000)						
Years	**CitiBank-CB**		**Deutsche Bank-DB**		**HSBC-Hong-Kong Shanghai Banking Corporation**	
	NIM/TA	**Total Deposits-TD**	**Net Interest Margin**	**Total Deposits-TD**	**NIM**	**Total Deposits-TD**
1990-91	0.00	0.00	0.00	0.51	0.02	0.49
1991-92	0.03	0.63	0.07	0.62	0.04	0.61
1992-93	0.00	0.00	0.06	0.61	0.04	0.69
1993-94	0.04	0.85	0.07	0.69	0.04	0.79
1994-95	0.05	0.81	0.05	0.72	0.04	0.78
1995-96	0.04	0.78	0.05	0.70	0.04	0.74
1996-97	0.04	0.75	0.06	0.60	0.04	0.78
1997-98	0.04	0.70	0.07	0.62	0.03	0.74
1998-99	0.03	0.73	0.05	0.48	0.03	0.69
1999-2000	0.05	0.72	0.05	0.47	0.03	0.69

*(**Source:** Reserve Bank-Statistical Tables relating to banks and BRs)*

During research, DB was registered variation in respect of TD/TA as decline to 0.60 from 0.72 (1995-97), 0.69 & 0.51 percent during 1991-94. HSBC in 1991 has reported 0.02 percent of net interest margin out of total assets, increase to 0.04 in 1991, from 1993-97, 0.03 during 1998-2000 and in respect of depositor's security against total assets HSBC has showed variation like 0.49 percent which was increase to 0.79 in 1994, 0.74 to 0.78 in 1997 and decline to 0.74 in 1996, 0.69 in 1999 and 2000.

From table no. 5.2.8, it is found that CitiBank has continuous earned net interest margin/total assets 0.04 from 2001 to 2003, in 2005, during 2007-10 and total deposits ratio was 0.72 in 2001, fall down to 0.49 in 2009 so on.

Table 5.2.8: Assets Quality for period from 2000-01 to 2009-10

(Percentage)

Assets Quality- (2000-01 to 2009-10)						
Years	**CitiBank**		**Deutsche Bank**		**Hong-Kong Shanghai Banking Corporation**	
	Net Interest Margin-NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2000-01	0.04	0.72	0.05	0.42	0.03	0.64
2001-02	0.04	0.71	0.04	0.45	0.03	0.64
2002-03	0.04	0.70	0.03	0.33	0.03	0.61
2003-04	0.05	0.69	0.01	0.29	0.03	0.64
2004-05	0.04	0.64	0.01	0.33	0.04	0.61
2005-06	0.05	0.61	0.02	0.36	0.04	0.67
2006-07	0.04	0.57	0.03	0.39	0.04	0.63
2007-08	0.04	0.55	0.04	0.56	0.04	0.56
2008-09	0.04	0.49	0.05	0.49	0.04	0.53
2009-10	0.04	0.57	0.05	0.51	0.04	0.62

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks & Basic Returns)*

Table 5.2.9: Assets Quality for period from 2010-11 to 2014-15

(Percentage)

Assets Quality- (2010-11 to 2014-15)						
Years	**CB**		**DB**		**HSBC**	
	Net Interest Margin-NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2010-11	0.04	0.51	0.05	0.51	0.04	0.59
2011-12	0.04	0.50	0.06	0.59	0.03	0.56
2012-13	0.04	0.52	0.05	0.51	0.04	0.54
2013-14	0.04	0.54	0.04	0.45	0.03.	0.54
2014-15	0.04	0.64	0.04	0.63	0.03	0.62

*(**Source:** Reserve Bank of India-STRB & BRs)*

In initial year of research, Deutsche Bank has reported 0.05 net interest margin which was decline to 0.03 in 2003, 0.01 in 2005, increase to 0.05 from 0.01 during

2006 to 2010, and maximum total deposits 0.49 in 2009 against total assets, during study variation was noticed 0.45 in 2002, decline to 0.29 in 2004, increase to 0.36 in 2006, 0.36 to 0.56 in 2008. HSBC in term of net interest margin continuous has earned 0.03 from 2001 to 2004, increase to 0.04 during 2005-10 and in respect of total deposits/total assets it was recorded highest 0.53 in 2009, minimum 0.12 in 2006 & steep increase to 0.67 in 2007 from 0.61 in 2003, decrease to 0.53 from 0.67 during 2006-09.

It is noticed from above table no. 5.2.9 that CitiBank has continuous earned net interest margin 0.04 from 2011 to 2015 and maximum ratio of total deposits was 0.64 in 2015, minimum 0.50 in 2012. Deutsche Bank has registered variation 0.05 in 2011, increase to 0.06 in 2012, decline to 0.04 in 2014 & 2015 and in term TD/TA maximum ratio was 0.63 in 2015, decreased from 0.51 to .45 during 2011-2014. HSBC in this period has reported in term of net interest margin 0.04 in 2011, 2013-14, decline to 0.03 in 2012 & 2015 and total deposits in 2011 (0.59) out of total assets, down to 0.56 in 2012, 0.54 in 2013, however increase to 0.62 in 2015.

Table 5.2.10: Assets Quality for period from 1990-91 to 1999-2000

(Percentage)

Assets Quality- (1990-91 to 1999-2000)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Net Interest Margin-NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
1990-91	0.01	0.74	0.03	0.54	0.00	0.70
1991-92	0.00	0.00	0.03	0.78	0.05	0.81
1992-93	0.00	0.00	0.05	0.76	0.06	0.70
1993-94	0.14	2.00	0.06	0.78	0.04	0.90
1994-95	-0.06	2.83	0.06	0.74	0.04	0.74
1995-96	0.04	0.62	0.05	0.64	0.02	0.51
1996-97	0.06	0.70	0.04	0.68	0.04	0.61
1997-98	0.05	0.75	0.01	0.80	0.02	0.69
1998-99	0.02	0.66	-0.01	0.75	0.03	0.60
1999-2000	0.02	0.71	0.00	0.69	0.01	0.56

*(**Source:** STRB and Basic Returns-Published reports of RBI)*

Table no. 5.2.10 stated that Mashreq Bank has earned only 1 percent in 1991, reported 14 percent in 1994, (-0.06) in 1995, increase to 0.06 in 1997 and decline continuous to 0.05 in 1998 & 2 percent during 1999-2000, this bank has kept deposits 74 in 1991, however, excess deposits mean double and more idle money than total assets 2.00 & 2.83 in 1995 and 1996. Moreover, it has showed variation 0.70 in 1997, 0.75 in 1998, 0.66 and 0.71 in 1999-2000. Oman has earned 3 percent net interest in 1991-92, 6 percent in 1994-95 and maximum 11 percent in 1997 and hold 76 percent deposits in 1993, which continuous decline to 0.64 from 1994-96. Societe Generale during study has earned highest income (net) 6 percent in 1994, 4 percent in 1994-95 and only 1 percent in 2000. In respect of total deposits ratio, it has kept maximum 90 percent in 1995 and decrease constantly to 0.51 from 0.74 during 1995-96 and rest of period variation was noticed.

Table 5.2.11: Assets Quality for period from 2000-01 to 2009-10

(Percentage)

Assets Quality- (2000-01 to 2009-10)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Net Interest Margin-NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2000-01	0.01	0.82	-0.01	0.66	0.01	0.34
2001-02	0.02	0.77	-0.02	0.66	0.05	0.24
2002-03	0.03	0.81	-0.04	0.62	0.02	0.23
2003-04	0.02	0.81	0.00	0.54	0.02	0.56
2004-05	0.01	0.80	0.01	0.51	0.02	0.59
2005-06	0.02	0.24	0.01	0.47	0.02	0.52
2006-07	0.06	0.32	0.01	0.49	0.02	0.39
2007-08	0.07	0.27	0.01	0.46	0.02	0.43
2008-09	0.05	0.19	0.01	0.47	0.03	0.38
2009-10	0.04	0.29	0.02	0.45	0.03	0.35

*(**Source:** Reserve Bank of India-STRB &BRs)*

Table 5.2.12: Assets Quality for period from 2010-11 to 2014-15

(Percentage)

Assets Quality- (2010-11 to 2014-15)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Net Interest Margin-NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2010-11	0.03	0.37	0.02	0.42	0.02	0.30
2011-12	0.03	0.40	0.02	0.37	0.03	0.41
2012-13	0.04	0.48	0.02	0.40	0.04	0.43
2013-14	0.04	0.38	0.02	0.34	0.02	0.37
2014-15	0.03	0.30	0.02	0.36	0.02	0.45

*(**Source:** RBI-Statistical Tables relating to banks and BRs)*

From table no. 5.2.11 it is observed that during 2000-01 to 2009-10 Mashreq Bank has registered highest net interest 7 percent in 2008, 6 percent in 2007, 5 percent in 2009 and ratio of total deposits was 82 percent in 2001, 81 percent in 2003-04 and rest of period it has showed variation. Oman International has showed negative margin from 2001-03 (-0.01, -0.02, -.04) and earned 1 percent during 2004-05 to 2008-09 and hold 66 percent deposits out of total assets in 2001-02, which was decline to 0.47 during 2003-06. SG has registered highest 3 percent NIM during research, 2 percent from 2003-08 and variation was noticed in term of total deposits/assets as 34 percent in 2001, 56 percent in 2004, 59 percent in 2005, 43 in 2008 which was fall down to 35 from 38 percent during 2009-10.

Table no. 5.2.12 explained that MB has earned maximum ratio of NIM 4 percent from 2014-15, 3 percent in 2011-12 and kept 37 percent in 2011 which was increase to 48 in 2013. OIB has showed 2 percent income (net) during 2011-15 and hold deposits 0.42 in 2011 & rest of period it was varied continuous. SG has earned 4 percent in 2013-14 and kept maximum 41 percent in 2013, 30 percent in 2011 and increase to 43 during 2013 and .45 in 2015.

Table 5.2.13: Assets Quality for period from 1990-91 to 1999-2000

(Percentage)

Assets Quality- (1990-91 to 1999-2000)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Net Interest Margin- NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
1990-91	0.00	0.84	0.00	0.53
1991-92	0.06	0.82	0.03	0.58
1992-93	0.06	0.83	-0.01	0.44
1993-94	0.03	0.91	0.02	0.74
1994-95	0.06	0.86	0.02	0.69
1995-96	0.08	0.75	0.06	0.65
1996-97	0.01	0.75	0.03	0.75
1997-98	0.02	0.61	0.04	0.75
1998-99	0.03	0.59	0.04	0.66
1999-2000	0.01	0.76	0.04	0.55

*(**Source:** RBI-Statistical Tables relating to banks and Basic Returns)*

From table no. 5.2.13 it is examined that Sonali Bank has registered variation 6 percent from 1992-93, & 1995 from 1 to 3 percent during 1997-99 and hold total deposits ratio was 84 percent in initial year which was increase to 91 percent during 1992-95, however fall down to 59 percent. SCB during study has earned 3 percent in 1992, 4 percent during 1998-2000 and maximum was 75 percent in 1997-98, it was varied like 53 in 1991, 44 percent in 1993, 66 in 1999 and 55 in 2000.

It is understood from table no. 5.2.14 that Sonali Bank has continuous earned 2 percent net income during 2005-06 to 2007-08, and has kept 60 percent deposits in 2001, 78 percent in 2003 which was further decline to 67 percent from 2005-06, 65 percent in 2008, 0.81 in 2009 and 0.74 in 2010.

Table 5.2.14: Assets Quality for period from 2000-01 to 2009-10

(Percentage)

Assets Quality- (2000-2001 to 2009-10)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Net Interest Margin- NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2000-01	0.02	0.60	0.04	0.41
2001-02	0.02	0.48	0.04	0.38
2002-03	0.01	0.78	0.04	0.61
2003-04	0.01	0.81	0.04	0.58
2004-05	0.02	0.68	0.04	0.61
2005-06	0.02	0.67	0.04	0.59
2006-07	0.02	0.71	0.04	0.58
2007-08	0.02	0.65	0.04	0.50
2008-09	0.01	0.81	0.03	0.43
2009-10	0.01	0.74	0.04	0.54

*(**Source:** RBI-STRB & BRs)*

Table 5.2.15: Assets Quality for period from 2010-11 to 2014-15

(Percentage)

Assets Quality (2010-11 to 2014-15)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Net Interest Margin- NIM	**Total Deposits-TD**	**Net Interest Margin-NIM**	**Total Deposits-TD**
2010-11	0.01	0.71	0.04	0.55
2011-12	0.03	0.70	0.03	0.53
2012-13	0.04	0.71	0.03	0.52
2013-14	0.03	0.74	0.04	0.52
2014-15	0.03	0.78	0.04	0.55

*(**Source:** RBI-STRB & BRs)*

SCB during study has showed continuous 4 percent margin and secured depositors were 41 percent in 2001, which was rise to 61 percent from 2003 & 05, however it was fall down to 43 percent in 2006, and to 0.58 from 0.61 during 2005-08.

Table no. 5.2.15 explained that net margin of SB and Standard Chartered was 4 percent in 2013, 0.03 from 2014-15 and Sonali banks has kept maximum percentage of deposits 78 percent and 74 during 2014-15. Moreover, SCB has hold TD/TA 50-55 percent during research and earned highest margin from interest income and expenses 0.04 in 2011, 2013-14.

5.2.1 Individual and Group Rank

In this section, each sample bank was assigned rank individual on basis of its sub-parameters performance as (i) NIM, higher the margin, higher the rank (ii) TD/Total Assets, sample foreign banks which provide more security to depositors, got top rank and Group rank (Parameter Rank-PR) was calculated as per average rank performance of sub-parameters.

Table 5.2.16: Individual and Group Rank (1990-91 to 1999-2000)

Assets Quality-Average Rank of Parameter and Sub-Parameter (1990-91 to 1999-2000)							
Name of Foreign Banks	**Net Interest Margin-NIM**	**Rank**	**Total Deposits-TD**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.03	11	0.83	2	13	6.50	7
AEB	0.04	5	0.59	12.50	17.50	8.75	9.50
BOA	0.04	5	0.59	12.50	17.50	8.75	9.50
BOB & K	0.04	5	0.76	4	9	4.50	3
BNS	0.03	11	0.53	14	25	12.50	14
BOTM	0.05	1.50	0.71	6	7.50	3.75	1
CB	0.03	11	0.60	10.50	21.50	10.75	13
DB	0.05	1.50	0.60	10.50	12	6	5
HSBC	0.04	5	0.70	7	12	6	5
MB	0.03	11	0.90	1	12	6	5
OIB	0.03	11	0.72	5	16	8	8
SG	0.03	11	0.68	8	19	9.50	11
SB	0.04	5	0.77	3	8	4	2
SCB	0.03	11	0.63	9	20	10	12

(***Source:*** *Author's Calculation)*

Above table no. 5.2.16 mentioned that Assets Quality parameter of CAMELS model measured with two sub-parameters (i) NIM/total assets, (ii) deposits (total)/ assets (total), among sample banks BOTM & Deutsche Bank has secured same rank (1.50) in term of earn interest margin during 1990-91 to 1999-2000, followed by same rank (5) by American Express Bank, BOA, BOB & K, HSBC, Sonali Bank (average of 3^{rd} to 7^{th}), 11^{th} rank (average of 8^{th}, 9^{th}, 10^{th}, 11^{th}, 12^{th}, 13^{th} & 14^{th}) to ADCB, BNS, CitiBank, MB, OIB, SG & Societe Generale. On basis of total deposits/total assets during this period, Mashreq Bank has occupied first rank, ADCB (2^{nd}), third, fourth fifth, sixth, seventh, eighth, ninth, tenth, eleventh secured by Sonali, Bank of Bahrain, Oman, Bank of Tokyo, Hong-Kong, SG, Standard Chartered and so on.

However, assets quality rank of sample banks (total average rank of sub-parameters) have occupied highest rank by Tokyo & Mitsubishi, second and third by SB & Bank of Bahrain, positioned DB, HSBC & MB at same rank 5 (Average of fourth, fifth and sixth rank), and at eleventh, twelfth, thirteen and fourteen was occupied by SG, SCB, Citibank and Bank of Nova Scotia.

Table no. 5.2.17 described that throughout study period e.g. 2000-01 to 2009-10, Citibank, BOTM, HSBC & SCB were placed 2.50 (average of 1^{st}, 2^{nd}, 3^{rd} & 4^{th}), other sample foreign banks were occupied same place 6.50 (average of fifth, sixth, seventh and eighth) by AEB, Bank of America, DB & Mashreq, 11 (average of 9^{th}, 10^{th}, 7^{th}, 12^{th} & 13^{th}) rank to Abu-Dhabi, Bank of Bahrain, Bank of Nova Scotia, SG, and SB and lowest rank 14^{th} one to Oman International Bank.

During period from 2000-01 to 2009-10, in terms of maintaining assets against total deposits Abu-Dhabi, BOB & K, Sonali Bank, CitiBank, Hong-Kong & BNS has occupied from 1^{st} to 6^{th} rank. Mashreq Bank & Oman were placed at 7.50 (average of 7th & 8^{th}) and so on. On basis of total average performance of sub-dimensions, CitiBank has occupied first place, followed by HSBC, SCB, ADCB, 5.50 (average of 5^{th} & 6^{th} position) by BOB & Bank of Tokyo and lowest was positioned by Deutsche Bank, Bank of America, Oman and SG at 11^{th}, 12^{th}, 13^{th} and 14^{th}.

Table 5.2.17: Individual and Group Rank (2000-01 to 2009-10)

Assets Quality-Average Rank of Parameter and Sub-Parameter (2000-01 to 2009-10)							
Name of Foreign Banks	**Net Interest Margin-NIM**	**Rank**	**Total Deposits-TD**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.02	11	0.81	1	12	6	4
AEB	0.03	6.50	0.49	10.50	17	8.50	9.50
BOA	0.03	6.50	0.39	14	20.50	10.25	12
BOB & K	0.02	11	0.71	2	13	6.50	5.50
BNS	0.02	11	0.54	6	17	8.50	9.50
BOTM	0.04	2.50	0.49	10.50	13	6.50	5.50
CB	0.04	2.50	0.63	4	6.50	3.25	1
DB	0.03	6.50	0.41	12	18.50	9.25	11
HSBC	0.04	2.50	0.62	5	7.50	3.75	2
MB	0.03	6.50	0.53	7.50	14	7	7.50
OIB	0.00	14	0.53	7.50	21.50	10.75	13
SG	0.02	11	0.40	13	24	12	14
SB	0.02	11	0.69	3	14	7	7.50
SCB	0.04	2.50	0.52	9	11.50	5.75	3

*(**Source:** Researcher's Calculation)*

Table 5.2.18: Individual and Group Rank (2010-11 to 2014-15)

Assets Quality-Average Rank of Parameter and Sub-Parameter (2010-11 to 2014-15)							
Name of Foreign Banks	**Net Interest Margin-NIM**	**Rank**	**Total Deposits**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.02	12.50	0.60	3	15.50	7.75	7.50
AEB	0.00	14	0.26	14	28	14	14
BOA	0.04	4	0.38	11.50	15.50	7.75	7.50
BOB & K	0.04	4	0.64	2	6	3	1
BNS	0.03	9	0.41	8	17	8.50	9.50
BOTM	0.04	4	0.30	13	17	8.50	9.50
CB	0.04	4	0.54	5.5	9.50	4.75	3
DB	0.05	1	0.54	5.5	6.50	3.25	2
HSBC	0.03	9	0.57	4	13	6.50	6
MB	0.03	9	0.39	9.50	18.50	9.25	11.50
OIB	0.02	12.50	0.38	11.50	24	12	13
SG	0.03	9	0.39	9.50	18.50	9.25	11.50
SB	0.03	9	0.73	1	10	5	4
SCB	0.04	4	0.53	7	11	5.50	5

*(**Source:** Researcher's Calculation)*

Table no. 5.2.18 inferred that during period from 2010-11 to 2014-15, Deutsche Bank has obtained 1st rank, followed by BOA, BOB, BOTM, CB, SCB at 4 (average of 2nd, 3rd, 4th, 5th, & 6th), SG, SB, BNS, HSBC, MB were positioned at 9 (average of 7th, 8th,9th, 10th & 11th), and 12.50 (average of 12th & 13th) to ADCB & Oman and 14th to American Express in term of net interest margin out of total assets. In respect of total deposits out of total assets Sonali Bank has secured first rank, positioned BOB, ADCB & Hong-Kong at 2nd, 3rd & 4th rank, followed by Deutsche, CB (5.50) (average of 5th & 6th), SCB & BNS positioned at 7th, 8th & 9.50 (average of 9th & 10th) to Sonali & Mashreq Bank and so on. Sample foreign banks during this study period, in term assets quality group rank Sonali Bank has positioned highest rank, followed by Bank of Tokyo (2nd), Abu-Dhabi (3rd), same rank was occupied by MB & Societe Generale (9.50), 11.50 by Bank of America & Oman, however Bank of Nova Scotia and American bank were placed at lowest rank 13th and 14th

5.2.2 Result of One-Way ANOVA and K-S Test

Table 5.2.19: Results of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Assets Quality (1990-91 to 1999-2000)					
Sub-Parameters of Model	**SOS-Sum of Squares**	**Df Degree of freedom**	**MS-Mean Square**	**F**	**Sig.**
Net Interest (Margin)					
Between Groups (BGs)	0.15	9	.455	3.695	0.00
Within Groups (WGs)	0.058	130	.000		
Total	0.073	139			
Total Deposits/Total Assets					
Between Groups	1.565	9	1.74	2.384	.016
Within Groups	9.483	130	.073		
Total	11.048	139			

Results of One-Sample Kolmogorov Smirnov (Normality Test)		
Particulars/Name of Sub-Parameters	**Net Interest Margin**	**Total Deposits/Total Assets**
N	140	140
Normal Parameters Mean	.0350	.6845
Std. Deviation	.2294	.28193
Test Statistic	1.12	2.404
Asymp. Sig. (2-tailed)	.163	.000

*(**Source:** Software Statistical Calculation)*

The statistical result of table no. 5.2.19 described assets quality & its sub-parameters at 95 percent confidence level with One-way Anova and K-S test (normal distribution of secondary data) from 1990-91 to 1999-2000. It was found no difference (statistically) in terms (net interest) margin/TA performance among selected foreign banks in India. Hence, null hypothesis of NIM - H02 (i): (a) was rejected as tabulated value 0.00 was less than significant value 0.05 and calculated *F* value was 3.695.

However, on part of Total deposits/Total Assets there was significant difference among sample banks as tabulated value .016 was less than *P* value 0.05 and *F* value was 2.384. Hence, null hypothesis of TD/TA ratio-H02 (i): (b) was rejected. During research period, collected secondary data from different published sources was

normally distributed as K-S test value of (i) Net Interest Margin/TA ratio was 1.12, (ii) Return on equity was 2.404 means more than 0.5 (prescribed value).

Table 5.2.20: Results of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) (ii) Assets Quality (2000-01 to 2009-10)					
Sub-Parameters of Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Net Interest Margin (NIM)					
Between Groups	.002	9	.000	1.010	.435
Within Groups	.034	130	.000		
Total	.036	139			
Total Deposits/Total Assets					
Between Groups	.279	9	.031	1.036	.415
Within Groups	3.888	130	.030		
Total	4.167	139			
Results of One-Sample Kolmogorov Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**(i) Net Interest Margin**		**(ii) Total Deposits/Total Assets**		
N	140		140		
Normal Parameters Mean	.0271		.5549		
Std. Deviation	.01608		.17315		
Test Statistic	1.109		.723		
Asymp. Sig. (2-tailed)	.171		.673		

*(**Source:** Statistical Calculation)*

As table no. 5.2.20 explained during 2000-01 to 2009-10, there was no difference in terms NIM/total assets performance among selected foreign banks in India. Hence, null hypothesis of net interest income/total assets - H02 (ii): (a) was accepted as tabulated value .435 was more than significant value 0.05 and calculated *F* value was1.010. On part of Total deposits/Total Assets no (significant) difference among sample banks was found as tabulated value .415 more than *P* value 0.05 and *F* value was 1.036. Hence, null hypothesis of total deposits/total assets ratio-H02 (ii): (b) was accepted. During research period, collected secondary data from different published sources was normally distributed as sub-parameters of assets quality as K-S test of (i) NIM was 1.109, (ii) Return on equity was .723.

Table 5.2.21: Results of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Assets Quality (2010-11 to 2014-15)					
Sub-Parameters of Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Net Interest Margin					
Between Groups-BGs	.000	4	.000	.495	.739
Within Groups-WGs	.012	65	.000		
Total	.012	69			
Total Deposits/Total Assets					
Between Groups	.026	4	.006	.297	.879
Within Groups	1.409	65	.022		
Total	1.435	69			

Results of One-Sample Kolmogorov Smirnov (Normality Test)		
Particulars/Name of Sub-Parameters	**Net Interest Margin**	**Total Deposits/Total Assets**
N	70	70
Normal Parameters Mean	.0307	.4754
Std. Deviation	.01316	.14420
Test Statistic	1.611	.586
Asymp. Sig. (2-tailed)	.011	.882

*(**Source:** Statistical Calculation)*

From table no. 5.2.21, it is noticed that during 2010-11 to 2014-15, no statistical difference in terms net interest margin performance among selected foreign banks in India was found. Hence, null hypothesis of NIM/TA - H02 (iii): (a) was accepted as tabulated value .739 was more than significant value 0.05 and calculated *F* value was .495.

The Second sub-parameter of assets quality there was no difference was observed among sample banks because tabulated value .879 was more than the *P* value 0.05 and *F* value was .297. Hence, null hypothesis of TD/TA ratio-H02 (iii): (b) was accepted. During research period, collected secondary data was normally distributed during as K-S test value of (i) NIM/Total Assets ratio was 1.611, (ii) total deposits was .586 means more than 0.5 (prescribed value).

5.3 M – MANAGEMENT EFFICIENCY RATIO (CAMELS)

The capacity and efficiency of management is qualitative in nature & can easily be determined with subjective evaluation of management systems, control mechanism & organisation culture. Management efficiency is most important characteristic of CAMELS model that inferred stability and banks growth, moreover described management's prospective with set norms, adoptive plans and adaptive capability with ever changing era and leadership guts.

This parameter consists large amount of issues such as education level, expertise of management which one is most complicated when compared with another. The performance of sample foreign banks during study measured with two sub-parameters- (i) investment/deposits: this ratio has explained the capability of banks in respect of converts its ideal money into idle one, in this section sample bank who has invested idle money more was ranked high, (ii) Credit/Deposits: indicates out of deposits how much money is optimum utilized by banks, converts its deposits to higher earning advances (Karri et al, 2015), and studied banks were placed high as per their facilitation, but whose C/D ratio was cross 100 percent, they were ranked lower because it showed their inability to cover demand of depositors as when they call.

Table 5.3.1: Management Efficiency for period from 1990-91 to 1999-2000

(Percentage)

Management Efficiency - (1990-91 to 1999-2000)						
Years	**Abu Dhabi Commercial Bank**		**American Express Bank**		**Bank of America**	
	Investment	**Credit/Deposits**	**Investment**	**C/D**	**Investment**	**C/D**
1990-91	0.22	0.40	0.26	0.78	0.40	1.49
1991-92	0.29	0.61	0.00	0.00	0.70	0.34
1992-93	0.27	0.41	0.25	0.93	0.67	0.23
1993-94	0.33	0.36	0.70	0.43	0.60	0.46
1994-95	0.60	0.27	0.46	0.50	0.00	0.68
1995-96	0.48	0.54	0.40	0.56	0.39	1.05
1996-97	0.35	0.69	0.46	0.55	0.42	0.93
1997-98	0.27	0.53	0.50	0.52	0.50	0.10
1998-99	0.45	0.47	0.75	0.55	0.63	1.04
1999-2000	0.41	0.40	0.86	0.63	0.52	1.46

*(**Source:** Reserve Bank –STRB & Basic Returns)*

As described in table no. 5.3.1, ADCB has invested maximum out of deposits 0.60 in 1995, decline to 0.27 in 1998, however increase to 0.45 in 1999, 0.60 from 0.22 during 1991-1995 and facilitated advances out of deposits, 0.40 percent in 1991 which was raise to 0.61 in 1992, declined continuous to 0.27 from 0.41 during 1992-93 to 1994-95 from 0.69 to 0.40 period cover 1996-97 to 1999-2000.

American Express Bank during period has invested 0.26 in 1991, sharp increase to 0.70 in 1994, decrease by 0.40 in 1996, continuous increase to 0.86 in 2000 from 0.40 and in respect of C/D ratio was 0.78 in 1991, increase by 0.93, steep fall to 0.43 in 1994, however variation was registered as increases by 0.56 in 1996, 0.63 in 2000. It is noticed that Bank of America has invested in 1991 (0.40 percent) out of deposits, 0.70 in 1992, continuous fall to 0.38 in 1995, however increase by 0.63 in 1999 and in term of advances/TD in 1991, 1996, 1999 & 2000, it has facilitated more than deposits like 1.49, 1.05, 1.04 & 1.46, decline to 0.23 in 1993, 0.68 in 1995, it can be concluded that utilization of deposits was good but very high ratio will lead to threaten liquidity position of particular bank.

Table 5.3.2: Management Efficiency for period from 2000-01 to 2009-10

(Percentage)

Management Efficiency - (2000-01 to 2009-10)						
Years	**(ADCB) Abu Dhabi Commercial Bank**		**(AEB) American Express Bank**		**(BOA) Bank of America**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
2000-01	0.75	0.16	0.93	0.96	0.56	1.51
2001-02	0.77	0.18	0.10	1.49	0.70	1.54
2002-03	0.75	0.15	0.46	0.50	0.84	2.13
2003-04	0.75	0.09	0.29	0.45	0.87	1.93
2004-05	0.76	0.05	0.46	0.65	0.80	1.62
2005-06	0.31	0.26	0.44	0.89	0.79	1.60
2006-07	0.30	0.43	0.74	0.60	0.69	1.07
2007-08	0.39	0.39	0.00	0.00	0.69	0.82
2008-09	0.38	0.27	0.65	2.11	0.88	0.81
2009-10	0.47	0.29	0.39	1.54	1.53	0.66

*(**Source:** Statistical Tables relating to banks and Basic Returns)*

From table no. 5.3.2, it is inferred that ADCB investment ratio was 0.75 in 2001, 2003, 2004, increase by 0.77 in 2002, 0.76 in 2005 which was sharp decline to 0.30 in 2007, 0.47 in 2010. This sample bank has provided credit out of deposits 0.16 in 2001, 0.18 in 2002 which was further declined 0.05 from 0.15 during 2003 to 2005 and rest of period it has showed variation 0.26 in 2006, 0.43 in 2007, 0.27 in 2009 & 0.29 in 2010.

AEB has registered ratio of investment/deposits 0.93 in 2001, steep fall to 0.10 in 2002, again rise sharp 0.46 in 2003, 0.46 in 2005, 0.74 in 2007 & 0.65 in 2009 and it has facilitated advances from deposits 0.96 in 2001, 0.50 in 2003, 0.65 in 2005, 0.89 in 2006 and however credit was provided more than deposits in 2002 (1.49), 2.11 in 2009, & 1.54 in 2010.

The investment/deposit ratio of BOA has showed variation as 0.56 in 2001, continuous increase by 0.87 in 2004, decline to 0.69 in 2008, steep rise to 1.53 and highest C/D ratio was noticed 2.13 in 2003 which was steep decline continuous to 0.66 in 2010, however excess credit out of deposits will lead organization in poor liquidity position so balanced C/D ratio is favourable for positive liquidity capacity.

Table 5.3.3: Management Efficiency for period from 2010-11 to 2014-15

(Percentage)

Management Efficiency- (2010-11 to 2014-15)						
Years	**ADCB**		**American Express Bank**		**Bank of America**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
2010-11	0.39	0.32	0.46	2.07	0.81	0.98
2011-12	0.36	0.46	0.68	2.94	1.38	1.04
2012-13	0.33	0.74	0.58	2.53	1.20	1.03
2013-14	0.17	0.68	0.78	3.09	1.10	1.05
2014-15	0.17	0.90	0.60	2.26	1.14	0.97

*(**Source:** Statistical Tables relating to banks and Basic Returns-RBI)*

Table no. 5.3.3 stated that from 2010-11 to 2014-15 ADCB has invested 0.39 in 2011 which was constant fall to 0.17 in 2014 & 2015 and C/D ratio was 0.32 percent in 2011, continuous increase to 0.90 in 2015. AEB has showed 0.46 in 2011, increase to 0.68 in 2012, 0.78 percent in 2014 and has facilitated double than deposits 2.08 in 2011, 2.94 in 2012, which was fall to 2.06 in 2015. The investment out of deposits ratio of BOA was 0.81 in 2011 which was increase to 1.38 in 2012, fall to 1.35 in 2014 and in respect of C/D ratio 0.98 percent in 2011, 1.03 in 2013, 1.05 in 2014 and 0.97 in 2015.

Table 5.3.4: Management Efficiency for period from 1990-91 to 1999-2000

(Percentage)

Management Efficiency - (1990-91 to 1999-2000)						
Years	**Bank of Bahrain & Kuwait (BOB)**		**Bank of Nova Scotia (BNS)**		**Bank of Tokyo Mitsubishi UFJ (BOTM)**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
1990-91	0.30	0.48	0.39	0.49	0.00	0.64
1991-92	0.34	0.49	0.37	2.54	0.36	0.63
1992-93	0.43	0.34	0.37	3.26	0.34	0.73
1993-94	0.47	0.41	0.36	1.71	0.00	0.00
1994-95	0.44	0.61	0.35	1.84	0.34	0.73
1995-96	0.28	0.85	0.55	2.18	0.32	1.07
1996-97	0.31	0.78	0.30	1.11	0.34	1.05
1997-98	0.46	0.72	0.30	0.83	0.31	0.70
1998-99	0.55	0.77	0.30	1.04	0.31	0.50
1999-2000	0.44	0.70	0.30	1.28	0.35	0.63

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Table no. 5.3.4 explained that Bank of Bahrain investment/deposits ratio was 0.30 in 1991, which was further increase continuous to 0.47 from 0.34 during 1992-94, it was started decline 0.44, 0.28, 0.31 from 1995-97 and increased 0.46 in 1998 & 0.55 in 1999. The C/D ratio was 0.48 to 0.49 in 1991 & 92, this ratio has showed

variation during study 0.34 in 1993, increase to 0.41, 0.61, 0.85 from 1994-96 and so on.

It was noticed that BNS has provided advances more than deposits as three times more in 1993, 2.54 times in 1992, 2.18 in 1996, 1.28 in 2000 and in term of invested money out of deposits was 0.39 in 1991, which was decline continue to 0.35 from 0.37 during 1991-1995, 0.30 during 1997-2000.

Bank of Tokyo has registered 0.00 percent investment in 1991, 1995, this ratio has showed variation as increase to 0.36 in 1992, decrease by 0.34 in 1993, 0.32 in 1996, 0.31 in 1998-99 and in term of credit facilitation 0.64 percent was in 1991, increase to 0.73 in 1994 and 1995, 1.07 in 1996, and decrease to 0.50 in 1999.

Table 5.3.5: Management Efficiency for period from 2000-01 to 2009-10

(Percentage)

Management Efficiency - (2000-01 to 2009-10)						
Years	**Bank of Bahrain & Kuwait**		**Bank of Nova Scotia**		**Bank of Tokyo Mitsubishi UFJ**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
2000-01	0.40	0.80	0.43	1.05	0.31	0.80
2001-02	0.53	0.65	0.41	1.02	0.35	0.79
2002-03	0.54	0.74	0.45	1.01	0.36	0.76
2003-04	0.74	0.70	0.46	1.91	0.56	0.74
2004-05	0.48	0.67	0.56	1.28	0.64	1.05
2005-06	0.40	0.52	0.42	1.04	0.57	1.32
2006-07	0.30	0.47	0.53	1.43	0.54	1.65
2007-08	0.31	0.71	0.44	1.27	0.44	1.74
2008-09	0.32	0.61	0.58	1.61	0.42	1.44
2009-10	0.44	0.75	0.56	1.47	0.65	1.52

*(**Source:** Statistical Tables relating to banks and Basic Returns)*

It is described by table no. 5.3.5 that BOB has invested 0.40 in 2001, increase to 0.74 in 2004, constant decrease to 0.31 in 2008, however 0.44 in 2010 and on other hand, C/D ratio was 0.80 in 1991, decline to 0.65 in 2002, showed variation as 0.67 in 2005, 0.47 in 2007, increase to 0.75 in 2010 and so on.

The investment from deposits has done by Bank of Nova Scotia 0.43 in 2001, increase to 56 percent in 2005, variation was noticed 0.42 in 2006, 0.55 in 2007, 0.44 in 2008, 0.56 in 2010. During period it has facilitated with credit more than deposits like 1.05 in 2001, 1.01 in 2003, 1.28 in 2005 highest percentage was observed 1.61 in 2000, 1.43 in 2007.

Bank of Tokyo in 2001 has invested 0.31, continuous increase to 0.64 in 2005, decrease by 0.42 in 2009, & 0.65 in 2010, and distributed highest percentage of credit than deposits 1.74 in 2008, 0.80 in 2001 which was fall constant to 0.74 in 2004, increase from 1.05 in 2005 to 1.74 in 2008; however minor variation was noticed during this period.

Table 5.3.6: Management Efficiency for period from 2010-11 to 2014-15

(Percentage)

Management Efficiency- (2010-11 to 2014-15)						
Years	**Bank of Bahrain & Kuwait-BOB**		**BNS**		**BOTM**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
2010-11	0.45	0.74	0.67	1.72	0.06	0.32
2011-12	0.51	0.96	0.74	1.41	1.09	1.96
2012-13	0.47	0.01	0.80	1.28	1.08	1.65
2013-14	0.39	0.88	1.20	1.43	1.26	1.21
2014-15	0.26	0.91	0.88	1.54	1.23	0.93

*(**Source:** www.rbi.org.in)*

Table no. 5.3.6 described that Bank of Bahrain & Kuwait has invested 0.45 in 2011, increase to 0.51 in 2012, fall down continuous to 0.26 in 2015, in respect of C/D ratio was 0.74 percent in 2001, 0.96 in 2012, sharp decline to 0.01 in 2013. BNS during research has invested out of total deposits 0.67 in 2011 which was increase to 1.20 in 2014, 1.54 in 2015, and in respect of credit/deposits ratio 1.72 in 2011, decline to 1.28 in 2013, sharp rise to 1.43 in 2014. Bank of Tokyo has showed their investment 0.06 in 2011 which was increase to 1.09 in 2012, 1.26 in 2014 & 1.23 percent in 2015 and ratio of C/D was 0.32 in 2011, 1.96 in 2012, decline to 1.21 in 2014 and 0.93 percent in 2015.

Table 5.3.7: Management Efficiency for period from 1990-91 to 1999-2000

(Percentage)

Management Efficiency - (1990-91 to 1999-2000)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
1990-91	0.00	0.00	0.32	0.60	0.36	0.58
1991-92	0.53	0.56	0.43	0.88	0.44	0.74
1992-93	0.00	0.00	0.47	0.88	0.46	0.61
1993-94	0.51	0.36	0.53	0.67	0.56	0.41
1994-95	0.43	0.46	0.34	0.83	0.42	0.47
1995-96	0.34	0.51	0.26	0.85	0.38	0.56
1996-97	0.32	0.55	0.36	0.96	0.41	0.50
1997-98	0.34	0.63	0.52	0.81	0.40	0.51
1998-99	0.40	0.53	0.78	0.77	0.54	0.44
1999-2000	0.42	0.61	0.97	0.81	0.56	0.49

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Table No. 5.3.7 showed from 1990-91 to 1999-2000, CitiBank has invested maximum 0.53 in 1992, no investment and credit out of deposits was done in 1991 & 1993, investment ratio was noticed as decline to 0.32 in 1997, 0.42 in 2000, in term of credit/deposits ratio maximum was 0.56 in 1992, decline by 0.36 in 1994, continuous increase by 0.63 in 1998, 0.54 in 1999 again increase by 0.61 in 2000.

DB has invested from its deposits 0.32 in 1991, constant increase to 0.53 in 1994, 0.97 in 2000 from 0.26 in 1996 and in respect of C/D ratio has showed variation as 0.60 in 1991, increase to 0.83 in 1995, 0.85 in 1996, however decline to 0.77 in 1999. HSBC has showed investment ratio 0.56 in 1994 & 2000, which was continuous increased 0.44, 0.46, 0.56 during 1992-94 and from 0.36 and from 0.38 to 0.56 during (1997-2000) and advances out of total deposits it has provided 0.58 in 1991, increase to 0.74 in 1992, decrease to 0.47 in 1995, 0.44 from 0.56 in 1999.

Table 5.3.8: Management Efficiency for period from 2000-01 to 2009-10

(Percentage)

Management Efficiency - (2000-01 to 2009-10)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
2000-01	0.40	0.66	1.05	0.90	0.58	0.63
2001-02	0.39	0.75	0.75	0.76	0.51	0.63
2002-03	0.40	0.71	1.26	0.83	0.69	0.64
2003-04	0.33	0.75	0.90	0.83	0.64	0.59
2004-05	0.38	0.84	0.63	0.71	0.54	0.74
2005-06	0.38	0.88	0.74	0.59	0.49	0.67
2006-07	0.42	0.87	0.89	0.71	0.41	0.66
2007-08	0.40	0.83	0.74	0.65	0.45	0.70
2008-09	0.47	0.77	0.62	0.62	0.62	0.55
2009-10	0.52	0.67	0.65	0.93	0.74	0.42

*(**Source:** RBI-Statistical Tables relating to banks & BRs)*

Table no. 5.3.8 explained that investment/deposits ratio was varied as 0.40 in 2001 which was increase to 0.40 in 2003, constant increased from 0.33 to 0.42 during (2004-2007), and in term of credit was 0.66 percent in 2001, increase to 0.75 in 2002, it was continuous increase to 0.88 in 2006, decrease to 0.67 in 2010. DB in this study period has invested 1.05 in 2001, showed variation as decline to 0.75 in 2002, 1.26 in 2003, decline to 0.63 in 2005, 0.65 in 2010 from 0.89 in (2007) and in respect of C/D ratio was 0.90 in 2001, decrease to 0.59 in 2006, increase to 0.71 in 2007, 0.93 in 2010.

It is observed that HSBC during research, showed ratio of investment was 0.58 in 2001, decline to 0.51 in 2002, continuous fall from 0.69 to 0.41 during (2003-07), 0.74 in 2010 and ratio has varied minor throughout research as 0.63 in 2001, increase by 0.64 in 2003, decline to 0.66 in 2007 and lowest 0.42 in 2010.

Table 5.3.9: Management Efficiency for period from 2010-11 to 2014-15

(Percentage)

Management Efficiency- (2010-11 to 2014-15)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
2010-11	0.54	0.72	0.59	0.98	0.69	0.51
2011-12	0.67	0.73	0.50	0.75	0.66	0.57
2012-13	0.66	0.78	0.51	1.08	0.79	0.63
2013-14	0.65	0.72	0.51	1.11	0.79	0.56
2014-15	0.64	0.68	0.47	0.94	0.58	0.55

*(**Source:** Reserve Bank of India-STRB and Basic Returns)*

Table no. 5.3.9 described that CB has invested 0.54 in 2011, increase to 0.65 in 2014, & in respect of C/D ratio was 0.72 in 2011, 0.78 in 2013, constant fall to 0.68 in 2015. DB has invested out of deposits 0.59 in 2011, 0.27 in 2014 & 0.47 in 2015 and on part of C/D ratio was 0.98 in 2011, increase by 1.08 in 2013 & 1.11 in 2014 & 0.94 in 2015. It was investigated that HSBC has utilized their deposits 69 percent in 2011, which was increase to 0.79 in 2013 and provided credit 51 percent in 2011, increased continuous to 0.58, 0.63 in 2012-13, 0.55 in 2015. It can be concluded that investment and credit (advances) out of deposits was good for utilization of idle money (return) but very high percentage of this ratio will endanger efficiency of management as well as liquidity position and create sense of insecurity always in mind of depositors related to that specific bank.

It is noticed from table no. 5.3.10 that Mashreq Bank has not reported in 1992 & 1993 in respect of investment & credit/deposits ratio, however it has invested 0.30 in 1991, increase to 0.50 in 1994, steep fall to 0.27 in 1996, and 0.67 in 2000 from 0.29 during 1996-97 and in term of C/D ratio was 52 percent in 1991, 72 percent in 1994, 86 percent in 1996 which was decrease to 48 in 2000 with variation.

Table 5.3.10: Management Efficiency for the period from 1990-91 to 1999-2000

(Percentage)

Management Efficiency - (1990-91 to 1999-2000)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
1990-91	0.30	0.52	0.29	0.82	0.33	0.49
1991-92	0.00	0.00	0.28	0.64	0.36	0.47
1992-93	0.00	0.00	0.18	0.79	0.61	0.22
1993-94	0.50	0.72	0.31	0.77	0.59	0.31
1994-95	0.35	0.62	0.28	0.88	0.57	0.53
1995-96	0.27	0.86	0.28	0.81	0.41	1.02
1996-97	0.29	0.82	0.27	0.80	0.41	0.93
1997-98	0.34	0.64	0.29	0.59	0.46	0.70
1998-99	0.56	0.68	0.39	0.58	0.56	0.69
1999-2000	0.67	0.48	0.33	0.54	0.85	0.63

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Oman International Bank during research has invested 0.29 in 1991, decrease to 0.18 in 1993, 0.31 to 0.27 in 1997, and 0.39 in 1999 with variation and however on side of credit facilitation was 82 percent in 1991, and 64 percent in 1992, & increase by 88 in 1995 which was continuous decline to 54 in 2000. Societe Generale during period has showed 33 percent in 1991, sharp increase to 61 in 1993, continuous fall to 41 percent in 1997, maximum was 85 percent in 2000 and credit/deposits ratio was 0.49 in 1991, decline to 0.22 in 1993, continuous increase by 1.02 in 1996 and decline to 0.63 in 2000.

Table no. 5.3.11 mentioned that during 2000-01 to 2009-10, MB has invested maximum 2.53 in 2009, 80 percent in 2001, 87 percent in 2002 & 2005, decline to 74 in 2004 and so on and in respect of C/D ratio was 0.26 in 2001, 0.07 in 2005, excess percentage of credit 1.43 in 2006, 1.30 in 2008 and 1.33 in 2010. OIB has invested 0.28 in 2001, 0.57 in 2006, however it has showed variation during rest of

research period and C/D ratio was 0.29 in 2001 which was continuous decrease to 0.01 during 2002-2010. SG during study period has invested 94 percent in 2001, 2.16 in 2003, which was continuous increase to 2.14 during 2002-03 to 2009-10 and in term of credit/deposits ratio was 84 percent in 2001, increase to 1.12 in 2002, decrease to 0.29 in 2006 with variation and so on.

Table 5.3.11: Management Efficiency for period from 2000-01 to 2009-10

(Percentage)

Management Efficiency - (2000-01 to 2009-10)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
2000-01	0.80	0.26	0.28	0.29	0.94	0.84
2001-02	0.87	0.23	0.31	0.11	1.09	1.12
2002-03	0.79	0.14	0.31	0.08	2.16	0.68
2003-04	0.74	0.06	0.49	0.06	1.11	0.41
2004-05	0.87	0.07	0.57	0.06	1.13	0.30
2005-06	1.73	1.43	0.57	0.04	1.15	0.29
2006-07	0.79	0.93	0.54	0.01	1.29	0.34
2007-08	0.83	1.30	0.53	0.01	1.85	0.28
2008-09	2.53	0.47	0.50	0.01	1.87	0.44
2009-10	0.80	1.33	0.55	0.01	2.14	0.52

*(**Source:** Annual Reports of RBI-Statistical Tables relating to banks and Basic Returns)*

Table no. 5.3.12 described that Mashreq Bank during 2010-11 to 2014-15, has invested 0.59 in 2011, fall down to 0.13 in 2015 and in term of C/D ratio was 0.69 in 2011, 0.67 in 2013, and 0.95 in 2015. OIB in term of investment was 0.56 out of deposits in 2011, 0.27 in 2013, increase to 1.04 in 2014 and C/D ratio percentage was 0.01 in 2011 which was increase to 0.06 in 2015.

Table 5.3.12: Management Efficiency for period from 2010-11 to 2014-15

(Percentage)

Management Efficiency- (2010-11 to 2014-15)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Investment	**C/D**	**Investment**	**C/D**	**Investment**	**C/D**
2010-11	0.59	0.69	0.56	0.01	2.34	0.79
2011-12	0.51	0.67	0.49	0.03	1.44	0.82
2012-13	0.39	0.46	0.27	0.03	0.82	1.27
2013-14	0.40	0.44	1.04	0.01	0.37	1.30
2014-15	0.13	0.95	0.26	0.06	0.63	1.88

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

SG has invested during research 2.34 in 2011, which was constant fall to 0.37 in 2014, and in respect of advances/total deposits was 0.79 in 2011, 1.27 in 2013 & 1.30 in 2014, however, increase to 1.88 in 2015.

Table 5.3.13: Management Efficiency for period from 1990-91 to 1999-2000

(Percentage)

Management Efficiency – (1990-91 to 1999-2000)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Investment	**C/D**	**Investment**	**C/D**
1990-91	0.05	0.35	0.42	0.48
1991-92	0.04	0.36	0.53	0.51
1992-93	0.26	0.30	0.94	0.34
1993-94	0.28	0.06	0.53	0.34
1994-95	0.23	0.17	0.44	0.48
1995-96	0.12	0.09	0.32	0.74
1996-97	0.09	0.24	0.34	0.62
1997-98	0.16	0.28	0.32	0.66
1998-99	0.14	0.29	0.51	0.63
1999-2000	0.08	0.09	0.63	0.86

*(**Source:** Reserve Bank-STRB & Basic Returns)*

It is found from table no. 5.3.13 that Sonali Bank during study has invested 0.05 in 1991, 0.28 in 1994, and decline continuous from 0.16 to 0.08 during 1997-2000 and credit advanced has showed variation 0.35 in 1991, decline to 0.09 in 1996 & after it was started rise to 0.29 in 1999. During 1990-91 to 1999-2000, SCB has registered variation 42 percent in 1991 which was increase to 94 in 1993, 32 in 1996, 0.63 in 2000, C/D ratio was 0.48 in 1991, increase to 0.51 in 1992, 0.48 in 1995, and showed minor variation as increase to 0.74 in 1996, 0.86 in 2000.

Table 5.3.14: Management Efficiency for period from 2000-01 to 2009-10

(Percentage)

Management Efficiency – (2000-01 to 2009-10)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Investment	**C/D**	**Investment**	**C/D**
2000-01	0.12	0.13	1.06	1.02
2001-02	0.30	0.54	0.97	1.25
2002-03	0.19	0.21	0.57	0.72
2003-04	0.22	0.20	0.51	0.81
2004-05	0.33	0.27	0.45	0.89
2005-06	0.35	0.15	0.42	0.85
2006-07	0.19	0.12	0.35	0.88
2007-08	0.23	0.33	0.35	0.90
2008-09	0.11	0.26	0.37	0.90
2009-10	0.16	0.25	0.38	0.86

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

From table no. 5.3.14, it is noticed that SB has invested 0.12 in 2001, increase to 0.30 in 2002, 0.35 in 2006, 0.16 in 2010 with variation and advances was 0.13 out deposits in 2001, increase by 0.54 in 2002, 0.27 in 2005, & 0.34 in 2008. SCB has invested 1.06 in 2001, continuous decline to 0.35 in 2008, increase to 0.38 in 2010 and credit out of deposits was 1.02 in 2001, increase to 1.25 in 2002, 0.89 in 2005, 0.90 in 2008-09.

Table no. 5.3.15 described that Sonali Bank has invested 0.18 in 2011 which was decline to 9 percent in 2015 and advances/deposits ratio was 32 percent in 2011, 59 percent in 2012, 32 percent in 2015. SCB has invested 0.40 in 2011, increase to 0.50 in 2013, decrease by 0.39 in 2015 and in term of credit/deposits was 0.84 in 2011 which was sharp declined 0.10 in 2013 and again increase to 1.10 in 2014 and 0.95 in 2015.

Table 5.3.15: Management Efficiency for period from 2010-11 to 2014-15

(Percentage)

Management Efficiency – (2010-2011 to 2014-15)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Investment	**C/D**	**Investment**	**C/D**
2010-11	0.18	0.32	0.40	0.84
2011-12	0.18	0.59	0.43	0.87
2012-13	0.15	0.46	0.50	0.10
2013-14	0.12	0.36	0.39	1.10
2014-15	0.09	0.32	0.46	0.95

*(**Source:** Reserve Bank of India (reports)-Statistical Tables relating to banks and Basic Returns)*

5.3.1 Individual and Group Rank

Each sample bank was ranked individual on basis of average performance of its sub-parameters as (i) investment out of deposits, and in this section, high rank was assign to foreign bank (studied) who has invested within limit to depositors' money (ii) Credit out of deposits-sample foreign banks from different nation was positioned as per their credit facility within depositors cash limit and Group rank (Parameter Rank-PR) was calculated as per average rank performance of these sub-dimensions.

On basis of individual rank of sub-parameter (investment out of deposits), in table no. 5.3.16, SG was placed at 1st, followed by MB & SCB 2.50 (average of 2nd and 3rd), Bank of America, AEB, HSBC, BOB, ADCB & BNS has placed at 4th, 5th, 6th, 7th, 8th and 9th so on, however lowest ranks 12th, 13th & 14th were occupied by Oman, Bank of Tokyo & Sonali Bank. In term of Credit/Deposits ratio, Mashreq

Bank has obtained rank first, followed by BOA, OIB, BOTM, BOB & K, SG, 9.50 (average of 9th & 10th) ranked to HSBC and MB So on.

The Group Rank was calculated with average rank of sub-parameters as during 1990-91 to 1999-2000, Mashreq Bank from U.A.E has occupied first rank, followed by BOA from America, Societe Generale, Standard Chartered Bank (SCB), Bank of Bahrain, American Express Bank, and 7th, 8th, 9th, 10th, 11th, ranks were secured by Oman, HSBC, BOTM, Abu-Dhabi, & Mashreq Bank, lowest 12th, 13th & 14th ranks were positioned by CitiBank, Bank of Nova Scotia & Sonali Bank and in respect of group rank of management efficiency. It is summarised that same rank has not secured by two or more sample banks in this research period.

Table 5.3.16: Individual and Group Rank (1990-91 to 1999-2000)

Management Efficiency-Average Rank of Parameter and Sub-Parameter (1990-91 to 1999-2000)							
Name of Foreign Banks	**Investment**	**Rank**	**C/D**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.37	8	0.47	11	19	9.50	10
AEB	0.46	5	0.55	8	13	6.50	6
BOA	0.48	4	0.78	2	6	3	2
BOB & K	0.40	7	0.62	5	12	6	5
BNS	0.36	9	1.63	14	23	11.50	13
BOTM	0.27	13	0.67	4	17	8.50	9
CB	0.33	10.50	0.42	12	22.50	11.25	12
DB	0.50	2.50	0.81	1	3.50	1.75	1
HSBC	0.45	6	0.53	9.50	15.50	7.75	8
MB	0.33	10.50	0.53	9.50	20	10	11
OIB	0.29	12	0.72	3	15	7.50	7
SG	0.52	1	0.60	6	7	3.50	3
SB	0.15	14	0.22	13	27	13.50	14
SCB	0.50	2.50	0.57	7	9.50	4.75	4

*(**Source:** Researcher's Calculation)*

Table no. 5.3.17 explained that during period of research 2000-01 to 2009-10, Bank of America has secured rank first for investment out of total deposits, followed by Deutsche Bank, ADCB, SCB, HSBC & 6.50 rank(average of 6^{th} & 7^{th}) to Bank of Tokyo & BNS, 11^{th}, 12^{th}, 13^{th} & 14^{th} ranks were placed to CB, Sonali Bank, MB & SG and two sample banks (AEB & Bank of Bahrain) has occupied same rank 9.50 (9^{th} & 10^{th}), on side of Credit/Deposits ratio, DB-Deutsche Bank was positioned at rank first, 2^{nd}, 3^{rd}, 4^{th} ranks were secured by AEB, SCB, CB & 6.50 (average of 6^{th} & 7^{th}) by HSBC & Mashreq Bank so on, and bottom rank 11^{th}, 12^{th}, 13^{th}, & 14^{th} was placed to Oman International Bank, BNS, BOA and BOTM.

Table 5.3.17: Individual and Group Rank (2000-01 to 2009-10)

Management Efficiency-Average Rank of Parameter and Sub-Parameter (2000-01 to 2009-10)							
Name of Foreign Banks	**Investment**	**Rank**	**C/D**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.56	3	0.23	10	13	6.75	5.50
AEB	0.45	9.50	0.92	2	11	5	4
BOA	0.84	1	1.37	13	14	8	7.50
BOB & K	0.45	9.50	0.66	5	14.50	8	7.50
BNS	0.48	6.50	1.31	12	18.50	9	9
BOTM	0.48	6.50	1.81	14	20.50	10	11.50
CB	0.41	11	0.77	4	15	6.75	5.50
DB	0.82	2	0.93	1	3	2.50	1
HSBC	0.50	5	0.62	6.50	11.50	4.50	3
MB	1.08	13	0.62	6.50	19.50	10	11.50
OIB	0.47	8	0.07	11	19	9.50	10
SG	1.47	14	0.52	8	22	11	14
SB	0.22	12	0.25	9	21	10.50	13
SCB	0.54	4	0.91	3	7	3.50	2

*(**Source:** Author's Calculation)*

On basis of average of individual rank highest was occupied by Deutsche Bank, followed by SCB, AEB, HSBC, Abu-Dhabi, BOA & Bahrain Bank, 9th & 10th rank was secured by Bank of Nova Scotia, OIB, 11th & 12th was occupied by Mashreq Bank & Bank of Tokyo, and 13th, 14th lowest were positioned by Sonali Bank and Societe Generale.

Table 5.3.18: Individual and Group Rank (2010-11 to 2014-15)

Management Efficiency-Average Rank of Parameter and Sub-Parameter (2010-11 to 2014-15)							
Nam e of Foreign Banks	**Investment**	**Rank**	**C/D**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.28	11	0.62	6	17	8.50	10
AEB	0.62	5	2.58	14	19	9.50	11
BOA	1.24	14	1.01	10	24	12	13
BOB & K	0.42	9	0.70	3	12	6	5
BNS	0.86	2	1.48	13	15	7.50	7.50
BOTM	0.98	1	1.21	11.50	12.50	6.25	6
CB	0.63	4	0.68	4	8	4	2
DB	0.52	6.5	0.97	1	7.50	3.75	1
HSBC	0.70	3	0.57	7	10	5	3.50
MB	0.40	10	0.64	5	15	7.50	7.50
OIB	0.52	6.50	0.03	9	15.50	7.75	9
SG	1.12	13	1.21	11.50	24.50	12.25	14
SB	0.14	12	0.41	8	20	10	12
SCB	0.44	8	0.77	2	10	5	3.50

*(**Source:** Researcher's Calculation)*

Table no. 5.3.18 described individual and group rank of sample banks from 2010-11 to 2014-15, During research no two or more sample banks were placed at same rank as in term of investment/deposits ratio Bank of Tokyo has secured highest rank followed by Bank of Nova Scotia, HSBC, CB, American Express, and positions 8th 9th to 14th were place to SCB, BOB, MB, ADCB, SB, SG, BOA. In term of

credit/deposits during study, Deutsche Bank has occupied rank first, 2nd, 3rd, 4th 5th, 6th, 7th, 8th & 9th were secured by Standard Chartered, BOB, CitiBank, Mashreq Bank, Abu-Dhabi, Hong-Kong, Sonali Bank, and Oman International Bank So on. Moreover, Bank of Nova Scotia and AEB were positioned at 13th and 14th.

In respect of Group Rank, DB was positioned at first rank, followed by CitiBank, HSBC, 3.50 (average of 3th & 4th) rank was occupied by HSBC & SCB, 7.50 as (average of 7th, 8th) same position was secured by BNS, Mashreq Bank and from 11th to 14th positions were obtained by American Express Bank, Societe Generale, BOA and SG.

5.3.2 Results of One-Way ANOVA and K-S Test

Table 5.3.19: Results of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Management Efficiency (1990-91 to 1999-2000)					
Sub-Parameters of Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Investment/Deposits					
Between Groups	.891	9	.099	3.335	.001
Within Groups	3.860	130	0.03		
Total	4.752	139			
Credit/Deposits					
Between Groups	.950	9	1.06	.543	.840
Within Groups	25.245	130	.194		
Total	26.194	139			
Results of One-Sample Kolmogorov-Smirnov (Normality Test)					
Particulars of Sub-Parameters	**Investment/Deposits**		**Credit/Deposits**		
N	140		140		
Normal Parameters Mean	.3855		.6501		
Std. Deviation	.18489		.43411		
Test Statistic	1.298		1.888		
Asymp. Sig. (2-tailed)	.069		.002		

*(**Source:** Software Statistical Calculation)*

Table no. 5.3.19 explained statistical result of management efficiency and its characteristics at 95 percent confidence level with One-way Anova and K-S test (normal distribution of secondary data) from 1990-91 to 1999-2000.

In term of investment out of total deposits, it is noticed that there was statistical difference among selected foreign banks in India. Hence, null hypothesis - H03 (i): (a) was rejected because tabulated value .001 was less than significant 0.05 values and calculated *F* is 3.335.

However, on part of Credit deposits ratio, there was no significant difference among selected foreign banks as tabulated value .840 was more than P value 0.05 and *F* value was .543. Hence, null hypothesis of C/D ratio-H03 (i): (b) was accepted. During this study, collected published secondary data from different authentic sources was normally distributed, as calculated values of K-S test was 1.298 of investment/deposits, (ii) Credit/Total Deposits was 1.888.

Table 5.3.20: Results of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Management Efficiency (2000-01 to 2009-10)					
Sub-Parameters of Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Investment/Deposits					
Between Groups	.666	9	.074	.372	.946
Within Groups	25.822	130	.199		
Total	26.487	139			
Credit/Deposits					
Between Groups	.198	9	.022	.092	1.00
Within Groups	31.233	130	.240		
Total	31.431	139			
Results of One-Sample Kolmogorov-Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**Investment/Deposits**		**Credit/Deposits**		
N	140		140		
Normal Parameters Mean	.5807		.7214		
Std. Deviation	.43653		.47552		
Test Statistic	1.587		1.595		
Asymp. Sig. (2-tailed)	.013		.012		

*(**Source:** Statistical Calculation)*

It is observed from table no. 5.3.20 that result of management efficiency & dimensions at 95 percent confidence level with during 2000-01 to 2009-10, no statistical significant difference was found in terms investment/total deposits performance among selected foreign banks in India. Hence, null hypothesis of investment/deposits - H03 (ii): (a) was accepted because tabulated value .946 was more than significant value 0.05 and calculated *F* value was .372.

Second characteristic of management efficiency (Credit/Total deposits ratio) was that described no significant difference among sample banks as tabulated value 1.00 was more than *P* value 0.05 and *F* value was .092. Hence, null hypothesis of C/D ratio-H03 (ii): (b) was accepted.

During study, collected secondary data was normally distributed because K-S test value of (i) Investment/Total Deposits ratio was 1.587, (ii) Credit/Deposits ratio was 1.595 means more than 0.5 (prescribed value).

Table 5.3.21: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Management Efficiency (2010-11 to 2014-15)					
Sub-Parameters of Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Investment/Deposits					
Between Groups	.134	4	.034	.199	.938
Within Groups	10.930	65	.168		
Total	11.064	69			
Credit/Deposits					
Between Groups	.415	4	.104	.248	.910
Within Groups	27.196	65	.418		
Total	27.612	69			
Results of One-Sample Kolmogorov-Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**Investment/Deposits**		**Credit/Deposits**		
N	70		70		
Normal Parameters Mean	.6322		.0442		
Std. Deviation	.40044		.02301		
Test Statistic	1.313		.551		
Asymp. Sig. (2-tailed)	.064		.922		

*(**Source:** Statistical Calculation)*

As table no. 5.3.21 explained that result of management efficiency and its characteristics at 95 percent level of confidence with One-way Anova and K-S test (normal distribution of secondary data) from 2010-11 to 2014-15. It is examined no statistical significant (difference) was found in term of investment out of total (deposits) performance among selected sample of foreign banks in India. Hence, null hypothesis of Investment/Total deposits - H03 (iii): (a) was accepted as tabulated value .938 was more than significant value 0.05 and calculated *F* value was .199. On part of Credit/Total deposits, significant difference was noticed among sample banks as tabulated value .910 was more than *P* value 0.05 and *F* value was .248. Hence, null hypothesis of Credit out of Total Deposits ratio-H03 (iii): (b) was accepted.

The collected secondary data was normally distributed as sub-parameters K-S test value of (i) Investment/Total deposits was 1.313, (ii) Credit/Deposits was .551 means above to 0.5 (prescribed value).

5.4 E – EARNING CAPACITY (CAMELS)

It examined banks' ability in profitable earning as compare to expenses & decisions regarding debt investment consequences (Dincer et al, 2011), sustainability and growth in future earnings (Karri et al, 2015).

The true picture of earning capacity depicts through financial health & profitability. The fourth parameter earning capacity of CAMELS model examined with two sub-parameters (i) Interest Paid on Deposits, (ii) Interest Income/Total Income: percentage of interest income/TI.

Table no. 5.4.1 shows that ADCB has paid interest on deposits 0.07 in 1991, decline to 0.05 in 1994, increase to 0.12 in 1997, and interest income was earned 92 percent in 1991, decline to 83 in 1996, 85 in 1998, 88 in 2000, higher percentage of interest income improve earning capacity of sample foreign banks.

American Express Bank during research has paid interest on deposits 0.09 in 1991, decrease by 0.05 in 1994, 0.12 in 1997, 0.07 in 2000, on other hand, interest income out of total income 0.73 in 1991, increase to 0.85 in 1996, continuous decline to 0.68 in 2000, Bank of America has paid interest on deposits 0.21 in 1991, 0.52 (highest) in 1992, 0.00 in 1995, & 0.12 in 1999, in respect of interest income of this sample

bank has earned 82 percent in 1991, decline to 68 in 1992, increase to 86 in 1997, 90 percent in 1999 and 76 in 2000.

Table 5.4.1: Earning Capacity for period from 1990-91 to 1999-2000

(Percentage)

Earning Capacity - (1990-91 to 1999-2000)						
Years	**Abu Dhabi Commercial Bank (ADCB)**		**American Express Bank (AEB)**		**Bank of America (BOA)**	
	Interest Paid on Deposits-IPD	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
1990-91	0.07	0.92	0.09	0.73	0.21	0.82
1991-92	0.06	0.82	0.00	0.00	0.52	0.68
1992-93	0.05	0.94	0.05	0.83	0.06	0.82
1993-94	0.05	0.92	0.05	0.83	0.05	0.74
1994-95	0.06	0.88	0.06	0.80	0.00	0.00
1995-96	0.11	0.83	0.07	0.85	0.08	0.84
1996-97	0.12	0.93	0.12	0.75	0.09	0.86
1997-98	0.07	0.85	0.09	0.72	0.09	0.82
1998-99	0.08	0.85	0.01	0.75	0.12	0.90
1999-2000	0.08	0.88	0.07	0.68	0.10	0.76

*(**Source:** Reserve Bank of India-Annual published Reports)*

Table no. 5.4.2 stated that ADCB during period of research has earned 0.05 in 2001, 0.01 in 2002, 0.08 in 2005, which was increase to 0.22 in 2006, 0.04 in 2010, and interest income was noticed 0.89 percent in 2001, increase to 0.95 in 2004, 0.75 in 2007, and 0.93 in 2010 with variation.

AEB has paid interest on deposits 0.07 in 2001, 0.06 in 2004, 0.12 in 2005, decline to 0.05 in 2010, and earned interest income 0.60 percent in 2001, decrease continuous to 0.17 in 2010. Moreover, Bank of America has paid interest to depositors was 0.10 in 2001, decline continue to 0.02 in 2009 and earned interest

with variation throughout research, 0.86 in 2001, decline to 0.79 in 2002, 0.77 in 2004, 0.68 in 2005, 0.61 in 2009, and 0.54 in 2010.

Table 5.4.2: Earning Capacity for period from 2000-01 to 2009-10

(Percentage)

Earning Capacity - (2000-01 to 2009-10)						
Years	**Abu Dhabi Commercial Bank**		**American Express Bank**		**Bank of America**	
	IPD	**Interest Income-II**	**Interest Paid on Deposits**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
2000-01	0.05	0.89	0.07	0.60	0.10	0.86
2001-02	0.01	0.96	0.06	0.57	0.09	0.79
2002-03	0.09	0.94	0.08	0.62	0.05	0.82
2003-04	0.08	0.95	0.06	0.58	0.04	0.77
2004-05	0.08	0.79	0.12	0.52	0.02	0.68
2005-06	0.22	0.92	0.11	0.46	0.02	0.60
2006-07	0.05	0.75	0.05	0.43	0.02	0.64
2007-08	0.05	0.69	0.00	0.00	0.02	0.60
2008-09	0.04	0.90	0.09	0.19	0.02	0.61
2009-10	0.04	0.93	0.05	0.17	0.03	0.54

*(**Source:** www.rbi.org.in)*

Table 5.4.3: Earning Capacity for period from 2010-11 to 2014-15

(Percentage)

Earning Capacity- (2010-11 to 2014-15)						
Years	**ADCB**		**AEB-American Express**		**Bank of America-BOA**	
	Interest Paid on Deposits-IPD	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
2010-11	0.04	0.92	0.06	0.14	0.03	0.56
2011-12	0.05	0.94	0.09	0.13	0.05	0.69
2012-13	0.07	0.95	0.08	0.14	0.03	0.74
2013-14	0.03	0.93	0.08	0.14	0.04	0.62
2014-15	0.04	0.93	0.07	0.17	0.03	0.70

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Table 5.4.3 mentioned that during 2010-11 to 2014-15, ADCB has paid interest expenses 0.04 in 2011, increase to 0.07 in 2013, 0.04 in 2015, earned income from interest 0.92 in 2011, 0.95 in 2013 which was minor decline to 0.93 in 2014-15.

AEB has spent interest expenses 6 percent in 2011, increase to 0.09 in 2012, in respect of interest income 14 during 2011-14, increase to 0.17 in 2015 and Bank of America has paid interest on deposits 0.03 in 2011, 0.05 in 2012, 0.03 in 2015 and however, on other side, interest income was 0.56 percent on total income in 2011, increase to 0.74 in 2013, 0.70 in 2015 with variation.

Table 5.4.4: Earning Capacity for period from 1990-91 to 1999-2000

(Percentage)

Earning Capacity - (1990-91 to 1999-2000)						
Years	**BOB & K**		**BNS**		**BOTM-Bank of Tokyo**	
	Interest Paid on Deposits-IPD	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
1990-91	0.08	0.96	0.00	0.00	0.01	0.80
1991-92	0.08	1.01	0.05	0.85	0.06	0.85
1992-93	0.07	1.04	0.05	0.91	0.06	0.81
1993-94	0.06	0.93	0.03	0.89	0.06	0.84
1994-95	0.06	0.88	0.03	0.85	0.00	0.00
1995-96	0.06	0.98	0.08	0.81	0.06	0.85
1996-97	0.08	0.90	0.07	0.85	0.09	0.93
1997-98	0.12	0.93	0.06	0.81	0.09	0.94
1998-99	0.12	0.88	0.01	0.81	0.07	0.80
1999-2000	0.01	0.84	0.07	0.81	0.09	0.70

*(**Source:** Statistical Tables relating to banks and Basic Returns-Reserve Bank)*

From table 5.4.4, it is observed that Bank of Bahrain has paid interest 0.08 in 1991, 0.06 in 1995 & 96, increase to 0.12 in 1999 and in term of interest income it has earned 0.96 in 1991, 1.04 in 1993, and decline to 0.88 in 1995 with variation, and 0.84 in 2000. BNS has paid interest on deposits 0.05 in 1992-93, decrease to 0.03 during 1994 to 1996, 0.01 in 1999, and income from interest activities was 0.85 in

1992, 0.91 in 1993 & which was decline to 0.81 in 1996 and from 1998 to 2000. BOTM has paid interest 0.01 in 1991, increase to 0.06 during 1992-1994, and 0.09 in 1997-98 & 2000 and during period interest income was 0.80 in 1991, 0.84 in 1994, 0.94 in 1998 with variation (0.70) in 2000.

Table no. 5.4.5 described that BOB has paid interest on deposits 0.01 in 2001, 0.07 in 2002-03, decline to 0.04 during 2005-08, 0.05 in 2009-10, and in respect of interest income was 0.86 percent in 2001, 0.73 in 2004, increase with variation 0.93 in 2005, and 0.77 in 2009.

Table 5.4.5: Earning Capacity for period from 2000-01 to 2009-10

(Percentage)

Earning Capacity - (2000-01 to 2009-10)						
Years	**(BOB) Bank of Bahrain & Kuwait**		**(BNS) Bank of Nova Scotia**		**(BOTM) Bank of Tokyo Mitsubishi UFJ**	
	Interest Paid on Deposits-IPD	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
2000-01	0.01	0.86	0.07	0.90	0.06	0.59
2001-02	0.07	0.74	0.07	0.88	0.06	0.73
2002-03	0.07	0.77	0.09	0.85	0.07	0.79
2003-04	0.06	0.73	0.05	0.74	0.03	0.49
2004-05	0.04	0.93	0.07	0.75	0.02	0.50
2005-06	0.05	0.88	0.06	0.75	0.03	0.69
2006-07	0.04	0.87	0.06	0.76	0.03	0.72
2007-08	0.04	0.80	0.05	0.76	0.03	0.83
2008-09	0.05	0.77	0.08	0.76	0.06	0.83
2009-10	0.05	0.80	0.03	0.75	0.04	0.77

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks & BRs-Basic Returns)*

Bank of Nova Scotia through research has paid interest on deposits 0.07 in 2001-02, 0.09 in 2003, 0.05 with variation in 2008, increase to 0.08 in 2009 & decline to 0.03 in 2010 and in term of interest income to total income was 0.90 in 2001, decrease to

0.74 in 2004, and increase to 0.76 in 2007, again fall to 0.75 in 2009-10. BOTM has paid interest 0.06 percent in 2001, continuous decrease to 0.02 in 2005, 0.03 during 2006-08, 0.06 in 2009 and interest income/total income was 0.59 in 2001, 0.79 in 2003, and showed variation during 2004-10 as 0.49 in 2004, and 0.83 in 2008-09 and so on.

Table 5.4.6 described that during 2010-11 to 2014-15 BOB has registered variation in term of interest paid on deposits 0.04 in 2011, 0.03 in 2012, 0.06 in 2014 and interest income was 0.84 percent in 2011, 0.90 in 2013, 0.87 in 2014 and so on. BNS's IPD ratio was 0.06 in 2011-12, decline to 0.05 in 2013, however increase with variation 0.10 in 2014, and in respect of interest it has earned 0.75 percent in 2011, and decline to 0.74 in 2012.

Bank of Tokyo during period has paid 0.03 in 2011, continuous increase by 0.06 in 2015, and interest income/ total income of this sample bank has earned 0.79 in 2011 which was increase to 0.83 and 0.81 during 2014-15.

Table 5.4.6: Earning Capacity for period from 2010-11 to 2014-15

(Percentage)

Earning Capacity- (2010-11 to 2014-15)						
Years	**Bank of Bahrain & Kuwait**		**Bank of Nova Scotia**		**Bank of Tokyo Mitsubishi UFJ**	
	Interest Paid on Deposits-IPD	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
2010-11	0.04	0.84	0.06	0.75	0.03	0.79
2011-12	0.03	0.88	0.06	0.74	0.04	0.79
2012-13	0.05	0.90	0.05	0.77	0.04	0.83
2013-14	0.06	0.87	0.10	0.67	0.05	0.81
2014-15	0.05	0.89	0.06	0.77	0.06	0.81

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Table no. 5.4.7 explained performance of selected foreign banks at earning capacity parameter for period from 1990-91 to 1999-2000 and it is inferred that CitiBank has

paid no interest on deposits in 1991 & 1993, 60 in 1992, 6 percent during 1994-96 & 7 from 1997-98 & 9 in 1999. and interest income was registered variation 0.74 in 1992, 0.84 in 1993, 0.72 with minor variation in 1999, which was increase to 0.79 in 2000. Deutsche Bank has paid interest on deposits 0.06 in 1992, 0.04 in 1994-95, which was continuous increase to 0.07 in 1998, fall down to 0.05 in 2000 and earned interest income 0.75 in 1992 which was continuous increase to 0.86 1994, decrease to 0.72 in 1998 and 0.71 in 2000.

Table 5.4.7: Earning Capacity for period from 1990-91 to 1999-2000

(Percentage)

Earning Capacity - (1990-91 to 1999-2000)						
Years	**CB-CitiBank**		**DB-Deutsche Bank**		**HSBC-Hong-Kong Shanghai Banking Corporation**	
	Interest Paid on Deposits-(IPD)	**Interest Income-II**	**IPD**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
1990-91	0.00	0.00	0.00	0.00	0.11	0.82
1991-92	0.60	0.74	0.06	0.75	0.05	0.80
1992-93	0.00	0.84	0.06	0.83	0.07	0.77
1993-94	0.06	0.78	0.04	0.86	0.05	0.78
1994-95	0.06	0.75	0.04	0.83	0.05	0.75
1995-96	0.06	0.74	0.05	0.75	0.07	0.80
1996-97	0.07	0.76	0.06	0.74	0.08	0.81
1997-98	0.07	0.74	0.07	0.72	0.07	0.76
1998-99	0.09	0.72	0.06	0.77	0.07	0.80
1999-2000	0.07	0.79	0.05	0.71	0.06	0.80

*(**Source:** Statistical Tables relating to banks and Basic Returns-Annual Reports)*

HSBC's IPD ratio was 0.11 maximum compare to other years, decline to 0.05 in 1992, during 1994-95, increase to 0.08 in 1997 with variation 0.06 in 2000 and percentage of interest income out of total income was 0.82 percent in 1991, 0.77 in 1993, 0.75 in 1995, which was increase by 0.81 in 1997, as with variation 0.76 in 1998 again increase to 0.80 in 1999-2000.

Table 5.4.8: Earning Capacity for period from 2000-01 to 2009-10

(Percentage)

Earning Capacity - (2000-01 to 2009-10)						
Years	**CB**		**DB**		**HSBC-Hong-Kong**	
	Interest Paid on Deposits-IPD	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
2000-01	0.05	0.77	0.05	0.69	0.07	0.77
2001-02	0.06	0.70	0.04	0.67	0.06	0.76
2002-03	0.05	0.72	0.03	0.48	0.05	0.75
2003-04	0.03	0.72	0.01	0.33	0.03	0.67
2004-05	0.03	0.70	0.01	0.49	0.03	0.71
2005-06	0.03	0.75	0.01	0.52	0.02	0.70
2006-07	0.03	0.77	0.02	0.60	0.03	0.74
2007-08	0.04	0.71	0.02	0.59	0.04	0.70
2008-09	0.04	0.66	0.02	0.65	0.05	0.70
2009-10	0.03	0.79	0.01	0.66	0.03	0.71

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

It is noticed from table no.5.4.8 that CitiBank has paid interest maximum 6 percent in 2002, however, 5 percent in 2001, which was continuous decline to 3 during 2004-07 & 0.04 in 2008 and earned interest 0.77 in 2001, decline to 0.70 in 2005, increase to 0.77 in 2007 & 0.66 in 2009. The IPD percentage of DB was observed 0.05 in 2001, 0.04 in 2002, 0.03 in 2003 and decline to 0.01 during 2004-06 & 0.02 for period 2007-09 and however interest earned/TI 0.69 in 2001 which was fall down to 0.33 in 2004, increase to 0.60 in 2007, 0.66 in 2010 and so on.

Moreover, HSBC has paid interest 7 percent in 2001, decline to 2 percent in 2005-06, and 5 in 2009 and interest earned 77 percent in 2001, 67 in 2004, showed variation as 71 in 2005, and 70 in 2008-09 so on.

Table 5.4.9: Earning Capacity for period from 2010-11 to 2014-15

(Percentage)

Earning Capacity- (2010-11 to 2014-15)						
Years	**CitiBank**		**Deutsche Bank**		**Hong-Kong Shanghai Banking Corporation**	
	Interest Paid on Deposits-IPD	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
2010-11	0.03	0.77	0.02	0.66	0.03	0.74
2011-12	0.03	0.85	0.02	0.76	0.04	0.74
2012-13	0.04	0.82	0.02	0.74	0.05	0.80
2013-14	0.04	0.75	0.03	0.88	0.04	0.83
2014-15	0.04	0.75	0.03	0.76	0.04	0.80

*(**Source:** RBI (reports)-Statistical Tables relating to banks & Basic Returns)*

From table no.5.4.9, it is concluded that CitiBank has paid interest 0.03 in 2011, decline to 0.3 in 2012, 0.04 during 2013-15, and interest income was 0.77 percent in 2011, 0.85 in 2012, 0.75 in 2014-15. Deutsche Bank has paid during this research 0.2 during 2011-13, 0.3 during 2014-15 & in term of interest income 0.66 in 2011, 0.76 in 2012, 0.74 in 2013, which was increase to 0.88 in 2014 and so on. Hong Kong has spent on interest during 2011-15, 0.03 percent in 2011 increase by 0.05 in 2013, 0.04 in 2014-15 and in respect of interest income has earned 0.74 in 2011-12, 0.83 in 2014.

From table no. 5.4.10, it is noticed that Mashreq Bank during 1990-91 to 1999-2000, has paid interest on deposits 0.10 in 1991, 0.04 in 1994, which was increase to 0.10 in 1999 and interest income 093 percent in 1991, decline to 86 in 1995, 108 in 1996, 107 in 1997, 105 in 1998 and 90 in 1999, 86 percent in 2000.

Oman International Bank has paid 0.08 in 1991, increase to 0.09 in 1992, 0.06 in 1994, increase to 0.11during 1997-99 & 0.12 in 2000 and earned interest income was 80 percent in 1991, increase to 92 in 1993, showed variation as 86 in 1994, 91 in 1995, decline to 80 in 1999 and so on. Societe Generale during research has paid interest in 1992 0.06, 0.09 in 1993, decrease by 0.04 in 1994, 0.08 in 1995, increase continuous to 0.14 in 1997, 0.01 in 1998 and 0.13 in 1999, 0.01 in 2000 and interest

income was 90 percent in 1992, decline to 85 in 1993, registered variation 97 in 1994, 96 in 1996 and decrease to 80 percent in 1999-2000.

Table 5.4.10: Earning Capacity for period from 1990-91 to 1999-2000

(Percentage)

Earning Capacity - (1990-91 to 1999-2000)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	IPD (Interest Paid on Deposits)	**Interest Income-II**	**Interest Paid on Deposits**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
1990-91	0.10	0.93	0.08	0.80	0.00	0.00
1991-92	0.00	0.00	0.09	0.87	0.06	0.90
1992-93	0.00	0.00	0.08	0.92	0.09	0.85
1993-94	0.05	0.91	0.06	0.86	0.04	0.97
1994-95	0.05	0.86	0.07	0.91	0.08	0.95
1995-96	0.06	1.08	0.09	0.85	0.12	0.96
1996-97	0.09	1.07	0.11	0.88	0.14	0.92
1997-98	0.09	1.05	0.11	0.83	0.01	0.86
1998-99	0.10	0.90	0.11	0.80	0.13	0.86
1999-2000	0.09	0.86	0.12	0.85	0.01	0.80

*(**Source:** Reserve Bank –STRB and Basic Returns)*

Table no. 5.4.11 described that MB has paid interest on deposits 0.07 in 2001, increase to 0.11 in 2003, 0.86 in 2006, decline to 0.09 during 2004-06, 0.01 in 2007, zero interest paid on deposits during 2008-10, and interest income has earned during this study period 0.86 in 2001, decrease by 0.79 in 2002, increase to 0.93 in 2004, & continuous decline to 0.29 in 2010. Oman Bank has spent interest on deposits 0.01 percent in 2001 & 2002, 0.09 in 2003, 0.06 during 2005-08 & 0.04 in 2009-10 and in term of interest income was 79 percent in 2001, increase to 0.81 in 2002, 94 percent in 2007, and falls down constantly to 57 percent in 2010. Societe Generale in this period has showed 0.01 percent interests paid in 2001, increase to 0.13 in 2002, 0.02 in 2004, with variation as 0.07 in 2009 and 0.05 in 2010 and interest income was 0.78 percent out of total income in 2001, 0.83 in 2002, 0.60 in 2004, 0.84 in 2008, 0.92 in 2010.

Table 5.4.11: Earning Capacity for period from 2000-01 to 2009-10

(Percentage)

Earning Capacity - (2000-01 to 2009-10)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Interest Paid on Deposits-(IPD)	**Interest Income-II**	**Interest Paid on Deposits**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
2000-01	0.06	0.86	0.01	0.79	0.01	0.78
2001-02	0.01	0.79	0.01	0.81	0.13	0.83
2002-03	0.11	0.83	0.09	0.70	0.05	0.78
2003-04	0.09	0.93	0.01	0.76	0.02	0.60
2004-05	0.09	0.89	0.06	0.91	0.04	0.75
2005-06	0.86	0.75	0.06	0.96	0.03	0.80
2006-07	0.01	0.49	0.06	0.94	0.05	0.81
2007-08	0.00	0.45	0.06	0.96	0.06	0.84
2008-09	0.00	0.34	0.04	0.85	0.07	0.69
2009-10	0.00	0.29	0.04	0.57	0.05	0.92

*(**Source:** Reserve Bank (reports)-Statistical Tables relating to banks and Basic Returns)*

Table 5.4.12: Earning Capacity for period from 2010-11 to 2014-15

(Percentage)

Earning Capacity- (2010-11 to 2014-15)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Interest Paid	**Interest Income-II**	**Interest Paid on Deposits**	**Interest Income-II**	**Interest Paid on Deposits-IPD**	**Interest Income-II**
2010-11	0.00	0.26	0.04	0.54	0.06	0.83
2011-12	0.00	0.19	0.06	0.43	0.08	0.96
2012-13	0.00	0.32	0.06	0.35	0.06	0.96
2013-14	0.00	0.30	0.08	0.99	0.06	0.67
2014-15	0.00	0.33	0.07	0.99	0.11	0.87

*(**Source:** Reserve Bank of India-STRB and Basic Returns)*

From table no. 5.4.12, it is inferred that Mashreq Bank has registered zero percentage of interest paid from 2010-11 to 2014-15 and earned interest income 0.26 in 2011, 0.19 in 2012, 0.32 in 2013, increase to 0.33 in 2015. OIB in this period has paid 4 percent in 2011, 8 in 2014, 7 in 2015 and earned interest income 54 percent in 2011, decline to 35 in 2013; 99 in 2014 & 99 percent in 2015. SG during research, has paid interest on deposits 0.06 in 2011, increase to 0.08 in 2012, 0.06 in 2013-14, rise to 0.11 in 2015 and in term of Interest income was 0.83 in 2011, increase to 0.96 in 2012-13, 0.67 in 2014 and 0.87 in 2015.

Table 5.4.13: Earning Capacity for period from 1990-91 to 1999-2000

(Percentage)

Earning Capacity – (1990-91 to 1999-2000)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	IPD	**Interest Income/ Total Income-II/TI**	**IPD**	**Interest Income out Total Income**
1990-91	0.00	0.00	0.00	0.00
1991-92	0.01	0.62	0.06	0.86
1992-93	0.01	0.58	0.08	2.67
1993-94	0.01	0.49	0.06	0.71
1994-95	0.01	0.63	0.06	0.78
1995-96	0.02	0.51	0.08	0.84
1996-97	0.01	0.16	0.08	0.79
1997-98	0.01	0.19	0.08	0.77
1998-99	0.02	0.27	0.09	0.80
1999-2000	0.01	0.22	0.08	0.81

*(**Source:** RBI (reports)-Statistical Tables relating to banks & Basic Returns)*

From table 5.4.13, it is inferred that during 1990-91 to 1999-2000, Sonali Bank has paid interest on deposits 0.01 from 1992-1995, 1997-98 & 1999-2000, 0.02 in 1995-96, and interest income was 0.62 in 1992, 0.58 in 1993, 0.49 in 1994, 0.63 in 1995 which was decline to 0.51 in 1996, 0.16 in 1997 and continuous increase to 0.22 in 2000.

Standard Chartered Bank during period has paid interest 0.06 in 1992, 1994, increase to 0.08 in 1993 & during 1996, 1998 & in 2000 and interest income/total income was 0.86 percent in 1992, steep increase to 2.67 in 1993, 0.71 in 1994, 0.84 in 1996, 0.77 in 1998, increase by 0.81 in 2000.

Table 5.4.14: Earning Capacity for period from 2000-01 to 2009-10

(Percentage)

Earning Capacity – (2000-01 to 2009-10)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	IPD	**Interest Income/Total Income**	**IPD**	**Interest Income/TI**
2000-01	0.02	0.30	0.07	0.79
2001-02	0.03	0.29	0.05	0.76
2002-03	0.02	0.36	0.05	0.80
2003-04	0.02	0.24	0.04	0.78
2004-05	0.03	0.23	0.03	0.83
2005-06	0.03	0.26	0.03	0.79
2006-07	0.01	0.28	0.03	0.75
2007-08	0.02	0.27	004	0.68
2008-09	0.01	0.23	0.05	0.65
2009-10	0.02	0.19	0.03	0.67

*(**Source:** Reports -Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Table no. 5.4.14 described that SB has paid 0.02 in 2001, during 2003-04, 2008 & 2010, 0.03 in 2002, & 2005-06, 0.01 percent in 2007 & 2009 and earned interest income was 0.30 in 2001, showed variation during period as 0.29 in 2002, which was decline by 0.23 in 2005, 0.28 in 2007, 0.19 in 2010 so on. The Standard Chartered has paid 7 percent in 2001, while decline continuous to 5,4,3 percent in 2002-03, 2004 & 2005-06, 2010. It has earned 79 percent income with interest in 2001, during study this ratio has showed variation, 76 percent in 2002, 80 in 2003, increase to 83 in 2005, however decline continue to 0.65 during 2006-09 and so on.

Table no. 5.4.15 showed that Sonali Bank has paid 0.02 during 2011 to 2015 and interest income was 0.21 percent in 2011 which was increase continuous to 0.36 in 2014-15. SCB in this period has paid 0.03 percent interest to depositors; increase to 0.05 during 2012-14, 0.04 in 2015 and interest earned was 0.72 percent which was increase to 0.73 in 2012, 0.76 in 2014 and 0.75 in 2015 so on.

Table 5.4.15: Earning Capacity for period from 2010-11 to 2014-15

(Percentage)

Earning Capacity – (2010-2011 to 2014-15)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	IPD	**Interest Income/Total Income**	**IPD**	**Interest Income/Total Income**
2010-11	0.02	0.21	0.03	0.72
2011-12	0.02	0.28	0.05	0.73
2012-13	0.02	0.31	0.05	0.76
2013-14	0.02	0.33	0.05	0.76
2014-15	0.01	0.36	0.04	0.75

*(**Source:** RBI-Statistical Tables relating to banks and Basic Returns)*

5.4.1 Individual and Group Rank of Sample Foreign Banks

Each sample bank was ranked individual as per average performance of its sub-dimensions as (i) interest paid deposits, in this part, high rank was allocate to foreign bank (studied) who has paid more interest on depositor's money, (ii) Interest Income/Total Income-rank at top position on basis of their higher income from interest activities and Group rank (Parameter Rank-PR) was calculated as per average rank performance of these sub-dimensions.

Table no. 5.4.16 described individual and group position of selected foreign banks for period from 1990-91 to 1999-2000, as maximum interest paid on deposits was paid by Bank of America, followed by OIB, ADCB and same rank 6.50 (average of 5^{nd}, 6^{th}, 7^{th} & 8th) was obtained by BOB, SG, SCB & HSBC. American Express Bank, Bank of Tokyo & MB has positioned at 10 (average of 9^{th} 10^{th} & 11^{th}), 12.50 (average of 12^{th} & 13^{th}) to BNS, DB, and 14^{th} to Sonali Bank.

Table 5.4.16: Individual and Group Rank (1990-91 to 1999-2000)

Earning Capacity-Average Rank of Parameter and Sub-Parameter (1990-91 to 1999-2000)							
Name of Foreign Banks	**Interest Paid on Deposits-IPD**	**Rank**	**Interest Income-II**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.08	4	0.88	3	7	3.50	1.50
AEB	0.06	10	0.69	12.50	22.50	11.25	12
BOA	0.13	1	0.72	10	11	5.50	5
BOB & K	0.07	6.50	0.94	1	7.50	3.75	3
BNS	0.05	12.50	0.76	8	20.50	10.25	11
BOTM	0.06	10	0.75	9	19	9.50	10
CB	0.11	2	0.69	12.50	14.50	7.25	8
DB	0.05	12.50	0.70	11	23.50	11.75	13
HSBC	0.07	6.50	0.79	6	12.50	6.25	7
MB	0.06	10	0.77	7	17	8.50	9
OIB	0.09	3	0.86	4	7	3.50	1.50
SG	0.07	6.50	0.81	5	11.50	5.75	6
SB	0.01	14	0.37	14	28	14	14
SCB	0.07	6.50	0.90	2	8.50	4.25	4

*(**Source:** Researcher's Calculation)*

In respect of interest income out of total income Bank of Bahrain & Kuwait has occupied rank first, Standard Chartered Bank at 2nd, ADCB, Oman International, Societe Generale, HSBC, Mashreq Bank, Bank of Nova Scotia BOTM, Deutsche Bank were ranked 3rd, 4th, 5th, 6th, and 7th, 8th, 9th, 10th & 11th and as per their capability of interest earned.

On basis of average rank of sub-parameters, ADCB & Oman has occupied same rank (1.50), followed by BOB, Standard Chartered Bank, Bank of America, and Societe Generale, from 7th rank to 11th were obtained by HSBC, CB, MB, Bank of Tokyo & AEB, DB, Sonali Bank has attained lowest rank e.g. 12th, 13th & 14th. In these sub-Characteristics of CAMELS model, in term of interest paid ranked top to sample bank who has paid maximum interest on deposits and in respect of interest earned positioned high to selected foreign banks who has earned more as compare to their fellow banks during this research period.

From table no. 5.4.17, it is noticed that during research as MB has paid maximum interest on deposits and secured rank first as followed by AEB, BNS, same rank 5 (average of 4^{th}, 5^{th}, 6^{th}) was placed by Bank of Bahrain, Oman & Societe Generale, moreover same rank 9 (average of 7^{th}, 8^{th}, 9^{th}, 10^{th} & 11^{th}) was occupied by BOA, BOTM, CB, Hong-Kong and SCB so on.

In term of interest income out of total income ADCB has occupied rank first, followed by Bank of Bahrain, Bank of Nova Scotia, Societe Generale, SCB, 6.50 (average of 6^{th} & 7^{th}) was obtained by CB & Oman so on and lowest rank twelfth, thirteen, fourteen to DB, AEB and Sonali Bank.

Table 5.4.17: Individual and Group Rank (2000-01 to 2009-10)

Earning Capacity-Average Rank of Parameter and Sub-Parameter (2000-01 to 2009-10)							
Nam e of Foreign Banks	**Interest Paid on Deposits-IPD**	**Rank**	**Interest Income-II**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.01	14	0.87	1	15	7.50	7.50
AEB	0.07	2	0.41	13	15	7.50	7.50
BOA	0.04	9	0.70	9	18	9	11
BOB & K	0.05	5	0.82	2	7	3.50	2
BNS	0.06	3	0.79	3	6	3	1
BOTM	0.04	9	0.69	10	19	9.50	12
CB	0.04	9	0.73	6.50	15.50	7.75	9
DB	0.02	12.50	0.57	12	24.50	12.25	13
HSBC	0.04	9	0.72	8	17	8.50	10
MB	0.25	1	0.66	11	12	6	5
OIB	0.05	5	0.83	6.50	11.50	5.75	4
SG	0.05	5	0.78	4	9	4.50	3
SB	0.02	12.50	0.25	14	26.50	13.25	14
SCB	0.04	9	0.75	5	14	7	6

(***Source:*** *Author's Calculation)*

During this period on basis of group rank, Bank of Nova Scotia has occupied first rank, followed by BOB, SG, Oman, Mashreq Bank, SCB and 7.50 (average of 7th & 8th) same rank was obtained by Abu-Dhabi & American Bank, from 9th to 14th ranks were attained by Citibank, HSBC, BOA, Bank of Tokyo, DB & Sonali Bank.

Table 5.4.18: Individual and Group Rank (2010-11 to 2014-15)

Earning Capacity-Average Rank of Parameter and Sub-Parameter (2010-11 to 2014-15)							
Nam e of Foreign Banks	**Interest Paid on Deposits-IPD**	**Rank**	**Interest Income-II**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.05	5.50	0.93	1	6.50	3.25	1
AEB	0.08	1	0.14	14	15	7.50	9
BOA	0.01	13	0.66	9.50	22.50	11.25	12
BOB & K	0.05	5.50	0.88	2	7.50	3.75	2
BNS	0.07	2.50	0.74	7.50	10	5	3
BOTM	0.04	8.50	0.81	3	11.50	5.75	4
CB	0.04	8.50	0.79	4	12.50	6.25	5
DB	0.02	11.50	0.76	6	17.50	8.75	11
HSBC	0.04	8.50	0.78	5	13.50	6.75	7
MB	0.00	14	0.22	13	27	13.50	14
OIB	0.06	4	0.66	9.50	13.50	6.75	7
SG	0.07	2.50	0.43	11	13.50	6.75	7
SB	0.02	11.50	0.30	12	23.50	11.75	13
SCB	0.04	8.50	0.74	7.50	16	8	10

*(**Source:** Researcher's Calculation)*

Table no.5.4.18 described rank position at individual and group level from 2010-11 to 2014-15, as American Bank has secured rank first, 2.50 (average of 2nd & 3rd) rank has placed to BNS & SG, 5.50 same rank was obtained by ADCB & Bank of Bahrain, 8.50 rank was attained by BOTM, CB, HSBC & Standard Chartered Bank, 13th & 14th was place to Bank of America and Oman. In term of interest income out

of total income, Abu-Dhabi has secured highest rank, followed by BOB, Bank of Tokyo, CitiBank, HSBC, Deutsche Bank, 7.50 rank (average of 7^{th} & 8^{th}) positioned to BNS, Standard Chartered Bank, and SG, SB & American Express has occupied lower rank from eleventh to fourteen and so on. The highest average sub-parameter rank performance was secured by ADCB, BOB, BNS, Bank of Tokyo, CitiBank, and same rank (7) was positioned by HSBC, Oman & Societe Generale and bottom rank 13^{th} & 14^{th} was obtained by Sonali Bank and Mashreq Bank.

5.4.2 Result of One-Way ANOVA and K-S Test

Table 5.4.19: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Earning Capacity (1990-91 to 1999-2000)					
Sub-Parameters of Model	**SOS**	**Df Degree of Freedom**	**MS**	**F**	**Sig. Value**
Interest on Deposits					
Between Groups (BGs)	.034	9	.004	1.409	1.91
Within Groups (WGs)	.349	130	.003		
Total	.383	139			
Interest Income/Total Income					
Between Groups	1.681	9	.187	2.169	.028
Within Groups	11.197	130	.086		
Total	12.878	139			
Results of One-Sample Kolmogorov-Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**Interest on Deposits**	**Interest Income/Total Income**			
N	140	140			
Normal Parameters Mean	.0679	.7582			
Std. Deviation	.5250	.30438			
Test Statistic	1.804	3.248			
Asymp. Sig. (2-tailed)	.003	.000			

*(**Source:** Software Statistical Calculation)*

Table no.5.4.19 explained statistical result of earning capacity and its dimensions at 95 percent confidence level with One-way Anova and K-S test (normal distribution

of secondary data) during 1990-91 to 1999-2000. It is stated no statistical significant difference was found among sample foreign banks in India in term of interest paid on deposits. Hence, null hypothesis - H04 (i): (a) was accepted because tabulated value 1.91 was larger than 0.05 (significant value) and calculated value of *F* was 1.409.

However, on part of interest income earned out of total income there was statistical significant difference among selected foreign banks as tabulated value 0.028 was less than *P* value 0.05 and *F* value was 2.169. Hence, the null hypothesis of interest income/total income (TI) ratio-H04 (i): (b) was rejected.

Table 5.4.20: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOV (Mean Difference) Earning Capacity (2000-01 to 2009-10)					
Sub-Parameters of Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Interest on Deposits					
Between Groups-BGs	.089	9	.010	1.287	.250
Within Groups-WGs	.996	130	.008		
Total	1.084	139			
Interest Income/Total Income					
Between Groups	.255	9	.028	.714	.695
Within Groups	5.162	130	.040		
Total	5.417	139			
Results of One-Sample Kolmogorov Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**Interest on Deposits**	**Interest Income/Total Income**			
N	140	140			
Normal Parameters Mean	.0560	.6837			
Std. Deviation	.08833	.19741			
Test Statistic	3.263	1.871			
Asymp. Sig. (2-tailed)	.000	.002			

*(**Source:** Statistical Calculation)*

Table no. 5.4.19 showed that during period of research, secondary data from different published authentic sources was normal distribution, as dimensions of earning capacity's K-S test value of (i) interest on deposits ratio was 1.804, (ii) interest income/total income was 3.248.

It is noticed from table no. 5.4.20 that earning capacity results & its dimensions at 95 percent confidence level with One-way Anova and K-S test (normal distribution of secondary data) from 2000-01 to 2009-10. There was no statistical significant difference in aspect of interest paid on deposits performance among sample foreign banks. In this period null hypothesis of interest on deposits - H04 (ii): (a) was accepted as tabulated value .250 was more than significant value 0.05 and calculated Value of *F* was 1.287.

Table 5.4.21: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Earning Capacity (2010-11 to 2014-15)					
Sub-Parameters of Model	**Sum of Squares (SOS)**	**df**	**Mean Square (MS)**	**F**	**Sig.**
Interest on Deposits					
Between Groups	.002	4	.000	.737	.570
Within Groups	.035	65	.001		
Total	.037	69			
Interest Income/Total Income					
Between Groups	.054	4	.014	.202	.937
Within Groups	4.370	65	.067		
Total	4.424	69			
Results of One-Sample Kolmogorov-Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**Interest on Deposits**	**Interest Income/Total Income**			
N	70	70			
Normal Parameters Mean	.0442	.6666			
Std. Deviation	.02301	.25322			
Test Statistic	.551	1.893			
Asymp. Sig. (2-tailed)	.922	.002			

*(**Source:** Statistical Calculation)*

In respect of interest income/total income, it was observed no significant difference among sample banks as tabulated value .695 which was more than *P* value 0.05 and *F* value is .714 and null hypothesis of interest income out of total income ratio-H04 (ii): (b) was accepted. During this study period, collected published secondary data was normally distributed as sub-parameters K-S test value of (i) Interest paid on deposits was 3.263, (ii) interest income/total income was 1.871 means above 0.5 (prescribed value).

Table no. 5.4.21 explained statistical result of earning capacity & its dimensions for period from 2010-11 to 2014-15. It is examined that no statistical (significant) difference was observed in respect of interest paid on deposits performance among selected foreign banks in India. Hence, null hypothesis of IPD- H04 (iii): (a) was accepted as tabulated value .570 was more than significant value 0.05 & calculated *F* value was .737 . On side of interest income/TI, it is noticed that no significant difference was found among sample banks as tabulated value .937 was more than *P* value 0.05 and *F* value was .202. Hence, null hypothesis of interest income/total income ratio-H04 (iii): (b) was accepted (unable to reject). In this period of study, collected secondary data was normally distributed as sub-parameters K-S test value of (i) interest paid on deposits was .551, (ii) interest income/total income was 1.893 means above 0.5 (prescribed value).

5.5 L – LIQUIDITY POSITION (CAMELS)

This ratio indicates capacity of banks related to existence of cash or near cash to discharge its liability as and when it arises. Liquidity is a crucial aspect which represents its ability to meet its financial obligations (short-term), repay its loans and working capital utilization effectiveness (Karri et al, 2015).

Bank's ability to pay depositors within a short time is called liquidity and this is essential to operate the regular banking process without interruption (Parvin et al, 2019).

This indicates ability of bank to pay-off its liabilities. The ratio which was used to appraise liquidity is total liquid assets as a share of total deposits. In study, evaluated

fifth dimension of CAMELS with (i) cash/deposits: depicts banks capacity to cover drains of unanticipated deposits, and balances with reserve bank (central bank) & cash in hand, (ii) Cash/total assets percentage described assets liquidity so that meet demands of cash as and when need.

Table 5.5.1: Liquidity Position for period from 1990-91 to 1999-2000

(Percentage)

Liquidity Position - (1990-91 to 1999-2000)						
Years	**Abu Dhabi Commercial Bank**		**American Express Bank**		**Bank of America**	
	Cash/ Deposits	**C/ Total Assets**	**C/ D**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
1990-91	6.24	0.05	5.94	3.11	8.62	2.52
1991-92	0.03	0.03	0.00	0.00	0.20	0.13
1992-93	0.04	0.03	0.16	0.11	0.12	0.09
1993-94	0.08	0.07	0.11	0.09	0.15	0.12
1994-95	0.07	0.06	0.10	0.08	0.00	0.00
1995-96	0.08	0.07	0.12	0.09	0.24	0.12
1996-97	0.08	0.05	0.32	0.25	0.40	0.25
1997-98	0.09	0.07	0.33	0.20	0.38	0.21
1998-99	0.08	0.06	0.49	0.26	0.35	0.17
1999-2000	0.09	0.08	0.63	0.33	0.35	0.15

*(**Source:** Reserve Bank Reports-STRB and Basic Returns)*

From table no. 5.5.1, it is observed that ADCB has reserved cash for deposits 6.24 percent in 1991, decline to 0.03 in 1992, 0.08 in 1996-97, 0.09 in 1998 & 0.09 in 2000 and cash out of total assets 0.05 in 1991, decline by 0.03 in 1992-93, sharp increase to 0.07 in 1994, 0.05 in 1997, to 0.08 in 2000.

American Express Bank during this research has kept 5.94-time cash for depositors in 1991, which was continuous decline to 0.10 in 1995, 0.63 in 2000 and in term of cash/total assets was 3.11 time more in 1991, 0.08 in 1995, continuous decrease by 0.11, 0.08 and again increase to 0.20, 0.26 & 0.33 during 1998-2000. During study

period, BOA has hold cash for depositor's 8.62 percent in 1991, 0.12 in 1993, it has increased with variation 0.40 in 1997, fall down continuous to 0.35 in 2000 and Cash out of total assets was noticed 2.52 in 1991, decline to 0.01 in 1993 and 1995, increase to 0.25 in 1997 and 0.15 in 2000.

Table 5.5.2: Liquidity Position for period from 2000-01 to 2009-10

(Percentage)

Liquidity Position - (2000-01 to 2009-10)						
Years	**Abu Dhabi (ADCB)**		**American Express Bank**		**Bank of America**	
	C/ Deposits	**Cash/ TA**	**Cash/ Deposits**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
2000-01	0.03	0.03	0.78	0.29	0.31	0.13
2001-02	0.05	0.05	0.84	0.25	0.51	0.19
2002-03	0.05	0.05	0.45	0.34	0.54	0.17
2003-04	0.04	0.04	0.30	0.25	0.56	0.17
2004-05	0.04	0.03	0.40	0.30	0.28	0.10
2005-06	0.21	0.14	0.39	0.24	0.27	0.01
2006-07	0.15	0.09	0.37	0.24	0.17	0.07
2007-08	0.18	0.13	0.00	0.00	0.14	0.07
2008-09	0.13	0.10	0.00	0.40	0.17	0.07
2009-10	0.11	0.08	0.00	0.00	0.21	0.08

*(**Source:** www.rbi.org.in)*

Table no. 5.5.2 described from 2001-2010 ADCB has reserved cash/deposits ratio 0.03 in 1991, steep increase to 0.21 percent in 2006, and decrease by 0.11 in 2010 with variation, moreover, cash out of total assets was 0.03 in 2001 & 2003, 0.05 percent in 2002-03, increase to 0.14 in 2006, decrease to 0.13 in 2008, 0.08 in 2010. AEB has kept cash/deposits 0.78 in 1991, 0.84 in 2002, decrease to 0.45 in 2003, 0.30 in 2004, 0.40 in 2005, 0.37 in 2007, 0.00 during 2008-10 and cash percentage from total assets 0.29 in 2001, increase to 0.34 in 2003, 0.24 in 2006-07 and increase to 0.40 in 2009.

BOA has hold cash out of deposits ratio 0.31 percent in 2001, increase by 0.56 in 2004, continuous decline by 0.14 in 2008, 0.21 percent with variation in 2010 and in term of cash/total assets was 0.13 in 2001, 0.19 in 2002, increase to 0.28 in 2004, 0.07 during 2007-09, and 0.08 in 2010.

Table no.5.5.3 stated that during research 2010-11 to 2014-15, ADCB has kept cash from deposits 0.10 in 2011, 0.01 in 2012, 0.11 in 2013, 0.03 during 2014-15 and in term of cash/total assets was 0.06 in 2011, 0.05 in 2012 and 2013, 0.02 from 2014 and 2015.

Table 5.5.3: Liquidity Position for period from 2010-11 to 2014-15

(Percentage)

Liquidity Position- (2010-11 to 2014-15)						
Years	**Abu Dhabi Commercial Bank**		**American Express Bank**		**Bank of America**	
	C/ Deposits	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**	**Cash /Deposits**	**Cash/ Total Assets**
2010-11	0.10	0.06	0.00	0.00	0.11	0.06
2011-12	0.01	0.05	0.00	0.00	0.01	0.04
2012-13	0.11	0.05	0.00	0.00	0.11	0.04
2013-14	0.03	0.02	0.00	0.00	0.09	0.03
2014-15	0.03	0.02	0.00	0.00	0.07	0.09

*(**Source:** Statistical Tables relating to banks and Basic Returns)*

Table no. 5.5.3 mentioned that AEB has kept 0.00 percent cash/deposits and assets during 2011-2015. Bank of America has hold 0.11 percent cash/deposits in 2011 & 2013, which was decline to 0.09 in 2014 & 0.07 in 2015, and reserved cash 0.06 in 2011, decrease to 0.04 in 2012 and 13, 0.03 in 2014 and increase to 0.09 in 2015.

It is found from table no. 5.5.4 that Bank of Bahrain has hold cash for depositors 14.98 percentage, sharp decline to 0.02 in 1993, and increase by 0.14 in 1996, 0.01 in 1999-2000. In respect of cash/total deposits was 12.50 percent was in 1991, 0.01 in 1993, 0.10 in 1996, and 0.06 during 1998-2000. Bank of Nova Scotia has registered 15.11 percent cash for depositors in 1991, 0.13 in 1992, increase to 0.13

in 1992 & 0.24 in 1996, 0.11 from 0.05 during 1997-2000 and in respect of cash/total assets was 10.95 percent in 1991, 0.07 in 1993, 0.10 in 1994, 0.05 in 1995 which was decrease by 0.03 in 1997, 0.07 during 1998-2000.

Table 5.5.4: Liquidity Position for the period from 1990-91 to 1999-2000

(Percentage)

Liquidity Position - (1990-91 to 1999-2000)						
Years	**Bank of Bahrain & Kuwait (BOB & K)**		**(BNS)Bank of Nova Scotia**		**(BOTM) Bank of Tokyo Mitsubishi UFJ**	
	Cash/ Deposits	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
1990-91	14.98	12.95	15.11	10.95	19.02	10.70
1991-92	0.05	0.04	0.13	0.04	0.55	0.43
1992-93	0.02	0.01	0.27	0.07	0.33	0.25
1993-94	0.07	0.06	0.23	0.10	0.38	0.29
1994-95	0.11	0.08	0.13	0.05	0.00	0.00
1995-96	0.14	0.10	0.24	0.07	0.31	0.18
1996-97	0.05	0.04	0.05	0.03	0.32	0.20
1997-98	0.09	0.06	0.09	0.07	0.27	0.21
1998-99	0.01	0.06	0.11	0.07	0.21	0.17
1999-2000	0.01	0.06	0.14	0.07	0.39	0.28

*(**Source:** Statistical Tables relating to banks and Basic Returns-Annual Published Reports)*

Bank of Tokyo during period, has hold cash 19.02 percent in 1991, 0.55 in 1992, continuous decrease to 0.00 in 1996, 0.21 in 1999, 0.39 in 2000 and second sub-parameters-Cash/deposits percentage was 10.70 in 1991, 0.43 in 1992, decrease by 0.21 in 1999, 0.17 in 1999 and 0.28 in 2000.

Table no. 5.5.5 showed that during research 2000-01 to 2009-10, BOB has hold cash/deposits 0.01 in 2001 and 02, 0.17 in 2004, increase to 0.19 in 2006-07, 0.16 in 2009. Besides, cash/ total assets ratio was 0.06 in 2001-02, increase to 0.08 in 2005, 0.15 in 2006, 0.06 in 2010.

BNS during study has secured 6 percent from 2001-2003, 2006-07 increase to 9 percent in 2005, 4 percent from 2008-10, and in respect of cash/total assets was 4 percent during 2001-03, 2005-06, and 0.03 in 2007 and 2 percent from 2008-10.

Table 5.5.5: Liquidity Position for period from 2000-01 to 2009-10

(Percentage)

Liquidity Position - (2000-01 to 2009-10)						
Years	**Bank of Bahrain & Kuwait**		**Bank of Nova Scotia**		**Bank of Tokyo Mitsubishi UFJ**	
	Cash/ Deposits	**Cash/ Total Assets-TA**	**Cash/ D (deposits)**	**Cash/Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
2000-01	0.01	0.06	0.06	0.04	0.60	0.40
2001-02	0.01	0.06	0.06	0.04	0.04	0.28
2002-03	0.12	0.08	0.06	0.04	0.54	0.29
2003-04	0.17	0.11	0.06	0.03	0.53	0.26
2004-05	0.12	0.08	0.09	0.04	0.48	0.23
2005-06	0.19	0.15	0.06	0.04	0.39	0.16
2006-07	0.19	0.14	0.06	0.03	0.28	0.11
2007-08	0.15	0.11	0.04	0.02	0.25	0.01
2008-09	0.16	0.12	0.04	0.02	0.20	0.09
2009-10	0.08	0.06	0.04	0.02	0.14	0.06

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

BOTM has hold cash/deposits ratio 60 percent in 2001, which was declined continuous from 54 to 14 during 2003-2010 and in respect of cash/total assets was 40 percent in 2001, 26 in 2004, 11 in 2007, steep fall to 1 percent in 2008 and 9 in 2009, 6 percent in 2010.

From table no. 5.5.6, from 2010-11 to 2014-15, cash/deposits ratio was 0.08 in 2011, 0.12 in 2012 & 2014 which was decline to 0.07 in 2015 and percentage of cash/total assets was 0.05 in 2011, 0.07 during 2012-13, 0.08 in 2014, 0.04 in 2015. It is observed that Bank of Nova Scotia has hold cash for depositors 0.04 in 2011, decline to 0.02 in 2013, 0.05 in 2014 and cash/total assets ratio was 0.01 percent during 2011-15.

Table 5.5.6: Liquidity Position for period from 2010-11 to 2014-15

(Percentage)

Liquidity Position- (2010-11 to 2014-15)						
Years	**Bank of Bahrain & Kuwait**		**Bank of Nova Scotia**		**Bank of Tokyo Mitsubishi UFJ**	
	Cash/ Deposits	**C/ Total Assets**	**Cash/ Deposits**	**Cash/ TA**	**Cash/ Deposits**	**Cash/ Total Assets**
2010-11	0.08	0.05	0.04	0.01	0.18	0.04
2011-12	0.12	0.07	0.03	0.01	0.11	0.03
2012-13	0.11	0.07	0.02	0.01	0.01	0.03
2013-14	0.12	0.08	0.05	0.01	0.07	0.02
2014-15	0.07	0.04	0.01	0.01	0.03	0.01

*(**Source:** RBI)*

Bank of Tokyo has secured cash/depositors 0.18 in 2011, 0.11 in 2012, 0.01 in 2013 which was increase to 0.07 in 2014 and cash/total assets was 0.04 in 2011, 0.03 during 2012-14 and 0.01 in 2015.

Table 5.5.7: Liquidity Position for period from 1990-91 to 1999-2000

(Percentage)

Liquidity Position - (1990-91 to 1999-2000)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC-Hong-Kong Banking Corporation**	
	Cash/ Deposits (D)	**Cash/ Total Assets (TA)**	**Cash/ Deposits**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
1990-91	0.00	0.00	20.95	10.64	16.76	8.22
1991-92	2.50	0.16	0.10	0.06	0.42	0.25
1992-93	0.00	0.00	0.10	0.06	0.45	0.32
1993-94	0.17	0.14	0.07	0.05	0.36	0.29
1994-95	0.16	0.13	0.06	0.04	0.27	0.21
1995-96	0.16	0.13	0.09	0.06	0.23	0.17
1996-97	0.21	0.16	0.13	0.08	0.31	0.24
1997-98	0.28	0.19	0.11	0.07	0.26	0.20
1998-99	0.31	0.22	0.12	0.06	0.35	0.24
1999-2000	0.31	0.22	0.18	0.09	0.29	0.20

*(**Source:** Reserve Bank-Statistical Tables relating to banks and Basic Returns)*

Table no. 5.5.7 explained that CitiBank during period has reported cash/deposits ratio 0.00 in 1991 & 1993, 2.50 in 1992 (double deposits), 0.17 in 1994, 0.16 during 1995-96, continuous increase by 0.31 from 1997-2000 and cash/total assets was 0.00 percent in 1991 & 1993, 0.16 in 1992, decrease to 0.14 in 1994, 0.13 from 1995-96, 0.22 in 1999-2000.

Deutsche Bank during 1990-91 to 1999-2000 has reported that 20.95-time cash available for depositors in 1991, decline steep to 0.06 in 1995, 0.09 in 1996, 0.13 in 1997, increased continue 0.18 in 2000 and cash out of total assets was 10.64 in 1991, constant down fall to 0.4 from 0.06 during 1992-95, 0.08 in 1997, 0.06 in 1999. HSBC has hold cash/deposits ratio16.76 in 1991, however sharp decrease by 0.42 in 1992, 0.23 in 1996, 0.31 in 1997, 0.35 in 1999 and so on and ratio of cash/total assets was 8.22 in 1991, decrease continuous to 0.17 in 1996, 0.24 in 1997 and 1999, 0.20 in 1998 and 2000.

Table 5.5.8: Liquidity Position for period from 2000-01 to 2009-10

(Percentage)

Liquidity Position - (2000-01 to 2009-10)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC-Hong-Kong Banking Corporation**	
	Cash/ Deposits	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
2000-01	0.39	0.28	0.12	0.05	0.47	0.30
2001-02	0.42	0.29	0.11	0.05	0.45	0.30
2002-03	0.31	0.21	0.19	0.06	0.51	0.31
2003-04	0.32	0.22	0.12	0.03	0.44	0.28
2004-05	0.41	0.26	0.06	0.02	0.47	0.29
2005-06	0.32	0.20	0.11	0.04	0.35	0.23
2006-07	0.29	0.17	0.11	0.04	0.29	0.18
2007-08	0.37	0.20	0.08	0.04	0.27	0.15
2008-09	0.28	0.14	0.09	0.05	0.23	0.12
2009-10	0.29	0.17	0.01	0.05	0.21	0.13

*(**Source:** RBI-Statistical Tables relating to banks and Basic Returns)*

It is inferred from table no. 5.5.8 that CitiBank has registered 0.39 cash/deposits in 2001, showed variation as 0.42 in 2002, increased to 0.41 in 2005, 0.29 in 2007 & 2010. However, in respect of cash/total assets was 0.28 percent in 2001, decline to 0.21 in 2003, 0.26 in 2005, 0.20 in 2008, 0.14 in 2009 and so on.

Deutsche Bank has reported variation in both sub-parameters performance e.g. cash/deposits ratio was 0.12 in 2001, 0.19 in 2003, decrease by 0.06 in 2005, 0.09 in 2009-10 and cash/total assets was 0.05 in 2001 to 2002, 0.06 in 2003, 0.03 in 2004, fall down to 0.2 in 2005, 0.04 from 2006 to 2008 & 0.05 from 2009-10. HSBC in this study era has kept cash out of deposits 0.47 percent in 2001, increase to 0.51 in 2003, 0.47 in 2005, and constant decline to 0.21 in 2010 and in respect of cash out of total assets was 0.30 in 2001-02, constant decline to 0.12 in 2009 from 0.31 in 2003, and 0.13 percent in 2010.

Table 5.5.9: Liquidity Position for period from 2010-11 to 2014-15

(Percentage)

Liquidity Position- (2010-11 to 2014-15)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC-Hong-Kong Banking Corporation**	
	Cash/ Deposits	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
2010-11	0.35	0.18	0.10	0.05	0.20	0.12
2011-12	0.36	0.18	0.11	0.06	0.18	0.10
2012-13	0.26	0.14	0.09	0.04	0.17	0.09
2013-14	0.18	0.08	0.05	0.02	0.17	0.09
2014-15	0.22	0.14	0.03	0.02	0.14	0.09

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks & Basic Returns)*

From table no. 5.5.9 it is observed that HSBC in this period has hold cash/deposits 0.20 in 2011, 0.18 in 2012, fall down 0.14 in 2015 and cash/total assets ratio was 0.12 in 2011, 0.10 in 2012, 0.09 percent during 2013-15. CitiBank has hold cash/deposits ratio 0.35 in 2011, 0.36 in 2012, 0.18 in 2014 & cash/total assets ratio was 0.18, decrease by 0.14 in 2013, 0.01 in 2014. It is noticed that cash/deposits ratio was reported by DB 0.10 percent in 2011, 0.11 in 2012, 0.09 in 2013, steep fall

to 0.03 in 2015 and cash/total assets was 0.05 in 2011, 0.06 in 2012, 0.04 percent in 2013 and 0.02 percent during 2014-15.

Table no. 5.5.10 explained that Mashreq Bank throughout research has holds cash for deposits 16.29 in 1991, zero percent during 1992-93, increase to 0.15 in 1995, 0.14 in 1997, 0.26 in 1999 and 0.22 in 2000 and in term of cash/total assets was 11.99 percent in 1991, 9 percent in 1994, 1997, 13 in 1995 and 17 in 1999, 16 percent in 2000.

Table 5.5.10: Liquidity Position for period from 1990-91 to 1999-2000

(Percentage)

Liquidity Position - (1990-91 to 1999-2000)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Cash/ Deposits	**Cash/ TA**	**Cash/ D-Deposits**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
1990-91	16.29	11.99	7.67	4.18	18.25	12.73
1991-92	0.00	0.00	0.16	0.13	0.03	0.02
1992-93	0.00	0.00	0.15	0.12	0.04	0.03
1993-94	0.12	0.09	0.18	0.14	0.00	0.00
1994-95	0.15	0.13	0.14	0.01	0.00	0.00
1995-96	0.08	0.05	0.13	0.09	0.00	0.00
1996-97	0.14	0.09	0.11	0.07	0.01	0.01
1997-98	0.25	0.19	0.54	0.43	0.01	0.01
1998-99	0.26	0.17	0.17	0.13	0.03	0.02
1999-2000	0.22	0.16	0.12	0.08	0.03	0.02

*(**Source:** RBI-STRB & Basic Returns)*

Oman International Bank has kept 7.67 percent of cash/deposits, fall down to 0.15 in 1993, 0.18 in 1994, 0.11 in 1997, steep increase to 0.54 in 1998, 0.17 in 1999, 0.12 in 2000 and in term of cash/total assets was 4.18 in 1991, 0.13 in 1992, sharp decline by 0.01 in 1995, 0.09 in 1996, 0.43 in 1998 & 0.08 in 2000. Cash/deposits ratio of Societe Generale was 18.25 percent in 1991, decline to 0.04 in 1993, no cash for depositors was noticed in 1994-95, 0.01 in 1997 & 1998, which was increase by

0.03 in 1999-2000 and cash out of total assets was 12.73 percent in 1991, 0.02 in 1992, no percentage of cash/total assets was registered in 1994-96, 0.01 percent during 1997-98, 0.02 in 1999-2000.

From table no. 5.5.11, it is noticed that during 2001-2010, Mashreq Bank has secured cash for depositors 0.07 in 2001, 0.08 in 2002-03, 0.06 in 2004, 0.02 in 2005 and there was no record of cash/deposits and total assets percentage during 2005-06 to 2009-10 and however, cash over total assets was 0.06 in 2001-02, 0.80 percent in 2003, fall down to 0.05 in 2004, 0.01 in 2005.

Table 5.5.11: Liquidity Position for period from 2001-01 to 2009-10

(Percentage)

Liquidity Position - (2000-01 to 2009-10)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Cash/ Deposits	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
2000-01	0.07	0.06	0.16	0.10	0.07	0.02
2001-02	0.08	0.06	0.09	0.06	0.05	0.01
2002-03	0.01	0.80	0.13	0.08	0.19	0.04
2003-04	0.06	0.05	0.12	0.61	0.06	0.03
2004-05	0.02	0.01	0.15	0.07	0.05	0.03
2005-06	0.00	0.00	0.12	0.06	0.03	0.01
2006-07	0.00	0.00	0.11	0.06	0.01	0.01
2007-08	0.00	0.00	0.27	0.12	0.01	0.01
2008-09	0.00	0.00	0.25	0.12	0.02	0.01
2009-10	0.00	0.00	0.01	0.04	0.02	0.01

*(**Source:** RBI-Published Annual Reports)*

OIB has registered cash/deposits percentage 0.16 in 2001, 0.09 in 2002, 0.15 in 2005, fall to 0.11 in 2007, 0.27 in 2008, 0.01 in 2010 and in respect of cash/total assets was 0.10 in 2001, 0.08 in 2003, 0.07 in 2004, 0.06 in 2002, 2006, 2007, and increase by 0.12 in 2008-09. Societe Generale throughout research has reserved cash 0.07 percent in 2001, 0.05 in 2002, 0.19, in 2005, 0.03 in 2006, 0.01 in 2007-08,

0.02 in 2009-10 and cash/total assets was 0.02 in 2001, 0.04 in 2003, 0.03 in 2004 and 2005, 0.01 during 2007-10.

Table no. 5.5.12 described that MB has showed zero percentage of cash/deposits and cash out of total assets during 2010-11 to 2012-13 & 2014-15, however, in respect of cash/deposits was 0.24 in 2014, and 0.12 in 2013-14 of Cash/TA.

Table 5.5.12: Liquidity Position for period from 2010-11 to 2014-15

(Percentage)

Liquidity Position- (2010-11 to 2014-15)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Cash/ Deposits	**Cash/ TA**	**C-Cash/ Deposits**	**Cash/ Total Assets**	**Cash/ Deposits**	**Cash/ Total Assets**
2010-11	0.00	0.00	0.12	0.05	0.03	0.01
2011-12	0.00	0.00	0.13	0.05	0.01	0.00
2012-13	0.00	0.00	0.20	0.08	0.01	0.00
2013-14	0.24	0.09	0.26	0.08	0.01	0.00
2014-15	0.00	0.00	0.25	0.09	0.00	0.00

*(**Source:** Reserve Bank of India (Reports)-Statistical Tables relating to banks & Basic Returns)*

Oman Bank has hold cash for depositors 0.12 in 2011, continuous increase by 0.26 in 2013-14 and in respect of Cash/total assets was 0.05 in 2011-12, 0.08 in 2013-14 & 0.09 in 2015. SG has kept cash for depositors 0.03 in 2011, 0.01 percent during 2011-12 to 2014-15 and zero percent of cash/total assets was noticed during 2011-12 to 2014-15.

Table no. 5.5.13 described that Sonali Bank has secured 48 percent cash for depositors in 1991, 1.87 percent in 1992, 2.46 in 1993, decline by 0.78 in 1994, 0.38 in 1995, however sharp increase to 0.54 percent in 1996, 2.93 in 1999 and so on and percentage of cash from TA was 40.23 in 1991, during research variation was noticed as 1.53 in 1992, 2.05 in 1993, 0.33 in 1995, 0.41 in 1996, 0.89 in 1997 and 1.74 in 1999 and so on.

Table 5.5.13: Liquidity Position for period from 1990-91 to 1999-2000

(Percentage)

Liquidity Position – (1990-91 to 1999-2000)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Cash/Deposits	**Cash/Total Assets**	**Cash/Deposits**	**Cash/Total Assets**
1990-91	48.00	40.23	18.18	9.66
1991-92	1.87	1.53	0.35	0.21
1992-93	2.46	2.05	0.29	0.13
1993-94	0.78	0.71	0.21	0.16
1994-95	0.38	0.33	0.31	0.22
1995-96	0.54	0.41	0.33	0.22
1996-97	1.18	0.89	0.29	0.22
1997-98	2.79	1.69	0.34	0.26
1998-99	2.93	1.74	0.39	0.26
1999-2000	1.21	0.92	0.74	0.40

*(**Source:** Reserve Bank of India-STRB and Basic Returns)*

SCB has kept in respect of cash/deposits ratio 18.18 in 1991, 0.35 in 1992, 0.21 percent in 1994, increase to 0.33 in 1996, 0.74 in 1999-2000 and cash/total assets was 9.66 percent in 1991, 0.21 in 1992, 0.16 in 1994, increase to 0.22 during 1995-1997, 0.26 from 1998-99 and 0.4 percent in 1999-2000.

Table no. 5.5.14 mentioned that Sonali Bank during 2000-01 to 2009-10 has hold cash/deposits 2.31 in 2001, 3.27 in 2002 and 0.63 in 2004, with continuous variation was 3.20 in 2006, 1.71 in 2007, 1.79 in 2008, increase to 1.86 in 2009, 3.42 percent in 2010 and on side of cash/total assets was1.40 percent in 2001, increase to 1.57 in 2002, 2.94 in 2004, 2.13 in 2006, 0.83 percent in 2007, and increase from 1.16 to 2.58 during 2008-10.

Table 5.5.14: Liquidity Position for period from 2000-01 to 2009-10

(Percentage)

Liquidity Position – (2000-01 to 2009-10)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Cash/Deposits	**Cash/Total Assets**	**Cash/Deposits**	**Cash/Total Assets**
2000-01	2.31	1.40	0.38	0.16
2001-02	3.27	1.57	0.36	0.14
2002-03	2.21	1.72	1.29	0.79
2003-04	3.63	2.94	0.42	0.24
2004-05	1.91	1.30	0.46	0.28
2005-06	3.20	2.13	0.24	0.14
2006-07	1.71	0.83	0.22	0.14
2007-08	1.79	1.16	0.45	0.23
2008-09	1.86	1.50	0.52	0.22
2009-10	3.42	2.58	0.41	0.22

*(**Source:** Statistical Tables relating to banks and Basic Returns)*

It is observed that SCB has registered variation as cash/deposits and cash/total assets as 0.38 percent in 2001, 1.29 in 2003, decline 0.22 in 2007, 0.52 in 2008-09 and cash from total assets was 0.16 in 2001, 0.79 in 2003, fall down to 0.28 in 2005 and 2008, 0.14 during 2006-07 and 0.22 from 2009-10.

Table 5.5.15: Liquidity Position for period from 2010-11 to 2014-15

(Percentage)

Liquidity Position – (2010-2011 to 2014-15)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Cash/Deposits	**Cash/Total Assets**	**Cash/Deposits**	**Cash/Total Assets**
2010-11	2.96	2.11	0.62	0.34
2011-12	5.12	3.60	0.32	0.17
2012-13	3.52	2.50	0.42	0.22
2013-14	3.11	2.30	0.28	0.16
2014-15	0.68	0.53	0.32	0.18

*(**Source:** Statistical Tables relating to banks and Basic Returns-RBI)*

Above table no. 5.5.15 explained that Sonali Bank has kept 2.96 percent cash/ depositors, 5.12 percent in 2012, 3.52 in 2013, 3.11 in 2014 & 0.68 percent in 2015 and cash/total assets was 2.11 percent in 2011, raise to 3.60 in 2012, 2.50 in 2013 and steep fall to 0.53 in 2015. Standard Bank has obtained 0.62 percent cash for depositors in 2011, 0.32 in 2012, 0.42 in 2013, 0.28 in 2014 and cash/total assets was 0.34 in 2011, 0.17 & 0.22 in 2012, 2013 and decrease by 0.16 in 2014 so on.

5.5.1 Individual and Group Ranks

Sample bank were ranked individual on basis of average performance of its sub-characteristics as (i) Cash out of deposits, high rank was assign to foreign bank who has reserved cash within limit to depositors' money (ii) Cash out of total assets-sample foreign banks were positioned as per their cash availability from assets-top rank was assign to bank who has kept within limit of assets means beyond it lead to idle cash and Group rank (Parameter Rank-PR) was calculated as per average rank performance of these sub-dimensions.

Table 5.5.16: Individual and Group Rank (1990-91 to 1999-2000)

Liquidity Position-Average Rank of Parameter and Sub-Parameter (1990-91 to 1999-2000)							
Name of Foreign Banks	**Cash/ Deposits**	**Rank**	**Cash/Total Assets**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.69	3	0.06	5	8	4	4
AEB	0.82	2	0.45	2	4	2	2
BOA	1.08	5	0.37	3	8	4	4
BOB & K	1.55	6	1.35	13	19	9.50	8.50
BNS	1.65	7	1.15	8	15	7.50	6
BOTM	2.18	11	1.27	10	21	10.50	12
CB	0.41	4	0.14	4	8	4	4
DB	2.19	12	1.12	7	19	9.50	8.50
HSBC	1.97	10	1.03	6	16	8	7
MB	1.75	8	1.29	12	20	10	10.50
OIB	0.94	1	0.54	1	2	1	1
SG	1.84	9	1.28	11	20	10	10.50
SB	6.21	14	5.10	14	28	14	14
SCB	5.21	13	1.17	9	22	11	13

*(**Source:** Researcher's Calculation)*

Table no. 5.5.16 reported the individual and group rank of sample from 1990-91 to 1999-2000 as Individual Rank (Cash/Deposits) Oman Bank has occupied rank first, followed by American Express Bank, ADCB, CB, BOA, BNS and eighth, ninth, tenth rank has positioned by Mashreq Bank, SG, HSBC, and BOTM so on, lowest rank was obtained by SCB & SB.

In term of cash/total assets (individual rank) Oman international Bank has positioned at first, second to American Express Bank so on and from bottom 10^{th}, 11^{th}, 12^{th}, 13^{th} & 14^{th} positioned to BOTM, Societe Generale, MB, BOB & SB. In term of Group Rank, OIB has secured first position, 2^{nd} by AEB, same rank (4)-average of 3^{rd}, 4^{th} & 5^{th} was obtained by ADCB, Bank of America, CB, and lowest rank from 12^{th} to 14^{th} was occupied by BOTM, SCB and SB.

Table 5.5.17: Individual and Group Rank (2000-01 to 2009-10)

Liquidity Position-Average Rank of Parameter and Sub-Parameter (2000-01 to 2009-10)							
Name of Foreign Banks	**Cash/Deposits**	**Rank**	**Cash/Total Assets**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.01	12	0.07	8	20	10	10.50
AEB	0.35	4	0.23	2.50	6.50	3.25	3
BOA	0.32	6	0.11	7	13	6.50	6.50
BOB & K	0.13	8	0.01	11	19	9.50	9
BNS	0.06	10	0.03	10	20	10	10.50
BOTM	0.38	2	0.19	5	7	3.50	4
CB	0.34	5	0.21	4	9	4.50	5
DB	0.10	9	0.04	9	18	9	8
HSBC	0.37	3	0.23	2.50	5.50	2.75	2
MB	0.04	11	1.29	13	24	12	12
OIB	0.14	7	0.13	6	13	6.50	6.50
SG	1.84	13	1.28	12	25	12.50	13.50
SB	2.44	14	1.71	14	28	14	14
SCB	0.48	1	0.26	1	2	1	1

*(**Source:** Author's Calculation)*

Table no. 5.5.17 stated that during 2000-01 to 2009-10, at individual rank SCB has positioned at first rank, 2nd, 3rd to 6th positioned occupied by BOTM, HSBC, American Express Bank, CB, BOA, and DB, BNS, MB, ADCB, SG & Sonali Bank has positioned 9th, 10th, 11th, 12th, 13th & 14th and in term of cash/total assets again SCB has occupied rank first, 2.50 (average of second and third) AEB, HSBC, fourth, fifth, sixth, seventh positions to CB, BOTM, OIB, Bank of America and lowest rank 11th, 12th, 13th & 14th ranks were positioned by BOB, SG, MB & SB. On basis of Group rank (average of sub-dimensions) SCB has occupied rank first, followed by HSBC (2nd), AEB (3rd), BOTM (4th), CB (5th) and so on. However, Mashreq Bank at rank (12th), 13th to Societe Generale and 14th to Sonali Bank.

Table 5.5.18: Individual and Group Rank (2010-11 to 2014-15)

Liquidity Position-Average Rank of Parameter and Sub-Parameter (2010-11 to 2014-15)							
Nam e of Foreign Banks	**Cash/Deposits**	**Rank**	**Cash/Total Assets**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.06	8	0.04	6.50	14.50	7.25	8
AEB	0.00	14	0.00	14	28	14	14
BOA	0.08	6	0.05	5	11	5.50	4
BOB & K	0.10	4	0.06	4	8	4	3
BNS	0.03	10	0.03	8.50	18.50	9.25	10
BOTM	0.08	6	0.03	8.50	14.50	7.25	8
CB	0.27	2	0.13	2	4	2	2
DB	0.08	6	0.04	6.50	12.50	6.25	5
HSBC	0.17	3	0.01	11	14	7	6
MB	0.05	9	0.02	10	19	9.50	11
OIB	0.01	11.50	0.07	3	14.50	7.25	8
SG	0.01	11.50	0.00	13	24.50	12.25	12
SB	3.08	13	2.21	12	25	12.50	13
SCB	0.39	1	0.21	1	2	1	1

*(**Source:** Researcher's Calculation)*

Table 5.5.18 described that during research 2010-11 to 2014-15, Standard Chartered Bank has occupied rank first at both individual and Group rank also, however in term of cash/deposits CitiBank (second), HSBC & BOB Kuwait (third & fourth), so on & position 9th & 10th was secured by MB & BNS, Sonali Bank & AEB has place at thirteen & fourteen and in term of cash/total assets CitiBank has positioned at 2nd, OIB at third, 6.50 (same rank-average of 5th & 6th) to ADCB & DB, 8.50 (average of 8th & 9th) rank was assign to BNS & BOTM, 13 & 14 rank was place to SG & AEB.

On basis of parameter rank, after SCB, CB (2nd), SCB (3rd), BOB (4th), DB (5th) has placed as per performance during research, from 6th to 10th ranks were obtained by HSBC, ADCB, Oman and BNS; however, from bottom rank was positioned by Mashreq Bank at 11th, Societe Generale at 12th, SB at 13th and American Express Bank at 14th.

5.5.2 Result of One-Way ANOVA and K-S Test

Table 5.5.19: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Liquidity Position (1990-91 to 1999-2000)					
Sub-Parameters of Model	**Sum of Squares-SOS**	**df**	**Mean Square-MS**	**F**	**Sig. Value**
Cash/Deposits					
Between Groups (BGs)	9068.681	9	1007.631	4.762	0.00
Within Groups (WGs)	27507.776	130	211.598		
Total	36576.457	139			
Cash/Total Assets					
Between Groups	1175.501	9	130.611	13.189	.000
Within Groups	1287.442	130	9.903		
Total	2462.943	139			

Results of One-Sample Kolmogorov Smirnov (Normality Test)		
Particulars/Name of Sub-Parameters	**Cash/Deposits**	**Cash/Total Assets**
N	140	140
Normal Parameters Mean	2.9863	1.1621
Std. Deviation	16.222	4.20940
Test Statistic	5.052	5.127
Asymp. Sig. (2-tailed)	.000	.000

*(**Source:** Statistical Calculation)*

Table no. 5.5.19 explained results of 5th parameter of CAMELS model liquidity position and its characteristics at 95 percent confidence level with One-way Anova and non–parametric test K-S test (check normal distribution of collected data) from 1990-91 to 1999-2000.

As observed, there was statistically significant difference in respect of cash/deposits ratio performance among sample foreign banks in India. Hence, null hypothesis of Cash/D ratio - H05 (i): (a) was rejected because tabulated value 0.00 was smaller than significant value 0.05 and calculated *F* value was 4.762. On side of Cash out of total assets, same there was significant difference among these banks as tabulated value 0.00 was less than *P* value 0.05 and value of *F* was 13.189. The null hypothesis of second sub-parameter Cash/TA ratio-H05 (i): (b) was not accepted, means rejected. During study, collected data (secondary) from different published sources was normally distributed as K-S test value of (i) Cash/Deposits is 5.052, (ii) Cash/Total Assets was 5.127 means more than 0.5 (prescribed value).

Table 5.5.20: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Liquidity Position (2000-01 to 2009-10)					
Sub-Parameters of Model	**Sum of Squares**	**df**	**Mean Square**	**F Value**	**Sig.**
Cash/Deposits					
Between Groups	1.012	9	.112	.252	.986
Within Groups	57.933	130	.446		
Total	58.945	139			
Cash/Total Assets					
Between Groups	.528	9	.059	.267	.982
Within Groups	28.593	130	.220		
Total	29.121	139			
Results of One-Sample Kolmogorov-Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**Cash/Deposits**		**Cash/Total Assets**		
N	140		140		
Normal Parameters Mean	.3795		.2414		
Std. Deviation	.65120		.45772		
Test Statistic	3.506		3.949		
Asymp. Sig. (2-tailed)	.000		.000		

*(**Source:** Software Statistical Calculation)*

Table no. 5.5.20 showed results of liquidity position & its sub-parameters at 95 percent confidence level with One-way Anova and also K-S test (normal distribution of data) during 2000-01 to 2009-10. It is examined no statistical significant difference was found in aspect of Cash/D-Deposits ratio performance among selected foreign banks in India. Hence, null hypothesis of cash/total deposits - H05 (ii): (a) was accepted as tabulated value .986 was larger than significant value 0.05 and calculated *F* value was .252.

On part of Cash/total assets, there was no significant difference among selected foreign banks as tabulated value .982 was more than *P* value 0.05 and *F* value was .267. Null hypothesis of Cash/TA ratio-H05 (ii): (b) was accepted. Throughout study period, collected data (secondary) from various published sources was normally distributed of both dimensions as K-S test value of (i) Cash/Deposits ratio was 3.506 and, (ii) Cash/Total Assets was 3.949 means above 0.5 (prescribed value).

Table 5.5.21: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Liquidity Position (2010-11 to 2014-15)					
Sub-Parameters of Model	**Sum of Squares (SOS)**	**df**	**Mean Square (MS)**	**F**	**Sig.**
Cash/Deposits					
Between Groups	.820	4	.205	.261	.902
Within Groups	50.989	65	.784		
Total	51.809	69			
Cash/Total Assets					
Between Groups	.367	4	.092	.227	.922
Within Groups	26.236	65	.404		
Total	26.603	69			
Results of One-Sample Kolmogorov-Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**Cash/Deposits**		**Cash/Total Assets**		
N	70		70		
Normal Parameters Mean	.3274		.2120		
Std. Deviation	.86652		.62093		
Test Statistic	3.204		3.499		
Asymp. Sig. (2-tailed)	.000		0.00		

*(**Source:** Statistical Calculation)*

Table no. 5.5.21 explained liquidity position and its sub-parameters result at 95 percent level of confidence from 2010-11 to 2014-15. As observed no statistical significant difference was inferred in term of C-Cash/Deposits ratio performance among sample foreign banks in India. Hence, null hypothesis of C/D- H05 (iii): (b) was accepted as tabulated value .902 was more than the significant value 0.05 and *F* value was .261. In term of Cash/total assets, there was also no significant difference among selected foreign banks as tabulated value .922 was bigger than the *P* value 0.05 and *F* value was .227.

The null hypothesis of Cash/total assets ratio-H05 (iii): (b) was accepted. Throughout study period, collected data (secondary) from various published sources was normally distributed of both dimensions as K-S test value of (i) Cash/Deposits ratio was 3.204 and, (ii) Cash/Total Assets was 3.499 means more than 0.5 (prescribed value).

5.6 S – SENSITIVITY TO MARKET RISK (CAMELS)

Sensitivity focuses on an institution's ability to identify, monitor, manage and control its market risk, provides institution management with clear and focused indication of supervisory concerns (Karri et al, 2015).

This ratio described that higher interest income better for banks mean effective coverage of market risks from time to time. In Year 1996, Federal Deposit Insurance Corporation-FDIC based in U.S incorporated 6th component in "CAMEL" model for bank performance assessment. This 6th component, or the 'S' component came to known as sensitivity to market risks, assess how bank respond risk earning and examines changes in equity and commodity prices, moreover foreign exchange rates. This last dimension of CAMELS model has evaluated with (i) II/ (TI): this ratio described that interest earned out of total income by particular bank, (ii) Total Income/Total Assets: this ratio show, how much percentage of total income from total assets.

Table 5.6.1: Sensitivity to Market Risk for period from 1990-91 to 1999-2000

(Percentage)

Sensitivity to Market Risk- (1990-91 to 1999-2000)						
Years	**Abu Dhabi**		**AEB**		**BOA**	
	Interest Income	**Total Income**	**II (income)**	**TI (Total Income)**	**Interest Income**	**Total Income**
1990-91	0.92	0.09	0.73	0.12	0.82	0.10
1991-92	0.82	0.11	0.00	0.00	0.68	0.23
1992-93	0.94	0.01	0.83	0.15	0.82	0.19
1993-94	0.92	0.09	0.83	0.13	0.74	0.14
1994-95	0.88	0.01	0.80	0.13	0.00	0.00
1995-96	0.83	0.15	0.85	0.14	0.84	0.12
1996-97	0.93	0.11	0.75	0.18	0.86	0.13
1997-98	0.85	0.11	0.72	0.14	0.82	0.13
1998-99	0.85	0.10	0.75	0.14	0.90	0.14
1999-2000	0.88	0.12	0.68	0.16	0.76	0.15

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

From table no. 5.6.1 noticed ADCB has earned interest income 0.92 in 1991, 0.82 in 1992, 0.94 in 1993, decrease to 0.83 in 1996, 0.85 during 1998-99 and total income 0.09 in 1991, 0.11 in 1992 and during 1997-98, decline to 0.09 in 1994, 0.15 percent in 1996, 0.10 in 1999.

It is observed that AEB during research was registered 0.73 in 1991, 0.83 from 1993-94, 0.80 percent in 1995, 0.85 in 1996 which was decline to 0.72 in 1998, 0.68 in 2000 and earned total income from total assets 0.12 in 1991, 0.15 in 1993, 0.13 during 1994-95, increase by 0.18 percent in 1997, 0.14 from 1998-99 and 0.16 in 2000.

BOA has earned 0.82 percent in 1991, 0.68 in 1992, 0.74 percent in 1994, increase to 0.86 percent in 1997, & 0.90 in 1999 and in term of total income was 0 .10 in 1991, 0.23 in 1992, decline continuous to 0.12 in 1996, however 0.13 percent during 1997-98, 0.15 in 2000.

Table 5.6.2: Sensitivity to Market Risk for period from 2000-01 to 2009-10

(Percentage)

Sensitivity to Market Risk - (2000-01 to 2009-10)						
Years	**Abu Dhabi Commercial Bank-ADCB**		**American Express Bank-AEB**		**Bank of America-BOA**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
2000-01	0.89	0.07	0.59	0.14	0.86	0.12
2001-02	0.96	0.10	0.57	0.15	0.79	0.11
2002-03	0.94	0.10	0.62	0.16	0.82	0.09
2003-04	0.95	0.09	0.59	0.15	0.77	0.07
2004-05	0.79	0.09	0.52	0.17	0.68	0.07
2005-06	0.92	0.18	0.46	0.15	0.60	0.09
2006-07	0.75	0.08	0.43	0.17	0.65	0.10
2007-08	0.69	0.16	0.00	0.00	0.60	0.11
2008-09	0.90	0.08	0.19	0.03	0.61	0.10
2009-10	0.93	0.07	0.17	0.26	0.54	0.08

*(**Source:** Reserve Bank Reports - Statistical Tables relating to Banks)*

It is inferred from table no. 5.6.2 that from 2000-01 to 2009-10 ADCB has registered 0.89 percent in 2001, 0.96 in 2002, 0.79 in 2005, 0.75 in 2007 which was increase to 0.93 in 2010 and total income was 0.07 percent in 2001, 0.10 during 2002-03, 2005 & 0.18 in 2006, and fall down to 0.07 in 2010.

Besides, it is noticed that (interest) income was 0.59 percent in 2001 earned by AEB, 0.57 in 2002, 0.62 in 2003, continuous decrease to 0.43 in 2007, 0.17 in 2009, 0.19 percent in 2009 and total income out of assets was 0.14 percent in 2001, increase to 0.16 in 2003, 0.15 percent in 2004, continuous steep fall to 0.03 in 2009.

BOA in this period has earned 0.86 in 2001, 0.79 in 2002, 0.82 percent in 2003, constant decline to 0.60 in 2006, and 0.54 in 2010 and in respect of income (total)/ total assets was found 0.02 in 2001, 0.11 in 2002, during 2007-09, 0.07 in 2004-05, 0.09 in 2006, 0.10 in so on.

From table no. 5.6.3, it is observed that ADCB during 2010-11 to 2014-15 has earned (interest) 0.92 percent in 2011, 0.94 in 2012, 0.95 in 2013, decrease to 0.93 during 2014-15 and total income was 0.05 percent in 2011, increase to 0.07 in 2012, 0.08 percent in 2013, 0.07 from 2014-15.

Table 5.6.3: Sensitivity to Market Risk for period from 2010-11 to 2014-15

(Percentage)

Sensitivity to Market Risk- (2010-11 to 2014-15)						
Years	**Abu Dhabi Commercial Bank (ADCB)**		**American Express Bank (AEB)**		**Bank of America (BOA)**	
	Interest Income	**Total Income**	**Interest Income-TT**	**Total Income-TI**	**Interest Income**	**Total Income**
2010-11	0.92	0.05	0.14	0.26	0.56	0.11
2011-12	0.94	0.07	0.13	0.27	0.69	0.10
2012-13	0.95	0.08	0.14	0.25	0.74	0.01
2013-14	0.93	0.07	0.14	0.23	0.62	0.09
2014-15	0.93	0.07	0.17	0.23	0.70	0.08

*(**Source:** Reserve Bank of India-Statistical-Published Annual Reports)*

AEB has interest income 0.14 percent in 2011, 2013, 0.12 in 2014, 0.06 in 2015 and total income was 0.26 percent in 2011, 0.25 in 2013, 0.23 in 2014 & 2015. Bank of America during research has showed 0.56 in 2011 which was increase by 0.74 in 2013, 0.62 in 2014, & 0.70 percent in 2015 and total income was 0.11 percent in 2011, 2014 & 0.10 during 2012-13, 0.08 in 2015.

Table no. 5.6.4 explained that Bank of Bahrain has earned 0.96 percent in 1991, 1.00 in 1992, and 1.04 in 1993, decrease to 0.93 in 1994, 0.88 in 1995, 0.84 in 2000 and total income from total assets was 0.09 in 1991, 0.14 percent in 1992, 0.11 during 1993-94 and 0.12 during 1995-2000.

BNS has registered zero percent interest income out of total income in 1991, 0.85 in 1992, & 0.91 percent in 1993, decline continuous to 0.81 in 1996 & 1998, 0.10 in 1999 and total income was 0.14 percent in 1992, during 1994-97 and 0.10 in 1999-2000.

Table 5.6.4 Sensitivity to Market Risk for period from 1990-91 to 1999-2000

(Percentage)

Sensitivity to Market Risk- (1990-91 to 1999-2000)						
Years	**BOB & K**		**BNS**		**BOTM**	
	(II) Interest Income	**TI-Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
1990-91	0.96	0.09	0.00	0.00	0.80	0.01
1991-92	1.00	0.14	0.85	0.14	0.85	0.15
1992-93	1.04	0.11	0.91	0.15	0.81	0.16
1993-94	0.93	0.11	0.89	0.14	0.84	0.14
1994-95	0.88	0.12	0.85	0.14	0.00	0.00
1995-96	0.98	0.12	0.81	0.14	0.85	0.14
1996-97	0.90	0.12	0.86	0.14	0.93	0.15
1997-98	0.93	0.12	0.81	0.12	0.94	0.13
1998-99	0.88	0.12	0.81	0.14	0.80	0.13
1999-2000	0.84	0.12	0.81	0.10	0.70	0.18

*(**Source:** Reserve Bank of India-STRB & Basic Returns)*

During research BOTM has earned interest income 0.80 in 1991, 0.85 in 1992, showed frequent variation as 0.81 in 1993, 0.93 in 1997, 0.94 in 1998 and decline to 0.80 in 1999, 0.70 in 2000 and total income/total assets has showed 0.01 percent in 1991, 0.16 in 1993, 0.14 during 1994-1996, 0.13 from 1998-99 which was increase to 0.18 in 2000.

Table no. 5.6.5 stated that during study from 2000-01 to 2009-10, BOB has earned interest income 0.86 in 2001, 0.79 percent in 2003, 0.73 in 2004, 0.93 in 2005, decline to 0.77 in 2009 and total income/total assets was 0.11 percent in 2001-02, 0.08 in 2004 which was increase to 0.08 in 2008, 0.10 percent in 2009. BNS has earned interest income 90 percent in 2001, it was decline to 0.88 in 2002, 0.74 in 2004, 0.75 in 2005 & 2006, 0.76 percent during 2007-2010. Moreover, on part of total income out of assets was 0.01 percent in 2001, 2002, 0.11 in 2003, 0.06 percent during 2004-2006, 0.08 in 2007, 0.07 percent in 2008 & 2010 and 0.10 maximum was in 2009.

BOTM during study has registered interest income 0.59 percent in 2001, increase to 0.73 in 2002, 0.79 percent in 2003, decline to 0.49 in 2004, increase continuous to 0.83 percent from 2008-09 and total income/total assets ratio was 0.18 percent in 2002, 0.13 percent during 2003-04, 0.10 in 2005, 0.06 in 2006 and 2010 so on.

Table 5.6.5: Sensitivity to Market Risk for period from 2000-01 to 2009-10

(Percentage)

Sensitivity to Market Risk - (2000-01 to 2009-10)						
Years	**Bank of Bahrain & Kuwait**		**Bank of Nova Scotia**		**Bank of Tokyo Mitsubishi UFJ**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
2000-01	0.86	0.11	0.90	0.01	0.59	0.18
2001-02	0.74	0.11	0.88	0.01	0.73	0.12
2002-03	0.79	0.10	0.85	0.11	0.79	0.13
2003-04	0.73	0.08	0.74	0.06	0.49	0.13
2004-05	0.93	0.06	0.75	0.06	0.50	0.10
2005-06	0.85	0.08	0.75	0.06	0.69	0.06
2006-07	0.87	0.07	0.76	0.08	0.72	0.07
2007-08	0.80	0.08	0.76	0.07	0.83	0.07
2008-09	0.77	0.10	0.76	0.10	0.83	0.08
2009-10	0.80	0.07	0.76	0.07	0.77	0.06

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

From table no.5.6.6, it is noticed that Bank of Bahrain has earned interest income 0.84 percent in 2011, increase to 0.90 in 2013, 0.89 in 2015 and total income was 0.08 percent in 2011, increase to 0.09 during 2013-15. Bank of Nova Scotia was earned 0.75 in 2011, 0.77 percent in 2013 & 2015, decline to 0.67 in 2014 and in term of TI/TA was 0.07 percent in 2011, 0.08 percent in 2012 & 2014, 0.09 in 2015.

Bank of Tokyo has earned 0.79 in 2011-12, 0.83 in 2013 which was decrease by 0.81 from 2014-15 and 0.06 percent of total income, constant increase by 0.08 percent during 2013-2015.

Table 5.6.6: Sensitivity to Market Risk for period from 2010-11 to 2014-15

(Percentage)

Sensitivity to Market Risk- (2010-11 to 2014-15)						
Years	**Bank of Bahrain & Kuwait-BOB**		**Bank of Nova Scotia-BNS**		**Bank of Tokyo Mitsubishi UFJ-BOTM**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
2010-11	0.84	0.08	0.75	0.07	0.79	0.06
2011-12	0.88	0.07	0.74	0.08	0.79	0.07
2012-13	0.90	0.09	0.77	0.07	0.83	0.08
2013-14	0.87	0.09	0.67	0.11	0.81	0.08
2014-15	0.89	0.08	0.77	0.09	0.81	0.08

*(**Source:** www.rbi.org.in)*

Table 5.6.7: Sensitivity to Market Risk for period from 1990-91 to 1999-2000

(Percentage)

Sensitivity to Market Risk- (1990-91 to 1999-2000)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
1990-91	0.00	0.00	0.00	0.00	0.82	0.09
1991-92	0.74	0.13	0.75	0.16	0.80	0.13
1992-93	0.84	0.00	0.83	0.17	0.77	0.15
1993-94	0.78	0.13	0.86	0.14	0.78	0.12
1994-95	0.75	0.14	0.82	0.12	0.75	0.12
1995-96	0.74	0.14	0.75	0.16	0.80	0.13
1996-97	0.76	0.15	0.74	0.14	0.81	0.13
1997-98	0.74	0.15	0.72	0.17	0.76	1.12
1998-99	0.72	0.15	0.77	0.13	0.80	0.10
1999-2000	0.79	0.13	0.71	0.14	0.80	0.01

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

It is observed from table no. 5.6.7 that Citibank has showed 0.74 percent interest income in 1992, 0.84 percent in 1993, continuous decline to 0.74 in 1996 & 1998. 0.72 percent in 1999 and in respect of total income was 0.13 percent in 1992, 0.13 in 1994, falls down to 0.14 during 1995-96, 0.15 from 1997-1999. Deutsche Bank has earned income (interest) 0.75 in 1992 which was increase to 0.86 in 1994, decline with variation to 0.71 in 2000 and in term of total income was 0.16 percent in 1992, 0.17 in 1993, 0.12 in 1995, and increase with variation 0.17 in 1998, 0.14 in 2000 so on.

During this study HSBC has earned interest income 0.82 percent in 1991, continuous decrease to 0.75 in 1995, 0.81 percent in 1997, 0.80 in 1999-2000 and total income was 0.09 percent in 19991, 0.15 in 1993, increase to 1.12 percent in 1998 again fall to 0.10 in 1999 & 0.01 percent in 2000.

Table 5.6.8: Sensitivity to Market Risk for period from 2000-01 to 2009-10

(Percentage)

Sensitivity to Market Risk - (2000-01 to 2009-10)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
2000-01	0.77	0.12	0.69	0.14	0.77	0.11
2001-02	0.70	0.13	0.67	0.12	0.76	0.10
2002-03	0.72	0.11	0.48	0.12	0.75	0.09
2003-04	0.72	0.11	0.33	0.10	0.67	0.08
2004-05	0.70	0.09	0.49	0.07	0.71	0.08
2005-06	0.75	0.09	0.52	0.01	0.70	0.08
2006-07	0.77	0.08	0.60	0.01	0.74	0.09
2007-08	0.71	0.10	0.59	0.01	0.70	0.09
2008-09	0.66	0.01	0.65	0.12	0.70	0.01
2009-10	0.79	0.08	0.66	0.08	0.71	0.08

*(**Source:** Reserve Bank of India)*

It is observed from table no. 5.6.8 that during study CitiBank has showed variation in term of both sub-parameters as interest income 0.77 in 2001, 0.72 in 2003-04 which was increase to 0.77 in 2007, 0.79 in 2010 and total income was 0.12 in 2001,

1.01 percent in 2003, fall down to 0.09 in 2006, 0.08 percent in 2007 & 2010. Deutsche Bank in term of interest income has registered 0.69 in 2001, decrease continuous to 0.33 in 2004, & 0.49 percent in 2005, variation was noticed as 0.52 percent in 2006, continuous increase to 0.66 from 0.59 during 2008-10 and total income was 0.14 in 2001, 0.10 percent in 2004, 0.0.1 during 2006-08 and 0.08 in 2010.

HSBC in these dimensions has showed variation as it earned interest 0.77 in 2001, 0.67 in 2004, 0.74 percent in 2007, 0.70 during 2008-09 & 0.71 in 2010 and total income was 0.11 in 2001, 0.08 in 2004 and during 2005-06, 2010 & 0.09 in 2007 & 2008, and lowest was recorded 0.01 in 2010.

Table 5.6.9: Sensitivity to Market Risk for period from 2010-11 to 2014-15

(Percentage)

Sensitivity to Market Risk- (2010-11 to 2014-15)						
Years	**CitiBank**		**Deutsche Bank**		**HSBC**	
	Interest Income	**Total Income**	**(II-interest Income)**	**Total Income-(TI)**	**Interest Income (II)**	**Total Income**
2010-11	0.77	0.07	0.66	0.01	0.74	0.08
2011-12	0.85	0.07	0.76	0.11	0.74	0.08
2012-13	0.82	0.09	0.74	0.09	0.80	0.08
2013-14	0.75	0.08	0.88	0.07	0.83	0.07
2014-15	0.75	0.01	0.76	0.09	0.80	0.08

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks & BRs)*

It is observed from table no. 5.6.9 that during 2010-11 to 2014-15 CitiBank has earned interest income 0.77 percent in 2011, increase to 0.85 in 2012, and however decrease continuous to 0.82 in 2013 & 0.75 in 2014-15 and TI/TA ratio was 0.07 in 2011-12, 0.09 in 2013, 0.10 percent in 2014-15. DB has registered interest income from its total income activities 0.66 percent in 2011, 0.76 in 2012, increase to 0.88 in 2014 and total income was 0.10 percent in 2011, and 0.11 in 2012, decline by 0.09 in 2013 & 2015, 0.07 in 2014. HSBC during research has showed 74 percent interest income from total income which was increase to 0.83 in 2014 and total

income/total assets was 8 percent during 2011 to 2013 & 2014 and fall down to 0.07 percent in 2014.

From table no. 5.6.10 it is noticed that sample- Mashreq Bank throughout period has not registered interest income and total income percent in 1992 & 1993, however it has earned 0.93 in 1991, 1.08 percent in 1996, decline to 1.05 in 1998, 0.90 in 1999 & 0.86 in 2000 and in respect of total income was 0.09 percent out of total assets, increase to 0.12 in 1995, during 1998-99 and 0.14 in 1997.

Table 5.6.10: Sensitivity to Market Risk for period from 1990-91 to 1999-2000

(Percentage)

Sensitivity to Market Risk- (1990-91 to 1999-2000)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
1990-91	0.93	0.09	0.80	0.01	0.00	0.00
1991-92	0.00	0.00	0.87	0.16	0.90	0.12
1992-93	0.00	0.00	0.92	0.15	0.85	0.16
1993-94	0.91	0.11	0.86	0.14	0.97	0.09
1994-95	0.86	0.12	0.91	0.13	0.95	0.12
1995-96	1.08	0.08	0.85	0.15	0.96	0.12
1996-97	1.07	0.14	0.88	0.14	0.92	0.17
1997-98	1.05	0.12	0.88	0.14	0.92	0.17
1998-99	0.90	0.12	0.80	0.11	0.86	0.17
1999-2000	0.86	0.11	0.85	0.01	0.80	0.12

*(**Source:** RBI-Statistical Tables relating to banks and Basic Returns)*

Oman International Bank has earned 0.80 in 1991, increase to 0.92 percent in 1993, with variation 0.85 in 1996 & 2000, 0.80 in 1999, 0.88 percent in 1997-98 and in respect of total income/total assets was 0.01 percent in 1991, 0.16 in 1992, decline to 0.13 in 1995, 0.14 during 1997-98, and 0.10 in 2000. Societe Generale has registered 0.90 percent in 1992, 0.97 in 1994, 0.92 percent during 1997-98, 0.86 in 1999, 0.80

percent in 2000 and TI/TA was 0.12 percent in 1992, 0.16 in 1993, 0.12 during 1995-96 and 0.17 from 1997-99.

It is noticed from table no. 5.6.11 that Mashreq Bank has earned 0.86 percent in 2001, 0.93 in 2004, decrease continuous to 0.89 in 2005, 0.49 percent in 2007, and 0.29 percent in 2009-10 and noticed 0.01 percent total income/total assets in 2001, which was increase by 0.15 in 2003, 0.31 in 2006, decline to 0.14 percent in 2007 & 2008, and 0.13 in 2010.

Table 5.6.11: Sensitivity to Market Risk for period from 2000-01 to 2009-10

(Percentage)

Sensitivity to Market Risk - (2000-01 to 2009-10)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
2000-01	0.86	0.01	0.79	0.08	0.78	0.01
2001-02	0.79	0.14	0.81	0.05	0.83	0.01
2002-03	0.83	0.15	0.70	0.06	0.78	0.07
2003-04	0.93	0.11	0.76	0.05	0.60	0.07
2004-05	0.89	0.01	0.91	0.04	0.75	0.06
2005-06	0.75	0.31	0.95	0.04	0.80	0.06
2006-07	0.49	0.14	0.44	0.04	0.81	0.07
2007-08	0.45	0.15	0.96	0.04	0.84	0.08
2008-09	0.34	0.14	0.85	0.04	0.69	0.10
2009-10	0.29	0.13	0.57	0.07	0.92	0.05

*(**Source:** RBI-STRB and Basic Returns)*

From table no. 5.6.11, it is observed that 0.79 percent was earned by OIB in 2001, 0.81 in 2002, increase to 0.91 in 2005, 0.94 percent in 2007, 0.96 percent in 2008 & 0.57 in 2010 and on other hand interest income from total assets was 0.08 in 2001, 0.05 in 2004, 0.04 percent during 2005 to 2009. Societe Generale has registered 0.78 percent of interest income/total income in 2001, 0.60 percent in 2004, increase

continuous to 0.84 in 2008, 0.92 in 2010 and in respect of TI/TA was 0.01 percent in 2001-2002, 0.07 in 2003-04, & 2007, 0.08 percent in 2008 and 0.10 in 2009 so on.

From table no. 5.6.12 it is found that MB has registered 0.26 percent in 2011, 0.19 in 2012, and 0.30 percent in 2014, sharp increase to 0.33 in 2015 and total income/total assets was 0.13 percent in 2011, 0.14 in 2012, 0.13 in 2014 and sharp decline to 0.01 in 2015. OIB has earned 0.54 percent interest income in 2011, decrease by 0.35 in 2013 and steep increase to 0.99 in 2014-15 and total income was 0.07 percent in 2011, increase to 0.13 in 2013, 0.05 in 2014, 0.04 percent in 2015. SCB has showed 0.83 percent of interest income/total income, 0.96 in 2012-13, 0.67 percent in 2014, 0.87 in 2015 and in respect of total income was 0.07 percent in 2011, 0.07 in 2014 so on.

Table 5.6.12: Sensitivity to Market Risk for period from 2010-11 to 2014-15

(Percentage)

Sensitivity to Market Risk- (2010-11 to 2014-15)						
Years	**Mashreq Bank**		**Oman International Bank**		**Societe Generale**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**	**Interest Income**	**Total Income**
2010-11	0.26	0.13	0.54	0.07	0.83	0.07
2011-12	0.19	0.14	0.43	0.01	0.96	0.07
2012-13	0.32	0.12	0.35	0.13	0.96	0.08
2013-14	0.30	0.13	0.99	0.05	0.67	0.07
2014-15	0.95	0.01	0.99	0.04	0.87	0.06

*(**Source:** RBI (Reports)-Statistical Tables relating to banks & Basic Returns)*

Table no. 5.6.13 mentioned during research Sonali Bank has showed interest income 0.61 in 1992, decrease to 0.49 in 1994, 0.63 in 1995, 0.16 percent in 1997 and another dimension as total income was noticed 0.12 in 1992, 0.08 in 1994, 0.17 percent in 1996, 0.21 in 1999 and 0.08 in 2000. SCB has earned total income 0.86 in 1992, 2.66 percent in 1993, decline to 0.78 in 1995, 0.84 in 1996, 0.79 during 1998-99 and TI/TA was 0.15 in 1992, 0.03 percent in 1993, increase by 0.14 in 1994, and 0.12 during 1997-98 and 0.13 in 1999-2000.

Table 5.6.13: Sensitivity to Market Risk for period from 1990-91 to 1999-2000

(Percentage)

Sensitivity to Market Risk – (1990-91 to 1999-2000)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Interest Income	**(TI) Total Income**	**Interest Income**	**Total Income**
1990-91	0.00	0.00	0.00	0.00
1991-92	0.61	0.12	0.86	0.15
1992-93	0.57	0.13	2.66	0.03
1993-94	0.49	0.08	0.71	0.14
1994-95	0.63	0.11	0.78	0.09
1995-96	0.51	0.17	0.84	0.13
1996-97	0.16	0.12	0.79	0.12
1997-98	0.19	0.17	0.79	0.12
1998-99	0.27	0.21	0.80	0.13
1999-2000	0.22	0.08	0.81	0.13

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

Table 5.6.14: Sensitivity to Market Risk for period from 2000-01 to 2009-10

(Percentage)

Sensitivity to Market Risk – (2000-01 to 2009-10)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Interest Income	**Total Income**	**(II) Interest Income**	**(TI) Total Income**
2000-01	0.30	0.12	0.79	0.12
2001-02	0.29	0.12	0.76	0.11
2002-03	0.36	0.11	0.80	0.01
2003-04	0.24	0.16	0.78	0.09
2004-05	0.23	0.19	0.83	0.08
2005-06	0.26	0.17	0.79	0.08
2006-07	0.28	0.12	0.75	0.09
2007-08	0.27	0.14	0.68	0.01
2008-09	0.23	0.11	0.65	0.09
2009-10	0.19	0.14	0.67	0.01

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

From table no. 5.6.14, it is found that SB has earned income (interest) 0.30 in 2001, 0.36 percent in 2003, decline to 0.23 in 2005 & 2009, 0.19 percent in 2010 and in respect of total income was 0.12 in 2001-02, increase by 0.19 in 2005, 0.12 percent in 2007, 0.11 in 2009 & so on. Standard Chartered Bank has showed percentage of interest income 0.79 in 2001, increase to 0.80 in 2003, 0.83 percent in 2005, continuous decrease to 0.65 in 2009 and in term of TI/TA was 0.12 in 2001, 0.09 in 2004, 0.08 in 2005-06, 0.01 in 2008 & 2010 so on.

Table 5.6.15: Sensitivity to Market Risk for period from 2010-11 to 2014-15

(Percentage)

Sensitivity to Market Risk – (2010-2011 to 2014-15)				
Years	**Sonali Bank**		**Standard Chartered Bank**	
	Interest Income	**Total Income**	**Interest Income**	**Total Income**
2010-11	0.21	0.14	0.72	0.08
2011-12	0.28	0.19	0.73	0.09
2012-13	0.31	0.19	0.76	0.01
2013-14	0.33	0.14	0.76	0.10
2014-15	0.36	0.11	0.75	0.10

*(**Source:** Reserve Bank of India-Statistical Tables relating to banks and Basic Returns)*

From table no. 5.6.15, it is observed that during period from 2010-11 to 2014-15 Sonali Bank has registered 0.21 percent in 2011, continuous increase by 0.31 in 2013, 0.36 percent in 2015 and total income was recorded 0.14 percent in 2011 & 2014, 0.19 during 2012-13, 0.11 in 2015 so on. SCB has earned interest income in this period 0.72 percent in 2011, 0.73 in 2012, increase to 0.76 from 2013-14, 0.75 percent in 2015 and in respect of TI/TA was 0.08 in 2011, 0.09 in 2012, 0.10 during 2014-15.

5.6.1 Individual and Group Rank

Each sample bank was positioned individual on basis of average performance of its sub-dimensions as (i) interest income out of total income and high rank was assign to foreign bank who has earned maximum, (ii) total income out of total assets-sample banks were positioned as per their interest income efficiency as more

efficient foreign counterpart got top rank and Group rank (Parameter Rank-PR) was assessed as per average rank performance of these sub-parameters.

In table 5.6.16, on basis of Interest income performance, BOB has positioned first, second to SCB, third, fourth, fifth positioned by ADCB, Oman International Bank, SG, from 6^{th} to 10^{th} was secured by HSBC, MB, BNS, BOTM & BOA, however lowest rank 11^{th}, 12^{th}, 13^{th} was placed by DB, American Express Bank, SB and at 14^{th} rank placed by CitiBank. In respect of Total Income CitiBank has occupied rank first, followed by HSBC and 4 same rank to AEB, BOA, DB, and other sample banks were occupied as Oman (12^{th}), 13.50 same position was occupied by ADCB and MB.

Table 5.6.16: Individual and Group Rank (1990-91 to 1999-2000)

Sensitivity to Market Risk-Average Rank of Parameter and Sub-Parameter (1990-91 to 1999-2000)							
Name of Foreign Banks	**Interest Income**	**Rank**	**Total Income**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.88	3	0.09	13.50	16.50	8.25	10.50
AEB	0.69	12	0.13	4	16	8	8.50
BOA	0.72	10	0.13	4	14	7	5
BOB & K	0.93	1	0.12	8.50	9.50	4.75	2
BNS	0.76	8	0.12	8.50	16.50	8.25	10.50
BOTM	0.75	9	0.12	8.50	17.50	8.75	12
CB	0.11	14	0.23	1	15	7.50	6.50
DB	0.70	11	0.13	4	15	7.50	6.50
HSBC	0.79	6	0.00	2	8	4	1
MB	0.77	7	0.21	13.50	20.50	10.25	13
OIB	0.86	4	0.09	12	16	8	8.50
SG	0.81	5	0.11	8.50	13.50	6.75	4
SB	0.37	13	0.12	8.50	21.50	10.75	14
SCB	0.90	2	0.12	8.50	10.50	5.25	3

*(**Source:** Researcher's Calculation)*

Table no. 5.6.16 described (group rank) from 1st to 4th was occupied by HSBC, BOB, SCB & SG, 6.50 (average of 6th & 7th) was rank to CB & DB, rank 8.50 (mean average of 8th, 9th) was positioned by OIB, AEB and 10.50 (average of 11th & 12th) by ADCB & BNS, ranked bottom 13th & 14th to Mashreq Bank.

Table 5.6.17: Individual and Group Rank (2000-01 to 2009-10)

Sensitivity to Market Risk-Average Rank of Parameter and Sub-Parameter (2000-01 to 2009-10)							
Name of Foreign Banks	**Interest Income**	**Rank**	**Total Income**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.87	1	0.10	4.50	5.50	2.75	1
AEB	0.41	13	0.14	1.50	14.50	7.25	6.50
BOA	0.69	9.50	0.01	13.50	23	11.50	14
BOB & K	0.81	3	0.09	6	9	4.50	2
BNS	0.79	4	0.06	10.50	14.50	7.25	6.50
BOTM	0.69	9.50	0.10	4.50	14	7	4
CB	0.73	7	0.01	13.50	20.50	10.25	13
DB	0.57	12	0.08	7.50	19.50	9.75	12
HSBC	0.71	8	0.08	7.50	15.50	7.75	10
MB	0.66	11	0.13	3	14	7	4
OIB	0.82	2	0.05	12	14	7	4
SG	0.78	5	0.06	10.50	15.50	7.75	10
SB	0.27	14	0.14	1.50	15.50	7.75	10
SCB	0.75	6	0.07	9	15	7.50	8

*(**Source:** Author's Calculation)*

From table no. 5.6.17, it is observed that ADCB has occupied rank first in term of interest income/total income followed by OIB, Bank of Bahrain, BNS, SG, SCB, CB, HSBC and 9.50 rank (average of 9th & 10th) was positioned by Bank of America & Bank of Tokyo, however 12th, 13th & 14th rank was occupied by DB, AEB & SB. On side of total income/total assets performance during this research, American Bank & SB has secured rank 1.50, third (MB), 4.50 rank to ADCB & BOTM, 7.50

(DB & HSBC), 10.50-average of 10^{th} & 11^{th} (BNS & SG). During research period, group-wise first rank was secured by ADCB, second (BOB), same rank (4-avearge of 3^{rd}, 4^{th} & 5^{th}) to (Bank of Tokyo, MB & Oman), from bottom rank as same rank 10-(average of 11^{th}, 12^{th}, 13^{th}) was obtained by SG, SB & HSBC and 14^{th} was positioned by Bank of America.

Table 5.6.18: Individual and Group Rank (2010-11 to 2014-15)

Sensitivity to Market Risk-Average Rank of Parameter and Sub-Parameter (2010-11 to 2014-15)							
Name of Foreign Banks	**Interest Income**	**Rank**	**Total Income**	**Rank**	**Total**	**Average**	**PR**
ADCB	0.93	1	0.07	10.50	11.50	5.75	3
AEB	0.12	14	0.25	1	15	7.50	9
BOA	0.66	10.50	0.08	6	16.50	8.25	11
BOB & K	0.88	2	0.08	6	8	4	1
BNS	0.74	8.50	0.08	6	14.50	7.25	7
BOTM	0.81	4	0.07	10.50	14.50	7.25	7
CB	0.79	6	0.06	13.50	19.50	9.75	13
DB	0.76	7	0.07	10.50	17.50	8.75	12
HSBC	0.78	5	0.08	6	11	5.50	2
MB	0.28	13	0.11	3	16	8	10
OIB	0.66	10.50	0.06	13.50	24	12	14
SG	0.86	3	0.07	10.50	13.50	6.75	4
SB	0.30	12	0.15	2	14	7	5
SCB	0.74	8.50	0.08	6	14.50	7.25	7

*(**Source:** Researcher's Calculation)*

From table no. 5.6.18 it is noticed that Abu Dhabi Commercial was ranked first in term of interest income/ total income, BOB (second), SG (third), Bank of Tokyo (4^{th}), and so on, however 8.50 (average of 8^{th} & 9^{th}) was occupied by SCB & BNS, 10.50 (mean of 10^{th} & 11^{th}) rank has positioned to Oman & BOA and in respect of Total income/total assets American Bank has occupied rank high, followed by

Sonali Bank, Mashreq Bank, 6 (average from 4th to 9th rank) was placed to BOA, BOB, BNS, HSBC & SCB, 10.50 position (average of 10th, 11th) was placed to DB and SG, 13.50 (average of 13th & 14th) was attained by OIB and CB.

On basis of sub-parameters average rank (group rank) Bank of Bahrain has secured rank first, HSBC (second), 3rd (ADCB), SG (fourth), 5th rank to (Sonali Bank), 7 (mean of 6th, 7th, 8th) was attained by BNS, BOTM, and SCB however lowest rank 12th, 13th, 14th were positioned by Deutsche Bank, CB and Sonali Bank.

5.6.2 Results of One-Way ANOVA and K-S Test

Table 5.6.19: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Sensitivity to Market Risk (1990-91 to 1999-2000)					
Sub-Parameters of Model	**Sum of Squares-SOS**	**df**	**Mean Square**	**F**	**Sig.**
Interest Income/Total Income (II/TI)					
Between Groups	1.689	9	.188	2.176	.028
Within Groups	11.251	130	.086		
Total	12.905	139			
Total Income/Total Assets					
Between Groups	.201	9	0.22	2.552	0.10
Within Groups	1.139	130	0.009		
Total	1.340	139			
Results of One-Sample Kolmogorov Smirnov (Normality Test)					
Particulars/Name of Sub-Parameters	**Interest Income/Total Income**		**Total Income/Total Assets**		
N	140		140		
Normal Parameters Mean	.7591		.1231		
Std. Deviation	.30470		.09819		
Test Statistic	3.235		3.150		
Asymp. Sig. (2-tailed)	.000		.000		

*(**Source:** Software Statistical Calculation)*

Table no. 5.6.19 described result of sensitivity to market risk and its characteristics at 95 percent level of confidence with One-way Anova and non-parametric test K-S test from 1990-91 to 1999-2000.

It is found that there was significant statistical difference in term of interest income among selected foreign banks in India. Hence, null hypothesis of interest income/ total income ratio - H06 (i): (a) was rejected because tabulated value 0.028 was smaller than significant value 0.05 and calculated *F* value was 2.176. On side of second sub-parameter total income/total assets, there was significant difference among these banks as tabulated value (.0.10) was less than *P* value 0.05 and value of *F* was (2.552).

The null hypothesis of second sub-parameter total income/total assets ratio-H06 (i): (b) was rejected. During period of study, collected data (secondary) from different published sources was distributed normal as K-S test value of (i) interest income/total income was 3.235, (ii) total income/total assets was 3.150 means above 0.5 (prescribed value).

From table no. 5.6.20 it is noticed that from 2000-01 to 2009-10 result of sensitivity to market risk & its sub-dimensions at 95 percent confidence level with One-way Anova and K-S test (check normal distribution of collected data: non-parametric).

As examined that there was no significant difference (statistically) in respect of interest income/total income ratio performance among foreign banks in India. Hence, null hypothesis of interest income/total income - H06 (ii): (a) was accepted means unable to reject Ha6 because tabulated value .700 was more than significant value 0.05 and calculated *F* value was (.708). On part of total income/total assets, there was significant difference among selected foreign banks as tabulated (.531) value was greater than *P* value 0.05 and value of *F* was (.896). Null hypothesis of total income/total assets in this period-H06 (ii): (b) was accepted. Throughout period of research, collected data (secondary) from different published sources was normally distributed as K-S test value of (i) interest income/total income was 1.869, (ii) total income/Total Assets was 1.586 means above 0.5 (stipulated value).

Table 5.6.20: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Sensitivity to Market Risk (2000-01 to 2009-10)					
Sub-Parameters of Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Interest Income/Total Income					
Between Groups	.252	9	.028	.708	.700
Within Groups	5.141	130	.040		
Total	5.393	139			
Total Income/Total Assets					
Between Groups	.034	9	.708	.896	.531
Within Groups	.546	130	.896		
Total	.580	139			

Results of One-Sample Kolmogorov-Smirnov (Normality Test)		
Particulars/Name of Sub-Parameters	**Interest Income/Total Income**	**Total Income/Total Assets**
N	140	140
Normal Parameters Mean	.6838	.0959
Std. Deviation	.19697	.06461
Test Statistic	1.869	1.586
Asymp. Sig. (2-tailed)	.002	.013

*(**Source:** Statistical Calculation)*

Table no. 5.6.21 described result sixth parameter model (CAMELS) sensitivity to market risk and its sub-parameter at level of 95 percent confidence with One-way Anova and non–parametric test (K-S test-check normal distribution of collected data) from 2010-11 to 2014-15. It is inferred that there was no statistical significant difference in aspect of interest income out of total income ratio among selected foreign banks in India. The null hypothesis of interest income/total income ratio - H06 (iii): (a) was accepted means unable to rejected because tabulated value .923 was greater than significant value 0.05 and calculated *F* value was .225. In case of total income out of total assets, there was no significant difference among these

banks as tabulated value .910 was more than *P* value 0.05 and value of *F* was .248. Null hypothesis of second sub-parameter C/TA ratio-H05 (iii): (b) was accepted mean not rejected. During period of research, collected data (secondary) from different published sources was normally distributed as K-S test value of (i) interest income/total income was 1.980, (ii) total income/Total Assets was 1.898 means above 0.5 (prescribed value).

Table 5.6.21: Result of One-Way ANOVA and K-S Test

Results of One-Way ANOVA (Mean Difference) Sensitivity to Market Risk (2010-11 to 2014-15)					
Sub-Parameters of Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Interest Income/Total Income					
Between Groups	.061	4	.015	.225	.923
Within Groups	4.387	65	.067		
Total	4.448	69			
Total Income/Total Assets					
Between Groups	.003	4	.001	.248	.910
Within Groups	.214	65	.003		
Total	.217	69			

Results of One-Sample Kolmogorov-Simrnov (Normality Test)		
Particulars/Name of Sub-Parameters	**Interest Income/Total Income**	**Total Income/Total Assets**
N	70	70
Normal Parameters Mean	.6690	.0938
Std. Deviation	.25390	.05606
Test Statistic	1.980	1.898
Asymp. Sig. (2-tailed)	.001	.001

*(**Source:** Software Statistical Calculation)*

5.7 COMPOSITE RANK OF FOREIGN BANKS AS PER PERFORMANCE

5.7.1 Composite Rank (1990-91 to 1999-2000)

It is inferred from table no. 5.7.1 that ranked composite on basis of CAMELS model during1990-91 to 1999-2000, Bank of Bahrain (BOB & K) has occupied place first, Bank of America (second), Oman International (third), HSBC (fourth), Societe Generale (fifth), Standard Chartered Bank, American Express, Bank of Tokyo, Abu-Dhabi, Deutsche Bank were obtained rank from 6^{th} to 10^{th}. Moreover, during this period lowest rank from 11^{th} to 14^{th} were occupied by CitiBank, Mashreq Bank, Sonali Bank & Bank of Nova Scotia.

Table 5.7.1: Foreign Banks' Composite Rank as per CAMELS Model from 1990-91 to1999-2000

Name of Foreign Banks/Parameters of Model (1990-91 to 1999-2000)	C	A	M	E	L	S	Total	Average	Rank
ADCB	12.50	7	10	1.50	4	10.50	45.50	7.58	9
AEB	4	9.50	6	12	2	8.50	42	7	7
BOA	3	9.50	2	5	4	5	28.50	4.75	2
BOB & K	2	3	5	3	9.50	2	24.50	4.08	1
BNS	10	14	13	11	7.50	10.50	66	11	14
BOTM	1	1	9	10	10.50	12	43.50	7.25	8
CB	12.50	13	12	8	4	6.50	56	9.33	11
DB	14	5	1	13	9.50	6.50	49	8.17	10
HSBC	7.50	5	8	7	8	1	36.50	6.08	4
MB	11	5	11	9	10	13	59	9.83	12
OIB	7.50	8	7	1.50	1	8.50	33.50	5.58	3
SG	5	11	3	6	10	4	39	6.50	5
SB	7.50	2	14	14	14	14	65.50	10.92	13
SCB	7.50	12	4	4	11	3	41.50	6.92	6

*(**Source:** Researcher's Calculation)*

Table no. 5.7.1 stated that during period of research from 1990-91 to 1999-2000, Abu-Dhabi Commercial from U.A.E has occupied 12.50 rank at (capital adequacy), 7^{th} at (quality of assets), 10^{th} at (management quality), 1.50 rank at (earning capacity), 4^{th} at (position of liquidity) and 10.50 at Sensitivity to risk. American Express Bank from America has placed at 4^{th} in term of maintain capital, 9.50 & 8.50 position at assets quality and risk sensitivity, 6^{th} at management efficiency, third lowest rank 12^{th} at earning capacity, and second highest rank 2^{nd} in term of balance cash position. Bank of America in this period, secured second and third rank at efficiency of management & capital, 5^{th} position at earning and risk sensitive dimension and so on. BOB from Bahrain has obtained top 2^{nd} rank at capital & risk absorption capacity, rank 3^{rd} at its earning & assets maintain capability, and fifth at managing managerial & 9.50 rank at liquidity capacity. Bank of Nova Scotia from Canada has attained lowest rank 14^{th}, 13^{th}, 11^{th} & 10^{th} at assets, management, earning & capital adequacy parameters, Bank of Tokyo from Japan has secure top rank 1^{st} in excellent maintaining capital & assets, however it has position at 10^{th}, 10.50, & 12^{th} in term of earning, liquid form and management position. Citi Bank from U.S.A has occupied 4^{th} rank at position of cash, lowest rank 13, 12.50, & 12^{th} in term of assets, capital and managerial efficiency, and Deutsche Bank from Germany has positioned at top rank 1^{st}, 5^{th} & 6.50 in respect of managerial, assets and risk-absorption capability. HSBC from Hong-Kong has obtained 1^{st} rank in aversion of risk, 5^{th} due to assets quality, 7^{th} at earning capacity & 8^{th} in term liquidity and management efficiency. In this period, Mashreq Bank from U.A.E has occupied 5^{th} rank in respect of assets quality, lowest ranks 13^{th} (risk-aversion), 11^{th} (capital & management capacity), Oman Bank from Muscat has maintain excellent its liquidity position, obtained 1.50 at earning, 7.50 (CA), 8.50 (Sensitivity), 7^{th} at efficiency of management and so on. The French Bank-Societe Generale has occupied 3^{rd} place at efficiency of management, 4^{th} at risk-absorption, 5^{th} & 6^{th} in term of earning and capital capacity and 10^{th} & 11^{th} in respect of liquidity and assets quality. Sonali Bank from Bangladesh was positioned at lowest rank 14^{th} in term of management, earning, liquidity and risk-aversion capacity and Standard Chartered Bank from U.K. has occupied 3^{rd} rank in term of risk-absorption, 4^{th} rank due to its earning and managerial capability.

5.7.2 Composite Rank (2000-01 to 2009-10)

Table 5.7.2: Foreign Banks' Composite Rank as per CAMELS Model from 2000-01 to 2009-2010

Name of Foreign Banks/Parameters of Model (2000-01 to 2009-10)	C	A	M	E	L	S	Total	Average	Rank
ADCB	6.50	4	5	7.50	10.50	1	34.50	5.75	4
AEB	10	9.50	3	7.50	3	6.50	39.50	6.58	6.50
BOA	11	12	6	11	6.50	14	60.50	10.08	12
BOB & K	8	5.50	7	2	9	2	33.50	5.58	3
BNS	3	9.50	9	1	10.50	6.50	39.50	6.58	6.50
BOTM	9	5.50	12	12	4	4	46.50	7.75	8
CB	2	1	8	9	5	13	38.00	6.33	5
DB	6.50	11	1	13	8	12	51.50	8.58	10
HSBC	4	2	4	10	2	10	32	5.33	2
MB	12	7.50	11	5	12	4	51.50	8.58	10
OIB	14	13	10	4	6.50	4	51.50	8.58	10
SG	13	14	14	3	13	10	67	11.17	14
SB	5	7.50	13	14	14	10	63.50	10.58	13
SCB	1	3	2	6	1	8	21	3.50	1

*(**Source:** Author's Calculation)*

It is observed from table no. 5.7.2 that selected foreign banks ranked composite at CAMELS model parameters & sub-parameters average performance during 2000-01 to 2009-10, SCB has placed at first, HSBC at (second), Bank of Bahrain at (third), Abu-Dhabi commercial at (fourth), CitiBank at (fifth), 6.50 rank to AEB & BNS, same rank 10^{th} (average of 9^{th} , 10^{th} & 11^{th}) was positioned by Deutsche Bank, Mashreq & Oman, however lowest ranks12^{th} , 13^{th} , 14^{th} were attained by Bank of America, Sonali Bank & Societe Generale.

During study period from 2000-01 to 2009-10, Abu-Dhabi from United Arab Emirates has secured top rank in managing of risk, 4th, 5th in term of assets and management quality, 6.50 & 7.50 position in term of capital & earning capacity. American Express Bank has occupied top third rank in respect of liquidity and managerial efficiency, at 6.50, 7.50 & 9.50 in aspect of risk-aversion, earning position and quality of assets. Bank of America from U.S.A has attained lowest rank 11th at capital and earning adequacy, 12th & 14th at assets & risk-aversion quality, and Bank of Bahrain has occupied 2nd top rank at income and risk-absorption capacity, 5.50, 7th, 8th,9th in term of managing assets, internal management, financial and cash position. In this period, CitiBank from U.S.A has got top first and second position in respect of capital & assets position, fifth rank, eight, ninth and thirteen at liquid, inter-system, income & risk managing capacity. The German Bank DB has obtained highest rank in respect of managing internal system, and got 8th, 11th,12th, 13th position in respect of balancing cash, risk, income and assets, HSBC from Hong-Kong in India during this research has secured second position in respect of supervise its cash, assets, 4th rank in term of control internal management and finance requirement and position 10th due its income and risk managing capacity. The bank from U.A.E MB has got 4th, 5th in aspect of sensitivity to risk and income, 12th at cash and capital adequacy, and Bank from Muscat Oman has obtained rank 4th in term of its income and risk capability, 10th, 13th & 14th in respect of managerial, assets & capital management. The Societe Generale from France has got highest third position in respect of earning capacity, and obtained 10th at sensitivity to risk, 13th at managing cash and finance, 14th at assets and management capacity and Sonali Bank from Bangladesh has positioned at 10th in respect of risk-aversion, 13th in aspect of organisation system, 14th because of its cash and income management and Standard Chartered Bank from U.K. has secured high rank in managing finance, cash demand, second, third & sixth in aspect of managerial, assets and income capability.

5.7.3 Composite Rank (2010-11 to 2014-15)

Table 5.7.3: Foreign Banks' Composite Rank as per CAMELS Model from 2010-11 to 2014-15

Name of Foreign Banks/Parameters of Model (2010-11 to 2014-15)	C	A	M	E	L	S	Total	Average	Rank
ADCB	1	7.50	10	1	8	3	30.50	5.08	4.50
AEB	13.50	14	11	9	14	9	70.50	11.75	14
BOA	8	7.50	13	12	4	11	55.50	9.25	10
BOB & K	9	1	5	2	3	1	21	3.50	1
BNS	2	9.50	7.50	3	10	7	39	6.50	7
BOTM	11	9.50	6	4	8	7	45.50	7.58	8
CB	3	3	2	5	2	13	28	4.67	2
DB	7	2	1	11	5	12	38	6.33	6
HSBC	5	6	3.50	7	6	2	29.50	4.92	3
MB	12	11.50	7.50	14	11	10	66	11	12
OIB	13.50	13	9	7	8	14	64.50	10.75	13
SG	10	11.50	14	7	12	4	58.50	9.75	11
SB	6	4	12	13	13	5	53	8.83	9
SCB	4	5	3.50	10	1	7	30.50	5.08	4.50

*(**Source:** Researcher's Calculation)*

It is found from table no. 5.7.3 that selected foreign banks ranked composite at CAMELS model parameters and sub-parameters average performance from 2010-11 to 2014-15, Bank of Bahrain has occupied first, CitiBank (second), HSBC at (third), 4.50 (average of 4^{th} & 5^{th}) rank was obtained by Abu-Dhabi and Standard Chartered Bank, Deutsche Bank at (6^{th}), BNS & BOTM (7^{th} & 8^{th}), Sonali Bank and Bank of America at (9^{th} & 10^{th}), Societe Generale, Mashreq Bank, Oman and American Express at 11^{th}, 12^{th}, 13^{th} and 14^{th}.

ADCB has occupied rank first in managing its capital and earning capacity, 3rd, 7.50, 8th, & 10th in term of balancing risk, quality of assets, cash management, and internal structure. American Express Bank has attained 9th position in term of income & risk-aversion capacity, 11th in aspect of managerial efficiency, and lowest rank 14th in management capacity of cash and assets. Bank of America has obtained positions 4th, 7.50, 11th, 12th, 13th & 14th in respect of liquidity capacity, capital position, risk, income and managerial capability. Bank of Bahrain has got first in balancing risk and assets quality, second and third in term of earning and liquidity, fifth and ninth in term of managerial and capital management. Bank of Nova Scotia from Canada has occupied second top position in respect of managing finance, third in earning, 7th & 7.50 in risk and management structure, and 10th in management of cash and Bank of Tokyo has got 4th, 6th, 7th 8th, 9.50 and 11th in aspect of earning, managerial, risk, cash, and assets quality.

CitiBank from U.S.A has occupied 2nd rank in term of management and liquidity management, 3rd rank in term assets and capital adequacy, 5th & 13th position in aspect of risk and income capacity and Deutsche Bank has obtained 1st and 2nd in respect of organise its internal system and assets, rank 5th, 7th, 11th & 12th in respect of liquidity position, finance, income and risk. Hong-Kong Shanghai Banking Corporation has secured second position in term of risk-aversion, fifth, sixth, seventh rank in aspect of managing capital, cash, assets and earning. During this research, Mashreq Bank was positioned at 10th,11th, 11.50th, 12th & 14th in respect of risk sensitive, management of cash, assets, finance and income and Oman international Banks from Muscat was placed at 7th, 8th, 9th, 13th, 13.50th & 14th in aspect of its capability of earning, liquidity, internal-management, risk and capital.

Moreover, Societe Generale from France has got lower position like 10th, 11.50th, 12th, 14th in term of balancing sources of finance, quality of assets, cash, and internal system. Sonali Bank has got 4th, 5th & 6th in aspect of its risk, assets and finance, 12th & 13th in term of cash and income management. The Standard Chartered Bank has occupied first rank in management of cash, second in finance, 3.50 in managerial capacity, 5th in managing assets quality, 7th & 10th in aspect of risk and return efficiency.

5.8 DECADE-WISE RANK PERFORMANCE OF FOREIGN BANKS IN INDIA

Table 5.8.1: Decadal Composite Rank of Foreign Banks from 1990-91 to 2014-15

Selected Foreign Banks	CAMELS Model rank from 1990-91 to 1999-2000	CAMELS Model rank from 2000-01 to 2009-10	CAMELS Model rank from 2010-11 to 2014-15
ADCB	10.50	4	4.50
AEB	8.50	6.50	14
BOA	5	12	10
BOB & A	2	3	1
BNS	10.50	6.50	7
BOTM	12	8	8
CB	6.50	5	2
DB	6.50	10	6
HSBC	1	2	3
MB	13	10	12
OIB	8.50	10	13
SG	4	14	11
SB	14	13	9
SCB	3	1	4.50

*(**Source:** Researcher's Calculation)*

Table no. 5.8.1 described order of ranks occupied by selected foreign banks during bifurcated period on basis of CAMELS model. It is understood from sample foreign banks that Abu-Dhabi Commercial Bank from U.A.E has improved its rank from 10.50 to 4.50, Bank of Bahrain from Bahrain has enhanced from 2nd to 1st rank. Moreover, Bank of Nova Scotia from Canada has upgraded its rank from 10.50 to 7th, CitiBank from U.S.A has improved from 6.50th to 2nd, HSBC from Hong-Kong during decades has got 1st, 2nd & 3rd, and Standard Chartered Bank from U.K. has got 3rd, 1st and 4.50 rank.

5.9 HYPOTHESES RESULT

5.9.1 Hypotheses Result of Capital Adequacy, Assets Quality and Management Efficiency

Table 5.9.1: Hypotheses Results of Empirical Research-CAMELS (Parameters and Sub-parameters)

Parameters	Sub-Parameters	Alternative H_a Hypotheses	Null H_0 Hypotheses
1. (i) Capital Adequacy From 1990-91 to 1999-2000	(i) Debt/Equity Ratio	Accepted	Rejected
	(ii) Return on Equity	Rejected	Accepted
1. (ii) Capital Adequacy From 2000-01 to 2009-10	(i) Debt/Equity Ratio	Accepted	Rejected
	(ii) Return on Equity	Rejected	Accepted
1. (iii) Capital Adequacy From 2010-11 to 2014-15	(i) Debt/Equity Ratio	Rejected	Accepted
	(ii) Return on Equity	Rejected	Accepted
2. (i) Assets Quality From 1990-91 to 1999-2000	(i) Net Interest Margin	Accepted	Rejected
	(ii) Total Deposits/ Total Assets	Accepted	Rejected
2. (ii) Assets Quality From 2000-01 to 2009-10	(i) Net Interest Margin	Rejected	Accepted
	(ii) Total Deposits/ Total Assets	Rejected	Accepted
2. (iii) Assets Quality From 2010-11 to 2014-15	(i) Net Interest Margin	Rejected	Accepted
	(ii) Total Deposits/ Total Assets	Rejected	Accepted
3. (i) Management Efficiency From 1990-91 to 1999-2000	(i) Investment/Deposits	Accepted	Rejected
	(ii) Credit/Deposits	Rejected	Accepted
3. (ii) Management Efficiency From 2000-01 to 2009-10	(i) Investment/Deposits	Rejected	Accepted
	(ii) Credit/Deposits	Rejected	Accepted
3. (iii) Management Efficiency From 2010-11to 2014-15	(i) Investment/Deposits	Rejected	Accepted
	(ii) Credit/Deposits	Rejected	Accepted

*(**Source:** Software Calculation)*

5.9.2 Hypotheses Result of Earning Capacity, Liquidity Position and Sensitivity to Risk

Table 5.9.2: Hypotheses Results of Empirical Research-CAMELS (Parameters and Sub-parameters)

Parameters	Sub-Parameters	Alternative H_a Hypotheses	Null H_0 Hypotheses
4. (i) Earning Capacity From 1990-91 to 1999-2000	(i) Interest paid on deposits	Rejected	Accepted
	(ii) Interest Income/ Total Income	Accepted	Rejected
4. (ii) Earning Capacity From 2000-01 to 2009-10	(i) Interest paid on deposits	Rejected	Accepted
	(ii) Interest Income/ Total Income	Rejected	Accepted
4. (iii) Earning Capacity From 2010-11 to 2014-15	(i) Interest paid on deposits	Rejected	Accepted
	(ii) Interest Income/Total Income	Rejected	Accepted
5. (i) Liquidity Position From 1990-91 to 1999-2000	(i) Cash/Total Deposits	Accepted	Rejected
	(ii) Cash/Total Assets	Accepted	Rejected
5. (ii) Liquidity Position From 2000-01 to 2009-10	(i) Cash/Total Deposits	Rejected	Accepted
	(ii) Cash/Total Assets	Rejected	Accepted
5. (iii) Liquidity Position From 2010-11 to 2014-15	(i) Cash/Total Deposits	Rejected	Accepted
	(ii) Cash/Total Assets	Rejected	Accepted
6. (i) Sensitivity to Market Risk From 1990-91 to 1999-2000	(i) Interest Income/Total Income	Rejected	Accepted
	(ii) Total Income/Total Assets	Rejected	Accepted
6. (ii) Sensitivity to Market Risk From 2000-01 to 2009-10	(i) Interest Income/Total Income	Rejected	Accepted
	(ii) Total Income/Total Assets	Rejected	Accepted
6. (iii) Sensitivity to Market Risk From 2010-11 to 2014-15	(i) Interest Income/Total Income	Rejected	Accepted
	(ii) Total Income/Total Assets	Rejected	Accepted

*(**Source:** SPSS Software Calculation)*

Tables' no. 5.9.1 & 5.9.2 stated results of hypotheses during different period of research as per sub-parameters and parameters positions at model.

This globally accepted ratio-based model elaborates wonderful results while conducting analysis of model dimensions in term of inter, intra and cross-sectional comparison of selected banks irrespective of its ownership, size, marketability and country of origin. The results have highlighted strengths and vulnerabilities of analysed foreign banks, underlining need to strengthen concerns of decision makers from banks to improve and increase their soundness. It can be concluded that banks with least ranking need to improve their performance to come up to desired standards. Moreover, it is observed that sample foreign banks during research has improved their ranking from average to good, better at composite CAMELS model performance.

CHAPTER – 6

RELATIVE EFFICIENCY OF SELECTED FOREIGN BANKS IN INDIA

In this third objective, measured relative efficiency of selected foreign banks during 1991 to 2015 with Data Envelopment Analysis. DEA trends over time may provide valuable information about bank performance (Yeh, 1996). The non-parametric technique DEA was applied with DEAP software on selected Inputs & Outputs. In this research, to evaluate relative efficiency, selected equal number of Inputs: (i) Interest Expenses, (ii) Non-Interest Expenses, Outputs: (i) Interest Income, (ii) Non-Interest Income for study and used intermediation approach.

The empirical results have demonstrated in form of (i) Summary of Scale Efficiency, (ii) Summary of Peers, its Weights and Counts, (iii) Summary of Projected Variables (inputs and outputs).

The **summary of Scale efficiency** defined efficiency of specific studied bank in utilization of resources used. **Summary of Peers** described how many peers, a particular bank should follow and in what proportion they have to follow is called **Peers Weights** and **Peers Counts** stated how many times specific bank has followed by its peer banks. **In Summary of Projection Variables** comparison has been done between project and original values of variables.

6.1 EFFICIENCY OF FOREIGN BANKS (YEAR 1991 AND 1992)

Table no. 6.1 explained that Abu Dhabi, Bank of Tokyo and Oman were found 100 percent scale efficient in 1991. In 1992, investigated that ADCB, BOB, Bank of Nova Scotia, Societe Generale and Sonali Bank were efficient as their scale efficiency is equal to 1. However, Bank of Tokyo was (96), DB (84) and Mashreq Bank (88) percent scale efficient.

Table 6.1: Summary (SE-Scale efficiency) of Foreign Banks

Scale Efficiency Summary of Foreign Banks								
Name of Foreign Banks	1991				1992			
	CRSTE	VRSTE	SE	Returns	Crste	Vrste	Scale Efficiency	Returns
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	–	0.689	0.689	1.00	–
2. American Express Bank	0.396	1.00	0.396	drs	0.00	0.00	–	–
3. Bank of America	0.612	1.00	0.612	drs	0.774	1.00	0.774	drs
4. Bank of Bahrain & Kuwait	1.00	1.00	1.00	–	1.00	1.00	1.00	–
5. Bank of Nova Scotia (BNS)	0.00	0.00	–	–	1.00	1.00	1.00	–
6. BOTM-Bank of Tokyo Mitsubishi	1.00	1.00	1.00	–	0.960	1.00	0.960	drs
7. CitiBank	0.00	0.00	–	–	0.516	1.00	0.516	drs
8. Deutsche Bank	0.00	0.00	–	–	0.368	0.438	0.840	drs
9. HSBC	0.468	0.00	0.547	drs	0.408	0.66	0.618	drs
10. Oman International Bank	1.00	1.00	1.00	–	0.00	0.00	–	–
11. Mashreq Bank	0.525	1.00	0.525	drs	0.727	0.826	0.880	drs
12. Societe Generale-SG	0	0	–	–	1	1	1.00	–
13. Sonali Bank	0	0	–	–	0.157	0.157	1.00	–
14. Standard Chartered Bank	0	0	–	–	0.627	1.00	0.627	drs

*(**Source:** Calculated with DEAP Software)*

Table 6.2: Summary of Peers and Weights and Count

Summary of Peers its Weights and No. of times Count						
Name of Foreign Banks	1991			1992		
	Peers	Peers (Weights Percentage)	Peers (Count)	Peers	Peers (Weights Percentage)	Peers (Count)
1. Abu-Dhabi Commercial Bank	1	1.00	0	5,4	0.846, 0.154	0
2. American Express Bank	2	1.00	0	2	1.00	1
3. Bank of America	3	1.00	1	3	1.00	0
4. Bank of Bahrain & Kuwait	4	1.00	0	4	1.00	5
5. Bank of Nova Scotia	5	1.00	5	5	1.00	3
6. Bank of Tokyo Mitsubishi	6	1.00	1	6	1.00	3
7. CitiBank	5	1.00	0	7	1.00	0

Contd...

Summary of Peers its Weights and No. of times Count						
Name of Foreign Banks	**1991**			**1992**		
	Peers	**Peers (Weights Percentage)**	**Peers (Count)**	**Peers**	**Peers (Weights Percentage)**	**Peers (Count)**
8. Deutsche Bank	5	1.00	0	6,14,4	0.537, 0.044, 0.420	0
9. HSBC	10, 3, 6	0.063, 0.804, 0.133	0	6,14,4	0.330, 0.597, 0.073	0
10. Oman International Bank	10	1.00	1	2	1.00	0
11. Mashreq Bank	11	1.00	0	5,6,4	0.259, 0.192, 0.549	0
12. Societe Generale	5	1.00	0	12	1.00	0
13. Sonali Bank	5	1.00	0	5,4	0.051, 0.949	0
14. Standard Chartered Bank	5	1.00	0	14	1.00	2

*(**Source:** Calculated with DEAP Software)*

As stated in table no. 6.2 that in 1991 to become efficient CitiBank, DB, SG, Sonali Bank, Standard Chartered Bank should refer to Bank of Nova Scotia 100 percent. HSBC should follow three banks with weights like 6 percent to Oman, 80 percent to Bank of America, 13 to Bank of Tokyo. In this year, maximum number of times referred bank was Bank of Nova Scotia.

In 1992, ADCB should follow BNS and BOB with 85 and 15 percent weights, DB should refer Bank of Tokyo, Standard Chartered and BOB with 54, 4 and 42 percent weights and HSBC have to follow same peers with 33, 60 and 7 percent of peer's weights. Oman International to be efficient should follow AEB. Mashreq Bank should follow peers 5^{th}, 6^{th}, & 4^{th} bank with 26, 19 & 55 percent weights and Sonali Bank to Bank of Nova Scotia 5 percent and highest number of times peers count were Bank of Bahrain and Kuwait (5 times), Bank of Tokyo Mitsubishi (3 times).

Table 6.3: Projection Summary of Variables

(Crores)

Variables	**Projection Summary HSBC (1991)**	
	Original Value	**Projected Value**
Output 1 (Interest Income)	16150	16150
Output 2 (Non-Interest Income)	11465	12338 (873.254)
Input 1 (Interest Expenses)	113	96.608 (-16.392)
Input 2 (Non-Interest Expenses)	8171	6985.676 (-1185.324)

*(**Source:** Calculated with DEAP Software)*

The projected table no. 6.3 and 6.4 stated projection values of output and inputs for improvement. HSBC have to increase its non-interest income to 12338 from 11465 and decrease interest & non-interest expenses by 16.392 & 1185.324. In 1992, ADCB should enhance interest income to 2343.366, non-interest income to 1784.664, and decline their inputs by 194. 565 & 131.463, DB should project their output (non-interest income) 4275.049 & inputs to 979.495 & 805.947 and HSBC should enhance its non-interest income to 17208.586 & decrease their expenses by (1995.868) and (2054.659). Mashreq Bank and Sonali Bank should decline their expenses-Interest by (76.304 & 52.251) and non-interest by (74.565 & 53.936) however Sonali bank should raise its income (interest) to 2201.87 and (non-interest) to 1349.99.

Table 6.4: Projection Summary of Variables

(Crores)

Projection Summary – I (1992)						
Variables	**Abu-Dhabi Commercial Bank**		**Deutsche Bank**		**HSBC**	
	Original Value (OV)	**Projected Value (PV)**	**OV**	**PV**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	1034.00	2343.366 (1309.366)	6650.00	6650.00	23752.00	23752.00
Output 2 (Non-Interest Income)	570.00	1784.664 (1214.664)	2951.00	4275.049 (1324.00)	14415.00	17208.586 (2793.586)
Input 1 (Interest Expenses)	222.00	347.474 (194.565)	2235.00	979.495 (-1255.505)	5873.00	3877.132 (-1995.868)
Input 2 (Non-Interest Expenses)	150.00	234.780 (131.463)	1839.00	805.947 (-1033.053)	6046.00	3991.341 (-2054.659)

Projection Summary – II (1992)				
Variables	**Mashreq Bank**		**Sonali Bank**	
	OV	**PV**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	2818	3351.665	97.00	2298.866 (2201.866)
Output 2 (Non-Interest Income)	2133.00	2133.00	13.00	1349.992 (1336.992)
Input 1 (Interest Expenses)	439.00	362.696 (-76.304)	62.00	9.749 (-52.251)
Input 2 (Non-Interest Income)	429.00	354.435 (-74.565)	64.00	259.414 (-53.936)

*(**Source:** Calculated with DEAP Software)*

Table no. 6.5 demonstrated that out of 14 selected foreign banks, 6 were found 100 percent scale efficient like Abu Dhabi, BOB, BNS, SCB, SB, Societe Generale and Mashreq Bank was 86 percent efficient in 1993. In 1994, only Citibank and Deutsche Bank were efficient in utilization of resources in India.

6.2 EFFICIENCY OF FOREIGN BANKS (YEAR 1993 AND 1994)

Table 6.5: Summary (SE) of Foreign Banks

Scale Efficiency Summary of Foreign Banks								
Name of Foreign Banks	**1993**				**1994**			
	Crste	**Vrste**	**Scale Efficiency**	**Returns**	**Crste**	**Vrste**	**SE**	**Returns**
1. Abu-Dhabi Commercial Bank	0.936	0.936	1.00	–	0.00	0.00	0.00	–
2. American Express Bank	0.288	0.904	0.319	drs	0.00	1.00	0.00	drs
3. Bank of America	0.402	1.00	0.402	drs	0.00	0.724	0.00	drs
4. Bank of Bahrain & Kuwait	1.00	1.00	1.00	–	0.00	0.00	0.00	–
5. BNS	1.00	1.00	1.00	–	0.00	0.176	0.00	drs
6. Bank of Tokyo Mitsubishi	0.096	0.594	0.162	drs	0.00	1.00	0.00	drs
7. CitiBank	0.268	1.00	0.268	drs	1.00	1.00	1.00	–
8. Deutsche Bank	0.436	0.937	0.465	drs	1.00	0.969	1.00	–
9. HSBC	0.321	1.00	0.321	drs	0.00	1.00	0.00	drs
10. OIB-Oman International Bank	0.00	0.00	–	–	0.00	0.00	0.00	–
11. Mashreq Bank	0.610	0.714	0.855	drs	0.00	0.00	0.00	–
12. Societe Generale	0.750	0.750	1.00	–	0.00	1.00	0.00	drs
13. Sonali Bank	0.092	0.092	1.00	–	0.00	0.00	0.00	–
14. Standard Chartered Bank	1.00	1.00	1.00	–	0.00	1.00	0.00	drs

*(**Source:** Calculated with DEAP Software)*

Table no. 6.6 mentioned that in 1993, American Express Bank should adopt values of 4^{th}, 7^{th} & 3^{rd} number bank with 45, 19 & 36 percent. BOTM should refer to BOB and Citibank with proportion of 91 and 9 percent. Deutsche Bank should follow 3^{rd}, 14^{th} & 5^{th} bank with 29, 4 and 71 percent weights and MB to 5^{th}, 7^{th}, 3^{rd}, 4^{th} with peer weights 53, 12, 46. Societe Generale have to follow BNS (99), & SCB (1)

percent. Sonali Bank should refer Bank of Nova Scotia 75 percent and BOB 25 percent and SCB have to follow AEB peer.

Table 6.6: Summary of Peers and Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	**1993**			**1994**		
	Peers	**Peers (Weights Percentage)**	**Peers (Count)**	**Peers**	**Peers (Weights Percentage)**	**Peers (Count)**
1. Abu-Dhabi Commercial Bank	5, 4	0.637, 0.363	0	10	1.00	0
2. American Express Bank	4, 7, 3	0.451, 0.189, 0.359	0	2	1.00	2
3. Bank of America	3	1.00	3	2, 14, 6	0.502,0.079, 0.419	0
4. Bank of Bahrain & Kuwait	4	1.00	5	10	1.00	0
5. Bank of Nova Scotia	5	1.00	5	10, 12, 14	0.975, 0.020, 0.005	0
6. Bank of Tokyo Mitsubishi	4, 7	0.914, 0.086	0	6	1.00	1
7. CitiBank	7	1.00	3	7	1.00	0
8. Deutsche Bank	3, 14, 5	0.286, 0.004, 0.710	0	12, 2	0.717, 0.283	0
9. HSBC	9	1.00	0	9	1.00	0
10. Oman International Bank	10	1.00	0	10	1.00	5
11. Mashreq Bank	5, 7, 3, 4	0.529,0.00, 0.012, 0.458	0	10	1.00	0
12. Societe Generale	5,14	0.994, 0.006	0	12	1.00	2
13. Sonali Bank	5, 4	0.748, 0.252	0	10	1.00	0
14. Standard Chartered Bank	14	1.00	2	14	1.00	2

*(**Source:** Calculated with DEAP Software)*

In 1994, Abu Dhabi, Bank of Bahrain, MB, Sonali Bank should refer 100 percent Oman International Bank. To be efficient, Bank of America should refer 2nd, 14th & 6th bank with 50, 8 & 42 percent, BNS to Oman International (98), Societe Generale (2) & SCB (5) and Deutsche Bank to Societe Generale 72 percent. The maximum number of times, peers was count in 1993, two foreign banks-Bank of Bahrain and Kuwait and Bank of Nova Scotia (5 times) and in 1994 Oman International Bank (5 times).

Table 6.7: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (1993)					
	ADCB		AEB		Mitsubishi-BOTM	
	Original Value	Projected Value-PV	OV	Projected Value	Original Value	PV
Output 1 (Interest Income)	2126.00	3158.057 (1032.057)	28013.00	28013.00	9564.00	9564.00
Output 2 (Non-Interest Income)	1136.00	2043.190 (907.190)	14912.00	16630.167 (1718.167)	5120.00	5624.871 (504.871)
Input 1 (Interest Expenses)	131.00	182.065 (-8.434)	5861.00	5299.775 (-561.225)	2184.00	1297.912 (-886.088)
Input 2 (Non-Interest Expenses)	203.00	282.131 (-13.070)	8587.00	7764.745 (-822.255)	10257.00	2789.512 (-4161.449, -3306.039)

Projection Summary – II (1993)								
Variables	**Deutsche Bank**		**Mashreq Bank**		**Societe Generale**		**Sonali Bank**	
	O V	**PV**	**Original Value**	**Projected Value**	**(Original) Value**	**(Projected) Value**	**OV**	**Projected Value**
Output 1 (Interest Income)	11308.00	11308.00	3395.00	3395.00	3669.00	3757.688 (88.688)	75.00	3272.620 (3197.620)
Output 2 (Non-Interest Income)	6694.00	6781.399 (87.399)	2133.00	2133.00	2196.00	2419.562 (223.562)	18.00	2162.295 (2144.295)
Input 1 (Interest Expenses)	2330.00	2182.883 (-147.117)	306.00	218.366 (-87.634)	631.00	484.398 (-158.035, 11.433)	57.00	228.488 (-51.764, 223.252)
Input 2 (Non-Interest Expenses)	1989.00	1863.414 (-125.586)	503.00	358.948 (-144.052)	342.00	262.542 (-85.655, 6.196)	69.00	276.591 (-62.661, 270.252)

*(**Source:** Calculated with DEAP Software)*

From table no. 6.7 and 6.8, it is noticed that in 1993, ADCB should increase values for interest income to 3158.0.57, non-interest income to 2043.190, AEB, BOTM, DB should earn non-interest income by 1718.167, 5624.871, & 6781.399 and Sonali Bank and Societe Generale should increase its interest income to 3757.688, 3272.620 and non-interest income to 2419.562 and 2162.295. ADCB, American Bank, Bank of Tokyo, Deutsche Bank, Mashreq Bank, SG and SB to become efficient, should reduce its interest expenses by (8.434, 561.225, 886.088, 147.117, 87. 634, 158.035 & 51.764) and non-interest expenses by (13.070, 822.255, 3306.039, 125.586, 144.052, 85.655 & 62.661) so on.

In 1994, Bank of Nova Scotia should increase its interest income from 3143.00 to 3535.690 (392.690) and Deutsche Bank its non-interest income to 5612.597 from 4857. Bank of America, BNS, DB should reduce its interest expenses to 5087.266, 67237, 1933.358 and non-interest expenses to 4837.177, 58.986 and 2309.878.

Table 6.8: Projection Summary of Variables

(Crores)

Variables	Projection Summary 1994					
	Bank of America		Bank of Nova Scotia		Deutsche Bank	
	Original Value	Projected Value	OV	PV	(Original) Value	(Projected) Value
Output 1 (Interest Income)	22146.00	22146.00	3143.00	3535.690 (392.690)	11993.00	11993.00
Output 2 (Non-Interest Income)	11224.00	11224.00	1722.00	1722.00	4857.00	5612.597 (755.597)
Input 1 (Interest Expenses)	7833.00	5087.266 (-2161.024, -584.710)	383.00	67.237 (-315.763)	1996.00	1933.358 (-62.642)
Input 2 (Non-Interest Expenses)	6676.00	4834.177 (-1841.823)	336.00	58.986 (-277.014)	2826.00	2309.878 (-88.691, -427.431)

*(**Source:** Calculated with DEAP Software*

6.3 EFFICIENCY OF FOREIGN BANKS (YEAR 1995 AND 1996)

Table 6.9: Summary of SE of Foreign Banks

Scale Efficiency Summary of Foreign Banks								
Name of Foreign Banks	1995				1996			
	CRSTE	VRSTE	Scale Efficiency	Returns	Constant Returns	Variable Returns	Scale Efficiency-SE	Returns
1. Abu-Dhabi Commercial Bank-ADCB	0.00	0.00	–	–	0.00	0.00	–	–
2. American Express Bank	0.00	1.00	0.00	drs	0.00	1.00	0.00	drs
3. Bank of America	0.00	0.00	–	–	0.00	1.00	0.00	drs
4. Bank of Bahrain & Kuwait-BOB	0.00	0.00	-1.466	–	0.00	0.00	–	–
5. Bank of Nova Scotia-BNS	0.00	0.134	0.00	drs	0.00	0.431	0.00	drs
6. Bank of Tokyo Mitsubishi (BOTM)	0.00	1.00	0.00	drs	0.00	1.00	0.00	drs
7. CitiBank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
8. Deutsche Bank	1.00	0.632	1.582	–	0.00	0.474	0.00	drs
9. HSBC	0.632	0.906	0.697	drs	0.00	1.00	0.00	drs
10. Oman International Bank	0.00	0.00	–	–	0.00	0.00	–	–
11. Mashreq Bank	0.00	0.00	–	–	0.00	0.00	–	–
12. Societe Generale	0.00	1.00	0.00	drs	0.00	1.00	0.00	drs
13. Sonali Bank (SB)	0.00	0.00	–	–	0.00	0.00	–	–
14. Standard Chartered Bank (SCB)	0	1	0	drs	0	1	0	drs

*(**Source:** Calculated with DEAP Software)*

From table no. 6.9 it is observed that in 1995 & 1996 only CitiBank was found scale efficient. Table no. 6.10 described that in 1995 Abu Dhabi, BOA, Bank of Bahrain, Mashreq Bank and Sonali Bank should refer Oman International Bank 100 percent. Moreover, Bank of Nova Scotia should refer Oman and Societe Generale with 89 and 11 percent weights, Deutsche Bank should adopt reference set of banks 12th and 2nd with 73 & 27 percent weights. HSBC in this year should follow American Express Bank, Bank of Tokyo, CB and Societe Generale with weights proportion (3), (6), (45), and (46) percent.

The most referred peer count was Oman International Bank (6) in 1995 & 1996, however, Societe Generale counts (3) in 1995 and in 1996 Societe Generale with (2) counts.

Table 6.10: Summary of Peers and Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	**1995**			**1996**		
	Peers	**Peers (Weights Percentage)**	**Peers (Count)**	**Peers**	**Peers (Weights Percentage)**	**Peers (Count)**
1. Abu-Dhabi Commercial Bank	10	1.00	0	10	1.00	0
2. American Express Bank	2	1.00	2	2	1.00	0
3. Bank of America	10	1.00	0	3	1.00	1
4. Bank of Bahrain & Kuwait	10	1.00	0	10	1.00	0
5. Bank of Nova Scotia	10, 12	0.890, 0.110	0	10, 12	0.776, 0.224	0
6. Bank of Tokyo Mitsubishi	6	1.00	1	6	1.00	1
7. CitiBank	7	1.00	1	7	1.00	0
8. Deutsche Bank	12, 2	0.734, 0.266	0	3, 6, 12	0.258, 0.421, 0.321	0
9. HSBC	2,6,7,12	0.030, 0.065, 0.450, 0.456	0	9	1.00	0
10. Oman International Bank	10	1.00	6	10	1.00	5
11. Mashreq Bank	10	1.00	0	10	1.00	0
12. Societe Generale	12	1.00	3	12	1.00	2
13. Sonali Bank	10	1.00	0	10	1.00	0
14. Standard Chartered Bank	14	1.00	0	14	1.00	0

*(**Source:** Calculated with DEAP Software)*

Table no. 6.10 described that in 1995 Abu-Dhabi, BOA, Bank of Bahrain, Mashreq Bank & Sonali Bank should refer Oman International Bank 100 percent. Moreover, Bank of Nova Scotia should refer Oman & Societe Generale with 89 & 11 percent weights, Deutsche Bank should adopt reference set of banks 12^{th} & 2^{nd} with 73 & 27 percent weights. HSBC in this year should follow American Express Bank, Bank of Tokyo, CB and Societe Generale with weights proportion (3, 6, 45 and 46) percent.

Table 6.11: Projection Summary of Variables

(Crores)

Projection Summary– I (1995)						
Variables	**Abu-Dhabi**		**(BOB & K) Bank of Bahrain & Kuwait**		**Deutsche Bank**	
	OV	**PV**	**(Original) Value**	**(Projected) Value**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	2829.00	3779.00 (950.00)	3371.00	4378.00 (1007.333)	15317.00	15317.00
Output 2 (Non-Interest Income)	1731.00	1943.00 (212.00)	2383.00	2383.00	8190.00	8626.931 (436.931)
Input 1 (Interest Expenses)	374.00	0.00 (-374.00)	600.00	50.154 (-519.886, -29.960)	3260.00	2060.111 (-1199.889)
Input 2 (Non-Interest Expenses)	304.00	0.00 (-304.00)	611.00	81.583 (-529.417)	4852.00	2879.553 (-1785.848, -186.600)
Projection Summary – II (1995)						
Variables	**HSBC**		**Mashreq Bank**		**Sonali Bank**	
	Original Value	**Projected Value**	**OV**	**PV**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	40133.00	40133.00	3053.000	3779.00	193.00	3779.00 (3586.00)
Output 2 (Non-Interest Income)	21832.00	21832.00	1577.00	1943.00 (366.00)	18.00	1943.00 (1925.00)
Input 1 (Interest Expenses)	13209.000	11970.813 (-1238.187)	284.00	0.00 (-284.00)	114.00	0.00 (-114.00)
Input 2 (Non-Interest Expenses)	12931.00	11718.872 (-1212.128)	528.00	0.00 (-528.00)	117.00	0.00 (-117.00)

*(**Source:** Calculated with DEAP Software)*

Table no. 6.11 stated summary of projection variables, in 1995, Abu-Dhabi & Sonali Bank should produce more interest income to (3779.00) & non-interest income to

194300 by reduction of inputs-interest expenses (374 & 114) and 304 and 117 of non-interest expenses. Bank of Bahrain can enhance its interest income with reduction of inputs to 50.154 and 81.583. To earn more non-interest income to 8626.931, Deutsche Bank should decline its expenses to 2060.11 and 2879. 553. Moreover, HSBC can produce similar amount of interest and non-interest income with utilization of inputs units to 2060.111 and 2879.553. Moreover, HSBC can produce similar amount of interest and non-interest income with reduction of inputs 1 to 11970.813 and inputs 2 to 11718.872.

Table 6.12: Projection Summary of Variables

(Crores)

Projection Summary – I (1996)						
Variables	**Abu-Dhabi Commercial Bank**		**Bank of Bahrain & Kuwait**		**Bank of Nova Scotia**	
	Original Value-OV	**Projected Value**	**Original Value**	**Projected Value**	**OV**	**Projected Value-PV**
Output 1 (Interest Income)	3798.00	5367.00 (1569.00)	3487.000	5367.00 (1880.00)	5288.00	7144.834 (1856.834)
Output 2 (Non-Interest Income)	3029.00	3035.00 (6.00)	1813.00	3035.00 (1222.00)	4822.00	4822.00
Input 1 (Interest Expenses)	791.00	0.00 (-791.00)	89.00	0.00 (-89.00)	1216.00	135.484 (-691.755, -388.761)
Input 2 (Non-Interest Expenses)	352.00	0.00 (-352)	471.00	0.00 (-471.00)	642.00	276.780 (-365.220)
Projection Summary – II (1996)						
Variables	**Deutsche Bank**		**Mashreq Bank**		**Sonali Bank**	
	Original Value	**Projected Value**	**Original Value**	**Projected Value**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	22307.000	22307.00	3792.00	5367.000 (1575.00)	281.00	5367.00 (5086.00)
Output 2 (Non-Interest Income)	12906.00	14810.941 (1904.941)	2393.00	3035.00 (642.00)	27.00	3035.00 (3008.00)
Input 1 (Interest Expenses)	7421.00	3517.755 (-3903.245)	664.00	0.00 (-664)	266.00	0.00 (-266.00)
Input 2 (Non-Interest Expenses)	7190.00	3408.255 (-3781.745)	684.00	0.00 (-684)	124.00	0.00 (-124.00)

*(**Source:** Calculated with DEAP Software)*

Table no. 6.12 mentioned that in 1996, ADCB, Mashreq Bank, Sonali Bank should enhance its interest income to 5367.00 and non-interest to 3035 with zero level of expenses. Bank of Nova Scotia should produce more interest income to 7144.834 points by reduce its expenses (691.755, 388.761 and 365.220) of interest and non-interest expenses. On other hand, to produce more income from non-interest sources from 12906 to 14810.941 it should decline level of inputs to 3517.755 & 3408.255.

6.4 EFFICIENCY OF FOREIGN BANKS (YEAR 1997 AND 1998)

Table 6.13: Summary of Foreign Banks' Scale Efficiency

SE Summary of Foreign Banks								
Name of Foreign Banks	**1997**				**1998**			
	CRSTE	**VRSTE**	**Scale Efficiency (crste/Vrste)**	**Returns**	**Crste**	**Vrste**	**Scale Efficiency**	**Returns**
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
2. American Express Bank	0.337	0.599	0.562	drs	0.380	0.599	0.635	drs
3. Bank of America	0.611	1.00	0.611	drs	0.801	1.00	0.801	drs
4. Bank of Bahrain & Kuwait (BOB)	0.775	0.898	0.862	drs	1.00	1.00	1.00	–
5. Bank of Nova Scotia (BNS)	0.680	0.742	0.916	drs	0.927	1.00	0.927	drs
6. Bank of Tokyo Mitsubishi	1.00	1.00	1.00	–	0.862	1.00	0.862	drs
7. CitiBank	0.276	1.00	0.276	drs	0.398	1.00	0.398	drs
8. Deutsche Bank	0.325	0.420	0.773	drs	0.506	0.622	0.814	drs
9. HSBC	0.345	0.901	0.383	drs	0.435	0.785	0.554	drs
10. Oman International Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
11. Mashreq Bank	0.632	0.778	0.812	irs	1.00	1.00	1.00	–
12. Societe Generale	1.00	1.00	1.00	–	0.975	1.00	0.975	drs
13. Sonali Bank	0.048	1.00	0.048	irs	0.090	1.00	0.090	irs
14. Standard Chartered Bank (SCB)	0.238	0.601	0.395	irs	0.366	1.00	0.366	drs

*(**Source:** Calculated with DEAP Software)*

Table no. 6.13 explained measurement of scale efficiency (Crste/Vrste), in 1997 Abu-Dhabi Bank, Bank of Tokyo, OIB and SG were found scale efficient, moreover, Mashreq Bank (81), Bank of Nova Scotia (92), BOB (86) percent. In 1998, four multination banks were found scale efficient as ADCB, Bank of Bahrain, Oman International Bank and Mashreq Bank, however, Societe Generale (98), Bank of Nova Scotia (93), and BOTM (86) percent scale efficient.

Table 6.14: Summary of Peers and Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	**1997**			**1998**		
	Peers	**Peers (Weights Percentage)**	**Peers (Count)**	**Peers**	**Peers (Weights Percentage)**	**Peers (Count)**
1. Abu-Dhabi Commercial Bank	1	1.00	2	1	1.00	0
2. American Express Bank	3, 12	0.596, 0.404	0	6, 12, 3	0.495, 0.058, 0.447	0
3. Bank of America	3	1.00	4	3	1.00	3
4. Bank of Bahrain & Kuwait	12, 1, 3	0.068, 0.680, 0.252	0	4	1.00	0
5. Bank of Nova Scotia	12, 13	0.510, 0.490	0	5	1.00	0
6. Bank of Tokyo Mitsubishi	6	1.00	2	6	1.00	2
7. CitiBank	7	1.00	1	7	1.00	0
8. Deutsche Bank	3, 6	0.231, 0.769	0	3, 12	0.475, 0.525	0
9. HSBC	7, 3	0.132, 0.868	0	3,14,6	0.657, 0.279, 0.064	0
10. Oman International Bank	10	1.00	0	10	1.00	0
11. Mashreq Bank	1, 12, 13	0.603, 0.138, 0.259	0	11	1.00	0
12. Societe Generale	12	1.00	4	12	1.00	2
13. Sonali Bank	13	1.00	3	13	1.00	0
14. Standard Chartered Bank	3, 6	0.923, 0.077	0	14	1.00	1

*(**Source:** Calculated with DEAP Software)*

It is observed from table no. 6.14 that American Express should follow Bank of America and SG in 60 & 40 percent weights proportion, DB, SCB to be efficient

should refer BOA and Bank of Tokyo with (23 & 92) and (77 & 7) percent. Moreover, Bank of Bahrain, Mashreq Bank should refer 12th, 1st with (7 & 14), (68, 6 & 25) percent. In addition to this, Deutsche Bank should refer set of BOA and BOTM with 23 & 77 percent weights proportion. HSBC should give more weightage to Bank of America with 87 percent.

In 1998, American Bank should follow reference set of BOTM (50), Societe Generale (6) and Bank of America (45) percent peer weights, DB to be 100 percent efficient should adopt values of BOA and Societe Generale with 48 & 53 percent proportion and Hong Kong Banking Corporation to 3rd, 14th, 16th with (66), (26) and 6 percent weights proportion. The maximum number of times peer count were Bank of America (4), Societe Generale (4) and Sonali Bank (3) in 1997. The highest peers count in 1998 were Bank of America (3), Bank of Tokyo Mitsubishi (2), Societe Generale (2) times.

From table no. 6.15 it is found that Bank of Bahrain, BNS, Deutsche Bank, Mashreq Bank and Standard Chartered Bank to earn more non-interest income should apply their inputs like interest expenses to 449.235, 837.477, 3495.784, 510.612 and 8669.098 and non-interest expenses to 524.706, 799.521, 3765.263, 581.444 and 8294.768. Moreover, American Express and Hong-Kong Shanghai bank to earn more interest income they should utilize units of input 1 to 6019.977 and 12676.681 and input 2 to 5821.36 and 12503.581.

Table no. 6.16 mentioned that American Express and HSBC should produce more interest income to 40258.922, 67939.022 by reduction of interest expenses to 7533.352 & 15885.868 and non-interest by 4786.5 and 4308.10. Moreover, to produce more income from non-interest activities, Deutsche Bank should decline interest expenses to 8283.965 and non-interest by 4185.393.

Table no. 6.17 described that in 1999 Abu-Dhabi Commercial Bank, Bank of America (BOA), Bank of Bahrain and Kuwait, Oman International Bank (OIB) were found 100 percent scale efficient.

Table 6.15: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (1997)							
	AEB		BOB & K		BNS		Deutsche Bank	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	34999.00	40446.00 (5447.00)	4335.00	4335.00	7833.00	7833.00	31119.00	31119.00
Output 2 (Non-Interest Income)	25202.00	25202.00	3681.00	3744.00 (63.588)	4999.00	6022.208 (1023.208)	13992.00	17355.623 (3363.623)
Input 1 (Interest Expenses)	11769.00	6019.977 (-4719.818, -1029.204)	500.00	449.235 (-50.765)	1397.00	837.477 (-359.924, -199.599)	10684.00	3495.784 (-6197.265, -990.951)
Input 2 (Non-Interest Expenses)	9719.00	5821.310 (-3897.690)	584.00	524.706 (-59.294)	1077.00	799.521 (-277.479)	8966.00	3765.263 (-5200.737)

Projection Summary – II (1997)						
Variables	**HSBC**		**Mashreq Bank**		**Standard Chartered Bank**	
	Original Value	**Projected Value**	**Original Value**	**Projected Value**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	59699.00	64261.00 (4562.894)	5034.00	5034.00	54861.00	54861.00
Output 2 (Non-Interest Income)	38494.00	38494.00	656.00	4236.092 (3580.092)	14421.00	32606.272 (18185.272)
Input 1 (Interest Expenses)	14065.00	12676.681 (-1388.319)	656.00	510.612 (-145.388)	14421.00	8669.098 (-5751.902)
Input 2 (Non-Interest Expenses)	16302.00	12503.581 (-1609.127, -2189.292)	747.000	581.444 (-165.556)	24567.00	8294.768 (-9798.695, -6473.537)

*(**Source:** Calculated with DEAP Software)*

Table 6.16: Projection Summary of Variables

(Crores)

Variables	Projection Summary (1998)					
	American Express Bank		Deutsche Bank		HSBC	
	(Original) Value	(Projected) Value	Original Value	Projected Value	Original Value-ov	Projected Value-pv
Output 1 (Interest Income)	32660	40258.922 (7598.922)	40437.00	40437.00	63031.00	67939.022 (4908.022)
Output 2 (Non-Interest Income)	22063.00	22063.00	18511.00	21973.329 (3462.329)	37497.00	37497.00
Input 1 (Interest Expenses)	12586.00	7533.352 (-5052.648)	15879.00	8283.965 (-6000.348)	20224.00	15885.868 (-4338.132)
Input 2 (Non-Interest Expenses)	11923.00	7136.513 (-4786.487)	11076.00	6890.607 (-4185.393)	20084.00	15775.899 (-4308.101)

*(**Source:** Calculated with DEAP Software)*

Moreover, Mashreq Bank (98), Bank of Tokyo (98), HSBC (96), and American Express (94) percent scale efficient. In 2000, ADCB and Societe Generale were scale efficient with values equal to 1, and MB, Bank of Bahrain were (99) and 94 percent scale efficient.

It is observed from table no. 6.18 that AEB to become scale efficient should adopt values of Banks 1st, 3rd, 4th with 25, 38, 37 percent peer weights, Bank of Nova Scotia follow banks ADCB with (94 percent), BOA with (6 percent) weights. Moreover, Bank of Tokyo should adopt reference set of Bank of America (99) and Oman International (1) percent, Deutsche Bank and Standard Chartered Bank should refer ADCB with (56 & 2) percent and Bank of America with (98 & 44) percent.

6.5 EFFICIENCY OF FOREIGN BANKS (YEAR 1999 AND 2000)

Table 6.17: Summary of Foreign Banks

SE Summary of Foreign Banks								
Name of Foreign Banks	**1999**				**2000**			
	Crste	**Vrste**	**SE**	**Returns**	**Crste**	**Vrste**	**Scale Efficiency**	**Returns**
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
2. American Express Bank	0.372	0.395	0.943	drs	0.293	0.477	0.614	drs
3. Bank of America	1.00	1.00	1.00	–	0.445	1.00	0.445	drs
4. Bank of Bahrain & Kuwait	1.00	1.00	1.00	–	0.754	0.799	0.944	irs
5. Bank of Nova Scotia	0.826	0.978	0.844	drs	0.573	0.890	0.644	drs
6. Bank of Tokyo Mitsubishi	0.464	0.474	0.979	drs	0.324	0.412	0.786	drs
7. CitiBank	0.383	1.00	0.383	drs	0.528	1.00	0.528	drs
8. Deutsche Bank	0.354	0.428	0.826	drs	0.342	0.703	0.486	drs
9. HSBC	0.467	0.485	0.963	drs	0.535	1.00	0.535	drs
10. Oman International Bank	1.00	1.00	1.00	–	0.863	1.00	0.863	irs
11. Mashreq Bank	0.892	0.910	0.980	irs	0.996	1.00	0.996	irs
12. Societe Generale	0.857	0.915	0.937	drs	0.608	0.608	1.00	drs
13. Sonali Bank	0.110	1.00	0.110	drs	0.056	1.00	0.056	irs
14. Standard Chartered Bank	0.512	0.548	0.934	drs	0.580	1.00	0.580	drs

*(**Source:** Calculated with DEAP Software)*

Hong-Kong and Societe Generale should follow values of BOA (7 & 85) percent, Bank of Bahrain (15 & 32) percent and SG to refer 1st, 3rd, & 4th bank with (61, 7 & 32) percent weights proportion. In 2000, Bank of Bahrain (BOB) should follow Oman (17), Mashreq Bank (14), ADCB (55), Sonali Bank (8) percent. Besides, to be efficient DB should refer SCB (11), BOA (51) and ADCB (38) percent. On other hand, BNS, BOTM should adopt ADCB values 95 and 96 percent.

From table no. 6.18 it is also investigated that in 1999, highest number of times referred Decision making units were Bank of America (7), ADCB (6), Bank of

Bahrain and Kuwait- (4), and in 2000 ADCB (6) times, SCB (3), Bank of America and Mashreq Bank (2) times.

Table 6.18: Summary of Peers and Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	1999			2000		
	Peers	Peers (Weights Percentage)	Peers (Count)	Peers	Peers (Weights Percentage)	Peers (Count)
1. Abu-Dhabi Commercial Bank	1	1.00	6	1	1.00	6
2. American Express Bank	1,3,4	0.248,0.380, 0.371	0	14,9, 1	0.179,0.075, 0.746	0
3. Bank of America	3	1.00	7	3	1.00	2
4. Bank of Bahrain & Kuwait	4	1.00	4	10,11, 1,13	0.172,0.192, 0.553, 0.083	0
5. Bank of Nova Scotia	1,3	0.942, 0.058	0	3,1	0.050, 0.950	0
6. Bank of Tokyo Mitsubishi	3,10	0.099, 0.901	0	14,1	0.044, 0.956	0
7. CitiBank	7	1.00	0	7	1.00	0
8. Deutsche Bank	1,3	0.564, 0.436	0	14,3,1	0.108,.508, 0.384	0
9. HSBC	3,4	0.853, 0.147	0	9	1.00	1
10. Oman International Bank	10	1.00	1	10	1.00	1
11. Mashreq Bank	4,1,13	0.142, 0.814, 0.044	0	11	1.00	2
12. Societe Generale	1,3,4	0.613, 0.070, 0.317	0	11,1	0.080, 0.920	0
13. Sonali Bank	13	1.00	1	13	1.00	1
14. Standard Chartered Bank	3,1	0.977, 0.023	0	14	1.00	3

*(**Source:** Calculated with DEAP Software)*

The table no. 6.19 explained that American Express, Bank of Nova Scotia, Mashreq Bank, Societe Generale and Standard Chartered Bank to earn more interest in India should project their input 1 to 4570.984, 1551.693, 9254.914, 920.615, 1562.018 and 10521.985 and input 2 to 5842.632, 1482.646, 2528.367, 12149.991, 660.441, 1657.184 and 13797.625.

Table 6.19: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (1999)							
	American Express Bank		Bank of Nova Scotia		Bank of Tokyo Mitsubishi		Deutsche Bank	
	Original Value	Projected Value	OV	PV	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	34527.00	38135.511 (3608.511)	10732.00	10759.596 (27.596)	12524.00	12524.00	43267.00	43267.00
Output 2 (Non-Interest Income)	25440.00	25440.00	7684.00	7684.00	8063.00	8607.868 (544.868)	21316.00	28573.514 (7257.514)
Input 1 (Interest Expenses)	11578.00	4570.984 (-7007.016)	2593.00	1551.693 (-57.422, -983.884)	3068.00	1454.506 (-1613.494)	18973.00	5240.303 (-10854.952, -2877.745)
Input 2 (Non-Interest Expenses)	14799.00	5842.632 (-8956.368)	1461.00	1428.646 (-32.354)	40970.00	2528.367 (-21546.556, -16895.078)	15226.00	6514.805 (-8711.195)

Projection Summary – II (1999)								
Variables	**HSBC**		**Mashreq Bank**		**Societe Generale**		**Standard Chartered Bank**	
	Original Value	**Projected Value**	**Original Value**	**Projected Value**	**Original Value**	**Projected Value**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	76323.00	78951.891 (2628.891)	4007.00	5409.016 (1402.016)	10272.00	11506.262 (1234.262)	87600.00	89814.026 (2214.026)
Output 2 (Non-Interest Income)	51570.00	51570.00	4273.00	4273.00	8304.00	8304.00	58485.00	58485.00
Input 1 (Interest Expenses)	19084.00	9254.914 (-9829.086)	1012.00	920.615 (-91.385)	1707.00	1562.018 (-144.982)	21496.00	10521.985 (-9710.974, -1263.985)
Input 2 (Non-Interest Expenses)	29822.00	12149.991 (-15359.621, -2312.388)	726.00	660.441 (-65.559)	1811.00	1657.184 (-153.816)	25167.00	13797.625 (-11369.375)

*(**Source:** Calculated with DEAP Software)*

Table 6.20: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2000)					
	American Express Bank		Bank of Bahrain & Kuwait		BNS	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	30292.00	30292.00	5670.00	5670.00	10337.00	10337.00
Output 2 (Non-Interest Income)	19638.00	19638.00	4803.00	4803.00	7684.00	7689.55 (5.55)
Input 1 (Interest Expenses)	14216.00	6782.604 (-7433.396)	1083.00	865.054 (-217.946)	2481.00	1990.920 (-273.802, -216.278)
Input 2 (Non-Interest Expenses)	17397.00	7873.129 (-9096.707, -427.164)	976.00	779.587 (-196.413)	1826.00	1624.484 (-201.516)
Projection Summary – II (2000)						
Variables	**Bank of Tokyo Mitsubishi**		**Deutsche Bank**		**Societe Generale**	
	Original Value	**Projected Value**	**Original Value**	**Projected Value**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	11346.00	11346.00	47128.00	47128.00	6660.00	7203.559 (543.559)
Output 2 (Non-Interest Income)	5848.00	8272.430 (2424.430)	23835.00	28999.00 (-5637.606)	5930.00	5930.00
Input 1 (Interest Expenses)	4824.00	1986.952 (-2837.048)	18973.00	13335.394 (-5637.606)	1657.00	1008.094 (-648.906)
Input 2 (Non-Interest Expenses)	12876.00	1965.054 (-7572.519, -3338.428)	18118.00	12734.447 (-5383.553)	1896.00	743.562 (-742.502, -409.936)

*(**Source:** Calculated with DEAP Software)*

On Part of Bank of Tokyo and Deutsche Bank to produce more income from non-interest activities should reduce their interest expenses to 1454.506, 5240.303, and non-interest expenses to 2528.367 and 6517.805.

It is observed in table 6.20 that American Express and Bank of Bahrain can produce same units of incomes with less amount of input 1 from 14216.00 to 6782.604, and 1083 to 865.054 (interest expenses) and from 17397 to 7873.129 and 976 to 799.587 (non-interest expenses). Moreover, Bank of Nova Scotia, Bank of Tokyo and DB to enhance its non-interest income should apply interest expenses to 1999.920, 1986.952 and 13335.39 however, on part of non-interest expenses to 1624.484, 1965.054 and 12734.447.

From table no. 6.21, it is found that Abu-Dhabi and Bank of Nova Scotia were 100 percent scale efficient in 2001, Bank of Tokyo and Bank of Bahrain were (94) and (81) percent scale efficient. In 2002, ADCB was scale efficient at 100 percent, however BOTM was 81 percent efficient.

6.6 EFFICIENCY OF FOREIGN BANKS (YEAR 2001 AND 2002)

Table 6.21: Scale efficiency Summary of Foreign Banks

Scale Efficiency Summary of FBs								
Name of Foreign Banks	**2001**				**2002**			
	Crste	**Vrste**	**Scale Efficiency**	**Returns**	**Constant returns**	**Variable returns**	**SE**	**Returns**
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
2. American Express Bank	0.155	0.201	0.773	drs	0.077	0.217	0.353	drs
3. Bank of America	0.667	1.00	0.667	drs	0.253	1.00	0.253	drs
4. Bank of Bahrain & Kuwait	0.744	0.915	0.814	irs	0.299	0.463	0.647	irs
5. BNS	1	1	1	–	0.451	1.00	0.451	drs
6. Bank of Tokyo Mitsubishi	0.173	0.185	0.937	irs	0.123	0.153	0.806	irs
7. CitiBank	0.358	1.00	0.358	drs	0.123	1.00	0.123	drs
8. Deutsche Bank	0.244	0.386	0.632	drs	0.116	0.453	0.256	drs
9. HSBC	0.356	1.00	0.356	drs	0.146	1.00	0.146	drs
10. Oman International Bank	0.761	1.00	0.761	irs	0.291	0.456	0.638	irs
11. Mashreq Bank	0.572	0.772	0.741	irs	0.305	0.635	0.480	irs
12. Societe Generale	0.410	0.550	0.746	irs	0.232	0.515	0.450	irs
13. Sonali Bank	0.052	1.00	0.052	irs	0.026	1.00	0.026	irs
14. Standard Chartered Bank	0.400	0.981	0.408	drs	0.179	1.00	0.179	drs

*(**Source:** Calculated with DEAP Software)*

Table 6.22: Summary of Peers and Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	2001			2002		
	Peers	Peers (Weights Percentage)	Peers (Count)	Peers	Peers (Weights Percentage)	Peers (Count)
1. Abu-Dhabi Commercial Bank	1	1.00	4	1	1.00	5
2. American Express Bank	3,5	0.296,0.704	0	3,5	0.235, 0.765	0
3. Bank of America	3	1.00	3	3	1.00	2
4. Bank of Bahrain & Kuwait	5,13, 10,1	0.064,0.152, 0.611, 0.172	0	13,1	0.684, 0.316	0
5. Bank of Nova Scotia	5	1.00	4	5	1.00	2
6. Bank of Tokyo Mitsubishi	1,13,5	0.699,0.235, 0.066	0	1,13	0.598, 0.402	0
7. CitiBank	7	1.00	1	7	1.00	0
8. Deutsche Bank	3,1	0.929,0.071	0	5,3	0.049, 0.951	0
9. HSBC	9	1.00	0	9	1.00	0
10. Oman International Bank	10	1.00	3	13,1	0.693,0.307	0
11. Mashreq Bank	10,1,13	0.237,0.305, 0.458	0	13,1	0.752, 0.248	0
12. Societe Generale	5,13,10	0.078,0.182, 0.740	0	1,13	0.223, 0.777	0
13. Sonali Bank	13	1.00	4	13	1.00	5
14. Standard Chartered Bank	7,3	0.470, 0.530	0	14	1.00	0

*(**Source:** Calculated with DEAP Software)*

From table no. 6.22, Stated that to become efficient, in 2001, Bank of Bahrain and Societe Generale should adopt Bank of Nova Scotia (6 & 8) percent, Sonali Bank (15 & 18), Oman International (6 & 74) percent peer weights. Moreover, American Express, DB and Societe Generale Bank should follow Bank of America with (30), (93), and (53) percent peers' weights. Bank of Tokyo and Mashreq Bank should refer ADCB (70) and (31), Sonali Bank to 24 and 31 percent weights.

In 2002, BOB, BOTM, Oman, Mashreq and Societe Generale should adopt values with weights proportion 32, 60, 31, 25 & 22 of peers and to Sonali Bank with 69, 40, 69, 75 and 78 percent. Besides, MB and DB should follow Bank of America 24 & 4 percent and Bank of Nova Scotia with 77 and 95 percent weights. In 2001, maximum number of times referred peers were ADCB (4), BNS (4) and Sonali Bank (4) times and in 2002 Abu-Dhabi (5) and SB (5) times.

Table no. 6.23 shows that, in 2001, Mashreq can increase its interest income to 4895.341 from 3835, American Bank can increase its non-interest income by 714.670, Bank of Tokyo (4248.878), DB (11345.988), SG ((7.89), SCB (78.865) and in case of interest expenses AEB should decline to 4230.715, BOB from 979.0 to 895.45, BOTM from 7043.00 to 1299.827, DB to 8789.473 from 24751.00, Mashreq Bank to 809.052 from 1048.00, SG from 1388.00 to 763.48 (-624.52) and SCB to 29498.411 (-557.589) from 30056.0. In case of non-interest expenses, AEB should project to 4129.231 ((-19196.487, -694.283), BOB to 979.601 (-91.399), BOTM to 778.457 (-3439.543), Deutsche Bank to 8305.946 (-13205.054), Mashreq Bank to 612.965 (-181.035), SG to 1011.560 (-827.44), and Standard Chartered Bank to 32969.933 (-692.515 and -3666.552).

Table No. 6.24 stated that in 2002, Mashreq Bank can project interest income from 2917.00 to 4673.991 (1765.991), American Bank should set value of non-interest income to 21430.843 (1088.843) from 20342.00, BOB from 5090.0 to 5332.488, BOTM to 10035.057, Deutsche Bank from 24250.0 to 30564.742, Oman to 5189.573 (580.573) from 4609.00, SG from 1575.0 to 3791. 364. To become more efficient in utilization of resources, AEB should reduce interest expenses to 4926.835, BOB to 482.102, BOTM to 634.135, Deutsche Bank to 11553.713, OIB to 477.482, Mashreq Bank to 445.845 and Societe Generale to 432.278 and on part of non-interest expenses these banks should project values to 4187.522, 445.551, 632.81, 8559.584, 439.859, 400.00 and 384.172.

Table 6.23: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2001)							
	AEB		Bahrain & Kuwait		Bank of Tokyo Mitsubishi		Deutsche Bank	
	OV	PV	Original Value-OV	Projected Value-PV	Original Value	Projected Value	Original Value-(OV)	Projected Value-(PV)
Output 1 (Interest Income)	30621.00	30621.00	6112.00	6112.00	9968.00	9968.00	53914.00	53914.00
Output 2 (Non-Interest Income)	21075.00	21789.670 (714.670)	5103.00	5103.00	4074.00	8322.878 (4248.878	25560.00	36905.00 (11345.988)
Input 1 (Interest Expenses)	21068.00	4230.715 (-16837.285)	979.00	895.452 (-83.548)	7043.00	1299.827 (-5743.173)	24751.00	8789.473 (-15194.007, -767.520)
Input 2 (Non-Interest Expenses)	24020.00	4129.231 (-19196.487, -694.283)	1071.00	979.601 (-91.399)	4218.00	778.457 (-3439.543)	21511.00	8305.946 (-13205.054)

Projection Summary – II (2001)						
Variables	**Mashreq Bank**		**Societe Generale**		**Standard Chartered Bank**	
	Original Value	**Projected Value**	**OV**	**PV**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	3835.00	4895.341 (1060.341)	4833.00	4833.00	112563.00	112563.00
Output 2 (Non-Interest Income)	4141.00	4141.00	3988.00	3995.089 (7.089)	66559.00	66637.865 (78.865)
Input 1 (Interest Expenses)	1048.00	809.052 (-238.948)	1388.00	763.483 (-624.517)	30056.00	29498.411 (-557.589)
Input 2 (Non-Interest Expenses)	794.00	612.965 (-181.035)	1839.00	1011.560 (-827.440)	37329.00	32969.933 (-692.515, -3666.552)

*(**Source:** Calculated with DEAP Software)*

Table 6.24: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2002)							
	American Express Bank (AEB)		Bank of Bahrain & Kuwait		BOTM		DB	
	OV	PV	Original Value	Projected Value	(Original) Value	(Projected) Value	Original (Value)	Projected (Value)
Output 1 (Interest Income)	30262.00	30262.00	5906.00	5906.00	11072.00	11072.00	44938.00	44938.00
Output 2 (Non-Interest Income)	20342.00	21430.843 (1088.843)	5090.00	5332.488 (242.488)	5037.00	10035.057 (4998.057)	24250.00	30564.742 (6314.742)
Input 1 (Interest Expenses)	22764.00	4926.835 (-17826.173, -10.991)	2027.00	482.102 (-1089.169, -455.729)	4150.00	634.135 (-3515.865)	44938.00	11553.713 (24563.479, -8820.809)
Input 2 (Non-Interest Expenses)	19305.00	4187.522 (-15117.478)	963.00	445.551 (-517.449)	6274.00	632.841 (-5315.311, -325.848)	18879.00	8559.584 (-10319.416)

Projection Summary – II (2002)						
Variables	Oman International Bank		Mashreq Bank		Societe Generale	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	5749.00	5749.00	2917.00	4673.991 (1756.991)	4213.00	4213.00
Output 2 (Non-Interest Income)	4609.00	5189.573 (580.573)	4211.00	4211.00	1575.00	3791.364 (2216.364)
Input 1 (Interest Expenses)	1502.00	477.482 (-817.370, -207.148)	702.00	445.845 (-256.155)	839.00	432.278 (-406.722)
Input 2 (Non-Interest Expenses)	965.00	439.859 (-525.141)	765.00	400.00 (-279.144, -84.885)	1575.00	384.172 (-763.513, -427.316)

*(**Source:** Calculated with DEAP Software)*

6.7 EFFICIENCY OF FOREIGN BANKS (YEAR 2003 AND 2004)

Table 6.25: Summary-Scale efficiency of Foreign Banks

Scale Efficiency of Foreign Banks								
Name of Foreign Banks	**2003**				**2004**			
	Crste	**Vrste**	**Scale Efficiency**	**Returns**	**Crste**	**Vrste**	**SE**	**Returns**
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
2. American Express Bank	0.094	0.196	0.479	drs	0.083	0.231	0.360	drs
3. Bank of America	0.395	0.830	0.476	drs	0.238	0.616	0.386	drs
4. BOB & K	0.392	0.517	0.757	irs	0.202	0.344	0.587	irs
5. Bank of Nova Scotia-BNS	0.583	0.828	0.704	drs	0.148	0.150	0.984	irs
6. BOTM	0.234	0.272	0.861	Irs (increase)	0.127	0.159	0.802	irs
7. CitiBank	0.193	0.651	0.297	Drs (decrease)	0.152	0.708	0.214	drs
8. Deutsche Bank	0.165	0.334	0.496	drs	0.118	0.455	0.259	drs
9. HSBC	0.197	0.845	0.233	drs	0.152	0.780	0.195	drs
10. Oman International Bank	0.486	0.703	0.692	irs	0.720	1.00	0.720	irs
11. Mashreq Bank	0.385	0.606	0.634	irs	0.303	0.682	0.445	irs
12. Societe Generale	0.230	0.477	0.483	irs	0.135	0.271	0.495	irs
13. Sonali Bank	0.054	1.00	0.054	irs	0.037	1.00	0.037	irs
14. Standard Chartered Bank	0.323	1.00	0.323	drs	0.219	1.00	0.219	drs

*(**Source:** Calculated with DEAP Software)*

It is inferred from table no. 6.25 that in 2003 & 2004 only one Decision Making Unit that Abu-Dhabi Bank was found 100 percent scale efficient, however other DMUs in 2003 close to 100 per cent scale efficient were BOTM (86), BOB and K (76), Bank of Nova Scotia (70) percent and in 2004 BNS (98), Bank of Tokyo (80) percent.

Table no. 6.26 described that in 2003, American Express, Bank of America, BNS, CitiBank, Deutsche Bank, HSBC, should refer SCB (Standard Chartered Bank) and ADCB (Abu-Dhabi Commercial Bank) with its peers (weights percentage) (4) & (96), (8) & (92), (2) & (98), (87) & (13), (7) & (93), (72) & (28). Moreover, Bank of Bahrain, BOTM, Oman, Mashreq Bank and Societe Generale should set values of Abu-Dhabi and Sonali Bank with weights percentage as (30) & (70), (57) & (43), (24) & (77), (19) & (81), (16) & (84).

Table 6.26: Summary of Peers and Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	2003			2004		
	Peers	Peers (Weights Percentage)	Peers (Count)	Peers	Peers (Weights Percentage)	Peers (Count)
1. Abu-Dhabi Commercial Bank	1	1.00	11	1	1.00	10
2. American Express Bank	14,1	0.043, 0.957	0	14,1	0.060, 0.940	0
3. Bank of America	14,1	0.082, 0.918	0	14,1	0.049, 0.951	0
4. Bank of Bahrain & Kuwait	1,13	0.302, 0.698	0	1,10,13	0.213,0.111, 0.675	0
5. Bank of Nova Scotia	14,1	0.020, 0.980	0	1,10	0.826, 0.174	0
6. Bank of Tokyo Mitsubishi	1,13	0.574, 0.426	0	1,13	0.471,0.529	0
7. CitiBank	14,1	0.874, 0.126	0	14,1	0.897,0.103	0
8. Deutsche Bank	14,1	0.070, 0.930	0	14,1	0.088,0.912	0
9. HSBC	14,1	0.721, 0.279	0	14,1	0.623, 0.377	0
10. Oman International Bank	1,13	0.235, 0.765	0	10	1.00	3
11. Mashreq Bank	13,1	0.806, 0.194	0	1,13,10	0.128,0.734, 0.138	0
12. Societe Generale	13,1	0.836, 0.164	0	1,13	0.174,0.826	0
13. Sonali Bank	13	1.00	5	13	1.00	4
14. Standard Chartered Bank	14	1.00	6	14	1.00	5

*(**Source:** Calculated with DEAP Software)*

In 2004, AEB, BOA, CitiBank, Deutsche Bank, HSBC should adopt peer values of 14^{th} & 1^{st} sample foreign banks with (6) & (94), (5) & (95), (90) & (10), (91) & (8), (62) & (38) weights percentage, and Bank of Bahrain & MB can refer banks Abu-Dhabi, Oman International and Sonali bank with (21), (11) & (68) and (12), (13) & (73) weights percentage, BOTM to 1, 13 with (47) & (53) percent. In 2003 and 2004 the most referred peer by others was Abu-Dhabi Commercial Bank (11 & 10) times. However, in 2003, SCB (6) and Sonali Bank (5) times and 2004 these banks were 5 times and 4 times peer counts.

From table no. 6.27 and 6.28 it is inferred that in 2003 ADCB, CitiBank, HSBC and Mashreq Bank should project interest income to (27472.362), (202300.0), (169956.266), and (3692.319) and BOA, BOB, BNS, Bank of Tokyo, Deutsche Bank should produce more non-interest income to 24818.899, 5128.953, 18701.569, 9664.037, 23687.692, 4026.860, 2843,636.

Table 6.27: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2003)							
	American Express Bank-AEB		Bank of America (BOA)		Bank of Bahrain & Kuwait (BOB)		Bank of Nova Scotia-BNS	
	Original Value	Projected Value	OV	PV	Original (Value)	Projected (Value)	Original Value-OV	Projected Value-PV
Output 1 (Interest Income)	21004.00	27472.362 (6468.362)	35610.00	35610.00	5657.00	5657.00	22561.00	22561.00
Output 2 (Non-Interest Income)	21004.00	21004.00	22887.00	24818.899 (1931.899)	4467.00	5128.953 (661.953)	15938.00	18701.569 (2763.569)
Input 1 (Interest Expenses)	19890.00	3529.715 (-15992.848, -367.437)	7932.00	5653.837 (-1348.733, -929.430)	1532.00	536.419 (-740.010, -255.571)	3977.00	2247.729 (-685.141, -1044.130)
Input 2 (Non-Interest Expenses)	20076.00	3933.596 (-16142.404)	7369.00	6115.998 (-1253.002)	1180.00	610.018 (-569.982)	3161.00	2616.436 (-544.564)

Projection Summary – II (2003)								
Variables	Bank of Tokyo Mitsubishi		CitiBank		DB		HSBC-Hong Kong Banking	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	10632.00	10632.00	197943.00	202300.00 (4357.769)	33197.00	33197.00	148008.0	169956.266 (21948.266)
Output 2 (Non-Interest Income)	4850.00	9664.037 (4814.037)	102963.00	102963.00	17712.00	23687.692 (5975.692)	87800.0	87800.0
Input 1 (Interest Expenses)	2872.00	781.574 (-2090.426)	75564.00	49164.200 (26399.800)	35578.00	5023.985 (23706.659, -6847.356)	48194.0	40721.494 (-7472.506)
Input 2 (Non-Interest Expenses)	5116.00	958.682 (-3723.754, -433.564)	83740.00	50820.163 (-29256.250, -3663.587)	16390.00	5468.865 (-10921.135)	61435.0	42145.814 (-9525.530, -9763.657)

*(**Source:** Calculated with DEAP Software)*

To be more scale efficient, foreign banks should decline interest and non-interest expenses to 3529.715 and 3933.596 (American Express Bank), Bank of America to (5653.837, 6115.998), Bank of Bahrain to (536.419 & 610.018), BNS to (2247.729 & 2616.436), Bank of Tokyo to (781.574 & 958.682), CitiBank to (49164.20 & 50820.16), Deutsche Bank to (5023.985 & 5468.865), HSBC to (40721.494 & 42145.814), Oman to (476.843 & 525.288), Mashreq and Sonali Bank to (439.605 & 472.327), and (412.881 & 434.320).

Table 6.28: Projection Summary of Variables

(Crores)

Variables	Projection Summary – III (2003)					
	Oman International Bank		Mashreq Bank		Societe Generale	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	4448.00	4448.00	2355.00	3692.319 (1337.319)	3150.00	3150.00
Output 2 (Non-Interest Income)	3197.00	4026.860 (829.860)	3338.00	3338.00	2048.00	2843.636 (795.636)
Input 1 (Interest Expenses)	928.00	476.843 (-275.434, -175.723)	966.00	439.605 (-380.290, -146.105)	866.00	412.881 (-453.119)
Input 2 (Non-Interest Expenses)	747.00	525.288 (-221.712)	779.00	472.327 (-306.673)	1666.00	434.320 (-871.705, -359.976)

*(**Source:** Calculated with DEAP Software)*

It is noticed from table no. 6.29 and 6.30 that in 2004 Hong Shanghai Banking Corporation should raise its interest income to 163447.215 from 141396.00, MB from 2115.0 to 2663.250, and AEB, Bank of America, BOB, Bank of Nova Scotia, BOTM, CB and SG must produce their non-interest income to 20285.240, 19277.455, 3489.241, 12604.451, 6976.501, 97527.021, 2634.751. In term of interest expenses and non-interest expenses these sample banks should reduce application to 5013.307 & 5712.157 (AEB), 4259.342 & 4878.546 (Bank of America), 495.691 & 454.039 (Bank of Bahrain), 736.716 & 983.717 (BNS), 622.135 & 651.166 (Bank of Tokyo), 62801.001 & 69604.291 (CitiBank), 6920.137 & 7820.416 (DB), 43914.182 & 48722.350 (HSBC), 455.471 & 386.605 (Mashreq Bank) and 499.774 & 400.206 (Societe Generale).

Table 6.29: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2004)							
	American Express Bank		Bank of America		Bank of Bahrain & Kuwait		Bank of Nova Scotia	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	30590.00	30590.00	28015.00	28015.00	3963.00	3963.00	14095.0	14095.00
Output 2 (Non-Interest Income)	17853.00	20285.240 (2432.240)	16271.00	19277.455 (3006.455)	3236.00	3489,241 (253.241)	3215.00	12604.451 (9389.451)
Input 1 (Interest Expenses)	22027.00	5013.307 (-16939.390, -74.303)	8138.00	4259.342 (-3127.701, -750.957)	1440.00	495.691 (-944.309)	4903.00	736.716 (-4166.284)
Input 2 (Non-Interest Income)	24731.00	5712.157 (-19018.843)	7924.00	4878.546 (-3045.454)	1319.00	454.039 (-864.961, 454.039)	12910.00	983.414 (-10970.167, -956.419)

Projection Summary – II (2004)						
Variables	**Bank of Tokyo Mitsubishi**		**CitiBank**		**Deutsche Bank**	
	Original Value	**Projected Value**	**Original Value**	**Projected Value**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	7771.00	7771.00	227951.00	227951.00	30091.00	37102.353 (7011.353)
Output 2 (Non-Interest Income)	2055.00	6976.501 (4921.501)	92374.00	97527.021 (5153.021)	22834.00	22834.00
Input 1 (Interest Expenses)	7938.00	622.135 (-6677.587, --638.278)	88706.00	62801.001 (-25904.999)	60469.00	6920.137 (-32964.043, -20584.820)
Input 2 (Non-Interest Expenses)	4101.00	651.166 (-3499.834)	100953.00	69604.291 (-29481.516, -1867.193)	17193.00	7820.416 (-9372.584)

*(**Source:** Calculated with DEAP Software)*

Table 6.30: Projection Summary of Variables

(Crores)

Variables	Projection Summary – III (2004)					
	HSBC		Mashreq Bank		Societe Generale	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	141396.00	163447.215 (22051.275)	2115.00	2663.250 (548.250)	2960.00	2960.00
Output 2 (Non-Interest Income)	72282.00	72282.00	2304.00	2304.00	1581.00	2634.751 (1053.751)
Input 1 (Interest Expenses)	70537.00	43914.182 (-15483.281, -11139.538)	668.00	455.471 (-212.529)	2013.00	499.774 (-1467.191, -46.036)
Input 2 (Non-Interest Expenses)	62425.00	48722.350 (-13702.650)	567.00	386.605 (-180.395)	1476.00	400.206 (-1075.794)

*(**Source:** Calculated with DEAP Software)*

6.8 EFFICIENCY OF FOREIGN BANKS (YEAR 2005 AND 2006)

Table 6.31: Summary of Scale efficiency of Foreign Banks

Scale Efficiency Summary of Foreign Banks								
Name of Foreign Banks	2005				2006			
	Crste	Vrste	Scale Efficiency	Returns	Crste	Vrste	Scale Efficiency	Returns
1. Abu-Dhabi Commercial Bank	0.502	1.00	0.502	Drs	1.00	1.00	1.00	–
2. American Express Bank	0.133	0.269	0.495	Drs	0.108	0.204	0.529	drs
3. Bank of America	0.358	0.754	0.475	Drs	0.364	0.736	0.494	drs
4. Bank of Bahrain & Kuwait	1.00	1.00	1.00	–	0.463	0.539	0.859	irs
5. Bank of Nova Scotia	0.581	1.00	0.581	Drs	0.648	1.00	0.648	drs
6. Bank of Tokyo Mitsubishi	0.213	0.306	0.697	Drs	0.228	0.239	0.954	irs
7. CitiBank	0.282	0.607	0.465	Drs	0.261	1.00	0.261	drs
8. Deutsche Bank	0.180	0.666	0.270	Drs	0.161	0.517	0.312	drs
9. HSBC	0.310	0.777	0.399	Drs	0.270	0.672	0.402	drs
10. Oman Inter-national Bank	1.00	1.00	1.00	–	0.684	1.00	0.684	irs
11. Mashreq Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
12. Societe Generale	0.358	0.422	0.849	Drs	0.380	0.389	0.979	irs
13. Sonali Bank	0.060	1.00	0.060	Irs	0.051	1.00	0.051	irs
14. Standard Chartered Bank	0.545	1.00	0.545	Drs	0.398	1.00	0.398	drs

*(**Source:** Calculated with DEAP Software)*

From table no. 6.31, it is observed that Bank of Bahrain, Oman and Mashreq Bank were 100 percent scale efficient and in 2006, Abu-Dhabi Commercial and Mashreq Bank were found most efficient, however in 2005 another sample very close to 100 percent scale efficiency were Societe Generale 85 percent and in 2006 SG (98), BOTM (95) and BOB (86) percent.

Table 6.32: Summary of Peers and Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	**2005**			**2006**		
	Peers	**Peers (Weights Percentage)**	**Peers (Count)**	**Peers**	**Peers (Weights Percentage)**	**Peers (Count)**
1. Abu-Dhabi Commercial Bank	1	1.00	2	1	1.00	4
2. American Express Bank	1,5,14,10	0.103, 0.558, 0.063,0.276	0	14,5,1	0.042,0.368, 0.590	0
3. Bank of America	14,5	0.042,0.958	0	14,5	0.053,0.947	0
4. Bank of Bahrain & Kuwait	4	1.00	1	1,10,11	0.123,0.104, 0.772	0
5. Bank of Nova Scotia	5	1.00	5	5	1.00	4
6. Bank of Tokyo Mitsubishi	10,5	0.783,0.217	0	10,1,11	0.330,0.645, 0.025	0
7. CitiBank	5,14	0.124, 0.876	0	7	1.00	0
8. Deutsche Bank	14,1	0.170, 0.830	0	14,5	0.225,0.775	0
9. HSBC	14,5	0.629, 0.371	0	14,5	0.704,0.296	0
10. Oman International Bank	10	1.00	3	10	1.00	3
11. Mashreq Bank	11	1.00	0	11	1.00	3
12. Societe Generale	14,4,10	0.003, 0.072, 0.925	0	10,1,11	0.198,0.797, 0.005	0
13. Sonali Bank	13	1.00	0	13	1.00	0
14. Standard Chartered Bank	14	1.00	6	14	1.00	4

*(**Source:** Calculated with DEAP)*

Table no. 6.32 explained that to be efficient, in 2005, American Express should refer values of Abu-Dhabi, Bank of Nova Scotia, Standard Chartered and Oman with 10, 56, 6, 28 weights percentage, Bank of America, HSBC, and CitiBank should adopt values of SCB and Bank of Nova Scotia with 42, 96, 63, 37 & 12, 88 percentage

weights of peers, Moreover, BOTM to 10^{th} & 5^{th} DMUs with 78 & 23 peer weights percentage.

In 2006, AEB should adopt values of Standard Chartered Bank, BNS & Abu-Dhabi commercial Bank with (4, 37, 59) percent peer weights, Bank of America, DB, HSBC should refer SCB and Bank of Nova Scotia with its peer weights (5 & 95), (22 & 78), (70 & 30) percent and BOTM, BOB and Societe Generale should adopt values of Oman International Bank, ADCB and Mashreq Bank with (10, 12, 77), (33, 64, 2), & (19, 80 & 5) peer percent weights. Besides to this, highest number of times referred peer counts were SCB (6), Bank of Nova Scotia (5) times in 2005 and in 2006 ADCB (4), BNS (4), SCB (4), OIB (3) and MB (3) times.

Table 6.33 showed that, in 2005, Deutsche Bank should produce its interest income to 54929.608 from 39016.00, BOA, BOTM, CitiBank, HSBC, and Societe Generale should project their non-interest income 14961.823, 4256.579, 98300.00, 73638.726, 2783.281. However, in term of interest expenses and non-interest expenses American Bank must reduce to 6737.026 & 7845.487, BOA to 7184.646 & 6860.452, BOTM to 1412.608 & 1036.140, Deutsche Bank to 12315.998 & 18287.197, CitiBank to 46654.531 & 74176.232, HSBC to 34971.52 & 54250.897, and Societe Generale to 524.354 & 699.982.

Table 6.34 showed that in 2006, projection values of sample foreign banks like Deutsche Bank should increase its interest income to 82318.432 from 60373.0, and American Express Bank should produce its non-interest income to 15765.108, Bank of America from 14701.00 to 18547.258, BOB to 2505.0, Bank of Tokyo from 2979.0 to 7165.375, HSBC to 87572.224 from 82787.0, Societe Generale to 8426.170 from 5177.00. On other side, to be more efficient, interest and non-interest expenses should project by AEB (6205.288 & 6153.773), Bank of America (9843.081 & 8291.905), Bank of Bahrain (266.301 & 642.033), Bank of Tokyo (864.183 & 1040.079), DB (23002.78 & 24342.635), Hong-Kong Banking Corporation (59526.426 & 68890.096), SG (925.554 & 1191.719).

Table 6.33: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2005)							
	American Express Bank		Bank of America		Bank of Tokyo Mitsubishi		CitiBank	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	26971.00	26971.00	25718.00	25718.00	5703.00	5703.00	220270.00	220270.00
Output 2 (Non-Interest Income)	15118.00	15118.00	12757.00	14961.823 (2204.823)	1584.00	4256.579 (2672.579)	75210.00	98300.00 (23099.458)
Input 1 (Interest Expenses)	25071.00	6737.026 (-18333.974)	11873.00	7184.646 (-2921.995, -1766.359)	5703.00	1412.608 (3956.811, -333.581)	94379.00	46654.531 (-37131.530, -10592.939)
Input 2 (Non-Interest Expenses)	29196.00	7845.487 (21350.513)	9100.00	6860.452 (-2239.548)	3384.00	1036.140 (2347.860)	122288.00	74176.232 (-48111.768)

Projection Summary – II (2005)						
Variables	**Deutsche Bank**		**HSBC**		**Societe Generale**	
	Original Value	**Projected Value**	**OV**	**Projected Value**	**Original Value**	**PV**
Output 1 (Interest Income)	39016.00	54929.608 (15913.608)	162683.00	162683.00	3706.00	3706.00
Output 2 (Non-Interest Income)	30470.00	30470.00	64444.00	73638.726 (9194.726)	2157.00	2783.281 (626.281)
Input 1 (Interest Expenses)	40808.00	12315.998 (-13644.460, -14847.542)	66107.00	34971.52 (14761.73, -16373.740)	1242.00	524.354 (-717.646)
Input 2 (Non-Interest Expenses)	27473.00	18287.197 (-9185.803)	69848.00	54250.897 (-15597.103)	1658.00	699.982 (-958.018)

*(**Source:** Calculated with DEAP Software)*

Table 6.34: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2006)							
	American Express Bank –AEB		(BOA)Bank of America		Bank of Bahrain & Kuwait		Bank of Tokyo Mitsubishi	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	25923.00	25923.00	32641.00	32641.00	2895.00	2895.00	7901.00	7901.00
Output 2 (Non-Interest Income)	15446.00	15765.108 (319.108)	14701.00	18547.258 (3846.258)	1993.00	2505.00 (512.195)	2979.00	7165.375 (4186.375)
Input 1 (Interest Expenses)	30355.00	6205.288 (-24149.712)	21951.00	9843.081 (-5794.813, -6313.106)	494.00	266.301 (-227.699)	3616.00	864.183 (-2751.817)
Input 2 (Non-Interest Expenses)	30103.00	6153.773 (-23949.227)	11266.00	8291.905 (-2974.095)	1191.00	642.033 (-548.967)	4352.00	1040.079 (-3311.921)

Projection Summary – II (2006)						
Variables	**Deutsche Bank**		**HSBC**		**Societe Generale**	
	Original Value	**Projected Value**	**Original Value**	**Projected Value**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	60373.00	82318.432 (21945.432)	220194.00	220194.00	9286.00	9286.00
Output 2 (Non-Interest Income)	36830.00	36830.00	82787.00	87572.224 (4785.224)	5177.00	8426.170 (3249.170)
Input 1 (Interest Expenses)	60373.00	23002.780 (-29183.079, -8187.141)	92826.00	59526.426 (-30451.172, -2848.401)	2382.00	925.554 (-1456.446)
Input 2 (Non-Interest Expenses)	47119.00	24342.635 (-22776.365)	102522.00	68890.096 (-33631.904)	3067.00	1191.719 (-1875.281)

*(**Source:** Calculated with DEAP Software)*

6.9 EFFICIENCY OF FOREIGN BANKS (YEAR 2007 AND 2008)

Table 6.35: Scale efficiency (Summary) of Foreign Banks

Scale Efficiency Summary of Foreign Banks								
Name of Foreign Banks	2007				2008			
	Crste	Vrste	Scale Efficiency (crste/ Vrste)	Returns	Crste	Vrste	Scale Efficiency (crste/ Vrste)	Returns
1. Abu-Dhabi Commercial Bank	0.576	0.617	0.934	drs	0.410	0.410	1.00	–
2. American Express Bank	0.176	0.220	0.798	drs	0.00	0.00	0.00	–
3. Bank of America	0.523	0.715	0.731	drs	0.436	0.851	0.512	Drs
4. Bank of Bahrain & Kuwait	0.789	0.891	0.885	drs	0.651	0.651	1.00	–
5. Bank of Nova Scotia (BNS)	1	1	1	–	0.753	0.753	1.00	–
6. Bank of Tokyo Mitsubishi	0.615	0.677	0.908	drs	1.00	1.00	1.00	–
7. CitiBank	0.575	1.00	0.575	drs	0.453	1.00	0.453	Drs
8. Deutsche Bank	0.297	0.494	0.600	drs	0.250	0.546	0.457	Drs
9. HSBC	0.529	0.900	0.587	drs	0.417	0.999	0.418	Drs
10. Oman International Bank	0.251	0.691	0.364	irs	0.197	0.197	1.00	–
11. Mashreq Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
12. Societe Generale	0.813	1.00	0.813	drs	1.00	1.00	1.00	–
13. Sonali Bank	0.091	1.00	0.091	irs	0.071	0.071	1.00	–
14. Standard Chartered Bank	0.632	1.00	0.632	drs	0.413	0.996	0.414	Drs

*(**Source:** Calculated with DEAP Software)*

Table no. 6.35 stated that in 2007, Bank of Nova Scotia and Mashreq Bank were found 100 percent scale efficient, moreover, ADCB (93), BOTM (91) percent efficient. In 2008, it is observed that out of 14 sample foreign banks 8 (ADCB, Bank of Bahrain, Bank of Tokyo, BNS, Oman, Mashreq, Societe Generale and Sonali Bank) were found 100 percent scale efficient in India.

Table 6.36: Summary of Peers, Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	2007			2008		
	Peers	Peers (Weights Percentage)	Peers (Count)	Peers	Peers (Weights Percentage)	Peers (Count)
1. Abu-Dhabi Commercial Bank	12,5,11	0.085,0.065, 0.850	0	6,11,12,2	0.269,0.415, 0.006,0.310	0
2. American Express Bank	7,5,12	0.017,0.515, 0.468	0	2	1.00	4
3. Bank of America	14,5	0.044,0.956	0	6,7	0.948,0.052	0
4. Bank of Bahrain & Kuwait	11,12	0.919,0.081	0	12,6,11,2	0.026,0.098, 0.579,0.298	0
5. Bank of Nova Scotia	5	1.00	7	6	1.00	0
6. Bank of Tokyo Mitsubishi	12,5,11	0.333,0.241, 0.426	0	6	1.00	6
7. CitiBank	7	1.00	3	7	1.00	4
8. Deutsche Bank	7,14,5	0.151,0.040, 0.809	0	12,7	0.787,0.213	0
9. HSBC	5,7,14	0.201,0.663, 0.136	0	7,12	0.862,0.963	0
10.Oman International Bank	5,13	0.024,0.976	0	6,12	0.037,0.963	0
11. Mashreq Bank	11	1.00	3	11	1.00	2
12. Societe Generale	12	1.00	4	12	1.00	6
13. Sonali Bank	13	1.00	1	6,12,2	0.005,0.001, 0.994	0
14. Standard Chartered Bank	14	1.00	3	7,12	0.915,0.085	0

*(**Source:** Calculated with DEAP Software)*

From table no. 6.36 stated that in 2007, to become efficient Abu-Dhabi and Bank of Tokyo should refer to Societe Generale in proportion of (9 & 33) percent to Bank of Nova Scotia with (7 & 24) and to Mashreq Bank with (85 & 43) percent weights. American Express should adopt reference set of Citibank, BNS & Societe Generale with (17, 56 & 47), moreover, Deutsche Bank and HSBC should follow to Bank of

Nova Scotia with (81 & 20) percent, to CitiBank with (15 & 66) and to Standard Chartered Bank with (4 & 14) percent peers' weights. Besides, DB, HSBC, SCB should adopt values of Societe Generale with (79, 96 & 9) percent and of CB with (21, 86 & 92) percent weights. In 2008, ADCB and Bank of Bahrain should refer to BOTM with (27 & 10) percent, to Mashreq Bank with (42 & 58) percent, to Societe Generale with (2 & 6) percent to American with (31 & 30) percent peers' weights.

Table no. 6.37 explained that Bank of Tokyo, HSBC and Oman International Bank should project values of non-interest income to 8755.590, 138490.277 and 498.845 and ADCB, American Express Bank, AEB, Bank of Bahrain, BOTM, DB, HSBC and Oman International banks should decline its interest and Non-interest expenses to (951.418 & 1166.135), (8342.115 & 7461.996), (13748.237 & 9994.607), (410.748 & 928.561), (3329.949 & 2826.089), (32317.794 & 36804.097), (109157.786 & 142664.870) and (541.537 & 392.374). In 2007, Bank of Nova Scotia 7 times and Societe Generale 4 times count as peer and in 2008 Bank of Tokyo and Societe Generale 6 times counts as most referred peer.

It is noticed from table no. 6.38 and 6.39 that HSBC and Standard Chartered Bank should produce more interest income to 517302.706, 547832,239, and Bank of America, DB, Oman non-interest income to 19366.603, 62295.55, and 286.095. Besides, in order to earn more incomes sample banks should reduce their interest and non-interest expenses to 1198.202 & 1093.74 (ADCB), 16810.132 & 14249.215 (BOA), 565.117 & 792.987 (BOB), 4265.0 & 3032.00 (BNS), 55483.884 & 51247.186 (DB), 211505.958 & 188759.509 (HSBC), 158.385 & 112.596 (OIB), 27.124 & 23.425 (Sonali Bank), 224284 and 20021.798 (SCB).

Table no. 6.40 stated that in 2009 Abu-Dhabi Commercial Bank, BNS and Bank of Tokyo were 100 percent scale efficient, moreover, Societe Generale (98), Mashreq Bank (97), and American Express (95) percent scale efficient.

Table 6.37: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2007)							
	Abu-Dhabi Commercial Bank		American Express Bank		Bank of America		Bank of Bahrain & Kuwait	
	Original Value	Projected Value	OV	PV	Original Value-OV	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	4664.00	4664.00	28914.00	28914.00	43011.00	43011.00	3006.00	3006.00
Output 2 (Non-Interest Income)	3227.00	3249.240 (22.240)	16670.00	17570.834 (900.834)	18060.00	24400.308 (6340.308)	1729.00	2127.263 (398.263)
Input 1 (Interest Expenses)	1542.00	951.418 (-590.582)	37942.00	8342.115 (-29599.885)	23277.00	13748.237 (-6633.384, -2895.378)	461.00	410.748 (-50.252)
Input 2 (Non-Interest Expenses)	1890.00	1166.135 (-723.865)	33939.00	7461.996 (-26477.004)	13978.00	9994.607 (3983.393)	1072.00	928.561 (-116.855, -26.584)

Variables	Projection Summary – II (2007)							
	Bank of Tokyo Mitsubishi		Deutsche Bank		HSBC		Oman International Bank	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	12741.00	12741.00	97172.00	103671.521	350792.00	350792.00	766.00	766.00
Output 2 (Non-Interest Income)	4766.00	8755.590 (3989.590)	46707.00	46707.00	121339.00	138490.277 (17151.277)	68.00	498.845 (430.845)
Input 1 (Interest Expenses)	4917.00	3329.949 (1587.051)	65366.00	32317.794 (-33048.206)	121234.00	109157.786 (-12076.214)	790.00	541.537 (-244.268, -4.194)
Input 2 (Non-Interest Expenses)	4173.00	2826.089 (1346.911)	74440.00	36804.097 (-37635.903)	158448.00	142664.870 (-15783.130)	568.00	392.374 (-175.626)

*(**Source:** Calculated with DEAP Software)*

Table 6.38: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2008)							
	ADCB		BOA		BOB		BNS	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	6472.00	6472.00	51369.00	51369.00	3504.00	3504.00	21354.00	21354.00
Output 2 (Non-Interest Income)	2667.00	2667.00	16315.00	19366.603 (3051.603)	1878.00	1878.00	7704.00	7704.00
Input 1 (Interest Expenses)	2925.00	1198.202 (-1726.798)	34798.00	16810.132 (-5184.754, -12803.115)	868.00	565.117 (-302.883)	11365.00	4265.00 (-2805.964, -4294.036)
Input 2 (Non-Interest Expenses)	2670.00	1093.743 (-1576.257)	16744.00	14249.215 (-2494.785)	1218.00	792.987 (-425.013)	4026.00	3032.00 (-994.00)

*(**Source:** Calculated with DEAP Software)*

Table 6.39: Projection Summary of Variables

(Crores)

Variables	Projection Summary – II (2008)					
	Deutsche Bank		HSBC		Oman International Bank	
	Original Value-OV	Projected Value-PV	OV	PV	(Original) Value	(Projected) Value
Output 1 (Interest Income)	144538.00	144538.00	497922.00	517302.726 (19380.726)	793.00	793.00
Output 2 (Non-Interest Income)	53650.00	62295.555 (8645.555)	201587.00	201587.00	25.00	286.095 (261.095)
Input 1 (Interest Expenses)	101633.00	55483.884 (-46149.116)	211668.00	211505.958 (-162.042)	967.00	158.385 (-776.316, -32.299)
Input 2 (Non-Interest Expenses)	105920.00	51247.186 (-48095.740, -6577.074)	214517.00	188759.509 (-164.223, -25593.268)	571.00	112.596 (-458.904)

Projection Summary – III (2008)				
Variables	Sonali Bank		Standard Chartered Bank	
	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	137.00	137.00	487805.00	547832.239 (60027.239)
Output 2 (Non-Interest Income)	61.00	61.00	212995.00	212995.00
Input 1 (Interest Expenses)	463.00	27.124 (-430.134, -5.742)	225172.00	224284.200 (-887.800)
Input 2 (Non-Interest Expenses)	330.00	23.425 (-306.575)	205060.00	200021.798 (-808.503, -4229.699)

*(**Source:** Calculated with DEAP Software)*

6.10 EFFICIENCY OF FOREIGN BANKS (YEAR 2009 AND 2010)

Table 6.40: Summary (Scale efficiency) of Foreign Banks

SE Summary of Foreign Banks								
Name of Foreign Banks	2009				2010			
	CRSTE	VRSTE	Scale Efficiency (SE)	Returns	CRSTE	VRSTE	SE	Returns
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
2. American Express Bank	0.080	0.084	0.954	drs	0.046	0.047	0.974	Irs
3. Bank of America	0.448	0.829	0.541	drs	0.323	0.377	0.859	Drs
4. Bank of Bahrain & Kuwait	0.553	0.610	0.906	irs	0.851	0.854	0.996	Irs
5. Bank of Nova Scotia	0.697	0.697	1.00	–	1.00	1.00	1.00	–
6. Bank of Tokyo Mitsubishi	1.00	1.00	1.00	–	0.926	1.00	0.926	Drs
7. CitiBank	0.368	1.00	0.368	drs	0.627	1.00	0.627	Drs
8. Deutsche Bank	0.304	0.735	0.413	drs	0.939	1.00	0.939	Drs
9. HSBC	0.436	1.00	0.436	drs	0.522	1.00	0.522	Drs
10. Oman International Bank	0.115	0.641	0.179	irs	0.102	0.523	0.194	Irs
11. Mashreq Bank	0.972	1.00	0.972	irs	0.458	0.906	0.506	Irs
12. Societe Generale	0.396	0.404	0.979	drs	0.957	1.00	0.957	Drs
13. Sonali Bank	0.057	1.00	0.057	irs	0.073	1.00	0.073	Irs
14. Standard Chartered Bank	0.340	0.819	0.415	drs	0.446	0.894	0.499	Drs

*(**Source:** Calculated with DEAP Software)*

In 2010, ADCB and Bank of Nova Scotia were found 100 percent scale efficient, moreover, Bank of Bahrain (99), Societe Generale (96), Bank of America (97) and DB (94) percent scale efficient in India.

Table no. 6.41 explained that in 2009, Bank of America, DB and Standard Chartered should refer peers to HSBC with (5, 26 & 93) percent and Bank of Tokyo with (95, 74 & 6) percent weights. American Express and Societe Generale should adopt values of BOTM with (40 & 61) and ADCB with (60 & 61) percent peer weights. Moreover, Bank of Bahrain should follow peer and set of ADCB, BOTM and MB

with (8, 11 & 82) percent. Moreover, Bank of America and SCB in this year should adopt values of Citibank with (2 & 91) and to Deutsche Bank with (4 & 9) percent peers' weights. In 2010, Bank of Bahrain and Oman International and American Express should adopt values of Bank of Nova Scotia (4 & 4) percent, ADCB with (95 & 40) and to Sonali Bank with (2 & 92) percent peers' weights. In 2009, Bank of Tokyo and in 2010 Bank of Nova Scotia counts maximum number of referred peer by other sample banks.

Table 6.41: Summary of Peers, Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	**2009**			**2010**		
	Peers	**Peers (Weights Percentage)**	**Peers (Count)**	**Peers**	**Peers (Weights Percentage)**	**Peers (Count)**
1. Abu-Dhabi Commercial Bank	1	1.00	3	1	1.00	3
2. American Express Bank	6,1	0.396,0.604	0	1,15,13	0.816,0.087, 0.098	0
3. Bank of America	9,6	0.048,0.952	0	7,8,5	0.018,0.039, 0.944	0
4. BOB & K	1,6,11	0.078,0.105, 0.818	0	5,1,13	0.041,0.946, 0.012	0
5. Bank of Nova Scotia	6	1.00	0	5	1.00	5
6. Bank of Tokyo Mitsubishi	6	1.00	8	6	1.00	0
7. CitiBank	7	1.00	0	7	1.00	2
8. Deutsche Bank	9,6	0.261,0.739	0	8	1.00	2
9. HSBC	9	1.00	3	9	1.00	0
10. Oman International Bank	6,13	0.013,0.987	0	5,13	0.010, 0.990	0
11. Mashreq Bank	11	1.00	1	1,13,5	0.039,0.922, 0.039	0
12. Societe Generale	6,1	0.392,0.608	0	12	1.00	0
13. Sonali Bank	13	1.00	1	13	1.00	4
14. Standard Chartered Bank	6,9	0.069,0.931	0	7,8	0.912,0.088	0

*(**Source:** Calculated with DEAP Software)*

Table 6.42: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2009)							
	American Express Bank		Bank of America		Bank of Bahrain & Kuwait		Bank of Nova Scotia	
	OV	PV	Original Value	Projected Value	(Original) Value	(Projected) Value	OV-Original Value	PV-Projected Value
Output 1 (Interest Income)	7738.00	15382.00 (7644.66)	60691.00	60691.00	4857.00	4857.00	31537.00	31537.00
Output 2 (Non-Interest Income)	8117.00	8117.00	15189.00	29492.515 (14303.515)	2496.00	2732.036 (236.036)	17433.00	17433.00
Input 1 (Interest Expenses)	33479.00	2806.252 (-30672.748)	39333.00	19058.159 (6713.341, -13561.500)	1484.00	905.772 (-578.228)	17141.00	6271.00 (-5200) and (-5669.461)
Input 2 (Non-Interest Expenses)	37458.00	2410.715 (-34318.223, -729.062)	17515.00	14525.547 (-2989.453)	1681.00	1026.013 (-654.987)	5857.00	4080.00 (-1777.00)

Projection Summary – II (2009)								
Variables	Deutsche Bank		Oman International Bank		Societe Generale		Standard Chartered Bank	
	Original Value	Projected Value	OV	PV	Original Value-OV	Projected Value-PV	Original Value	Projected Value
Output 1 (Interest Income)	188145.00	188145.00	533.00	533.00	15267.00	15267.00	564942.00	591260.711 (26318.711)
Output 2 (Non-Interest Income)	58794.00	82213.700 (23419.700)	16.00	284.036 (268.036)	8017.00	8050.297 (33.297)	248962.00	248962.00
Input 1 (Interest Expenses)	101969.00	74960.00 (-27008.581)	1035.00	536.247 (-371.054, -127.699)	6878.00	2781.444 (4096.556)	309705.00	251769.932 (-56183.958, -1751.110)
Input 2 (Non-Interest Expenses)	115508.00		602.00	386.179 (-215.821)	6552.00	2398.763 (-3902.389, -250.848)	249970.00	204622.640 (-45347.360)

*(**Source:** Calculated with DEAP Software)*

Table no. 6.42 explained that American Express and Standard Chartered Bank in order to produce more interest income should reduce their interest expenses to 2806.252, 251769.93 and non-interest expenses to 2410.715 & 204622. Moreover, in 2009, Bank of America, BOB, Deutsche Bank & Oman International to produce more non-interest income, these sample banks should decline input 1 to 19058.159, 905.772, 82213.700 & 284.036, and input 2 to 14252.547, 1026.013, & 386.179.

Table 6.43: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2010)					
	American Express Bank (AEB)		Bank of America (BOA)		BOB& K Bank of Bahrain & Kuwait	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	6382.00	7044.032 (662.032)	56862.00	56862.00	4053.00	5648.529 (1595.529)
Output 2 (Non-Interest Income)	3215.00	3215.00	18599.00	21561.327 (2962.327)	2651.00	2651.00
Input 1 (Interest Expenses)	31460.00	1474.151 (-29985.849)	49286.00	18564.385 (-30721.615)	1018.00	869.548 (-148.452)
Input 2 (Non-Interest Expenses)	32142.00	1506.108 (-30635.892)	24386.00	9185.389 (-15200.611)	1682.00	1436.718 (-245.282)

Projection Summary – II (2010)						
Variables	Oman International Bank		Mashreq Bank		Standard Chartered Bank	
	Original Value	Projected Value	OV	PV	Original (Value)	Projected (Value)
Output 1 (Interest Income)	524.00	524.00	1437.00	1916.156 (479.156)	567489.00	567489.00
Output 2 (Non-Interest Income)	11.00	245.701 (234.701)	848.00	848.00	178378.00	186013.354
Input 1 (Interest Expenses)	1312.00	620.561 (-625.506, -65.933)	1093.00	989.830 (-103.170)	283762.00	152314.745 (-30035.361, 101411.894)
Input 2 (Non-Interest Expenses)	836.00	437.431 (-398.569)	657.00	594.985 (-62.015)	241897.00	216292.924 (-25604.076)

*(**Source:** Calculated with DEAP Software)*

From table no. 6.43, it is noticed that AEB, BOB, Mashreq bank can increase interest income to 7044.032, 5648.529, 1919.156 and Bank of America, Oman international Bank can enhance their non-interest income to 21561.327 & 245.701. In term of interest and non-interest expenses inefficient Bank like AEB, BOA, BOB, Oman, Mashreq and SCB should decline them (1474.151 & 1506.108), (18564. 385 & 9185.389), (869.458 & 1436.718), (620.561 & 437.431), (989.830 & 594.985), (152314.745 & 216292.924).

6.11 EFFICIENCY OF FOREIGN BANKS (YEAR 2011 AND 2012)

Table 6.44: Summary (Scale efficiency) of Foreign Banks

Scale Efficiency Summary of Foreign Banks								
Name of Foreign Banks	2011				2012			
	Constant Returns	Variable returns	Scale Efficiency	Returns	Crste	Vrste	Scale Efficiency	Returns
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	-	1.00	1.00	1.00	-
2. American Express Bank	0.038	0.039	0.966	irs	0.004	0.013	0.289	Irs
3. Bank of America	0.342	0.466	0.733	drs	0.064	0.377	0.169	Drs
4. Bank of Bahrain & Kuwait	0.831	0.859	0.968	irs	0.095	0.511	0.185	Irs
5. Bank of Nova Scotia	1	1	1.00	-	0.197	0.205	0.960	Irs
6. Bank of Tokyo Mitsubishi	0.916	1.00	0.916	drs	0.107	0.114	0.931	Irs
7. CitiBank	0.578	1.00	0.578	drs	0.064	1.00	0.064	Drs
8. Deutsche Bank	0.389	0.627	0.621	drs	0.053	0.622	0.085	Drs
9. HSBC	0.568	0.999	0.568	drs	0.060	0.882	0.068	Drs
10. Oman International Bank	0.095	0.565	0.169	irs	0.010	0.439	0.024	Irs (increasing)
11. Mashreq Bank	0.353	0.814	0.433	irs	0.051	0.665	0.077	Irs
12. Societe Generale	0.941	1.00	0.941	drs	0.159	0.547	0.292	Irs
13. Sonali Bank	0.070	1.00	0.070	irs	0.011	1.00	0.011	Irs
14. Standard Chartered Bank	0.547	1.00	0.547	drs	0.067	1.00	0.067	Drs

*(**Source:** Calculated with DEAP Software)*

Table no. 6.44 described that in 2011, ADCB, Bank of Nova Scotia were found 100 percent scale efficient, moreover Bank of Bahrain (97), AEB (97) and Societe Generale (94) percent scale efficient. In 2012, ADCB was found scale efficient however, Bank of Nova Scotia (96), and Bank of Tokyo (93) percent scale efficient.

Table 6.45: Summary of Peers, Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	2011			2012		
	Peers	Peers (Weights Percentage)	Peers (Count)	Peers	Peers (Weights Percentage)	Peers (Count)
1. Abu-Dhabi Commercial Bank	1	1.00	2	1	1.00	10
2. American Express Bank	13,1,15	0.136,0.784, 0.079	0	1,13	1.00, 0.900	0
3. Bank of America	14,5	0.045,0.955	0	1,14,7	0.951,0.040, 0.010	0
4. Bank of Bahrain & Kuwait	13,5,1	0.092,0.031, 0.877	0	1,13	0.358,0.642	0
5. Bank of Nova Scotia	5	1.00	7	1,13	0.871,0.129	0
6. Bank of Tokyo Mitsubishi	6	1.00	0	1,13	0.791,0.209	0
7. CitiBank	7	1.00	2	7	1.00	3
8. Deutsche Bank	5,14,7	0.757,0.049, 0.194	0	14,7,1	0.089,0.142, 0.768	0
9. HSBC	14,7,5	0.350,0.458, 0.192	3	1,14,7	0.228,0.542, 0.229	0
10. Oman International Bank	13,5	0.991,0.009	0	1,13	0.004,0.996	0
11. Mashreq Bank	13,5	0.968,0.032	0	1,13	0.020, 0.980	0
12. Societe Generale	12	1.00	0	1	1.00	0
13. Sonali Bank	13	1.00	4	13	1.00	6
14. Standard Chartered Bank	14	1.00	3	14	1.00	3

*(**Source:** Calculated with DEAP Software)*

It is observed from table no. 6.45 that in 2011 Deutsche Bank, HSBC should refer Bank of Nova Scotia (76 & 19), SCB with (5 & 35) and Citibank with (19 & 96) percent peers' weights. In this, American Express and Bank of Bahrain should refer Sonali Bank in proportion with (14 & 9) percent to Bank of Nova Scotia with (8 & 31) percent and to Abu-Dhabi with (78 & 88) percent. Moreover, Oman and Mashreq Bank should follow peers of Sonali and Bank of Nova Scotia with (99 & 97) and (1 & 4) percent weights.

In 2012, AEB, BOB, BNS, BOTM, Oman, SG should follow Abu-Dhabi and Sonali banks with (1,90), (95, 4,1), (36, 64), (87,13), (79, 21), (100), (2, 98) peer values percent, and BOA, DB and HSBC should adopt banks ADCB, SCB and Citibank with peer percent weights (95,1,4), (77, 8,14), (23,54, 23). Moreover, BOA, DB, & HSBC should follow ADCB with (95, 77 & 23) to Citibank with (1, 14 & 59) and to SCB with (4, 89 & 54) percent peer weights. Besides, maximum number of times peer refer in 2011, Bank of Nova Scotia (7) and in 2012, ADCB (10) and Sonali Bank (6).

Table no. 6.46 of projection summary, it is found that American Express and Mashreq Bank in India should earn more interest income to 7037.871 & 1583.291 and BOA, BOB, Deutsche Bank, HSBC and Oman should increase their non-interest income to 33304.312, 2884.508, 72608.160, 188589.771, and 291.335. Moreover, AEB, BOA, Bank of Bahrain, DB, HSBC, Oman and Mashreq Bank should project interest and non-interest expenses to (155.611 & 162.809), (2576.325 & 1642.342), (82.452 & 148.586), (6145.930 & 7041.649), (17859.221 & 21876.198), (57.607 & 47.475) and (91487 & 58.617).

In 2012, it is inferred from table no. 6.47 and 6.48 that Bank of Bahrain and Societe Generale should raise their interest income to 2734.789 & 7600 and AEB, Bank of America, BOB, Bank of Nova Scotia, BOTM, DB, HSBC, Oman, Mashreq and Societe Generale should target non-interest income to 816.647, 9415.755, 2893.369, 7033.655,6387.801, 13604.206, 28477.705, 38.856, 169.729, 8070.00. In addition to this, interest and non-interest expenses should project 57.796 & 62.638 (AEB), 1364.753 and 1527.062 (Bank of America), 54.705 & 95.095 (Bank of Bahrain), 48.543 & 159.803 (BNS), 49.504 & 149.709 (BOTM), 4686.552 & 6567.397 (Deutsche Bank), 19410.207 & 21328.473 (HSBC), 58.954 & 50.482 (Oman), 58.759 & 52.528 (Mashreq Bank) and 47 & 176 (Societe Generale).

Table 6.46: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2011)							
	American Express Bank		Bank of America		Bank of Bahrain & Kuwait		Deutsche Bank	
	Original Value	Projected Value	Original Value	Projected Value	OV	PV	Original Value	Projected Value
Output 1 (Interest Income)	6219.00	7037.871 (818.871)	72529.00	72529.00	5197.00	5197.00	188016.00	188016.00
Output 2 (Non-Interest Income)	3815.00	3815.00	19753.00	33304.312 (13551.312)	2369.00	2884.508 (515.508)	46161.00	72608.160 (26447.160)
Input 1 (Interest Expenses)	3978.00	155.611 (3822.389)	5810.00	2576.325 (-3099.733, -133.942)	96.00	82.452 (-13.548)	9805.00	6145.930 (-3659.070)
Input 2 (Non-Interest Expenses)	4162.00	162.809 (3999.191)	3585.00	1642.342 (-1912.658)	173.00	148.586 (-24.414)	11234.00	7041.649 (-4192.351)

Projection Summary – II (2011)						
Variables	HSBC		Oman International Bank		Mashreq Bank	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	519496.00	519496.00	540.00	540.00	1465.00	1583.291 (118.291)
Output 2 (Non-Interest Income)	185912.00	188589.771 (2677.771)	14.00	291.335 (277.335)	830.00	830.00
Input 1 (Interest Expenses)	17886.00	17859.221 (-26.779)	168.00	57.607 (-73.050, -37.343)	126.00	91.487 (-23.420, -11.093)
Input 2 (Non-Interest Expenses)	21909.00	21876.198 (-32.802)	84.00	47.475 (-36.525)	72.00	58.617 (-13.383)

*(**Source:** Calculated with DEAP Software)*

Table 6.47: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2012)							
	AEB		BOA		Bank of Bahrain & Kuwait		BNS-Bank of Nova Scotia	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	783.00	783.00	11131.00	11131.00	760.00	2734.789 (1974.789)	6626.00	6626.00
Output 2 (Non-Interest Income)	807.00	816.647 (9.647)	4239.00	9415.755 (5175.755)	289.00	2893.369 (2604.369)	2989.00	7033.655 (4044.655)
Input 1 (Interest Expenses)	5046.00	57.796 (-4980.493, -7.711)	3624.00	1364.753 (2259.247)	107.00	54.705 (-52.295)	2289.00	48.543 (-1820.039, -420.418)
Input 2 (Non-Interest Expenses)	4825.00	62.638 (-4762.362)	4055.00	1527.062 (2527.938)	186.00	95.095 (-90.905)	780.00	159.803 (-620.197)

*(**Source:** Calculated with DEAP Software)*

Table 6.48: Projection Summary of Variables

(Crores)

Variables	Projection Summary – II (2012)					
	Bank of Tokyo Mitsubishi		Deutsche Bank		HSBC	
	Original Value	Projected Value	Original (Value)	Projected (Value)	Original Value-OV	Projected Value-PV
Output 1 (Interest Income)	6019.00	6019.00	23982.00	23982.00	62626.00	62626.00
Output 2 (Non-Interest Income)	1676.00	6387.801 (4711.801)	5898.00	13604.206 (7706.206)	25168.00	28477.705 (3309.705)
Input 1 (Interest Expenses)	1613.00	49.504 (-1428.382, -135.114)	7530.00	4686.552 (2843.448)	22008.00	19410.207 (-2597.793)
Input 2 (Non-Interest Expenses)	1308.00	149.709 (-1158.291)	10552.00	6567.397 (-3984.603)	24183.00	21328.473 (-2854.527)

Variables	Projection Summary – III (2012)					
	Oman International Bank		Mashreq Bank		Societe Generale	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	52.00	52.00	175.00	175.00	2216.00	7600.00 (5384.00)
Output 2 (Non-Interest Income)	1.00	38.856 (37.856)	95.00	169.729 (74.729)	1261.00	8070.00 (6809.00)
Input 1 (Interest Expenses)	222.00	58.954 (-124.547, -38.499)	230.00	58.759 (-77.071, -94169)	86.00	47.00 (-39.00)
Input 2 (Non-Interest Expenses)	115.00	50.482 (-64.518)	79.00	52.528 (-26.472)	512.00	176.00 (-232.186, -103.814)

*(**Source:** Calculated with DEAP Software)*

6.12 EFFICIENCY OF FOREIGN BANKS (YEAR 2013 AND 2014)

Table 6.49: Summary of Foreign Banks' Scale Efficiency

Scale Efficiency Summary of Foreign Banks								
Name of Foreign Banks	**2013**				**2014**			
	CRSTE	**VRSTE**	**Scale Efficiency**	**Returns**	**Constant returns**	**Variable returns**	**SE**	**Returns**
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	–	1.00	1.00	1.00	–
2. American Express Bank	0.001	0.012	0.095	Irs	0.021	0.036	0.599	drs
3. Bank of America	0.034	0.157	0.214	Drs	0.195	0.628	0.310	drs
4. Bank of Bahrain	0.119	0.678	0.175	Irs	0.570	.0670	0.851	irs
5. BNS	0.096	0.100	0.958	Irs	0.568	1.00	0.568	drs
6. Bank of Tokyo Mitsubishi-BOTM	0.041	0.043	0.961	Irs	0.462	1.00	0.462	drs
7. CitiBank	0.027	1.00	0.027	Drs	0.239	1.00	0.239	drs
8. Deutsche Bank	0.019	0.344	0.054	Drs	0.466	1.00	0.466	drs
9. HSBC	0.023	0.877	0.026	Drs	0.336	1.00	0.336	drs
10. Oman International Bank	0.005	0.341	0.014	Irs	0.033	0.159	0.209	Irs
11. Mashreq Bank	0.023	0.234	0.098	Irs	1.00	1.00	1.00	–
12. Societe Generale	0.135	0.650	0.207	Irs	0.355	0.582	0.610	drs
13. Sonali Bank	0.029	1.00	0.029	Irs	0.206	1.00	0.206	Irs
14. Standard Chartered Bank	0.036	1.00	0.036	Drs	0.244	1.00	0.244	drs

*(**Source:** Calculated with DEAP Software)*

Table no 6.49 stated that in 2013, ADCB was found scale efficient, moreover, Bank of Tokyo (96) and Bank of Nova Scotia (96) percent scale efficient. In 2004, Abu-Dhabi and Mashreq Bank were found 100 percent scale efficient.

From table no. 6.50, it is noticed that in 2013 American Express, Bank of Bahrain, Bank of Nova Scotia, Bank of Tokyo, Oman International and Sonali Bank should follow ADCB with (99, 4, 86, 70, 55 & 6) percent and to Sonali Bank with (1, 60, 30, 30, 45 & 94) percent peer weights. Moreover, Bank of America and DB should adopt peer set like Standard Chartered and ADCB with (2 & 19) percent and (98 & 81) percent peer weights. ADCB in 2013 (10 times) and 2014 (4 times) was most referred peer count by other Decision-Making Units.

Table 6.50: Summary of Peers, Weights and Count

Summary of Peers, its Weights and No. of times Count						
Name of Foreign Banks	**2013**			**2014**		
	Peers	**Peers (Weights Percentage)**	**Peers (Count)**	**Peers**	**Peers (Weights Percentage)**	**Peers (Count)**
1. Abu-Dhabi Commercial Bank	1	1.00	10	1	1.00	4
2. American Express Bank	13,1	0.014, 0.986	0	6,9,1	0.016, 0.005, 0.979	0
3. Bank of America	14,1	0.020, 0.980	0	7,6	0.064,0.936	0
4. Bank of Bahrain & Kuwait	1,13	0.401, 0.599	0	1,11,13	0.575, 0.071, 0.354	0
5. Bank of Nova Scotia	1,13	0.680, 0.302	0	5	1.00	0
6. Bank of Tokyo Mitsubishi	1,13	0.698, 0.302	0	6	1.00	3
7. CitiBank	7	1.00	1	7	1.00	1
8. Deutsche Bank	14,1	0.193, 0.807	0	8	1.00	1
9. HSBC	7,1	0.757, 0.243	0	9	1.00	2
10. Oman International Bank	13,1	0.450, 0.550	0	11,1,13	0.345,0.035, 0.621	0
11. Mashreq Bank	1,13	0.060, 0.940	0	11	1.00	2
12. Societe Generale	1	1.00	0	1,6,8,9	0.971,0.04, 0.021,0.05	0
13. Sonali Bank	13	1.00	6	13	1.00	2
14. Standard Chartered Bank	14	1.00	2	14	1.00	0

*(**Source:** Calculated with DEAP Software)*

Table 6.51: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2013)							
	American Express Bank		Bank of America		Bank of Bahrain & Kuwait		Bank of Tokyo Mitsubishi	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	886.00	11592.067 (10706.67)	13552.00	13352.00	947.00	4739.755 (3792.755)	8217.00	8217.00
Output 2 (Non-Interest Income)	1170.00	12242.301 (11072.301)	5731.00	12989.00 (7258.194)	421.00	4991.483 (4570.483)	2922.00	8670.952 (5748.952)
Input 1 (Interest Expenses)	5673.00	67.100 (-5605.900)	4823.00	630.819 (-4063.669, -128.512)	105.00	71.190 (-33.810)	1733.00	69.115 (-1658.877, -5.008)
Input 2 (Non-Interest Expenses)	2587.00	30.599 (-2556.401)	1046.00	164.682 (-881.318)	21.00	14.238 (-6.762)	527.00	22.541 (-504.459)

*(**Source:** Calculated with DEAP Software)*

Table 6.51 showed that, in 2013, American, Bank of Bahrain, Mashreq and SG should earn interest income to 11592.067, 4739.755, 733.217 & 11760.00. American Express, Bank of America, BOB and BOTM in order to enhance non-interest income to 12242.30, 12989.00, 4991.48 & 8670.95 should project their interest expenses to 67.100, 71.190 and 69.115 and non-interest expenses to 30.599, 164.682, 14.238, & 22.541. Moreover, AEB and Bank of Bahrain in order to enhance interest income should decline their interest expenses by (5603.90 & 33.810) and non-interest by (2556.401 & 6.762).

Table 6.52: Projection Summary of Variables

(Crores)

Variables	Projection Summary – II (2013)					
	Deutsche Bank		HSBC		Oman International Bank	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	27031.00	27031.00	70332.00	70332.00	98.00	6478.461
Output 2 (Non-Interest Income)	7069.00	17879.902 (10810.902)	30006.00	31309.00 (1303.604)	1.00	6831.306 (6830.306)
Input 1 (Interest Expenses)	27031.00	5475.338 (-17745.008, -3810.654)	17242.00	15129.798 (-2112.202)	206.00	70.153 (-135.847)
Input 2 (Non-Interest Expenses)	3823.00	1313.320 (-2509.680)	9429.00	6641.832 (-1155.083, -1632.085)	54.00	18.390 (-35.610)

Projection Summary – III (2013)				
Variables	**Mashreq Bank**		**Societe Generale**	
	Original Value	**Projected Value**	**Original Value**	**Projected Value**
Output 1 (Interest Income)	173.00	733.217 (560.217)	2436.00	11760.00 (9324.00)
Output 2 (Non-Interest Income)	94.00	751.939 (657.939)	1191.00	12420.00 (11229.00)
Input 1 (Interest Expenses)	315.00	73.582 (-241.418)	103.00	67.00 (-36.00)
Input 2 (Non-Interest Expenses)	20.00	4.672 (-15.328)	222.00	31.00 (-77.592, -113.408)

*(**Source:** Calculated with DEAP Software)*

Table no. 6.52 stated that Deutsche Bank, HSBC and Oman International to produce more income from non-interest business should project their interest expenses to 5475.338, 15129.798, & 70.153 and non-interest expenses to 1313.320, 6641.832 and 18.396. Moreover, Mashreq Bank and Societe Generale in order to enhance their incomes from interest and non-interest activities should decline their input 1 by 241.418, & 36.00 and input 2 by 15.320 and 113.4.

Table 6.53: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2014)					
	American Express Bank (AEB)		Bank of America-BOA		BOB	
	Original (Value)	Projected (Value)	OV	PV	Original Value-OV	Projected Value-PV
Output 1 (Interest Income)	1054.00	2017.467 (963.467)	14766.00	14766.00	883.00	883.00
Output 2 (Non-Interest Income)	1261.00	1261.00	5988.00	6195.385 (207.385)	480.00	599.176 (119.176)
Input 1 (Interest Expenses)	6537.00	233.606 (-6303.394)	8908.00	4060.838 (-3313.080, -1534.082)	137.00	91.793 (-45.207)
Input 2 (Non-Interest Expenses)	2673.00	95.522 (-2577.478)	1418.00	890.615 (-527.385)	29.00	19.431 (-9.569)

Projection Summary – II (2014)				
Variables	Oman International Bank		Societe Generale	
	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	126.00	126.00	2599.00	2599.00
Output 2 (Non-Interest Income)	5.00	74.130 (69.130)	1465.00	1465.00
Input 1 (Interest Expenses)	293.00	46.694 (-246.306)	518.00	301.220 (-216.780)
Input 2 (Non-Interest Expenses)	87.00	13.865 (-73.135)	325.00	188.989 (-136.011)

*(**Source:** Calculated with DEAP Software)*

Table no. 6.53 showed that, in 2014, AEB in order to increase interest income should decline interest expenses by 6303.39, and non-interest expenses by 2577.48. Moreover, Bank from America (BOA) and from Bahrain (BOB) and Oman to enhance their non-interest income should project their interest expenses to 4060.838 and 91.793, 46.69 and non-interest to 890.615, 19.43 and 13.86.

6.13 EFFICIENCY OF FOREIGN BANKS (YEAR 2015)

Table 6.54: SE (Summary) of FBs

SE-Scale Efficiency Summary of Foreign Banks (FBs)				
Name of Foreign Banks	**2015**			
	Crste	**Vrste**	**Scale Efficiency (crste/Vrste)**	**Returns**
1. Abu-Dhabi Commercial Bank	1.00	1.00	1.00	–
2. American Express Bank (AEB)	0.019	0.021	0.913	drs
3. Bank of America (BOA)	0.248	0.644	0.385	drs
4. Bank of Bahrain & Kuwait (BOB & K)	0.701	0.790	0.887	Irs
5. Bank of Nova Scotia	0.396	0.931	0.425	drs
6. Bank of Tokyo Mitsubishi	0.510	1.00	0.510	drs
7. CitiBank	0.233	1.00	0.233	drs
8. Deutsche Bank	0.241	0.896	0.269	drs
9. HSBC	0.285	1.00	0.285	drs
10. Oman International Bank	0.062	0.181	0.341	irs
11. Mashreq Bank	1.00	1.00	1.00	–
12. Societe Generale	0.404	1.00	0.404	drs
13. Sonali Bank	0.146	1.00	0.146	irs
14. Standard Chartered Bank	0.260	1.00	0.260	drs

*(**Source:** Calculated with DEAP Software)*

Table no. 6.54 showed that in 2015, ADCB and Mashreq Bank were 100 percent scale efficient, American Express Bank (91) percent efficient and Bank of Bahrain (89) percent scale efficient.

Table no. 6.55 explained that in 2015, Bank of Bahrain, Oman international Should follow to Mashreq Bank with (5 & 30), to ADCB with (58 & 10) and to Sonali Bank with (38 & 60) percent peers' weights. Moreover, Bank of America and Deutsche Bank should refer Standard Chartered Bank with (5 & 18) percent and BOTM with (95 & 59) percent peers' weights. In 2015, Abu-Dhabi Commercial Bank was most referred peer count.

Table 6.55: Summary of Scale efficiency of Foreign Banks

Summary of Peers, its Weights and No. of times Count			
Name of Foreign Banks	**2015**		
	Peers	**Peers (Weights Percentage)**	**Peers (Count)**
1. Abu-Dhabi Commercial Bank	1	1.00	4
2. American Express Bank	12,1	0.030,0.970	0
3. Bank of America	14,6	0.054,0.946	0
4. Bank of Bahrain & Kuwait	11,1,13	0.045,0.575, 0.380	0
5. Bank of Nova Scotia	1,6	0.211,0.789	0
6. Bank of Tokyo Mitsubishi	6	1.00	3
7. CitiBank	7	1.00	0
8. Deutsche Bank	14,9,6	0.178,0.235, 0.588	0
9. HSBC	9	1.00	1
10. Oman International Bank	11,1,13	0.299,0.097, 0.604	0
11. Mashreq Bank	11	1.00	2
12. Societe Generale	12	1.00	1
13. Sonali Bank	13	1.00	2
14. Standard Chartered Bank	14	1.00	2

*(**Source:** Calculated with DEAP Software)*

Table no. 6.56 stated that in 2015, AEB and BNS, in order to produce more interest income should decline their interest expenses by (7051.53 & 160.80, 53.819) and non-interest expenses by (2594.42, 9.62 & 31.100). Moreover, Bank of America, BOB, DB, OIB to enhance their non-interest income should utilize their interest expenses to (4291.164, 105.133, 12331.711) and and non-interest expenses to 989.63, 28.46, 4669.98 and 17.36.

Table 6.56: Projection Summary of Variables

(Crores)

Variables	Projection Summary – I (2015)					
	AEB		BOA		BOB & K	
	OV	PV	Original Value	Projected Value	Original Value-OV	Projected Value-PV
Output 1 (Interest Income)	1461.00	1853.770 (392.770)	16137.00	16137.00	1069.00	1069.00
Output 2 (Non-Interest Income)	1338.00	1338.00	6457.00	7847.154 (1390.154)	546.00	759.462 (213.462)
Input 1 (Interest Expenses)	7204.00	152.470 (-7051.530)	6911.00	4291.164 (-2461.201, -158.635)	133.00	105.133 (-27.867)
Input 2 (Non-Interest Expenses)	2957.00	52.960 (-2894.416, -9.624)	1537.00	989.631 (-547.369)	36.00	28.457 (-7.543)

Projection Summary – II (2015)						
Variables	Bank of Nova Scotia (BNS)		Deutsche Bank (DB)		Oman International Bank (OIB)	
	Original Value	Projected Value	Original Value	Projected Value	Original Value	Projected Value
Output 1 (Interest Income)	7579.00	9281.375 (1702.375)	44300.00	44300.00	242.00	242.00
Output 2 (Non-Interest Income)	4770.00	4770.00	18814.00	21692.725 (2878.725)	7.00	159.910 (152.910)
Input 1 (Interest Expenses)	2337.00	2122.381 (-160.800, -53.819)	13763.00	12331.711 (-1431.289)	298.00	53.884 (-244.116)
Input 2 (Non-Interest Expenses)	452.00	420.900 (-31.100)	5212.00	4669.976 (-542.024)	96.00	17.359 (-78.641)

*(**Source:** Calculated with DEAP Software)*

Table 6.57: Year-Wise Efficient DMU during 1990-91 to 1999-2000

Efficient DMUs for Period from 1990-91 to 1999-2000										
Number of Firms Efficient/Years	**1990-91**	**1991-92**	**1992-93**	**1993-94**	**1994-95**	**1995-96**	**1996-97**	**1997-98**	**1998-99**	**1999-2000**
	ADCB-Abu Dhabi	ADCB	ADCB	CB	CB	CB	ADCB-Abu-Dhabi Commercial Bank	ADCB	ADCB-Abu-Dhabi	ADCB
	BOB& K-Bank of Bahrain, BOTM-Bank of Tokyo, OIB- Oman International	BOB & K, BNS, SG	BOB & K, BNS, SG-Societe Generale, SB-Sonali Bank, SCB	DB			BOTM, OIB-Oman International Bank, SG	BOB, OIB-Oman, MB-Mashreq Bank	BOA-Bank of America, BOB & K, OIB	SG

*(**Source:** Author's Calculation)*

Table 6.58: Year-Wise Efficient DMU during 2000-01 to 2009-10

Efficient DMUs for Period from 2000-01 to 2009-10										
Number of Firms Efficient/Years	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
	ADCB-Abu-Dhabi, BNS-Bank of Nova Scotia	ADCB-Abu-Dhabi Commercial	ADCB	ADCB-Abu-Dhabi	BOB & K, OIB-Oman, MB-Mashreq Bank	ADCB, MB	BNS, MB	ADCB, BOB & K, BNS, BOTM-Bank of Tokyo, OIB, MB, SG, SB	ADCB, BNS-Bank of Nova	ADCB, BNS

*(**Source:** Researcher's Calculation)*

Table 6.59: Year-Wise Efficient DMU during 2010-11 to 2014-15

Efficient DMUs for Period from 2010-11 to 2014-15					
Number of Firms Efficient/Years	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**
	ADCB-Abu-Dhabi, BNS	ADCB-Abu-Dhabi Commercial Bank	ADCB	ADCB-Abu-Dhabi, MB	ADCB, MB

*(**Source:** Author's Calculation)*

The Tables no. 6.57, 6.58 and 6.59 stated the most efficient decision-making units among sample foreign banks every year, like table no. 6.57 cover period from 1990-91 to 1999-2000, table no. 6.58 for period from 2000-01 to 2009-10 and table no. 6.59 during 2010-10 to 2014-15.

The benchmarking properties of DEA, and identification of peer branches within network, were found particularly useful to set targets that are well adjusted to profile of- each branch. The technique of Data Envelopment Analysis has power to define effectiveness in selection, and utilization of scare resources of selected decision-making units. The findings indicate that average bank efficiency has varies over time and therefore it seems to be responding either to macroeconomic shocks or to changes in financial regulations. In this objective, non-parametric technique has defined that scale efficiency of selected foreign banks from 1991-92 to 2014-15 was varied. However, maximum number of times Abu-Dhabi Commercial Bank from U.A.E had showed its scale efficiency during research period. Moreover, it is found that for every sample foreign bank, there was different ratio of peer count and peer weights. From summary of variables it is observed that in order to utilize their scarce resources, type of input/output mix a particular decision-making unit have to use during research, has summarised every year for each bank.

CHAPTER – 7

CONTRIBUTION OF FOREIGN BANKS IN PRIORITY SECTOR ADVANCES IN INDIA

This fourth objective of study deals with investigation of contribution provided by scheduled foreign banks from developing and developed nations (group-wise) in India to (i) Total Priority Sector Advances, (ii) Small-Scale Industries, (iii) Export Credit for period 1997-2012. Priority Sector Advances which is given priority in offering financial services of scheduled commercial banks in specified areas, industries, trade and sections. The sector was introduced by Dr. K S Krishnaswamy Committee. The priority sectors include those sectors which may not get adequate institutional credit due to social, cultural and economic reasons. The latest definitions of Priority Sector include: Agriculture, Micro, Small and Medium Enterprises, Education, Housing, Export Credit, Social Infrastructure and Renewable Energy (Naruka and Yadav, 2017).

In this objective, investigated the contribution of foreign banks (group-wise) for a period from 1997-98 to 2011-12. The contribution data includes Total Priority Sector, Small Scale Industry and Export Credit was taken from 1997-98 to 2011-12, because the government of India have enacted new foreign contribution (Regulation Act, 2010) and were advised to foreign banks regarding contribution to Indian priority sector at par with scheduled domestic commercial banks of India. Moreover foreign banks must compliance with relevant provisions of FCRA, 2010 through guidance U/S 36(1)(a) of BRA, 1949.

7.1 ENTRY OF FOREIGN BANKS IN INDIA

The opening-up of economy (India) has attracted more and a greater number of (FBs)-foreign banks from perspective of meeting the ever-changing Indian client's demands and expectations. Table no. 7.1 stated that during study phase, number of banks from other nations (developed and developing) has increased, as during 1997-98 to 1998-99 (42 to 46)-developed economies from 26 to 28, developing economies from (16 to 18), showed decrease in trend in 1999-2000 (from 46 to 44)-developed nations (28 to 26) banks, developing opposite during (18 to 21 in total number). Moreover, it is observed total number of reporting (foreign banks) from developed and developing economies during years, 2000-01, 2001-02, 2002-03 was registered

variation in entry to Indian Economy, as 42, 45, 41, from developed 21, 24 & 21 and from developing 21, 21 & 20. However, with next years there was steep declined in foreign bank reporting (number) from 41 to 36 from 2002-03 to 2003-04

Banks from developed nation has showed poor interest as they decreased from 21 to 17, however, banks from developing economies were also registered downfall (from 21 to 19), but not that much of developed. As observed, after second financial reforms there was continuous variation period from 2000-01 to 2003-04 (45 to 36) in number (reporting foreign banks-business report to RBI and central bank published their banking procedure in their reports annually).

In addition, there was also steep fall during 2004-05 to 2007-08, that from 36 in number to 28 (reporting). The participated foreign banks on part of developing nations was noticed more fall from 21 to 13, however on side of developing nations from 19 to 15 in number (reporting to Reserve Bank of India).

Table no. 7.1 showed that during research period 2008-09, 2009-10, 2010-11 and 2011-12, new foreign banks from developed and developing nations has entered to economy of India. This entry has increased total number of foreign banks (reporting) from 31, 33, 35 & 42. The reporting foreign banks from developed and developing nations was noticed 17 & 18, and it can be inferred that foreign banks from developed nations has shown their more interest and their number increase to 22 from 17, however, developing nations banks increased at slow pace that was from 18 to 20 in number.

Besides, table no. 7.1 demonstrated that multinational banks from different nations has showed their mixed response towards economy of India during research, however it was understood that during initial year as 1997-98 to 2000-01 to 2001-02, in term of percentage developing country banks has declined from 61.9 to 50.0, but opposite in case of developing from 38.09 to 50.0 percent. The table explained that with minor variation period from 2002-03 to 2005-06, foreign banks (developed) entry pattern has showed decline trend as from 51.2 to 41.9 percent, against increasing trend from developing economies from 46.7 to 58.1 percent.

The very wonderful entering trend was noticed during 2006-07 to 2011-12 as foreign banks penetration from developed nations has enhanced from 44.8 to 52.4 percent & opposite in case of developing as from 55.2 to 47.6 percent and concluded that no change has observed from developing and developed in 2007-08.

Table 7.1: Total No. of Foreign Banks from Developed and Developing Economies in India

1997-98 to 2011-12

Years	Total No. of Foreign Banks in India	Foreign Banks from Developed Economies	Change in Presence	Percentage out of Total FBs	Foreign Banks from Developing Economies	Change in presence	Percentage out of Total FB
1997-98	42	26	–	61.9	16	–	38.09
1998-99	46	28	Decrease	60.9	18	Decrease	39.13
1999-2000	44	26	Decrease	59.1	18	–	40.9
2000-01	42	21	Decrease	50.0	21	Increase	50.0
2001-02	45	24	Increase	53.3	21	–	46.7
2002-03	41	21	Decrease	51.2	20	Decrease	48.8
2003-04	36	17	Decrease	47.2	19	Decrease	52.8
2004-05	33	14	Increase	42.4	19	–	57.6
2005-06	31	13	Decrease	41.9	18	Decrease	58.1
2006-07	29	13	–	44.8	16	Decrease	55.2
2007-08	29	13	–	44.8	16	–	55.2
2008-09	31	14	Increase	45.2	17	Increase	54.8
2009-10	33	15	Increase	45.5	18	Increase	54.5
2010-11	35	17	Increase	48.6	18	–	51.4
2011-12	42	22	Increase	52.4	20	Increase	47.6

(Source: Different Published Report on Profile of Banks (RBI))

7.2 CONTRIBUTION TO TOTAL PRIORITY SECTOR ADVANCES

The table no. 7.2 stated that contribution of foreign banks to Total Priority Sector lending in terms of amount during 1997 was 6139 Crores, which was increase to 6940 and percentage in this period decrease to 34.3 from 37.7. The period from 1998-99 to 1999-2000 foreign banks (group-wise) were contribute to priority sector in India more than stipulated by RBI. The amount of TPSL in 1999 was 8270 Crores, which was increase to 9699 in 2000, but in terms of percentage it falls from 37.0 to 34.5.

The foreign banks financing to total priority from 2003 to 2008 above stipulated norms (32 percent of ANBC) of RBI, as it was registered in 2003 (33.9 percent), 2004 (34.8), 2005 (35.3), 2006 (34.6), 2007 (33.4), 2008 (39.5), and in terms of aggregate amount with every successive year increasing trend was noticed (2003 to 2008, from 14848 to 50301). Moreover, during 2008-09 to 2011-12, financing to TPSL by FBs in terms of aggregate amount 55483 in 2009, 59960 in 2010, 66527 in 2011 and 80500 in 2012, in form of percentage to NBC-Net bank credit from 2009-2012, 34.3 (2009), 36.0 (2010), 40.0 in (2011), 40.9 (2012).

Table 7.2: Contribution of Foreign Banks to Total Priority Sector Advances (1996-97 to 2011-12)

Contribution to Total Priority Sector					
Year	**Amount (Cr.)**	**Net Bank Credit (Percentage)**	**Year**	**Amount (Cr.)**	**Net Bank Credit (Percentage)**
1996-97	6139	37.7	**2004-05**	23843	35.3
1997-98	6940	34.3	**2005-06**	30449	35.3
1998-99	8270	37.0	**2006-07**	37835	34.6
1999-2000	9699	34.5	**2007-08**	50301	33.4
2000-01	11572	33.5	**2008-09**	55483	39.5
2001-02	13414	34.0	**2009-10**	59960	36.0
2002-03	14848	33.9	**2010-11**	66527	40.0
2003-04	18276	34.8	**2011-12**	80500	40.9

(Source: Various published editions of Report on Trends & Progress of Banks (RBI))

India is primarily current account deficit country and measure to remedy this imbalance, exports are encouraged by Government of India and Reserve Bank. They promote exports by reducing cost and augmenting funds quantity available to exporters. In this regard, export credit played prominent role. Export credit includes pre-shipment and post shipment export credit (excluding off-balance sheet items) as explained in Master Circular on Rupee / Foreign Currency Export Credit and Customer Service to Exporters issued by Department of Banking Regulation.

7.3 CONTRIBUTION TO SMALL-SCALE INDUSTRIES

The small-scale industries (SSIs) has been accepted as economic growth engine and for promoting equitable development around world. The major benefit of this sector in employment potential & low cost of capital. The labour intensity of SSI sector is much higher than large enterprises. The Small-Scale industries constitute over 90 percent of total enterprises in most of economies and are credited with generating highest rates of employment and contribute for major industrial production and exports shares.

Table 7.3: Contribution of Foreign Banks to Small-Scale Industries (1996-97 to 2011-12)

Contribution to Small Scale Industries					
Year	**Amount (Cr.)**	**Net Bank Credit (Percentage)**	**Year**	**Amount (Cr.)**	**Net Bank Credit (Percentage)**
1996-97	1836	11.3	**2004-05**	6907	10.2
1997-98	2084	10.3	**2005-06**	8442	9.6
1998-99	2460	11.0	**2006-07**	11648	10.3
1999-2000	2872	10.2	**2007-08**	15489	12.2
2000-01	3646	10.6	**2008-09**	18138	11.2
2001-02	4561	12.0	**2009-10**	21147	12.7
2002-03	3809	8.7	**2010-11**	21501	12.9
2003-04	5438	10.4	**2011-12**	21700	11.0

*(**Source:** Published (Different Years) Report on Trends & Progress of Banks (RBI))*

Table no. 7.3 & 7.4 described that foreign banks has achieved their target as directed by RBI and observed during 1997-98 to 1998-99 sub-target percentage of priority sector lending in case of export credit and SSI (Small-Scale industries) was 27.5 to 24.5 & 11.3 to 10.3, however lending in terms of amount from 4474 to 4950 Crores (Export credit) and from 1836 to 2084 (Small-Scale Industries) in India.

The aggregate contribution in terms of amount to export credit was recorded to 6961 from 6322 with 22.5, 20.2 percent in 2000-01 & 2001-02. The SSI has contributed by foreign banks 2872 amount and 10.2 percent in 2000, and 3646 rupees in crores with 10.6 percent in 2001. They were contributed to small scale industries in term of amount from 4561 to 3809 Crores, 6907 to 8442 and in form of percentage with variation as 12.0, 8.7, 10.4, 10.2 & 9.6 during 2001-02 to 2005-06, 18.3 & 19.4 to export credit.

Besides, on part of financing to export credit includes pre-shipment & post shipment foreign banks during 2001-02 to 2005-06, increasing trend was registered from 6948, 8195, 9809, 12339, 17102 Crores and in percentage 18.0, 18.7, 18.3 & 19.4.

It was noticed that with next couple of years, sub-sector contribution by foreign banks in terms of aggregate amount in case of export credit and Small-Scale industries was registered (8195 to 29007), (3809 to 15489), however percentage has showed variation during these periods.

Export credit (contribution) by foreign banks for period covers 2009-2012, 19.4 in 2009, increase to 20.1 in 2010, 25.5 in 2011, in form of aggregate amount was 31511, 33396, 42487 during (2009-2012), Small-Scale industries-SSI has received lending from foreign banks in terms of percentage period covers 2009-2012, 11.2, 12.7 and 12.9, and aggregate amount 18138, 21147, 21501 and 21700 crores.

7.4 CONTRIBUTION TO EXPORT CREDIT

Table 7.4: Foreign Banks' Contribution to Export-Credit

(1996-97 to 2011-12)

Contribution to Export Credit					
Year	**Amount (Cr.)**	**Net Bank Credit (Percentage)**	**Year**	**Amount (Cr.)**	**Net Bank Credit (Percentage)**
1996-97	4474	27.5	**2004-05**	12339	18.3
1997-98	4950	24.5	**2005-06**	17102	19.4
1998-99	5678	25.0	**2006-07**	20714	18.3
1999-2000	6322	22.5	**2007-08**	29007	22.8
2000-01	6961	20.2	**2008-09**	31511	19.4
2001-02	6948	18.0	**2009-10**	33396	20.1
2002-03	8195	18.7	**2010-11**	42487	25.5
2003-04	9809	18.7	**2011-12**	-	-

***(Source:** Reserve Bank Published (Different Years) Report on Trends & Progress of Banks)*

Figure no. 7.1 described contribution trend of foreign banks to total priority sector advances from 1997-98 to 2011-12, decline in 1998, sharp increase in 1999, it has showed variation during 2000-2005, in 2006 & 2007 percentage of lending was steep fall. Besides, in 2008 it was jumped high, again fall down in 2009, and period from 2009-10 to 2011-12 peak jump was registered (34.30 to 40.90).

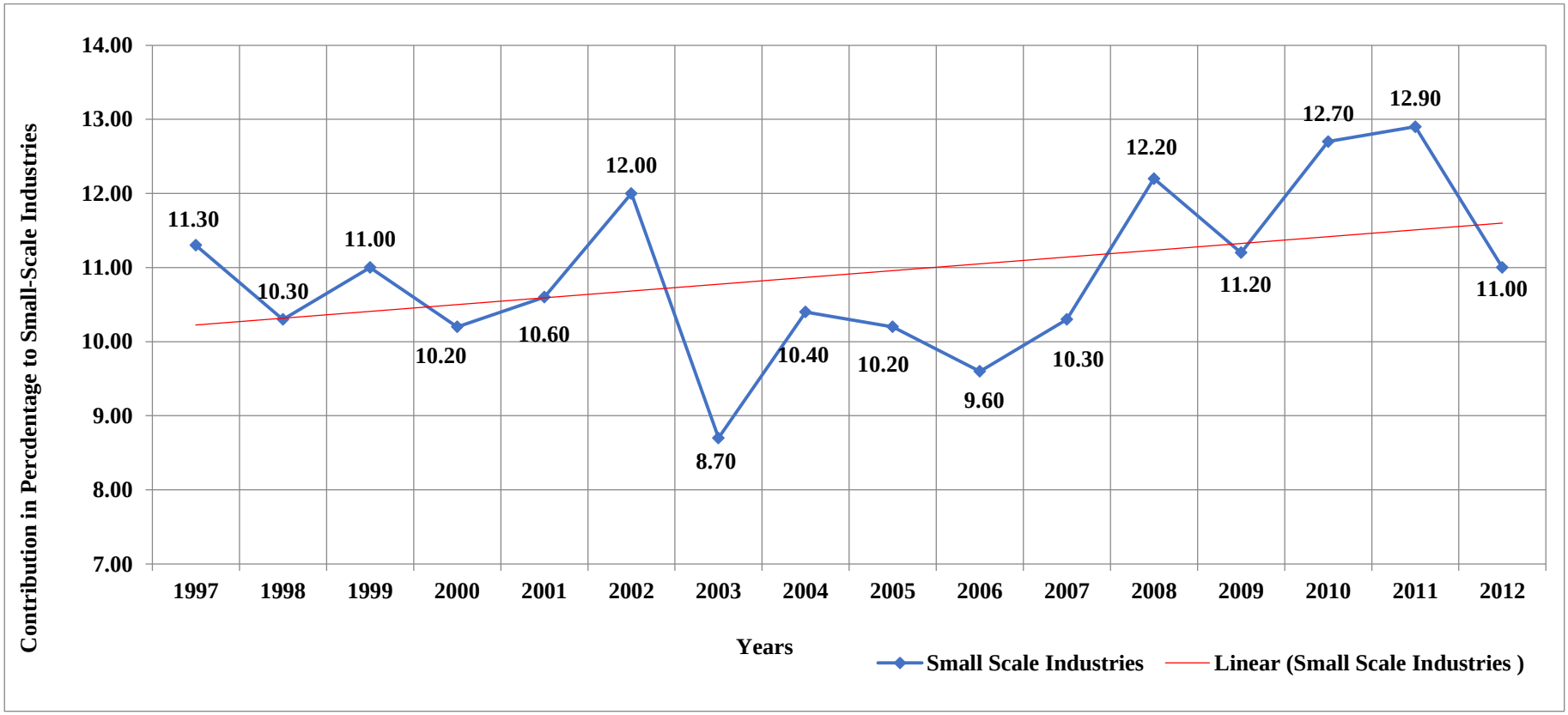
Figure no. 7.2 revealed foreign banks' contribution to small-scale industries from 1997-98 to 2011-12, fall down in 1998, increase in 1999, it has described minor variation during 2000-2002, in 2003 lending percentage was fall lowest as compare to whole study period. Besides, in 2004 it was increased high, again fall down in 2006, and period from 2007 to 2008 peak jump was observed (9.60 to 12.20). Further, foreign banks' lending percentage from 2008-09 to 2011-12 has showed variation. It is concluded that throughout study period foreign banks from various economies (developing and developed) in India has not met only regulatory norms as per recommended by Reserve Bank but also financed to priority sector above target given to them of net bank credit or off-balance sheet items.

7.5 TOTAL PRIORITY SECTOR LENDING-GRAPH PRESENTATION

*((**Source:** Reserve Bank Published Reports-Profile of Banks & STRBI))*

Figure 7.1: Contribution of Foreign Banks to Total Priority Sector Lending (1996-97 to 2011-12)

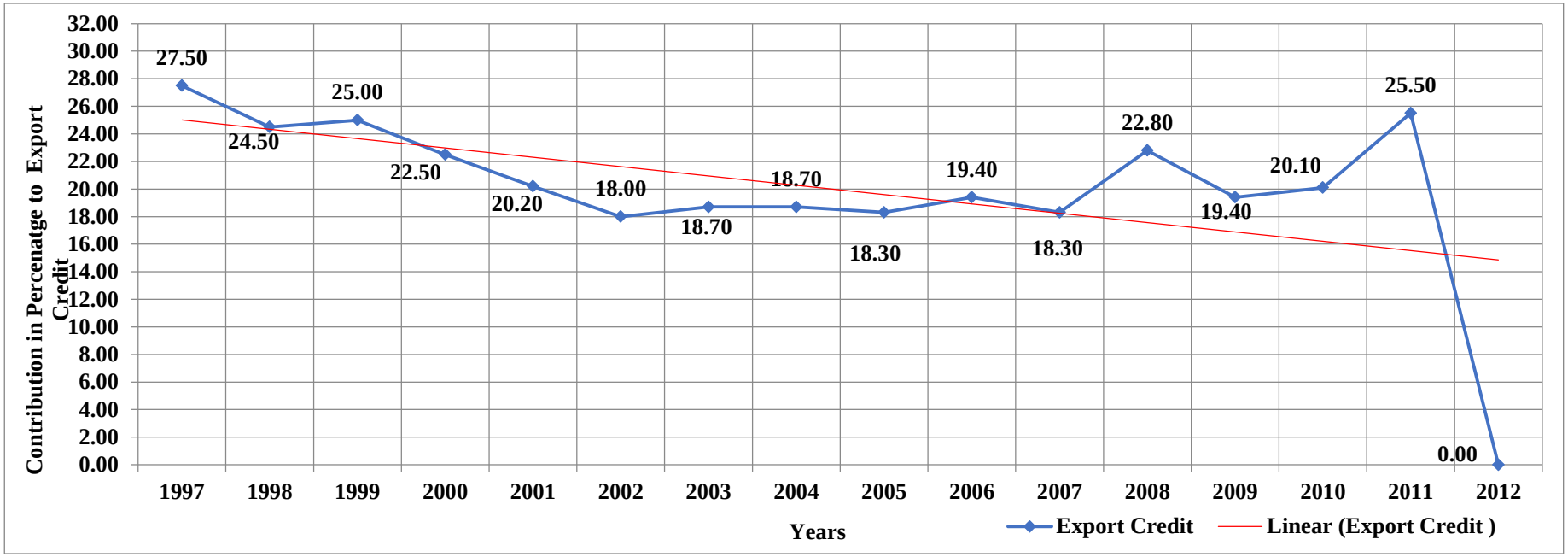
7.6 ADVANCES TO SMALL-SCALE INDUSTRIES-GRAPH PRESENTATION



*(**Source:** Reports Published by Reserve Bank (Statistical Tables relating to Banks, Profile of Banks))*

Figure 7.2: Foreign Banks Contribution to Small-Scale Industries (1996-97 to 2011-12)

7.7 ADVANCES TO EXPORT CREDIT-GRAPH PRESENTATION

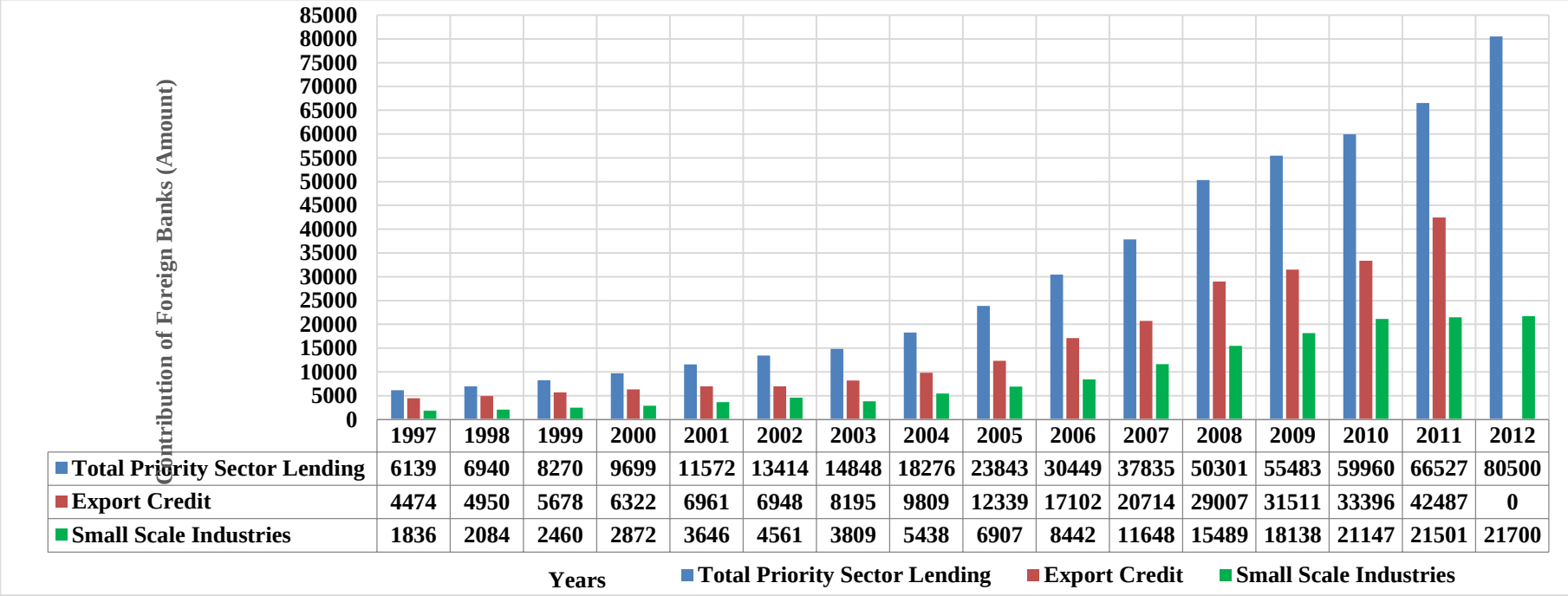


*(**Source:** Various Editions of Published Reports of RBI)*

Figure 7.3: Contribution by Foreign Banks to Export Credit (1996-97 to 2011-12)

Figure no. 7.3 stated foreign banks contribution to export credit in India during 1997-98 to 2011-12, fall down in 1998, increase in 1999, it has showed steep down fall during 1998-99 to 2001-02, in 2003 it was increased and registered minor variation till 2006-07 Besides, in 2008 it was increased high, again fall down in 2009, period from 2009-10 to 2010-11 high jump was observed (19.40 to 25.50).

7.8 CONTRIBUTION TO PRIORITY SECTOR ADVANCES (AMOUNT)-CLUSTERED BAR



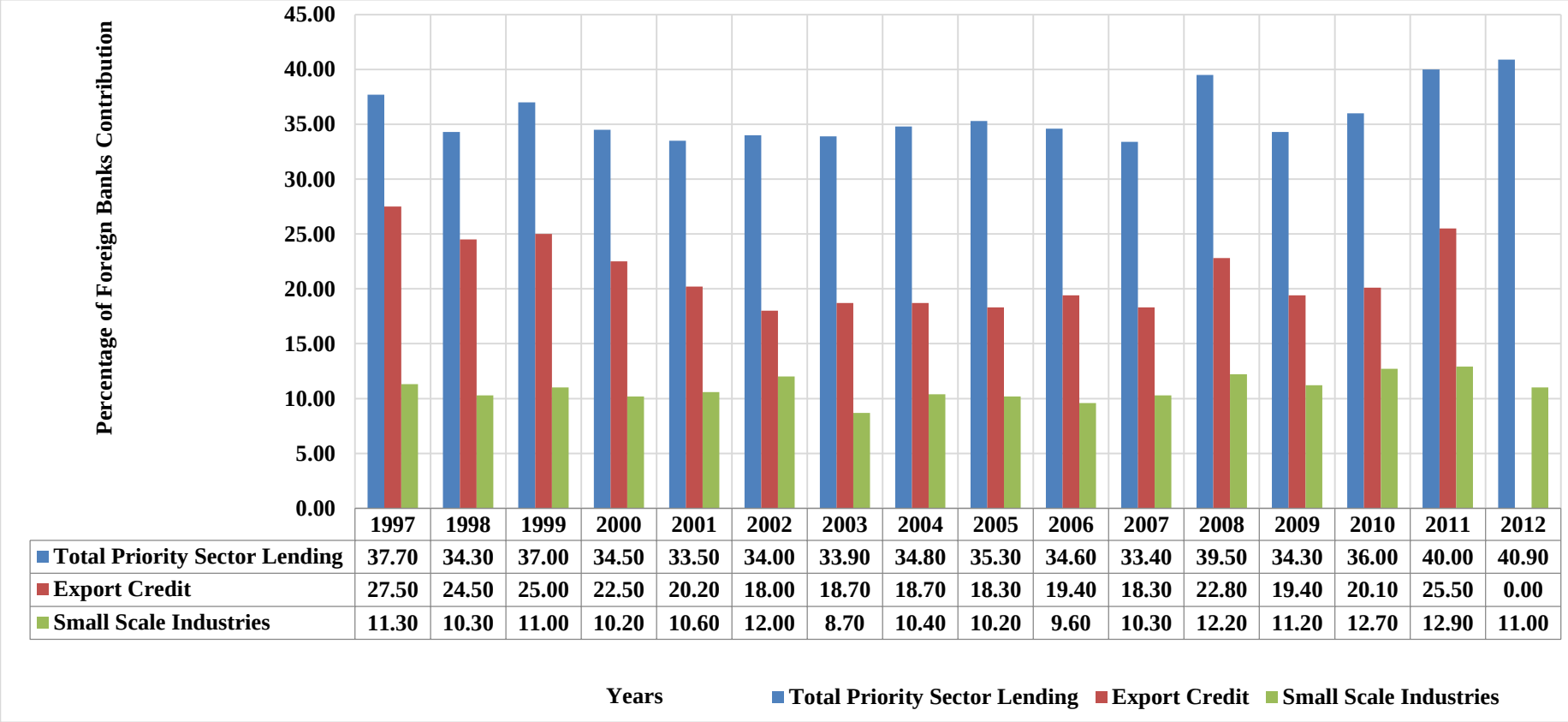
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Priority Sector Lending	6139	6940	8270	9699	11572	13414	14848	18276	23843	30449	37835	50301	55483	59960	66527	80500
Export Credit	4474	4950	5678	6322	6961	6948	8195	9809	12339	17102	20714	29007	31511	33396	42487	0
Small Scale Industries	1836	2084	2460	2872	3646	4561	3809	5438	6907	8442	11648	15489	18138	21147	21501	21700

(Source: *Published Reports of RBI (RTPB-Various Editions))*

Figure 7.4: Foreign Banks' Contribution (Amount) in India (1996-97 to 2011-12)

Figure no. 7.4 revealed foreign banks (group-wise) contribution to Indian economy year-wise to TPSL, SSI and EC small-scale industries from 1997-98 to 2011-12. It was investigated that financing in term of amount has increased every successive year to each Priority sector.

7.9 CONTRIBUTION TO PRIORITY SECTOR ADVANCES (PERCENTAGE)-CLUSTERED BAR



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Priority Sector Lending	37.70	34.30	37.00	34.50	33.50	34.00	33.90	34.80	35.30	34.60	33.40	39.50	34.30	36.00	40.00	40.90
Export Credit	27.50	24.50	25.00	22.50	20.20	18.00	18.70	18.70	18.30	19.40	18.30	22.80	19.40	20.10	25.50	0.00
Small Scale Industries	11.30	10.30	11.00	10.20	10.60	12.00	8.70	10.40	10.20	9.60	10.30	12.20	11.20	12.70	12.90	11.00

(***Source:*** *Various Published Editions of RBI Reports (RTPB))*

Figure 7.5: Foreign Banks' Contribution (Percentage) in India (1996-97 to 2011-12)

Figure no. 7.5 explained multinational banks (group-wise) contribution to Indian economy year-wise to TPSL, SSI and EC from 1997-98 to 2011-12. It was investigated that financing in term of percentage (net bank credit) has increased every successive year to each Priority sector. The research showed that foreign banks in aggregate number (reporting) efficiently has achieved their target of Priority Sector Lending in Total-TPSA, Export Credit, and SSI-Small-Scale Industries as per financial requirement and Central bank statutory norms. It is observed that during study period variation in entry and exit of total number of reporting foreign banks in India, but still these banks successful in achievement of Priority Sector Target as directed by RBI. It is suggested that India must always open their doors for multinational banking business.

The research showed that foreign banks in aggregate number (reporting) efficiently achieved their target of Priority Sector Lending in Total-TPSA, Export Credit, and SSI-Small-Scale Industries as per financial requirement and Central bank statutory norms. It is observed that during study variation in entry and exit was noticed, in term of total number of reporting foreign banks in India, but still these banks were successful in achievement of Priority Sector Target as directed by RBI.

The contribution of foreign banks' (group-wise) from different economies had achieved targeted of priority sector advances as instructed by RBI (Reserve Bank of India) like total priority sector lending, export credit, small-scale industries with varied presence of scheduled foreign banks in India and marked no effects on their prescribed percentage of contribution to various studied sectors during study.

CHAPTER – 8

FINDINGS, CONCLUSION AND SUGGESTIONS

This chapter has presented summary of findings, provide appropriate suggestions, demonstrated further scope of research and contribution. The chapter has bifurcated into different sections to define results drawn from research. It is dire need of time to assembled brilliant minds and strategies deliberate on actions that prepare banking system to incorporate with ever-changing scenario (Sahota, 2016).

8.1 BRIEF FINDINGS ON FOREIGN BANKS PRESENCE IN OTHER ECONOMIES

Over past two decades, foreign banks have become much more vital in domestic financial intermediation, heightening essential to understand their behaviour (Claessens and Horen, 2014). Foreign banks entry can render national banking markets more competitive, and thereby can force domestic banks to start operating more efficiently. In long run, entry of foreign banks may improve operation of national banking markets, with positive welfare inferences (Claessens et al, 2001). Foreign ownership strengthens emerging market financial systems (Crystal et al, 2002).

Foreign banks tend to have some positive effects on banking sector of developing nations in respect of financial stability, inducing risk-aversion, stiff competition and can force domestic counterparts to start operating more efficiently by (Claessens et al, 2001). These Foreign banks presence pressurised domestic banks to improve their quality of financial services, stimulate them to reduce cost, enhance efficiency. Moreover, foreign banks may also introduce modern and more efficient banking technique that are new to host nation banks. The entrance of foreign banks may contribute to enhance quality of human capital in domestic banking system in ways like (i) import high skilled managers to work in their foreign branches further local employees learn a lot from them (Lensik and Hermes, 2004).

Foreign banks can improve efficiency of domestic financial systems, increase financial sector development and access to financial services, enhance countries' overall economic growth. Furthermore, recent financial crisis has highlighted again that there can be risks associated with cross-border banking and foreign banks presence. These developments have led to an increased demand among policy makers and interest among academics for more analyses of benefits and risks of foreign bank presence to help guide regulatory reforms (Claessens and Horen, 2011). It is summarised that most of nations has experienced positive and wonderful effects from foreign banks presence.

8.1.1 Summary of Foreign Banks Past and Future Trends' Direction in India

Currently foreign banks are growing tremendously in India. Several foreign banks have started functioning in many parts of India giving boost to banking industry and ensuring deployment of funds in economy (Pandya, 2014). In emerging financial and banking scenario of openness, economic liberalisation, globalisation, and pro-motion of "greater economic efficiency" need for an expanded role & operation of Foreign Banks has gained further backing in India (Karunagaran, 2006). Foreign banks bring with them innovation, they raise level of competition and provide access to cross-border services of a scope and quality that Indian banks cannot match.

The research has explained that during study foreign banks entry from different nations and interest income has showed positive direction with variation. During 1991-92 till 1995 percentage of income has declined, started increase in 1996 and 1997 however till 2004-05 its steep fall. Besides, period from 2005-06 to 2017-18 this ratio has varied continuous. It has observed that more foreign banks will enter in Indian economy which further leads to enhance competition among them and ultimately effect on their interest income. In term of net interest income, these banks earned continuous around 3 percent out of total assets (foreign-group wise), during 1992-93, 1995-96 to 2004-07 and 2009-10 to 2017-18. However their earning percentage increases to 4. During projection period interest income (net) will increase with variation.

The study has explained that other income of sample foreign banks from other nations has marked 3 to 5 percent during initial year of research; however, it declined with passage of time due to increasing banking business in India by foreign

banks. It is also noticed that percentage of interest ratio has varied with positive trend and coming years more expansion of foreign banks' branches will ultimately leads to other income in increasing trend.

In India, percentage of total income was 15 percent out of total assets earned by banks from different economies, which was declined by 13, 12, 11, 9, and 8 percent with increasing interest of Foreign banks towards Indian economy. The increasing participation of scheduled foreign banks during study (from 2010-11 to 2016-17) has decreased total income means proportion of distribution has increased among them. The far-sighted this ratio will constant decline from 6-7 percent to 3, due to increasing interest of Foreign banks towards banking industry in India.

The research has outlined that foreign banks' (group-wise) after process of LPG-liberalisation, privatisation and globalisation has invested from 33 to 35 percent and financed to India from 36.48 to 32.01 during 1991-92 to 1993-94. However, with more presence of foreign banks (from different nations) has continuous enhanced percentage of finance (loans and advances) and investment towards Indian banking sector during 2000-01 to 2017-18. The selected ratios have showed variation trend with varied entry of foreign banks to Indian banking sector.

The foreign banks' presence (from developed and developing economies) in different geographical location (rural, semi-urban, urban and metro-Politian) has observed different experiences. During 1997-98 to 2007-08, no expansion of FBs in rural location, it has steady increased from 1.37 to 2.84 percent out of total presence in India during 2008-09 to 2012-13. Further, it has marked varied trends (increases and decreases), increased continuous to 3.01 from 1.82 percent during 2014-15 to 2017-2018 and going to expand their branches in rural areas to 5 percent (9 to 14 in number) in India.

The study has investigated that the semi-urban locality of India has attracted banks from other countries e.g. from initial period of study, no doubt it has inferred variation in some particular year, but overall they expanded their business in semi-urban areas in increasing order as to 3.30 from 0.40 percent (2004-05 to 2011-12) to 3.44 from 3.01 during 2012-13 to 2018-19 and will rise to 5.11 from 3.34 till 2029-30.

The urban expansion of scheduled foreign banks (group-wise) in India has showed increasing trend from 8.80 percent out of total branch expansion to 16.90 during 1997-98 to 2004-05, however to somewhat in few years it was varied like waves e.g. 2013-14 to 2018-19, from 17.69 to 19.60 during (2007-08 to 2012-13). During 2019-2020 to 2023-24 (forecasting period) Foreign banks will continuous increase their branches from 17.97 percent to 19.73. Further from 20.08 percent to 21.83 out of total foreign banks' branch presence during 2024-25 to 2029-30.

After second banking sector reforms in India, the presence of scheduled foreign banks has enhanced their presence from various nations from 89.60 to 91.10 during (1997-98 to 2000-01), it was noticed they started decline their presence from 89.10 to 82.70 (from 2001-02 to 2004-05) to 75.00 from 85.33 during 2005-06 to 2012-13. Furthermore, variation trend was noticed from period 2013-14 to 2018-19 and with passage of time FBs will going to decline their presence in metro-Politian location in India during 2018-19 to 2029-30 from 75.66 percent to 68.24 out of total branch expansion of foreign banks.

It is summarised that shrinking foreign banks' branch expansion in metro-Politian in India due to regulatory instructions by national and international committees e.g. Reserve Bank of India has instructed to all scheduled commercial banks (foreign including public and private) that to achieve goal of financial inclusion they must expand their branches in unbanked, under-banked location in India. Moreover, India has committed with WTO that every year it permitted licence to 12 foreign banks branches (from developing and developed nations).

In addition to these, total branch expansion (foreign banks) in rural, urban, semi-urban and metro-Politian has registered increasing trend from 1997-98 (after second reforms) from 182 to 249 till 2004-05. After 2005 more rational and national treatment was given to FBs in India further leads to increase from 259 to 332 during 2005-06 to 2015-16. In 2015-16 & 2016-17, it was declinesd sharp to 301 from 332, however during projection period it's going to expand their bank branches business from 357 to 399 during 2019-2020 to 2023-24 and to 448 from 365, period covers 2024-25 to 2029-30.

To sum up, foreign banks (in number) throughout research period has registered variation e.g. it has fall down continuous from 45 in 2000-01 to 28 in 2007-08; it was increases to 46 from 30 during 2008-09 to 2015-16. Besides, in 2016-17 & 2017-18 it was declined to 44, and study period (projection) foreign banks will continuous shows their interest of banking business in India from 44 to 50 during 2018-19 to 2029-30.

8.1.2 Summary of Foreign Banks' Soundness Position in India

The study has investigated that CAMEL Methodology, applied in this research, most prominent in identification of individual and bank performance at various kind of sub-parameters and parameters on different time slots.

8.1.2.1 Adequacy of Capital

Lower ratio of Capital adequacy ratio is directly indicated with bank's failure. It is found that during 1990-91 to 1999-2000 Bank of Tokyo from (Japan) has well managed their finance resources, Bank of America from (America) has earned highest return on equity among selected banks from different economies. Bank of Tokyo and Mitsubishi from Japan has showed good maintenance of capital adequacy ratio at debt/equity and equity return in India. From 2000-01 to 2009-10, Abu-Dhabi Commercial Bank from (U.A.E) has performed well in balancing external and internal financial resources. Moreover, Standard Chartered Bank from (U.K) has earned maximum on equity capital and this sample bank has attained top position in term debt/equity and equity return ratio.

Moreover, research period from 2010-11 to 2014-15, Bank of Nova Scotia from Canada, Deutsche Bank from Germany has secured first place in respect of gearing their resources and return on equity capital. The parameter rank during this period has secured by ADCB and followed by BNS. It is statistical proved that there is significant difference in maintaining their external/internal finance resources among sample foreign banks during 1990-91 to 1999-2000 & 2000-01 to 2009-10. The collected secondary panel data of capital adequacy (D/E & ROE) throughout study period was distributed normally as tested by K-S test.

8.1.2.2 Quality of Assets

Decreasing ratio of Return on assets indicates lower percentage of profitability. It was found that during (1990-91 to 1999-2000), Bank of Tokyo from Japan, Deutsche Bank from Germany has earned highest margin on interest. Mashreq Bank in this period has secured more depositors in India against total assets as compare to their counterparts. Bank of Tokyo and Sonali Bank during this decade in India has occupied first place at group rank in term of net interest margin and total deposits ratio (assets quality-parameter).

It is investigated that there was stiff competition exist among sample foreign banks during 2000-01 to 2009-10 from developed nations because SCB from U.K., Bank of Tokyo from Japan, CitiBank from U.S.A & HSBC from Hong-Kong has occupied same place. ADCB (U.A.E) and BOB (Bahrain) has placed first and second rank due to secured their depositors more than others. SCB (U.K), CitiBank (U.S.A), and HSBC (Hong-Kong) & SCB (U.K.) has well managed their assets quality in term of net interest margin and secured depositors throughout this period. From 2010-11 to 2014-15 maximum percentage of interest margin was registered by DB from (Germany), banks from America (BOA), Bahrain (BOB & K), Canada (CitiBank), Hong-Kong (HSBC), U.K (SCB) have placed same position, which proved that there was competition exist among scheduled foreign counterparts in India and executed profitable banking business. On part of assets quality's second sub-parameter (total deposits against total assets) Sonali Bank from Bangladesh has occupied rank first, second and third place to BOB & ADCB and so on. In term of managing well the quality assets dimension during this study like (i) margin of interest and (ii) total deposits percentage, Bank of America has positioned first, Deutsche Bank (second) and BOTM (third).

The study proved that period cover from 1990-91 to 1999-2000 that there was no statistical difference was found in terms of net interest margin performance, however on part of Total deposits/Total Assets there was significant difference among sample foreign banks. Moreover, during 2000-01 to 2009-10 & 2010-10 to 2014-15 there was no difference in terms NIM and deposits out of total assets performance among selected foreign banks in India.

8.1.2.3 Management Efficiency

The maximum investment was done by Societe Generale from France during 1990-91 to 1999-2000. During this period, Deutsche Bank has facilitated credit maximum than their fellow banks. On an average highest percentage of investment and credit from deposits was provided by DB (Japan) and Societe Generale from France.

Period cover from 2000-01 to 2009-10, Bank of America has invested idle money of depositor's more than their counterparts as followed by DB from German, ADCB, SCB & HSBC and in respect of C/D ratio, banks from German (DB), America (AEB), U.K (SCB) has occupied top positions. Besides on an average, performance of efficient managing their credits and investment was registered by Deutsche from Japan, SCB (U.K) & HSBC (Hong-Kong) during period from 2000-01 to 2009-10. Further, period from 2010-11 to 2014-15, BOTM from Japan has managed well its deposits followed by Bank of Nova Scotia (Canada), HSBC and in term of C/D ratio (credit facilitation), DB has utilized its client's deposits best among its fellow counterparts in India followed by SCB, BOB & K, CitiBank and Mashreq Bank. Average performance of credit and investment percentage during this period by DB, HSBC & SCB so on has occupied higher positions.

During research from 1990-91 to 1999-2000, there was statistical difference in term of investment out of total deposits and in respect of cash deposits, no significant difference was found among selected foreign banks. Moreover, during 2010-11 to 2014-15 it was found statistical difference among selected foreign banks in respect of facilitated credit out of total deposits.

8.1.2.4 Earning Capacity

Foreign banks were varied much with respect to their business models, size, and profitability. Since Foreign banks with greater access to know-how, technology, and lower cost of funds, are generally believed to be quite profitable. In term of earnings capacity during 1990-91 to 1999-2000 it was found that Bank of America from America has paid maximum interest on deposits, followed by CB, Oman, ADCB & so on. Bank of Bahrain from (Bahrain) has earned maximum interest, followed by SCB from U.K, Abu-Dhabi Commercial Bank from U.A.E in India. Moreover, during this research, ADCB and Oman from Muscat has secured top rank in term of interest paid and interest income out of total income.

The maximum percentage of interest paid on deposits has marked by MB, American Express Bank & BNS from 2000-01 to 2009-10. The highest percentage of interest was earned by Abu-Dhabi Bank from U.A.E, next to it BOB, BNS. During this period, Bank from Canada BNS has secured top position in term of paid depositors' interest and interest income followed by Bank of Bahrain, Societe Generale, Oman & so on. In addition, from 2010-11 to 2014-15 American Express Bank has utilized their finance in productive way means paid more interest on deposits, followed by SG & Bank of Nova Scotia. In respect of interest earned ADCB from U.A.E has marked maximum, BOB (Bahrain), Bank of Tokyo (Japan), CB were placed at second, third and fourth. Moreover, ADCB has occupied first place in term of earning capacity (average performance of interest paid & earned) followed by BOB, BNS & Bank of Tokyo. During research it is proved (statistically) that there was statistical difference in term of interest paid capacity among selected foreign banks during 2000-01 to 2009-10 and no difference was found during 1990-91 to 1999-2000, Every bank with strategic management policy has invested their idle money into income generating activities and found no special difference among scheduled banks (foreign) at income (interest) during 1990-91 to 1999-2000 & 2010-11 to 2014-15. The collected secondary data of earning capacity's parameters and sub-parameters from 1991 till 2015 was distributed normally as reported by K-S test.

8.1.2.5 Liquidity Capacity

The high cash reserve ratio is dangerous for liquidity position, on other hand very low percentage of this ratio will ultimately destroy goodwill of banks.

Oman International Bank from (Muscat) has ranked first in term of hold maximum cash against depositor's money (as when it arises) from 1990-91 to 1999-2000, followed by American Express, ADCB, Bank of America, CitiBank and Bank of America so on. In respect of cash percentage from assets (total) Oman has reserved maximum, next to it AEB, BOA, CB, ADCB. Moreover, Oman International Bank has occupied top rank during this period in term of cash reserve maximum out of deposits and assets (both) followed by AEB and so on.

From 2000-01 to 2009-10, SCB from (U.K) has kept highest percentage of cash against deposits among other selected foreign banks, lower positions hold by scheduled foreign banks in India MB, ADCB, Societe Generale and Sonali Bank.

Societe Generale from France has reserved maximum cash out of assets during 2000-01 to 2009-10 and in term of well managed liquid position was occupied by Standard Chartered Bank followed by HSBC so on.

For period from 2010-11 to 2014-15, it is noticed that in term of cash reserved out of deposits and assets SCB has occupied first rank followed by CitiBank. These sample banks were maintained same position in respect of parameter performance. Besides, it was tested by non-parametric technique (One-Way-ANOVA) that no statistical difference was observed among foreign banks from different economies during 1991 till 2015 in term of cash out of deposits. It was understood that scheduled foreign banks during research has maintain their cash reserve to meet their timely demand of cash.

8.1.2.6 Sensitivity to Risk

It was investigated during study 1990-91 to 1999-2000 that maximum coverage of risk against market was registered by BOB (Bahrain) in term of interest income followed by SCB, ADCB, OIB, SG & HSBC. In respect of total income CitiBank from U.S.A has earned highest against risk of market variant. Moreover, Hong-Kong has obtained highest position in term of coverage risk against market variant followed by BOB & SCB & Societe Generale and so on. Abu-Dhabi from U.A.E during 2000-01 to 2009-10 has placed highest rank in term of interest income followed by Oman, Bank of Bahrain, BNS, SG. Moreover, period from 2000-01 to 2009-10, same place was occupied by AEB, SB in term of total income followed by MB, ADCB and BOTM. ADCB, Bank of Bahrain has secured top positions in respect of risk-aversion capacity.

Period cover from 2010-11 to 2014-15, ADCB has obtained top position in respect of interest followed by BOB and Sonali Bank. American Express, Sonali Bank has performed well in term of sensitive to market risk performance. On basis of parameter performance, Bank of Bahrain and HSBC has secured first and second rank.

In addition to this, significant difference was noticed among foreign banks during 1990-91 to 1999-2000 in term of income (interest) out of total income & total income out of total assets from 2000-01 to 2009-10. There was no any difference

was proved statistical on part of interest income/total income during 2010-11 to 2014-15.

8.1.2.7 Decade-Wise CAMELS MODEL Composite Rank of Foreign Banks in India

During 1990-91 to 1999-2000, BOB has occupied place first, Bank of America (second), Oman (third), HSBC (fourth), Sonali Bank (fifth). Moreover, in this period, MB, SB & Bank of Nova Scotia has positioned at 12^{th}, 13^{th} & 14^{th} place.

During 2000-01 to 2009-10, SCB has placed at first, HSBC (second), Bank of Bahrain (third), ADCB (fourth), CitiBank at (fifth), AEB & BNS at 6.50 (average of 6^{th} & 7^{th}), Bank of Tokyo at 8th rank and same rank 10 (average of 9^{th}, 10^{th} & 11^{th}) was occupied by MB, OIB, & Deutsche Bank, 12^{th} rank positioned by Bank of America, and Sonali Bank and Standard Chartered Bank were rank to 13^{th} & 14^{th}.

It was examined that model parameters & sub-parameters average performance from 2010-11 to 2014-15, Bank of Bahrain has occupied first, CitiBank (second), HSBC (third), 4.50 (average of 4^{th} & 5^{th}) was secured by ADCB & SCB, DB at (sixth), BNS (7^{th}). Moreover, positions from 8^{th} to 14^{th} was positioned by BOTM, SB, Bank of America, SG, Mashreq Bank, Oman and American Express Bank.

The results of study have authenticated that decadal composite performance of sample foreign banks from 1990-91 to 2014-15 (25 years) CitiBank from U.S.A has significant improved lowest rank from (6.50) to highest (2), ADCB from U.A.E enhanced it place from 10.50 to 4.50. Moreover, other selected foreign banks from different nations has obtained overall stability e.g. HSBC from 1^{st}, 2^{nd} & 3^{rd} position during 1990-91 to 2014-15.

Bank of Tokyo from Japan placed from 12^{th} to 8^{th} during whole research. Some sample foreign banks have lost their position e.g. Oman (Muscat) from 8.50 to 13^{th} place & AEB from 8.50 to 14^{th} rank, Societe Generale from 4^{th} to 11 at CAMELS model six parameters and 12 sub-parameters. Scheduled banks (foreign) from various economies has minor improved their position like Sonali Bank from 14 to 9, Mashreq Bank from U.A.E has achieved position to 13^{th} from 12^{th}.

It is suggested that to attain more adequacy of capital scheduled foreign banks should gear its internal/external capital to that extent, which further help to earn more return on equity. To enhance more creditability of assets, they should produce more interest income from their banking operations and timely meet their unexpected demand deposits of depositors for efficient and qualitative managerial profitable position. Besides foreign banks should invest their idle money into productive and maximum earning investment.

8.1.3 Relative Efficiency of Foreign Banks' in India

DEA technique compares all resources used and provided by service units, identify most efficient units or best practice units (branches, departments, individuals) and inefficient units in which real efficiency improvements are possible. This is achieved by comparing mix and volume of services provided and resources used by each unit compared with those of all other units. The development of banking system and increase of its efficiency are related to higher economic growth. Therefore, understanding determinants of bank efficiency is helpful for design of better management strategies and public policies (Staub et al, 2010).

Efficiency can be simply expressed as ratio of output to input. More output per unit of input defined as relatively greater efficiency. Further, if greatest possible output of input per unit obtained, a state of absolute or optimum efficiency has been accomplished. It is elaborated that it is not possible to become more efficient without new technology or other changes such as production process. The optimum and effective utilization of scarce resources in this era of competitiveness is ultimately lead to progression and sustainability of economy.

The development of banking system and increase of its efficiency are related to higher economic growth. Therefore, understanding determinants of bank efficiency is helpful for the design of better management strategies and public policies (Staub et al, 2010). Higher interest expenses imply in a relative larger utilization of purchased funds. An efficient bank is able to use fewer inputs and produce more outputs. If a bank has small efficiency then one can suggest that changing the mix of its inputs usage and it could increase its output (Staub et al, 2010). Under the intermediation approach banks function as financial intermediaries converting and

transferring financial assets between surplus and deficit units (Staub et al, 2010). In this study, employ intermediation approach to measure foreign banks efficiency.

In this detailed study since 1991 till 2015, measured relative efficiency of selected foreign banks with interest and non-interest (expenses & income). It was observed that period from 1990-91 to 1999-2000, ADCB from U.A.E; Bank of Bahrain from Bahrain, and Bank of Tokyo from Japan, Oman from Muscat were marked their scale efficiency high among other foreign banks in India. In year 1992 and 1993 more banks were count as efficient as BNS (Canada), Societe Generale from France, Sonali Bank from Bangladesh.

In India, period from 1993-94 to 1995-96 CitiBank from U.S.A continuous found scale efficient high as compare to other studied banks (foreign) in aspect of scarce resources utilization. During 1996-97 to 1999-2000 foreign banks from U.A.E (ADCB, MB), Japan (BOTM), Muscat (OIB), Bangladesh (SB), United Kingdom (SG) were noticed most efficient. It was inferred that Abu-Dhabi from (U.A.E) during 2000-01 to 2009-10, except 2004-05, 2006-07 was found most relative efficient bank in respect of productive outputs (income-interest & non-interest) from selected inputs (expenses-non-interest & interest).

Besides, Bank of Nova Scotia in 2001, 2008, 2010, Oman international in 2005, 2008, Mashreq Bank during 2004-05 to 2007-08, BOTM in 2008 & 2009 and Bank of Bahrain, SG, Sonali Bank has marked their scale efficiency high in these particular years of research. Research from 2010-11 to 2014-15, foreign banks from U.A.E (Abu-Dhabi) has marked its resource utilization capacity at peak level among selected banks in India. In 2014-15 MB from (U.A.E), in 2011 Canadian Bank (BNS) were noticed more efficient as compare to their fellow studied banks.

It was concrete found from projection summary about peers count that indicated number of times an efficient decision-making unit acts as reference set for inefficient firms. It was found that throughout research maximum times referred as reference set was ADCB (U.A.E) for inefficient studied scheduled foreign banks in 2000, 2001, 2002, 2003, 2004, 2006, 2012, 2013, 2014 & 2015.

For inefficient firms in 1991, 1993, 2001, 2006, 2007, 2010, 2011 Bank of Nova Scotia (Canada) referred as reference set, Bank of Bahrain in 1992, 1993 and Oman in 1994, 1995, 1996. Moreover, Bank of America was considered as reference set

from 1997-99, Societe Generale in 1997, 2008, SCB from U.K. in 2005, 2006 & CitiBank from U.S.A in 2002.

8.1.4 Summary of Foreign Banks Contribution Target in India

In India, Foreign Contribution (Regulation) Act, 2010: In 1976, Government of India enacted the FCRA-Foreign Contribution Regulation Act; regulate the acceptance of hospitality and receipt of foreign contribution by various entities. Over the decades, deficiencies were noticed in the existing act, so accordingly government enacted new foreign contribution (regulation) act, 2010. On May 1, 2011 foreign contribution (regulation) rules act, 2011 formed there under (FCRA, 2010), and banks were decided to ensure compliance with adequate provisions of FCRA, 2010 through guidance under section 36(1) of BRA, 1949. Priority Sector Lending: As guidelines of Reserve Bank of India-banks are require to lend at least 40 percent of ANBC-Adjusted Net Bank Credit or CEOBSE (credit equivalent-amount of off-balance sheet exposure, whichever is higher.

On the part of foreign banks, the directed target for priority sector advances 32 percent of CEOBSE or ANBC. Besides to these, overall priority sector advances limits, Reserve Bank set certain limits for sub-sector within PSL-priority sector lending such as agriculture, export credit & SSI-small scale industries. In this study, evaluated contribution to priority sector as (i) TPSL-Total priority sector advances, (ii) Export Credit, and (iii) Small-Scale Industries. It was investigated from research that foreign banks from different economies has contributed to priority sector as per recommended by Reserve Bank of India. However, they have demonstrated variation in financing of prioritise sectors.

8.2 CONCLUSION

These findings add to a growing body of literature on foreign banks performance, efficiency, contribution and various trends in India. Foreign banks were performed more efficient in resource utilisation capacity, enhanced degree of competition in positive sense and update their technologies in imparting services and products. The fact that these banks have functioned and flourished in India for so long is testimony to the fact that they have successfully met the challenges posed by the Indian

banking environment. However, today's environment is very different; foreign banks who are looking to enter the Indian market have to face a number of tough and unique challenges. Despite the numerous barriers, foreign banks are keen to set up shop in India, and analyse Reserve Bank of India's (RBI) regulations and guidelines concerning foreign banks. Hence to sum up, performance of scheduled foreign banks cannot be underestimated, albeit it needs to extend a more encouraging and outstanding support to process of economic recovery to prove its efficiency vibrantly ensuring greater sustainability and growth.

8.3 CONTRIBUTION OF THE STUDY

(a) Academic Literature: The study has contributed to academic literature in several aspects as by comparing the performance, assessed relative efficiency of scheduled foreign banks from different nations (developing & developed)-individually since 1991. During research, examined past and projected trends of foreign banks' earnings, presence and banking business of banks from other jurisdictions to Indian Banking industry since 1991 till 2030. The result presented in this thesis is very prominent for development and growth of financial regulation, managers of banks, stakeholders and for strategic formulation of policies and plans. Moreover, useful for improving performance of bank organization. Enables branch managers to clearly identify the weaknesses and strengths in their operations.

(b) Practical Perspective: From a practical perspective, this analysis will be useful for bank management. It was decided to start planning an implementation phase. The results were considered a powerful tool to complement. The different kind of methodologies were applied in this study has potential to provide crucial information about banks' financial, operational and managerial performance, effectiveness in utilization of resources, attitude in terms of banking business, various incomes and presence for benefit of bank regulators, managers and bank stock investors and policy makers not in India but at global level.

From above wider foreign banks' (from different nations) performance, position, efficiency and contribution suggested that India should always welcome them with warm greetings, provide as soft as rational & achievable regulatory targets. This type of attitude towards FBs by Indian regulatory authorities will ultimately enhance domestic counterparts (scheduled commercial public, private) efficiency, performance, stability and competition.

(c) For Banking Industry and Financial Sector Regulatory: availability of trends, performance, efficiency, entry and exit data of scheduled commercial foreign banks on basis of selected parameters since 1991 which help to regulatory in formulation of policies and plans for foreign banks to Indian economy. Moreover, information available regarding managerial, financial & operational position of foreign banks from developed & developing economies which will further help to international financial regulatory bodies, stock-holders, FIIs and individual investors and provide competitive advantage for Indian Scheduled Commercial Banks.

(d) Ministry of Finance: ready data available for scale efficiency in term of its utilized resources for conversion from inefficient to efficient and recommended for banking re-structure, for design better management strategies and policies. Moreover, this exhaustive research on scheduled foreign banks in India further help Ministry of Finance to scrutinize regarding their future incomes, business operations and geographical expansion in India.

(e) For Government of India and Banking Regulatory: overall information available for contribution of foreign banks (group-wise) on basis of selected parameters as per stipulated standards & norms prescribed by Reserve Bank. Further, this study will give an idea how and where foreign banks contribution towards Indian Banking Industry can enhance within stipulated norms and procedures.

8.4 FURTHER SCOPE OF THE STUDY

As this research analysed trends, performance, efficiency and contribution of foreign banks in India since 1991, further detailed study could be carried out in order to

identify causes that resulted in to favour and against. Future studies should explore further issues, for example, more detailed research for selecting appropriate variables of inputs and outputs and comparisons between them. Prospective researchers can conduct various kind of research on performance of foreign banks with this globally accepted CAMELS framework on basis of comparative, single with both external and internal factors.

The study recommended gives an opportunity for others to use other kind of financial, managerial and operational to assess the performance as per time slots on different type of scheduled commercial banks. Moreover, with various kind of inputs and outputs mix, future research can carry to check foreign commercial bank's efficiencies e.g. profit, revenue, technical and operational in India and their contribution to Indian economy in respect of service and other sectors as per new government amendments.

REFERENCES

Aarma, A. and Dubauskas, G. 2011, 'The Foreign Commercial Banks in Baltic States: Aspects of Financial Crisis Internationalization', *European Journal of Business and Economics*, Vol. 5, pp. 1-7.

Acharya, S. P. 2013, 'Evaluation of Performance of Women Urban Co-Operative Banks in Bangalore District: An Application of CAMEL Approach', Available at http://dx.doi.org/10.2139/ ssrn.2307262.

Achim, S.A. 2015, 'Recent Trends in the Study of Mergers and Acquisitions', *Finance*, Vol. 1, No. 18, pp. 123-133. Available at DOI: 10.15240/tul/ 001/2015-1-010.

Aftab, N., Samad, N. and Husain, T. 2015, 'Historical Analysis of Bank Profitability Using CAMEL Parameters: Role of Ownership and Political Regimes in Pakistan', *International Journal of Economics and Finance,* Vol. 7, No. 2, pp. 144-149. Available at www.ccsenet.org/ijef.

Akter, R., Ahmad, S. and Islam, M.S. 2018, 'CAMELS Model Application of Non-Bank Financial Institution: Bangladesh Perspective', *Academy of Accounting and Financial Studies Journal,* Vol. 22, No. 1, pp. 1-10.

Alber, N. 2014, 'The Effects of banking regulation on asset quality: a panel analysis', *International Business Research,* Vol. 7, No. 7, pp.164-170. Available at www.ccsenet.org/ibr.

Alkhathlan, K. A. and Malik, S. A. 2010, 'Are Saudi Banks Efficient? Evidence using Data Envelopment Analysis (DEA)', *International Journal of Economics and Finance,* Vol .2, No.2, pp.53-59. Available at www.ccsenet.org/ijef.

Altan, M., Yusufazari, H. and Bedük, A. 2014, 'Performance Analysis of Banks in Turkey using CAMEL Approach', 14th International Academic Conference, Malta. Available at http://proceedings.iises.net/index.php?action= proceedings Index Conference& id=9.

Ally, Z. 2013, 'Comparative analysis of financial performance of commercial banks in Tanzania', *Research Journal of Finance and Accounting,* Vol.4, No. 19, pp.133-143.

Altunbas, Y., Evans, L. and Molyneux, P. 2001, 'Banks Ownership and Efficiency', *Journal of Money, Credit and Banking,* Vol. 33, No. 4, pp. 926-954.

Arora, D. and Agarwal, R. 2009, 'Banking Risk management in India and RBI supervision', Available at http://dx.doi.org/10.2139/ssrn.1446264.

Athanassopoulos, A. D. and Giokas, D. 2000, 'The Use of Data Envelopment Analysis in Banking Institutions: Evidence from the Commercial Bank of Greece', *Interfaces*, Vol. 30, No.2, pp. 81-95.

Ataullah, A., Cockerill, T. and Le, H. 2004, 'Financial liberalization and bank efficiency: a comparative analysis of India and Pakistan', *Applied Economics,* Vol. 36, No.17, pp. 1915-1924, Available at DOI: 10.1080/00036840420006863.

Avkiran, N. K. 2006, 'Developing foreign bank efficiency models for DEA grounded in finance theory', *Socio-Economic Planning Sciences,* Vol. 40, No.4, pp. 275-296.

Ayyappan, S. and Sakthivadivel, M. 2012, 'Growth and Trend Analysis of Key Profitability Factors in Indian Scheduled Commercial Banks', *Paripex-Indian Journal of Research,* Vol. 1, No.9, pp. 149-151.

Bansal, R. and Mohanty, A. 2013, 'A Study on Financial Performance of Commercial Banks in India: Application of CAMEL Model', *Al-Barkaat Journal of Finance and Management,* Vol. 5, No. 2, pp. 60-79, Available at www.IndianJournals.com.

Baral, K. J. 2005, 'Health check-up of commercial banks in the framework of CAMEL: A case study of joint venture banks in Nepal', *Journal of Nepalese Business Studies,* Vol 2, No. 1, pp. 41-55.

Baral, S. K. 2015, 'Deposits, Loans and Recovery Performance of Commercial Banks: A Comparative Study', *International Journal of Applied Financial Management Perspective,* Vol. 4, No.1, pp.1500-1508.

Barr, R. S., Killgo, K. A., Siems, T. F. and Zimmel, S. 1999, 'Evaluating the Productive efficiency and performance of US commercial banks', *Managerial Finance,* Vol.28, No.8, pp. 3-25.

Berger, A. N. and Humphrey, D. A. 1997, 'Efficiency of Financial Institutions: International Surveys and Directions for Future Research', *European Journal of Operational Research,* Vol. 98, pp.175-212.

Berger, A. N., Hasan, I. and Zhou, M. 2009, 'Bank ownership and efficiency in China: What will happen in the world's largest nation', *Journal of Banking and Finance,* Vol, 33, No. (1), pp.113-130.

Bhattacharyya, A., Lovell, C. K. and Sahay, P. 1997, 'The impact of liberalization on the productive efficiency of Indian commercial banks', *European Journal of operational research,* Vol.98, No.2, pp.332-345.

Bhide, M.G., Prasad, A. and Ghosh, S. 2002, 'Banking sector Reforms: A critical Overview', *Economic and Political Weekly*, Vol.37, No.5, pp. 399-408. Available at http://www.jstor.org /stable/4411685.

Bonin, J. P., Hasan, I. and Wachtel, P. 2005, 'Bank performance, efficiency and ownership in transition countries', *Journal of Banking and Finance,* Vol. 29, No. 1, pp. 31-53, Available at Doi:10.1016/j. jbankfin.2004.06.015.

Branch Banking Statistics (RBI) (2009) Available at https://rbi.org.in/Scripts/ AnnualPublications.aspx?head=Branch%20Banking%20Statistics.

Brauers, W. K. M., Ginevičius, R. and Podviezko, A. 2014, 'Development of a methodology of evaluation of financial stability of commercial banks', *Panoeconomicus,* Vol. 61, No.3, pp. 349-367, Available at DOI: 10.2298/PAN1403349B.

Camanho, A. S. and Dyson, R. G. 2005, 'Cost Efficiency measurement with Price Uncertainty: A DEA Application to bank branch Assessments', *European Journal of Operational Research,* Vol. 161, No. 2, pp. 432-446. Available at https://doi.org/ 10.1016/ j.ejor.2003.07.018.

Camanho, A. S. and Dyson, R. G. 1999, 'Efficiency, Size, Benchmarks and Targets for Bank Branches: An Application of Data Envelopment Analysis', *The Journal of Operational Research Society,* Vol. 50, No. 9, pp.903-915.

Charvaka, 1993, 'Foreign Banks in India: The New 'Drain', *Economic and Political Weekly,* Vol. 28, No.5, pp. 155-157. Available at http://www.jstor.org/ stable/4399332

Chandani, A., Mehta, M. and Chandrasekaran, K. B. 2014, 'A Working Paper on the Impact of Gender of Leader on the Financial Performance of the Bank: A Case of ICICI Bank', *Procedia Economics and Finance,* Vol. 11, pp. 459-471. Available at www.sciencedirect.com.

Chandani, A., Mehta, M. and Neeraja, B. 2013, 'Women CEOs and financial performance of banks: An Empirical research of Indian private sector banks', *Management: Journal of Contemporary Management Issues,* Vol. 19, No. 1, pp. 231-246.

Chandani, A., and Mehta, M., 2014, 'Women CEOs and Financial Performance of Banks: An Empirical Research of Indian Private Sector Banks', *Central and Eastern European Online Library,* Vol. 19, No. 1, pp. 231-246.

Chandhoke, N. 1983, 'Role of Foreign Banks', *Economic and Political Weekly,* Vol. 18, No. 12, pp. 433-434. Available at http://www.jstor.org/stable/ 4371980.

Chen, Y., Larbani, M. and Chang, Y.P. 2009, 'Multiobjective Data Envelopment Analysis', *The journal of the Operational Research Society,* Vol. 60, No.11, pp.1556-1566.

Chen, X., Skully, M. and Brown, K. 2005, 'Banking efficiency in China: Application of DEA to pre-and post-deregulation eras: 1993–2000', *China Economic Review,* Vol. 16, No. 3, pp.229-245.

Chen, S. H. and Liao, C. C. 2011, 'Are foreign banks more profitable than domestic banks? home and host-country effects of banking market structure, governance, and supervision', *Journal of Banking and Finance,* Vol.35, No. 4, pp. 819-839.

Chowdhury, T. A. and Ahmed, K. 2009, 'Performance evaluation of selected private commercial banks in Bangladesh', *International Journal of Business and Management,* Vol. 4, No. 4, pp.86-90.

Clarke, G., Cull, R., Peria, M. S. M. and Sanchez, S. M. 2003, 'Foreign banks entry: experience, implications for developing economies, and agenda for further research', *The World Bank Research Observer,* Vol. 18, No. 1, pp.25-59. Available at http://www.jstor.org/ stable /3986423.

Claessens, S., Demirgüç-Kunt, A. and Huizinga, H. 2001, 'How does foreign entry affect domestic banking markets?', *Journal of Banking and Finance,* Vol. 25, No. 5, pp. 891-911.

Claessens, S. and Laeven, L. 2004, 'What drives bank competition? Some International Evidence', *Journal of Money, Credit and Banking,* Vol. 36, No. 3, pp.563-583. Available at http://www.jstor.org/stable/3838954.

Claessens, S. and Horen, N.V. 2014, 'Foreign Banks: Trends and Impact', *Journal of Money, Credit and Banking,* Vol. 46, No. 1, pp. 295-326. Available at DOI: 10.1111/jmcb.12092.

Cole, R. A. and White, L. J. 2012, 'Déjà Vu all over again: The causes of US commercial bank failures this time around', *Journal of Financial Services Research,* Vol. 42, No. (1-2), pp. 5-29.

Crystal, J. S., Dages, B. G. and Goldberg, L. S. 2002, 'Has foreign bank entry led to sounder banks in Latin America?', *Current Issues in Economics and Finance,* Vol. 8, No. 1, pp. 1-6.

Daly, K. and Zhang, X. 2014, 'Comparative Analysis of the Performance of Chinese Owned Banks' in Hongkong 2004-10', *Journal of Multinational Financial Management,* Vol. 27, pp. 1-10. Available at http://dx.doi.org/ 10.1016/j. mulfin. 2014.06.006.

Das, A., Nag, A., and Ray, S.C. 2005, 'Liberalization, ownership and Efficiency in Indian Banking: A Nonparametric Analysis', *Economic and Political Weekly,* Vol. 40, No. 12, pp.1190-1197.

Dash, M. and Das, A. 2013, 'Performance appraisal of Indian Banks using CAMELS rating', *The IUP Journal of Bank management,* Vol. 12, No. 2, pp.31-42.

Datey, R. and Tiwari, K. 2015, 'Risk Analysis tool for Banking - CAMELS Rating System', *South Asia Journal of Multidisciplinary Studies,* Vol. 1, No. 10, pp. 58-72. Available at http://www.gjms.co.in/index.php/sajms.

De Haas, R. and Van Lelyveld, I. 2006, 'Foreign banks and credit stability in Central and Eastern Europe: A panel data analysis', *Journal of Banking and Finance,* Vol.30, No.7, pp. 1927-1952. Available at Doi:10.1016/j. jbankfin.2005.07.007.

De, P. K. 2004, 'Technical efficiency, ownership, and reforms: An econometric study of Indian banking industry', *Indian Economic Review,* Vol. 39, No. 1, pp.261-294.

Derviz, A. and Podpiera, J. 2008, 'Predicting bank CAMELS and S&P Ratings: the case of the Czech Republic', *Emerging Markets Finance and Trade,* Vol. 44, No. 1, pp.117-130. Available at http://www.jstor.org/stable/27750590.

Detragiache, E., Tressel, T. and Gupta, P. 2008, 'Foreign banks in poor countries: theory and evidence', *The Journal of Finance,* Vol.63, No.5, pp.2123-2160.

Dyson, R. G. and Shale, E.A. 2010, 'Data Envelopment Analysis, Operational Research and Uncertainty', *The Journal of Operational Research Society,* Vol. 61, No.1, pp. 25-34.

Elsinger, H., Lehar, A. and Summer, M. 2006, 'Risk Assessment for banking systems', *Management science,* Vol. 52, No. 9, pp.1301-1314.

Emrouznejad, A. and Anouze, A. L. 2009, 'A Note on modelling the efficiency of top Arab banks', *Expert Systems with Applications,* Vol. 36, No. 3, pp. 5741-5744.

Ennis H.M., 2004, 'Some Recent trends in Commercial Banks', *Federal Reserve Bank of Richmond Economic Quarterly,* Vol. 90, No. 2, pp.41-61. Available at http:// ssrn.com/ abstract=2185007.

Eriksson, K., Johanson, J., Majkgard, A. and Sharma, D. D. 2000, 'Effect of Variation on knowledge accumulation in the Internationalization Process', *International Studies of Management and Organization,* Vol. 30, No. 1, pp. 26-44, http://www.jstor.org/ stable/ 40397467.

Ferrouhi, E. M. 2014, 'Moroccan banks analysis using CAMEL model', *International Journal of Economics and Financial Issues,* Vol. 4 (3), pp. 622-627, www.econjournals.com,

Figueira, C., Nellis, J. G. and Parker, D. 2006, 'Does ownership affect the efficiency of African banks?', *The Journal of Developing Areas,* Vol.40, No. 1, pp. 37-62.

Focarelli, D. and Pozzolo, A. F. 2005, 'Where Do Banks Expand Abroad? An Empirical Analysis', *The Journal of Business,* Vol. 78, No. 6, pp. 2435-2464, Available at http:// www.jstor.org/ stable /10.1086/497052.

Foreign Banks in India (Report of PWC), 2013 Available at https://www.pwc.in/ assets/pdfs/publications/2013/foreign-banks-in india.pdf.

Gasbarro, D., Sadguna, I. G. M. and Zumwalt, J. K. 2002, 'The changing relationship between CAMEL ratings and bank soundness during the Indonesian banking crisis', *Review of Quantitative Finance and Accounting,* Vol. 19, No. 3, pp.247-260.

Ghazavi, M. and Bayraktar, S. 2018, 'Performance Analysis of Banks in Turkey Using Camels Approach Case Study: Six Turkish Banks During 2005 To 2016', *Journal of Business Research Turk,* Vol.10, No. 2, pp.847-874.

Ghosh, I. and Rakshit, D. 2014, 'The Financial Performance of select commercial banks in India using Camel approach', *The MA Journal,* Vol. 49, No.1, pp.40-45.

Ghosh, S., Nachane, D.M. and Partha, R. 2004, 'Behaviour of Bank Capital: Issues and Evidence from India', *Economic and Political Weekly*, Vol. 39, No. 12, pp. 1291-1298. Available at http://www.jstor.org/stable/4414808.

Guan, F., Liu, C., Xie, F. and Chen, H. 2019, 'Evaluation of the Competitiveness of China's Commercial Banks Based on the G-CAMELS Evaluation System', *Sustainability*, Vol. 11, pp-1-24. Available at DOI: 10.3390/ su11061791.

Gupta, R. 2014, 'An analysis of Indian public sector banks using CAMEL approach', *IOSR Journal of Business and Management*, Vol. 16, No. 1, pp. 94-102. Available at www.iosrjournals.org,

Haber, S., Musacchio, A. and Rojas-Suarez, L. 2012, 'Foreign entry and the Mexican banking system, 1997-2007 [with Comments]', *Economía*, Vol. 13, No. 1, pp.13-37. Available at http://www.jstor.org/stable/41756781.

Havrylchyk, O. and Jurzyk, E. 2011, 'Profitability of foreign banks in Central and Eastern Europe', *Economics of Transition*, Vol.19, No. 3, pp. 443-472.

Havrylchyk, O., 2006, 'Efficiency of the Polish Banking industry: Foreign versus Domestic banks', *Journal of Banking and Finance*, Vol. 30, No. 7, pp. 1975-1996.

Haque, A. 2014, 'Comparison of Financial Performance of Commercial Banks: A Case Study in the Context of India (2009-2013)', *Journal of Finance*, Vol. 2, No.2, pp. 01-14.

Hermes, N. and Nhung, V.T.H. 2008, 'The Impact of Financial Liberalization on Bank Efficiency: Evidence from Latin America and Asia', *Applied Economics, Taylor and Francis (Routledge)*, Vol. 42, No. 26, pp. 3351-3388.

Ibrahim, M. 2014, 'A comparative performance of two banks in United Arab Emirates', *Research Journal of Finance and Accounting*, Vol.5, No. 21, pp. 24-29.

Ibrahim, M. S. and Thangavelu, R. 2014 b, 'A Study on the Composition of Non-Performing Assets (NPAs) of Scheduled Commercial Banks in India', *Journal of Finance*, Vol. 2, No.1, pp. 31-48.

Ibrahim, M. S. 2011, 'Operational Performance of Indian Scheduled Commercial Banks-An Analysis', *International Journal of Business and Management,* Vol. 6, No.5, pp.120-129, Available at DOI:10.5539/ijbm. v6n5p120.

Jemric, I., and Vujcic, B. 2002, 'Efficiency of banks in Croatia: A DEA approach', *Comparative Economic Studies,* Vol. 44, No. 2-3, pp.169-193.

Jeon, B. N., Olivero, M. P. and Wu, J. 2011, 'Do foreign banks increase competition? Evidence from emerging Asian and Latin American banking markets', *Journal of Banking and Finance,* Vol.35, No. 4, pp.856-875.

Jha, S. and Hui, X. 2012, 'A Comparison of Financial Performance of Commercial Banks: A Case Study of Nepal', *African Journal of Business Management,* Vol. 6, No. 25, pp. 7601-7611. Available at DOI: 10.5897/AJBM11.3073, ISSN 1993-8233.

Johanson, J. and Vahlne, J. E. 1977, 'The Internationalization Process of the Firm-A Model of Knowledge Development and Increasing Foreign Markets Commitments', *Journal of International Business Studies,* Vol.8, No. 1, pp.23-32.

Joseph, A.L. 2014, 'A Study on Analyzing the Trend of NPA level in Private Sector Banks and Public Sector Banks', *International Journal of Scientific and Research Publication*s, Vol. 4, No. 7, pp. 1-9.

Joseph, M. and Nitsure, R.R. 2002, 'WTO and Indian Banking Sector: The Road Ahead', *Economic and Political Weekly,* Vol. 37, No. 24, pp. 2315-2322. Available at http://www.jstor.org / stable /4412242.

Kamaruddin, B. H. and Mohd, R. 2013, 'Camel Analysis of Islamic banking and conventional banking in Malaysia', *Business and Management Quarterly Review,* Vol. 4, No. (3&4), pp.81-89.

Karri, H. K., Meghani, K., and Mishra, B. M. 2015, 'A Comparative Study on Financial Performance of Public Sector Banks in India: An Analysis on Camel Model', *Arabian Journal of Business and Management Review,* Vol. 4, No. 8, pp. 18-34. Available at http://mpra.ub.uni-muenchen.de/62844/.

Karthikeyan, P. and Shangari, B. 2014, 'Calibrating financial soundness among selected Private sector banks in India by using CAMEL model', *International Journal of Management Research and Review,* Vol. 4, No. 4, pp. 449-454. Available at www.ijmrr.com.

Karunagaran, A. 2006, 'Foreign Banks in Historical Perspective', *Economic and Political Weekly,* Vol. 41, No. 11, pp. 1087-1094. Available at http://www.jstor.org/stable/4417974.

Kaur, H. V. 2010, 'Analysis of Banks in India-A CAMEL Approach', *Global Business Review,* Vol. 11, No. 2, pp. 257-280. Available at DOI: 10.1177/097215091001100209 or http://gbr.sagepub.com.

Kaur, J. and Silony, S. 2011, 'Performance review of Commercial banks in India with special reference to Priority Sector Lending', *International Journal of Multidisciplinary Research,* Vol. 1, No. 1, pp. 47-61.

Keshari, P. K. and Paul, M. T. 1994, 'Relative efficiency of foreign and domestic banks', *Economic and Political Weekly,* Vol. 29, No. 9, pp. M31-M36.

Khatik, S. K. and Nag, A. K. 2014, 'Analysing Soundness of Nationalized Banks in India: A CAMEL Approach', *Applied Studies in Agribusiness and Commerce,* Vol. 8, No. 1, pp.73-78.

Khatik, S. K. and Nag, A. K. 2015, 'Performance Measurement System in Indian Banking sector in CAMEL framework: A Comparative Study of Private and Foreign Banks in India', *Delhi Business Review,* Vol. 16, No.1, pp. 75-85.

Khezrimotlagh, J., Zhu, J., Cook, W.D. and Toloo, M. 2018, 'Data Envelopment Analysis and Big Data', *European Journal of Operational Research,* Available at DOI: https://doi.org/10.1016/j.ejor.2018.10.044.

Kosmidou, K., Pasiouras, F., Doumpos, M. and Zopounidis, C. 2004, 'Foreign versus domestic banks' performance in the UK: a Multicriteria Approach', *Computational Management Science,* Vol.1, No. (3-4), pp. 329-343. Available at DOI: 10.1007/s10287-004-0019-4.

Kumar, M. A., Harsha, G. S., Anand, S. and Dhruva, N. R. 2012, 'Analysing Soundness in Indian Banking: A CAMEL Approach', *Research Journal of Management Sciences,* Vol. 1, No. 13, pp. 9-14. Available at www.isca.in.

Kumar, S. and Sharma, R. 2014, 'Performance analysis of top Indian Banks through camel approach' *International Journal of Advanced Research in Management and Social Sciences,* Vol. 3, No. 7, pp.81-92.

Kumar, M., Batra, N. and Deisting, F. 2016, 'Determinants of Priority Sector Lending: Evidence from Bank Lending Patterns in India', *The International Journal of Business and Finance Research,* Vol.10 No.2, pp. 55-80. Available at www.theIBFR.com.

Kurup, N. P. 1993, 'Foreign Banks and Indian Banking System', *Economic and Political Weekly,* Vol. 28, No. (12/13), pp.539-540.

Lakshmi, T.V. and Reddy, M.S. 2016, 'Priority Sector Advances and Its Share in Development of Weaker Sections by Scheduled Commercial Banks in India', *IJLTEMAS,* Vol. 5, No. 3, pp. 63-65. Available at www.ijltemas.in.

Langrin, R. B. 2005, 'The Role of Foreign Banks in the Recent Jamaican Financial Crisis', *Social and Economic Studies,* Vol. 54, No. 1, pp.1-42. Available at http://www.jstor.org/ stable/27866403.

Lensink, R. and Hermes, N. 2004, 'The short-term effects of foreign bank entry on domestic bank behaviour: Does economic development matter?', *Journal of Banking and Finance,* Vol. 28, No. 3, pp. 553-568. Available at DOI: 10.1016/S0378-4266(02)00393-X.

Lin, H. 2011, 'Foreign Bank Entry and Firms' access to bank Credit: Evidence from China', *Journal of Banking and Finance,* Vol. 35, No. 4, pp. 1000-1010.

Lien-Wen, L. and Altankhuyag, D. 2019, 'Impact of Banking Supervision on the Cost-Efficiency of Bank: A Study of Five Developing Asian Countries', *Asian economic and Financial Review,* Vol. 9, No. 2, pp. 213-23. Available at DOI: 10.18488/journal.aefr. 2019.92.213.231.

Luo, X. 2003, 'Evaluating the Profitability and Marketability efficiency of large Banks: An Application of Data Envelopment Analysis', *Journal of Business Research,* Vol. 56, No.8, pp.627-635.

Malhotra, N. and Hinings, B. 2010, 'An Organizational Model for Understanding Internationalization Processes', *Journal of International Business Studies,* Vol. 41, No. 2, pp. 330-349.

Manjushree, S. and Giridhar, K.V. 2018, 'Priority Sector Lending-A Challenges to Public Sector Banks', *International Journal for Research in Business, Management and Accounting,* Vol. 4, No. 1, pp.07-15.

Mariappan, P., Lakshmi, S. and Sreeaarthi, G. 2013, 'A Study on Performance Efficiency of Nationalized Banks of India: A DEA Approach', *Handbook on the Economic, Finance and Management Outlooks,* pp.120-133.

Mamun, A. 2013, 'Performance Evaluation of Prime Bank Limited in the terms of Capital Adequacy', *Global Journal of Management and Business Research,* Vol.13, No. 9, pp.14-17.

Manoj, P. K. 2010, 'Financial Soundness of Old Private Sector Banks (OPBs) in India and Benchmarking the Kerala based OPBs: a 'CAMEL'approach', *American Journal of Scientific Research,* Vol.11, pp.132-149. Available at http://www.eurojournals.com/ajsr. htm.

Manlagnit, M. C. V. 2011, 'The Economic effects of Foreign Bank presence: Evidence from the Philippines', *Journal of International Money and Finance,* Vol. 30, No. 6, pp. 1180-1194.

Matthews, K. 2013, 'Risk Management and Managerial Efficiency in Chinese Banks: A Network DEA Framework', *Omega,* Vol. 41, No. 2, pp. 207-215.

Mercan, M., Reisman, A., Yolalan, R. and Emel, A. B. 2003, 'The Effect of Scale and Mode of Ownership on the Financial Performance of the Turkish Banking Sector: Results of a DEA-based analysis', *Socio-Economic Planning Sciences,* Vol. 37, No.3, pp. 185-202.

Mishra, S. and Agarwal, K. 2013, 'Measuring Performance of Banks Using CAMELS Model: A Comparative Study of CBI and IB', *International Journal of Management Research and Reviews,* Vol. 3, No. 5, pp. 2914. Available at www.ijmrr.com.

Mishra, K. S. and Aspal, K. P. 2013, 'A CAMEL Model analysis of State Bank Group', *World Journal of Social Sciences,* Vol. 3, No. 4, pp.36-55.

Mohan, T. R. 2008, 'Is It Time to Open Up to Foreign Banks?', *Economic and Political Weekly,* Vol. 43, No. 28, pp.12-14.

Mohan, R. and Ray, P. 2016, 'Indian Financial Sector: Structure, Trends, and Turns', Working Paper No. 580, Stanford Center for International Development.

Mostafa, M. M. 2009, 'Modeling the efficiency of top Arab banks: A DEA–neural network approach', *Expert Systems with Applications,* Vol. 36, No. 1, pp.309-320.

Moudud-Ul-Huq, S. 2017, 'Performance of Banking Industry in Bangladesh: Insights of CAMEL Rating', *International Journal of Financial Engineering,* Vol. 4, No. 2, pp. 1-15. Available at DOI: 10.1142/S2424786317500062.

Mukesh, R. 2013, 'New Economic Policy and Priority Sector Lending', *Eco Sentiments Journals,* Vol.1 No.1, pp. 27-32.

Narasimhan, P. and Venkatesh, K.A. 2019, 'Two Stage Efficiency Analysis of Indian Public and Private Sector Banks in the Context of OBS', *Journal of Management,* Vol. 10, No.1, pp.43-53, Available at DOI:10.18311/sdmimd/ 2019/23184.

Naruka, P. and Yadav, M. 2017, 'Priority sector lending: Genesis, developments and trade off with bank's profitability', *International Journal of Advanced Research and Development,* Vol.2, No.3, pp. 21-25. Available at www.advancedjournal.com.

Nguyen, V.T. and Liu, D.Y. 2019, 'Determinants of Financial Soundness of Commercial Banks: Evidence from Vietnam', *Journal of Applied Finance and Banking,* Vol. 9, No. 3, pp. 35-63.

Nuhiu, A., Hoti, A. and Bektashi, M. 2017, 'Determinants of Commercial Banks Profitability through analysis of Financial Performance indicators: Evidence from Kosovo', *Business: Theory and Practice,* Vol. 18, pp. 160-170. Available at https://doi.org/10.3846/ btp.2017.017.

Ondes, T., Ahmid, A.F. and Faraj, A. 2019, 'Financial Performance of Islamic Banks in Turkey and the United Kingdom: A Comparative Study', *European Scientific Journal,* Vol. 15, No. 4, pp. 87-104. Available at DOI: 10.19044/esj. 2019.v15n4p87.

Ongore, V. O. and Kusa, G. B. 2013, 'Determinants of financial performance of commercial banks in Kenya', *International Journal of Economics and Financial Issues,* Vol. 3, No. 1, pp.237-252. Available at DOI: 10.5897/AJBM10.074.

Ota, R. and Sarkar, P. 2016, 'Priority Sector Lending of Commercial Banks and Its Impact on the Development of the Rural Economic Status in India', *International Journal of Innovative Research and Advanced Studies,* Vol. 3, No. 7, pp. 96-103.

Pandya, B. 2014, 'Performance of Foreign banks in India: An Empirical Analysis', *Indian Journal of Management,* Vol. 7, No. 1, pp. 13-17.

Paradi, J. C., Rouatt, S. and Zhu, H. 2011, 'Two-Stage Evaluation of Bank Branch Efficiency Using Data Envelopment Analysis', *The International of Management science,* Vol. 39, pp. 99-109.

Parvin, S., Chowdhury, A.M.H., Siddiqua, A. and Ferdous, J. 2019, 'Effect of Liquidity and Bank Size on the Profitability of Commercial Banks in Bangladesh', *Asian Business Review,* Vol. 9, No. 1, pp.7-10.

Parvin, S., Chowdhury, A.N.M., Siddiqua, A. and Ferdous, J. 2019, 'Effect of Liquidity and Bank Size on the Profitability of Commercial Banks in Bangladesh', *Asian Business Consortium,* Vol. 9, No.1, pp. 7-10. Available at DOI.org/10.18.34/abr. v9i1.219.

Pat, K. A. 2009, 'Why Indian Banks are Healthy in this Global Crisis', *Economic and Political Weekly*, Vol. 44, No.17, pp. 21-22. Available at http://www.jstor.org /stable/40279179.

Paula, L. F. and Alves, A. J. 2007, 'The Determinants and Effects of Foreign Bank Entry in Argentina and Brazil: A Comparative Analysis', *Investigacion Economica,* Vol. 66, No.259, pp. 63-102, Available at http://www.jstor.org/ stable/42778395.

Peria, M. S. M. and Mody, A. 2004, 'How Foreign participation and Market Concentration impact bank spreads: Evidence from Latin America', *Journal of Money, Credit and Banking,* Vol.36, No.3, pp. 511-537. Available at http://www.jstor.org/stable/3838950.

Prasad, K. V. N. and Ravinder, G. 2012, 'A Camel model analysis of Nationalized banks in India', *International Journal of Trade and Commerce,* Vol.1, No.1, pp.23-33.

Profile of Banks (RBI) (1998-2015), Published Annual Reports. Available at https://rbi.org.in/Scripts/AnnualPublications.aspx?head=A%20Profile%20of %20Banks.

Qian, L. and Delios, A. 2008, 'Internationalization and Experience: Japanese' Bank International Expansion, 1980-1998', *Journal of International Business Studies,* Vol. 39, No.2, pp. 231-248. Available at http://www.jstor.org/stable/ 25483261.

Quartey, P. and Afful-Mensah, G. 2014, 'Financial and Monetary Policies in Ghana: A review of recent Trends' *Review of Development Finance,* Vol. 4, pp. 115-125.

Rahman, B. and Nitu, A.A. 2018, 'Financial Performance between State-owned and Private Commercial Banks in Bangladesh: A Comparative Study of Using CAMEL Rating', *ASA University Review,* Vol. 12, No.1, pp.109-124.

Rani, N., and Gaba, D. 2014, 'Private, Public and Foreign Banks: A Comparative Study on the Basis of NPA', *Global Journal for Research Analysis,* Vol. 3, No. 9, pp. 9-11.

Rani, N., and Gaba, D. 2014, 'Analysis of Profitability and Efficiency: A Comparison of HDFC and ICICI', *Indian Journal of Research,* Vol. 3, No.9, pp. 19-21.

Rashid, K. and Rustam, A. 2014, 'Comparative Analysis of Local and Foreign Banks Efficiency: A Case Study of Pakistan', *Oeconomics of Knowledge,* Vol.6, No.3, pp.7-52.

Report on Trends and Progress of Banking in India (RBI), (1998-2015), Published Annual Reports. Available at https://rbi.org.in/Scripts/Annual Publications.aspx?head=Trend+and+Progress+of+Banking+in+India

Roadmap for Foreign Banks in India (Report of Deloitte), 2009, Available at https://www2.deloitte.com/content/dam/Deloitte/in/Documents/financial-services/in-fs-roadmap-for-foreign-banks-in-India.pdf.

Reddy, D. M. and Prasad, K. V. N. 2011, 'Evaluating performance of Regional Rural banks: an application of CAMEL Model', *Journal of Arts, Science and Commerce,* Vol. 2, No.4, pp.61-67.

Reddy, S. K. 2012, 'Relative performance of commercial banks in India using CAMEL approach', *International Journal of Multidisciplinary Research,* Vol. 2, No. 3, pp. 38-58.

Roman, A. and Şargu, A. C. 2013, 'Analysing the financial soundness of the commercial banks in Romania: an approach based on the Camels framework', *Procedia Economics and Finance,* Vol. 6, pp.703-712. Available at www. sciencedirect.com

Sagarra, M., Mar-Molinero, C and Agasisti, T. 2017, 'Exploring the efficiency of Mexican universities: Integrating Data Envelopment Analysis and Multidimensional Scaling', *Omega,* Vol. 67, pp.123-133.

Saha, A. and Ravisankar, T. S. 2000, 'Rating of Indian commercial banks: a DEA approach', *European Journal of Operational Research,* Vol. 124, No.1, pp. 187-203.

Sahota, S. and Dhiman, B. 2016, 'Measurement of Banks Efficiency with Data Envelopment Analysis: A Review of Academic Literature', *Amity Management Review,* Vol. 5, No. 1, pp. 57-68.

Sahota, S. and Dhiman, B. 2016, 'Role of Globally accepted CAMEL model in performance appraisal of Scheduled Commercial Banks in India', *Inspira-Journal of Commerce, Economics and Computer Science,* Vol. 2, No. 2, pp.133-140.

Sahota, S. and Dhiman, B. 2017, 'Performance, Efficiency and Impact of Foreign Banks in Host Countries: An Analytical Review of Academic Literature', *International Journal of Applied Business and Economic Research,* Vol. 15, No. 9, pp. 489-503.

Sahota, S. and Dhiman, B. 2017, 'Relative Performance analysis of Scheduled Commercial Banks in India: A CAMEL Model Approach', *Indian Journal of Finance,* Vol. 11, No.5, pp. 40-57.

Sahota, S. and Dhiman, B. 2016, 'Indian Banking Sector Challenges and Opportunities', *International Journal of Science, Technology and Management,* Vol. 5, No. 8, pp. 527-536. Available at www.ijstm.com.

Saif-Alyousf, A.Y.H., Saha, A and Md-Rus, R. 2017, 'Profitability of Saudi Commercial Banks: A Comparative Evaluation between Domestic and Foreign Banks using Capital Adequacy, Asset Quality, Management Quality, Earning Ability and Liquidity Parameters', *International Journal of Economics and Financial Issues,* Vol. 7, No.2, pp.477-484.

Salgotra, P. and Wadhwa, R. 2015, 'Capital Adequacy-A Financial Soundness Indicator for Banks: A Comparative Analysis of Public Banks in India', IOSR Journal of Business and Management, pp.54-60. Available at www.iosrjournals.org.

Sangmi, M. and Nazi, T. 2010, 'Analyzing Financial Performance of Commercial Banks in India: Application of CAMEL Model', *Pakistan Journal of Commerce and Social Sciences,* Vol. 4, No.1, pp. 40-55.

Sandhya, V. L. 2014, 'Camel Framework in Banks - Indian Scenario', *Indian Journal of Applied Research,* Vol.4, No.6, pp. 1-3.

Sathye, M. 2005, 'Privatization, Performance, and Efficiency: A study of Indian Banks', *Vikalpa,* Vol. 30, No. 1, pp.7-16.

Sathye, M. 2003, 'Efficiency of banks in a Developing Economy: The Case of India', *European Journal of Operational Research,* Vol.148, No. 3, pp. 662-671.

Sathye, M. 2001, 'X-efficiency in Australian Banking: An Empirical Investigation', *Journal of Banking and Finance,* Vol. 25, No.3, pp.613-630.

Sensarma, R. 2006, 'Are Foreign Banks always the best? Comparison of State-owned, Private and Foreign Banks in India', *Economic Modelling,* Vol. 23, No. 4, pp. 717-735.

Shabbir, N. and Mujoo, R. 2014, 'Problem of Non-Performing Assets in Priority Sector Advances in India', *Journal of Economics and Development Studies,* Vol. 2, No. 1, pp.241-275. Available at www.aripd.org/jeds.

Shabbir, N. 2013, 'Regionwise Priority Sector Advances in India', *Journal of Social Science for Policy Implications,* Vol. 1, No. 2, pp. 9-14. Available at www.aripd.org/jsspi.

Shabbir, N. 2013, 'Bank-wise Priority Sector Lending in India', *International Journal of Marketing and Technology,* Vol.3No.12, pp. 199-216. Available at http://www.ijmra.us.

Shahroodi, K. and Bahraloloom, S. A. 2014, 'Evaluating the efficiency of Banking Industry by DEA: Balanced Approach', *Indian Journal of Fundamental and Applied Life Sciences,* Vol. 4, No.1, pp. 1426-1435.

Sharda, G., Swamy, N. and Singh, C. 2014, 'The Impact of foreign banks on the Indian Economy', *Indian Institute of Management, Bangalore,* Working Paper No. 451. Available at https://ssrn.com/abstract=2414287.

Shar, A. H., Shah, M. A. and Jamali, H. 2011, 'Performance Evaluation of Pre-and Post-nationalization of the Banking Sector in Pakistan: An Application of CAMEL Model', *African Journal of Business Management,* Vol. 5, No. 3, pp.747. DOI: 10.5897/AJBM10.261.

Sharma, V. K. and Kumar, A. 2013, 'Performance of Foreign Banks in India: An Evaluation', *International Journal of Research in Commerce and Management,* Vol. 4, No.2, pp. 120-130.

Srivastava, V. and Gupta, D.K. 2013, 'Non-Performing Assets of Foreign Banks in India', *Asia Pacific Journal of Management and Entrepreneurship Research,* Vol. 2 No. 2, pp. 172-181.

Statistical Tables relating to Banks in India (RBI) (1998-2015), Published Annual Reports. Available at https://rbi.org.in/Scripts/Annual Publications.aspx?head=Statistical%20Tables%20Relating%20to%20Banks%20in%20India.

Staub, R. B., e Souza, G. D. S. and Tabak, B. M. 2010, 'Evolution of Bank efficiency in Brazil: A DEA approach', European *Journal of Operational Research,* Vol. 202, 1, pp.204-213.

Thanassoulis, E. 1999, 'Data Envelopment Analysis and its use in Banking', *Interfaces,* Vol. 29, No. 3, pp.1-13.

Tomuleasa, I. I. and Cocriş, V. 2014, 'Measuring the Financial Performance of the European Systemically Important Banks', *Studii Financiare (Financial Studies),* Vol. 18, No. 4, pp.31-51.

Ud-din Ahmed, J. 2010, 'Priority Sector Lending by Commercial Banks in India: A Case of Barak Valley', *Asian Journal of Finance and Accounting,* Vol. 2 No.1, pp. 92-110. Available at www.macrothink.org/ajfa.

Uddin, S. S. and Suzuki, Y. 2011, 'Financial reform, ownership and performance in banking industry: The case of Bangladesh', *International Journal of Business and Management,* Vol. 6, No.7, pp. 28.

Unite, A. A. and Sullivan, M. J. 2003, 'The effect of Foreign entry and ownership structure on the Philippine domestic Banking Market', *Journal of Banking and Finance,* Vol. 27, No. 12, pp. 2323-2345.

Uppal, R. K. 2009, 'Priority sector advances: Trends, issues and strategies', *Journal of Accounting and Taxation,* Vol. 1, No. 5, pp.079-089.

Vijayakumar, A. 2012, 'Evaluating Performance of Banks through Camel Model: A Case study of State Bank of India and its Associates', *International Interdisciplinary Research Journal,* Vol.2, No.4, pp.104-124. Available at www.oiirj.org.

Viswanathan, A. 1993, 'Foreign Banks: Need for Control', *Economic and Political Weekly,* Vol. 28, No. (12/13), pp. 503-504.

Wheelock, D. C. 1993, 'Is the banking Services in decline? Recent trends and future prospects from a historical prospective', *Federal Reserve Bank of St. Louis,* pp. 3-22. Available at https://files.stlouisfed.org/files/htdocs/publications/ review/93/09/ Decline Sep-Oct1993 .pdf.

Wu, D. D., Yang, Z. and Liang, L. 2006, 'Using DEA-neural network approach to evaluate branch efficiency of a large Canadian banks', Expert *systems with applications,* Vol. 31, No. 1, pp.108-115. Available at https://DOI.org/ 10.1016/ j. eswa.2005.09.034.

Wu, J., Jeon, B. N. and Luca, A. C. 2010, 'Foreign Bank Penetration, Resource allocation and Economic growth: Evidence from Emerging Economies', *Journal of Economic Integration,* Vol. 25, No. 1, pp.167-193.

Xu, Y. 2011, 'Towards a more accurate measure of foreign bank entry and its impact on domestic banking performance: The case of China', *Journal of Banking and Finance,* Vol. 35, No. 4, pp.886-901, Available at Doi:10.1016/j. jbankfin.2010.10.011.

Yadav, S. 2014, 'NPAs: Rising Trends and Preventive measures in India Banking Sector', *International Journal of Advance Research in Computer Science and Management Studies,* Vol. no. 2(1), pp. 129-141.

Yang, Z. 2009, 'Bank Branch Operating Efficiency: A DEA Approach', Proceedings of the International Multi Conference of Engineers and Computer Scientists, Vol II IMECS, March 18 - 20, 2009, Hong Kong, ISBN: 978-988-17012-7-5.

Yeh, Q. J. 1996, 'The application of Data envelopment analysis in conjunction with financial ratios for bank performance evaluation', *Journal of Operational Research Society,* Vol. 47, No. 8, pp. 980-988. Available at https://Doi.org/10.1057/jors.1996.125.

Yeyati, E. L. and Micco, A. 2007, 'Concentration and foreign penetration in Latin American banking sectors: Impact on competition and risk', *Journal of Banking and Finance,* Vol.31, No.6, pp. 1633-1647. Available at Doi:10.1016/j. jbankfin.2006.11.003.

Zedan, K.A. and Daas, G. 2017, 'Palestinian Banks Analysis Using CAMEL Model', *International Journal of Economics and Financial Issues,* Vol. 7, No. 1, pp. 351-357. Available at http: www.econjournals.com.

LIST OF PUBLICATIONS

Sr.no.	Title of Paper and Authors	Name of Journal	Year of Publication	Vol. No., ISSN & ISBN
1.	Relative Performance Analysis of Scheduled Commercial Banks in India: A CAMEL Model Approach. Authors 1. Shilpa Sahota 2. Dr. Babli Dhiman	Indian Journal of Finance (SCOPUS & UGC RECOMMENDED)	2017	ISSN: 0973-8711, Vol. 11, No. 5.
2.	Recent Issues and Role of Indian Banking System in Financial Inclusion: An Assessment. 1. Shilpa Sahota 2. Dr. Babli Dhiman	International Journal of Applied Business & Economic Research. (SCOPUS & UGC-LISTED)	2017	ISSN:0972-7302, Vol. 15, No. 02
3.	Performance, Efficiency and Impact of Foreign Banks in Host Countries: An Analytical Review of Academic Literature. 1. Shilpa Sahota 2. Dr. Babli Dhiman	International Journal of Applied Business & Economic Research. (SCOPUS & UGC-LISTED)	2017	ISSN:0972-7302, Vol. 15, No. 09.

Sr.no.	Title of Paper and Authors	Name of Journal	Year of Publication	Vol. No., ISSN & ISBN
4.	Measurement of Banks Efficiency with Data Envelopment Analysis: A Review of Academic Literature. 1. Shilpa Sahota 2. Dr. Babli Dhiman	Amity Management Review. (BI-ANNUAL JOURNAL)	2016	ISSN: 2230-7230, Vol. 5, No. 1
5.	Role of Globally accepted CAMEL Model in performance appraisal of Scheduled Commercial Banks in India. 1. Shilpa Sahota 2. Dr. Babli Dhiman	Inspira- Journal of Commerce, Economics & Computer Science. (PEER-REVIEWED REFEREED JOURNAL)	2016	ISSN: 2395-7069, Vol. 02, No. 02.
6.	Indian Banking Sector Challenges and Opportunities: A New Way Forward. 1. Shilpa Sahota 2. Dr. Babli Dhiman	International Journal of Science, Technology and Management. (PEER-REVIEWED REFEREED JOURNAL)	2016	ISSN (O):2394-1537, ISSN (P): 2394-1529, Vol. 05, No. 08.
7.	Comparative Performance Evaluation of Foreign Banks from Developed and Developing Economies in India. 1. Shilpa Sahota 2. Dr. Babli Dhiman	International Conference on "Global Trends in Business & Sustainability Research, IIT Roorkee. (DEPARTMENT OF MANAGEMENT STUDIES, IIT ROORKEE)	2016	ISBN: 978-93-84935-04-2

Sr.no.	Title of Paper and Authors	Name of Journal	Year of Publication	Vol. No., ISSN & ISBN
8.	Recent BASEL III Implementation: Challenges for Indian Banking System. 1.Shilpa Sahota 2. Dr. Babli Dhiman	Advance Management Compendium. (MITSOB).	2016	ISSN:2249-5681, Vol. 1, No. 1
9.	RBI Perspective on Regulation and Supervision of Scheduled Commercial Banks in India: An Analytical Review. 1. Shilpa Sahota 2. Dr. Babli Dhiman	International Conference on Financial Services, Creating Business Value and Sustainability. (PUNJAB UNIVERSITY, CHANDIGARH)	2018	Proceedings of the Conference & Book of Abstracts

Relative Performance Analysis of Scheduled Commercial Banks in India : A CAMEL Model Approach

** Shilpa Sahota*
*** Babli Dhiman*

Abstract

For sustaining a healthy financial system, it is mandatory to analyze banks frequently for recognition of their strengths and removal of potential vulnerabilities. Banks act as fuel for smooth and efficient functioning of a nation's financial system. The purpose of the present study was to evaluate and compare the financial, operational, and managerial health of selected largest scheduled commercial banks in India with different ownership structure, such as public (State Bank of India), private (ICICI Bank), and foreign banks (Standard Chartered Bank). To achieve this objective, panel data was collected from authentic websites for the period from 2001-2002 to 2010-2011 for banks judged with globally accepted ratio based CAMEL model parameters and average of sub-parameters. In addition to this, one-way ANOVA (parametric test) was applied to statistically measure whether mean variance existed among these banks' ratios and performance. The findings revealed that these banks performed satisfactorily overall after the adoption of reforms. However, SBI was positioned at the top followed by SCB and ICICI Bank in India. Surprisingly, the study observed that there was no difference statistically among these banks in terms of ratios and performance of sub-parameters namely, debt/equity ratio, gross non-performing assets/total assets, income interest/total assets, and liquid assets to total deposits during the research. The study concluded that there was stiff competition among these banks and significantly recommended for proposed banking structure in India. In addition to this, SCB was found to be significantly more efficient during the research period in terms of doing profitable banking business and converting deposits into higher earning advances followed by ICICI Bank and State Bank of India (SBI).

Key words : **CAMEL model, scheduled commercial banks, relative performance, post- liberalization, Reserve Bank of India**

JEL Classification : G2, G20, G21, G28, G210

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The growth and sustainability of an economy is considerably dependent upon the healthy financial system in which banks play a pivotal role. The banking sector in India has been the backbone of the Indian economy over the past few years. As financial intermediaries, banks play a crucial role in the operation of most economies (Demirgüç-Kunt & Huizinga, 1999). The Indian banking structure and performance have affected by both external and internal domestic factors. Moreover, it experienced worldwide major transformation in its operating environment. The reforms initiated since 1992 were intended to impart efficiency, productivity, profitability, and have encouraged strategic competition among banks. Indian banks have been working in a more

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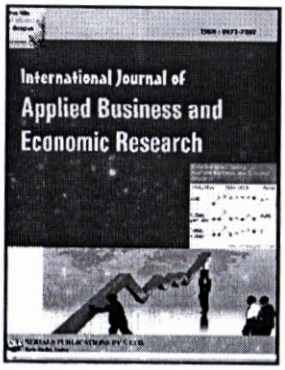

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Recent Issues and Role of Indian Banking System in Financial Inclusion: An Assessment

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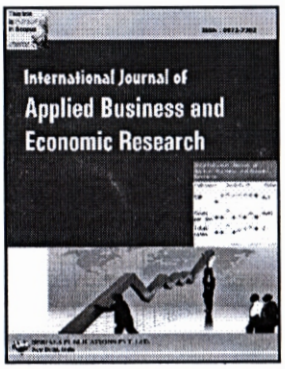
Abstract: *Background/Objectives:* The banking industry in India has shown wonderful growth in volume of operations. The equal growth has been the prime goal of Indian government since the planning process has undertaken. Financial inclusion mean availability of financial services at reasonable cost to huge section of financially excluded people. The objective of this paper to highlight the eminent scholars efforts related to inclusive growth, discuss various types of schemes, strategies, plans, phases, made by government, recent challenges, issues in achievement of financial inclusion plans, contribution of largest scheduled commercial public (SBI) and private (ICICI) towards equal growth. Methods/Statistical analysis:Basically, paper is empirical in nature and reviewed the status includes plans-FIPs, phases, strategies adapted for the improvement of financial inclusion for the period from 2001 to 2015 onwards. Published secondary panel data from the authentic sites, internet sources has obtained, analysed and interpreted as per the paper multiple objectives. Findings:The findings of the study describe that the status of financially excluded people has improved over last years through banks. A most grave challenge in coming decades, financing reasonable households, education needs of low income people, rural share-coppers in agriculture sectors, micro and small sector's worker-self-employed. Conclusion/Improvements:For comprehensive and sustainable inclusive growth banks considered as important driver.Government of India and Reserve Bank of India-RBI has made concerted efforts during last couple of decades as nationalisation of banks, scheme of lead bank, formationof RRBs-Regional Rural Banks, approach of service area and establishment of self-help groups. As a result of efforts, still vast proportion of population in India under the segment of financial exclusion due to several reasons.Further for the attainment of total financial inclusion dream in India, banks require to design its products, services, models according to rapid structural transformation as well as keep in mind potential consumers' expectations.

Keywords: Banking Services, Financial Inclusion, Government of India, Inclusive growth, Structural transformation, Unorganised Sector.

JEL Classification: G2, G20, G21.



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Performance, Efficiency and Impact of Foreign Banks in Host Countries: An Analytical Review of Academic Literature

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Abstract: Banks acts as fuel for smooth functioning of any economy as general and financial sector as specific. During the few decades, due to far-reaching changes all-round the world central banks have improved their supervision techniques & quality. In this ever changing complex scenario, it is imperative to investigate and report the overall position of banks to ensure effective financial system in any economy. This paper presents an academic literature reviewed on DEA results with various approaches, techniques, models for the period from 1991-2016 at international level, CAMELS approach- Adequacy of capital, quality of assets, efficiency of management, earning capability, liquidity position and impact of foreign banks penetration on host commercial banks at national as well as international level. From literature review this paper demonstrated that DEA technique has used by researchers with models-input oriented (BCC), output oriented-(CCR), neural network, techniques- bootstrapping, Monte Carlo, simulation; approaches- intermediation, production, value added, two stage, three stage and different types of efficiencies- allocative, cost, profitability, marketability, technical, scale, revenue and operating efficiency. These results provide very valuable guidance for financial regulators, policy makers. In this article, also reviewed the papers used the CAMEL model framework to assess the financial, operation and managerial position of banks. This considerable supervisory banking system improved in terms focus, coverage, position & frequency over the earlier system. CAMEL Model highlighted the true picture of internal proceedings (adequacy of capital, quality of assets, capacity of maximum earning with sound liquidity position) of particular bank irrespective of its Market Capitalisation, size, index, trading on stock market and reforms adaptive capability. It is concluded that model revealed the on-site viability, soundness of banks from time to time, irrespective of the category. Generally, in less competitive host country foreign banks performed more profitable than their domestic counterparts.

JEL Classification: G2, G20, G21, G28, G210

Keywords: CAMELS, Data Envelopment Analysis, Efficiency, Foreign Banks, Host Countries, Performance

1. INTRODUCTION

For economic growth & development the financial sector considered one of the primary engine & Sustainability significantly dependent upon optimum utilization of scarce resources as well as its deployment. The banking

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Measurement of Banks Efficiency with Data Envelopment Analysis: A Review of Academic Literature

Shilpa Sahota[1] **Babli Dhiman**[2]

In this ever changing scenario, banking services play significant role to every one of us. Today's more open and stiff competition in banking milieu has heightened the assessment requirement of resources used by banks for doing quality & profitable banking business. Reforms initiated since Liberalisation, Privatisation, Globalisation were intended to impart efficiency, productivity, profitability. Service industries attract more and more attention of scholars to analyze resource utilisation capability & efficiency of banks from time to time. Data Envelopment Analysis is a very powerful linear programming/mathematical and benchmarking technique which was originally developed by Charnes, Cooper & Rhodes.DEA applied to evaluate the relative efficiency of homogenous DMUs (Decision Making Units) using multiple input and output data. It compares service units considering all resources used, services provided, identified most efficient units or best practice units, distinguish the efficient commercial banks from inefficient ones in which real efficiency units improvements are possible. This paper presents an academic literature reviewed on DEA results with various approaches, techniques and models for the period from 1978-2016 at international level. Eminent scholars used DEA with various methods & orientation to set the benchmark for inefficient decision making units as compare to efficient units among same & comparative banks. From literature review this paper demonstrated that DEA technique has used by researchers with models-input oriented (BCC), output oriented-(CCR), neural network, techniques- bootstrapping, Monte Carlo, simulation, approaches- intermediation, production, value added, two stage, three stage and different types of efficiencies- allocative, cost, profitability, marketability, technical, scale, revenue and operating efficiency.

Key Words: *Academic Literature,Benchmarking, Commercial Banks, Data envelopment analysis, Decision making units, Efficiency.*

JEL Classification: G2, G20, G21

1. INTRODUCTION

Commercial banks play a vital role in the economy for the two reasons: they provide major source of financial intermediation and their checkable deposit liabilities represent the bulk of the nation's money stock. Evaluating their overall performance, efficiency and monitoring their financial conditions is important to depositors, owners, potential investors, managers and of course, regulators. Efficiency and quality of banking services occupy important place to every one of us now a days. Top bank management wants to identify and eliminate the underlying causes of inefficiencies, thus helping their firms to gain competitive advantage, or, at least, meet the challenges from others. Banks are increasingly using DEA as a tool for assessing, monitoring and improving the performance. The capability of dealing with multi input/output settings without any specific assumption or relationships between inputs & outputs provides DEA the

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ROLE OF GLOBALLY ACCEPTED CAMEL MODEL IN PERFORMANCE APPRAISAL OF SCHEDULED COMMERCIAL BANKS IN INDIA

Shilpa Sahota *
Dr. Babli Dhiman**

Abstract

Banks acts as fuel for smooth functioning of any economy as general and financial sector as specific. In this ever changing complex scenario, it is imperative to investigate and report the overall position of banks to ensure effective financial system in any economy. After the adoption of latest uniform rating system of banks model, several studies has conducted at international and national level to check the internal overall performance of banks at different time period. The main objective of article to determine the effectiveness, efficiency of model acronym in bank supervision. This supervisory system in banking sector is considerable improvement over the earlier system in terms of frequency, coverage, position & focus. In this article, reviewed the papers used the CAMEL model framework to assess the financial, operation and managerial position of banks for the period 2009-10 to 2015-16. CAMEL Model highlighted the true picture of internal proceedings (adequacy of capital, quality of assets, capacity of maximum earning with sound liquidity position) of particular bank irrespective of its Market Capitalisation, size, index, trading on stock market and reforms adaptive capability. It is concluded that model revealed the on-site viability, soundness of banks from time to time, irrespective of the category.

Keywords: *CAMEL Model, Globally, Performance Appraisal, Scheduled Commercial Banks.*

Introduction

Banking industry is one of the ever fastest growing industry in India. The sustainability of any economy depends on the health of its financial sector in which banks play integral and crucial role. A reliable, healthy and vibrant banking system in any country depicted the picture of it financial sector as particular and economy as whole. As opening up of the Indian economy to the rest of the world since 1991, the face and concept of Indian banking system has undergone a paradigm shift. Due to radical changes in the banking sector in the recent years, the central banks all around the world have improved their supervision quality and techniques. As far as concern, Scheduled Commercial banks in India has adopted the norms & prudential of banking reforms as the recommendations of international and national authorities. This adaptive system no doubt, forced banks to re-define their policies, strategies, processes, methods, technology which directly affected the financial health and performance

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INDIAN BANKING SECTOR CHALLENGES AND OPPORTUNITIES: A NEW WAY FORWARD

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ABSTRACT

Globalisation implies opening-up of local and nationalistic perspective to comprehensive viewpoint of an interdependent world. It is complex, multifaceted ongoing process of interaction and integration of national economies. Globalisation has spill-over effect and put various kind of dares & opportunities to different sectors of the nations. The Indian banking sector has been working in a more open and globalise environment for two decades since liberalisation. The landscape of banking industry in India changed after the strong measures has been taken by RBI which was based on the recommendations of the Narasimham committee and Basel committee on banking supervision. In this context, an attempt is made in paper to ascertain the extent and level of reforms adaptive capabilities, sustain ability to cope-up with variant new challenges (Green Banking, Basel III norms, quality of assets and financial inclusion) of banking industry in India. In this changing scenario, it is not sufficient to implement these challenges but require to be vigilant about emerging risks from time to time.Moreover, to become globally sustain & competitive viable, scheduled commercial banks need to achieve mandated norms of asset quality, higher capital standards, stricter liquidity, identify profitable business opportunities, strategic approach to risk management and active governance.

Keywords: Banking Committee on Banking Supervision, Competitive Viable, Globalisation, Multifaceted Process, Narasimham Committee.

JEL Classification: G2, G20, G21

I. INTRODUCTION

The Financial sector is one of the primary engines of economic growth. The economic growth and development of any country is mainly influenced by advancement of banking sector. Over several decades, banking system in India serves the economy better. Globalisation mean opening-up of local economy to international comprehensive viewpoint.Globalisation has spill-over effect and put various kind of dares & opportunities to different sectors of the nations.The Indian banking sector has been working in a more open and globalise environment for two decades since liberalisation. The landscape of banking industry in India changed after the

Title: What nudges households to get health insurance cover?

Authors: Kanish Debnath and Arun Kaushik

Abstract:

Objective: This article aims to uncover the extent to which household characteristics can determine whether the household has availed any health insurance coverage for at least one member of the household.

Scope of work: This study uses the dataset of National Family Health Survey-3 to find all the districts within which one or more households had health insurance. A total of 58,716 households were selected, out of which 6,871 households actually had health insurance. Since even after being available, the remaining households chose not to insure, it is important to unearth any differences in household characteristics.

Materials and Methods: We use the method of binary logistic regression to model the dependent variable - household has health insurance. The predictor variables considered were Wealth Index, Standard of Living Index, place of residence (urban/rural), ownership of a bank account, age and sex of household head, number of children under age 5 and choice of health-care provider. We also look at other techniques to improve the above results.

Significant Findings: The extremely small P-values in the results reject the hypothesis that all slope parameters are equal to zero. Further, all predictors are found to be significant at 1 percent levels.

Conclusions: This study concludes that a household is likely to possess health insurance if it has high wealth and standard of living indices, has a bank account, has a female and a young head of household, has less number of children under age 5 and goes mainly to private healthcare providers when sick.

Keywords: *Health Insurance, Logistic Regression, Household Choice.*

Title: Comparative Performance Evaluation of Foreign Banks from Developed and Developing Economies in India: An Application of Globally accepted CAMELS Model

Authors: Shilpa Sahota and Babli Dhiman

Abstract:

The sustainability of any economy significantly dependent upon deployment as well as optimum utilization of resources. The economic growth and development of any country is mainly influenced by advancement of banking sector. The banks are lifelines of economy, play a vital role in activating, sustaining economic growth and development especially in developing countries, India is no exception. Banking sector is one of the fastest growing sectors in India. Banking industry is one of the more closely supervised industries in the world because failures of banking system in any nation would adversely affect economic activity of that particular nation rather any other business. Over several decades, banking sector in India serves the economy better. It survives through various national and international crises, shocks and meltdown. The introduction of the LPG (Liberalisation, Privatisation and Globalisation) in India in 1991, Globalisation implies opening-up of local and nationalistic perspective to comprehensive viewpoint of an interdependent world. Globalisation extremely redefining banking taxonomy which further transformed face and operating environment of Indian banking industry. Any change big or small, of whatever forms or nature brings endless opportunities and challenges. No economy in the world survive without manage regulations of global standards. In India strong measures has been taken by RBI based on international statute, standards which intended Indian banks (public, private and foreign) to impart efficiency, productivity and

profitability. To build safeguard against financial instability, fast inclusive growth, Indian banking industry has adopt and adapt major structural reforms .i.e. phased liberalisation of branch licensing, deregulation of complex structure of deposit, lending rates, use of IT, enhance payment & settlement system, deepen financial inclusion and improvement in risk culture of banks. Furthermore, restructuring of public sector banks, emergence of new banks in private sector and increased competition from foreign banks, have improved professionalism of Indian Banks. Moreover, any type of ignorance in implementing new, emerging challenges will hurt banking industry in both by way of perception and in actual practice. It is evident that LPG has showers new colours of opportunities but simultaneously it has also posed several challenges. In post financial sector reforms 1991 phase, the performance of Indian commercial banks has improved as compared with advanced and emerging countries. The opening-up of economy to increased participation by foreign players created greater opportunities for foreign banks to work with their multinational clients in India as well as they believe that India is market with undeniable potential. The story of foreign banks in India goes back to 19th century when colonial economy brought with it need for modern banking services. The significance and need for foreign banks' participation in India arises to increase the competition and promote efficiency of local banking system. The choice of particular archetype in host country is influenced by host country's government/supervisory authorities. Foreign banks have been at the forefront of innovation and indeed in many ways to support India's international trade. In reality, most foreign banks in India are actually specialist investment bank or specialist wholesale bank. India has been quite liberal in allowing full universal license to foreign banks, unlike other countries. Generally, foreign banks bring strong capabilities in risk management, technology and definitely added to competition in banking system. Which type & nature of experiences India has tasted from its host foreign banks since last decades, this present study has undertaken in this direction. The purpose of this study to evaluate & compare financial, operational, managerial and risk assessment health of selected scheduled commercial foreign banks from developing and developed economies in India with different ownership structure. To achieve this objective, panel data has been collected from authentic site (published reports of RBI, IBA) for the period from 2000-01 to 2014-15, foreign banks judged with globally accepted ratio based CAMELS (Capital Adequacy, Asset Quality, Management Efficiency, Earning Capacity, Systematic risk) model with 6 parameters &30-35 sub-Parameters average. In addition to this, statistical technique (parametric test) has been applied to measure whether mean variance exist among foreign banks ratios & performance (parameters & sub-parameters). The findings revealed that these banks overall performed satisfactory at all parameters and sub-parameters during selected research period. The study concluded that there is stiff competition exist among foreign banks from developed & developing economies and significantly recommended for proposed banking structure in India. In addition to this, foreign banks in India significantly more efficient in terms of doing profitable banking business and converts its deposits into higher earning advances. For sustain, healthy financial system, it is mandatory to analyse banks frequently for recognition of strengths & removal of potential vulnerabilities.

Keywords: *CAMELS, Performance, Globalization.*

Title: MUDRA- as one of the Government and legislative intervention in promoting start ups

Authors: Neeti Hooda

Abstract:

Starting a business can be quite exhilarating and complicated in today's challenging business environment. Basically an entrepreneur can be regarded as a person who has the initiative, skills, risk taking ability to start a business and thus looks for high achievement. He acts as catalysts of social change and works for the common good. Entrepreneurship is

Swain, R. B., & Wallentin, F. Y. (2009). Does microfinance empower women? Evidence from self-help groups in India. International Review of Applied Economics, 23(5), 541–556.

www.google.com,www.books.google.com,www.microfinanceinsight.com

"Recent BASEL III Implementation: Challenges for Indian Banking System"

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Abstract: *The economic growth and development of any country is mainly influenced by advancement of banking sector. The banks are lifelines of economy, play a vital role in activating, sustaining economic growth and development especially in developing countries, India is no exception.Over several decades, banking system in India serves the economy better. Globalisation implies opening-up of local and nationalistic perspective to comprehensive viewpoint of an interdependent world.Globalisation extremely redefining banking taxonomy which further transformed the face and operating environment of Indian banking industry.Any change big or small, of whatever forms or nature brings endless opportunities and challenges. No economy in the world survive without manage the regulations of global standards. In India strong measures has been taken by Reserve bank of India based on international statute, standards which intended*

Indian banks to impart efficiency, productivity and profitability. To build safeguard against financial instability, fast inclusive growth, Indian banking industry has adopt and adapt major structural reforms .i.e. phased liberalisation of branch licensing, deregulation of complex structure of deposit, lending rates, use of IT, enhance payment & settlement system, deepen financial inclusion and improvement in risk culture of banks.Furthermore, restructuring of public sector banks, emergence of new banks in the private sector and increased competition from foreign banks, have improved the professionalism of Indian Banks. Moreover, any type of ignorance in implementing new and emerging challenges will hurt the banking industry in both by way of perception and in actual practice. It is imperative for the Indian banks to think global but act as local.As Basel II failed to address certain issues which emerged during the financial crisis of 2007-08 i.e. a risk sensitive framework proved to be pro-cyclical, value at risk models, absence of any explicit regulation governing leverage, focused more on individual financial institutions and ignored systemic risk arising from the interconnectedness across institutions and markets. Basel III is an evolution rather than revolution in the area of banking regulation. Basel III represents an effort to fix the gaps and Lacunae in Basel II that came to light during the crisis. The main objective of the paper is to investigate the recent issues and challenges in way of Indian banks in relation to implementing Basel III norms. In response to the 2007-09 global financial crisis BCBS released the Basel III framework entitled- "Basel III: A Global Regulatory Framework for more Resilient Banks and Banking Systems" in December 2010 (revised in June 2011). According to the Banking Committee on Banking supervision, the Basel III proposal have two main objectives are (i) to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector, (ii) to improve the banking sector's ability to absorb shocks arising from financial and economic stress. The enhancements of Basel III over Basel II come primarily in four areas: (a) augmentation in the level and quality of capital (b) introduction of liquidity standards (c) modifications in provisioning norms (d) better and more comprehensive disclosures.In India, Reserve Bank of India issued guidelines on Basel III implementation on 2013 onwards. The new concepts introduced by Basel III are of Capital Conversion Buffer (CCB) ensures that banks are able to absorb losses without breaching the minimum capital requirement, and are able to carry on business even in downturn without deleveraging and Countercyclical Capital Buffer (CCB) is a pre-emptive measure that requires bank to build up capital gradually as imbalances in the credit market develop. The Basel Committee has further strengthened the liquidity framework to improve

banks' resilience to liquidity problems in the market by developing two minimum standards for quantifying funding liquidity (i) Liquidity Coverage Ratio (LCR) (ii) Net Stable Funding Ratio. The foremost challenges in front of banks in India are What is size of additional capital required, relevance of cash reserve ratio in context of new liquidity standards and move from increased loss approach to expected loss approach. After the phased-in implementation of Basel III, RBI apprised the government of India on the need to initiate appropriate measures to ensure that banks have plans &well-defined strategy for meeting the capital requirements from a medium term perspective. Moreover, to implement New Capital Accord it dire need to have specialised skills and a paradigm shift in risk management in the supervised entities and within Reserve Bank also. Further, banks must upgrade their systems, processes to be able to compute additional capital requirement which based on advanced approaches & revised standardised approach, modifications in provisioning norms for betterment of disclosures.

Key Words: Basel III norms, Basel Committee on Banking Supervision, Challenges, Indian Banking System, Reserve Bank of India.

JEL Classification:G2, G20, G21

1.Introduction The financial sector is one of the primary engines of economic growth. For economic growth & development of any country is mainly influenced by the advancement of the banking sector in that particular nation. The sustainability of any economy, it is significantly dependent upon deployment as well as optimum utilization of resources. The banking sector plays prominent role in this direction &serve as backbone to the economy.The past two decades have experienced a resurgence of banking industry in the world and during this journey banking system in India has faced several challenges at national as well as international level.A vibrant, deep and well-developed financial market is needed to facilitate efficient resource allocation, risk dispersion and sustainability. Reserve Bank of India, Government and others regulators have been constantly engaged in taking measures that would help in developing markets. In the area of banking regulation, Basel III is an evolution rather than revolution. The framework of Basel III is basically the response of global banking regulators to deal with the factors, more specifically those relating to banking system that led to economic crises or great recession at international level.Basel III is an opportunity as well as challenge for banks. The implications of different countries taking different approaches to Basel III. The Key challenges in front of banking industry in India will be

IFSC- 37

RBI PERSPECTIVE ON REGULATION AND SUPERVISION OF SCHEDULED COMMERCIAL BANKS IN INDIA: AN ANALYTICAL REVIEW

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Dr. Babli Dhiman : Associate Professor, Mittal School of Buisness, Lovely Professional University, Phagwara

ABSTRACT

In this era of rapid change, financial stability and acceptable regulation should have three broad categories-(i)-regulation ought to be predictable, (ii)-internal governance mechanisms, (iii)-address information asymmetry). Structural reforms, typically one that increase competition, drive institutional changes, foster innovation, and are the way to raise potential growth. Growth is good, but it is better if it step with the stability. After the global financial crisis, Reserve bank agreed to forbear on certain type of functioning resolution process in a situation where existing system functions in a poor manner. The Reserve Bank of India performs function of secure monetary, price stability, currency & credit system with keeping in mind the objective of growth under the guidance of the Board for Financial Supervision (BFS). The Board was constituted in November 1994 as a committee of the Central Board of Directors of the Reserve Bank of India. Primary objective of BFS is to undertake consolidated supervision of the financial sector comprising commercial banks, financial institutions and non-banking finance companies. Moreover, Indian financial system has covered many milestones in a short period of over last two decades in achievement of various types of standards, strengthening of operating system & their prudential norms. Banks in this manner acts as life-blood of the system. Banks are the bedrock of financial system in all emerging economies and India is no different. The banks in India have been quite effectively performing the vital function of financial intermediation.

Banks in India are of a wide variety. Two broad categories are commercial banks & co-operative banks. In the category of commercial banks, there are nationalized banks, SBI & its subsidiaries, foreign banks, private sector banks-old & new as well as RRBs-regional rural banks. Major reforms & shift in focus in financial sector regulation & supervision started in Indian system in 1992. There is need to review regulatory and supervision framework imposed by RBI on SCBs, not only in the light of the global developments but also due to domestic requirements. In this paper, reviewed the major recommendations drafted for scheduled commercial banks in India that put in place by central bank of nation-RBI. Reserve Bank of India should put in place an appropriate supervision agenda that ensure move & consistency with emerging international prudential norms rather than inhibits. Any regulation of the financial system should take a pre-emptive approach, and consider the potential fragility of banks alongside all other elements of the financial system. For the RBI, it means ensuring growth does not exceed our potential, adopting prudential policies that reduce our risks, and building sufficient buffer that the nation is protected against the various shocks. The challenge before RBI is to identify what is going to strike us next? The health of the banking system and that of the economy share a symbiotic relationship and at this juncture when the global growth is still stuttering, the banking system also faces a multitude of challenges. Each of these challenges has different genesis and probably different solution. But, challenges also throw up opportunities. RBI have taken significant steps in that are interesting (based on level of competition that increase manifold), profitable (new technologies, information, new techniques that open vast & new opportunities as well as

customer) and challenging (competition & novelty that constitute a particularly volatile mix of risks) for commercial banks in India.

Strengthening Board and management appointments, decentralizing more decisions to the professional board, finding ways to incentivize management, all these will help to improve evaluation, monitoring and supervision over SCBs. Commercial banks in India will restored to health and RBI will do that make sure banks are able to support the tremendous growth that lies ahead.

JEL Classification: G2, G20, G21, G28, G210

IFSC-120

RELATIONSHIP OF CORPORATE SOCIAL RESPONSIBILITY AND CORPORATE FINANCIAL PERFORMANCE: A STUDY OF FINANCIAL SERVICE COMPANIES

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ABSTRACT

Corporate Social Responsibility is one of the most significant concepts prevailing in corporate world these days. It is like a moral duty. In today's economic and social environment, issues related to social responsibility and sustainability are gaining more and more importance. The relationship between corporate social responsibility and corporate financial performance has caught wide attention of researchers in the last decade. In this paper, attempt has been made to study the relationship of corporate social responsibility and corporate financial performance in Indian Financial Service Companies, using a sample of 36 companies from SENSEX. Various tests like regression, correlation, t-test and F-test has been performed using secondary data of the financial year 2015-2016. The study found that there is no significant relationship between Corporate Social Responsibility Initiatives and Corporate Financial Performance of the selected Financial Service Companies.
Keywords: Corporate Financial Performance, Corporate Social Responsibility, Financial Service Companies

IFSC- 80

CONFRONTATION OF FINANCIAL SERVICES WITH STAFFING CHALLENGES

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ABSTRACT

This article will provide an overview of the staffing challenges involved in financial services thereby providing an introduction to financial services. The people of a financial services firm comprise its most important asset. A customer's impression of the firm is influenced greatly by every interchange she/he has with a professional employed by the firm. These professionals create the perceptual realities of the firm to its customers. But that which is an asset can also be a liability. The appointment of trained staff members from among the pool of candidates that too with paid benefits is one of single largest cost implications for a firm. So, managers of financial services firms are faced with the dual responsibilities of having to hire, train and retain as well as keep very talented and motivated professionals and yet do this in a way that is cost conscience. The cost part of the equation can become quite complicated.

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His/Her Paper is awarded best paper in ICGTBSR '16. We wish him/her very best in his/her future endeavours.

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