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Can Foreign Banks Reignite India's Manufacturing, Domestic Foreign Trade Growth with Application of Competitive Business Practices Models?

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Can Foreign Banks Reignite India's Manufacturing, Domestic & Foreign Trade Growth with Application of Competitive Business Practices Models?

Abstract- This research paper attempts to find out foreign banks (FBs) potential to reignite India's manufacturing, domestic & foreign trade growth with application of competitive business practices models. This task is accomplished with the evaluation of competitive business practices models covering twenty four foreign banks (FBs) operating in India post Reserve Bank of India (RBI) Road Map 2005 and during the period 2003 to 2013 through the use of publicly available information. Competitive business practices models have been evaluated by the application of factor analysis followed by cluster analysis. Twenty three variables related to working of foreign banks supported with five variables related to India's foreign trade were reduced into four factors by using factor analysis. Using these four factors cluster analysis was carried out to group twenty four foreign banks into three clusters leading to three distinct competitive business practices models. The dataset for analysis was for the period for financial years 2003-04 to 2012-13 and the focus is on post RBI Road Map-2005 for foreign banks. The foreign banks' sample consists of consistently operating twenty four foreign banks (FBs) out of the universe consisting of forty three foreign banks operating in India between 2003-04 and 2012-13. This study broadly covers foreign banks (FBs) having legal entity and financial roots primarily in home country and entered in India for tapping Indian financial market in the form of term loans, cash credit, bridge loans, investments and funding for business activities (business financing operations) .

Key Words- Foreign Banks, Finance, Models, Foreign Trade, Financing

1Introduction: - The Indian manufacturing, domestic trade and foreign trade sector requires to develop an end user-financer platform involving more diversified and sustainable financial base. This will be focusing on end users as the pivotal driver of manufacturing, domestic and foreign trade development both globally and at home leading to inclusive foreign trade and economic growth. India faced turmoil at agricultural sector in three consecutive years 2013 to 2015 and recession in manufacturing sectors covering steel, mining, minerals, automobiles, sugar, construction, aviation, textiles/garments and cement etc. Following the overall trend, credit growth to major sector also declined and this decline was spread over all the

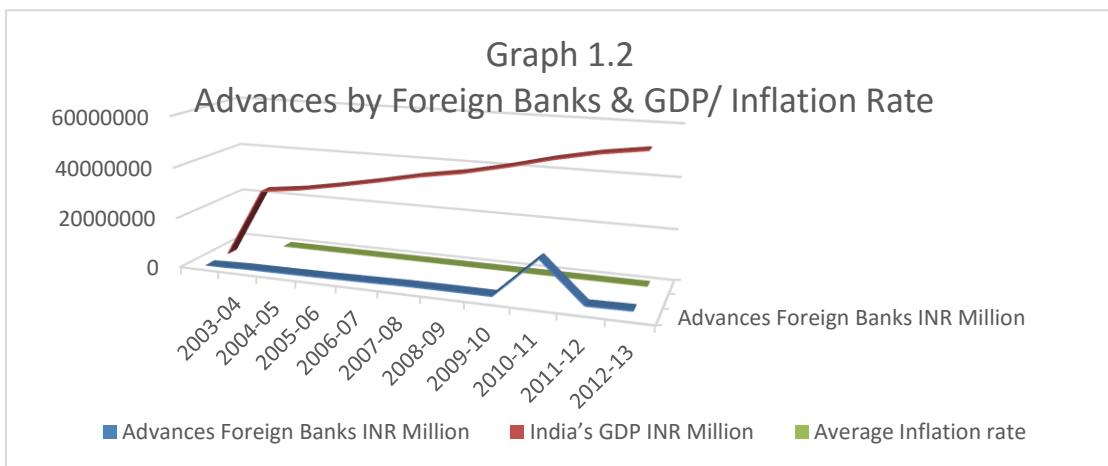
subsectors including priority sectors. During the year 2015-16, with growth in credit to agriculture declining to 12.6 per cent from 30.2 per cent in the previous year. Credit to priority sectors by Public Sector Banks (PSBs), Private Banks (PVBs) and Foreign Banks (FBs) was 38.2 per cent, 43.2 per cent and 32.2 per cent respectively (of adjusted net bank credit (ANBC)/credit equivalent of off-balance sheet exposure, whichever is higher). However, the newly launched make-in-India campaign promises inflow of foreign capital in the form of foreign direct investment in the diversified manufacturing sectors which will have long term effects on both domestic as well as on foreign trade of India. Foreign banks operating in India may play a decisive role in bringing foreign capital and allocation of foreign capital to needy sectors through PSBs, PVBs and appropriate government agencies. Graph 1.1 shows India's Gross Domestic Products for the period 2006 to 2015 with an increasing trend.



India currently has the distinction of being the fastest growing major economy in the world. It grew at 7.6 per cent in the previous fiscal. The monsoon has been pretty active till date and has almost covered the entire country, according to reports. However, Indian manufacturing, domestic trade and foreign trade needs a strategy with firm roots that can begin raising GDP and economic growth wherein role of foreign banks is very critical. Foreign banks are developing their Indian business along with increasing their client base and implementing potential opportunities for massive entry into the market. Most of the foreign banks have the greatest experience in working with private depositors, and also lending actively to the real and various business sectors. Foreign banks desire to enter the Indian market is understandable. Bilateral trade with various countries has been growing rapidly as economies are recovering from the global

financial crisis. Foreign banks' principal focus is on promoting bilateral trade by offering finance at various stages of business cycle like product development, production, and marketing, import-export credit at pre-shipment and post-shipment stages, investment abroad and import of technology. Foreign banks operate a wide range of lending programs. Financial packages offered by the Foreign banks are competitive and multi-currency. 'Foreign banks' is the crucial factor in international economy. It is the dominant provider of capital in the form of advances & investments to various sectors like construction, automobile, energy, machinery industry covering also priority sectors including agriculture, MSE, weaker section and exports plus imports.

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Graph 1.2 indicates increasing India's GDP along with increase in advances by foreign banks at a controlled level of inflation.

1.1 Current Scenario of Foreign Banks in India: -During the last two decades, India has seen an unprecedented degree of globalization especially in financial services. Foreign trade, financial system, technological advances, deregulation impact, industry and its major players' growth were identified as industry shaping milestones that gradually formed the today's foreign banks' models. As of March 2013, there are 43 foreign banks from 26 countries operating as branches and 43 foreign banks from 22 countries operating as representative offices in India. In addition, a number of foreign banks have also entered India via the Non-Banking Financial Company (NBFC) route, while considerable number of foreign banks have set up captive centers in the country.

1.2 Significance of study: - Knowing under what models foreign banks operate for financing India's manufacturing, domestic and foreign trade and how models change in perspective to time or the foreign banks' operative approach, can provide valuable

insight into the whole financial system. Foreign banks are to develop commercially viable relationships with a target set of externally business oriented companies in India and their host countries by offering them comprehensive range of products and services, aimed at enhancing their internationalization efforts with the application of specific models.

1.3 Criticism against foreign banks: - It is observed that foreign banks operating in various developing countries are focused on a section of credit worthy customers and are involved in taking out cream of credit market. While carrying out financing operations these institutions in general neglect small or marginal customers. (Mandira Sarma and Anjali Prashad 2014). It has become hard to forecast, monitor or even follow how foreign banks conduct their business.

1.4 Foreign banks and Rural Regions in India: - It is argued that the developmental needs of rural regions in India may not be met by foreign banks. In India, out of approximately 600 districts, the number of districts without financial facility is nearly 400. Foreign banks are not going to enhance the reach of the financial system to millions of rural Indians manufacturers/service providers / businesses /citizens who do not have access to institutional finance.

2. Research Methodology: -

2.1 This research study is mainly based on secondary data.

2.1.1 First of all published literature relating to the Foreign Trade of India and financing of Foreign Trade was collected and consulted with special reference to FBs.

2.1.2 Secondly full advantage was taken of consultation with the faculty of various institutes related to Foreign Trade. For example, Indian Institute of Foreign Trade (IIFT), EXIM Bank, NIBM, Foreign Trade Organizations, Commerce wing in Indian High Commissions in various countries.

2.1.3 Thirdly a broad view was obtained on the role of FBs on the growth of Foreign Trade of India and financial models applied by FBs while operating in India.

2.1.4 Lastly an analysis of the total operations of the FBs and their functional variables will be undertaken to find out how far FBs are able to achieve their objectives.

2.2 Data and Source of Data:-

The present study is predominantly empirical in nature and based on secondary data. This study involved basically published literature searches and various internet web site searches related to Foreign Trade and Foreign banks for obtaining secondary data.

2.3 Sample Design & selection of FBs:-

For this study foreign banks are selected by random sampling method but belong to major countries related to India's Foreign Trade, a home country of foreign banks having a sizable bilateral trade with India and non-interrupted operation as indicated by profile of banks as per RBI.

2.4 Sampling Plan:

A sample of 24 FBs is selected among 43 FBs (Universe) satisfying various conditions as per sampling design. This corresponds to $(24/43) = 55.81\%$ of total universe value. The study is conducted on the FBs operating in India during the financial year 2003-04 to 2012-13.

2.5 Data analysis techniques:-

For effective analysis of data secondary data, various statistical tools like trend analysis, averages, etc. software like IBM SPSS are used. Data analysis activity begins with proper tabulation of observed values for all the 28 variables year wise for 24 FBs during the period 2003-04 to 2012-13. This is processed for calculation of Mean, Standard Deviation, Min, Max, Standard Error etc. The processed data is used to generate input for factor and cluster analysis.

2.6:- Scope of the Study:-This study broadly covers foreign banks having legal entity and financial roots primarily in home country and entered in India for tapping Indian market in the form of term loans, cash credit, bridge loans, equity participation and funding for business activities .

2.7 Limitations of the Study: - This study is limited to determination of effect of funding by foreign banks to Indian businesses/manufacturing/service operations and trading involving term loan or cash credit in the form of advances.

3.1 Review of Literature in short:-

The foreign banks model analysis offers a wide range of applications. Several authors already employed this type of analysis, generating promising results. The concept is used as an educative and analytical tool to explain and understand how foreign banks

function. The term model is widely applied and capable of including a range of financial business aspects. Financial business objectives, core customers, product management, financial business strategies, organization infrastructure and many other strategic and operational business processes fit in foreign banks model term. Because of this capability to explain so much, foreign banks model term suffers an “identity crisis”. While scholars do not agree what a model is, certain patterns are available and definitions emerge (Pedrotti (2014)) and (Osterwalder, Pigneur 2010). For the purpose of a more tangible applicability and necessary foreign banks model comparability, a work by Zott and Amit is used as a definition core for the model (Zott, Amit 2008). Applying similar conceptualization in the foreign bank business, the acquisition of necessary funds, loan service provisions and implied risk-taking can be interpreted as a base financial product market strategy, as these are the same products/services that foreign banks are competing for in the financial market. The evolutionary logic of the foreign bank model is addressed by sympathizing with G. George’s and A. Bock’s thinking that organizations adjust and redesign their models under the effects of a changed operational environment (George, Bock 2011). The ability to adjust or transform the model is regarded as one of the major features in the financial business model logic.

3.2 Research Gap Analysis:-

3.2.1 Scope of Review: - The effect of opening of economy on growth of a country and various models of foreign bank has been critically covered. In general, researchers point out that foreign bank is an important factor for the GDP growth. Openness to foreign banks policy yields access to finance at a competitive rate.

3.2.2 Limitations of Review: - The effect of external financing from foreign banks on working of domestic institutions is not examined. There is no unanimous acceptance amongst researchers about specific models of foreign banks operating in host and home countries.

3.2.3 Scope for further review work: - Effect of external financing from foreign banks on working of domestic institutions may be reviewed in detail along with priority sector financing.

4.1 Analysis and Interpretation of Data:-

World over no bank is confined to a specific theoretical model. Although institutions operating in Europe, such as BNP Paribas, Deutsche Bank or Société Générale define themselves as retail-oriented institutions for marketing purposes, the research provides evidence that their business model is in fact closer to investment banking (Ayadi et.al. 2012). Similarly, the 24 selected foreign banks operating in India, are not relying on any specific theoretical model but making use of best of all business opportunities available.

4.2 Profile of selected foreign banks for study purpose and variables

4.2.1 During the year 2003-04 to 2012-13 (ten years observation period) there are only twenty four of FBs operating consistently in India. These foreign banks are selected for this research to generate models of foreign banks.

Annexure-1 shows the details of these twenty four foreign banks including their respective case number allotted along with business, advances, investment.

4.2.2 Annexure-2 shows List of Variables and Factor/Component Score Coefficient Matrix.

4.2.3 The analysis for Foreign Trade Variables, is conducted using annual data for each foreign bank operating in India.

Data related to 28 variables pertaining to 24 FFIs along with values of averages for the period 2003-04 to 2012-13 were processed which served as an input for conducting factor analysis to yield four factors.

Based on the above, case wise calculation of values of eight factors was performed which served as an input for conducting cluster analysis to yield three clusters which are termed as Model-A, Model-B and Model-C. Annexure-3 Case wise calculations of values of four number factors.

4.3 Five variables pertaining to foreign trade: - These are derived based on gravity equations used in the research of foreign trade. The variables included in the export and import volume equations are real exports contribution by foreign bank, real imports contribution by foreign bank, real gross domestic product contribution by foreign bank (CTGDP), Modified export demand (M-EXDEM) because of foreign bank, and trade finance (FIN). For the export volume equation, export demand represents market share and is computed as the ratio of imports to total exports, specifically

$$M-EXDEM = \text{Sum of } \textit{imports} / \text{Sum of } \textit{exports} \quad (4.3.1)$$

Where *imports* is considered total imports into India.

Exports represents total exports to all countries by India.

To examine how financial development and foreign trade finance influence trade flows, econometric models similar to those found in Arize (1996), Asafu-Adjeye (1999), and Ozturk and Kalyoncu (2009) were referred. Also, research work by Daniel Perez Liston, Lawrence McNeil (2013) was referred.

The proposed export volume equation is as follows:

$$\text{Log}(\text{exports}) = A_0 + A_1 \log(\text{M-EXDEM}) + A_2 \text{FIN} + A_3 \text{FIN} \quad (4.3.2)$$

Where exports are real exports contribution by foreign bank, M-EXDEM is a proxy for export demand contribution by foreign bank, FIN is the trade finance proxy contribution by FB. Now, Imports are modeled as follows:

$$\text{Log}(\text{imports}) = A_0 + A_1 \log(\text{MGDP}) + A_2 \text{FIN} \quad (4.3.3)$$

Where imports, are real imports contribution by foreign bank and M-GDP is the real gross domestic product contribution by foreign bank. A_0, A_1, A_2 are constants. From profile of foreign banks it is observed that foreign banks' Business is equal to number of Employees multiplied by Business per Employee. The definition of Proposed Modified Formulae for Foreign Trade Variables are as follows:-

(A) M-EXDEM = Modified variable for export demand as per foreign bank's financing = $(\text{Total Imports} / \text{Total Exports}) * (\text{Investments by foreign bank}) * (\text{Advances by foreign bank})$ where, (foreign bank's Business) = $(\text{No. of Employees} * \text{Business} / \text{Employee})$

(B) FIN = Modified Finance function = $((\text{Investments by foreign bank} + \text{Advances by foreign bank}) / (\text{foreign bank's Business}))$

(C) EIR = Effective Interest Rate = $100 * (\text{Interest Income by foreign bank} / \text{Advances by foreign bank})$

(D) $\text{Log}(\text{M-FT}) = \text{Log}(((\text{Average FT}) / (\text{Investments} * \text{Advances})))$

(E) $\text{Log}(\text{CTGDP}) = \text{Log}(((\text{Investments} * \text{Advances}) * (\text{No. of Employees} * \text{Business per Employee})))$

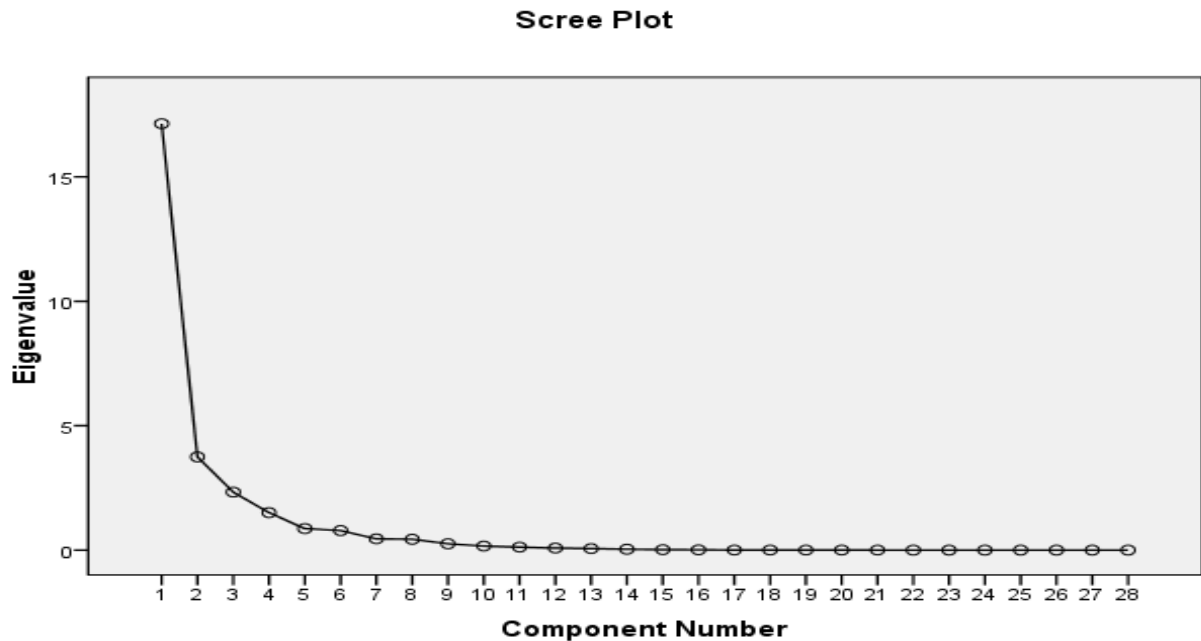
Based on the above definition values of foreign trade variables have been computed and used in working of factor analysis followed by cluster analysis.

4.4 Output of Factor Analysis: -

Output of Factor Analysis									
Component	Initial Eigenvalues			Total Variance Explained			Rotation		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.13529	61.19747	61.19747	17.13529	61.19747	61.19747	16.78125	59.93305	
2			3.744524956	3.744525	13.3733	74.57077	3.20915	11.46125	
3	2.331262	8.325936	82.89671	2.331262	8.325936	82.89671	2.487406	8.883592	
4	1.505313	5.376116	88.27282	1.505313	5.376116	88.27282	2.23858	7.99493	
5			0.864249974						
6	0.783903	2.799653	94.15908						
7	0.45175	1.613394	95.77248						
8	0.436045	1.557303	97.32978						
9	0.252416	0.901485	98.23126						
10	0.162862	0.58165	98.81291						
11	0.120162	0.42915	99.24206						
12	0.080846	0.288737	99.5308						
13	0.059952	0.214113	99.74491						
14	0.034412	0.122902	99.86781						
15	0.018224	0.065084	99.9329						
16	0.012157	0.043418	99.97632						
17	0.003019	0.010782	99.9871						
18	0.002148	0.007672	99.99477						
19	0.0008	0.002856	99.99763						
20	0.000426	0.00152	99.99915						
21	0.000164	0.000585	99.99973						
22	5.51E-05	0.000197	99.99993						
23	2.02E-05	7.2E-05	100						
24	2.83E-16	1.01E-15	100						
25	9.5E-17	3.39E-16	100						
26	-1.5E-17	-5.4E-17	100						
27	-2.4E-16	-8.7E-16	100						
28	-3.6E-16	-1.3E-15	100						
Extraction Method: Principal Component Analysis.									

4.4.1 Scree plot:-The scree plot graphs the eigen value against the factor number.

Graph 4.4.1:- Scree plot graph:-



Graph 4.4.1 shows Eigen values which are given in the first two columns of the table number 5.6 immediately above. For determining the number of factors to retain we have used the eigenvalue-greater-than-one rule (K1), proposed in 1960 by Kaiser. In accordance with this rule, only the factors that have eigenvalues greater than one are retained. From the **5th factor** on, it is observed that the eigenvalue is less than one, meaning the each successive factor is accounting for smaller and smaller amounts of the total variance. Annexure- 2 indicates Component Score Coefficient Matrix. For a specific variable, Annexure-2 & 3 are used to calculate variable wise and further case wise values of factors 1 to 4. Annexure 3 shows mean or average values of variables for the period 2003-04 to 2012-13. For example, for the variable ‘Advances’ the value of Factor 1 is 0.062059,

For case 1, the mean value for Advances is 0.075151. Then for the case 1, the value of Factor1 for a variable ‘Advances’ is equal to 0.062059 multiply 0.07515= 0.004664. Using this method, the value of Factor1 is calculated for all variables 1 to 28 and the sum of these values is the value of Factor1 for case1. These case wise values of factors 1 to 4 are given in Annexure-4.

4.5 Cluster analysis:-

For this research study, cluster analysis is carried out as follows:-

4.5.1 Case (Foreign bank) wise computation of values of 4 factors which are generated using factor analysis.

4.5.2 Case (Foreign bank) wise calculation and recording of 4 factors in tabular format.

After processing the data for Cluster Analysis using SPSS, details related to Cluster Membership are as under:-

Table 4.5.2.1 Cluster Membership

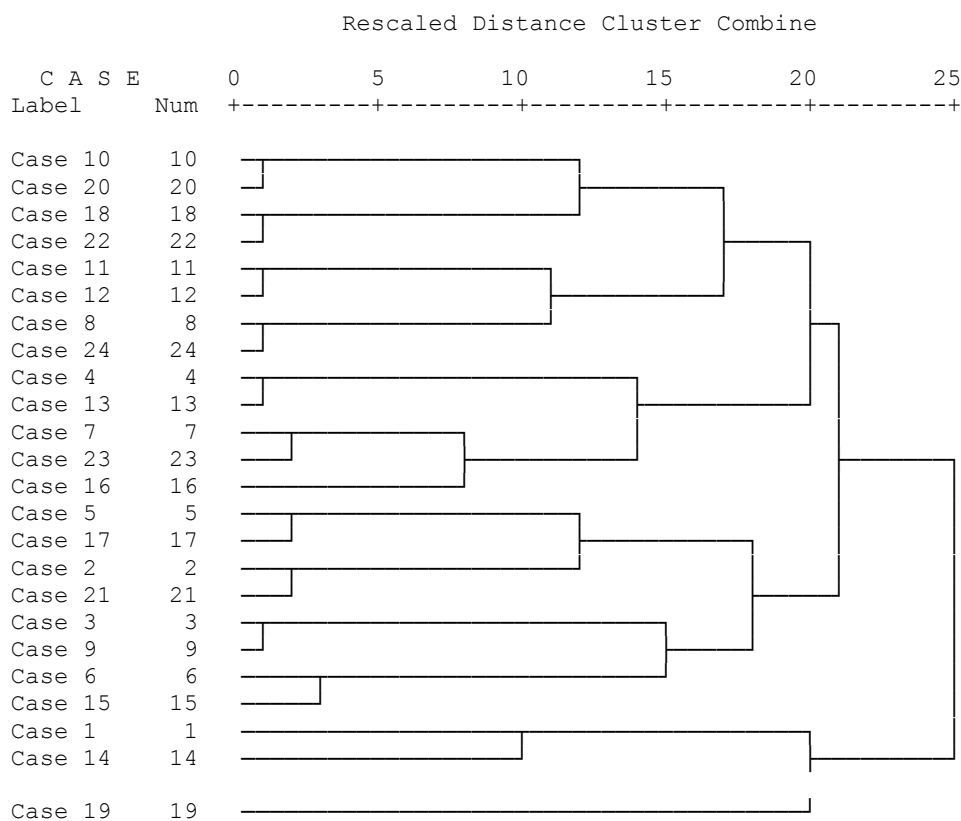
Cluster Membership	
Case	3 Clusters
1:Case 1	1
2:Case 2	2
3:Case 3	2
4:Case 4	3
5:Case 5	2
6:Case 6	2
7:Case 7	3
8:Case 8	3
9:Case 9	2
10:Case 10	3
11:Case 11	3
12:Case 12	3
13:Case 13	3
14:Case 14	1
15:Case 15	2
16:Case 16	3
17:Case 17	2
18:Case 18	3
19:Case 19	1
20:Case 20	3
21:Case 21	2
22:Case 22	3
23:Case 23	3
24:Case 24	3

Table 4.5.2.1 shows to which cluster a particular case is belonging. For example, case number 17 is in cluster number 2, case number 13 is in cluster number 3 and case number 14 is in cluster number 1.

Graph 4.5.1 shows “Dendrogram”. In Greek language the word ‘ Dendro’ means tree. Here the cases in 3 number clusters are presented in a ‘Tree shape’ or called as a Dendrogram. The branching-type-nature of the Dendrogram allows the researcher to trace backward or forward to any individual case or cluster at any level. It, in addition, gives an idea of how great the distance was between cases or groups that are clustered in a particular step, using a 0 to 25 scale along the top of the chart. While it is difficult to interpret distance in the early clustering phases (the extreme left of the graph), as you move to the right relative distance become more apparent. The bigger the distances before two clusters are joined, the bigger the differences in these clusters. To find a membership of a particular cluster simply trace backwards down the branches to the name.

Graph 4.5.1 Dendrogram using Centroid Method

HIERARCHICAL CLUSTER ANALYSIS



4.6 Characteristics of 3 Models of Foreign Banks: - This part of the research determines and discusses specific characteristics of the three models derived by the application of factor analysis and cluster analysis. The specific characteristics of models are expressed in terms values of four factors which are either positive or negative values.

4.6.1 Identification of Factors based on positive or negative scores: - Two distinct groups of all 4 factors are formed based on positive or negative value of factors with respect to 24 cases used in this research. Positive values are considered as positive push and negative values are considered as negative pull for the operational activities of foreign banks.

4.6.2 Absolute Mean Values:-These values are actual or real mean values of four factors with respect to specific Model either Model-A or model-B or Model-C. Models are segregated based on ascending order of mean values. Table 4.6.1 indicates ascending order of Models A to B to C and also furnishing absolute mean values of four factors with respect to specific model.

Table 4.6.1 Absolute Mean Values:-

Model	F1	F2	F3	F4
A	146.271	5.54965	15.3559	-74.918
B	900.771	4.78802	60.0926	-301.45
C	37981.6	-1454.4	2574.16	-13222

4.6.3 Percentage Values: - These values are percentage of mean values of four factors with respect to specific Model either Model-A or model-B or Model-C. Models are segregated based on ascending order of mean values. Table 4.6.2 indicates ascending order of Models A to B to C and also furnishing percentage of mean values of four factors with respect to specific model

Table 4.6.2 Percentage Mean Values

Model	F1	F2	F3	F4
A	0.3748	-0.3843	0.5796	0.5509
B	2.3167	-0.3303	2.2812	2.2291
C	97.3086	-99.2854	97.1392	97.2199

Table 4.6.3 Identification of Factors based on positive /negative scores based on Percentage Mean Values

“Push” Factors (Positive Values)	“Pull” Factors (Negative Values)
Factor-F1-	Factor-F2-
Factor-F3	Factor- F4

4.6.4 Grouping of Factors based on Positive Push & Negative Pull is carried out based on positive value or negative value of absolute mean value of factors and further converting it into percentage value. Table 4.6.4 shows above mentioned grouping. Factor F1, F3, represent Positive Push group whereas Factor F2, F4, represent Negative Pull group. Models are placed in ascending order of percentage values of four factors.

Table 4.6.4 Grouping of Factors based on Positive Push / Negative Pull: - Positive Push is in blue color whereas Negative Pull is in red color

<i>Model</i>	<i>F1</i>	<i>F3</i>	<i>F2</i>	<i>F4</i>
A	0.3748	-0.3843	0.5796	0.5509
B	2.3167	-0.3303	2.2812	2.2291
C	97.3086	-99.2854	97.1392	97.2199

4.6.5 Model A: - This is basically cluster 1. It includes three cases out of 24 cases analyzed during the research. Table 4.6.5 indicates three cases along with values of four factors with respect to specific case. This table also shows maximum values, minimum values, mean value and value of standard deviation of four factors with respect to cases involved in this research. Here, both absolute mean values and percentages mean values of four factors are at the minimum or the least level. Hence this model is termed as “Also Ran Low End Economy model” of the foreign banks, meaning foreign banks covered under this model are just maintaining their existence by carrying out their operational activities while operating in India. These foreign banks lack initiative to tap various business opportunities available under the RBI roadmap with the application of variables like balanced score factor and return on advances/ or assets, to widen their prospective customer base and increase income plus appropriate profitability.

Table 4.6.5 Model A – 3 Cases

Model-A							
Cases- 3				1	2	3	4
CaesNo	Name of the Bank			F1	F2	F3	F4
1	AB Bank Limited			151.986	7.37263	25.0007	-62.612
14	Krung Thai Bank Public Company Ltd.			218.461	15.076	1.11467	-125.95
19	Sonali Bank Ltd.			68.3656	-5.7997	19.9524	-36.188
	Max			218.461	15.076	25.0007	-36.188
	Min			68.3656	-5.7997	1.11467	-125.95
	Mean			146.271	5.54965	15.3559	-74.918
	St.Deviation			61.4095	8.61942	10.2788	37.6659

4.6.6 Model B: - This is basically cluster 2. It includes eight cases out of 24 cases analyzed during the research. Table 4.6.6 indicates eight cases along with values of four factors with respect to specific case. This table also shows maximum values, minimum values, mean value and value of standard deviation of four factors with respect to cases involved in this research. . Here, both absolute mean values and percentages mean values of four factors are at the moderate or the medium level. Hence this model is termed as “Progressive Medium End model” of the foreign banks, meaning foreign banks covered under this model are pushing their presence by carrying out their operational activities while operating in India. These foreign banks possess initiative to tap various business opportunities available under the RBI roadmap with the application of variables balanced score factor and return on advances/ or assets to widen their prospective customer base and increase income plus appropriate profitability.

Table 4.6.6 Model B- 8 Cases

Model-B							
Cases-8							
CaesNo							
2	Abu Dhabi Commercial Bank Limited			1396.09	-56.424	-0.5448	-531.51
3	Antwerp Diamond Bank N.V.			831.469	60.1019	102.976	-215.32
5	Bank of Bahrain and Kuwait B.S.C.			1063.49	-33.951	44.224	-377.38
6	Bank of Ceylon			299.814	13.2862	30.7033	-109.68
9	CTBC Bank Co.,Ltd.			351.655	14.9621	34.593	-105.92
15	Mashreqbank psc			454.922	11.7067	57.2294	-170.45
17	Shinhan Bank			1645.51	6.22555	129.211	-538.73
21	State Bank of Mauritius Ltd.			1163.22	22.3965	82.349	-362.62
	Max			1645.51	60.1019	129.211	-105.92
	Min			299.814	-56.424	-0.5448	-538.73
	Mean			900.771	4.78802	60.0926	-301.45
	St.Deviation			469.254	33.2471	39.6272	165.2

4.6.7 Model C: - This is basically cluster 3. It includes thirteen cases out of 24 cases analyzed during the research. Table 4.6.7 indicates thirteen cases along with values of four factors with respect to specific case. This table also shows maximum values, minimum values, mean value and value of standard deviation of four factors with respect to cases involved in this research. Here, both absolute mean values and percentages mean values of four factors are at the maximum or at the highest level. Hence this model is termed as “High End Star model” of the foreign banks, meaning foreign banks covered under this model are leaving no chance for pushing their presence at the highest level by carrying out their operational activities while operating in India. These foreign banks possess proactive initiative to tap various business opportunities available under the RBI roadmap with the application of variables like balanced score factor and return on advances/ or assets to widen their prospective customer base and increase income plus appropriate profitability.

Table 4.6.7 Model C- 13 Cases

Model-C								
Cases-13								
CaesNo								
4	Bank of America NA				15579.2	-89.975	1595.35	-4940.7
7	Barclays Bank PLC				22414.2	-182.61	2794	-6719.5
8	BNP Paribas				11987.1	-310.67	1018.28	-3976.4
10	Citibank N.A.				122754	-5757.6	6934.82	-43973
11	DBS Bank Ltd.				18189.6	-703.41	1180.38	-6369.6
12	Deutsche Bank AG				33319.8	-1089.3	2489.71	-11297
13	JPMorgan Chase Bank				16411.5	-109.14	1718.69	-5262.5
16	Mizuho Bank Ltd.				8461.62	152.948	1409.98	-2390.4
18	Societe Generale				2984.13	-46.684	235.083	-976.55
20	Standard Chartered Bank				116151	-5448.4	6526.33	-41579
22	The Bank of Nova Scotia				9848.95	-291.61	646.434	-3402.9
23	The Bank of Tokyo-Mitsubishi UFJ, Ltd.				7979.23	97.9704	1033	-2355.8
24	The Hongkong and Shanghai Banking Cor				107680	-5128.6	5881.96	-38640
	Max				122754	152.948	6934.82	-976.55
	Min				2984.13	-5757.6	235.083	-43973
	Mean				37981.6	-1454.4	2574.16	-13222
	St.Deviation				43182.3	2211.69	2229.23	15659.8

Graph 4.6.7 drawn below, indicate co-ordinate position of Model-A, Model-B and Model-C. As shown by this graph, Model- A covers least or minimum area, Model-B covers area at moderate or medium level whereas Model-C covers the maximum or highest area on the graph. This is mainly because of ascending order of values of four factors of these models.

Graph 4.6.7 Simple Radar type graph indicating co-ordinate position of models:

Graph 4.6.7 simple radar type indicates position of models by drawing simple lines.

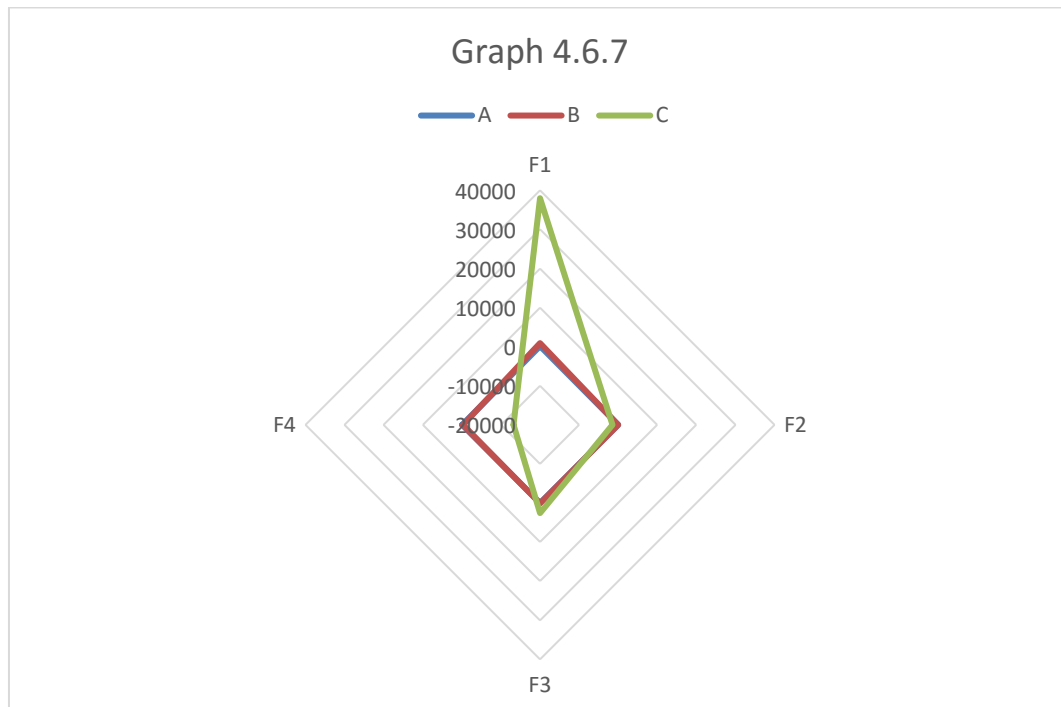
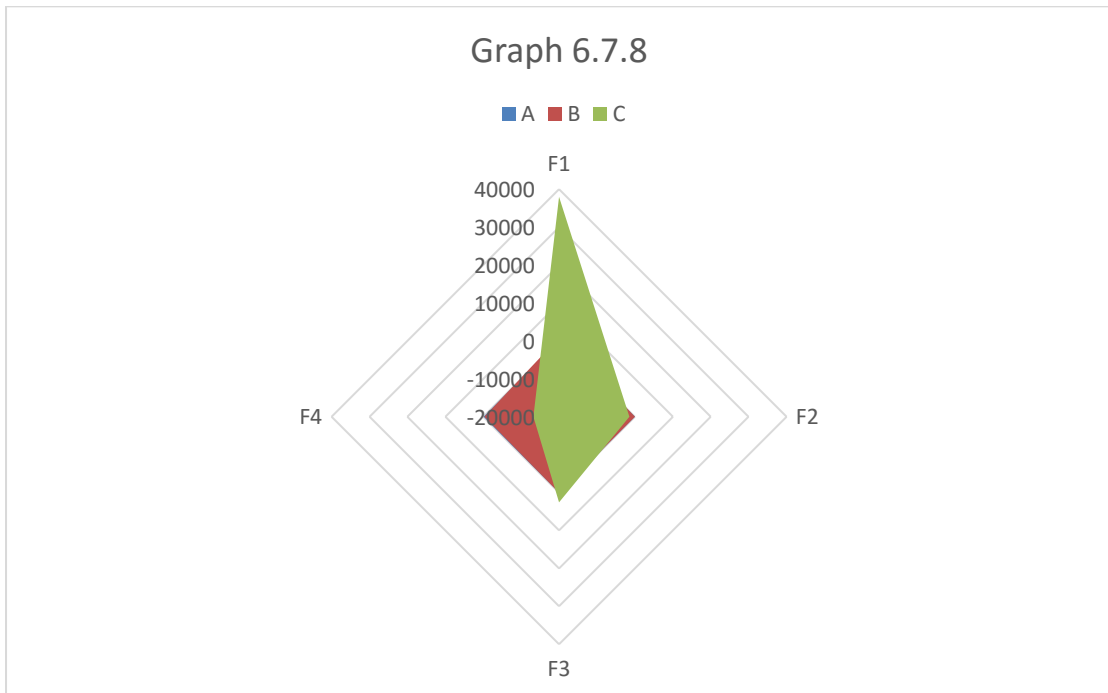


Table 4.6.7 Intensity of Positive Push and Negative Pull amongst models

Model	Positive Push	Negative Pull
A	Minimum emphasis on F1 & F3	Minimum emphasis on F2 & F4
B	More emphasis on F1 & F3	More emphasis on F2 & F4
C	Highest emphasis on F1 & F3	Highest emphasis on F2 & F4

Graph 4.6.8 Filled Radar type graph indicating co-ordinate position of models: - Graph 4.6.8 filled radar type indicates position of models by highlighting areas covered by respective model.



4.7 Testing of Hypothesis: -

Hypothesis Number 1: -

H1: Foreign banks (FBs) provide services to Indian companies at a very competitive and concessional cost.

HO: Foreign banks (FBs) do not provide services to Indian companies at a very competitive and concessional cost.

This hypothesis tested using statistical test, table supported with graph by comparing A) Foreign banks' cost of funds, B) Return on advances and C) Return on assets against State Bank of India (SBI) since in India SBI is the lead financial institution for providing advances to manufacturing & trading.

Here we are comparing Foreign banks' cost of funds against SBI's cost of funds since in India SBI is the lead financial institution for providing advances to manufacturing & trading.

Table 4.7.1 FBs' Cost of Funds - Comparison with State Bank of India

	FBs (24) N Average		SBI-Average
Year	Cost of Funds	Year	Cost of Funds
2003-04	3.80	2003-04	5.74
2004-05	3.56	2004-05	4.90
2005-06	4.39	2005-06	4.88
2006-07	4.12	2006-07	4.55
2007-08	4.28	2007-08	5.64
2008-09	4.41	2008-09	5.72
2009-10	2.95	2009-10	5.14
2010-11	2.90	2010-11	4.67
2011-12	3.67	2011-12	5.35
2012-13	3.93	2012-13	5.63
Average=	3.80	Average=	5.22

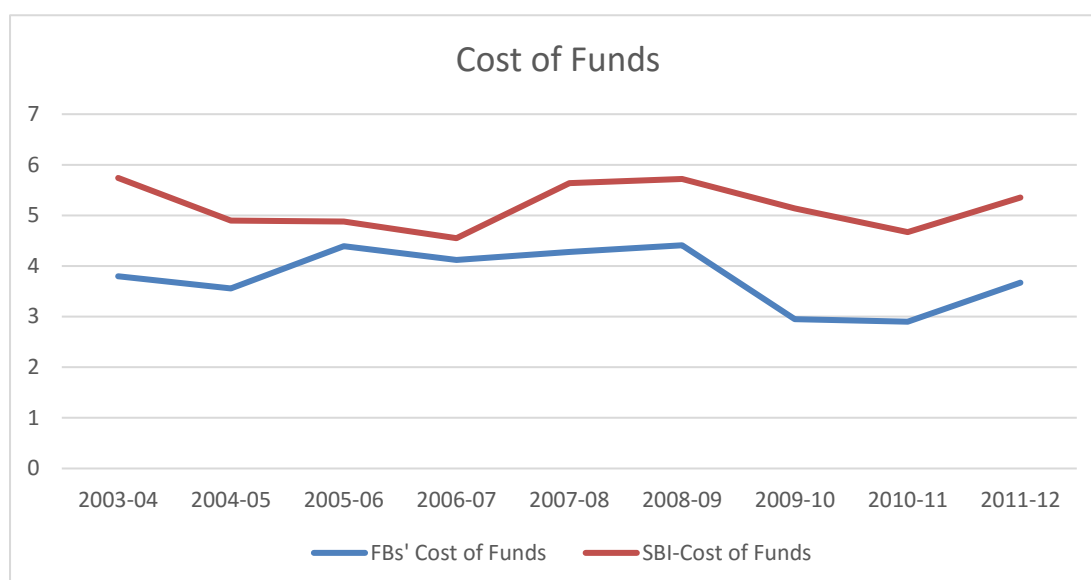
Statistical Test: - Here $\bar{x} = 5.22$, $\mu_0 = 3.80$, $\sigma = 0.43109$, $n = 24$

$$Z_c = \frac{\bar{x} - \mu_0}{\sigma/\sqrt{n}}$$

$$= (5.22 - 3.80) / (0.43109 / (24^{0.5})) = (1.42) / (0.43109) / 4.8989 = 1.42 / 0.0879 = 16.15$$

Distribution of test statistic is $N(0, 1)$. So critical value for right tailed test and for 5% level of significance is 1.645. Since, computed value > critical value at 5% level of significance, we reject H_0 at 5% level of significance in favor of H_1 and conclude that Foreign banks provide services to Indian companies at a very competitive and concessional cost because FBs' cost of Funds is lower than SBI's Cost of Funds.

Graph 4.7.1 FBs' Cost of Funds- Comparison with State Bank of India (SBI)



From above table and graph it is observed that FBs cost of Funds is lower than SBI's Cost of Funds during the observation period. Hence H1 is acceptable whereas HO is rejected.

B) Here we are now, comparing FBs return on advances against SBI's return on advances since in India SBI is the lead financial institution for providing advances to manufacturing & trading

Table 4.7.2 FBs' Returns on Advances – Comparison with State Bank of India (SBI)

	FBs 24(N) Average		SBI-Average
Year	Return on Advances	Year	Return on Advances
2003-04	4.27	2003-04	1.88
2004-05	3.66	2004-05	2.34
2005-06	3.08	2005-06	2.74
2006-07	5.16	2006-07	3.74
2007-08	4.96	2007-08	3.70
2008-09	6.57	2008-09	3.95
2009-10	5.35	2009-10	3.48
2010-11	4.74	2010-11	3.97
2011-12	5.04	2011-12	4.63
2012-13	4.72	2012-13	3.83
Average=	4.75	Average=	3.42

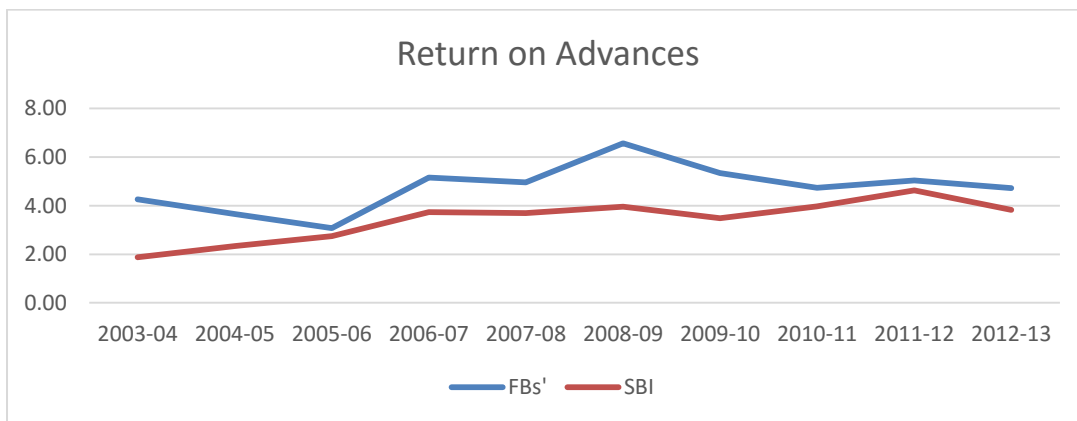
Statistical Test: - Here $\bar{x} = 4.75$, $\mu_0 = 3.43$, $\sigma = 0.90339$, $n = 24$

$$Z_c = \frac{\bar{x} - \mu_0}{\sigma/\sqrt{n}}$$

$$= (4.75 - 3.43) / (0.90339 / (24^{0.5})) = (1.32) / (0.90339 / 4.8989) = 1.32 / 0.1844 = 7.15$$

Distribution of test statistic is $N(0, 1)$. So critical value for right tailed test and for 5% level of significance is 1.645. Since, computed value $>$ critical value at 5% level of significance, we reject H_0 at 5% level of significance in favor of H_1 and conclude that FFIs provide services to Indian companies at a very competitive and concessional cost because FBs' Return on Advances is higher than SBI's Return on Advances.

Graph 4.7.2 FBs' Return on Advances- Comparison with State Bank of India



From above statistical tests, tables and graph it is observed that FBs' return on advances is higher than SBI's return on advances during the observation period. Hence H_1 is acceptable whereas H_0 is rejected.

C) Here we are now, comparing FBs return on assets against SBI's return on assets since in India SBI is the lead financial institution for providing advances to manufacturing & trading.

Table 4.7.3 FBs' Returns on Assets - Comparison with State Bank of India

FBs 24 (N) Average		SBI-Average	
Year	Return on Advances	Year	Return on Advances
2003-04	1.87	2003-04	0.94
2004-05	0.87	2004-05	0.99
2005-06	1.71	2005-06	0.89
2006-07	1.95	2006-07	0.84
2007-08	2.65	2007-08	1.01
2008-09	2.69	2008-09	1.04
2009-10	1.41	2009-10	0.88
2010-11	1.91	2010-11	0.71
2011-12	2.23	2011-12	0.88
2012-13	2.16	2012-13	0.91
Average=	1.95	Average=	0.91

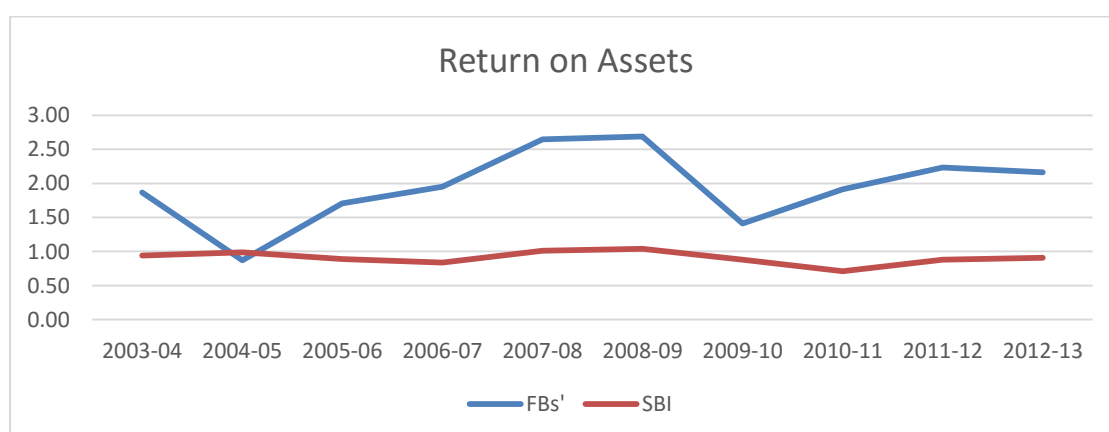
Statistical Test: - Here $\bar{x} = 1.95$, $\mu_0 = 0.91$, $\sigma = 0.51709$, $n = 10$

$$Z_c = \frac{\bar{x} - \mu_0}{\sigma/\sqrt{n}}$$

$$= (1.95 - 0.91) / (0.51709 / (24^{0.5})) = (1.04) / (0.51709) / 4.8989 = 1.04 / 0.1055 = 9.85$$

Distribution of test statistic is $N(0, 1)$. So critical value for right tailed test and for 5% level of significance is 1.645. Since, computed value > critical value at 5% level of significance, we reject H_0 at 5% level of significance in favor of H_1 and conclude that FBs provide services to Indian companies at a very competitive and concessional cost because FBs Return on Assets is higher than SBI's Return on Assets.

Graph 4.7.3 FBs' Return on Assets- Comparison with State Bank of India (SBI)



From above statistical test, table and graph it is observed that FBs return on assets is higher than SBI's return on assets during the observation period. Hence H1 is acceptable whereas HO is rejected.

Hypothesis Number 2: -

4.7.2 H1: Foreign Banks (FBs) provide advisory and promotional services to Indian exporters and importers which results in enhancing Foreign Trade.

4.7.2.1 HO: Foreign Banks (FBs) provide advisory and promotional services to Indian exporters and importers which do not result in enhancing Foreign Trade.

This hypothesis is tested using statistical test-regression analysis and table supported with graph by comparing

- A) FBs' Operating Expenses - Independent Variable
- B) FBs' Total Expenses - Independent Variable
- C) Foreign Trade (FT) - Dependent Variable

Statistical Test using Regression Analysis: - $y = a + bx$ $x =$ Operating Expenses, independent variable, $y =$ Foreign Trade (FT), dependent variable,

Table 4.7.4 India's Foreign Trade and FBs' Op. Expenses INR million

Year	Op. Expenses (xi)	FT (yi)	xi-x bar	yi-y bar	(xi-x bar)^2	(yi-y bar)^2	(x-x bar)*(y-y bar)
2003-04	29560	6524750	-51018.9	-14567171	2602928627	2.122E+14	7.43201E+11
2004-05	34910	8764050	-45668.9	-12327871	2085648847	1.52E+14	5.63E+11
2005-06	47440	11168270	-33138.9	-9923651	1098186998	9.848E+13	3.28859E+11
2006-07	63490	14122850	-17088.9	-6969071	292030660.4	4.857E+13	1.19094E+11
2007-08	89290	16681760	8711.095	-4410161	75883183.07	1.945E+13	-3.8417E+10
2008-09	102875.3	22151910	22296.36	1059989	497127776.3	1.124E+12	23633898884
2009-10	95775.09	22092700	15196.18	1000779	230923959.5	1.002E+12	15208020226
2010-11	108546.6	28263890	27967.69	7171969	782191650.4	5.144E+13	2.00583E+11
2011-12	113983.1	38114220	33404.19	17022299	1115840137	2.898E+14	5.68616E+11
2012-13	119919	43034810	39340.1	21942889	1547643106	4.815E+14	8.63235E+11
	X bar= 80578.9	Y bar= 21091921			SSX= 10328404944	SSY= 1.355E+15	SSXY= 3.38701E+12

$b = SS_{XY} / SS_X = 3.38701E+12 / 10328404944 = 327.9315653$ and $a = \bar{y} - b * \bar{x}$
 $= 21091921 - (327.9315653 * 80578.9) = -5332443.807$ Value $b = 327.9315653$ is
 the change in the value of Y for a unit change in the value of X. The intercept is a
 constant or the value of Y when X is zero. The values of a and b obtained using least
 square method are called as least square estimates (LSE) of a and b. The values of a
 and b obtained using least square method are called as least square estimates (LSE) of
 a and b. Also the relation between the correlation coefficient for X and Y (r) and LSE
 of b is given as under:-

$$r = b \sqrt{\left(\int_{i=1}^{i=n} (xi - \bar{x})^2 \right) / \left(\int_{i=1}^{i=n} yi - \bar{y} \right)^2}$$

$$= b \sqrt{(SS_X) / SS_Y}$$

$$= 327.9315653 * (10328404944 / 1.355E+15)^{0.5} = 0.905378554$$

In the above model $Y = a + Bx + \text{error}$, if $b = 0$, then the model cannot be considered as a linear model.

Therefore, here we test $H_0: b=0$ against $H_a: b \neq 0$, the test statistic is $T_c =$

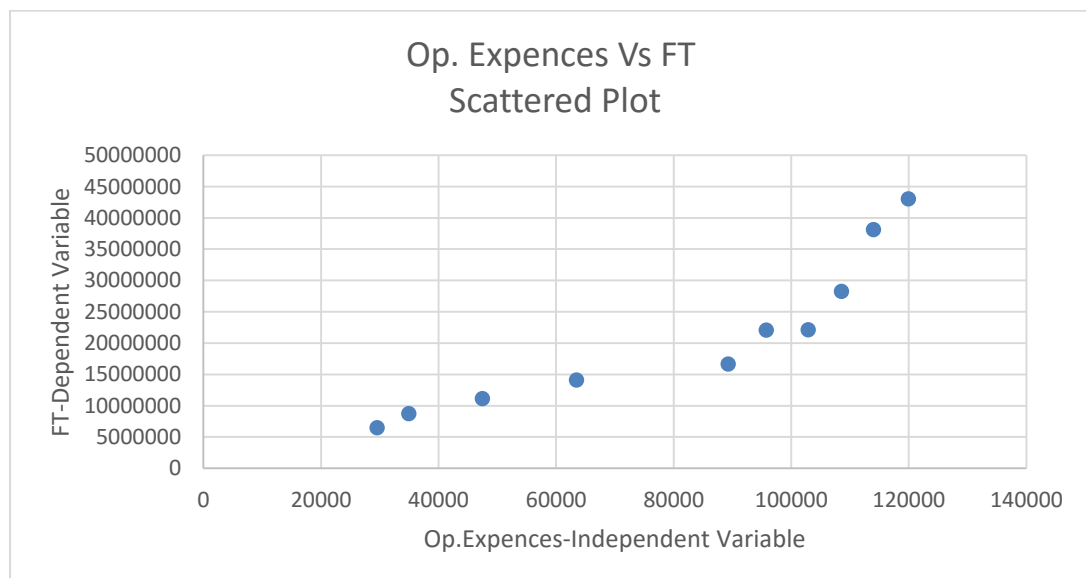
$$\frac{\bar{b}}{\sqrt{SS_Y / (n-2) SS_X}}$$

$$= (327.9315653) / ((1.355E+15) / ((24-2) * (10328404944)))^{0.5}$$

$$= 4.246601837$$

At 5% level of significance and 22 d.f., the critical value using t distribution is 2.074 which is smaller than the computed value. Therefore, at 5% level of significance we reject the null hypothesis and conclude that there is an evidence of linear relationship between the independent variable-Op. Expenses and the dependent variable-FT

Graph 4.7.4 Operating Expenses Vs FT- Scattered Plot



Using SPSS the calculated value of 'R' is 0.905 and 'R square' is 0.819. Also the calculated value of standardised coefficient 'Beta' is 0.905. Since these values are closer to 1, it is concluded that there exists linear correlation between independent variable 'Operating Expenses' and dependent variable 'Foreign Trade'. This means that regression explains most of the variability in the dependent variable and the fitted model is good.

Table 4.7.5 India's Foreign Trade and FBs' Total Expenses INR million

: - Statistical Test using Regression Analysis: - $y = a + bx$

x = Total Expenses, independent variable y = Foreign Trade (FT), dependent variable

Year	Total Expenses (xi)	FT (yi)	xi-x bar	yi-y bar	(xi-x bar)^2	(yi-y bar)^2	(x-x bar)*(y-y bar)
2003-04	64670	6524750	-101342.089	-14567171	10270219003	2.12202E+14	1.47627E+12
2004-05	68030	8764050	-97982.089	-12327871	9600489765	1.51976E+14	1.20791E+12
2005-06	88920	11168270	-77092.089	-9923651	5943190186	9.84788E+13	7.65035E+11
2006-07	126360.8805	14122850	-39651.20852	-6969071	1572218337	4.8568E+13	2.76332E+11
2007-08	179156.2976	16681760	13144.20862	-4410161	172770220.2	1.94495E+13	-57968076220
2008-09	214029.0414	22151910	48016.95243	1059989	2305627721	1.12358E+12	50897441391
2009-10	176456.7485	22092700	10444.65947	1000779	109090911.3	1.00156E+12	10452795855
2010-11	204374.008	28263890	38361.919	7171969	1471636829	5.14371E+13	2.7513E+11
2011-12	248835.414	38114220	82823.325	17022299	6859703164	2.89759E+14	1.40984E+12
2012-13	289288.5	43034810	123276.411	21942889	15197073509	4.8149E+14	2.70504E+12
	X bar= 166012.089	Y bar= 21091921			SSX= 53502019646	SSY= 1.35549E+15	SSXY= 8.11894E+12

$b = SSXY/SSX = 8.11894E+12 / 53502019646 = \mathbf{151.7501592}$ and $a = y \text{ bar} - b * x \text{ bar}$

$= 21091921 - 151.7501592 * 166012.089 = \mathbf{-4100439.935}$. The value $b = 151.7501592$

is the change in the value of Y for a unit change in the value of X. The intercept is a constant or the value of Y when X is zero. The values of a and b obtained using least square method are called as least square estimates (LSE) of a and b. Also the relation between the correlation coefficient for X and Y (r) and LSE of b is given as under:-

$$r = b\sqrt{\left(\int_{i=1}^{i=n} (xi - xbar)^2\right) / \left(\int_{i=1}^{i=n} yi - ybar)^2\right)}$$

$$= b\sqrt{((SSX)/SSY)}$$

$$= 151.7501592 * (53502019646 / 1.35549E+15) ^{0.5} = \mathbf{0.953380104}$$

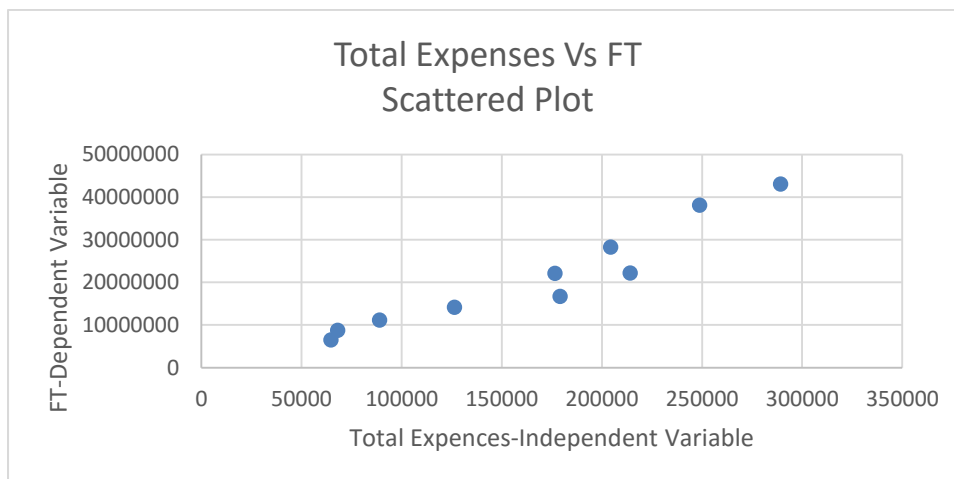
In the above model $Y = a + Bx + \text{error}$, if $b = 0$, then the model can not be considered as a linear model. Therefore, here we test $H_0: b=0$ against $H_a: b \neq 0$, the test statistic is

$$Tc = \frac{bbar}{\sqrt{SSY/(n-2)SSX}}$$

$$= (151.7501592) / ((1.35549E+15) / ((24-2) * (53502019646)))^{0.5}$$

= **4.471749067** At 5% level of significance and 22 d.f., the critical value using t distribution is 2.074 which is smaller than the computed value. Therefore, at 5% level of significance we reject the null hypothesis and conclude that there is an evidence of linear relationship between the independent variable- Total Expences and the dependent variable-Foreign Trade FT

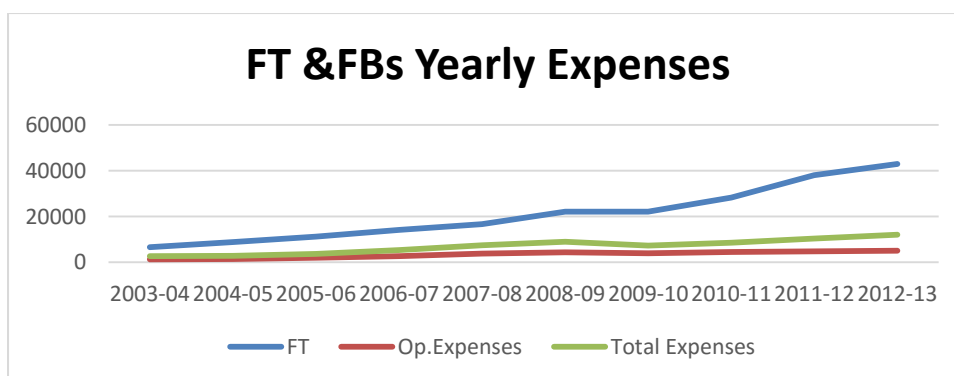
Graph 4.7.5 Total Expences Vs FT- Scattered Plot



Graph 4.7.6 India's Foreign Trade and FBs' Yearly Expenses

Values for FT in INR million x 1000 whereas

Values for Op. Expenses & Total Expenses in INR million



Using SPSS the calculated value of 'R' is 0.953 and 'R square' is 0.909. Also the calculated value of standardised coefficient 'Beta' is 0.953. Since these values are closer to 1, it is concluded that there exists linear correlation between independent variable 'Total Expenses' and dependent variable 'Foreign Trade'. This means that regression explains most of the variability in the dependent variable and the fitted model is good. Advisory and promotional services are part of operating expenses and total expenses. From above statistical tests, tables and graphs it is observed that with increase in operating expenses or total expenses there is increase in foreign trade. There exists a linear relationship between an independent variable and a dependent variable. This follows the equation $y=a +bx$. Hence H1 is acceptable whereas HO is rejected.

4.8 Conclusions: -Conclusions emerging out on the basis of the research are as under:

4.8.1 Dependency: - The present study reveals that the three models of foreign banks covering financing of India's manufacturing, domestic and foreign trade depends on the indicators covered under Factor F1, Factor F3, involving specific variables in principle like Return on Advances or assets which are termed as "Positive Push" having positive values.

4.8.2 Enhancing probability of financing: - So to enhance the probability of the foreign banks for financing covering India's manufacturing, domestic and foreign trade, the other aspects should be taken care of which are covered under Factor F2, Factor F4.

4.8.3 It is concluded that there is no authentic declaration of self – defined model by any foreign banks operating in India.

4.8.4 Covering Basic Elements: - Although all 24 cases of foreign banks are covering elements of basic business models like interest model, investment model, retail financing model or profitability model etc., emphasis on these basic elements varies from institution to institution. Hence, these foreign banks are grouped into three clusters possessing totally different values for all four number factors as indicated by the graph.

4.8.5 Least & Medium Values:-We can very well conclude that 'Low End Also Ran' Model-A possesses least values for four factors indicating that these foreign banks are carrying out minimum acceptable level of business including financing of manufacturing, domestic and foreign trade as indicated by the values of factors whereas, 'Progressive Medium End Economic' Model-B possesses medium level for four factors.

4.8.6 Highest Level:-It is conclude that 'High End Star' Model-C possesses highest level for four factors indicating that these FBs are carrying out excellent level of

business including financing of manufacturing, domestic and foreign trade as indicated by the values of four factors.

4.8.7 Since, the contribution of foreign banks in overall credit allocation amounts to a small figure of mere 5.75 percent it is concluded that the foreign banks are not effectively using their available resources to counter the challenges posed by the other financial institutions especially for the allocation of advances to India's manufacturing, domestic and foreign trade, in spite of their available banking potential.

4.8.8 Since, the contribution of foreign banks in overall investment allocation amounts to a non-significant figure of mere 7.84 percent it is concluded that the foreign banks are not taking full advantage of the buoyancy in economic growth and not expanding financial activities in all segments including priority sector.

4.8.9 Based on the research findings it is concluded that the foreign banks are not initiating efforts on adopting the new technologies in order to improve their customer service levels and provide new delivery platforms to them, especially in the rural area other than metro cities and urban area.

4.8.10 On the basis of the study, we conclude that only Model-C possesses prominent values for four Factors considering involved positive push or negative pull for financing India's manufacturing, domestic and foreign trade. This trend is followed by Model-B and further by Model-A with drastic decrease in values for four Factors. Positive push effect of Factors indicates that the foreign banks maintain the proper balance in financial/foreign trade variables and able to minimize the financial burden on it, which directly enhances the profitability and foreign banks' survival with grace and foreign banks (FBs) potential can be exploited to reignite India's manufacturing, domestic & foreign trade growth with application of competitive business practices models. Thus, it is concluded that this research is helpful to the foreign banks to become more competitive and compatible in the light of RBI's guidelines and roadmap for foreign banks operating in India.

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Annexure 1:-Performance of Selected FFIs (which are operating consistently as per profile of banks RBI during 2003-2013 (Values in INR Million))

Case No	Name of FFI	Business	Advances	Investment
1	AB Bank Limited	689.20	374.33	127.86
2	Abu Dhabi Commercial Bank Limited	7597.23	2021.00	4178.72
3	Antwerp Diamond Bank N.V.	5592.99	5399.19	1603.60
4	Bank of America NA	81790.70	42689.60	43381.06
5	Bank of Bahrain and Kuwait B.S.C.	8109.92	3580.48	2139.22
6	Bank of Ceylon	1717.35	586.24	408.86
7	Barclays Bank PLC	71792.28	51374.34	62156.03
8	BNP Paribas	71871.31	37821.67	26126.57
9	CTBC Bank Co.,Ltd.	2651.91	1637.60	401.47
10	Citibank N.A.	757288.94	345373.51	230106.83
11	DBS Bank Ltd.	70173.18	46119.61	67793.86
12	Deutsche Bank AG	243959.31	92063.16	69540.06
13	JPMorgan Chase Bank	35019.65	17135.28	70139.71
14	Krung Thai Bank Public Company Ltd.	917.28	114.91	282.61
15	Mashreq bank psc	618.35	355.27	739.81
16	Mizuho Bank Ltd.	19109.32	16092.98	3969.87
17	Shinhan Bank	8699.00	4332.52	1887.69
18	Societe Generale	15232.36	5664.84	14498.80
19	Sonali Bank Ltd.	353.18	89.93	56.04
20	Standard Chartered Bank	758245.01	369421.38	170748.12
21	State Bank of Mauritius Ltd.	7215.56	3994.01	2201.44
22	The Bank of Nova Scotia	66185.25	44802.37	19798.60
23	The Bank of Tokyo-Mitsubishi UFJ, Ltd.	42134.03	30815.38	13493.78
24	The Hong-Kong and Shanghai Banking Corpn.Ltd.	651544.67	241832.05	260351.51

Source: - <https://www.rbi.org.in/Scripts/Publications.aspx?publication=Annual>

Annexure 1 indicates that there are 24 number FFIs operating in India consistently during the period 2003-04 to 2012-13, i.e. there is no break in allocation of advances, investment or their business. Also there is substantial increase in their business, advances and investment during this period.

Annexure 2:-List of Variables and Factor/Component Score Coefficient Matrix

Component Score Coefficient Matrix					
Component					
	1	2	3	4	
M-EXDEM	0.067341	-0.02741	-0.02198	-0.05807	
LOG(M-FT)	-0.01849	-0.11716	0.037263	-0.13705	
LOG(CTGDP)	0.02051	0.104418	-0.04235	0.137125	
FIN	-0.01735	0.275443	0.08057	-0.04302	
EIR	0.055978	0.095838	-0.11069	-0.48369	
Advances	0.062059	-0.01203	-0.01098	-0.0197	
Interest Income	0.062791	-0.0071	-0.00583	-0.0244	
Net Profit	0.064263	0.008609	-0.01122	-0.04623	
Net Worth	0.054497	0.02541	0.034908	0.012324	
Deposits	0.064415	-0.01155	-0.01378	-0.03496	
Investments	0.056383	0.029254	0.011817	-0.01175	
Other Income	0.060971	-0.00107	0.010551	-0.01798	
Total Income	0.062519	-0.00544	-0.00122	-0.02324	
Interest Expended	0.062483	-0.0057	-0.01329	-0.02275	
Operating Expenses	0.060618	-0.01665	0.008357	-0.00936	
Total Expenses	0.061809	-0.0109	-0.00207	-0.01629	
Cost of Funds	0.006466	-0.08512	-0.30482	0.022196	
Return on Advances	0.005169	-0.1478	0.256739	0.137035	
Return on Assets	0.021587	0.142858	0.222334	-0.21394	
CRAR	0.018977	-0.01937	-0.02737	-0.36298	
Net NPA	-0.01683	-0.23076	0.003482	0.115866	
Total Assets	0.061106	-0.00098	0.009465	-0.0191	
Operating Profit	0.063145	0.004586	-0.00223	-0.03258	
Profit per Employee	-0.01365	0.309489	0.120755	-0.04245	
Business per Employee	-0.01624	0.156375	-0.16592	0.085443	
No.of Employees	0.063548	-0.03104	-0.01115	-0.03066	
No. of Offices	0.062105	-0.03341	-0.02824	-0.03768	
Wages as % of TE	-0.04521	0.003329	0.40213	0.257753	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax

Annexure 3:- Mean or average values of variables for a period 2003-04 to 2012-13.

	1	2	3	4	5	6	7	8	9
Case							Interest	Net	Net
No.	MEXDEM	log(MFT)	log(CTGDF	FIN	EIR	Advances	Income	Profit	Worth
1	0.011302	8.520946	0.716171	0.728676	11.7043	0.075151	43.8134	47.93819	531.5655
2	1.993978	6.274364	4.005062	0.81605	29.5134	0.405733	596.4668	144.6181	1433.942
3	2.044258	6.263548	3.882866	1.252066	6.986132	1.083933	377.1952	86.5328	1819.67
4	437.2524	3.933352	7.378122	1.052328	14.47222	8.570286	6178.131	3443.636	25838.4
5	1.808457	6.316776	3.991011	0.705273	13.39842	0.718812	479.7283	111.3826	1295.653
6	0.056594	7.821317	1.812312	0.579443	22.19721	0.117693	130.1293	85.73568	876.3367
7	753.9447	3.696745	7.558103	1.581373	17.64512	10.31382	9065.067	-439.026	35880.32
8	233.3098	4.206151	7.049174	0.88976	12.99163	7.593009	4913.651	1366.48	13033.78
9	0.155231	7.383107	2.439222	0.768909	11.47449	0.328762	187.9065	13.712	910.3369
10	18764.13	2.300756	9.977276	0.759922	15.56539	69.33656	53758.74	16679.69	99661.99
11	738.2202	3.705898	7.539043	1.623319	18.09345	9.258889	8344.631	2310.356	13996.96
12	1511.579	3.394653	8.391434	0.662419	15.37398	18.48243	14153.77	5001.229	39262.5
13	283.7692	4.121119	6.821963	2.492172	31.29069	3.440048	5361.748	3264.549	24558.35
14	0.007668	8.6894	0.671873	0.433381	71.51781	0.02307	82.1844	21.0976	443.5653
15	0.062057	7.781292	1.408714	1.77097	36.58039	0.071324	129.9595	82.2996	839.7577
16	15.08425	5.39556	5.284455	1.049899	7.917961	3.230798	1274.236	594.851	13221.21
17	1.931007	6.2883	4.049939	0.71505	15.82302	0.869791	685.5371	213.9429	2814.713
18	19.39233	5.286454	5.295083	1.323737	25.75065	1.137264	1458.734	298.1882	4359.767
19	0.00119	9.498512	-0.55174	0.413322	15.96035	0.018055	14.3541	9.499031	62.4212
20	14893.19	2.401096	9.877483	0.712394	13.99471	74.16436	51699.46	18836.64	92940.9
21	2.075999	6.256857	4.000183	0.858625	14.86414	0.801832	593.6765	85.40633	2273.813
22	209.4332	4.253039	6.966492	0.976063	8.902914	8.994443	3988.717	1584.072	8600.663
23	98.17731	4.582073	6.44133	1.051624	9.293006	6.18644	2863.675	1060.98	16126.01
24	14865.65	2.4019	9.810814	0.770758	18.13555	48.54976	43857.57	12919.08	92001.51

Annexure 3 continued: - Mean or average values of variables for a period 2003-04 to 2012-13.

	10	11	12	13	14	15	16	17	18
Case			Other	Total	Interest	Operating	Total	Cost of	Return
No.	Deposits	Investment	Income	Income	Expended	Expenses	Expenses	Funds	Advances
1	417.1836	0.100436	94.0111	137.8245	5.2742	51.8309	57.1051	1.592846	6.354355
2	7750.156	3.282207	123.4759	668.2895	619.1629	200.8647	498.5562	5.725984	3.230653
3	629.8798	1.25956	108.4462	483.2839	162.062	96.7826	271.1048	2.224303	2.892833
4	41952.85	34.07395	3427.549	9605.212	2302.402	2203.741	4506.562	3.166396	4.490603
5	4782.346	1.680269	90.7858	569.6926	256.1434	149.5937	405.7836	4.464146	4.70348
6	951.2952	0.321147	57.6074	188.2314	42.8481	33.923	76.22146	4.18408	6.647047
7	45184.81	48.82088	2625.642	11689.79	4546.924	4413.386	8796.007	5.193408	9.205074
8	35091.98	20.52129	1626.03	5986.015	2189.788	2063.796	4247.156	5.077408	3.329056
9	995.5634	0.315342	29.0727	216.229	64.6503	89.2132	157.1371	4.340328	4.737434
10	447915.7	180.739	17177.3	70935.49	19982.92	21144.78	41128.27	3.317731	6.873367
11	59807.56	53.24915	1044.025	9388.656	4701.185	1731.285	6432.47	4.594502	2.830329
12	112327.7	54.62072	7744.555	21899.64	4553.562	8116.914	12665.88	3.233051	5.90056
13	43242.6	55.09172	2836.417	8204.067	2252.027	1219.237	3470.678	2.615328	2.294875
14	866.9246	0.221984	14.1611	96.314	28.7083	30.9674	59.3	3.157066	5.266961
15	955.5095	0.581091	114.1018	241.6044	70.6079	69.2621	137.5054	3.384267	3.34988
16	6288.849	3.118168	396.0624	1670.584	296.2555	348.1234	644.0441	3.490809	3.855291
17	5578.31	1.482705	93.8473	782.2434	278.2324	134.0562	412.228	3.425068	4.943309
18	9648.415	11.38818	271.6336	1730.336	851.7249	482.903	1334.35	4.239087	3.906913
19	294.5599	0.04402	48.3475	63.14486	9.0565	37.0362	45.39638	1.885575	8.149363
20	416442.7	134.1153	20082.57	71852.82	21533.57	19433.5	40966.16	3.978731	6.48731
21	3641.168	1.729137	75.862	670.1248	381.7894	83.5198	465.6713	7.224513	2.021624
22	32306.82	15.55095	1274.11	5262.895	2393.521	500.8424	2894.537	4.258191	2.034303
23	17542.37	10.59878	820.067	3683.498	1019.768	648.711	1668.142	2.739569	4.286336
24	413797.1	204.4949	16027.52	59885.22	17376.18	17294.64	34671.82	3.711139	6.287041

Annexure 3 continued: - Mean or average values of variables for a period 2003-04 to 2012-13.

	19	20	21	22	23	24	25	26	27	28
	Return					Profit	Business			Wages
Case	on			Total	Operating	Per	Per	No.of	No.of	as a
No.	Assets	CRAR	Net NPA	Assets	Profit	Employee	Employee	Employee	Offices	% of TE
1	4.704	61.474	3.313	1004.768	82.4107	1.576	24.7026	27.9	1	18.07216
2	1.039	43.026	5.98	10274.44	169.7357	1.09029	168.4531	45.1	2	12.11498
3	0.89	36.901	2.267	9474.317	257.1901	3.2758	256.5594	21.8	1	18.36223
4	2.797	18.058	0	148290.5	6094.65	9.1727	263.7559	310.1	5	25.01976
5	0.658	24.114	3.439	8819.033	192.91	0.41	89.12	91	2	16.09609
6	2.927	57.625	7.832	2316.229	131.009	2.2425	58.0186	29.6	1	14.29878
7	1.901	19.875	1.481	240573.3	3527.787	6.6371	101.7176	705.8	5	31.57544
8	1.26	13.386	0.093	121104	2951.904	3.02	216.5451	331.9	9.1	21.58325
9	-0.392	37.548	2.926	3049.052	59.0937	-0.3512	94.7111	28	1.1	19.39872
10	2.479	13.689	1.395	1138294	37331.23	3.0513	174.6354	4336.4	39.3	16.20449
11	1.012	24.428	0.488	180835.9	5230.27	3.0249	192.6776	364.2	6.4	17.18687
12	1.871	14.251	0.235	302167	10628.74	3.7534	164.8151	1480.2	11	26.88934
13	2.706	20.401	0.844	167094.7	6107.39	13.7328	219.0097	159.9	1	24.44333
14	1.788	91.214	0	1815.272	39.0304	1.9135	89.0565	10.3	1	13.40693
15	4.535	72.071	0	4663.985	120.098	5.3007	45.8039	13.5	1.7	26.32301
16	2.227	46.5	0.25	113444.4	1131.529	3.9013	170.619	112	1.7	23.23686
17	1.962	53.25	0.08	15428.12	411.0154	3.8496	183.9114	47.3	2	13.89535
18	1.276	32.079	0.137	27607.41	485.9805	2.5831	158.3406	96.2	2.1	19.39847
19	2.18	46.447	4.579	476.9954	17.72746	0.2133	9.5456	37	1.7	48.85536
20	2.465	11.219	1.105	1068690	35833.66	2.1989	107.8953	7027.6	89.2	19.22794
21	1.166	39.378	1.988	10555.3	195.3515	2.1	211.6	34.1	3	6.989311
22	1.609	15.07	1.36	97942.94	2747.365	6.5996	343.2845	192.8	5	7.167538
23	2.118	40.831	0.011	83137.66	2212.355	4.3942	229.4882	183.6	3.1	22.46892
24	1.512	14.534	0.838	983194.3	31246.38	1.8522	115.0895	5661.2	46	20.26016

Annexure-4 Case wise calculations of values of 4 number factors:-

S. No	Name of the Bank					F1	F2	F3	F4
1	AB Bank Limited					151.9861	7.37262672	25.0007172	-62.6122
2	Abu Dhabi Commercial Bank Limited					1396.09	-56.424033	-0.5448399	-531.513
3	Antwerp Diamond Bank N.V.					831.4694	60.10192	102.976372	-215.315
4	Bank of America NA					15579.24	-89.974626	1595.35021	-4940.69
5	Bank of Bahrain and Kuwait B.S.C.					1063.488	-33.950662	44.2240078	-377.38
6	Bank of Ceylon					299.8144	13.2861518	30.7033424	-109.677
7	Barclays Bank PLC					22414.16	-182.60516	2793.99971	-6719.45
8	BNP Paribas					11987.1	-310.67234	1018.27705	-3976.38
9	CTBC Bank Co.,Ltd.					351.6547	14.9620741	34.5929546	-105.919
10	Citibank N.A.					122753.9	-5757.6463	6934.81588	-43973
11	DBS Bank Ltd.					18189.59	-703.4126	1180.38336	-6369.56
12	Deutsche Bank AG					33319.75	-1089.3205	2489.71348	-11297.2
13	JPMorgan Chase Bank					16411.5	-109.14261	1718.69048	-5262.51
14	Krung Thai Bank Public Company Ltd.					218.4615	15.076039	1.11466932	-125.954
15	Mashreqbank psc					454.9216	11.7066591	57.2294337	-170.448
16	Mizuho Bank Ltd.					8461.624	152.948261	1409.98479	-2390.35
17	Shinhan Bank					1645.511	6.22555333	129.21071	-538.729
18	Societe Generale					2984.125	-46.684477	235.08338	-976.55
19	Sonali Bank Ltd.					68.36562	-5.7997113	19.9523764	-36.1882
20	Standard Chartered Bank					116151.3	-5448.3837	6526.33223	-41579.3
21	State Bank of Mauritius Ltd.					1163.22	22.3965347	82.3490284	-362.624
22	The Bank of Nova Scotia					9848.954	-291.61195	646.434278	-3402.9
23	The Bank of Tokyo-Mitsubishi UFJ, Ltd.					7979.234	97.9703955	1032.99676	-2355.77
24	The Hongkong and Shanghai Banking Corpn.Ltd.					107680.3	-5128.5574	5881.95905	-38640.2