

## Impact of a Foreign Direct Investment (FDI) on Productivity & Profitability of Banking Industry in India

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### Abstract

The present study was conducted to assess the impact of foreign direct investment on both productivity and profitability of selected Indian Banks which includes both the private sector and public sector for a period of thirteen years from 2004-05 to 2016-17. This study is a Descriptive and Analytical sort of analysis in nature which is solely supported by secondary information. The secondary information was gathered from a variety of sources, such as Journals, Reports, run batted in magazines, Ministry of Finance publications, Department of Commercial Policy & Magazines, and FDI online information, etc.

Statistical methods such as averages, ratios, graphs, charts, and diagrams have analyzed the data where needed and the statistical tools like multivariate regression analysis (MANOVA) has been used to study the impact of FDI in Indian Banks. To know the impact of FDI in banking sector, FDI has been taken as the independent variable and eight items related to banks have been taken as dependent variables such as Business per Employee (BPE), Number of Branches (NB), Net Interest Income (NII), Net Profit (NP), Profit per Employee (PPE), Employment generation (EG), Return on Assets (ROA%) and Return on Equity (ROE %). The study concluded that there's a significant impact of FDI on the banking sector and hence it is recommended that FDI should be encouraged and promoted for the overall growth and development of the Indian banking sector as well as for the economic development as a whole.

**Keywords:** Productivity, Profitability, FDI, ROA, ROE

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### Introduction

Globalization has engulfed all the sectors into its fold, out of which the Indian banking sector is a crucial one. FDI in the banking sector has raised to 74% from the earlier limits of 49% to further liberalize the FDI norms in the Banking Sector. Today, Indian banks square measure as expertise sense as their counterparts in developed countries. Indian banks have entered the international market as an effect of the process of liberalization, privatization, and globalization, and global banks have become part of the Indian market. In the wake of the Liberalizing, privatization and globalization, the economic crisis of 1991, economic liberalization began and since then FDI has steadily increased in India. But in India, the banking sector, being a service sector is one of the most attractive destinations for FDI. The FDI in the banking sector should be increased or not depends on their performance i.e. productivity, profitability or efficiency. It has been observed that developing countries' FDI per GDP is found more than twice in comparison to developed countries. The fast pace of economic growth and progressive policies, India became an attractive destination for FDI and due to an increased amount of FDI inflows, several issues pertaining to the Indian Banking sector have been solved. The efficiency and profitability performance of Indian FDI and non-FDI banks have been found to be different. In the liberalized FDI period, Indian banks' productivity had increased to some extent and had a significant positive impact on certain parameters such as asset return (ROA) and banks' total business, but had a negative impact on banks' total net profits and income (Patil, 2014). There is a causal relationship between the development of the

banking sector and FDI inflows in Botswana, according to Tsuari (2014), but some studies found that there is no directional causality between the development of the banking sector and the inflows of FDI into the host countries. The factors determining the volume of inflow of FDI into the host country depends upon so many factors like natural resource endowments of host countries, availability of relatively cheap but productive labor, endowments of human skills, infrastructure facilities, the system of incentives and regulation of investments, trade policy of host countries and economic environment in general and exchange rate stability etc.

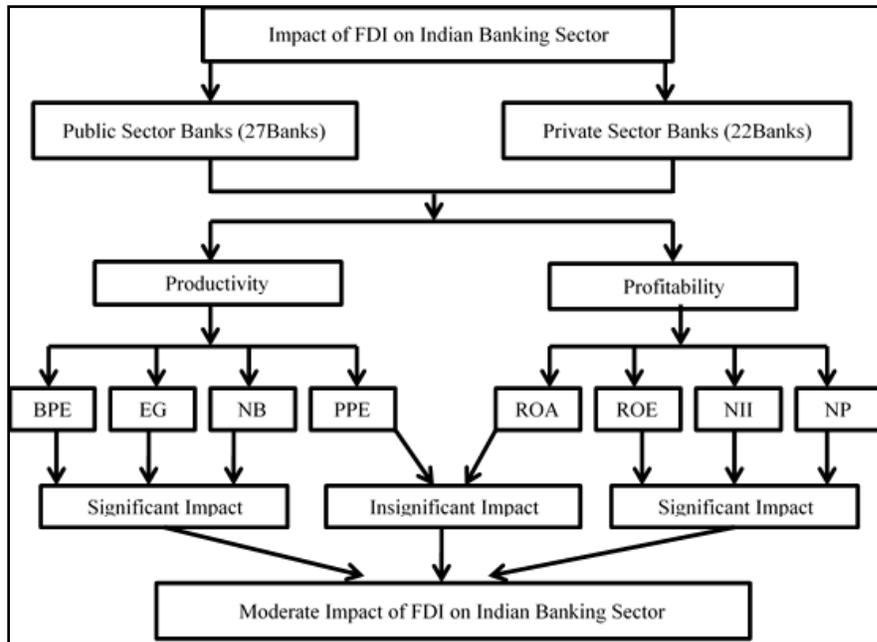
### Literature Review

Sharifi and Akhter (2016) studied the profitability of the general public sector banks in the Asian nation. ROA, ROE, and Net Interest Margin (NIM) were taken as measures of the profitability of banks in Asian nations. They found that there's a noteworthy impact of the FDI on Assets and Equity of Indian Banks. FDI and banking sector interactions found that FDI inflows are attracted to banking development. Sarwan Kumar (2016), expressed a powerful presence of FDI on quick restructuring, at an equivalent time host Governments follow sound productivity of the business, potency familiarized towards profitability creating. FDI depends mostly on the investments and on the restructuring efforts of the new owner on equity, on assets, profit by banks and new employment generation. Sambad, A (2015) discussed the determinants of profitability of Bangladesh by using the regression analysis with

panel data. He found out that liquidity position, risk loan, credit risk, capital risk, and bank efficiency are significant factors for deciding the profitability position of Bangladesh 48 commercial Banks. Sheeba D L, Dr. B. S Patil & Dr. Srinivas K T(2015), have expressed the impact of FDI on the potency of South Asian national Bank India, The analysis from the year 2005 to 2015 shows that FDI in South Indian Bank has a positive impact on the overall performance of the bank. The productivity and profitability of the banks have redoubled by a rise within the flow of FDI. The rise within the flow FDI includes a valuable impact within the profit per worker of the South Indian Bank. Malla Reddy (2014) highlighted that FDI through providing capital, Productivity enhancement and employment plays a vital role in economic development. FDI as a non-debt inflows helps in the up-gradation of technology, skills and managerial capabilities of Indian Banks. It can solve various issues like inefficient management, increased NPAs, financial instability, and poor capitalization. Patil (2014) explored the presentation of Indian FDI and non-FDI banks and pointed out that the profitability of Indian banks had swollen somewhat within the increased amount of FDI and it has a motivating positive impact on profit for resources (ROA). FDI in the Indian banking sector is ready to place the right way or indirect link to boost the productivity criteria by providing job opportunities and by increasing the new numbers of operating branches. Richa Gang (2013) discussed the role of FDI in the Indian Banking sector and recognized that other than solving the banking issues, it encourages the development of different innovative financial products, increases efficiency, productivity, and profitability and enhances the ability to adapt the changing financial market.

According to "Zawadi Ally (2013)", the banking sector in the African nation, expressed that, there is no relationship of profitability among peer banks teams in terms of ROA. However, a consequence variation among banks cluster occurred in the word of ROE. A positive relationship exists between FDI with working quality, bank size, net interest margin. M. Shahul Hameedu (2013) illustrates that FDI includes a vibrant role within the economic process and improvement of India. The flow of FDI from April 2000-March 2013 earned substantial sustained economic process and development through the use of employment generation opportunities in Asian nations. V.A.Anand & Pandit Laxmi(2012) recommended that the Indian banks to increase their profitability should focus on the steady progression of FDI strategy. He found out that there is a remarkable effect of FDI on the profitability of private Banks. Harekrishna (2011) highlighted that FDI is an important form of foreign capital since the implementation of LPG. According to him, FDI Companies contribute to more Industrial output and more export. He also tried to find out the reasons for low inflows and high inflows of FDI in India and China respectively. Laghane B.K (2011) said in his report, that FDI works for poverty reduction and unemployment and work for priority banking sectors in some way.

**Conceptual Framework and Objectives of the Study**



**Figure 1: Conceptual Frame Work**

**Objectives**

To the analysis of Foreign Direct Investment Inflows in Banking Sector, India  
 To analyze the impact of FDI on the Indian Banking Sector's Productivity and Profitability

**IV. Research Methodology**

The analysis has been done by Multivariate Analysis of Variance (MANOVA). During the study to assess the impact of FDI in Indian Banking Sector, FDI has been taken as an independent variable and eight independent variables as Business Per Employee (BPE), Profit Per Employee (PPE), Employment Generation (EG), Number of Branches (NB), Return on Assets(ROA),Return on Equity (ROE), Net Interest Income and Net Profit of the Indian banks of public and private sectors. In this paper, the FDI equity influx for the banking

sector of the Republic of India has been thought-about as an experimental variable. The dependent variables are taken from the parameters of productivity and profitability of public and sector banks, India.

**Hypothesis H<sup>0</sup>:**

Foreign Direct Investment (FDI) has no significant impact on banking sector efficiency and profitability

**Hypothesis H<sup>1</sup>:**

Foreign Direct Investment (FDI) has a significant impact on banking sector productivity and profitability

The productivity of Indian banks is measured by the following four parameters:

Profit per Employee (PPE) = Net Profit/ No. of Employees.

Business per Employee (BPE) = Deposit + Advance/ No. of Employees.

Employment Generation and No. of branches

The profitability of Indian banks is measured by the following four parameters:

Net Profits = Total Revenues – Total Expenses

Net Interest Income= The Interest received on assets – The Interest payments on liabilities

Return on Assets (ROA) = (Net Profit or Loss/ Total Assets) x one hundred

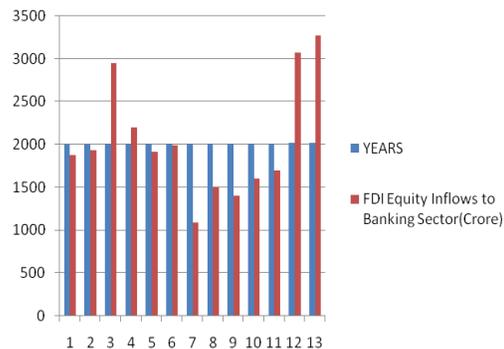
Return on Equity (ROE) = (Net Profit or Loss/ Equity) x one hundred

**V. Data Analysis**

FDI Equity Inflows to Banking Sector of India (Rs. In Crore)

YEARS	FDI Equity Inflows to Banking Sector(Crore)
2005	1876.88
2006	1935.86
2007	2954.39
2008	2200
2009	1912.6
2010	1988.33
2011	1092.565
2012	1510.79
2013	1401.56
2014	1601.56
2015	1701.56
2016	3,074.03
2017	3275.45

**Table1: FDI Equity Inflows to Banking Sector**



**Figure 2: FDI Equity Inflows to Banking Sector**

The above table (1) indicates that from the year 2005 to 2007 there was a consistent rise in the FDI Equity Inflows in the banking sector which was followed by a decline in FDI inflows due to the meltdown of U.S economy on account of the sub-

prime mortgage crisis. Due to the high profitability of the Indian Banking sector in 2014, which was the result of stable Govt. attracted more and more FDI inflows into India.

**Profitability Parameters of Public Sector Banks of India:**

YEARS	NET PROFIT (In Millions) Average	NET INTREST INCOME (In Millions) Average	ROE% Average	ROA% Average
2005	708.447	18428.798	16.263	0.907
2006	1352.437	20489.368	1.607	0.475
2007	1628.898	22223.219	17.022	0.936
2008	1275.984	22918.719	17.807	0.978
2009	1421.101	29496.864	18.144	0.977
2010	2365.599	34830.556	18.404	0.976
2011	3087.199	51915.957	17.517	0.978
2012	3515.085	60054.958	14.887	0.852
2013	3582.392	64208.767	12.579	0.734
2014	3151.203	67810.574	7.112	0.445
2015	3565.591	72299.585	6.689	0.43
2016	-7047.391	73537.459	-3.504	-0.125
2017	-21468.876	74228.93	-8.959	-0.474

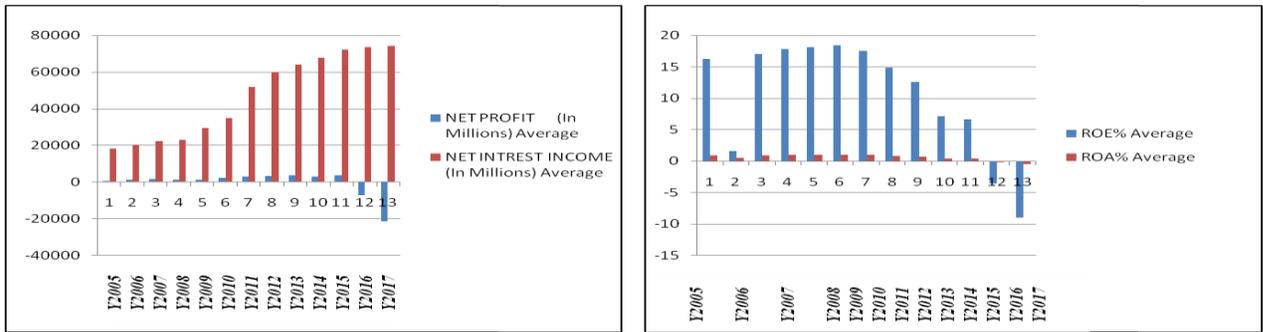
**Table 2: Profitability Parameters of Public Sector Banks**

It is quite evident from table (2) that in the year 2005, ROA was more than 0.9 and consistently it was rising the up-to year 2011 except decreasing figure in 2006. But there is a plunge from 2012 onwards and during 2016 and 2017 ROA became negative values. This is a sign of concern not just for public sector banks but also for negative repercussions on the economy as a whole. It is clearly noticed from the table (2) that ROE had been consistently more than 15% up to 2011 except 2006. While considering profitability, there was a slide in ROE up to 2015 but

in 2016 and 2017, it is negative and this is a cause of concern for the shareholders. Table (2) indicates that Net Interest Income of the public sector banks had been showing an upward trend from 2005 to 2017 from 18428.79 million to 74228.93 million. This is a gigantic improvement as the net interest income had gone up near about four times. It is being observed from the table (2) that in 2005 the net profit was Rs. 708.44 million whereas in 2015 net profit went up to Rs.3565.59 million i.e. approximately

a fivefold increase. But in 2016 the net loss was Rs.7047.39 million whereas in 2017 net loss was Rs.21468.87 million.

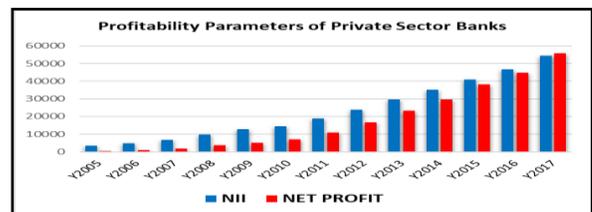
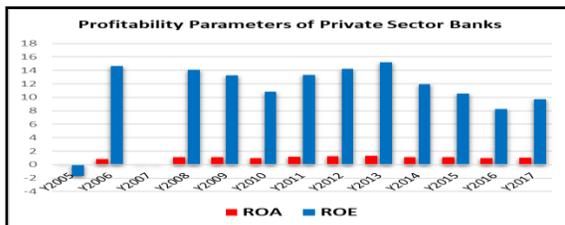
Figure 3: Profitability Parameters of Public Sector Banks



Profitability Parameters of Private Sector Banks of India:

Years	ROA	ROE	NII	NET PROFIT
Y2005	0.088	-1.703	3445.584	309.244
Y2006	0.835	14.65	4898.276	917.594
Y2007	0.057	0.091	6684.023	1785.782
Y2008	1.108	14.071	9780.911	3779.473
Y2009	1.098	13.23	12779.07	5051.738
Y2010	0.944	10.828	14364	7149.328
Y2011	1.146	13.312	18840	10944.657
Y2012	1.245	14.227	23885.58	16731.133
Y2013	1.292	15.217	29676.6	23242.838
Y2014	1.112	11.9	35151.21	29492.787
Y2015	1.075	10.544	40948.01	38226.694
Y2016	0.965	8.257	46732.53	44714.629
Y2017	1.044	9.714	54363	55751.567

Table 3: Year-wise Profitability Parameters of Public Sector BanksFigure



**Figure5: Profitability ROA & ROE**

**Figure 4: Profitability NII & Net Profit**

From table (3) it is being observed that ROA of the private sector was not good in 2005 and 2007. But in other years it was satisfactory as it was mostly more than 1. If the comparison will be made, while in 2016 and 2017 the public sector banks were having negative ROA, the performances of private sector banks were really outstanding. It is clearly noticed from the table (3) that ROE in the private sector banking zone wasn't smart in 2005 and 2007. However, in different years the result was absolutely satisfactory. Whereas in 2016 and 2017 the general

public sector banks were having fall downs in ROE, but the performances of private sector banks were extremely glorious. Both tables and diagrams also show that the net interest income of private sector banks was increasing continuously and due to this rise throughout the study period it reflects a growing trend. The table (3) clearly noticed that the profits of private banks were also rising each year with a good track record and maintaining stability in the market.

**Productivity Parameters of Public Sector Banks of India**

Years	BPE	PPE	EGA	Branches
2005	39.45	0.249	25551	65585
2006	45.01	0.246	26032	66198
2007	49.68	0.311	26584	69062
2008	62.39	0.391	26744	72358
2009	77.97	0.469	27395	76588
2010	90.29	0.55	27094	80396
2011	107.9	0.675	30713	86074
2012	120.3	0.665	29782	92101
2013	134.5	0.634	29043	99871
2014	136.8	0.479	30759	108639
2015	145	0.432	31277	113515
2016	146.4	-0.161	31707	117354
2017	147.8	-0.458	29529	118781

**Table4: Year-wise BPE, PPE, and EGA**

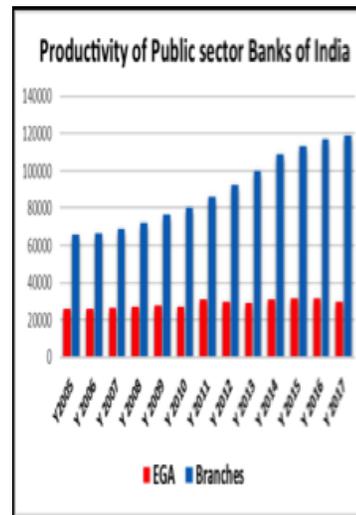
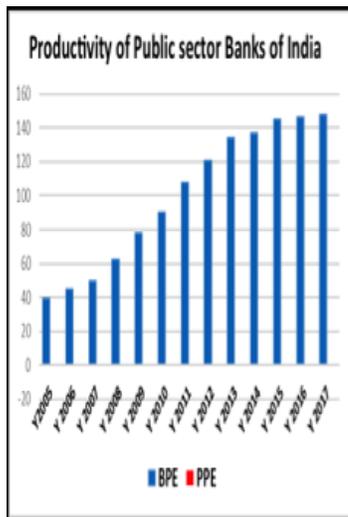


Figure 6: Year-wise BPE, PPE

As shown in the table (4) the BPE (Business per Employee) and profit per employee (PPE) of public sector banks have increased over the years from 2005 to 2015. Profit per Employee was Rs. 0.2 million in 2005 and in 2011 it became .675 million and went beyond Rs.0.6 million and followed by a sudden dip in 2016 and 2017 and became negative. This situation happened due to the public sector bank suffered a net loss in these two years. Again from the table, it is clearly noticed that the employment

Figure 7: Year-wise EGA, Branches

Generation has been rising also over the years and in 2017 it was remaining higher than 30,000. So it can be clearly pointed out that the banking zone is a high-flying area having a consistent employment generation. It is observed from the trend that there had been a persistent rise in the number of branches in the country. This tremendous increase in the number of branches was obviously because of the increase in business with an increase in the number of inflows of FDI.

Productivity Parameters of Public Sector Banks of India

Year	BPE	PPE	EGA	Branches
2005	41.463	0.123	3186.862	7076
2006	41.383	0.255	4092.778	7029
2007	49.577	0.263	5561.56	7891
2008	58.348	0.459	7219.227	9195
2009	63.657	0.523	8015.409	10253
2010	71.778	0.509	8296.364	11459
2011	83.207	0.68	8948.238	13062
2012	84.569	0.742	12414.2	15203
2013	92.279	0.854	13653.5	18012
2014	92.891	0.758	14748.4	19714
2015	99.44	0.748	15502.15	24368
2016	111.727	1.252	17847.33	26760
2017	117.167	0.807	19212.43	28771

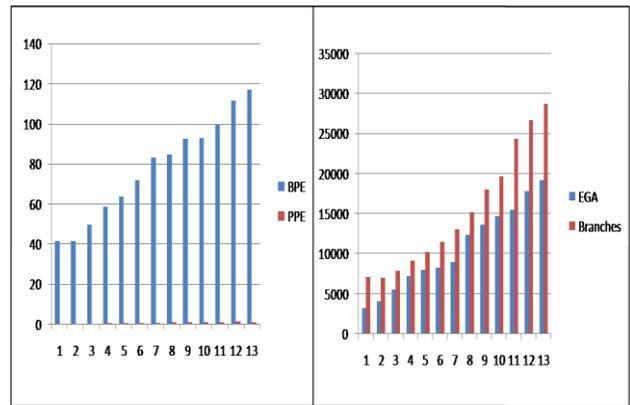


Table 5: BPE, PPE, EGA, and Branches

It is observed from the above table (5), that there had been a huge improvement in BPE and it was Rs.41.46 million in 2005 and became almost 3 times more during the year 2017. Over the year it is inferred that the Profit per Employee (PPE) was Rs.0.12 million in 2005 and increased to Rs.0.82 million in 2013 to 2014, But due to a decrease in profitability, there was a huge dip in PPE in 2017 which amounted Rs.0.80 million. The table (5) shows that total employment generated by private sector banks in 2005 was only 3,187, increased to more than 5 times (19000) over the years up to 2017 which was accounted for due to an increased number of banks branches.

Analysis Using the MANOVA ( Multivariate Analysis of Variance)

Here the study applied the multivariate regression analysis which is simply an ANOVA with several dependent variables. The hypothesis could be checked and a multivariate F value could be obtained. Based on the error variance/covariance

Figure 6: Year-wise BPE, PPE & Year-wise EGA, and Branches

matrix correlation and the impact variance/covariance matrix, we can obtain a multivariate F value (Wilks'π) instead of a univariate F value. The Lambda of Willkie is based on a comparison of the matrix of covariance and the covariance matrix effect. Apart from Willkie's (Wilks' π), Other than Willkie's (Wilks' λ), others like statistics used here are Levene's test, Pillai's trace, and Hotelling's trace. The main objective of using MANOVA is to determine the main effect of independent variables (FDI) and to what extent the dependant variables (8nos) are important. If the multivariate test is significant then it may be concluded that the effect of the independent variable is significant. Again we can identify the impact of independent variables that contribute to the significant overall effect and which factor is truly important.

$$\sum_r \sum_k \sum_m (Y_{ikm} - GM_{(ikm)})^2 = n_k \sum_k (D_k - GM_{(D)})^2 + n_m \sum_m (T_m - GM_{(T)})^2 + \left[ n_{km} \sum_k \sum_m (DT_{km} - GM_{(DT)})^2 - n_k \sum_k (D_k - GM_{(D)})^2 - n_m \sum_m (T_m - GM_{(T)})^2 \right] + \sum_r \sum_k \sum_m (Y_{ikm} - DT_{km})^2$$

**Descriptive Statistics of Factors of Productivity of Indian Banking Sector**

Factors	FDI	Mean	Std. Deviation	N
BPE	Public sector banks	100.265	41.523437	13
	Private sector banks	77.499	25.393886	13
	Total	88.88200	35.663724	26
PPE	Public sector banks	344524	3289269	13
	Private sector banks	613506	3023678	13
	Total	479015	3385684	26
Employment generation	Public sector banks	28630.9782	2150.87137	13
	Private sector banks	10669.1115	5238.64151	13
	Total	19650.0449	9963.77761	26
Number of branches	Public sector banks	89732.46	19953.435	13
	Private sector banks	15291.77	7612.035	13
	Total	52512.12	40739.269	26

**Table 6: Factors of Productivity**

It is observed from table number (6) the BPE of the Public Sector Banks of India is quite higher as compared to Private Sector Banks. The Profit per Employee (PPE) is showing a parallel movement, but the upper growth is existing in the hands of private sector banks. The Employment Generation (EG) by

public sector banks is higher than private sector banks and Public sector banks are opening their branches in more velocity as compared to private sector banks. In total, productivity by public sector banks seems better, but the productivity of private sector banks is also good without fewer fluctuations.

**Descriptive Statistics of Factors of Profitability of Indian Banking Sector**

Factors	FDI	Mean	Std. Deviation	N
ROA	Public sector banks	.622	.465	13
	Private sector banks	.924	.396	13
	Total	.773	.451	26
ROE	Public sector banks	10.428	9.141	13
	Private sector banks	10.334	5.371	13
	Total	10.381	7.345	26
NII	Public sector banks	47111.058	22687.661	13
	Private sector banks	23196.062	16854.455	13
	Total	35153.559	23067.863	26
NP	Public sector banks	-220.179	6961.440	13
	Private sector banks	18315.189	18513.351	13
	Total	9047.505	16646.452	26

**Table 7: Factors of Profitability**

It is observed from table number (7) that profitability from both the private and public banking sector may or may not be expected as the variations of ROA are existing in between them. Again the ROE of both public and private sector banks is quite close in a figure which shows the possibility of increasing efficiency in a good way. Net Interest Income (NII) of public sector banks is almost double of private sector banks. The

private sector banks are a very high side in earning Net Profit (NP) where as the public sector bank is moving in a negative direction and incurring a loss. It is expected that overall profitability in the Indian Banking sector may be expected with more capital with more FDI inflows.

**Multivariate Tests**

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.998	906.387 <sup>b</sup>	8.000	17.000	.000
	Wilks' Lambda	.002	906.387 <sup>b</sup>	8.000	17.000	.000
	Hotelling's Trace	426.535	906.387 <sup>b</sup>	8.000	17.000	.000
	Roy's Largest Root	426.535	906.387 <sup>b</sup>	8.000	17.000	.000
FDI	Pillai's Trace	.997	779.121 <sup>b</sup>	8.000	17.000	.000
	Wilks' Lambda	.003	779.121 <sup>b</sup>	8.000	17.000	.000
	Hotelling's Trace	366.645	779.121 <sup>b</sup>	8.000	17.000	.000
	Roy's Largest Root	366.645	779.121 <sup>b</sup>	8.000	17.000	.000

**Table 8: Multivariate Test**

- a. Design: Intercept + FDI
- b. Exact statistic

Four measures that can be found in multivariate analyses, from which the trace of Pillai could be a positive-valued datum. Increasing data values suggest results that contribute significantly to the model. Wilks' Lambda could be a valued-positive datum varying from zero to one. Datum decreases suggest results that contribute significantly to the model. The trace of Hotelling is the addition of the search matrix's own values. It is a positive-valued data with rising values, indicating effects that contribute significantly to the model. Roy's largest

root is the search matrix's largest value of its own. Thus, it's a positive-valued datum that increasing values indicate effects that contribute a lot to the model. The significance worth of this analysis altogether of these tests was found to be 0.000 which is a smaller amount than the alpha worth .05. Therefore the null hypothesis is rejected. The null mental state is that the FDI isn't having any impact on banking ought to be rejected. It is declared that there's a significant impact of FDI on the banking sector.

**Levene's Test of Equality of Error Variances with respect to productivity of Indian Banking Sector**

Factors	F	df1	df2	Sig.
BPE	6.757	1	24	.016
Number of branches	16.762	1	24	.000
PPE	.001	1	24	.981
Employment generation	14.711	1	24	.001

**Table 9: Error Variances**

From the table (9) the p-value of Business per Employee (BPE), Number of Branches (NB) and Employment Generation (EG) is less than 0.05. Thus, the null hypothesis, that FDI has no impact on productivity can be rejected. FDI has got a considerable

impact on these factors of Indian banks. But on the other hand, as the p' value is more than .05 for Profit per Employee (PPE), FDI has no significant impact on it under the productivity performance of Indian Banking.

**Levene's Test of Equality of Error Variances with respect to the profitability of the Indian Banking Sector banking Sector**

Factors	F	df1	df2	Sig.
NII	4.620	1	24	.042
NP	13.744	1	24	.001
ROA	0.673	1	24	.420
ROE	5.257	1	24	.031

**Table 10: Error Variances**

From the above table, the p-value of Net Interest Income (NII), Net Profit (NP), and Return on Equity (ROE) is less than 0.05. Thus, the null hypothesis, that FDI has no impact on the profitability can be rejected. The p-value of Return on Assets (ROA) is 0.981 which is higher than 0.05. Thus, the null hypothesis, that FDI has no impact on profitability, can not be rejected. FDI has got no impact on ROA of Indian banks.

For a variable calculated for two or more groups, Levene's test is an inferential statistic used to assess the quality of variances. It tests the null hypothesis that the variances in the population are equal (called variance homogeneity or homoscedasticity). If the p-value is less than 0.05, thus the null hypothesis will be rejected. It can be concluded that the two samples FDI in Public Sector banks and FDI in Private sector banks have different variances in the case of all dependent variables except ROA and PPE.

**VI. Results and Discussion**

From the study, it is being observed that there are ups and downs of FDI inflows into the Indian Banking Sector. In the initial stage FDI inflows increased sharply, then suddenly declined due to sub-prime mortgage crisis and condense of US economy and again followed by a sudden jump in FDI inflow in 2016 and 2017 due to positive domestic and global environment. From the statistical analysis, (MANOVA) it is inferred (p-value) that FDI has got a moderate impact on productivity and profitability irrespective of public and private banks of the Indian Banking Sector. Under productivity, the parameters like business per employee (BEP), the number of branches (NB) and employment generation (EG), and under profitability, net interest income (NII), net profit (NP) and return on equity (ROE) respectively have been increased due to the impact of FD. As for all these mentioned parameters, the (p) value is less than .05, therefore null hypothesis is rejected and the alternative hypothesis is accepted. So the analysis indicates that there is a significant impact of FDI on the Indian Banking Sector with respect to six nos of parameters under

profitability and productivity factors. On the other hand parameters like Return on Asset (ROA) and profit per employee (PPE) have not impacted by FDI and for both the factors calculated 'p' value is more than .05. As the study analyzed that with some parameters FDI has a significant impact and with some other factors no significant impact, so it can be concluded that FDI has got a moderate impact on the Indian Banking Sector. It can be concluded with the statement that FDI has an average impact on the Indian Banking sector with respect to productivity and profitability and there is no uniform rather varied impact of FDI among the public sector and private sector banks and they have different growth variances in all dependent variables.

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