

Governing Structure of Banks and its Relationship with Employee Cost, Productivity & Profitability An Analysis of Indian Banking Sector

SUBHAJIT GUPTA

Abstract

Out of all the inputs required to build up a profitable enterprise, one of the essential elements, if not the most crucial element, is human resources. They are the ones who ultimately drive the business goals, and this is true for the banking sector, but very few studies have been done to try and gauge the impact of the human resource element on the profitability of the enterprise. This study is an attempt to try and address this gap, especially in the Banking sector. This paper has twin objectives to identify any relationship between banks' profitability in India with employee cost & employee productivity. It also tries to answer the question as to whether there is any difference in employee cost & productivity depending on the governing structure of the banks where governing system means the entity holding majority stake based on which banks could be either public sector, private sector, or foreign banks. This paper uses the fixed effects panel data analysis and ANOVA testing and concludes that there is a significant relationship between profitability & employee cost and employee productivity. The second conclusion is that there is a significant difference in employee cost, employee productivity & profitability based on governing structure. This study uses three variables: profit per employee, return on assets, and Employee cost to total cost ratio. A significant drawback is that many other variables can impact profitability, which has not been included in this study.

Keywords: Banking, governing structure, Profitability Productivity relation, employee cost, employee productivity, productivity cost relationship

JEL CODES : M1,M5,G2

1. Introduction

Of all the inputs required to build up a profitable enterprise, one of the essential elements, if not the most crucial element, is human resources. They are the ones who ultimately drive the business goals, and this is true for the banking sector, but very few studies have been done to try and gauge the impact of the human resource element on the profitability of the enterprise. This study is an attempt to try and address this gap, especially in the Banking sector. We want to study whether employee cost and employee productivity impact the profitability of the banking sector. Also, since we have different types of banks with very different profitability ranges, it is worthwhile to study whether governing structure leads to any significant difference in the profitability, employee productivity, and employee cost ratios among commercial banks in India. This paper can then suggest some steps that can be taken in order to address the gaps and try to ensure a more equitable performance among the various bank structures in India

1.1 Evolution of Human Resources In the Indian Banking Sector – The Myth of Public Sector Bank Jobs

One of the many myths been propounded in the policymaking circles is that privatization of central government-owned banks will lead to job losses; however, the study of employment growth in the private sector and public sector and Banks incorporated abroad having offices in India in India show that Indian private banks have created more jobs in India than central government-owned banks since at least 2004-05 to 2018-19. In contrast, it has been relatively flat for foreign banks. The two reasons were a) private banks incorporated in India went on an expansion spree from 2010-11 onwards, Which continued till at least 2014-

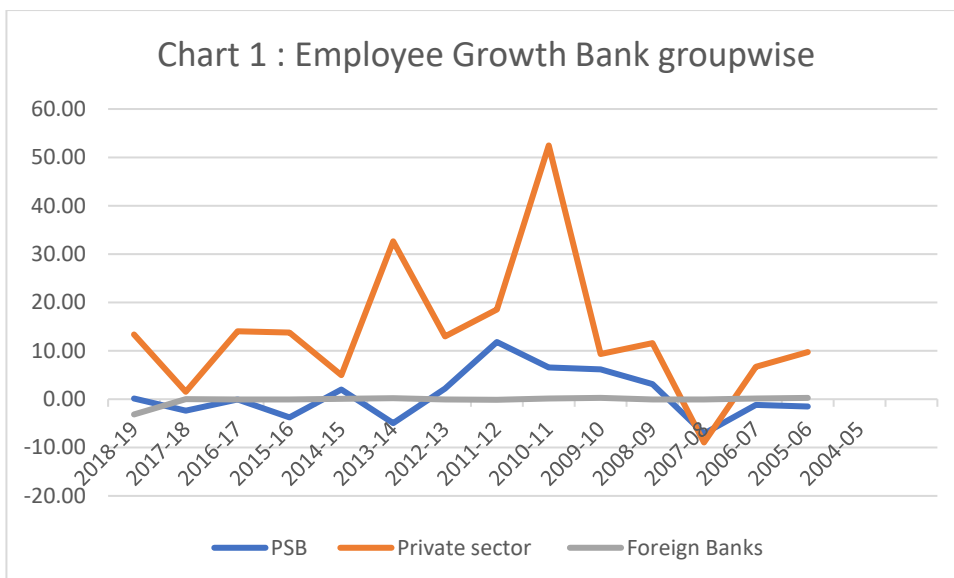
15. On the other hand, a hiring freeze in 1990" s in the public sector meant that employment growth stagnated in the PSB's. As evident from the table and chart

Table 1: Total Number of Employees and Employee growth in Banking Sector Bank group-wise.

Source: RBI Database: TABLE 50: BANK GROUP-WISE DISTRIBUTION OF EMPLOYEES OF SCHEDULED Commercial Banks, last three columns computed by the author

	PSB	Private sector	Banks incorporated abroad having offices in India	PSB	Private sector	Banks incorporated abroad having offices in India
	Total Number of Employees			Employee Growth		
2018-19	808400	476390	23229	0.12	13.35	-3.15
2017-18	807448	420285	23985	-2.35	1.52	-0.01
2016-17	826840	413989	24188	-0.05	14.03	-0.03
2015-16	827283	363048	24878	-3.77	13.79	-0.04
2014-15	859692	319050	25790	2.00	5.00	0.04
2013-14	842813	303856	24727	-4.93	32.62	0.19
2012-13	886490	229124	20836	2.20	13.01	-0.04
2011-12	867399	202746	21622	11.82	18.52	-0.11
2010-11	775688	171071	24240	6.58	52.46	0.16

2009-10	727775	112205	20807	6.15	9.37	0.25
2008-09	685620	102589	16624	3.14	11.57	-0.09
2007-08	664768	91952	18227	-7.12	-8.95	-0.05
2006-07	715695	100989	19109	-1.19	6.70	0.14
2005-06	724289	94650	16796	-1.50	9.73	0.27
2004-05	735354	86259	13221			



2. Literature Review

2.1 Relationship between profitability, Employee productivity, and employee Cost in the banking sector Of India.

There have been many studies in India regarding the impact of employee productivity and cost on India's banking sector's profitability. However, no one has considered these factors independently; however, they have been considered with other factors

There have not been many studies that talked solely on this issue; few studies relevant to this paper's subject are discussed below.

Agbiogwu et al. (2016) found in their paper that. Employee expenses significantly affect Net profit margin (NPM), Return on capital employed, EPS (earning per share of Nigerian Banks.

Budhatoki & Rai (2018) studied the impact of employee expenses and employee bonuses

on the net profit of Banks in the country of Nepal and found that while " employee expenses do not have any statistically significant effect, employee bonuses do have substantial Impact."

Boateng (2019), in his paper "The Relationship between Efficiency, Productivity, and Profitability of Ghanaian Banks," has studied several variables which impact the profitability of banks out of which the ones relevant to this study are profit per employee, personnel expense to operating expenses (the closest proxy to employee cost/ total expenses in the paper) It was found that while Profit per employee ratio was significantly related to banks' profitability. The finding suggests that efficient and productive staff members drive banks' profitability. The ratio of personnel expenses to the operating costs was not statistically significant. It is an indication that Ghanaian banks are not suffering from the problem of excess bank personnel, as the portion in personnel-related expenditures to the total operating expenses is insignificant

2.2 Impact of governing structure on productivity, cost, and profitability variables of commercial Banks

Mani & Sharma (2021), in a study, compared the efficiency of human capital, also known as (HCE), human capital efficiency .of the

private and public banks in India for the five years between F.Y. 2006 to Fy 2010. The study was based on the data taken from the financial statements of a random sample of banks. The " value-added method" was

used to measure the human capital efficiency of the banks. Other processes used were the "Exponential trend method, "ANOVA," and "GAP Analysis method."

The central insight of the study was that there was a substantial reduction in the "gap index" of HCE between PSBs and private banks incorporated in India.

The compounded annual growth rate (CAGR) of PSB's was more than private banks incorporated in India, which shows that public banks have made efforts to be competitive with private banks by ;

focusing on business process development, downsizing employees with attractive compensation (VRS) to bank personnel also performance-based compensations training & development of employees have been undertaken. However, another critical point would be to ensure flexitime for its employees to retain the most competent people.

Vadrale &. Katti (2018), in their study of employee productivity, draws a comparison between the performance of employee productivity of a sample of public and private banks incorporated in India for 15 years from 2001 to 2015. This study had considered 10 variables for measuring employee productivity. The study concluded that profit & spread per employee were significantly higher in private banks incorporated in India than in central government-owned banks. The "One-tailed t-test" result showed that investment, total income, profit & spread per employee of banks under private sector was better than banks under the government, and there was not much significant difference in the remaining ratios; a key recommendation of the study was that the government banks should focus on enhancing spread per employee.

3. Objectives

This study aims to the profitability of a commercial bank and employee cost and employee productivity variables. In this paper, we use profit per employee to measure employee productivity and employee wages / total expenses to measure employee cost and Return on Assets to measure bank's profitability. The second objective is to analyse whether there is a significant difference in employee costs and employee productivity in commercial banks based on governing structure in other words, whether there is any statistically significant difference in productivity and employee costs among central government-owned banks, foreign banks, and domestic private banks

4. Research Hypothesis

H1: ROA is not significantly dependent on business per employee ratio and employee cost to total expense ratio

H2: Governing structure does not impact employee productivity (measured through profit per employee) and employee cost (measured through employee cost/ total expense ratio).

H2a) There is no significant difference in business per employee ratio among public sector, private, and foreign banks.

H2b) There is no significant difference in employee costs among public, private, and foreign banks.

H2c) There is no significant difference in Return On Asset among central government-owned banks, private banks incorporated in India, and foreign banks.

5. Research Methodology

Sample Type: There are two types of sample used in this paper; for hypothesis 1, A list of the relevant ratios of all scheduled commercial banks was taken across 16 years 2004-2005 to 2019-2020. After that, a panel data analysis was performed using the fixed-effect method. For hypothesis 2, GroupWise ratios of PSBS, Private banks, and Banks incorporated abroad having offices in India were used for the 15 years between 2004-2005 and 2018-19.

Period of Study: Subject to data availability, the study period is between 2004-05 to 2019-20 for hypothesis 1 and between 2004-05 and 2018-19 for hypothesis 2 and sub hypothesis a, b, c.

Data Source: The data is secondary data sourced from the Reserve Bank of India Website. **Research Tool:** For Hypothesis 1, panel data analysis GRETL software has been used. For hypothesis 2 (a-c) Data analysis tool pack of excel was used.

6. Methodology:

In this paper, the following three variables have been used as given in table 2

Table 2: Variables used

Source: Created by the Author

<u>Variable</u>	<u>Measurement</u>
RETURN ON ASSET (Dependent Variable)	Net profit/ Average total Assets *100
WAGECOST TO TOTAL EXPENSES	Employee Benefit Expenses / total Expenses* 100
PROFIT PER EMPLOYEE	Net profit for the year / No of Employees on March 31st of Financial year

The following statistical and econometric tools have been used

- a) Panel data analysis
- b) ANOVA one factor test

7. Data Analysis & Discussion

7.1 Panel data analysis

To verify hypothesis 1, we have used panel data analysis using the fixed-effect method. For this, a two-step process is followed. We can use either random effect test or fixed effect test. We use the Hausman test to confirm the same. In Hausman's test, the null hypothesis is "GLS estimates are consistent, "or fixed effect is suitable, and the alternate hypothesis is that random effect is appropriate. The output of the test in GRETL was as follows

Hausman test -

Null hypothesis: GLS estimates are consistent

Asymptotic test statistic: Chi-square(2) = 3.45449

with p-value = 0.177773

As the "p-value is > 0.05 . "Thus, we "fail to reject the null hypothesis." so the fixed effect method is used.

Model 1: Fixed-effects, using 1387 observations

Included 90 cross-sectional units

Time-series length: minimum 12, maximum 16

Dependent variable: Returnonassets_x000D_

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	1.07249	0.122553	8.751	<0.0001	***
Ratioofwagebillstoto t	-0.0262034	0.00577217	-4.540	<0.0001	***
Profitperemployeein Rup	0.0121864	0.000761875	16.00	<0.0001	***
Mean dependent var	0.839611	S.D. dependent var	2.248830		
Sum squared resid	4894.305	S.E. of regression	1.944064		
LSDV R-squared	0.301744	Within R-squared	0.183441		
LSDV F(91, 1295)	6.149678	P-value(F)	2.70e-54		
Log-likelihood	-2842.522	Akaike criterion	5869.044		
Schwarz criterion	6350.655	Hannan-Quinn	6049.165		
rho	-0.013434	Durbin-Watson	1.746867		

Joint test on named regressors -

Test statistic: $F(2, 1295) = 145.462$

with p-value = $P(F(2, 1295) > 145.462) = 1.02774e-057$

Test for differing group intercepts -

Null hypothesis: The groups have a common intercept

Test statistic: $F(89, 1295) = 2.36146$

with p-value = $P(F(89, 1295) > 2.36146) = 1.15809e-010$

Source: Computed by Author using data from RBI Database & Gretl Software

We see using the fixed -effect method, and we find both the variables are significant at 1 % level, and the Chi-square test is also significant. Thus, the model is significant. However, other variables affect ROA; however, they are out of the scope of this study. We reject the null hypothesis 1 and conclude that ROA depends both on employee productivity and employee cost as expected employee cost has negative relation with ROA whereas Productivity measured as profit per employee has a positive relationship; thus, only using this model, the idea would be that we need to reduce employee cost to increase profitability however too much reduction might demotivate employees and lead to opposite results.

7.2 One Factor ANOVA Test

Here we analyse hypothesis 2. Governing structure of banks significantly impacts both employee cost and productivity, which impacts profitability (measured as ROA).

Here we use ANOVA Analysis The results are as follows

Table 4. ANOVA Analysis of Employee cost (measured as Ratio of wage bill to Total expense)

Source: Computed by Author

SUMMARY					
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>	
PSB	16	256.11	16.01	10.83	
Private sector	16	191.51	11.97	0.88	
Foreign Banks	16	296.19	18.51	5.90	
ANOVA					
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>
Between Groups	348.70	2	174.35	29.71	5.94968E-09
Within Groups	264.07	45	5.87		
Total	612.77	47			

We see that the "p-value" is "less than 0.05." ; we conclude that at a 95 % level of confidence, The ANOVA test is significant, and thus there is a significant difference between employee costs between the public sector, private sector, and foreign banks. We also find that Banks incorporated abroad having offices in India have a higher cost structure than PSBs, and private banks have the lowest cost structure, which is an exciting finding. The next question we will explore is whether high cost translates to higher productivity on analysing the ANOVA test for employee productivity (measured as profit per employee). We find a significant difference between employee productivities of PSBs, Private banks, and Banks incorporated abroad having offices in India (as shown below). We find that higher cost indeed translates to higher productivity over 15 years between 2004-05 & 2019-20 for foreign banks, although that is not true for PSB's. Therefore, something ails PSB's productivity despite higher costs as compared to Indian Private banks.

Table 5: ANOVA test Employee productivity measured as profit per employee)

Source: Computed by Author using Data from RBI Database & Excel Data analysis tool pack

ANOVA: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
PSB	15	0.25202	0.01680	0.00263		
Private sector	15	1.43164	0.09544	0.00075		
Foreign Banks	15	5.88020	0.39201	0.02020		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.174613	2	0.59	74.73	1.46E-14	3.219942
Within Groups	0.330064	42	0.01			
Total	1.504677	44				

Now we check the profitability differences among bank groups and try to analyse them.

Table 6: ANOVA Analysis of Profitability (measured as Return on Assets)

Source: Computed by Author

ANOVA: Single Factor						
SUMMARY						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
		6.50209	0.43347	0.41355		
PSB	15	5	3	4		
		18.6305	1.24203	0.12312		
Private Banks	15	7	8	5		
		26.0279	1.73519	0.08797		
Foreign Banks	15	9	9	7		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
	12.9573			31.1148	5.13E-	3.21994
Between Groups	8	2	6.47869	4	09	2
	8.74518		0.20821			
Within Groups	4	42	9			
	21.7025					
Total	6	44				

Here we see that the "p-value is <0.05" At the 95 % level. Thus, the ANOVA test is significant. Therefore, we see that higher productivity leads to higher profitability. As we see, Banks incorporated abroad having offices in India have the highest profitability and productivity, Indian Banks incorporated abroad having offices in India come Second and central government-owned banks the last despite having the second-highest cost structure. Thus, we need to analyse why productivity & profitability are so low for PSBs however, that is out of the scope of this study. Some possible reasons have been discussed in the conclusion section. However, a detailed study could be undertaken.

We can hence conclude that hypothesis 2 and sub hypothesis (albic) are all rejected, and therefore, we can say that the governance structure of banks significantly impacts all three variables.

8. Conclusion

We find from the study a few critical takeaways

- a) The most critical employment generator in the banking sector is Indian private banks over 15 years and not central government-owned banks as is traditionally believed. Thus, the idea that privatization will lead to loss of jobs may not be 100 % accurate
- b) Employee productivity has a positive relationship with Return on assets and employee cost negatively. this does not give us too many insights apart from the fact that costs reduce profitability.
- c) Hypothesis 2 is rejected, and therefore we say that governing structure of banks significantly impacts all three variables under study.
- d) The more significant insight is the second part, which shows that Banks incorporated abroad having offices in India have higher productivity and profitability than PSBs and private banks incorporated in India. This indicates that productivity is the most important thing and not costs because Banks incorporated abroad having offices in India have a higher cost structure than PSBS. Still, it is more than offset by the higher productivity of Banks incorporated abroad having offices in India, leading to higher profitability. Of course, other variables might have an impact, but it is out of the scope of this study.

Therefore, improving employee productivity and paying them competitive salaries is the way to go ahead. In fact, with the liberalization of FDI in the banking sector, more Banks incorporated abroad having offices in India would come in who could pay higher salaries; therefore, it is essential to focus on technology, employee development, and training for the public sector and Indian private banks incorporated in India. The RBI report entitled "REPORT OF THE COMMITTEE ON HR ISSUES OF CENTRAL GOVERNMENT OWNED BANKS " in June 2010 had spoken about many reforms in the central government-owned banks H.R. management. It said the following things

"Bank-level initiatives are minimal. H.R. does not find a place in the strategic management matrix of banks.

- H.R. is highly transactional, ad hoc, and inadequately professionalized, with a high degree of standardization, militant trade unionism, restrictive mobility of staff, absence of a reward mechanism, and severe gaps in succession planning.
- Automation of H.R. administration is limited. Outsourcing of non-core activities is also limited.
- Employee engagement strategies are patchy and ad hoc.
- The performance management system and its administration are generally routine and nebulous. In many banks, the clerical staff is not covered by the appraisal system.
- Human resource development (HRD) is equated primarily with promotions and training. Top and senior-level management positions are created ad hoc, and in some cases, the number of top places is not commensurate with business dynamics.
- Most PSBs do not have any worthwhile workforce planning. It is not organically linked with strategic and business plans.
- Diversity management and associated issues are given inadequate attention."

However, even after a decade of these recommendations, no worthwhile change is seen. The bank unions still control significant decisions, and wage settlement still happens at the industry level, although some profit-linked incentives were introduced in the last settlement. Succession planning still is a problem because of a hiring freeze in the 1990" s what former deputy Governor KC Chakraborty called the 'retirement decade.' So middle managers are retiring faster, leading to faster promotions but a lack of appropriate experience. So, in my opinion following steps to be taken immediately

- a) Hiring should be done at two levels, generalists through open competitive exams and specialists directly from campuses like private banks

- b) The wage should be fixed at the bank level and not at the industry level because the performance of various banks is different
- c) Bank unions should be taken into confidence for reforms
- d) Free open competition at higher levels through lateral entry even from other private organizations
- e) Proper practices for motivating employees and adequate training in new technologies

9. LIMITATIONS & SUGGESTIONS FOR FURTHER STUDY

Profitability depends on many variables that have been kept out of the scope of this study; therefore, many studies using some other set of variables might give different results. Further, the factors impacting employees' productivity have to be studied; an organizational psychologist would better do it. Therefore, a suggestion of further study would be to figure out qualitative factors leading to productivity differences among the three groups of banks

10. REFERENCES

1) Tables from the RBI database titled "**Statistical Tables Relating to Banks in India.**"

<https://rbi.org.in/Scripts/AnnualPublications.aspx?head=Statistical%20Tables%20Relating%20to%20Banks%20in%20India>

a) Table 10: Bank groupwise Select Ratios of Scheduled Commercial banks

b) Table 11: **Select Ratios of Scheduled Commercial Banks**

c) Table 12: Bank wise & Category wise Employees of Scheduled Commercial Banks

2) RBI report Titled "REPORT OF THE COMMITTEE ON HR ISSUES OF CENTRAL GOVERNMENT OWNED BANKS " June 2010.

Research Papers

- a) Boateng, Kwadwo. (2019). The Relationship between Efficiency, Productivity, and Profitability of Ghanaian Banks. 21. 52-60. 10.9790/487X-2106045260.
- b) Agbiogwu, A.A., Ihendinihu, J.U. and Azubike, J.U.B., 2016. Effects of Human Resource Cost on Profitability of Banks in Nigeria. *Expert Journal of Finance*, 4, pp. 10-18
- c) Budhathoki, Prem & Rai, Chandra. (2018). "STAFF EXPENSES AND ITS EFFECT ON THE BANK'S NET PROFIT. "Researcher: A Research Journal of Culture and Society. 3. 63. 10.3126/researcher.v3i3.21550.
- d) Vadrade, Kavita & Katti, Vidya. (2018). A COMPARATIVE STUDY OF EMPLOYEE PRODUCTIVITY ANALYSIS OF PUBLIC AND PRIVATE BANKS INCORPORATED IN INDIA IN INDIA.
- e) Sharma, Eliza & Mani, Mukta. (2021). A Comparative Analysis of Human Capital Efficiency of Public and Private Banks in India.

Other Websites

- a) <https://www.analyticsvidhya.com/blog/2020/06/introduction-anova-statistics-data-science-covid-python/>

b) Annexure : Data used enclosed in the excel sheet

