

## **A Study on the Relationship between Employee's Performance and Profitability with a Reference of Hdfc Bank and Bank of Baroda**

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**ABSTRACT:** *The banking sector in India has gone under the scanner following some critical changes in monetary strategy. With the Hold bank of India (RBI) raising interest rates to help the falling Indian cash the Rupee, the expense of funds of banks has expanded altogether. This could show itself in rising non-performing assets (NPAs) and declining profitability.*

*The profitability of banks is affected by both inner and outer components. This paper is an endeavor to compare the critical drivers of profits at India's biggest public and private sector banks. Bank explicit measurements and danger factors were significant drivers of profits at the two banks. Profitability measures were key drivers of profits at India's biggest public sector Bank of Baroda however had no impact on profits at India's biggest private sector bank, HDFC bank. Asset utilization efficiency measures were key determinants of profitability at HDFC bank yet not at Bank of Baroda.*

*The absolute most significant determinant of Bank of Baroda end up being business per worker, an efficiency measure while advances and bank size which are conventional bank measurements were key drivers of profits at HDFC bank. Directors at the two banks and their investors in this way can take a gander at these drivers to build up an expansive comprehension of profitability at the two banks.*

**KEYWORDS:** *Net Profit, Determinants, Key Performance Indicators, Indian Bank, Step Wise Multiple Regression*

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### **I. INTRODUCTION**

Presentation of banking sector changes has changed the substance of the whole Indian banking scene. The Save Bank of India's (RBI) endeavors to embrace worldwide banking standards, for example, Basel 3 standards has additionally constrained banks to receive measures to control and look after edges. The banking sector in India has as of late go under the scanner following some critical changes in monetary approach. With the Save bank of India (RBI) raising interest rates to help the falling Indian money the Rupee, the expense of funds of banks has expanded altogether. This could show itself in rising non-performing assets (NPAs) and declining profitability.

Proof of this was found in the as of late delivered consequences of most open sector banks that showed altogether decaying asset quality.

The profitability of a bank is dominantly determined by a progression of inward and outer variables. The inward determinants of bank profitability incorporate yet are not restricted to bank size, capital, hazard the executives strategies embraced, costs, and enhancement received.

Outer determinants of bank profitability incorporate both industry basic determinants, for example, market concentration, industry size and proprietorship, and macroeconomic determinants, for example, expansion, interest rates, cash gracefully and GDP (Gross domestic product).

In the current investigation we center basically around the relationship of a chose gathering of inner elements with the profitability of India's biggest public and private sector banks, Bank of Baroda and Lodging Advancement Account Corporation (HDFC) bank. These components incorporate key bank measurements, for example, deposits, advances, all out assets and bank size, hazard factors, for example, the capital adequacy ratio, gross and net NPAs, profitability estimates, for example, business per representative and profit per worker, and asset utilization efficiency estimates, for example, the return on assets, interest pay/normal working funds, non-interest pay/normal working funds and working profit/normal working funds.

## **II. LITERATURE REVIEW**

The banking sector assumes a urgent function in encouraging financial turn of events. By assembling investment funds from the general population and directing them through advances, banking exercises uphold formative exercises the country over. In this manner, a steady banking framework is obligatory for a countries generally financial wellbeing and flourishing.

A comprehension of elements instrumental in driving bank profitability can toss light in distinguishing profitable banking techniques as well as will help reveal operational failures which can be killed. There are a few factors that sway the profitability of banks. These elements can be comprehensively named either interior determinants that begin inside the firm, for example, bank size, capital, hazard the board, costs the executives, and broadening or outer determinants that are outside the firm like market concentration, industry size and proprietorship, swelling, interest rates, cash flexibly and GDP (Gross domestic product).

A few investigations have inspected the effect of key inward factors on profitability. Smirlock and Earthy colored, (2016) considered the effect of interest deposits as an element of absolute deposits on profitability. Their discoveries propose that request deposits had a critical positive relationship with profits. Mill operator and Noulas, (2017) found that loan shortfall arrangement and net charge offs had a critical negative impact on the profitability of huge banks. These outcomes showed that net charge offs were additionally influenced by asset and obligation arrangement.

In this manner, the asset obligation portfolio choices of business banks can be required to influence the profitability of these establishments through net charge offs. It was additionally seen that more significant compensations and advantages per representative were reliably connected with higher net charge offs to add up to assets. This proposed that banks with more significant compensations and advantages would require higher net interest edges to look after profitability.

Ganesan, (2017) analyzed the profitability of public sector banks in India and found that interest costs, interest pay, other pay, deposits per branch, credit to add up to assets and extent of need sector advances were key determinants of profitability of these banks.

Holden and El-Bannany, (2014) explored whether investment in data innovation frameworks influences bank profitability in UK. The outcomes indicated that the quantity of mechanized teller machines introduced by a bank positively affects bank profitability.

Bodla and Verma, (2016) made an endeavor to distinguish the vital determinants of profitability of public sector banks in India and their examination showed that the factors, for example, non-interest pay, working costs, arrangement and possibilities and spread have critical relationship with net profits.

Sufian, (2017) inspected the determinants of Malaysian homegrown and unfamiliar business bank profitability. It was discovered that Malaysian banks with higher credit danger and loan concentration show lower profitability levels. Then again, banks that has a more elevated level of capitalization, higher extent of pay from non-interest sources, and high operational costs end up being moderately more profitable.

Outside determinants of bank profitability cover the effect of macroeconomic factors, for example, concentration, development and expansion on bank profitability. Chirwa, (2013) researched the connection between market structure and profitability of business banks in Malawi utilizing time arrangement information. The investigation shows a since quite a while ago run connection between bank performance and concentration.

Sufian, (2016) found that financial development adversely impacts the profitability of Malaysian banks. Higher swelling rates emphatically affected the profitability of these banks. While considering an example of eighteen European nations Molyneux and Thornton, (2012) found a huge positive connection between the return on equity and the degree of interest rates in every nation, bank concentration, and government possession.

## **III. METHODOLOGY**

This study used historical data to compare the relationship of a series of independent variables on the profitability India's largest public sector bank Bank of Baroda with that of India's largest private sector bank HDFC. The following variables were chosen:

Key bank metrics - Deposits, advances, total assets and bank size

Risk factors - The capital adequacy ratio, gross and net NPAs

Productivity measures - Business per employee and profit per employee

Asset usage efficiency measures - The return on assets, interest income/average working funds, non-interest income/average working funds and operating profit/average working funds.

The study was conducted with annual data for the ten year period spanning from the financial years 2010 to 2019. Historical data on all of the above were obtained from the Capitaline financial database ([www.capitaline.com](http://www.capitaline.com)) and the Reserve Bank of India ([www.rbi.gov.in](http://www.rbi.gov.in)). The relationship between the variables was analyzed with the SPSS 18.0 package. Q-Q plots were used to ascertain normality of the data. Correlation coefficients were determined to study the relationship between the respective variables. F values and Significant

F values from ANOVA analysis were used to assess the statistical significance of the correlations observed at 95% confidence intervals.

Then Uni-variate and step-wise multiple regression analysis were used to study the impact of all the independent variables taken individually and together on the net profit of the banks. Variance Inflation Factor (VIF) was used to detect multi-collinearity. Durbin Watson coefficient was used to detect auto correlation in the data.

Table 1 shows the aftereffects of connection investigation, straight regression examination and Anova for Bank of Baroda. Profitability as estimated by net profit is considered as the reliant variable while the free factors are deposits, advances, net NPAs, net NPA's, return on assets, the capital adequacy ratio, business per representative , profit per worker, bank size, interest pay/normal working funds, non-interest pay/normal working funds and working profit/normal working funds. Among these factors, deposits, advances, All out assets, business per representative, profit per worker, Net NPAs, net NPAs and bank size were discovered to be emphatically connected with net profit.

**Table 1:** Relationship between Profitability and Performance Indicators of Bank of Baroda: Results of Correlation Analysis, Regression Analysis and ANOVA

Dependent Variable (Profitability)	Independent Variable (Performance Indicators)	Relationship	Correlation Coefficient (R)	Regression Coefficient (R <sup>2</sup> )	F Value	Sig. F Value
Net Profit	Deposits	+	0.970	0.942	128.99	0.000
Net Profit	Advances	+	0.966	0.934	112.67	0.000
Net Profit	Total Assets	+	0.970	0.940	125.20	0.000
Net Profit	Bank Size	+	0.777	0.603	12.17	0.008
Net Profit	Gross NPA	+	0.911	0.830	39.10	0.000
Net Profit	Net NPA	+	0.965	0.932	109.73	0.007
Net Profit	Capital Adequacy Ratio	-	0.473	0.224	2.31	0.167
Net Profit	Business-per-Employee	+	0.972	0.944	135.26	0.000
Net Profit	Profit-per-Employee	+	0.958	0.918	89.80	0.000
Net Profit	Return on Assets	-	0.098	0.01	0.08	0.787
Net Profit	Interest Income / Average Working Funds	+	0.090	0.008	0.065	0.805
Net Profit	Non-Interest Income / Average Working Funds	-	0.639	0.408	5.51	0.047
Net Profit	Operating Profit / Average Working Funds	-	0.332	0.11	0.99	0.348

Non-interest pay/normal working funds were discovered to be adversely connected with net profit. The connections noticed were likewise factually critical at the 95% certainty level. The connection between net profit and different factors were not factually huge at the 95% certainty level.

**Table 2:** Relationship between Profitability of Bank of Baroda and Performance Indicators: Step Wise Multiple Regression Analysis

Dependent Variable	Independent Variable	Correlation Coefficient R	Regression Coefficient R <sup>2</sup>	F Value	Sig. F Value	VIF	Durbin Watson
Net Profit	Business per Employee	0.972	0.944	135.26	0.000	1.0	1.634

Table 2 shows the consequences of a stage shrewd multiple regression performed taking Bank of Baroda's net profit as the reliant variable and performance indicators referenced in Table 1 were picked as autonomous factors. The progression astute regression dispensed with most factors due to multi-collinearity issues and picked business per representative as the main free factor.

Table 3 shows the aftereffects of connection investigation, direct regression examination and Anova for HDFC bank. Profitability as estimated by net profit is considered as the reliant variable while the autonomous factors are deposits, advances, absolute assets, bank size, net NPAs, net NPAs, business per representative and profit per worker.

Among these factors, deposits, advances, all out assets, bank size, net NPA, the capital adequacy ratio, return on assets and interest pay/normal working funds were discovered to be profoundly related with net profit. The net NPA, non-interest pay/normal working funds and working profit/normal working funds were likewise emphatically associated to net profit yet less significantly than the prior talked about factors.

**Table 3: Relationship between Profitability and Performance Indicators of HDFC Bank: Results of Correlation Analysis, Regression Analysis and ANOVA**

Dependent Variable (Profitability)	Independent Variable (Performance Indicators)	Relationship	Correlation Coefficient (R)	Regression Coefficient (R <sup>2</sup> )	F Value	Sig. F Value
Net Profit	Deposits	+	0.988	0.975	314.42	0.000
Net Profit	Advances	+	0.994	0.989	712.85	0.000
Net Profit	Total Assets	+	0.991	0.982	436.62	0.000
Net Profit	Bank Size	+	0.914	0.836	40.78	0.000
Net Profit	Gross NPA	+	0.887	0.786	29.41	0.001
Net Profit	Net NPA	+	0.618	0.383	4.96	0.057
Net Profit	Capital Adequacy Ratio	+	0.818	0.669	16.17	0.004
Net Profit	Business-per-Employee	-	0.100	0.010	0.08	0.784
Net Profit	Profit-per-Employee	+	0.307	0.094	0.83	0.389
Net Profit	Return on Assets	+	0.872	0.760	25.37	0.001
Net Profit	Interest Income / Average Working Funds	+	0.843	0.711	19.68	0.002
Net Profit	Non-Interest Income / Average Working Funds	+	0.615	0.378	4.87	0.058
Net Profit	Operating Profit / Average Working Funds	+	0.744	0.553	9.91	0.014

The relationships noticed were additionally measurably huge at the 95% certainty level for the majority of the above factors. The connection between net profit and different factors were not factually critical at the 95% certainty level.

**Table 4: Relationship between Profitability of HDFC Bank and Performance Indicators: Step Wise Multiple Regression Analysis**

Dependent Variable	Independent Variable	Correlation Coefficient R	Regression Coefficient R <sup>2</sup>	F Value	Sig. F Value	VIF	Durbin Watson
Net Profit	Advances	0.999	0.998	30.04	0.001	4.201	2.879
	Size					4.201	

Table 4 shows the results of a step wise multiple regression performed taking HDFC bank's net profit as the dependent variable and performance indicators mentioned in Table 4 were chosen as independent variables. The step wise regression eliminated most variables due to multi-collinearity issues and chose advances and bank size as the most influencing independent variables.

#### **IV. DISCUSSION AND ANALYSIS:**

HDFC bank is India's biggest private sector bank having profits north of 80 billion rupees, net interest pay of more than 400 billion rupees with an all out asset base well over 4.9 trillion rupees. The two banks have market capitalizations of around 2 trillion rupees. A comprehension of what drives profitability at these benchmark banks is subsequently significant.

In the current examination we center around the relationship of a bunch of key bank measurements, for example, deposits, advances, absolute assets and bank size, hazard factors, for example, the capital adequacy ratio, gross and net NPAs, efficiency estimates, for example, business per worker and profit per representative, and asset utilization efficiency estimates, for example, the return on assets, interest pay/normal working funds, non-interest pay/normal working funds and working profit/normal working funds with the profitability of India's biggest public and private sector banks .

We locate a solid positive relationship between's the key bank measurements deposits, advances, all out assets and bank size and net profit for the two banks (Table 1, 3). Deposits are frequently observed as an indicator of a bank's financial wellbeing and strength. Comparable outcomes have been noticed before by Smirlock and Earthy colored (1986), who found a solid positive connection between request deposits and bank profitability.

Ganesan (2011) likewise found a solid connection among's deposits and profitability for a gathering of public sector banks in India. Given that advances are a significant segment of the bank's complete assets and its relationship with net profit is almost equivalent to or more prominent than the connection of net profits saw with the bank's absolute assets, the two banks must zero in on amplifying this key measurement and diminish their emphasis on different assets.

Ganesan, (2011) found a comparative connection between need sector advances and profitability for a gathering of Indian public sector banks. The two banks demonstrated a solid connection between net profits and their individual sizes.

We likewise locate a solid positive connection between the danger factors, for example, the capital adequacy ratio, gross and net NPAs and net profit (Table 1, 3). This recommends as the bank's profitability expands the non performing assets likewise increments. Subsequently profitability may come to the detriment of falling apart asset quality. Nonperforming assets are charge off's against profits and thusly can adversely affect performance.

In a previous investigation Mill operator and Noulas, (2017) found that loan shortfall arrangement and net charge offs had a huge negative impact on the profitability of huge banks. Bodla and Verma, (2016) have additionally shown that provisioning for terrible loans essentially affected profits of public sector banks in India. The capital adequacy ratio was seen to be emphatically associated to net profit for HDFC bank.

The capital adequacy ratio can be utilized to measure the credit danger of the bank. A higher ratio would infer lesser danger from the banks credit presentation. Sufian, (2019) found that Malaysian banks with higher credit danger and loan concentration showed lower profitability levels. Further banks that have a more significant level of capitalization, higher extent of pay from non-interest sources, and high operational costs end up being moderately more profitable.

We locate a solid positive connection between's efficiency estimates, for example, business per representative and profit per worker and net profit for Bank of Baroda however this was not seen on account of HDFC bank (Table 1, 3). Hence profitability of the labor force was significant for India's biggest public bank however not for India's biggest private bank. These two indicators help in surveying the profitability of the work power and the degree of their commitment to the operational efficiency of banks. Ben Naceur and Goaid, (2011) found that the best performing Tunisian banks are those that improve work and capital efficiency.

We locate a critical positive connection between asset use efficiency estimates, for example, the return on assets, interest pay/normal working funds, non-interest pay/normal working funds and working profit/normal working funds with net profit for HDFC bank however this was not noticed for Bank of Baroda. For Bank of Baroda there was really a negative connection between net profit and non-interest pay/normal working funds (Table 1, 3). Taken together the information recommends that while Bank of Baroda must be careful in sending its funds to create funds from non-interest sources HDFC bank can produce significant salaries from conveying its funds in interest and noninterest creating sources. Sufian, (2019) found that Malaysian banks that produce higher extent of pay from non-interest sources to be moderately more profitable.

Step astute multiple regression investigation (Table 1, 3) demonstrating the consolidated impact of the apparent multitude of factors on net profit was carried out in the examination. Multi-collinearity and auto connection issues were generally represented. The outcomes indicated that the vital determinant of the profitability of Bank of Baroda was business per worker while the critical determinants of profitability for HDFC bank were advances and bank size.

Consequently while bank explicit measurements were drivers of profitability at HDFC bank, efficiency estimates affected profits at Bank of Baroda. Supervisors and investors of the two banks may zero in on these

measurements to attempt to comprehend what drives profits. With a multi-variate examination Bodla and Verma, (2016) found that factors, for example, non-interest pay, working costs, arrangements, possibilities and spread had huge associations with net profits.

## **V. CONCLUSION**

This paper is a near report which endeavors to comprehend the vital drivers of profits at India's biggest public and private sector banks. Bank explicit measurements were drivers of profits at the two banks. Danger factors were significant influencers of profits at the two banks. Efficiency measures were key drivers of profits at India's biggest public sector Bank of Baroda however had no impact on profits at India's biggest private sector bank, HDFC bank.

The converse was valid for asset use efficiency estimates which were determinants of profitability at HDFC bank however not at Bank of Baroda. The absolute most significant determinant of Bank of Baroda end up being business per representative, a profitability measure while advances and bank size which are customary bank measurements were key drivers of profits at HDFC bank. Along these lines the profits at the two banks are driven by an alternate arrangement of determinants. Administrators at the two banks and their investors accordingly can take a gander at these drivers to build up an expansive comprehension of profitability at these banks.

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