



EXPLORING THE IMPLICATIONS OF BANKING OPERATIONS FOR THE PROFITABILITY OF INDIAN COMMERCIAL BANKS: A COMPARATIVE STUDY

Ms. Samyukta Jena* Prof. Kishore Kumar Das**

*Ph.D Research Scholar in Commerce, Ravenshaw University, Cuttack-753003.

**Professor of Commerce, Department of Commerce, Ravenshaw University, Cuttack- 753003.

Abstract

The paper examines the factors influencing the profitability of Indian commercial banks considering the multiple banking and increasing emphasis on improving the core banking operations in Indian commercial banks. Treasury, Corporate banking and Retail Banking form a fundamental part of banking operations. Treasury operations help take care of day-to-day banking operations and help them mitigate market risks. Corporate banking refers to the financial services and products that banks offer the corporate on a national and international level as opposed to retail banking operations. The data has been collected from RBI annual financial ratios of commercial banks and annual report of public sector and private sector banks in India. Panel dataset of five public sector banks and five private sector banks in India has been collected from the period of 2012-13 to 2021-22. The overall operating profit has been taken as the proxy for profitability and segment results from the treasury, corporate banking and retail banking operations have been used to make a comparison of the impact that these operations have on the bank profitability in case of public sector banks and private sector banks. Further, Tobin's Q has been used as a proxy for firm value and has been used to investigate if it has an impact on how banking operations affect the operating profit of the banks.

Keywords: Treasury, Corporate Banking, Retail Banking, Operating Profit, Tobin's Q .

1.0 Introduction

Bank is the powerhouse of economic growth and robustness of a country. It is the dynamic role played by the banks that lends credit to the success story of any country in the world. They not only act as a repository for a country's wealth, but they are also responsible for using the deposits from people responsibly and productively. This is to further enhance and better the capital formation and distribution in a country (Brahmaiah, 2018). It is the performance of the banks that could make or break an economy; as it is not far off to say that agriculture, industry and various other sectors would suffer should the banking performance be affected. An efficient banking sector is reflected by a sound intermediation process that generates superlative profit from its business activities (Agarwal, 2019).

The modifications forged by digital technology in the financial sector, is bringing innovative changes in how banks handle their business. The evolving dynamics of banking processes are more customer centric and thus, lean more towards customised services and inventive products. The automation of banking processes and introduction of artificial intelligence is digitising operations on both the ends- banks as well as customers. The penetration of digitally evolved products and services is more prominent in consumer banking than other banking operations (Botta et al., 2021). It is the scheduled commercial banks- both public and private; that are the largest components of the Indian banking system as compared to the unscheduled banks. The banking operations can be broadly sorted into Treasury operations, Wholesale operations and Retail banking or Personal banking operations. The banks earn income not only on the basis of net interest earned from these operations, but also from treasury operations through commissions and exchanges (Brahmaiah, 2018). Generally, while investors look for investing in lucrative stocks in banking sector, they check out certain parameters and



performance indicators before going forward with their investments- Segment Revenue, Net Interest Margin (NII), Total Deposits and Advances, Current Account to Savings Account Proportion, Capital Adequacy Ratio (CAR), Retail v/s Wholesale banking proportion etc. (**Abbasi et al., 2016**).

The emergence of new business models in the sector of financial service providers due to increased digitalisation and diversified conditions has urged RBI to introduce major banking reforms and changes over the years. The aim to such reforms is not only to promote and incorporate proper policies and regulations but, to also give the most competitive advantages to the Indian banking sector (**Brahmaiah, 2018**).

Retail banking differs from investment banking and corporate or wholesale banking in the context that, they deal directly with customers and offer them loan, transactional, cards and other services. As banks deliver these services to individual people directly, more often than not retail banking services are better known as personal banking services (**Anandalakshmy, 2019**). Though investors and shareholders focus the overall firm profit and loss, the unpredictability of the business environment today demands more finesse; especially in the finance industry. Banks and other financial sub-sectors are distinguished on the basis of their products and services; but banks profit from said products and services only when if their operation is efficiently managed (**Mitra & Karathanasopoulos, 2019**). Banks are becoming more competitive to benefit from the high-powered and avant-garde customer market. They are striving to either partner up with new fintech and big-tech entrants in the market or acquire the technological advancements to implement them into their own firms. Over the years they have expanded from their service portfolio to providing a variety of deposits, loans, ATM and debit cards etc. (**Anandalakshmy, 2019**).

“Retail banking plays a crucial role in fostering economic activity. Retail banking is the backbone of banking activities. Retail sector banks, in particular, have the expertise to provide credit to small and medium-sized enterprises (or SMEs) and to evaluate the associated risks. As SMEs are the main engines of job creation and economic growth, they are also important drivers of innovation in the economy.” (**Tumpel-Gugerell, 2008**).

The conversion of the business models of banks from a traditional model to a better market-oriented model has resulted an increment in the funding from the markets and stirring the orientation of retail deposits toward it as well (**Diener, 2020**).

Having the direct supervision of cash held in business and its liquidity, treasuries in the role of ‘Overseer of Cash’ for business operations take responsibility for managing the conduction of activities by making sure that, a business holds sufficient amount in its hand or ‘petty cash’ for any opportunistic business venture (**Dsouza et al., 2022**).

Study Sections

The study has been divided into six sections. The authors and websites that helped form the conceptual background of the study is set forth in Section 2. Section 3 details the methodology and techniques adopted to fulfil the objectives of the study. Section 4 focuses on the analysis of data and its interpretation. Section 5 and 6 give the concluding remarks, limitations and scope for further research with respect to the study.



2.0 Literature Review

Theoretical Framework

For the banks and financial institutions to turn a pretty profit and give a good performance, it is mandatory that the banks have a robust core banking operation system. Over the years, it has been proven that the value creation in case of bank and performance of other financial sub-sectors depends first and foremost on the operational efficiency of the different sub-sectors (**Mitra & Karathanasopoulos, 2019**).

While wealth creation is the aim of every firm, it is preceded by profit creation. The first step to analysing firm health is studying the profitability position of the concerns. In the recent years, with the growth of the Indian economy, it has become imperative to study the profitability positions of both public sector and private sector banks in India (**Agarwal, 2019**).

The banks having faced their fair share of challenges over the years, experienced the worst during the global financial crisis when the investment banking crashed and they experienced a deterioration of their own performance and credit portfolios. Thus, it became clear that it is improvement in the operational efficiency that could stabilise the financial performance of the banks as well help them retain their market share in the Bulgarian banking system (**Aleksandrina, 2019**).

In Ghana, (**Opoku, 2017**) conducted a study in the rural banks with the sole purpose of understanding how treasury management could impact the profits of these banks. A five-year quantitative research study ranging from 2011-2015, taking treasury management ratios like current ratio, cash to deposit, loan to deposit ratio etc. was conducted. The study results concluded that on the rural banks, the current ratio had a significantly positive relation with the profitability of rural banks as, the banks in the rural areas are more concerned with ensuring that the current assets remain more than the current liabilities, so as to face the most minimum challenge in meeting the short-term obligations.

(**Roszkowska & Prorokowski, 2017**) discussed the transformation of treasury operation of banks across the Asia-Pacific region to a more diversified revenue and product portfolio under unyielding credit and liquidity conditions. An online survey of 106 practitioners working in treasury operations over wide geographic area was taken to understand their responsibilities with respect to treasury related issues and emerging challenges and trend in this particular operation. It was found that an increase in the complexity of treasury operations led to a change in the interest rate that could lead to a disruption in the FX market. This would result in increased interest rate and structured derivative trading for the commercial banks.

(**Ryan North, 2019**) in in the report on the importance of corporate banking for the economic development highlighted that, corporate banks differ from retail banks with respect to the amount of money and profit derived from the services offered. Corporate banking proffer a wide range of solutions in banking services that include loan management, asset management, credit management and corporate finance services.

Empirical Framework

To evaluate the impact that OMS (Operation Management System) could have on the firm value in the financial sector, the authors have taken pair trade returns as a measure of operational performance. They took the weekly stock price data and any operational event data from the year 2000-2007. Since, the aim of achieving operational efficiency is to mitigate operational risk; the authors have proven that



strategical allocation of operational risk can improve firm performance and reduce losses (**Mitra & Karathanasopoulos, 2019**).

The author carried out an empirical analysis of 12 years from 2005-2017 taking ROE, NIM, ROA and Operating Profit as the profitability indicators and found private sector banks to be in a better position than the public sector banks due to negative returns from non-performing assets (**Agarwal, 2019**).

The author takes increasing competition, advanced technological innovations and enhanced globalisation into consideration to study determinants of profitability of banking sector in India. Variables specific to banks, the overall industry and macro-economic scenario was taken into account to expediate the factors that affect the banking profit in India. Operational efficiency, strength of equity capital and NII were considered to have a positive and significant impact on ROA through pooled OLS Regression (**Brahmaiah, 2018**).

In Oman, the authors have tried to investigate the effect that some key financial variables would exert on the net profit of commercial banks through a cross-sectional analysis across five commercial banks over a period of 13 years from 2007-2019. The authors suggested to focus more on improving the lending operations of the banks to enhance the credit portfolio of banks (**Jayaraman et al., 2021**).

Research Gap

Not many papers that have studied the impact of segment results from banking operations on the operating profit of commercial banks and how firm valuation affects this interaction.

3.0 Research Methodology

Objective

1. To examine the impact of banking operations on the profit of public sector banks in India.
2. To examine the impact of banking operations on the profit of private sector banks in India.
3. To understand the impact of firm value on the interaction between banking operations and profit of public sector banks in India.
4. To understand the impact of firm value on the interaction between banking operations and profit of private sector banks in India.

Methods and Techniques used in the study

In order to investigate the implications of segment results from treasury operations, retail banking operations and corporate banking operations on the operating profit of commercial banks in the public and private sector in India and compare the results. Tobin's Q has been used as a proxy for firm value and further used as an interacting variable in the empirical framework of our study. The reason behind this is to understand, as well as compare the direct and indirect effect of the explanatory variables on the explained variable. Panel data collected from the annual reports and RBI report from 5 public sector banks in India- Bank of Baroda, Canara Bank, Punjab National Bank, Union Bank of India and State Bank of India; and 5 private sector banks in India- Axis Bank, City Union Bank, Federal Bank, HDFC Bank, ICICI Bank has been used for the empirical analysis in the study. Correlation analysis as well as regression based mediation analysis has been employed in the research to realise its objectives.

Pearson's Correlation Matrix

This technique is used to observe the pairwise correlation among the variables; -1 being perfectly negative correlation and +1 being perfectly positive correlation.



Regression and Mediation Analysis

Mediation approach is based on regression and is simply a more advanced form of regression. Basically, regression analysis is used to analyse the impact that predictor or independent variable(s) have on the predicted or dependent variable. The regression equation generally goes by-

$$y = \alpha + \beta_1 x_1 + \dots + \beta_n x_n + e$$

where;

α is the intercept or constant term, β is the unstandardised regression coefficient, e is the standard error, x is the predictor variable and y is the predicted variable. The R^2 and adjusted R^2 are used to discern the goodness of fit of a model, whereas the p-value of significance suggests whether the model is significant or not.

Mediation analysis is used when along with the study of the effect one variable has on another, the study also aims to analyse how the relationship is impact through another intervening or mediating variable. The output interpretation is mostly similar to regression, except for Sobel's test is done to get the statistical significance of the indirect effect and Bootstrap is done to statistically resample a single dataset multiple times to get simulated results.

Variable Specifications

1. Independent Variable- Treasury Operations(TREA), Corporate Banking Operations (COR_B), Retail Banking Operations(RET_B)
2. Dependent Variable- Operating Profit(OP_PR).

Mediation Analysis

1. Independent Variable- Treasury Operations(TREA), Corporate Banking Operations (COR_B), Retail Banking Operations(RET_B)
2. Mediating Variable- Tobin's Q(TOB_Q)
3. Dependent Variable- Operating Profit(OP_PR)

Model Specifications

Regression Analysis

2 multiple linear regression models of public and private sector banks.

$$y = \alpha + \beta_1 x_1 + \dots + \beta_n x_n + e;$$

y- operating profit

x1- segment results from treasury operations

x2- segment results from corporate banking operations

x3- segment results from retail banking operations

Mediation Analysis

6 simple mediation models taking each individual banking operation

Both in case of public sector and private sector banks

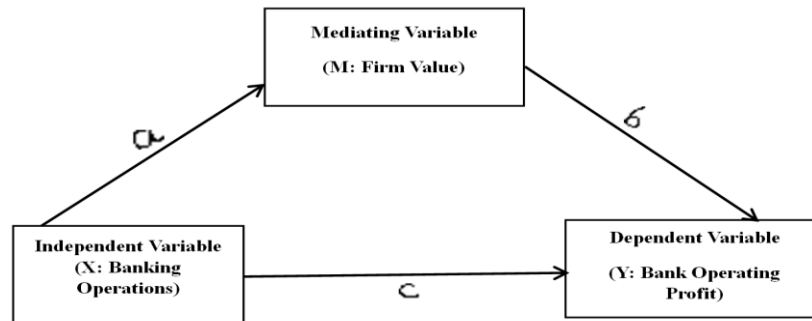


Figure 1: A mediation model of banking operations, firm value and bank operating profit

In the figure1 above, ‘c’ denotes the direct path or the Direct Effect (DE) financial innovation has on the bank performance. ‘a’ denotes the impact financial innovation has on risk management and ‘b’ denotes the impact risk management has on bank performance. The path ‘a’ and ‘b’ are the Indirect Effect (IE). Hence, the Total Effect (TE) in the model is calculated by-
 $TE = DE(c) + IE(ab)$

Development of Hypothesis

H₁: There is no significant impact of banking operations (treasury operations, corporate banking operations and retail banking operations) on the operating profit of public sector banks in India.

H₂: There is no significant impact of banking operations (treasury operations, corporate banking operations and retail banking operations) on the operating profit of private sector banks in India.

H₃: There is no significant mediating impact of Tobin’s Q on the interaction between treasury operations and operating profit of public sector banks in India.

H₄: There is no significant mediating impact of Tobin’s Q on the interaction between corporate banking operations and operating profit of public sector banks in India.

H₅: There is no significant mediating impact of Tobin’s Q on the interaction between retail banking operations and operating profit of public sector banks in India.

H₆: There is no significant mediating impact of Tobin’s Q on the interaction between treasury operations and operating profit of private sector banks in India.

H₇: There is no significant mediating impact of Tobin’s Q on the interaction between corporate banking operations and operating profit of private sector banks in India.

H₈: There is no significant mediating impact of Tobin’s Q on the interaction between retail banking operations and operating profit of private sector banks in India.

4.0 Data Analysis and Interpretation

SPSS v. 26 has been used in the study to employ the statistical techniques relevant to realising the research objectives. The first three tables- 1, 2 and 3; show the empirical results with respect to public sector commercial banks in India. The other three tables- 4, 5 and 6 show results w.r.t private sector banks in India.



Table No.- 1						
PUBLIC SECTOR BANKS- Correlations						
		OP_PR	TREA	COR_B	RET_B	TOB_Q
OP_PR	Pearson Correlation	1	.638**	-0.155	.771**	.375**
	Sig. (2-tailed)		0	0.284	0	0.007
	N	50	50	50	50	50
TREA	Pearson Correlation	.638**	1	-.337*	.577**	0.271
	Sig. (2-tailed)	0		0.017	0	0.057
	N	50	50	50	50	50
COR_B	Pearson Correlation	-0.155	-.337*	1	-.316*	-0.226
	Sig. (2-tailed)	0.284	0.017		0.025	0.115
	N	50	50	50	50	50
RET_B	Pearson Correlation	.771**	.577**	-.316*	1	0.151
	Sig. (2-tailed)	0	0	0.025		0.294
	N	50	50	50	50	50
TOB_Q	Pearson Correlation	.375**	0.271	-0.226	0.151	1
	Sig. (2-tailed)	0.007	0.057	0.115	0.294	
	N	50	50	50	50	50
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Sources: Compiled from the collected data



Table No.- 2							
PUBLIC SECTOR BANKS- Regression Model Summary							
Model Summary ^b							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson		
1	.819 ^a	0.67	0.649	10689.00727	1.259		
a. Predictors: (Constant), RET_B, COR_B, TREA							
b. Dependent Variable: OP_PR							
ANOVA ^a							
Model		Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	10689785209	3	3563261736	31.187	.000 ^b	
	Residual	5255724315	46	114254876.4			
	Total	15945509523	49				
a. Dependent Variable: OP_PR							
b. Predictors: (Constant), RET_B, COR_B, TREA							
Coefficients ^a							
Model		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		Beta				Tolerance	VIF
1	(Constant)	3053.513	2424.361	1.26	0.214		
	TREA	1.572	0.512	3.071	0.004	0.64	1.562
	COR_B	0.303	0.178	1.701	0.096	0.864	1.157
	RET_B	2.042	0.339	6.02	0	0.65	1.539
a. Dependent Variable: OP_PR							

Sources: Compiled from the collected data



TABLE NO.-3: PUBLIC SECTOR BANKS- MEDIATION						
Model = 4						PART-1
Y = OP_PR						
X = TREA						
M = TOB_Q						
Sample size						
50						
Total effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
3.0845	.8370	3.6851	.0006	1.4016	4.7675	
Direct effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
2.7981	1.0564	2.6486	.0110	.6727	4.9234	
Indirect effect of X on Y						
Effect	Boot SE	BootLLCI	BootULCI			
TOB_Q	.2865	.2320	-.0373	1.0089		
Normal theory tests for indirect effect						
Effect	se	Z	p			
.2865	.3555	.8058	.4203			
Model = 4						PART-2
Y = OP_PR						
X = COR_B						
M = TOB_Q						
Sample size						
50						
Total effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
-.3025	.5835	-.5184	.6066	-1.4757	.8707	
Direct effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
-.1439	.5972	-.2410	.8106	-1.3454	1.0576	
Indirect effect of X on Y						
Effect	Boot SE	BootLLCI	BootULCI			
TOB_Q	-.1586	.1090	-.5025	-.0063		
Normal theory tests for indirect effect						
Effect	se	Z	p			
-.1586	.1710	-.9270	.3539			
Model = 4						PART-3
Y = OP_PR						
X = RET_B						
M = TOB_Q						
Sample size						
50						
Total effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
2.4896	.3026	8.2287	.0000	1.8813	3.0979	
Direct effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
2.3601	.3211	7.3490	.0000	1.7141	3.0062	
Indirect effect of X on Y						
Effect	Boot SE	BootLLCI	BootULCI			
TOB_Q	.1295	.1326	-.0548	.4833		
Normal theory tests for indirect effect						
Effect	se	Z	p			
.1295	.1410	.9179	.3587			

Sources: Compiled from the collected data



From the pair-wise correlations between the variables pertaining to public sector banks in India shown in **Table No.-1**; it is evident that operating profit in these banks seem to have a positive and significant correlation with treasury banking and retail banking operations, as well as the firm value of these banks. **Table No.-2** shows the regression model summary of the impact of the different banking operations on the operating profit of public sector banks in India. From the table, it is clearly evident that the impact of retail banking operations and treasury banking operations on the operating profit of public sector banks are greatly significant. The same is not true for whole sale banking operations. The mediation summary of the banking operations; where each one of the operations have been taken separately to study their direct and indirect effects (with ‘Tobin’s q’ that serves as the proxy for firm value) on the operating profit of the public sector banks in India. The results shown in **Table No.-3**, suggest that there is zero mediation in case of treasury banking and retail banking operations and there is full mediation in case of corporate banking operations (as 0 does not lie between Boot LLCI and Boot ULCI).

Table No.- 4						
PRIVATE SECTOR BANKS- Correlations						
		OP_PR	TREA	COR_B	RET_B	TOB_Q
OP_PR	Pearson Correlation	1	.720**	.647**	.890**	.653**
	Sig. (2-tailed)		0	0	0	0
	N	50	50	50	50	50
TREA	Pearson Correlation	.720**	1	0.173	.535**	.431**
	Sig. (2-tailed)	0		0.23	0	0.002
	N	50	50	50	50	50
COR_B	Pearson Correlation	.647**	0.173	1	.521**	.424**
	Sig. (2-tailed)	0	0.23		0	0.002
	N	50	50	50	50	50
RET_B	Pearson Correlation	.890**	.535**	.521**	1	.611**
	Sig. (2-tailed)	0	0	0		0
	N	50	50	50	50	50
TOB_Q	Pearson Correlation	.653**	.431**	.424**	.611**	1
	Sig. (2-tailed)	0	0.002	0.002	0	
	N	50	50	50	50	50

** . Correlation is significant at the 0.01 level (2-tailed).

Sources: Compiled from the collected data



Table No.- 5								
PRIVATE SECTOR BANKS- Regression Model Summary								
Model Summary ^b								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson			
1	.971 ^a	0.943	0.939	3843.24388	0.599			
a. Predictors: (Constant), RET_B, COR_B, TREA								
b. Dependent Variable: OP_PR								
ANOVA ^a								
Model		Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	11168990935	3	3722996978	252.056	.000 ^b		
	Residual	679444080.6	46	14770523.49				
	Total	11848435015	49					
a. Dependent Variable: OP_PR								
b. Predictors: (Constant), RET_B, COR_B, TREA								
Coefficients ^a								
Model				Standardized Coefficients	t	Sig.	Collinearity Statistics	
				Beta			Tolerance	VIF
1	(Constant)	312.208	794.919		0.393	0.696		
	TREA	1.809	0.197	0.387	9.172	0	0.699	1.432
	COR_B	0.76	0.103	0.309	7.381	0	0.713	1.402
	RET_B	2.172	0.203	0.522	10.704	0	0.525	1.905
a. Dependent Variable: OP_PR								

Sources: Compiled from the collected data



TABLE NO.- 6: PRIVATE SECTOR BANKS- MEDIATION						
Model = 4						PART- 1
Y = OP_PR						
X = TREA						
M = TOB_Q						
Sample size						
50						
Total effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
3.3615	.7304	4.6023	.0000	1.8929	4.8300	
Direct effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
2.5135	.5755	4.3674	.0001	1.3557	3.6713	
Indirect effect of X on Y						
Effect	Boot SE	BootLLCI	BootULCI			
TOB_Q	.8479	.4154	.1827	1.8274		
Normal theory tests for indirect effect						
Effect	se	Z	p			
.8479	.4516	1.8775	.0605			
Model = 4						PART- 2
Y = OP_PR						
X = COR_B						
M = TOB_Q						
Sample size						
50						
Total effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
1.5928	.4432	3.5939	.0008	.7017	2.4839	
Direct effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
1.1106	.3751	2.9610	.0048	.3560	1.8651	
Indirect effect of X on Y						
Effect	Boot SE	BootLLCI	BootULCI			
TOB_Q	.4823	.2135	.0874	.9430		
Normal theory tests for indirect effect						
Effect	se	Z	p			
.4823	.2309	2.0888	.0367			
Model = 4						PART- 3
Y = OP_PR						
X = RET_B						
M = TOB_Q						
Sample size						
50						
Total effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
3.7034	.3600	10.2870	.0000	2.9796	4.4273	
Direct effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
3.2590	.2887	11.2865	.0000	2.6781	3.8398	
Indirect effect of X on Y						
Effect	Boot SE	BootLLCI	BootULCI			
TOB_Q	.4445	.3251	-.0677	1.2103		
Normal theory tests for indirect effect						
Effect	se	Z	p			
.4445	.3297	1.3480	.1776			

Sources: Compiled from the collected data



From the pair-wise correlations between the variables pertaining to private sector banks in India shown in **Table No.-4**; it is evident that operating profit in these banks seem to have a positive and significant correlation with all the banking operations as well as Tobin’s Q that has been used as a proxy for firm value. **Table No.-5** shows the regression model summary of the impact of the different banking operations on the operating profit of private sector banks in India. From the table, it is clearly evident that the impact of all the banking operations is quite significant on the operating profit of private sector banks in India. Retail banking operations seem to have the highest impact, followed by treasury banking and corporate banking operations. The next table, **Table No.-6** shows the mediation summary of the banking operations; where each one of the operations have been taken separately to study their direct and indirect effects (with ‘Tobin’s q’ that serves as the proxy for firm value) on the operating profit of the public sector banks in India. The results shown in this table, suggests that there is partial mediation in case of treasury banking and corporate banking operations (as 0 does not lie between Boot LLCI and Boot ULCI) but zero mediation in case of retail banking operations.

Conclusion

Hypothesis	Statement	Accept/Reject
H ₁	There is no significant impact of banking operations (treasury operations, corporate banking operations and retail banking operations) on the operating profit of public sector banks in India.	Accept partially
H ₂	There is no significant mediating impact of Tobin’s Q on the interaction between treasury operations and operating profit of public sector banks in India.	Accept
H ₃	There is no significant mediating impact of Tobin’s Q on the interaction between corporate banking operations and operating profit of public sector banks in India.	Reject
H ₄	There is no significant mediating impact of Tobin’s Q on the interaction between retail banking operations and operating profit of public sector banks in India.	Accept
H ₅	There is no significant impact of banking operations (treasury operations, corporate banking operations and retail banking operations) on the operating profit of private sector banks in India.	Reject
H ₆	There is no significant mediating impact of Tobin’s Q on the interaction between treasury operations and operating profit of private sector banks in India.	Reject
H ₇	There is no significant mediating impact of Tobin’s Q on the interaction between corporate banking operations and operating profit of private sector banks in India.	Reject



H₈	There is no significant mediating impact of Tobin's Q on the interaction between retail banking operations and operating profit of private sector banks in India.	Accept
----------------------	---	--------

1. In public sector banks; except for COR_B all other predictors significantly and positively impact OP_PR.
2. In private sector banks; all predictors significantly impact OP_PR
3. Firm value negatively and significantly impacts the interaction between COR_B and OP_PR but, it does not have a mediating effect on the interaction between any other banking operation and operating profit.
4. Firm value significantly impacts the interaction between COR_B and OP_PR as well as TREA and OP_PR; but, it does not have a mediating effect on the interaction between RET_B and OP_PR.

Limitations and Future Research

1. Limitation of time
2. Sample size limitation
3. Only segment results taken as proxy of banking operations
4. Other profitability indicators can be used
5. Further study on why COR_B fails to significantly impact OP_PR in case of public sector banks
6. Reasons why TOB_Q negatively impacts the interaction between COR_B and OP_PR in public sector banks in India
7. Reasons why impact of TOB_Q is insignificant on the interaction between RET_B and OP_PR in private sector banks in India

References

- 1) Abbasi, M., Ahsani, G., Heydari, M., & Danai, H. (2016). *The Role of corporate banking profitability in the portfolio of banking services. International Journal of Humanities and Social Sciences*, May 2016, 247–255. <http://www.ijhcs.com/index.php/ijhcs/index>
- 2) Agarwal, P. (2019). *Profitability of Indian Public and Private Sector Banks: A Comparative Study. International Journal of Research and Analytical Reviews*, 6(1), 919–928.
- 3) Alamri, A. M., & Almazari, A. A. (2021). *THE EFFECT OF EFFICIENCY AND LIQUIDITY ON THE PROFITABILITY OF THE SAUDI COMMERCIAL BANKS* Ahmad Mohammad Alamri and Ahmad Aref Almazari King Saud University. *European Journal of Accounting, Auditing and Finance Research*, 9(8), 1–13.
- 4) Anandalakshmy, A. (2019). *RETAIL BANKING AND SERVICES. Pramana Research Journal*, 9(6), 1691–1699.
- 5) Botta, A., Chaudhuri, R., Digiacomio, N., Matteo Mantoan, A., & Shah, N. (2021). *How transaction banks are reinventing treasury services. McKinsey & Company. <https://www.mckinsey.com/industries/financial-services/our-insights/how-transaction-banks-are-reinventing-treasury-services>*
- 6) Brahmaiah, B. (2018). *Factors Influencing Profitability of Banks in India. Scientific Research Journal (Theoretical Economics Letters)*, 08(14), 3046–3061. <https://doi.org/10.4236/tel.2018.814189>



- 7) Diener, F. (2020). *Empirical Evidence of a Changing Operating Cost Structure and Its Impact on Banks' Operating Profit: The Case of Germany*. *Journal of Risk and Financial Management*, 13(10), 247. <https://doi.org/10.3390/jrfm13100247>
- 8) Dsouza, S., Rabbani, M. R., Hawaldar, I. T., & Jain, A. K. (2022). *Impact of Bank Efficiency on the Profitability of the Banks in India: An Empirical Analysis Using Panel Data Approach*. *International Journal of Financial Studies*, 10(4). <https://doi.org/10.3390/ijfs10040093>
- 9) Jadyappa, N., Hickman, L. E., Jyothi, P., Vunyale, N., & Sireesha, B. (2020). *Does debt diversification impact firm value? Evidence from India*. *International Review of Economics and Finance*, 67(May), 362–377. <https://doi.org/10.1016/j.iref.2020.02.002>
- 10) Jayaraman, G., Azad, I., & Sid AHMED, H. (2021). *The Impact of Financial Variables on Firm Profitability: An Empirical Study of Commercial Banks in Oman**. *Journal of Asian Finance*, 8(5), 885–0896. <https://doi.org/10.13106/jafeb.2021.vol8.no5.0885>
- 11) Jayathilaka, A. K. K. R. (2020). *Operating Profit and Net Profit: Measurements of Profitability*. *Open Access Library Journal*, 07(12), 1–11. <https://doi.org/10.4236/oalib.1107011>
- 12) Megeid, D. N. S. A., Abd-Elmageed, D. M. H., & Riad, N. M. A. H. (2020). *Impact of Operational Efficiency and Financial Performance on Capital Structure using Earnings Management as a Moderator Variable*. *Atasu Journal*, 24(3), 1029–1059. <https://doi.org/10.21608/atasu.2020.160431>
- 13) Mitra, S., & Karathanasopoulos, A. (2019). *Firm Value and the Impact of Operational Management*. *Asia-Pacific Financial Markets*, 26(1), 61–85. <https://doi.org/10.1007/s10690-018-9258-1>
- 14) Opoku, R. G. G. (2017). *Impact of Treasury Management on Profitability of Selected Rural Banks in Ashanti Region , Ghana [University of Cape Coast]*. <https://www.grin.com/document/1128505>
- 15) Pancheva, D. A. (2019). *Determinants of the Bank's Operating Efficiency*. *IZVESTIA – Journal of University of Economics – Varna Econ*, February, 74–85. <https://www.researchgate.net/publication/331386230%0ADETERMINANTS>
- 16) RANGA, M. (2019). *Retail in Banking Sector-Indian Prospective*. *IJRAR- International Journal of Research and Analytical Reviews*, 6(2), 791–795. <http://ijrar.com/>
- 17) Rao, R. S. (2014). *The Role of Retail Banking In Indian Economy*. *International Journal of Engineering Research and General Science*, 2(2), 152–158. www.ijergs.org
- 18) Roszkowska, P., & Prorokowski, L. (2017). *The Changing Role of a Bank's Treasury*. *Asia-Pacific Journal of Financial Studies*, 46(6), 797–823. <https://doi.org/10.1111/ajfs.12196>
- 19) Ryan North. (2019). *IMPORTANCE OF CORPORATE BANKING FOR THE DEVELOPMENT OF ECONOMY*. *Enterprise*. <https://www.enterpriseedges.com/corporate-banking-development-of-economy>
- 20) S.TAMILARASI, D., & RENUKA, M. V. (n.d.). *A STUDY ON THE ROLE AND IMPORTANCE OF TREASURY MANAGEMENT SYSTEM*. *International Journal of Research in Engineering, IT and Social Sciences, Special Issue for International Conference on Business Research*, 238–243.
- 21) Tumpel-Gugerell, G. (2008). *The role of retail finance for financial markets efficiency and stability*. *European Central Bank*. [https://www.ecb.europa.eu/press/key/date/2008/html/sp081020.en.html#:~:text=\(i\) Retail banking plays a, to evaluate the associated risks.](https://www.ecb.europa.eu/press/key/date/2008/html/sp081020.en.html#:~:text=(i) Retail banking plays a, to evaluate the associated risks.)



- 22) Vanlalzawna, C. (2016). *A Study of Financial Performance Evaluation of Banks in India.* MIZORAM UNIVERSITY.
- 23) Vijayalakshmi, B., & Sailaja, M. (2016). *A Study on Contemporary Challenges and Opportunities of Retail Banking in India.* *Global Journal of Finance and Management*, 8(2), 131–141. <http://www.ripublication.com>
- 24) Wang, H., Luo, T., Tian, G. G., & Yan, H. (2020). *How does bank ownership affect firm investment? Evidence from China.* *Journal of Banking and Finance*, 113(April), 1–8. <https://doi.org/10.1016/j.jbankfin.2020.105741>
- 25) <https://in.indeed.com/career-advice/finding-a-job/banking-operations>
- 26) <https://www.moneyworks4me.com/investmentshastra/indian-banking-industry-indian-banks-structure-business-model/>
- 27) <https://www.mckinsey.com/industries/financial-services/our-insights/banking-matters/banking-operations-for-a-customer-centric-world>
- 28) <https://blog.investyadnya.in/10-useful-parameters-to-analyze-a-banking-stock/>
- 29) https://en.wikipedia.org/w/index.php?title=Treasury_services&oldid=992252253
- 30) <https://www.pwc.com/la/en/risk-assurance/treasury-liquidity-capital-risk-management.html#:~:text=Treasury Risk is the risk,cash to prevent a loss.>
- 31) <https://www.bbva.com/en/exactly-banks-treasury/>
- 32) <https://www.toptal.com/finance/treasury-manager/treasury-management-best-practices#:~:text=to retain parity.-,Portfolio Management,and thus>
- 33) <https://www.investopedia.com/terms/w/wholesalebanking.asp#:~:text=Wholesale banking refers to banking,individual clients and small businesses.>
- 34) <https://www.wallstreetmojo.com/wholesale-banking/>
- 35) <https://www.ecb.europa.eu/press/key/date/2008/html/sp081020.en.html>