

# Impact of Non-Interest Income on Financial Performance of Select Banks Operating in India

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## ABSTRACT

The study was conducted to identify the impact and relationship of between Return on Assets and non-interest income of the select listed banks operating in India. Banks will be able to identify impact of non-interest income on their financial performance with the help of this current study. Return of Assets (ROA) considered as a financial performance indicator for the current study and dependent variable/Total assets (log), capital adequacy, interest income/total assets, non-interest income/ total assets were considered as an independent variables. Both descriptive and analytical analyses were deployed to observe the relationship. From the result analysis, it is revealed that the non-interest income negatively affects the financial performance of the public sector banks. Study also revealed that non-interest income had positive impact on the financial performance of private sector banks. Non-interest income had insignificant impact for public sector as well as private sector banks. It is also found that not all variables have equal effect on the financial performance, for private sector banks the factors like Total Assets (Log), Interest Income/Total Assets and Capital Adequacy Ratio had positive and significant impact on Return on Assets (ROA). In case of public sector banks the factors like Total Assets (Log) and Capital Adequacy Ratio had positive and significant impact on Return on Assets (ROA) and Interest Income/Total Assets had insignificant and positive impact. Results revealed that banks should considered the non-interest income components for improving their financial performance.

**Keywords:** *Financial performance, Non-interest income, Private Sector Banks, Public Sector Bank, India.*

## **INTRODUCTION**

Banking industry plays very essential and key role in the economic sustainability and development of a country. Saving mobilization and credit creation are one of the important functions of banks, by which they can cater the needs of credit for all the sections of the society. The intermediation role of the banks i.e.; flows of funds from surplus sector to deficit sector of the economy helps in rapid economic development. Banks mobilize funds and charge spread on the same. Bank's major income comes from the interest spread i.e.; difference between interest charge on lending and interest rate paid on borrowed funds. Traditionally bank's profits majorly dominated by interest income, but due to modern era banking and different type's non-fund based services offered by banks non-interest income gaining share in the profitability portfolio of banks. Non-interest income earned by banks in India by offering various services and products such as Commission And Brokerage, Sale Of Investment, Sale Of Land Building, Exchange Transaction, Income From E-Delivery Channels and Misc. Income etc.

Banks earnings majorly comes from of its lending activities, assets of banks consists of different types of loans, which majorly provided on floating rates. Investment of banks also consists of fixed income securities. The composition of assets of banks is dominated by interest rate sensitive assets, due to which interest rate risk arises and even small unfavourable movement in interest rates seriously damaged its profitability. Non-Interest Income is important components in bank's income portfolio. It is not impacted by interest volatility and also recurring in nature such as; Debit card renewal fees, Demand Draft charges, Pay Order Charges etc.

Non-Interest Income is defined as a bank's income derived from non-traditional activities. When banks are constantly squeezed in their search for profitability, there is one strategy for rising revenue is to be diversified from traditional sources of revenue, such as loans and toward activities generating profits from fees, service charges, revenue from trading and other forms of Non-Interest Income. The 2007-08 financial crisis, triggered due to the businesspractices of investment or merchant banks in the US have exposed the shortcomings in the business models of other banks. Investment-oriented banks were affected by the

crisis because of their high dependence on wholesale financing and non-interest income, which exposed them to greater volatility in income than retail-oriented banks. A key source of financing is banks that provide traditional banking services such as lending and use customer deposits.

## **REVIEW OF LITERATURE**

The Indian banking sector has complex such that it involves public, private, and foreign banks. India, as in many other growing markets, has recently been largely determined with a banking sector linked to economic and social development. The financial system of institutional structure is characterized by:

- a) The banks which are private, or owned by government, or regulated by RBI
- b) Refinancing institutions and Financial development institutions, all founded through a different law or under the Companies Act, held by Government, RBI, private or other development financial institutions, and controlled by the RBI
- c) NBFC's regulated by the RBI and owned privately.

In 1994, the legislative structure regulating public sector banks (PSBs) was amended to allow them to collect capital funds from the market through public issue of shares.

As non-interest incomes rise, banks are expected to shift from older systems intermediation, resulting in lower interest income and simultaneous lowering of loans and the tariff risk.

Dr. K.B. Singh (2016) found that as banks continue to develop traditional sources of interest income, they seem to be less diversified into non-traditional sources of income, so we consider banks where employees achieve significantly lower non-interest profits than traditional business statements. The research by Barry William (2010) states that expense-based salary is less secure than edge pay yet offers expansion advantages to bank investors. While improving bank risk-return trade-off, these advantages are of second-order significance contrasted with the large negative effect of poor asset quality on investor returns. Stiroh (2004) assesses the possible gains from the change in diversification. Sources of bank revenue into non-interest income. Stiroh (2004) states that they were not involved revenue accounted for 43 per cent of the net operating profits of U.S. commercial

banks, increasing from 1984 for about 25%. Stiroh (2004a) also revealed that over period of the study the correlation increased among the non- interest income and interest income variable, thereby benefits from diversification deteriorating into non-traditional sources of income. Furthermore, non-interest revenue is closely correlated with risk-adjusted return, with trade revenue associated with a decline in profit per risk unit. Stiroh (2006b) tends to take a portfolio view towards non-interest income and finds no link between exposure to non-interest income and returns on bank stocks. He does, however, establish a positive correlation between exposure to non-interest income and volatility in return (beta, absolute volatility, and idiosyncratic volatility).

Diversification into non-traditional activity leads, as argued by Deng et al. (2007), to enhancement of agency problems, due to which debt costs increases. Another research by Stiroh (2006a) showed that higher dependence on NII is consistently correlated with large volatility in the stock market. Stiroh (2006a) further finds that the role of revenue items in the determination of bank risk is increasing. De Young and Rice (2004) record comparatively similar figures in their study 42% in 2001. In 1980, contrasted with 20 per cent. For European banks this increase in non-interest income is also evident (Mercieca et al. (2007) and Chiarozza et al. (2007)). Chiorrazzo et al. (2008) used data from a sample of Italian banks for the period 1993 to 2003 to conduct a study of the link between non-interest revenues and profitability. There is proof that diversification of profits improves returns which are risk-adjusted. Furthermore, the results also show that there are limitations to the improvements in diversification that can be made as banks become bigger. Additionally, results revealed that small banks will make profits from that non-interest income, although this is premised on these institutions having an initially small percentage of non-interest income.

Proof based on evidence from the German banking sector for the period 1995 to 2007 (Busch, 2009) supports previously reported results that higher fee income practices have a beneficial impact on bank returns. The results also indicate that increases in non-interest income can have a beneficial effect on banks' asset base. Furthermore, a firm dedication to fee-generating practices goes hand-in - hand with increased risk.

Latest research by Stiroh (2004a, 2006b), Stiroh and Rumble (2006) and Baele et

al. (2007)calculated bank diversification through non-interest income into a broader variety of financial assets away from conventional net interest revenues.

The Reserve Bank of India (RBI), which in its survey “Trend and Development of Banking in India”, 2002-03 urged banks to seek non-interest income streams. This report revealed that profitability of the banks in future would be rely on generating higher level of non-interest revenue and also controlling their operating expenses .

The time period after 2008 was very tough for financial markets throughout the world. The banking system all over the world was badly affected by the poor of global growth, higher sovereign debt crisis and financial market crisis. A study explored the determinants of financial performance measure i.e.; Return on Assets (ROA) of public sector banks in India. Period of the study considered was 2009-2010 to 2011-2012 and total 19 nationalized banks were considered as a sample size for the study. Backward multiple regression analysis was employed to reveal the impact of determinants on the ROA of public sector banks. The study observed that spread, operating expenses, provisions & contingencies and NII are key significant variables influencing ROA of public sector banks. Positive influence variables were Non-interest income (NII) and spread and rest of the variables had negative impact (Dutta, Gupta and Rao, 2013).

## **OBJECTIVES**

The present study focuses on the risk and return to Private and Public Banks from Non-Interest Income. Mainly to study the following:

- To analyze the impact of Non-interest income on Return on Assets of the Private Sector Banks in India.
- To analyze the impact of Non-interest income on Return on Assets of the Public Sector Banks in India.

## **RESEARCH METHODOLOGY**

### **THE STUDY**

The study is descriptive and analytical in nature. The study relates to analysis and impact of non-interest income on of financial performance selected listed banks in India.

**STUDY SAMPLE**

The annual data of 25 banks which are listed on BSE spanning time period from 2010 to 2019 are used for the analysis.

**Selected Listed Private Sector Commercial Banks in India**

<b>Sr. No.</b>	<b>Bank's Name</b>	<b>Sector</b>
1	Axis Bank	Private
2	City Union Bank	Private
3	DCB Bank	Private
4	Federal Bank	Private
5	HDFC Bank Ltd.	Private
6	ICICI Bank	Private
7	IDBI Bank Ltd.	Private
8	Indusind Bank	Private
9	Jammu and Kashmir Bank	Private
10	Karnataka Bank	Private
11	Kotak Mahindra Bank	Private
12	Lakshmi Vilas Bank	Private
13	RBL Bank Ltd.	Private
14	South Indian Bank	Private

**Selected Listed Public Sector Commercial Banks in India**

<b>Sr. No.</b>	<b>Bank Name</b>	<b>Sector</b>
1	Bank of Baroda	Public
2	Bank of India	Public
3	Bank of Maharashtra	Public
4	Canara Bank	Public
5	Central Bank of India	Public
6	Indian Bank	Public
7	Indian Overseas Bank	Public
8	Punjab National Bank	Public
9	State Bank of India	Public
10	UCO Bank	Public
11	Union Bank of India	Public

## **DATA COLLECTION**

The financial data and secondary information was collected from ProwessIQ software, financial reports of the selected banks over the period of 10 years. In addition, data was from various other sources such as internet, books, articles, magazines and research papers etc.

## **VARIABLES CONSIDERED FOR THE STUDY**

### **DEPENDENT VARIABLE**

- Return on Assets

### **INDEPENDENT VARIABLES**

- Total assets (Log)
- Capital adequacy ratio
- Interest income / Total assets
- Non-interest income / Total assets

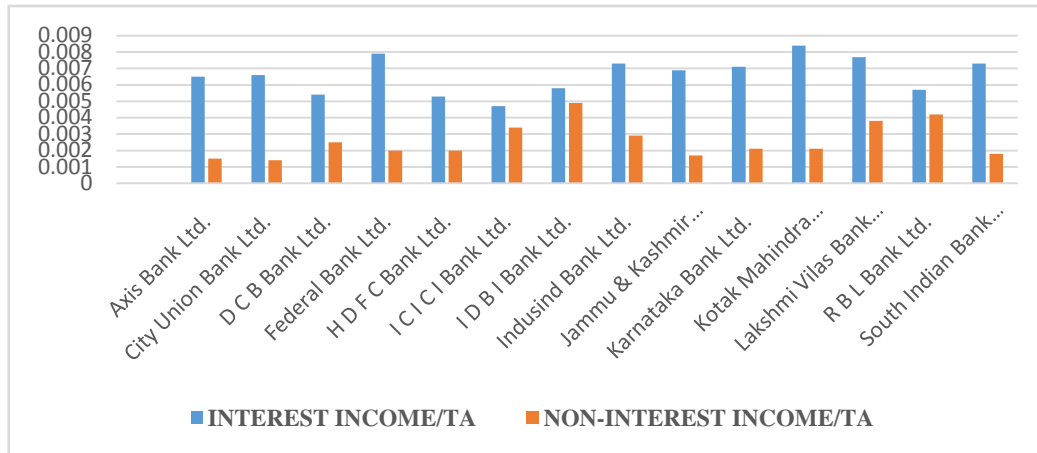
## **STATISTICAL TOOLS**

STATA 13 is used for Panel Data Regression Analysis and Standard Deviation for Risk analysis of the banks. There are certain tests which has been done. They are:

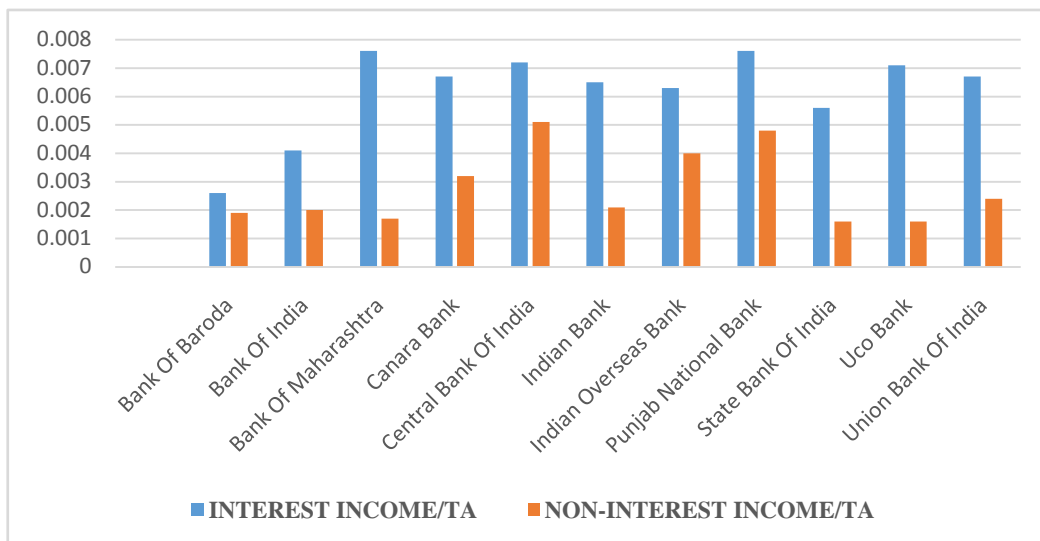
- i. Variance Inflation Factor
- ii. Breusch Pagan Test
- iii. Hausman Test

## **DATA ANALYSIS AND INTERPRETATION**

To find the risk to banks from Non-Interest Income, the Standard Deviation of Interest Income and Non-Interest Income is found out and then the Graph has been plotted. The Graph shows that the Interest income is more while comparing to Non-Interest Income, that means that the risk to interest income is slightly high than the non-interest income. (Refer GR-1) While, the results of Public banks show that the Interest and Non-Interest Income are somewhat close to each other in some banks. (Refer GR-2)



(GR-1)



(GR-2)

**ANALYSIS:**

- In the case of Private Banks, there is high risk for interest income as compared to risk of non-interest income.
- While, in the case of Public Banks the risk associated with interest income and non-interest income is somewhat close to each other.
- Hence, the impact on every bank would be different, and a deeper analysis would be required to find out how much Non-interest income is affecting the risk of banks.

**RETURN TO BANKS FROM NON-INTEREST INCOME**

To find the return to banks from Non-Interest Income, the STATA 13 software has been used.



- Panel Data Regression Analysis is done using STATA 13.
- Data has been checked for Multicollinearity and Heteroskedasticity using Variance inflation factor and Breusch pagan test. Therefore, Hausman test has been employed to decide on Random effect or Fixed effect model.

### RESULTS OBTAINED FROM THE TESTS: (PRIVATE BANKS)

- VIF
  - 1) NII/TA = 1.26
  - 2) TA = 1.43
  - 3) Int-income/TA = 1.21
  - 4) CAR = 1.12

**VIF: all the variables are below 10, which means multicollinearity doesn't exist in the data**

- Breusch & Pagan: p value = 0.000

**Breusch & Pagan: p value is coming 0.000, which means heteroskedasticity exist in the data.**

- Hausman Test: p value = 0.0011

Hence, Fixed Effect estimate was employed as the value of Hausman test is less than 0.05.

### REGRESSION EFFECT

Fixed-effects (within) regression

R-sq = 0.4118

Variable	Coefficient
Nii/TA	0.129
Ta(log)	0.002*
Int-income/TA	0.000*
CAR	0.000*

\* Represents 1%

\*\* Represents 5%

\*\*\* Represents 10%

## INTERPRETATION

Capital Adequacy Ratio (CAR) (at 1% level of significance with p-value .000) had significant and positively affecting ROA. Results revealed that if Capital Adequacy Ratio (Capital) increases than ROA also improved. Higher Capital Adequacy Ratio ultimately enhances the safety and faith of depositors and investors due to which cost of funds decreases and it improves the profitability of banks

Total Assets (TA) (at 1% level of significance with p-value .000) had significant and positively affecting ROA. Results showed that if Natural log of Total Assets (Bank Size) increases than ROA also increases. Positive impact of banks size on ROA indicated that economies of scale play its role while raising or deploying the funds and more effective results were achieved.

Interest Income / Total Assets (Int.-Income/TA) (at 1% level of significance with p-value .000) had significant and positively affecting ROA. Results showed that if Interest Income to Total Assets increases than ROA also increases. Positive impact of interest income on ROA indicated that banks portfolio majorly dominated by interest income as compared to other incomes

**Regression:** R Square is coming at 41.18% which means proportion of variance of dependent variable (ROA) is approximately 41.18% which is explained by the independent variables and control variable.

## RESULTS OBTAINED FROM THE TESTS: (PUBLIC BANKS)

- VIF

$$1) \text{ NII/TA} = 1.24$$

$$2) \text{ TA} = 1.27$$

$$3) \text{ Int-income/TA} = 1.29$$

$$4) \text{ CAR} = 1.13$$

**VIF: all the variables are below 10, which means multicollinearity doesn't exist in the data**

- Breusch & Pagan: p value = 0.000

**Breusch & Pagan: p value is coming 0.000, which means heteroskedasticity exist in the data,**

- Hausman Test: p value = 0.0073

Hence, Fixed Effect estimate was employed as the value of Hausman test is less than 0.05.

## REGRESSION EFFECT

Fixed-effects (within) regression

R-sq = 0.4463

Variable	Coefficient
Nii/TA	- 0.941
Ta(log)	0.037**
Int-income/TA	0.304
CAR	0.010*

\* Represents 1%

\*\* Represents 5%

\*\*\* Represents 10%

## INTERPRETATION

Capital Adequacy Ratio (CAR) (at 1% level of significance with p-value .010) had significant and positively affecting ROA. Results revealed that if Capital Adequacy Ratio (Capital) increases than ROA also improved. Higher Capital Adequacy Ratio ultimately enhances the safety and faith of depositors and investors due to which cost of funds decreases and it improves the profitability of banks

Total Assets (TA) (at 5% level of significance with p-value .000) had significant and positively affecting ROA. Results showed that if Natural log of Total Assets (Bank Size) increases than ROA also increases. Positive impact of banks size on ROA indicated that economies of scale play its role while raising or deploying the funds and more effective results were achieved.

Interest Income / Total Assets (Int.-Income/TA) (at 1% level of insignificance with p-value .304) had insignificant and positively affecting ROA. Results showed that if Interest Income to Total Assets increases than ROA also increases. Positive impact of interest income on ROA indicated that banks portfolio positively related by interest income but not significantly impacted by the same and other than interest income plays pivotal role or banks are managing interest income risk effectively.

**Regression:** R Square is coming at 44.63% which means proportion of variance of dependent variable (ROA) is approximately 44.63% which is explained by the independent variables and control variable.

## CONCLUSION

Financial performance of banking sector affected by various determinants and these can be fairly classified into two categories i.e. internal factors and external factors. Return on Assets (ROA) was considered the profitability measures of banking sector. Impact of non-interest income is not significant in both the cases i.e.; public sector banks and private sector banks. In Public banks Not-interest income has a Negative impact on Return on Assets but, while we look into Private Sector Banks, Net-interest income is impacting positively as the proportion of ROA is significantly high. Total Assets, Interest Income/Total Assets and Capital Adequacy Ratio had positive and significant impact on financial performance of private sector banks. In case of public sector banks Total Assets, Capital Adequacy Ratio had significant and positive impact, but Interest Income/Total Assets had positive and insignificant impact on financial performance.

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