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Income Streams for Banks and Bank Performance

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ABSTRACT

This research paper investigates the impact of income streams such as fund income and fee income of a bank on bank's performance. A database of 74 banks of public, private, and foreign banks is studied over a period of 2005 -2014 and data is collected from the CMIE Prowess. The fund income and fee income are two income streams for the bank. And bank performance is measured in terms of return on equity (ROE) by controlling return on assets (ROA). The relationship of fund income and fee income is studied using multiple regressions over the period of study. The focus is that in today's era of competition, income streams of bank are changing. The study reveals that fee income and fund income are moderately positively correlated with return on equity.

Keywords: *Return on equity, return on assets, fund income, and fee income.*

INTRODUCTION

Indian banking system has undergone through drastic changes since inception in terms of its structure, business model, and sources of income. Traditional banking system focused on deposits and loans. Indian banking system was closely held till 1990s, hence the impact of global factors was missing and focus of generation of income was on lending activities alone. With the change in the business model of banks over a period of time, the streams of bank income are also changing.

There is shift from traditional focus of banks for income generation from interest income to non-interestincome sources. The shift in focus of banks has long term impact on performance of banks. Hence it is important to study the changing streams of bank income.Banks in today's era provide a bundle of services such as deposits, loans, mutual funds, securities trading, gold loans, life & non-life insurance products, and many more (including third party products). These services have changed over a period of time.

These days' banks focus more on third party products. Banks are diversifying income streams because business model of banks has changed over a period of time. The earnings of bank need to be evaluated because these play an important role in supervision's models (Couto and Brasil, 2002). Traditional banking focus on the interest spread earned as a difference of interest received on advances and interest expanded on deposits.

Modern banking focuses not only on interest spreads but also on non-interest income streams. There are few studies in India which focus on changing streams of bank income. This study focuses on the impact of changing streams of bank income on bank's profitability in India in selected banks. Profitability as an indicator of performance for Indian banks is always considered important. There is immense literature in this context.

Research on bank performance is classified on the basis of internal variables as well as external variables (Gisycki, 2001). Under external variables money supply, rate of economic growth, inflation, and other macroeconomic factors are studied; while quality of assets, size,and nature of ownership, interest spread, and growth parameters are studied under internal variables (Umikrishnan and Bandyopadhay, 2005).

The studies of bank performance and efficiency are available in large number in India (Arun and Turner 2002, Mohan 2002, Mohan 2005, and Sarkar 1998). However changing streams of bank income and bank performance are not well studied in India.

This paper asks the question of changing streams of bank income. Stiroh and Rumble (2005) discussed reasonsof why banks opt for different streams of income, these reasons are mentioned below: -

- A strong bank performance and diversification is generated by better managers. Researchers explained that the decision to diversify income is a variable of endogenous nature.
- Researchers stated that adverse economic shocks cause a difference in actual returns and expected returns.
- The explanation for different income streams is also given by researchers like Bliss and Rosen (2001), Agarwal and Samwick (2003), Berger (1999), Houston (2001), discussed about hubris, self-interest, empire building, and capital control problem.This phenomenon of shift of focus on non-profit motives of maximisation by banksis short term in nature.

The focus of banks in India on non-interest income streams to traditional stream of earnings has changed from few years (Smita 2015). Earlier the focus of banks was on traditional sources of income which includes interest income. Over a period of time, this focus is shifting from traditional sources of income to non-interest sources of income. This research studied the impact of change of stream of bank income on bank performance in terms of its profitability. The results show that the fund and fee based income does not bring much variation on return on equity although these are moderately positively correlated with bank performance.

Review of Literature

Klein and Saidenberg (1997) studied the value added in bank holding companies by diversification. The study found that diversification brings certain benefits to organisation, but there is some organisational inefficiency in the structure of holding companies and because of these inefficiencies objective of higher profit is not attained. The study found that banks should not limit themselves to a particular organisational form to fully avail the benefits of diversification.

De Young and Roland (1999) and Stiroh (2004) conducted studies on US commercial banks and found that there is a positive correlation between fee business income and interest income, the volatility of a bank's profitability is increased with the expansion of sources of fee based business, and the default probability of bank is caused by increased variability. Robert DeYoung and Tara Rice (2004) studied that primary source of income for banks is the interest margin which banks earn by transacting as a middleman between borrowers and depositors, but they also stated that non-interest income is also earned by banks from its customers in the form of charging fees for financial services which banks provide to its customers.

De Young and Roland (2001) stated that non-interest income increases the earnings volatility due to the fact that there is higher probability of losing a client of fee based income then losing a client who is loan based, the shift to non-interest income requires heavy investment in human resources and technology, and fee based activities leads to higher degree of financial leverage which increases earnings volatility. Stiroh (2004b) stated on similar ground that volatility in non-interest income is higher as compared to volatility in interest income

Smith, Staikouras, and Wood (2003) studied in European Union of variability of interest and non-interest income, and found that profit is stabilised with the focus on generation of non-interest income. Gischer and Juttner (2003) conducted a study on 19 OECD countries and found that fee income to interest income ratio and return on assets are negatively correlated. Similar results are reported by Esho, Kofmann, and Sharpe (2005), they conducted study on Australian Credit Unions and found that there is a negative relationship between return on assets and transaction fees. Umakrishnan andBandyopadhyay (2005) conducted study on the variability pattern in the income trends of Indian banking sector and also studied its relationship with risk adjusted bank performance. They found that business strategy of a bank is revealed by source of income of bank which also influences the bank performance. Stiroh and Rumble (2006) studied US financial holding companies and stated that diversification and performance are not linked to each other. Lepetit, Nys, and Tarazi (2007) studied the relationship of how fee based income and interest margins with loan pricing. They found that the higher proportion of income from commission and fees is related with lower margins and loan spreads. Hence there is mix type of literature on link between diversification and bank income.

Chiorazzo, Milani, and Salvini (2008) conducted a study on Italian banks studying bank performance and income diversification. The study found a positive relationship between income diversification and risk adjusted returns. These findings are in contradiction to findings in US banks because of dominance of local banks in Italy. Craigwell and Maxwell (2006) did a study in Barbados banks and found a positive relationship of fee based income on return on assets and volatility. Busch and Kick (2009) conducted a study on German universal banks and found that banks have moved at a fast rate to non-interest sources of income from interest sources of income. The study focused on impact of non-interest income on risk profile of banks. The study found a positive relationship between non-interest income activities and returns on assets. The study also found thatthere is a higher risk with non-interest income activities for commercial banks.

Objectives of Study

The study is based on following objectives: -

- To examine the impact of fund income and fee income of bank on bank performance.
- To examine whether fund income or fee income brings more change in bank performance.

Hypothesis of the Study

The objectives generate the following hypothesis:

H1: There is a significant positive relationship between fund income and fee income of bank and financial performance of bank.

H2: Fund income and fee income bring equal proportionate change in bank performance.

Data Source and Variables

The research is based on data from CMIE Prowess data. A total of 74 banks are selected for the study. Public, private, and foreign banks are taken for the study. The data is taken for a period of ten (10) years from 2005 – 2014. For the purpose of analysis data is classified bank wise for the selected number of years. The bank performance is measured in terms of ROE (Return on Equity). ROA (Return on Assets) is taken as a controlling variable because return on assets is based on asset quality which in turn affects quality of profitability. The income streams which are studied in the research are of two types: - a) Fee based income, b) fund based income. The definitions of ROE (Return on Equity), ROA (Return on Assets), Fee based income, and fund based income are given in the Appendix.Data of 206 banks is taken from CMIE Prowess data base. But 115 banks were deleted from initial sample of 206 banks as data was not available for these banks from 2005 – 2014.These banks were either merged or started after 2005; hence the banks were deleted from sample and 17 banks were deleted from sample because share capital was available for these 17 banks. A total of 74 banks are taken for the study. The list of banks included in sample (74 banks) is given in Appendix B.

Research Methodology

For the purpose of study the independent variable taken are fund based income and fee based income. The dependent variable is return on equity. The impact of assets is controlled by introducing return on assets as a control variable. The data is converted to log data because of high variation in data of different banks. The analysis is performed using technique of multiple regressions in SPSS. There are a total of 738 observations in the study for a period of ten years. Regression equation is given below for the purpose of study: - Return on Equity (ROE) = Fund income X1 + Fee income X2 + Return on assets X3.

Where X1, X2, and X3 are values of fund income, fee income, and return on assets respectively and these values are obtained through output of regression analysis through SPSS.

Empirical Findings

The empirical findings for the data of banks are given below.The descriptive statistics shows mean and standard deviation for the variables. The summary for return on equity, fee income, fund income, and return on assets is given in table 1.The correlation matrix shows a high correlation between fund income and fee income. The correlation between return on equity and fund & income is moderate. There is negative correlation between return on assets and fund & fee income.

Descriptive Statistics

Table 1. *Descriptive statistics*

	Mean	Std. Deviation
ROE	.3034	1.90026
Fee Income	6.7834	2.28168

Fund Income	9.7234	2.10458
ROA	.0154	.76272
N = 738		

Correlations

Table 2. *Correlations*

		ROE	Fee Income	Fund Income	ROA
Pearson Correlation	ROE	1.000	.347	.388	.117
	Fee Income	.347	1.000	.918	-.061
	Fund Income	.388	.918	1.000	-.166
	ROA	.117	-.061	-.166	1.000
		N =	738		

The coefficients of independent variables (fee income and fund income) and control variable (return on assets) are given in the below table. The standard error and beta results are also given below.

Table 3. *Multiple Regressions*

	B	SE B	β
Constant	-3.833	.374	
Fee Income	-.148	.072	-1.77*
Fund Income	.528	.079	.584*
ROA (Control variable)	.507	.086	.203*

Note $R^2 = .18$, $* p < .05$.

The regression equation is given below: -

Return on Equity = -3.83 - .148X1 + .528X2

The above results are calculated controlling return on assets.

Implications of Results

The research questions how income streams impacts bank performance. The relationship between fund and fee based income streams and bank performance are studied for banks in India. This research adds to the existing literature by studying return on equity and earnings per share by taking return on assets as control variables. The impact on return on equity and earnings per share is not studied in Indian context in banking industry. This research adds to the existing literature by combining fee and fund based income with return on equity and earnings per share controlling return on assets. The impact of diversification on bank performance is studied in current research.The empirical findings show that 18% of variation in return on equity is explained by fund income and fee income. It shows that traditional sources of income also dominate variation in return on equity. The findings are not consistent to findings in of US banks and European banks. The difference in regulation, dominance of public sector banks, and emerging economy are the reasons for the variation.

Conclusion

The research focuses on fund income and fee income of a bank and studied its impact on bank performance. The relationship of fund and fee income on bank performance is studied by controlling return on assets for seventy four (74) banks over a period of ten years. The study excludes the banks which were either merged between 2005 and 2014 or the data on capital was not available. Few studies in India are conducted to study the impact of these variables on bank performance. The results show that fund and fee income contribute only eighteen (18) percent of variation inequity. The fund income and fee income are highly correlated. The study found a moderate positive relationship between fee income and return on equity & fund income and return on equity. The present study focuses on only two income streams for a bank which are fund income and fee income. The study is among the few studies in India which focuses on fund and fee income, andstudies its impact on bank performance.

Limitations and Future Research Direction

The present study focuses only on banking companies and a data of only ten years in taken. The further research can be conducted on banking and other financial companies. The research can be taken for a greater period of time. The other limitation is that in present research income variables of fee and fund based are taken, so further research can be conducted taking into components of fee and fund based income. The bank performance in present study included Return on Assets (ROA) and Earning per Share (EPS), while the research can be extended taking into account other bank performance variables such as Risk Adjusted Return on Capital (RAROC). The present study does not consider Basel norms variables, a further study can be conducted studying Basel norms variables and bank performance. The present study limits its scope studying all banks as group; further research can be conducted dividing banks into public, private, and foreign banks.

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APPENDIX A

Definitions of variables Return on Equity = Net Income/Shareholder's Equity

Return on Asset = Net Profit / Average Total Assets.

Fund based income =Interest income + dividend + Bill discounting + income from leasing, profits in firm and profits on securitisation of assets and loans.

Fee based income = Brokerage and financial services fees + other fee based financial services income.

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