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A Review of Impact of Interest Rate Spread on Profitability

Amna Kalsoom
MS Business Administration National University of Modern Languages (NUML) Islamabad, Faisalabad Campus

Muhammad Kashif Khurshid
Lecturer Department of Management Sciences National University of Modern Languages (NUML) Islamabad, Faisalabad Campus

Abstract
The purpose of this study is to explain the relationship between interest rate spread and profitability. Interest rate spread is actually the difference between deposit rate and lending rate of bank. Interest rate spread is an important factor in profitability of banks. It means increase or decrease in interest rate will affect profitability. Many other factors also contribute in the profitability of banks. The growth of any organization depends on its profitability. When the profitability of any organization increases the value of shareholders also increase.
Keywords: Interest rate spread, Profitability, Bank

1. Introduction

Banking sector is an important segment in economy of any country. It contributes a lot in the economic development of any country. For a stable banking sector stable microenvironment is required. State bank of Pakistan is central bank that monitors activities of all commercial banks. Profitability is the key factor for the expansion and growth of baking sector. Therefore the need is to focus the issues of bank profitability. Profitability depends on the efficiency with which they handle their portfolio of assets and liabilities.

Banks play the role of intermediary in the financial market as they take deposits from those who have surplus against some interest rate and lend to those who have deficit against another rate. The difference between these two rates is called interest rate spread that is the profit of intermediary party. This spread will affect both lender and depositor. The alternate opportunities of investing in financial market also affect the level of deposits. When the interest rates as income of investor decrease spread will increases then it will decrease the savings. In the banking sector change in interest rate has significant impact on the profitability of banks.

Interest is actually the fee that is paid for using the funds of another person. It is paid when we borrow and received when we lend. When borrower pays back the loan he also pays interest with principal payment. If there is no concept of interest no one would be interested to lend. Interest rate is usually expressed in term of percentage. Like 10% interest is agreed on annual basis then with principal amount of 1000 interest of 100 will also be paid

Literature Review:

Peng, Lai, Leung and Shu (2003) worked on The Impact of Interest Rate Shocks on the Performance of the Banking Sector. They examined it in Hong Kong for research purpose. Their estimates showed that decrease in interest rate bring increase the net profit margin while increase in interest rate in US has only a small impact on profit margin.

Khawaja and Din (2007) discussed “Determinants of Interest Spread in Pakistan” They used panel data of 29 banks. They concluded that interest rate spread is affected by macroeconomic variables, market structure of the banking sector, regulatory costs, operating costs and the credit risk. They included the share of deposit of saving and current account in total bank deposits as an explanatory variable.

Khan and Khan (2010) worked on “What Drives Interest Rate Spreads of Commercial Banks in Pakistan?” Linear regression was used by them on panel data of 28 banks operating in Pakistan from 1997 to 2009. Banking spread is taken as dependent variable while bank specific indicators, Industry specific indicators and macro indicators are taken as independent variables. They concluded in their results that competition play a key role in determination of interest rate spread. In macroeconomic environment real GDP and interest rate positively affect the banking spread.

Hossain (2010) discussed “Financial Reforms and Persistently High Bank Interest Spreads in Bangladesh” He used panel regression model for the time duration of 1990-2008 to a panel of 43 banks. He identified some factors of high interest rate spread like some macroeconomic factors, high non-performing loan ratio and high administrative costs etc.

Siddiqui (2011) worked on “Towards determination of interest spread of commercial banks” He used panel data models to examine bank-specific determinants of interest rate spread by using a sample of 14 out of 22 commercial banks in Pakistan for the period of 2000 to 2008. Dependent variable is spread of interest for each bank and Independent Variables are factors affecting this ex-post interest spread. He concluded rising administrative costs, non-performing loans and escalating return on assets (ROA) significantly cause an increase in the spread of interest rate.

Gul, Irshad and Zaman (2011) worked on “Factors Affecting Bank Profitability in Pakistan”. They used panel data of 5 years 2005 to 2009 and used regression analysis. They used Return on Asset (ROA), Return on Equity (ROE), Return on Capital Employed (ROCE) and Net Interest Margin (NIM) as dependent variables and ratio of Equity Capital to Total Asset, ratio of Total Loans to Total Asset, ratio of Total Deposits to Total Assets, Gross Domestic Product (GDP), Consumer Price Index (INF) and Market Capitalization (MC) as Independent variables. They concluded that microeconomic as well as external variables have significant impact on bank profitability.

Kamunge (2012) studied “the effect of interest rate spread on the level of non-performing loans of commercial banks in Kenya” They used multiple regression models in their study. They used non-performing loans as dependent variable while interest rate spread, debt collection cost, credit appraisal cost as independent variables. Regression result led to conclusion that there is a positive relationship between level of nonperforming loans and Log interest rate spread. Results also indicate that Log interest rate spread and Log debt collection cost were statistically significant in explaining level of nonperforming loans.

Dumicic and Ridzak (2012) worked on Determinants of Banks' Net Interest Margins in the CEE (Central and Eastern European countries). This research used the data of time period from 2000 to 2010 to find out main factors net interest margin in CEE. In pre-crisis period net interest margin was decreasing. The main components were high capital inflows, increased efficiency and decreased cost of bank capitalization.

Nazir, Butt and Nawaz (2012) worked on interest rate determinants of banks in Pakistan. Data of 4 years of 30 banks was included in this research paper. Correlational analysis techniques was used to find the relationship between weighted average rate of interest and 10 independent variables like bank specific factors, inflation rate, credit risk, amount of deposit, administrative cost, profit margins, macroeconomic conditions etc. The results showed that administrative costs, credit risk, deposit amounts and profit margins are important factors to determine interest rate and they have positive relationship with interest rate. The relation of Bank's liquidity and deposit amount is negative with interest rate. While some factors have no significant relationship with interest rate like inflation rate and market share.

Aremu, Ekpo and Mudashiru (2013) worked on “determinants of banks’ profitability in a developing economy”. This study used co-integration and correlation techniques to find out the factors behind profitability of banks in Nigerian economy. Results showed that in Nigeria bank size and cost efficiency have insignificant impact on bank profitability. Credit risk affects bank profitability significantly in long run while capital adequacy affects bank profitability significantly in short run while labor efficiency, liquidity and macroeconomic variables also have impact on bank profitability.

Sarpong, Winful and Ntiamoah (2013) worked on “Determinants of wide interest margins in Ghana” The dependent variable is the bank interest spread. This study identifies the key factors affecting interest margins in Ghana and examines how such factors impact on the spread, using panel EGLS with a cross-section weights. The results show that operating cost, market share and previous year’s non-performing loans are sensitive to the definition of interest rate spreads. Concentration of the banking industry, GDP, inflation, treasury bills and exchange rate however do not have statistically significant influence on spread.

Njeri, Ombui and Kagiri (2013) worked on Determinants of Interest Rate Spread of Commercial Banks in Kenya. Various aspects contributing to bank interest rate spreads in the banking industry were explored. The research involved collecting data from commercial banks in Kenya, CBK, financial journals and newspapers. The target population was 1036 credit officers. The sample size was 103. Stratified random sampling was used. Questionnaires were used to collect primary data where drop and pick method was used. Results indicated that all the variables of the study: Inflation rate, return on average assets, liquidity risk and credit risk influences interest rates spreads of commercial banks in Kenya.

Raza, Jawaid and Shafqat (2013) worked on Profitability of the Banking Sector of Pakistan. They used the panel data of 18 banks from 2001 to 2010. Dependent variable is bank profitability, while independent variables are bank size in terms of their assets, credit risk in terms of loan loss provisions to total loans, liquidity in terms of loans to total assets ratio, taxation, capitalization of banks, nontraditional activity of banks, banking sector development, stock market development and inflation. Results suggested negative and significant effect of bank size, credit risk, liquidity, taxation, and non-traditional activity with profitability.

Mashamba , Magweva and Gumbo (2014) discussed about “Analyzing the relationship between Banks’ Deposit Interest Rate and Deposit Mobilization” They used Ordinary Least Squares (OLS) model to show the relationship between the response and independent variables. Pearson’s correlation co-efficient was employed to demonstrate the strength of the relationship. Total commercial bank deposits is the dependent variable while average commercial banks deposit rate, development of the banking sector, interest rate spread, economic growth rate are the independent variables. They found a positive relationship between Deposit and Deposit Rate, GDP and Financial Deepening while Deposits are negatively related to interest rate margins and inflation.

Kiptui (2014) worked on “Determinants of Interest Rate Spread” He worked by using two analysis decomposition technique and panel data analysis. He took operating profit as dependent variable and interest income, non-interest income, interest expense, operating expense and total loss provision as independent variables. He conclude that operating cost and capital ratio has positive significant impact on interest margin while macroeconomic factors also affect interest margin. Macroeconomic factors contribute to the interest margin. The rate of Treasury bill has positive significant effects on interest rate margins.

Samahiya and Kaakunga (2014) worked on Determinants of Commercial Banks’ Interest Rate Spread in Namibia. They used panel data analysis of bank level dada. An OLS technique was used to determine factors affecting bank spread in Namibia Over the period of 2004 to 2011. The result showed deposit market share, liquidity, operating costs are the determinants of interest rate spread while non-performing loans and the capital ratio are not important determinants of the net interest margin.

Khan and Sattar (2014) studied “Impact of Interest Rate Changes on the Profitability of four Major Commercial Banks in Pakistan”. In this research interest rate and bank profitability were used as explanatory and explained variables respectively. Pearson correlation model was used to conclude results. They concluded that a positive strong relationship exist between interest rate and bank profitability.

Ghasemi and Rostami (2015) worked on “Determinants of interest rate spread in banking Industry.” In this study interest rate spread was taken as dependent variable while some ratios were used as independent variables like Return on Assets, capital adequacy ratio, NPL ration etc. Data consists of 19 months of Iranian banks was used in this study. They concluded that inflation and exchange rate have slight but significant impact on interest rate spread.

Maina (2015) also worked on determinants of interest rate spread among commercial banks of Kenya. This study adopted descriptive and correlational designs to determine relationship between the independent variables and the interest rate spreads the dependent variable. The sample units for this study were twenty seven (27) commercial banks. He concluded that inflation, operating costs generally has no effects on interest rate spread among commercial banks in Kenya while market structure, ownership structure and business risk play important role in determination of interest rate spread.

Data Collection and Methodology

Peng, Lai, Leung and Shu (2003) examined the data of Hong Kong for their research purpose and draw conclusion on the base of that data analysis. Khawaja and Din (2007) used panel data of 29 banks of Pakistan to find out the determinants of interest rate spread. Khan and Khan (2010) used linear regression on panel data of 28 banks operating in Pakistan from 1997 to 2009 to find the results of study. Hossain (2010) used panel regression model for the time duration of 1990-2008 to a panel of 43 banks of Bangladesh. Siddiqui (2011) used panel data models to examine bank-specific determinants of interest rate spread by using a sample of 14 out of 22 commercial banks in Pakistan for the period of 2000 to 2008 to find out determinants of interest rate spread. Gul, Irshad and Zaman (2011) used panel data of 5 years 2005 to 2009 and used regression analysis to find out the factors of bank profitability.

Kamunge (2012) used multiple regression models on the data of banks of Kenya in study. The population of the study was all the 43 commercial banks registered in Kenya as at 31st December 2012. Dumicic and Ridzak (2012) used the data of time period from 2000 to 2010 to find out main factors net interest margin in CEE. The econometric analysis was conducted on two sub-samples, pre-crisis period from 2000 to 2007 and the crisis period from 2008 to 2010. Nazir, Butt and Nawaz (2012) used data of 4 years of 30 banks in his research paper. A correlational analysis technique was used to find the relationship between weighted average rate of interest and 10 independent variables. Aremu, Ekpo and Mudashiru (2013) used co-integration and correlation techniques to find out the factors behind profitability of banks in Nigerian economy. Sarpong, Winful and Ntiamoah (2013) used yearly panel data from twenty one commercial banks in Ghana for the period 2005 – 2009 were used for the study.

Njeri, Ombui and Kagiri (2013) collect data from commercial banks in Kenya, CBK, financial journals and newspapers. The target population was 1036 credit officers. The sample size was 103. Stratified random sampling was used. Raza, Jawaid and Shafqat (2013) used the panel data of 18 banks from 2001 to 2010 for analysis purpose. Aremu, Ekpo and Mudashiru (2013) used co-integration and correlation techniques to find out the factors behind profitability of banks in Nigerian economy. Mashamba, Magweva and Gumbo (2014) used Ordinary Least Squares (OLS) model to show the relationship between the response and independent variables. Pearson’s correlation co-efficient was employed to demonstrate the strength of the relationship. Kiptui (2014) worked by using two analysis decomposition technique and panel data analysis. Data covers the period from 1999-2008 and across 39 banks.

Samahiya and Kaakunga (2014) used panel data analysis of bank level dada. An OLS technique was used to determine factors affecting bank spread in Namibia Over the period of 2004 to 2011. Khan and Sattar (2014) used Pearson Correlation Method and have taken the period 2008-2012 for their analysis. Ghasemi and

Rostami (2015) used data consists of 19 months of Iranian banks in this study. Maina (2015) adopted descriptive and correlational designs to determine relationship between the independent variables and the interest rate spreads the dependent variable. The sample units for this study were twenty seven (27) commercial banks.

Discussion and Conclusion

By reviewing all these researches it is concluded that interest rate spread is a prominent factor behind profitability of bank. Some other factors also exists that affect the profit level of banks but our focus is on the relationship of interest rate spread and bank profitability as it is a prominent factor among factors of bank profitability. Other Factors include microeconomic factors like inflation rate GDP etc. bank related factors like size, loan, deposits etc. while competition also plays an important role in interest rate spread. While interest rate spread is also derived by some factors like some macroeconomic factors, high non-performing loan ratio and high administrative costs etc.

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