Impact of Monetary Policy on Profitability of Banking Sector
A study of public and private sector banks in India

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Abstact: Monetary policy is the process by which the monetary authority of a country controls the supply of money, often targeting a rate of interest for the purpose of promoting economic growth and stability. To study the effect of monetary policy Indian banking system as estimated. Research is a descriptive research and tools used is regression analysis and finding are changes in the monetary policies effecting the profitability of banks key words: - Monetary policies, banks, CRR, PLR,REPO, MSF ,SLR,BR and regression analysis.

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I. INTRODUCTION

Monetary Policy:

Monetary policy is the process by which the monetary authority of a country controls the supply of money, often targeting a rate of interest for the purpose of promoting economic growth and stability. The official goals usually include relatively stable prices and low unemployment.

Monetary theory provides insight into how to craft optimal monetary policy. It is referred to as either being expansionary or Contractionary, where an expansionary policy increases the total supply of money in the economy more rapidly than usual, and Contractionary policy expands the money supply more slowly than usual or even shrinks it. Expansionary policy is traditionally used to try to combat unemployment in a recession by lowering interest rates in the hope that easy credit will entice businesses into expanding. Contractionary policy is intended to slow inflation in hopes of avoiding the resulting distortions and deterioration of asset values. Basically the monetary policy mean that the action of a central bank, currency board or other regulation committee that determine the size and rate of growth of the money supply, which in turn affects interest rate. Monetary policy is maintained through actions such as increasing the interest rate or changing the amount of money banks need to keep in the vault.

Monetary policy rests on the relationship between the rates of interest in an economy, that is, the price at which money can be borrowed, and the total supply of money. Monetary policy uses a variety of tools to control one or both of these, to influence outcomes like economic growth, inflation, exchange rates with other currencies and unemployment. Where currency is under a monopoly of issuance, or where there is a regulated system of issuing currency through banks which are tied to a central bank, the monetary authority has the ability to alter the money supply and thus influence the interest rate. The beginning of monetary policy as such comes from the late 19th century, where it was used to maintain the gold standard.

II. REVIEW OF LITERATURE

Anil k kashyap, Jeremy c stein, (1994) analyzed the impact of monetary policy on bank balance sheet. Regression analysis was used for this research. Research based on large and small bank. Time period for this research was 1963-1994 .Research factor used for this research was interest rate, CPI, GDP, And found that Contraction in monetary policy does indeed lead to a decline in core deposit for bank in all size classes .

David M. Gould Steven B. Kamin, (1999) described the impact of monetary policy on the exchange rate. They measured of international credit spreads and of domestic stock prices as proxies for investor concerns about creditworthiness and country risk in order to better identify the impact of monetary policies on the exchange rate. They found that movements in credit

spreads and in stock prices exert significant impacts on exchange rates during financial crises.

Staikouras.C &Wood.G.E., (1999) puts a light on the bank performance studies and classify the bank profitability determinants. It also quantifies how internal determinants ("within effects" changes) and external factors ("dynamic reallocation" effects) contribute to the performance of the EU banking industry as a whole in 1994-1998. The estimation results suggest that the profitability of European banks was influenced not only by factors related to their management decisions but also to changes in the external macroeconomic environment.

Abbel-Hameed M. Bashir, (2000) has analyzed that how bank characteristics and the overall financial environment affect the performance of Islamic banks. Specially, the purpose of the study was to closely examine the relationship between profitability and the banking characteristics, after controlling for economic and financial structure indicators.. The results also indicated the importance of customer and short-term funding, non interest earning assets and overhead in promoting bank's profits.

Campello.M, (2002) examines the internal capital markets in financial conglomerates by comparing the responses of small subsidiary and independent banks to monetary policy. Data collected from the Federal Reserve's Report of Condition and Income. Data collected from year 1981 to 1997. Regression analysis used for analysis. Factors and variables used for analysis were Total assets, liquid assets, Total loans, Total equity, Total deposits, Non perform loans. The research concluded that Monetary policy was tightened, if a small bank operates on a stand-alone basis, then its loan growth be-comes significantly more dependent on its own cash flow in periods of tight money supply.

Samy Ben Naceur, (2003) described that the impact of bank's characteristics, financial structure and macroeconomic indicators on bank's net interest margins and profitability in the Tunisian banking industry for the 1980-2000 period. Studies on the determinants of bank's interest margin and profitability have focused whether on a particular country and on a panel of countries. The improvement of the profitability of Tunisian commercial banks need to be conducted by a reinforcement of the capitalization of banks through national regulation programs, by reduced the proportion of non-interest bearing assets to the benefit of bank loans and by reduced the size of large banks to optimal levels.

Adam B Elhiraika (2004) analyzed the effect of monetary policy on Islamic bank. Correlation used for it. Research conducted between 1970-2001 .Central banks and private bank were the main focus. .Monetary policy affects the rate of return on financial assets and thereby affects real investment demand, output and balance of payment. Monetary policy has always been closely related to budget deficit financing.

Harun.S.M, Hassan.M.K & Zaher.T.S, (2005) investigates whether the stock price reactions of commercial banks to monetary policy actions were dependent on the state of the economy. The data collected from 863 national and state chartered commercial banks. The data collected from year 1989 to 2000. Regression analysis used for analysis. Factors and variables used for analysis were Total Assets, Market Value, Net Income, EPS, Stock Price, Total Debt, Debt-Total Asset Ratio, Debt-Equity Ratio, P/E Ratio. The evidence showed that the effect of monetary policy on the returns of commercial banks in good business conditions was significant compared to bad business conditions.

Need and Scope Of The Study

1. Rise in Increase inflation rate in double digit

2. Frequent RBI's intervention

3. Increase in interest rate by banks

4. Rise in loan rates

5. Credit and Risk-taking channels of monetary policy 30 per cent per annum credit expansion has resulted in a quantum jump in the lending portfolio of banks, and this increases the potential for an increase in non-performing assets (NPAs)

III. SCOPE OF STUDY

1. The Role of Monetary Policies in sustaining banking sector Growth in India

2. Changes in the Money Supply Process and Its Impact on Monetary Policy Transmission in the Indian banking sector

3. Monetary Stability and Performance in the Banking Industry of Emerging Markets

4. Monetary Policy and Banking in the Wake of the World Financial Crisis

5. Measuring the Efficacy of Monetary Policy in India Using a Monetary Measure

.Research Objective

1. To study the functioning of Indian banking system and role of monetary policy in the working of Indian banking system.

2. To find out the effect of determinants of monetary policy on the bank's profitability.

IV. RESEARCH METHODOLOGY

Design of the Study:

This section, of the study will examine the steps taken to know the impact of monetary policy on banks profitability in India

Sources of Data:

Data for the study will be collected from secondary sources. This study uses annual data from 2000 to 2013 on the relevant macroeconomic variables

Population and Sample: population of this study will be comprised of public sector banks, private sector banks, foreign banks etc. Sample size will be the whole banking sector.

Method of Data Analysis:

To study the impact of monetary policy on banks profitability in India we will use multiple Regression analysis.

1. The impact of monetary Variables on the interest profitability of private sector bank (ICICI). If the following monetary variables have significant impact on PRO t , then it can be said that interest profitability of private sector banks are affected by the monetary policy changes.

To find out the impact of monetary variables on PRO t, the following regression equation is estimated.

$$PRO\ t = \alpha_1 + \beta_1 CRR + \beta_2 DR + \beta_3 PLR + \beta_4 BR + \beta_5 RR + \beta_6 Repo + u_{1i}$$

A set of hypothesis is tested:

Hypothesis I:

H0: $\beta_1 = 0$ i.e. CRR has no influence on PRO

H1: $\beta_1 \neq 0$ i.e. CRR has a significant impact on PRO

Hypothesis II:

H0: $\beta_2 = 0$ i.e. BR has no influence on PRO

H1: $\beta_2 \neq 0$ i.e. BR has a significant impact on PRO

Hypothesis III:

H0: $\beta_3 = 0$ i.e. SLR has no influence on PRO

H1: $\beta_3 \neq 0$ i.e. SLR has a significant impact on PRO

Hypothesis IV:

H0: $\beta_4 = 0$ i.e. MSF has no influence on PRO

H1: $\beta_4 \neq 0$ i.e. MSF has a significant impact on PRO

Hypothesis V:

H0: $\beta_5 = 0$ i.e. RR has no influence on PRO

H1: $\beta_5 \neq 0$ i.e. RR has a significant impact on PRO

Hypothesis VI:

H0: $\beta_6 = 0$ i.e. REPO has no influence on PRO

H1: $\beta_6 \neq 0$ i.e. REPO has a significant impact on PRO

2. The impact of monetary variables on the interest profitability of public sector bank (SBI). If the following monetary variables have significant impact on PRO t , then it can be said that interest profitability of public sector banks are affected by the monetary policy changes.

To find out the impact of monetary variables on PRO t, the following regression equation is estimated.

$$PRO\ t = \alpha_2 + \beta_7 CRR + \beta_8 5DR + \beta_9 PLR + \beta_{10} BR + \beta_{11} RR + \beta_{12} Repo + u_{2i}$$

A set of hypothesis are tested:

Hypothesis I:

H0: $\beta_7 = 0$ i.e. CRR has no influence on PRO

H1 : $\beta_7 \neq 0$ i.e. CRR has a significant impact on PRO

Hypothesis II:

H0: $\beta_8 = 0$ i.e. MSF has no influence on PRO

H1 : $\beta_8 \neq 0$ i.e. MSF has a significant impact on PRO

Hypothesis III:

H0: $\beta 9$= 0 i.e. SLR has no influence on PRO

H1 : $\beta 9 \neq 0$ i.e. SLR has a significant impact on PRO

Hypothesis IV:

H0: $\beta 10$ = 0 i.e. BR has no influence on PRO

H1 : $\beta 10 \neq 0$ i.e. BR has a significant impact on PRO

Hypothesis V:

H0: $\beta 11$ = 0 i.e. RR has no influence on PRO

H1 : $\beta 11 \neq 0$ i.e. RR has a significant impact on PRO

Hypothesis VI:

H0: $\beta 12$ = 0 i.e. REPO has no influence on PRO

H1 : $\beta 12 \neq 0$ i.e. REPO has a significant impact on PRO

V. RESULTS AND DISCUSSION

Interpret the Regression statistics table of ICICI

The regression output has three components:

Regression statistics, ANOVA, Regression coefficients table.

Regression Statistics ICICI

Regression Statistics	
Multiple R	0.852529477
R Square	0.826806509
Adjusted R Square	0.811795877
Standard Error	1.33363576
Observations	97

Interpretation: R Square of .852 means that 85.6% of the variation in ICICI Profitability can be explained by Monetary policies . The adjusted R Square of .826 means 82.6%. REPO ,RR ,CRR ,MSF, SLR and BR .The closer to 1, the better the regression line (read on) fits the dataThe regression line is: y = profitability of ICICI = 94.6106919-1.259580728 ∗ REPO +0.773533814 ∗ REVREPO-. -0.018502908 CRR +0.496110428MSF +3.40970942 SLR +3.633261044BANK RATE+13.32871387=100.91

SBI Regression Statistics

Regression Statistics	
Multiple R	0.908281115
R Square	0.865331836
Adjusted R Square	0.852698811
Standard Error	1.329955022
Observations	86

R Square equals 0.908533, which is a very good fit. % of the variation in profitability of SBI is explained by the independent variables REPO ,RR ,CRR ,MSF, SLR and BR .The closer to 1, the better the regression line (read on) fits the data.

VI. CONCLUSIONS

The value of R and R square above 86% and 90% are significant that effect the profitability of bank ,RBI changes repo rate ,CRR,BR,CRR,MSF to control the money supply ,Repo rate is increases from 2000 to 2013 ,CRR is increases from 2000 to 2013, SLR is decreases from 2000 to 2013,SBI profitability effect more by changes than ICICI profitability ,All the Null hypothesis is rejected EXCEPT SLR ,Bank rate and cash reserve ratio are co-related as positive co-relation coefficient is 0.12,MSF , reverse repo negative co-related and Bank rate and SLR are insignificant

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