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Role of rate of return, inflation and deposits on loan supply: An empirical study of banking sector in Pakistan

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In Pakistan, banks are experiencing a significant increase in supply of loans. Trend of financing through banks increases with passage of time. The purpose of this research paper is to investigate the major factors which have determining role in the supply of loans in local market of Pakistan. Statistical techniques have been used to relate the supply of loans with deposits, weighted average rate of returns on loans, and rate inflation. The data used were collected from various published reports of State Bank of Pakistan, Federal Bureau of Statistics, and Economic Survey of Pakistan on monthly basis for the period of 1991 to 2009. The results reported that the supply of loan is positively related with the inflation and negatively associated with the weighted average rate of return on loans sanctioned by banks. Moreover, the amount of deposits is found to positively predict the loan supply by the banking sector of Pakistan.

Key words: weighted average rate of return, advances, deposits, inflation, consumer price index, Pakistan, banking system.

INTRODUCTION

The significance of financial sector for economic growth cannot be denied, and banking sector, in the capacity of intermediation between borrower and lender, facilitates the economic activities as a part of financial sector (Nazir et al., 2010). Evaluating the financial conditions and performance of banks has been a considerable issue in recent years, particularly in developing countries. This phenomenon is attributed to the crucial role of commercial banks in the economy, which is a result of the generally acceptable fact that commercial banks are dominant financial institutions and represent prime source of financial intermediation in these countries (Hussain, 2005). The assessment of banking sector is important to depositors, owners, potential investors, and, of course, for the policy makers as banks are the effective executers of monetary policy of the government.

In Pakistan, two different banking systems are operating simultaneously. First, the conventional banking system that is based on interest and has been in practice from many years; the other one is, the Islamic banking system which is considered to be the substitute of the conventional banking system nowadays. Pakistan started Islamic banking in the 1980s by changing the banking company ordinance 1962 and associated laws or regulation to accommodate the non-interest base transactions. Islamic banking is considered to be the fastest growing segment of the credit market in muslin countries that have Islamic banks. In Pakistan, Islamic banks are

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less in numbers and their operations are not parallel to the conventional banking system operating in the same market.

The bank lending is considered to be the main function of every bank which is dependent upon the rate of return it charges for the borrowers. Commercial banking system, also known as conventional banking system, merely depends upon the interest means predetermined and guaranteed rate of return; whereas the Islamic banking system is based on the profit-loss sharing. Because rate of return in Islamic banking is not fixed, suppliers of funds become investors instead of creditors. The provider of financial capital and the entrepreneur share business risks in return for shares of the profits. In commercial banking system, the rate of interest is set through money market operations in which government financial instruments when sold increase the money supply, increasingly forcing the conventional bank to lower its interest rate. On the other side, buying the government financial securities contracts the money supply; hence increases the rate of return. Low rate of return has an effect on the economy as a whole. Whereas in Islamic banking system, monetary policy can be implemented through an open market operation using traded equities in private firms instead of with government bonds. Many researchers call for the low interest rate because that tends to lending in large and large amounts.

Many researchers call for the low interest rate because that tends to lending in large and large amounts. As the Islamic bank system is in competition with the conventional banking system so they are eager to give their investment holders a return that is comparable to the prevailing interest rate (Roy, 1991). The returns of creditors in Islamic banking are tied up with the business or project. The greater the profit that is earn in the business or project, the greater would be the return to the creditors. Their lending activities can be affected by many other factors including rate of return, total deposits, and inflation. In this paper our primarily focus is on the rate of return effect on loan supply in both banking systems.

The volume of literature work has been done on the effect of rate of return on the loan supply. In this section we intend to review some of the leading research studies to see what previous studies say about the effect of rate of return on loan supply. The amount of bank lending declines with inflation (Boyd and Champ, 2006). Inflation, or even the mere uncertainty caused by expectations of inflation, has a strongly adverse impact on long-term lending. Movements in open market interest rates are fully and quickly transmitted to commercial loan customers (Slovin and Sushka, 1983). The importance of the bank health variable suggests that a credit channel works through something other than interest rate differentials, or the level of the federal funds rate (Peek et al., 2003). As demand for a restricted supply of loans increased, the interest rates for loans would also increase, acting to restrict demand for loans, and the eventual impact of the bubble (Jacky, 2009).

Loan commitment size was found to be positively correlated with the risk premium or interest markup, the commitment fee, the length of the contract, the existence of a collateral requirement, higher firm current rations (indicative of a better credit rating), and firm size (Melnik and Plaut, 1986); whereas decline in deposit supply reduced loan supply (Staharn and Loutskina, 2008). Credit losses lead to a stronger reduction in credit supply when monetary policy is tight than when it is loose (Nier and Zicchino, 2006). Banks receive direct instructions about the volume of their lending operations; enabling monetary authorities to manage without the discount rate (Khan and Mirakhor, 1990). The evidence presented contradicts the notion that indexing loan rates to the prime rate results in an increase in the relative cost of borrowing for nonprime borrowers (James, 1982). Central bank can slow the real activity by raising bank funding cost and thereby constraining the supply of credit. A lower rate of return usually means larger amounts of loans, which drips down to the customer and vice versa (Alfredo, 2001).

This paper is concerned with the analysis of the effect of rate of return on the supply of loans in banking systems with respect to Pakistan. In addition to this, we also analyzed the effect of inflation and deposits on advances. In developing countries like Pakistan, inflation is hardly controlled. This unchecked inflation affects the savings of people adversely, resulting in fluctuated interest rate and deposits in banks. On the other hand, state bank utilizes the tool of interest rate to control the inflation. And this interest rate also affects the deposits and advances in banks. So, all these variables are interrelated and this study incorporates the effect of these variables in order to find out their impact on the level of loans/advances in Pakistan for a period of 1991-2009 on monthly basis.

RESEARCH METHODOLOGY

The objective of this research paper is to investigate the effect of rate of return, deposits and inflation on loan supply in Pakistani banking sector. Our concern is to see if there is any impact of ROR, inflation and deposits on advances in Pakistani financial sector. If there is any relation of ROR, CPI and deposits with advances, then what is the nature of the relation? Which variables are significant in impacting the loan supply in Pakistan? In order to look into this relationship, we have used regression analysis. For this purpose loan supply is regressed against the weighted average rate of return on advances, consumer price index and deposits for the study period of 1991-2009.

Research design

This research study has been designed in such a way that it helps us to analyze the trend of loan supply in Pakistan along with its factors like deposits, interest rate and inflation. We took weighted average rate of return on advances as interest rate which is shown by rate of return in model. For inflation, we considered the weighted average consumer price index. In present study, we have included

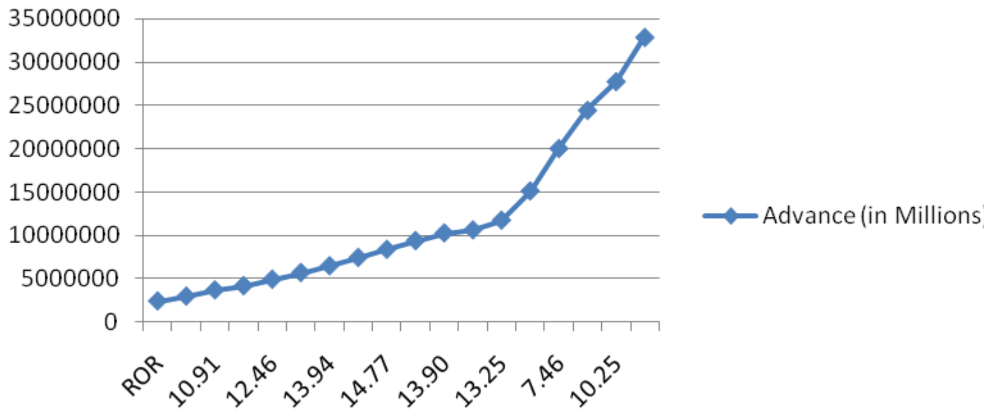

Figure 1. Relationship of advances and ROR of commercial banks.

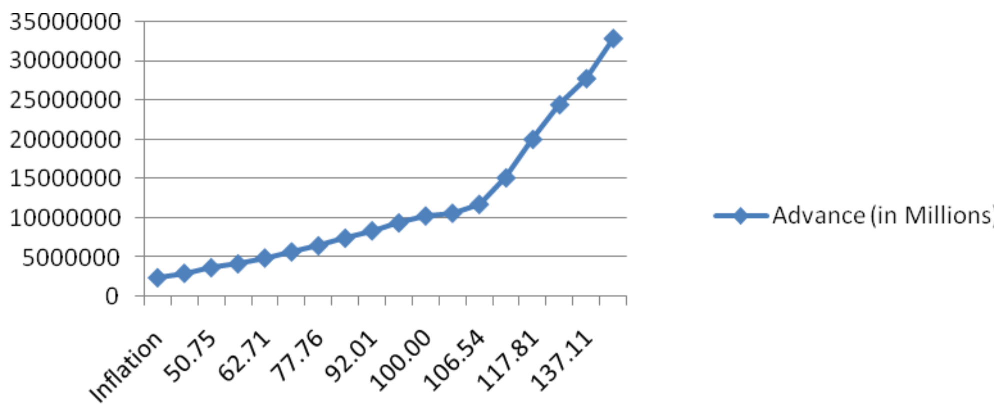

Figure 2. Relationship of advances with Inflation (1991-2009).

all the scheduled banks in Pakistan on our sample. In Pakistan, a total of 6 full-fledge Islamic banks and 23 commercial banks are currently operating. In order to make this research more reliable, we use the secondary sources for collection of relevant data and required information.

Since the study is based on financial and economic data, the main source of data was reports of State Bank of Pakistan. The secondary data are collected from annual reports of State Bank of Pakistan and data base of Federal Bureau of Statistics. The amount of Advances, Deposit and Weighted Average Rate of Return was taken from Quarterly Statistical Bulletin (Statistic and Data Warehouse Department, State Bank of Pakistan), whereas statistics of inflation was taken from Federal Board of Statistics. The period of study is spread over eighteen years starting from 1991 to 2009 for the banking sector of Pakistan. In order to comprehend our results, monthly data were used and we got 216 monthly observations for 23 commercial banks operating in Pakistan.

The model of study

Following Makiyan (2003), it is expected that supply of loan has a positive relationship with inflation and deposits in banks, and no relationship with rate of return. This means supply of loan increases with the increase of inflation and deposits; but there is no impact whether rate of return increases or decreases. We used the following variables to investigate the relationship between supply of loans and its determinates,

Loans = $\alpha + \beta_1 Dep + \beta_2 ROR + \beta_3 INF + \varepsilon$ .... (1)

Where:

Loans = Monthly supply of loans by the banks in Pakistan during 1991-2009

DEP = Deposits in banks in Pakistan during 1991-2009

ROR = Weighted Average rate of Return on Advances for 1991-2009

INF = Inflation which is Consumer price index during 1991-2009

α *and* ε *are the constant and residuals, respectively*

RESULTS AND DISCUSSION

The statistics of data collected is described in Figures 1, 2 and 3. In 1991, interest rate is 10.73% and the amount of advances is Rs. 2409301 million. In 1992, there is minor increase in interest rate (10.73 to 10.94%) and there is also increase in advances. In 1993, interest rate and advances both increased side by side. But in the next year, the trend is totally opposite. In 1994, interest rate decreased from 13.01 to 12.86%, but there is still

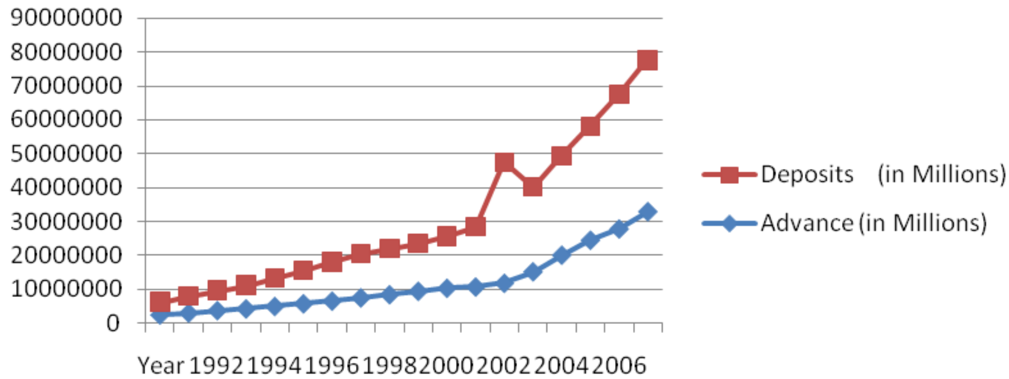

Figure 3. Relationship of advances and deposits (1991 - 2009).

Table 1. Analysis of loan supply and its determinants.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DEP	0.020823	0.013354	1.559301	0.1204
INF	18037.09	480.1407	37.56627	0.0000
ROR	-67813.47	2952.509	-22.96808	0.0000
R-squared	0.925856	Mean dependent var		965579.4
Adjusted R-squared	0.925160	S.D. dependent var		734294.2

Dependent Variable: ADV; Method: Least Squares; Included observations: 216.

increasing trend in amount of advances regardless of the decrease in interest rate. From 1995 to 1999, interest rate and advances showed increasing trend. In year 2000, interest rate decreased significantly, but it did not affect the historic increasing trend of advances. They showed the consistent increasing trend from 1991. Similarly in 2004, interest rate was as low as 7.4%, but advances amount was higher than that of previous years. So, theoretical analysis shows that there is no effect of interest rate on loan supply.

Figure 2 shows that inflation and advances are positively correlated, meaning both have similar behavior. From 1991 in Pakistan, inflation always increased. Inflation of one year is always greater than the inflation of the previous year. Same is the case with the deposits. Degree of increase may be less than that of previous year, but there is never decrease in inflation and deposits from the base year. From 1991 to 2001, the rise in inflation and advances is steady. It is also a straight line after that. But from 2002, at the CPI of 106.54, there is more rise in advances than before and this rise is consistent afterwards. Relationship of deposits and advances is quite logical. Liabilities and assets are always equal. Banks can do lending up to the extent of holding deposits. So if the deposits increase with time, loan supply also increases or vice versa as shown in Figure 3.

We run the regression analysis to compute the effect of deposits, advances and interest rate. The results reported in Table 1 show that deposits are affecting the level of advances in Pakistan; however, this relationship is not as much significant as it should be. This means this supply of advances has a positive relationship with the deposits for the same period. On the other hand, weighted average rate of return on advances and inflation are highly significant in Pakistani loan market. This is quite logical. As inflation rate rises, purchasing power parity decreases and people have less money to consume. To meet their expenditures, they borrow more from banks. Due to rise in inflation, demand for loan increases. In order to meet the increasing demand of credit, banks have to raise their supply of loans.

So, it may be predicted from the results that there is positive correlation between consumer price index and supply of loans. On the other hand, there is negative correlation between ROR and advances. ROR is impacting negatively on supply of loan. This means that supply of loan rises with the decrease of ROR or vice versa. This is also logical. When rate of return is low, people lend more from banks. They try to finance most of their expenditures from bank because they find it cheap and affordable. If interest rate rises, people do not get finances from banks because they have to return many more at higher interest rate. In order to further investigate the impact of ROR, CPI and deposits on advances we took the Lag of deposits and found following results reported in Table 2. Now deposits become significant after taking log. This means that the deposits of previous month are impacting the loan supply of current month.

Table 2. Analysis of Supply of Loans (with first difference of DEP).

Variable	Coefficient	Std. error	t-statistic	Prob.
DEP(-1)	0.022683	0.013343	1.699957	0.0906
INF	18006.44	477.4575	37.71319	0.0000
ROR	-67807.14	2955.596	-22.94195	0.0000
R-squared	0.925756	Mean dependent var		969155.2
Adjusted R-squared	0.925056	S.D. dependent var		734120.3

Dependent Variable: ADV; Method: Least Squares; Included observations: 215 after adjustments; Sample (adjusted): 1991M02 2009M12.

Banks use the previous month's deposits to give loans in next months. For instance, to give loan February, deposits of January are used. Moreover, there is positive correlation of supply of loans with previous month's deposits. This means that supply of loans increases if last month deposit increases.

Conclusion

The study is indicating that the supply of loan is largely affected with Pakistan's financial and economic condition. Government policies, through monitoring interest rate and inflation play a vital role in the supply of loan. So open market operations, monitory and fiscal policies are responsible for the impacts on demand and supply of advances through banks. From the results, it may be concluded that, keeping all other variables constant, the supply of loan of particular month is positively related with the inflation (CPI) in that month and negatively related with the weighted average rate of return on advances. Moreover supply of loan of particular month is positively related with the deposits of last month. As the inflation rate rises in the country, people are more likely to get advances from the bank to maintain their purchasing power and meet their expenses. So inflation and supply of advances are positively correlated in a given economic scenario.

However, in the case of interest rate, trend is reverse. At higher interest rate, people find it difficult to return the loan. So they are least interested in getting loans from banks. So supply of loan decreases with the increase in the interest rate. In case of deposits, the trend is quite different from CPI and ROR. Advances are positively correlated with the deposits of previous period. There is no significant impact of deposits of particular period, on the advances of same period. So banks use previous month deposits to give advances in the current month. This conclusion is valid for both Islamic banks and commercial banks, because in Pakistan, both systems are prevailing. Although interest is not involved in Islamic banking system, these banks do benchmark prevailing rate of return in their major modes of financing like Modarabah, Morabah and Ijarah etc. So determinants of our study (Deposits, ROR and CPI) may have the same impact on Islamic banking system too.

There are some limitations in this study as well. The study focuses on the simple regression analysis techniques with quite few variables. In future, this limitation may be removed by selecting a more advanced analysis techniques of statistics as well as may include more variables in order to have a more rigorous analysis of supply of loans on the level of advances in Pakistan. Moreover, future research may focus on comparing the effect of current model for both Islamic and commercial banks operating in Pakistan which could further enhance our understanding of the objective under study.

REFERENCES

Alfredo SF (2001). Capital accumulation and the composition of capital. Res. Polit. Econ. 19(1):69-85.

Boyd JH, Champ C (2006). Inflation, banking, and economic growth. Working paper, Federal Reserve Bank of Cleveland, USA.

Hussain I (2005). Banking sector reforms in Pakistan. Reproduced from Blue Chip – The Bus. People's Mag. January.

Jacky M (2009). The Infinite loan machine: An examination of the effect of loan securitization on the fractional reserve banking system. Presented in the annual meeting of American Finance Association.

James C (1982). An analysis of bank loan rate indexation. J. Fin. 37(3):809-825.

Khan MS, Mirakhor A (1990). Islamic banking: Experiences in the Islamic Republic of Iran and Pakistan. Econ. Dev. Cult. Change 38(2):353-76.

Makiyan SN (2003). Role of rate of return on loans in Islamic banking system of Iran. Manag. Fin. 29(1):62-69.

Melnik A, Plaut S (1986). Loan commitment contracts: Terms of lending, and credit allocation. J. Fin. 41(2):425-435.

Nazir MS, Nawaz MM, Gilani UJ (2010). Relationship between Economic Growth and Stock Market Development. Afr. J. of Bus. Manage. 4(16):3473-3479.

Nier E, Zicchino L (2006). Bank weakness, loan supply and monetary policy. Working paper series, Bank of England.

Peek J, Rosengren ES, Tootell GMB (2003). Identifying the macroeconomic effect of loan supply shocks. J. Money Bank. 35(3):931-946

Roy DA (1991). Islamic Banking. Middle Eastern Stud. 27(2):427-456.

Slovin MB, Sushka ME (1983). A model of the commercial loan rate. J. Fin. 38(4):1583-1596.

Staharn P, Loutskina E (2008). Securitization and the declining impact of bank financial condition on loan supply: Evidence from mortgage acceptance rates. Paper presented at the Financial Cycles,' Liquidity, and Securitization Conference Hosted by the IMF Washington, DC, USA.