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The Profitability of the Banking Sector of Pakistan

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EXECUTIVE SUMMARY

The main objective of the present study is to examine the determinants of the profitability of the banking sector in Pakistan. For this purpose we take the level of bank advances, the level of bank deposits, the difference between the rate of return on advances and the rate of return on deposits (often referred as 'spread'), and the liquidity ratio as the main indicators of the profitability of the banking sector.

The analysis presented here shows that the intensity of economic activity is the main determinant of the profitability of the banking sector because an intensification of the economic activity increases bank advances and bank deposits. Interestingly, both the level of advances and level of deposits are sensitive to changes in the liquidity ratio: bank advances decline and bank deposits go up as the liquidity ratio rises- which is seen as an increase in the credibility of the banking system. Since the positive effect on the level of deposits is lower than the negative impact on the level of advances the net impact of changes in liquidity, depending on the level of advances and deposits, may be a decline in advances.

The 'spread' is positively affected by the level of economic activity. However, the data, presented in this study, show that the spread declined during late 1980s but increased during 1990s; which may indicate changes in the profitability of the banking sector; but, it may also reflect the increase in risk and rising operating cost in the banking sector.

There is a two-way relationship between the performance of the banking sector and the private saving and investment. In order to examine the impact of changes in the financial sector on the rate of

investment in the physical assets we estimate an investment function also. It turns out that rise in economic activity is strong determinant of investment in physical assets as well. However, as the level of private deposits in the banks rises the private investment in the physical assets goes down; which indicates that, on the average, financial assets have substituted for the private investment in physical assets.

The last section of the study examines the impact of recent Open Market Operation (OMOs) by the State Bank of Pakistan on the level of bank advances in the country. Based on our elasticity estimates, we can say that the impact of the OMOs on the profitability is going to be substantial if we take into account its impact on the assets position and the liquidity positions of the banks. Furthermore, the impact will be higher in the long run, as it will take into account the adverse effects on the level of economic activity and also on the level of fixed capital formation.

I. INTRODUCTION

Recently, the State Bank of Pakistan (SBP) has taken a number of steps to control the rate of monetary expansion in the country (see Appendix Table 1).[1] These actions will inevitably modify the profitability of the banking sector as they affect the level of advances, the level of bank deposits, the difference in the rates of return on advances and deposits, and the liquidity position of the banking sector.[2] During 1980–95, the bank advances increased at a rate of 16.78 percent per annum whereas the growth rate of bank deposits was 17.02 percent per annum. But the difference between the rate of return on advances (ra) and rate of return on deposits (rd), referred to here-in-after as the 'spread', changed a great deal during 1980–95; and especially during the 1990s. Also, the liquidity ratio has varied significantly over time (see Appendix Table 2). Thus, while the bank advances and deposits have been growing at the same rate the spread of the rates of return has changed significantly over time.[3]

In this paper we discuss the factors which are expected to influence bank advances, bank deposits, the size of the spread; and private fixed capital formation.[4] As an example of the specific

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[1]The central banks can control monetary expansion by changing the following variables: (1) the bank rate; (2) reserve requirements; (3) the discount rate; (4) sectoral allocation of funds; (5) liquidity ratio; (6) credit ceiling; and (7) open market operations. In Pakistan, recently government has concentrated mainly on the last option.

[2]Here the banking sector includes 'Scheduled Banks' only.

[3]The difference between rate of return on advances (ra) and rate of return on deposits (rd) is often called as "spread".

[4]In most studies dealing with the banking sector, the saving behavior is analyzed as compared to the private investment behavior. In this study we concentrate on the private investment behavior, as it is directly affected by the bank's capacity to give credit.

monetary policy instrument we also try to see how the recent increase in the frequency of the Open Market Operations (OMOs hereinafter) and the changes in the asset position of the banks may affect the profitability of the banking sector. A few concluding remarks are made at the end of the paper.

II. THE INDICATORS OF PROFITABILITY

In order to analyze the effects of the many actions taken by the State Bank of Pakistan on the banking system, the profitability of the banks must be appropriately measured, which can be defined in a number of ways. This can be done by focusing on: (1) the level of bank advances and level of deposits; (2) the size of the spread; (3) the ratio of banks liquid assets to liabilities (LR);[5] (4) the assets position of the banks; and finally, (5) the ability of the management to deploy its finances where the yield and efficiency of resource use is high. Each of these indices is reported in Appendix Table 2.

(a) Determinants of Bank Advances

To analyze the determinants of the level of bank advances (Adv) we regress it on the rate of return on advances (ra), the bank assets (ast), bank investment in government bonds and securities (gbs), the lagged gross domestic product (GDP), lagged bank advances (Adv(-1)) and the time trend (t). In an equation form we can write it as:

$$Adv = f(ra, ast, gbs, GDP(-1), t, Adv(-1)) \quad \ldots \quad \ldots \quad (1)$$

An increase in the rate of return on advances is expected to lower the demand for bank advances; while an increase in the bank assets is expected to provide a wider base for credit expansion. Therefore, the advances are likely to go up as the asset position of the banks strengthens. An increase in bank investment in the government

[5] A lower liquidity ratio lowers public confidence in the banking system whereas a higher liquidity ratio adversely affects the credit flow in the economy and lowers the over all profitability of the banks.

securities and treasury bills, which is the main policy instrument used by the government to control the level of liquidity in the economy, is expected to affect the bank advances positively as it curtails the supply of advances in the open market. The level of economic activity is expected to make a positive impact on bank advances as it not only increases the demand for advances but the supply of loanable funds as well. And, finally, bank advances lagged by one year are expected to expand the rate of advances as they reflect the adjustment between the desired and actual level of advances. The regression results of the two best equations are reported in Table 1.[6,7] The table shows that, as expected, the level of economic activity significantly affects the level of banks' advances positively. The effect of monetary policy on the bank advances is determined on the

Table 1

Determinants of Banks' Advances (Adv.)

C	ra	ast	gbs	GDP	Adv(–1)	t	LR	R-squ	F	RMSE
2.67	–0.46			1.125						
	–		–	–	–	–	–	0.985	398	0.085
(4.75)	(1.11)			(18.8)						
3.27	–0.006	0.227	-0.087		0.564	0.026	–0.197			
				–				0.995	236	0.064
(2.23)	(0.01)	(1.73)	(2.49)		(2.84)	(0.26)	(0.54)			

Notes: t-values are reported in parentheses.
Adv. = level of bank advances.
ra = rate of return on banks' advances.
ast = level of banks' assets.
gbs = banks' investment in government treasury bills and securities.
GDP = gross domestic product.
Adv(–1) =previous year's advances.
t = time trend.
LR = liquidity ratio.
C = intercept.

[6]All equations are estimated in double-log form. Therefore, the coefficients are also elasticity estimates.

[7]Only selected equations are reported in Table 1.

basis of coefficients of the bank assets and the bank investment in government securities and treasury bills.[8] The estimated equation shows that a tight monetary policy—e.g., an increase in bank investment in government bonds and securities—adversely affects the level of bank advances.[9]

Similarly, a high liquidity ratio decreases bank advances, but the effect is statistically insignificant. Yet another variable is the lagged level of bank advances, which positively affects the current level of bank advances. Interestingly, the rate of return on the bank advances (ra) makes only a negligible impact on advances, probably because it is not purely market determined.[10] The asset holdings of the bank (ast) exercise a positive effect on bank advances. *Thus, on balance, one would expect that a contractionary monetary policy will adversely affect the level of bank advances, and in so far as a tight monetary policy lowers the level of economic activity, the bank advances will also decline.*[11]

(b) Determinants of Bank Deposits

The commercial banks secure profits largely through the investment of their funds that are deposited with them. To analyze the factors that determine the changes in bank deposits, we regress this variable on the rate of return on deposits (rd), the number of accounts (Nacc), the level of economic activity (GDP), the liquidity ratio (LR), the time trend (t), and the lagged level of deposits (Dep(−1)). The equation can be specified as:

$$\text{Dep} = f(\text{rd}, \text{Nacc}, \text{GDP}(-1), \text{LR}, \text{t}, \text{Dep}(-1)) \quad \ldots \quad \ldots \quad (2)$$

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[8]Since these two variables are strongly correlated with the level of economic activity, the estimated coefficients are adversely affected if we include all these variables in one equation.

[9]Banks can buy securities freely when they have surplus funds, however, the statutory liquidity ratio sets a floor to their ability to sell government treasury bills in the open market.

[10]We also tried to identify the determinants of ra, but the exercise was not fruitful. The Bank Rate is the only variable, which influences ra significantly.

[11]The causality between the level of economic activity and the level of banks' advances may not be unidirectional. It may be more appropriate to examine this relationship in a simultaneous equation framework. This aspect will be analyzed in a later study.

The increase in rate of return on deposits is expected to affect the level of their deposits favorably because it encourages people to put more money in the banks. The increase in the level of bank deposits can also be a result of a rise in the number of accounts; especially because in a country like Pakistan, where a major proportion of population lives in rural areas and the level of monetization is quite low even as compared to many developing countries, this variable may be an important determinant of the level of deposits. As economic development raises the average level of savings, the level of economic activity is expected to have a positive effect on the level of deposits. It will also encourage financial intermediation. The lagged level of deposits is an indicator of the confidence of depositors. The regression results, reported in Table 2, show that the improvement in the level of economic activity increases the deposits almost proportionately and the coefficient is

Table 2

Determinants of Banks' Deposits (Dep.)

C	rd	GDP	Nacc	Dep(–1)	LR	R-Squ	F	RMSE
–6.85	0.06	1.055	0.500			0.997	1090	0.046
(2.34)	(0.85)	(7.19)	(1.02)					
–3.25	0.061		0.447	0.901	0.035	0.995	518	0.058
(0.72)	(1.07)		(0.68)	(5.46)	(2.15)			
–3.78	0.097	1.192				0.996	28	0.046
(2.17)	(1.61)	(54.32)						

Notes: t-values are reported in parentheses.
Dep. = level of bank deposits.
rd = rate of return on banks' deposits.
Nacc = number of bank accounts.
GDP = gross domestic product.
Dep(–1) =previous year's deposits.
LR = liquidity ratio.
t = time trend.
C= intercept.

statistically significant.[12] Also the *increase in the GDP comes out as the major factors affecting the growth of deposits.* The increase in the number of accounts does not affect the level of deposits significantly. This implies that an increase in the average level of deposits is mainly a result of the rise in the deposits of present account holders, as the increase in percent per annum during 1980-95. The previous year's number of account holders was slow, i.e., only 4.67 deposits also affect the current year's deposits significantly. Interestingly, the effect of changes in the liquidity ratio on the level of bank deposits is positive and statistically significant, which confirms our earlier assertion that an increase in the liquidity ratio increases the public confidence in the banking system which may eventually lead to an expansion of the bank deposits. However, if the contractionary effects of a tight monetary policy on the GDP dominate, then the effect on the level of bank deposits may be adverse.

(c) Determinants of Differences in the Rates of Return

The 'spread', meant to cover the operating cost, the risk, and the size of the nominal profits, also reflects the profitability of the banking system. Therefore, an increase in the spread may, on the one hand, reflect increase in the profitability of the banking system; but, on the other hand, it may mean a rising incidence of inefficiency in the banking system (if the increase in spread between ra and rd results from rising operating costs). The data on the spread suggest that it was declining in the 1980s but almost doubled during the 1990s (see Appendix Table 2). Does this mean rising inefficiency or higher banking profits? This issue, not addressed in this paper, needs to be analyzed in more detail.[13]

In this section, we include the level of economic activity (GDP), the private investment in fixed capital formation (PI), the

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[12]See footnote 6.

[13]In order to examine this issue we need the cost and employment data for the banking system. However, this information is not readily available.

lagged level of bank advances and lagged investment in government securities and government bonds as the primary determinants of the spread between the rates of return on the bank advances and bank deposits. The equation can be specified as:

$$(ra\text{-}rd) = f(GDP, PI, Adv(-1), gbs(-1), t) \quad \ldots \quad \ldots \quad \ldots \quad (3)$$

An increase in the GDP and the level of private investment is expected to improve the profitability of the banking system, but the bank investment in government bonds and securities is likely to affect adversely the profitability of the banking sector.

The results of the estimation, reported in Table 3, show *that the level of economic activity is the main factor contributing to the banks' profitability*. The spread declines as the level of bank advances goes up. As expected, an increase in private investment improves the profitability of the banking system. The reason may be that, while an increase in private investment increases the demand for

Table 3

Determinants of Differences in Rates of Return: (Spread)

C	GDP	Adv(–1)	PI	gbs	t	R-Squ	F	RMSE
–63.91	3.759		1.495	0.316	–0.764	0.802	10.15	0.139
(4.56)	(2.54)		(1.75)	(1.21)	(5.01)			
0.262		–0.903	0.990	0.260		0.422	2.60	0.218
(0.21)		(1.95)	(2.12)	(0.09)				
2.434	0.223					0.220	4.32	0.238
(1.69)	(2.08)							

Notes: t-values are reported in parentheses.
GDP = gross domestic product.
Adv(–1) = previous year's advances.
PI = private fixed capital formation.
gbs = banks' investment in treasury bills and securities.
t = time trend.
C= intercept.

bank advances, the rate of return on bank advances also goes up and the gap between the rates of return widens. The coefficient of the time trend shows a significant decline in the spread between the two rates. The impact of bank (statutory) investment in government treasury bills and securities on the spread is positive; but it is statistically insignificant. These results show *that the direct impact of a tight monetary policy on the spread is negligible. However, it may not be wise to be complacent about this; because such an impact will become significant if we take into account the negative impact of these policies on the level of investment and the level of economic activity.*

(d) Determinants of the Liquidity Ratio

As mentioned earlier, the liquidity ratio is also an indicator of the customers' confidence, and hence an indicator of profitability as well. The estimated relationship is following:

$$\ln (LR) = 15.492 - 0.566 \ln(GDP) + 0.176 \ln(gbs) + 0.19t \quad (4)$$
$$(2.33) \quad (1.02) \qquad (2.45) \qquad (2.74)$$

$$R = 0.99, \; F = 317.82, \; RMSE = 0.08$$

This equation shows that the level of economic activity affects the liquidity ratio negatively. This shows that a higher growth rate of the GDP results in a lower liquidity ratio. In other words, *an increase in the level of economic activity results in a higher demand for credit resulting in a lower liquidity ratio.* The effect of tight monetary policy is, as expected, positive; which means that the level of economic activity and the Government's monetary policy are the major factors affecting the liquidity position and the profitability of the banks. This result also supports our earlier assertion *that the impact of tight monetary policy may not be growth promoting.*

III. DETERMINANTS OF PRIVATE INVESTMENT

The investment in physical assets and in tangible financial assets becomes significant as the economy grows. The preceding

discussion reveals a statistically significant linkage between private investment and rates of return on bank advances (see Table 3). This raises the important issue of the substitution between the private investment in physical assets and that in financial assets, this problem has become important because the tight monetary policy being pursued by the government is expected to affect the credit availability to the private sector significantly.[14]

In order to examine these issues we regress private investment in physical assets on the level of economic activity (GDP), bank deposits (Dep), and the private investment in financial assets (S), lagged (previous year's) private investment (PI(–1)) and a time trend (t).

We can write it in equation form as:

$$PI = f(GDP, Dep, S, PI(-1), t) \quad \ldots \quad \ldots \quad \ldots \quad (5)$$

The results given in Table 4 show that the level of deposits and private investment in financial assets tends to crowd out (reduce) the private investment in physical assets. However, the coefficient

Table 4

Determinants of Private Investment : PI

C	GDP	Dep(–1)	rd(–1)	S(–1)	PI(–1)	R-Squ	F	RMSE
–5.09	1.123	–0.158	0.039	–0.378	0.309	0.998	926	0.039
(2.76)	(2.48)	(2.54)	(0.53)	(1.50)	(1.08)			
–6.759	1.520	–0.272	–0.002	–0.519	–	0.997	1138	0.039
(6.76)	(5.72)	(0.98)	(0.03)	(2.38)				
–7.227	1.686	–	-0.025	–0.383	–	0.997	1522	0.039
(8.23)	(8.21)		(0.44)	(2.27)				

Notes: t-values are reported in parentheses.
PI = private fixed capital formation.
GDP = gross domestic product.
Dep(-1) = previous year's bank deposits.
rd(-1) = previous year's rate of return on deposits.
S (-1) = previous year's private savings in saving schemes.
PI(-1) = previous year's private fixed capital formation.
C= intercept.

[14]Here private investment in the financial sector includes private investment in saving schemes only.

is not statistically significant. As expected, the level of economic activity contributes to private investment significantly. The impact of the rate of return (rd) is not clear; but the impact of lagged private investment is positive and statistically significant; which indicates that an adjustment to the desired level of capital stock is taking place.

IV. POLICY IMPLICATIONS

To highlight the key findings, we present here the elasticity estimates for different indicators of banks' profitability. The following points are important:

(a) *The intensity of economic activity is the main factor affecting the profitability of the banking sector in Pakistan; indeed the effect is more than proportional for bank advances and for bank deposits but it is rather small on the spread.*

(b) The impact of changes in the rates of return, i.e., ra and rd, on level of advances and deposits, respectively, is not statistically significant which suggests that so far in Pakistan the Bank Rate, the main factor influencing ra and rd, is not an effective tool of monetary policy.

(c) The effect of lagged dependent variables is statistically significant which implies that the impact of expectations on the level of advances and deposits is significant. This shows that a proper focus on expectation—which are formed by the previous year's level of advances and deposits and by the liquidity ratio—need to be manipulated to control the behavior of financial sector. We know that an increase in the reserve requirements result in higher liquidity ratio, which build public confidence in the banking operations; but it also contracts, the size of advances to the private sector. Thus a tight monetary policy which lowers the level of advances in the current year will lead to a greater decline in the bank advances in the next year. This result is also confirmed by

the negative sign of the elasticity estimates for the liquidity ratio and a positive sign of the elasticity estimate of bank advances, bank deposits and private investment with respect to the lagged dependent variables.

(d) The elasticity estimates with respect to the bank investment in government treasury bills and securities (gbs) should help us to form an idea as how much the recent government efforts to control liquidity would reduce the profitability of the banking sector. For example, it can be easily estimated that the recent Open Market Operations (OMOs), of the order of Rs 18804.94 million during November 1995 and January 1996, will lower credit expansion by the banking sector. The matter is significantly important to merit a detailed discussion. This is what we propose to do in the next subsection.

(a) Impact of Open Market Operations and Changes in Bank Assets on Banks Profitability

The recent efforts of State Bank of Pakistan (the Open Market Operations) are aimed to mop up excess liquidity in the banking sector. This will lower credit expansion as Open Market Operations affect the ability of the banks to give advances. In order to estimate the absolute amount by which total bank credit will contract due to Open Market Operations we need to consider the fact that an increase in the bank investment in treasury bills and securities generally lowers bank advances, and their profitability. *Our elasticity estimates show that a 10 percent increase in the sale of government treasury bills and securities will decrease the bank advances by 0.87 percent.* Now the recent Open Market Operation amounts to about 4.4 percent of the total current investment in government treasury bills and securities by the banks. This will lead to a decline in the bank advances and lower the credit expansion by Rs. 1636.03 million. This is approximately 0.35 percent of the existing bank

advances, which is negligible, so far.[15] [16]

However, recently State Bank of Pakistan has committed to the International Monetary Fund (IMF) to lower their net domestic assets by 33 percent. If the assets of the Scheduled Banks also decline by the same proportion, the total reduction in bank assets will be approximately equal to Rs 635.534 billion. This reduction in assets will lower the banks' capacity to give loans. The elasticity estimate, reported in Table 5, shows that *a 10 percent reduction in bank assets would decrease bank advances by 2.27 percent*. Therefore, if the assets of the Scheduled Banks decline by Rs. 635.534 billion, then advances will decline by Rs 144.266 billion (for details, see Table 6).

Table 5

Elasticity Estimates

Explanatory Variables	Advances	Deposits	Spread (ra-rd)	Private Investment
Rate of Return (ra, rd)	–0.006	0.063	–	0.039
GDP	1.125*	1.055	0.223	1.123
Assets	0.227	–	–	–
gbs	–0.087	–	0.316*	–
Own Lagged V.	0.564	0.901*	–	0.309
LR	–0.197	0.035*	–	–
Nacc	–	0.447*	–	–
Private Inv.	–	–	0.990	–
S	–	–	–	-0.378
Dep.	–	–	–	0.158

Notes: * indicates that the elasticity estimates are from an alternative estimated equation.
GDP = gross domestic product.
gbs = banks' investment in government treasury bills and securities.
Own Lagged V. = lagged (one year) value of dependent variable.
LR = liquidity ratio.
Nacc = number of accounts.
Spread = difference between the rate of return on deposits and advances.
S = private deposits in saving schemes.
Dep. = level of deposits.

[15]The recent rise in liquidity requirements by additional 1 percent of deposits for non-banking financial institutions will also adversely affect credit expansion. However, the extent of their impact on advances will depend on how far these institutions will abide by the banking regulations.

[16]Due to the data constraints we cannot analyze the impact of change in policies regarding certificate of deposits (COD) and certificate of investment (COI).[see item-5 in Appendix Table 1]

Table 6

Impact of Open Market Operations and Reduction in Banks' Assets in Pakistan on Bank Advances by June 1996

A. Impact of Open Market Operations	
Total value of Open Market Operation (Between Oct. 1995 and Jan. 1996)	Rs 18.805 billion.
If State Bank of Pakistan mops up of treasury bills greater the 10 billion the total value of these OMOs becomes	Rs 27.608 billion.
Elasticity of Bank Advances with respect to OMOs	–0.087 (–0.154)
Reduction in Advances	Rs 2.402 billion
B. Impact of 33 % Reduction in Bank Assets	
Bank Assets on June 1995	Rs 1925.86billion
Reduction by 33%	Rs 635.534billion
Elasticity of Bank Advances with respect to Bank Assets	0.227
Reduction in Advances	Rs144.266 billion
C. Total Reduction in Bank Advances	**Rs 146.668 billion (A+B)**
D. Current Bank Advances	Rs470.315 billion
E. Total	Rs 146.668 billion
F. Reduction as Percentage of total Bank Assets	31.19 %

Sources: Elasticity Estimates are reported in Table 5.
For the data on Assets and OMOs see Appendix Tables.

Similarly the State Bank of Pakistan is considering to mop up the liquidity on maturity of treasury bills of greater than Rs 10 billion. This action will increase the current addition of treasury bills by Rs 8.804 billion, which will result in reduction in bank advances by Rs 2.402 billion in the first round.[17]

Therefore, the recent actions of State Bank of Pakistan to control monetary expansion will lead to a reduction in bank advances by Rs 146.668 billion, i.e., which is approximately 31 percent of the

[17]The impact will be higher if this trend continues.

level of bank advances in June 1995. This reduction in total bank advances is substantial and it will adversely affect the level of economic activity in the country particularly the growth of the manufacturing sector. This result is in conformity with Naqvi (1996) who shows that the expected adverse impact of a sharp decline in monetary expansion (equaling 12.1 percent) are substantial for the manufacturing sector.[18]

V. CONCLUSIONS

In this note we have analyzed the factors which affect the profitability of the banking sector. In this regard we also examined the impact of recent government policy to control the level of liquidity on the profitability of the banking sector.

The estimated results, given in Tables 1–4, show that level of economic activity is the main factor affecting the level of advances and the level of deposits. The impact of economic activity is almost equal to one, which shows that any policy leading to a contraction (expansion) of economic activity will have a proportional positive (negative) affect on banks' profitability. Another interesting result is that the level of banks' advances and banks' deposits do not respond to changes in rates of return on them significantly.

An interesting aspect of this study is that the bank advances and deposits are affected by government actions. For example, the bank investment in government treasury bills and securities affects their profitability. Thus, the recent Open Market Operations are expected to lead to a very significant decline in bank advances. If we take into account the effect of assets reduction and the indirect effects of the State Bank of Pakistan's actions—i.e., the effect on economic activity and consequently on banks business—the magnitude of the negative effect of Open Market Operations and of reduction in bank assets on economic activity may becomes significantly large.

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[18]See Naqvi, S.N.H (1996), *Monetary Activism in Pakistan*: (Part II); MCB Discussion Paper No. 4, MCB Institute for Development Research, Muslim Commercial Bank.

Appendix Table 1

*Recent Policy Actions of State Bank of Pakistan**

1. State Bank of Pakistan accepted Rs 700 million at 12.75 percent yield in its Open Market Operations on 24th January 1996. The State Bank of Pakistan accepted approximately Rs 18804.94 million in its Open Market Operations during January 1996 and November 1995.

2. A maturity of Rs 1 billion of previous Open Market Operations was due on 24th January 1996.

3. Warning to some banks for not abiding by State Bank of Pakistan's regulations.

4. Liquidity crunch led banks' to go for a heavy discounting and increase in Repo-rates. [18th January 1996].

5. NBFI's can accept 90 percent of certificate of deposits (COD), certificate of investment (COI) and foreign investment bonds (FIBs) as collateral to issue loans. [16th January 1996].

6. NBFI's can not lend more than 20 percent of its equity. [16th January 1996].

7. NBFI's deposits 1 percent of their deposits as cash margin on zero rate of return with State Bank of Pakistan. [11th January 1996].

8. State Bank of Pakistan abolished credit-deposit ratio. [30th September 1995].

*We are concentrating on major steps taken by State Bank of Pakistan during October 1995 and January 1996. The dates in parentheses are for the issues of the NEWS (newspaper).
NBFI's are non-banking financial institution.

Appendix Table 2

Indicators of Profitability of the Banking Sector

Year	Advances	Deposits	(ra-rd)	LR	PI
1980	45918.9	67509.9	4.91	41.64	20000
1981	55888.6	77174.2	5.25	42.84	21608
1982	66479.7	86156.3	4.67	42.79	23331
1983	81145.8	110491.1	4.31	42.53	26758
1984	97366.4	126199.8	4.44	41.81	31419
1985	111899.5	139597.1	4.73	41.29	35840
1986	147551.4	170041.2	2.11	41.33	39959
1987	152852.2	198542.5	3.13	44.91	44349
1988	168705.2	218202.1	3.03	52.40	51769
1989	178471. 1	245487.3	2.94	51.59	64162
1990	216989.9	315144.4	2.36	42.60	76563
1991	235328.1	351668.8	3.89	44.61	91226
1992	279803.2	430905.4	6.02	42.36	118878
1993	332683.6	501652.3	8.18	40.22	134768
1994	395558.1	608773.1	7.98	38.19	150369
1995	470315.3	713236.2	8.65	47.39	173660

Source: Pakistan Economic Survey 1994-95.

Note: Advances, Deposits and Private Investment (PI) are in million rupees. Liquidity ratio (LR) is in percentage. ra is rate of return on advances and rd is rate of return on deposits.

Appendix Table 3

Determinants of Profitability (a)

Year	Gross Domestic Product	Number of Accounts	Assets (Rs Mln) (000)	Treasury Bills
1981	278,196	16,424.5	149,975.8	1,468.4
1982	324,159	17,750.4	170,147.8	1,451.5
1983	364,387	19,014.9	213,175.6	4,063.2
1984	419,802	20,174.4	248,792.8	2,607.6
1985	472,157	20,766.9	297,765.6	7,080.1
1986	514,532	21,517.7	359,821.2	19,845.6
1987	572,479	22,266.5	441,571.0	27,582.0
1988	675,389	23,273.9	503,456.2	44,646.3
1989	769,745	23,803.7	586,788.3	40,099.3
1990	855,943	24,323.8	721,304.2	27,223.6
1991	1020,600	24,567.9	874,185.3	31,206.2
1992	1211,385	26,111.5	1093,679.0	44,087.0
1993	1341,629	27,655.1	1313,172.7	62,284.6
1994	1564,645	28,413.6	1604,442.5	87,993.4
1995	1866,520	29,741.6	1925,860.8	124,313.9

Sources: Pakistan Economic Survey 1994-95.
State Bank Bulletin (various issues).

Appendix Table 4

Determinants of Profitability (b)

Year	Securities	Liquid Resources	Total Liabilities
1981	26,838.1	33,542.5	78,296.8
1982	28,769.4	37,754.5	88,239.2
1983	36,237.6	47,176.9	110,925.1
1984	38,189.4	51,503.2	123,188.2
1985	39,524.9	58,168.4	140,865.4
1986	53,678.7	71,707.0	173,512.6
1987	66,831.3	87,845.9	195,606.8
1988	89,644.0	116,185.3	221,728.3
1989	90,522.7	115,311.7	223,512.1
1990	78,620.7	111,978.4	262,873.1
1991	110,632.5	138,752.2	311,003.6
1992	147,636.8	163,455.1	385,860.4
1993	184,641.1	192,556.1	478,743.9
1994	231,087.2	226,838.0	593,963.7
1995	282,938.8	294,882.5	622,266.0

Sources: Pakistan Economic Survey 1994-95.
State Bank Bulletin (various issues).

ABSTRACT

The main objective of the study is to examine the determinants of the profitability of the banking sector of Pakistan. The level of bank advances and deposits, the liquidity ratio, and the 'spread' between rate of return on advances and rate of return on deposits, have been selected as the main indicators of the profitability of the banking system. The analysis shows that level of economic activity is the major determinant of the profitability of the banking sector. The study finds, somewhat unexpectedly, that the rate of return on advances and the rate of return on deposits may not be very effective tools to control the financial sector. In this study, we also examine the impact of recent Open Market Operations, and assets reduction measures undertaken by the State Bank of Pakistan to control credit expansion in the country. These actions may lower inflation as a result of lower liquidity but this will be followed by reduction in the level of economic activity and lower fixed capital formation in the country, which is not a desirable outcome. At present the direct impact of these measures does not seem very prominent but its adverse effects may start emerging if the State Bank of Pakistan continues to use Open Market Operations to control liquidity and if the State Bank of Pakistan reduces its assets in order to fulfill the IMF conditionality.