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Determinants of Interest Spread in Pakistan

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ABSTRACT

Interest spread of the Pakistan's banking industry has been on the rise for the last two years. The increase in interest spread discourages savings and investments on the one hand, and raises concerns on the effectiveness of bank lending channel of monetary policy on the other. This study examines the determinants of interest spread in Pakistan using panel data of 29 banks. The results show that inelasticity of deposit supply is a major determinant of interest spread whereas industry concentration has no significant influence on interest spread. One reason for inelasticity of deposits supply to the banks is the absence of alternate options for the savers. The on-going merger wave in the banking industry will further limit the options for the savers. Given the adverse implications of banking mergers for a competitive environment, we argue that to maintain a reasonably competitive environment, merger proposals may be subjected to review by an antitrust authority with the central bank retaining the veto over merger approval.

JEL Classification: G21, E43, G34
Keywords: Banks; Determination of Interest Rates; Mergers; Acquisitions

1. INTRODUCTION

Interest spread, the difference between what a bank earns on its assets and what it pays on its liabilities, has been on an upward trend during the last few years: during 2005 the average interest spread of the banking sector has increased by 2.14 percent. An increase in the interest spread implies that either the depositor or the borrower or both stand to loose. In the context of developing economies, the lack of alternate avenues of financial intermediation aggravates the adverse impact of increase in spread.[1] Interest spread also has implications for the effectiveness of the bank lending channel. For example, with a commitment to market based monetary policy, the central bank influences the yield on treasury bills (T. bill hereafter) that in turn affects the deposit and lending rates.[2] The change in these rates influences the cost of capital that in turn affects the level of consumption and investment in the economy. If the pass-through of the changes in yield on T. bill rate to the deposit and lending rates is asymmetric then this changes the spread, for better or worse, depending upon the nature of asymmetry. If the increase in spread is due to lower return to depositors then this discourages savings; alternatively if it is due to higher charge on loans, investment decisions are affected. In either case the increase in spread has an adverse bearing upon the effectiveness of bank lending channel of monetary policy and has therefore important implications for the economy.[3]

This paper explores the determinants of interest spread in Pakistan focusing in particular on inelasticity of deposits supply to the banks and industry concentration. Another question addressed in the paper is: should the proposed bank Mergers and Acquisitions (M&As) be reviewed by, besides the central bank, antitrust/competition authority as well. In general, antitrust authorities review mergers from the perspective of the latter's impact upon competitive

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[1]For example Peria and Moody (2004) argue that the impact of increase in spread could be severe as the capital markets are relatively less developed and a sizable percentage of agents depend on banks for their financial needs.

[2]For a comprehensive discussion on channels of monetary policy, see Mishkin (1995).

[3]For discussion and empirical evidence regarding the impact of monetary policy on the level of real economic activity see Friedman and Schwartz (1963), Romer and Romer (1989), and Bernanke and Blinder (1992). Also, Samuel and Valderrama (2006) find that wide bank spreads in Barbados may have contributed to low rates of private investment and economic growth.

environment. Banking industry in Pakistan is currently witnessing a growing trend towards Mergers and Acquisitions (M&As), not least because of impending implementation[4] of Basel Accord II to which Pakistan is a signatory. To ensure that the banks remain financially sound, the accord links the capital that a bank is required to hold with its risk weighted assets (RWA) and requires that the capital of a bank be 8 percent of the bank's risk weighted assets. Accordingly, the State Bank of Pakistan (SBP) has asked commercial banks to raise their capital gradually to the level of Rs 6 billion, till the end of 2009. Some of the banks that have less capital than the required level and/or are facing difficulties in raising capital through equity injection or reinvestment of profits are opting for mergers to bring their capital to the requisite level.

Section 2 presents a brief review of the literature on determinants of interest spread. Section 3 spells out the methodology whereas Section 4 presents the empirical findings. Section 5 examines the case for allowing the antitrust/competition authority to review proposed mergers if the competition stands to reduce below a certain specified threshold level. Section 6 concludes the discussion.

2. DETERMINANTS OF INTEREST SPREAD: REVIEW OF LITERATURE

A substantial body of literature has explored various determinants of interest spread including: (i) market structure of the industry; (ii) bank specific factors; (iii) macroeconomic variables; and (iv) financial regulations. The industrial organisation literature predicts that an oliogopolistic market structure may result in higher spreads [Samuel and Valderrama (2006)], though the empirical evidence on this count is mixed. Hannan and Liang (1993) and Barajas, Steiner, and Salazar (1999), among others, suggest that industry concentration may lead to higher spread. However, Classens, and Laeven (2004) argue that a better measure of competition is contestability, proxied by Panzar and Rosse (1987) measure of bank behavioural response. The authors find that contestability is enhanced by free entry and lesser regulations. Ho and Saunders (1981) view the bank as 'a dealer', a demander of deposit and supplier of loans. According to this study, bank interest margin depends on four factors: (i) the degree of bank's management risk aversion; (ii) market structure of the industry; (iii) average size of bank transactions; and (iv) the variance of interest rates. The authors also make the point that a number of imperfections and regulatory restrictions have an impact upon spread. They consider the probability of loan defaults and opportunity cost of holding mandatory reserves as additional variables that influence the spread, though these are not included in their theoretical model.

[4] The accord is to be implemented from January 2008.

3. METHODOLOGY AND DATA

To examine the determinants of interest spread for Pakistan's banking industry, we employ a variant of the model used by Peria and Mody (2004). The original motivation is from the dealership model of bank spreads developed by Ho and Saunders (1981), extended by Allen (1988) and Angbazo (1997). These models predict that market structure of the banking sector, macroeconomic variables, operating costs, regulatory costs and the credit risk can affect spreads. In addition, we include another variable viz. inelasticity of deposit supply to banks as a determinant of interest spread. This variable can also be thought of as insensitivity of deposits to interest rate. Our model is:

$$y_{it} = \alpha_O + \beta X_{it} + e_{it} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

Where y_{it} is interest spread defined as the difference between interest earned on average assets and interest paid on average liabilities, (α_0, β) is a vector of parameters, e_{it} is a stochastic error term, and X_{it} is a vector of explanatory variables that includes:

Industry Variables:

i. Concentration
ii. Deposit Inelasticity.

Firm Variables:

i. Market share
ii. Liquidity
iii. Administrative cost
iv. Non-performing loans of bank loans equity.

Macro Variables:

i. Real Output
ii. Inflation
iii. Real interest rate.

The literature on industrial organisation offers two competing hypotheses. The structure-conduct-performance(s-c-p)hypothesis holds that market concentration encourages collusion that in turn enables the firms in the industry to engage in rent-seeking. The (s-c-p) is based on the axiom that sellers' concentration lowers the cost of collusion and therefore allows the firms to engage in tacit/explicit collusion. Given market power a bank would pay relatively less on its liabilities and earn more on its assets, thereby increasing the spread. If s-c-p holds then the coefficient on the concentration variable has a positive sign.

Efficient-structure hypothesis on the other hand asserts that concentration is the consequence of the efficient operations of the leading firms in the industry. Because of their efficient operations these firms earn economic or

Ricardian rent. To the extent that efficiency is represented by lower marginal cost of producing output of a given quality, banks in concentrated markets should find it advantageous to offer higher interest on loans and charge lower interest on deposits, thereby decreasing the spread. Thus if the efficient-structure hypothesis holds then the coefficient on the concentration variable has a negative sign. The two hypotheses have been tested extensively for the banking industry as well [see Berger and Hannan (1989].

Of the two competing hypotheses, we test for the s-c-p only. We do not test for efficient-structure hypothesis because our *a priori* belief is that concentration of banking industry in Pakistan, of whatever degree, is not the result of the *efficient operations of the leading firm in the industry*— the basis of the hypothesis. Rather we argue that the concentration is due to restricted entry. To elaborate, Pakistan's banking industry mainly constitutes three heterogeneous groups of banks: (i) the five major banks,[5] that were nationalised in 1973 and four of them have been privatised, one by one, between 1991 and 2002; (ii) domestic banks, that were allowed to be opened in private sector from 1991 onwards; and (iii) foreign banks that till recent past were allowed to operate only through limited number of branches. Given this characterisation of the banking industry it is obvious that till 1991 the five nationalised banks mainly constituted the banking industry and hence the concentration. This has little to do with efficient operations. Rather, perhaps the lack of competition adversely influenced the efficiency of these banks. Even now it is not implausible to assume that hang over from the past, at least to some extent, persists.

We argue that inelasticity of deposit supply to banks or the interest insensitivity of deposits is also a determinant of spread. Theoretically, changes in T-bill rate are passed on to the deposit and lending rates of the banks. Greater the inelasticity of deposits the less compelled a bank would be to pass on the increase in T-bill rate to deposits, thereby increasing the interest spread. Therefore we hypothesise a positive sign on inelasticity of deposit supply.

Besides concentration and inelasticity of deposit supply, the remaining variables in Equation (1) are control variables. High liquidity ratio, whether self-imposed or the result of regulations, inflicts a cost upon banks as they have to give up the opportunity of investing these funds in alternate high yielding assets, like loans. Accordingly the coefficient is hypothesised to have a positive sign. Liquidity is measured as the ratio of banks liquid assets to total assets. If banks intermediation cost (i.e. administrative cost) is high, they are likely to offset it by charging their customers higher spread. Non-performing loan (NPL) negatively affects the spread. This variable captures the credit risk. Higher the credit risk, higher the spread is likely to be. The reason is that the equity holders demand risk

[5]National Bank of Pakistan, Habib Bank Ltd., United Bank Ltd., Muslim Commercial Bank, Allied Bank Ltd.

adjusted return. To put it more simply given a targeted spread, the actual spread varies positively with NPLs, because what the bank fails to recover from the not-so-good borrower it attempts to recover from the good ones, thereby raising the spread. Holding large equity, whether on a voluntary basis or as consequence of a regulation, is costly and therefore varies positively with spread. Banks market share is the ratio of each bank's deposits to total system's deposits. To the extent that the market share gets translated into market power, the relationship between market share and spread is hypothesised to be positive. However larger banks may reap scale economies and transfer some of the benefits to their customers in the shape of lower spread. Given the conflicting expectations the ultimate hypothesised sign of market share is held ambiguous.

Given that interest spreads can be influenced by macroeconomic environment we control for real output, inflation and the policy interest rate (T. bill rate). Real output growth is included to capture the affect of business cycles discussed by Bernanke and Gertler (1989). The authors argue that borrowers' creditworthiness is countercyclical. The reason is that slowdown in economic activity affects borrowers' fortunes and hence their creditworthiness. The change in creditworthiness would affect the lending rate charged to the borrower that would be reflected in the changed spread. Inflation is included because if inflation shocks are not passed on equally in terms of magnitude as well as speed to deposit and lending rate then the spread would change. Finally we include the interest rate that reflects monetary policy stance; again if the changes in policy rate are not transmitted equally, to the deposit and lending rates then the spread would be influenced.

Interest Spread is measured as the return on average assets minus the cost of average funds. Return on average assets has been worked out as the total interest income earned over average assets. The average assets include average loans and advances plus liquid, interest earning investments. All averages have been worked out by taking average of the balances held at the beginning and end of the year. Average cost of funds is worked out as total interest paid by the bank over all borrowed funds (Deposits plus Borrowings). Concentration is measured by Hirschmann-Herfindhal index.

We use the interest insensitive deposit accounts as proxy for the inelasticity of deposit supply to the banking industry. We view, deposit accounts, other then deposits of fixed maturities as interest insensitive. Thus the ones considered interest insensitive are Current Account, Savings Account and other accounts. The current account does not pay any interest and is thus obviously interest insensitive. The account holder deposits money in this account for features other than generation of interest income. These features include the option to withdraw large sums of money at no or very short notice and the use of bank's clearing facilities to execute monetary transactions. A customer may like to have a current account in one or the other bank due to difference, in service quality and location etc. among the banks, but given his

reasons for depositing, he cannot take money out of the banking system. Thus for the industry as a unit the supply on this count is inelastic.

Savings Account offers relatively low rate of interest as compared to Fixed Deposit Accounts, but allows the depositor to withdraw his money at will without any penalty being charged. The depositors placing money in Savings Account are, typically, small account holders who cannot predict as to when they would have to withdraw. The uncertainty about the timing of withdrawal, short period for which the depositor wants to place money in the bank and smaller amount of money that is available for placement, extremely limits depositors' alternate options for placement of funds. This is especially true for Pakistan where capital markets are insufficiently developed, investment in securities traded at stock market is perceived very risky, given the fluctuations in stock prices and other investment opportunities are considered less liquid. In sum, again, for the banking industry as a single unit the supply of deposit in savings account is more or less inelastic. Other deposit accounts constitute a negligible percentage of the total deposits and their inclusion on either side is not likely to alter the results. We consider these as interest insensitive and hence their supply to banks as inelastic.

Market share of each bank is the bank's total deposits as percentage of the total industry deposits. Liquidity is measured as the ratio of liquid assets to total assets. Administrative cost is the ratio of bank's administrative expenses to bank's total assets, NPLs is the ratio of provisions for bad and doubtful debts to earning assets and Equity is the ratio of bank's equity to total assets. Data on the variables referred so far are from *'Banking Statistics of Pakistan'* published annually by State Bank of Pakistan (SBP). The data on the three macroeconomic variables, viz. Real output growth, inflation and monetary policy rate (six-months T.Bill rate is used as the policy rate) are from annual reports of SBP.

Panel data of 29 banks (see list in Annex-A) for the period from 1998 to 2005 are employed in the study. As of now the commercial banks number 35, however to have balanced data we have excluded the banks that were non-existent in 1998. Similarly the banks that do not exist today but were operating in 1998 have not been included. The use of panel data allows us to identify and measure effects that are simply not detectable in pure cross-section or pure time-series data. Models based on panel data can be estimated using either the random effects model or the fixed effects model. The random effects model assumes the exogeneity of all the regressors with random individual effects while fixed effects model allows for the endogeneity of all the regressors with these effects [Baltagi (2001)]. As we have no reason to assume that regressors included in our model are exogenous therefore we use the fixed effects model.

4. EMPIRICAL FINDINGS

Parameters estimates obtained from Equation (1) are presented in Table 1.

Table 1

Coefficient Estimates of Equation (1)

Variable	Coefficient	*t*-statistic
Concentration	–0.002	–0.97
Inelasticity	0.17	1.98
Liquidity	0.03	2.59
Market Share	0.03	1.67*
Equity	0.009	0.40
Non-performing Loans	0.02	1.72*
Administrative Cost	0.17	1.66*
GDP Growth	–0.55	–3.07
Inflation	–0.08	0.59
Interest Rate	0.23	1.64*

*Significant at 10 percent level.

The variables of our interest are inelasticity of deposit supply and concentration. Inelasticity of deposit supply has a positive and significant impact on spread whereas concentration does not cause a statistically significant influence upon interest spread. We argue that the very high level of inelastic deposit supply leaves little incentive to the bankers to adopt competitive practices and therefore the concentration ratio, which captures the level of competition, fails to exercise an influence upon spread. To elaborate, it is important to note that inelastic deposits constituted as much as 81 percent of the total industry deposits in 2005 (Table 2). Fixed deposits as percentage of industry deposits have been declining with the decline in interest rate [T.bill rate, (column 4)], thus pointing towards the elastic/interest sensitive nature of fixed deposits. The decline in fixed deposits has in turn increased the composition of inelastic deposits. With the disintermediation of fixed deposits from the banking system, the banks, being left largely with inelastic deposits, were not too inclined to pay attractive returns on deposits, hence the rise in spread.[6] It is also apparent from Table 2 that the composition of deposits in 1998 had a clear tilt towards inelastic deposits. This tilt continued to aggravate during most of the data span. The interest spread (column 4) increased by 2.14 percent in 2005 owing to a 2.86 percent increase in interest earned on earning assets and 0.72 percent increase in the cost of bank funds (that mainly includes interest paid to depositors).

[6]It is no coincidence that the period (i.e., 2002-04) during which the percentage of fixed deposits was very low, real estate prices in Pakistan were on the rise and had skyrocketed by 2004. This implies that at least some part of the fixed deposits withdrawn from the banking system had probably ended up in real estate market. This also points towards the lack of alternate depository avenues.

Table 2

Deposit Supply Elasticity and Interest Spread (Percent)

Year	Inelastic: Current+Savings+ Others	Elastic: Fixed	Interest Spread	Six Months T. Bill Rate
1998	67	33	7.38	11.87
1999	69	31	7.68	10.10
2000	71	29	7.82	10.96
2001	75	25	8.69	7.93
2002	77	23	6.75	4.32
2003	85	15	4.84	1.64
2004	83	17	4.51	3.73
2005	81	19	6.65	8.25

The observed negative relationship of interest spread with real output, is in accordance with the business cycles effect discussed by Barnanke and Gertler (1989). As mentioned earlier, according to the authors, during recession the creditworthiness of the borrower declines and therefore he can borrower only at a higher interest rate, and this raises the spread. Therefore we observe a negative relationship between spread and real output. The positive relationship of the spread with liquidity is due the fact that as the liquidity increases, the bank's appetite for deposits decreases therefore the bank pays less on deposits thereby raising the spread. The positive relationship of interest spread with non-performing loans and administrative cost implies that as the profitability of the bank decreases due to increase in non-performing loans or administrative cost, the bank recoups the losses by increasing the spread, that is, either charging more on loans or paying less to depositors or some combination of the two. Finally the positive relationship of the spread with market share implies that higher market share gets translated into higher market power thereby enabling the bank to raise the spread to the detriment of its customers. Its noteworthy here that we hypothesised an ambiguous sign on market share because increase in market share may allow the bank to reap scale economies and thereby allow the bank to transfer some of the benefits to its customers in the shape of lower spread. The fact that the sign on market share is not negative implies that scale economies perspective is not valid in case of Pakistan's banking industry.

5. BANK MERGERS

In recent years, there has been a growing trend towards Mergers and Acquisitions in the banking sector. Austin (2002) argues that poorly conceived or badly executed M&As can present risks to the participating banks, the banking system and other economic sectors [Austin (2002)]. M&As on the one

hand allow the merging banks to reap scale economies thereby improving efficiency, on the other hand these tend to lessen competition. Given the adverse impact of M&As on competition, merger proposals in number of countries are scrutinised and at times even blocked if the degree of competition is expected to fall below a certain threshold level due to merger/acquisition. We find that concentration ratio in banking industry is close to the conventional threshold level of 1000 and any further decrease in competition due to mergers may call for review from antitrust perspective.

In the United States, mergers and acquisitions, besides being approved by the Fed, require approval by another agency that specifically looks into mergers. Additionally, the antitrust division of the department of justice issues advisory reports on competitive aspects of all bank mergers and is empowered to bring suit against merger proposal that it believes will have significant adverse impact on competition. As of now, the scrutiny and the approval of the banking mergers in Pakistan fall under the sole jurisdiction of the State Bank of Pakistan, the regulator of banks. Neither the criteria employed for the purpose are easily available, nor an institutional mechanism exists to seek public opinion or take into account grievances of the stake holders, especially those of depositors. It is worth mentioning here that a proviso of the code *Good Transparency Practices for Financial Policies by Financial Agencies* developed by IMF[7] says that:

> Financial policies should be communicated to the public in an open manner, compatible with confidentiality considerations and the need to preserve effectiveness of actions.

According to Austin (2002) the objective of the review by the antitrust authorities is:

> "a determination of whether, within the identified geographic and product markets, the effect of transaction will be to substantially lessen competition".

Typically, the likely affect of M&As on competition is tested by employing a measure of industry concentration. More often the concentration is measured in terms of the Herfindahl-Hirschman Index (HHI). The HHI measures industry concentration in terms of relative size of the competitors. Adding the squares of market shares of all banks in the industry, yields the HHI. The credit market share or deposit market share is used as a measure of the market share. The HHI approaches zero when market is served by large number of players of equal size and it goes to 10,000 in case of a perfect monopoly. Under the merger guidelines published by antitrust division of United States, an

[7]International Monetary Fund, Code of Good Practices on Transparency in Monetary and Financial Policies: Declaration of Principles, (September 26, 1999), and related Factsheet entitled Transparency in Monetary and Financial Policies (March 2001).

industry, other then banking, with post-merger HHI below 1000, is considered un-concentrated; between 1000 and 1800, as moderately concentrated and above 1800 as highly concentrated. In industries, other then banking, a merger generating a raise of 50 points or more in HHI in a highly concentrated industry raises significant concerns. However in banking industry, the US department of Justice allows an increase of 200 points. In US, the higher than normal threshold concentration levels for banking industry are meant to take into account the competitive effect of limited purpose lenders, that are alternate to banks, such as credit unions, saving and loans association and other non-depository institutions. However in Pakistan the competition to banking industry from other Depository/lending institution being non-existent, as emphasised by our finding regarding the main determinant of interest spread, one cannot convincingly argue for applying a concentration ratio higher than that applicable to other industries. We feel that research avenue exists for developing our own threshold concentration level based upon specifics of the industry. But for the moment, given the absence of financial intermediaries that serve as alternate to banks, we take the general US criteria, that is, HHI above 1000 points and raise of 50 points due to merger as the condition that would call for review of M&As proposal by antitrust/competition authority (see Annex-B for an illustration of HH index).

The actual trend of banking industry's concentration based on HHI is presented below.

Table 3

Banking Industry: Concentration

Year	Concentration Ratio (HHI)
1998	1,385
1999	1,446
2000	1,403
2001	1,320
2002	1,200
2003	1,112
2004	1,030
2005	912

Source: Based on Deposit Market Share.

Though the industry concentration had been on a declining course but it is still close to the threshold level that should invite review from antitrust perspective. A merger or two can push the concentration above the threshold level of 1000. Whatever the concentration level it is useful to examine the cause of decline in concentration. This cause is apparent from a look at the trend of market share composition, presented below in Table 4.

Table 4

Deposit Market Share

Year	Five Major Domestic Banks	Banks Established in Private Sector since 1991
1998	74.4	10.6
1999	76.9	10.4
2000	75.1	11.9
2001	72.2	14.8
2002	68.9	17.7
2003	66.2	20.7
2004	62.4	24.4
2005	57.8	29.0

It is clear from Table 5 that the five major banks that had been in the market for a long time now and were protected from competition due to restricted entry till 1991 have lost a significant part of their market share to private banks with opening up of the banking industry to the private sector. (The share of foreign banks, not shown in the table, has not seen a significant shift).

Table 5

Banking Industry Concentration HHI: Pre and Post-proposed Acquisition of UBL by MCB in 2001

	Deposits (Rs in Bil.)	Market Share (Deposit) (%)	Contribution to HHI (Square: col. 3)
Pre-Merger			
MCB	155	10.93	120
UBL	141	9.94	99
All Banks	1,418*		
MCB and UBL			219
HHI (Industry)			1320*
Post-Merger			
MCB-UBL (Merged)	296	20.87	436
All Banks	1418*		
HHI (Industry)			1539**
Increase in Industry Concentration due to Merger			219

* Shown in Table 3.

**Worked out separately taking into account deposit market share of 29 banks (list at Annex A).

Using an actual case from Pakistan's banking industry, as an illustration, we make the point that taking into account pre and post-concentration ratios is important while approving bank mergers. In year 2001 United Bank Limited (UBL), then a nationalised bank, was put up for sale under the privatisation programme. Muslim Commercial Bank (MCB) that had already been privatised by then, made a bid for UBL and its bid being the highest, the sale was initially approved but was later withdrawn given concerns raised in the print and electronic Media. Based on the market share enjoyed by the two banks, we present below what the pre and post-merger concentration ratios (HHIs) would have been, had the proposed Acquisition gone through.

The figures given in Table 4 indicate that had the proposed acquisition materialised, the industry concentration, measured by HHI would have gone up 219 points which is much more than the 50 points criteria argued earlier. The second condition of the criteria is that the post-merger concentration ratio should be more than 1000 points. The table shows that this condition is also fulfilled. Thus given our criteria the proposed acquisition of UBL by MCB should have attracted review by antitrust/competition authority and the merger should not have been allowed had the sponsors failed to satisfy the authority that there are socially beneficial factors that would offset the adverse impact of reduced competition. This is the practice in countries where the mergers fall under the jurisdiction of antitrust authority.

Once it is agreed upon that bank mergers need to be subjected to review from antitrust perspective the issue arises that which agency should conduct the review; the regulator (central bank) or some antitrust/competition authority. Austin (2002) argues that regulator's interest in preserving the stability of the banking system leans towards greater concentration while public's objective of maximising its return calls for a competitive banking industry. As central bank is a party to the conflict, it is not appropriate for it to conduct review from antitrust perspective. However, the central bank is still the most suitable authority for looking into mergers from other perspectives like financial soundness. The middle ground then is that the central bank should accord merger approval while at the same time the antitrust authority should have the power to block mergers if these carry the potential to reduce competition below a certain specified degree.

6. CONCLUSIONS

This study has investigated the determinants of interest spread of the banking industry in Pakistan, and has explored whether there exists a case for bringing banking mergers and acquisitions under the purview of antitrust authority. Given the specific features of banking industry in Pakistan such as the non-existence of financial intermediaries that can serve as an alternative to banks for small savers, we included inelasticity of deposit supply to banks as a

determinant of interest spread. The results show that inelasticity of deposit supply has a positive and significant impact on spread whereas concentration does not cause a statistically significant influence upon interest spread. We argue that the very high level of inelastic deposit supply leaves little incentive to the bankers to adopt competitive practices and therefore the concentration ratio, which captures the level of competition, fails to exercise an influence upon spread. We feel that the emergence of alternate financial intermediaries is essential for lowering the spread. Meanwhile, the regulator can perhaps play some role in lowering the spread.

Secondly the study has explored the question of whether or not the on going M&As in Pakistan's banking industry should fall under the jurisdiction of antitrust authority. Given that current level of industry concentration is close to the threshold level found in literature for initiating such review, we feel that there is a case for bringing M&As under antitrust review. At present no law in this respect exists in Pakistan. We hasten to add that central should enjoy the veto over the decision in favour of M&As but the antitrust/competition authority should enjoy the power to block M&As if these are considered inimical to public interest.

Annexures

Annexure-A

Banks Included in the Study

1	Allied Bank of Pakistan
2	Askari Bank Limited
3	Al-Habib Bank Limited
4	My Bank Limited
5	First Woman Bank
6	Habib Bank Limited
7	Alfalah Bank Limited
8	Metropolitan Bank Limited
9	Muslim Commercial Bank
10	National Bank of Pakistan
11	Prime Bank Limited
12	Soneri Bank Limited
13	Union Bank Limited
14	United Bank Limited
15	Faysal Bank Limited
16	Bank of Punjab
17	Khyber Bank Limited
18	PICIC Commercial Bank
19	AL-Baraka Limited
20	ABN Amro
21	American Express Bank
22	Oman Bank Limited
23	Tokyo Bank
24	Citi Bank
25	Deutsche Bank
26	Habib Bank A.G. Zurich
27	Hong-Shinghai Bank
28	Rupali Bank
29	Standard Charterd Bank

Annexure-B

The operation of Herschman-Herfindhal index is described below.

Assume that the six banks indicated in the table below constitute the banking industry. Each of the four of the banks in the industry enjoy 20 percent share of the market. The two other banks are relative smaller with 10 percent share each of the market. We show below what happens to the HHI in case of merger of two large banks, A & B (with share of 20 percent each), a large bank and a small one, D & F (with share of 20 percent and 10 percent respectively) and two small banks E & F (with market share of 10 percent each). It is evident from the table that merger between two large banks is potentially more harmful from competitive point of view, as it increases concentration by 800 points while merger between two small banks causes an increment of 200 hundred points in concentration.

		Concentration Ratio			
		Pre-	Post-Merger Scenarios: Banks Banks		
	Market Share (%)	Merger HHI	A&B HHI	D&E HHI	E&F HHI
A	20	400	–	400	400
B	20	400	1600	400	400
C	20	400	400	400	400
D	20	400	400	900	400
E	10	100	100	–	400
F	10	100	100	100	
HHI		**1800**	**2600**	**2200**	**2000**

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