MACROPRUDENTIAL ANALYSIS OF FINANCIAL CRISIS IMPACT ON THE SOUNDNESS OF BANKS: EVIDENCE FROM PAKISTAN

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ABSTRACT

Recent Global Financial Crisis have highlighted issues in quality of regulation and supervision in the financial sector, and tested the effectiveness of the micro-prudential approach in identifying and mitigating the risks faced by these systems in various jurisdictions. With increasing complexity in banking, coupled with growing severity of the crises, the focus of regulators has shifted to the adoption of Macroprudential framework to address interconnectedness of financial and non-financial institutions in the economic system (Karadr, 2011). In recent past, an increasing amount of work has been done on such indicators as part of efforts to strengthen the international financial architecture. Paul Hilbers, Russell Krueger and Marina Moretti defined broadly Macro prudential indicators (MPIs) as indicators of health and stability of financial system (Finance and Development, 2000). The GFC not only affected the US financial system, but due to contagion effects and global economic interdependence of regions, it has become the global phenomenon for developed as well as developing countries. Pakistan financial sector was also affected by the shocks of GFC, particularly its banking industry suffered the most. The objective of this paper is to examine the impact of 2007-08 Global Financial Crisis (GFC) shocks on the soundness of banks operating in Pakistan with the application of Macro-prudential tool 'Stress Test'. Macro-prudential analysis uses a variety of stress-testing techniques to gauge the financial system's resilience to shocks and CLSA-Stress Test is one of them. To that end this study will apply a strict Pass/Fail test system called the CLSA-Stress Test. Results show that GFC has shown adverse effect on banks soundness during the crisis period (2007-09) as compared to post-crisis period (2009-12).

Key Words: Macro prudential indicators, Global Financial Crisis, Banks' Soundness, Pakistan

JEL Classification: G21

1. Introduction

Pakistan undertook major financial sector reforms starting in the late 1980s (Daniel 2001). Financial market deregulation and liberalization has transformed the banking system of a large number of countries over the last two decades. Pakistan was one such country that, during 1988 to 1992, very substantially deregulated interest rates and the allocation of credit, liberalized entry into the sector and privatized major state-owned banks, and introduced modern prudential regulation and supervision. The reforms did allow all banks, including public sector banks, to improve their underlying revenue performance, and especially the privatized banks seem to have succeeded in expanding their revenue base and in this way regaining profitability.

Scholars of the historical development of the banking system (Beckhart 1954; Wilson 1986) attribute much of the variation in the structure of banking systems across countries and across time to regulatory policy. In recent years regulatory policy has increasingly emphasized a more competitive financial system, and as a result banks in most industrial countries have experienced dramatic increase in competition. The paper illustrated formally some of the macroeconomic benefits of a more competitive banking system: Increased competition in banking tends to increase the level of economic activity and reduce the severity of business cycles.

In the history of crises, the GFC were the worst since 1930 that has significantly shivered the landscape of the financial setups around the globe. The GFC not only affected the US financial system, but due to contagion effects and global economic interdependence of regions, it has become the global phenomenon for developed as well as developing countries. Pakistan financial sector was also affected by the shocks of GFC, particularly its banking industry suffered the most.

Finance and Development published an IMF study on ‘New tools for Assessing Financial System soundness’ in its September 2000. Paul Hilbers, Russell Krueger and Marina Moretti defined broadly Macro prudential indicators as indicators of health and stability of financial system. In recent past, an increasing amount of work has been done on such indicators as part of efforts to strengthen the international financial architecture. They used Macro-prudential indicators (MPIs) in Stress Test framework. MPIs comprise macro prudential indicators of the health of individual financial system soundness.

The BIS released, on 21st March 2000, a report 9 entitled ‘STRESS TESTING by large financial institutions: Current practice and aggregation issues’. The report represented the findings of working group established by the committee on the Global Financial System (CGFS). CLSA (Credit Lyonnais Securities Asia) Stress Test is a method in which they compared Indian banks on five major parameters i.e. Capital strength ratios, Asset quality ratios, Efficiency ratios, Liquidity ratios, and Profitability ratios. At the end they decided against a strict Pass/Fail test system and instead chosen to rank the banks. They applied different accounting ratios under rationale/criteria for scoring according to Indian banking sector.

Stress testing as an analytical tool used in financial stability work has gained prominence in recent years that it became an integral part of all vulnerabilities assessment programs conducted by central banks and international regulatory and supervision bodies such as International Monetary Fund, World Bank and Basel Committee on Banking Supervision.

2. Pakistan Financial Sector

Since its birth in 1947, Pakistan has been following the conventional financial system. State Bank of Pakistan (SBP), the central bank of the country, regulates the banking system and prepares monetary policy under conventional laws. Pakistan’s financial system comprises the SBP, commercial banks (Islamic and conventional), Non Bank Financial Institutions (NBFIs), Central Directorate National Savings (CDNS) and Capital markets. SBP regulates all banks and manages monetary policy whereas; Securities and Exchange Commission of Pakistan (SECP) supervises NBFIs, CDNS and Capital markets’ business. The structure of Pakistan’s financial sector is summarized in following Table 1.0.

As shown in Table 1.0, Pakistan’s financial sector is dominated by the conventional banking sector that comprises 86.8 percent of banking industry in December 2012. Of which, local private banks share 44.7 percent while Islamic banks acquire only 13.2 percent portion. According to SBP, annual report (2011-12), the Pakistan's financial system stability is basically determined by the pre-dominant state of the conventional banking sector. Table 1.0 further depicts that, the overall share of banks in the total assets of the financial sector is 57.55 percent followed by capital markets with 21.32 per cent, CDNS with 14.36 per cent and NBFIs with 7.59 per cent. Among banks, local private banks are the largest with 70.89 per cent share in banks' assets. Islamic banks have only 7.59 per cent share in the assets of conventional financial system of Pakistan at the end of December 2012.

Table 1: Structure of Pakistan's financial sector as on 31st December-2012

(Billion Rupees)	Number	Assets	Advances-	Investments-net
Banks*:	38	8,652.8	3,573.4	3,275.3
Public Sector	5	1,618.0	768.6	335.1
Specialized	4	155.3	97.9	14.7
Islamic	5	711.0	543.0	199.3
Local Private	17	6,637.3	2,62.5	2,697.1
Foreign	7	241.8	63.7	90.8
NBFIs	244	764.6	140.5	478.3
State-owned	19	221.7	71.7	205.7
Private	225	542.9	68.8	272.6
CDNS	1	2,261.2	-	-
Capital Markets	3	3,357.5	-	-
Total	286	15,036.1	3,713.9	3,753.6

Source: State Bank of Pakistan (2012) *Definitions of banks given in appendix-

3. Global Financial Crises

The amplification of the GFC, following the bankruptcy of Lehman Brothers in September 2008, has made the economic and financial environment a very difficult time for the world economy, the global financial system and for central banks (Dr Rakesh Mohan, 2009). Banks effectively act as trustee of public funds through their deposit taking activities and payment systems. A failure of one bank can have a strong a strong contagion on the rest of the banks, even if they are healthy. In this age of globalisation, as the GFC has revealed, the lack of confidence in banks in one country can also have a contagion on the rest of the world.

The GFC worsened their macroeconomic difficulties as sources of funding contracted. (The Daily DAWN, Pakistan, February 19, 2009). Like Pakistan, other developing countries have been struggling with excess demand pressures, which have been further aggravated by the global food, fuel and financial crises (South Asia Region, The World Bank group, February 17, 2009).

The current financial crisis in the West has critically exposed the vulnerabilities of a liberalized financial system. It has also highlighted the challenge that the policymakers and regulators are faced with in an increasingly globalised, ever-changing world.

4. Research Methodology

Objective of the study is to analyze the impact of GFC on the soundness of banks operating in Pakistan during 2007 to 2012. The banks' data segregated into two periods; the crisis period (2007-09) and the post crisis period (2009-12). CLSA stress test is applied on each period's data to investigate the impact of GFC on the health of these banks.

4.1 Stress Testing

To gauge the financial systems' resilience to shocks, Macro Prudential Indicators (MPIs) often use a variety of Stress Testing. Selected MPIs can be used to test quantitatively the impact of changes in those variables on financial institutions' portfolios and on the aggregate solvency of the financial system. More generally, because the relevance of individual indicators may vary from country to country, MPIs cannot be used mechanically. Assessments need to be based on a comprehensive set of indicators, taking into account the overall structure and economic situation of a country and its financial system. The test is comprehensive yet simple enough to understand easily. It is also applicable across the region so that 'safe heavens' and 'vulnerable' on a regional basis could be identified. Taking into account the overall structure and economic situation of a country and its financial system, the study applies CLSA Stress Test on banks' data in two ways:

1. CLSA scoring criteria is applied without any changes
2. CLSA scoring criteria is adjusted according to the financial system in Pakistan by analyzing banks' 10-year data (see Annex # xx).

4.2 Calculations

From each bank's historical profit and loss account and balance sheet, individual ratios of the stress test are calculated.

4.3 Individual Score

There are thirteen ratios in total with healthy ratios scoring a 1, mediocre 0 and unhealthy –1 according to the set of limits established for each ratio. Ratio values that fall in between the limits are mediocre and score a Zero, while values outside the set limits are scored accordingly. For example, a capital adequacy ratio of higher than 16% scores a 1, below 11% scores a –1 and in between 11% to 16% scores a Zero.

4.3 Total Score

Adding the scores for all 13 categories, we arrive at a range of score of between –13 to +13. Any bank which scores a zero or more passes the CLSA stress test. Negative scores fail the test.

5. Empirical Analysis

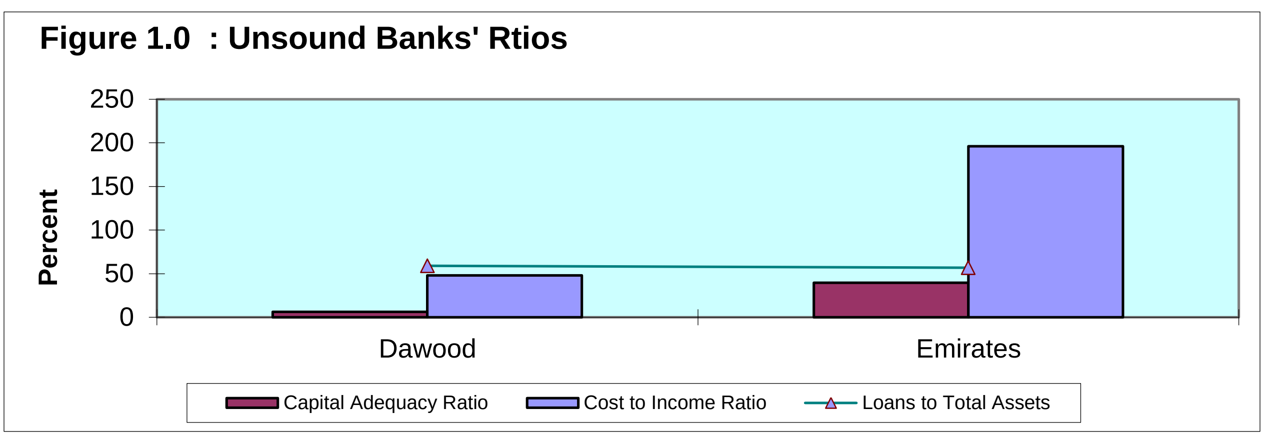
5.1 Stress Testing during crises period (2007-09)

During the crisis period 2007-09, total 39 banks were operating in Pakistan. Among them, 5 were public sector commercial banks (PSCBs), 4 specialized banks (SBs), 7 foreign banks (FBs) and 23 local private banks (LPBs). Bank that has CLSA Stress Test Total Score (TSC) equal to ZERO is said to be mediocre. During the crisis period 2007-09, out of 39 banks operating in Pakistan, 10.26 % banks failed to pass the CLSA stress test adjusted criteria.

Table 2: Comparison of Emirates Global Islamic Bank's Scores under two criterion

Crisis Period 2007-09 *Parameters*	**Per-cent**	**CLSA-Actual Criteria**			**CLSA-Adjusted Criteria**		
		+1	**-1**	**Score**	**+1**	**-1**	**Score**
Capital Adequacy	**6.40**	>16 %	<08 %	**-1**	>=8 %	<08 %	**-1**
Cost to Income Ratio	**47.95**	<30 %	>40 %	**-1**	<40 %	>65 %	**0**
Staff Cost per	**0.55**	<0.9%	>1.1%	**+1**	<0.2%	>0.8%	**0**
Loans to Total Assets	**58.98**	<60 %	>70 %	**+1**	<50 %	>75 %	**-1**
			Total Score	**0**		**Total Score**	-2

Figure 1: Unsound Bank's ratios



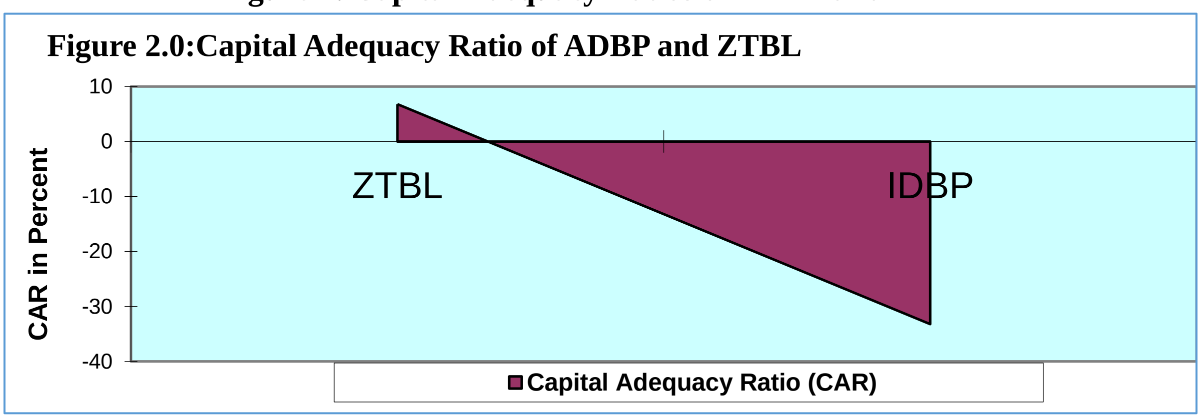
Under the CLSA-adjusted criteria, Emirates Global Islamic Bank (TSC = -2) found under stress during the crisis period and consequently dissolved later by supervising authorities due to its inadequate capital and managerial inefficiency. The dissolution of Emirates Global Islamic Bank authenticated the accuracy of the CLSA-adjusted criteria and encouraged its application on all banks data. Though IDBP had sufficient CAR (39.58 %), its cost to income and credit to assets ratios were not meeting the required minimum criteria.

Table 3: Comparison of IDBP Scores under two criterion

Crisis period 2007-09 *Parameters*	**Per-cent**				**CLSA-Adjusted**		
		+1	**-1**	**Score**	**+1**	**-1**	**Score**
Capital Adequacy Ratio	**39.58**	>16 %	<08 %	**+1**	>=8 %	<08 %	**+1**
Cost / Income Ratio	**196.2**	<30 %	>40 %	**-1**	<40 %	>65 %	**-1**
Staff Cost per Employee	**0.59**	<0.9%	>1.1%	**+1**	<0.2%	>0.8%	**0**
Loans / Total Assets	**56.88**	<60 %	>70 %	**+1**	<50 %	>75 %	**0**
Customer-	**68.33**	>90 %	<80 %	**-1**	>86 %	<74 %	**-1**
			Total Score	**+1**		**Total Score**	**-1**

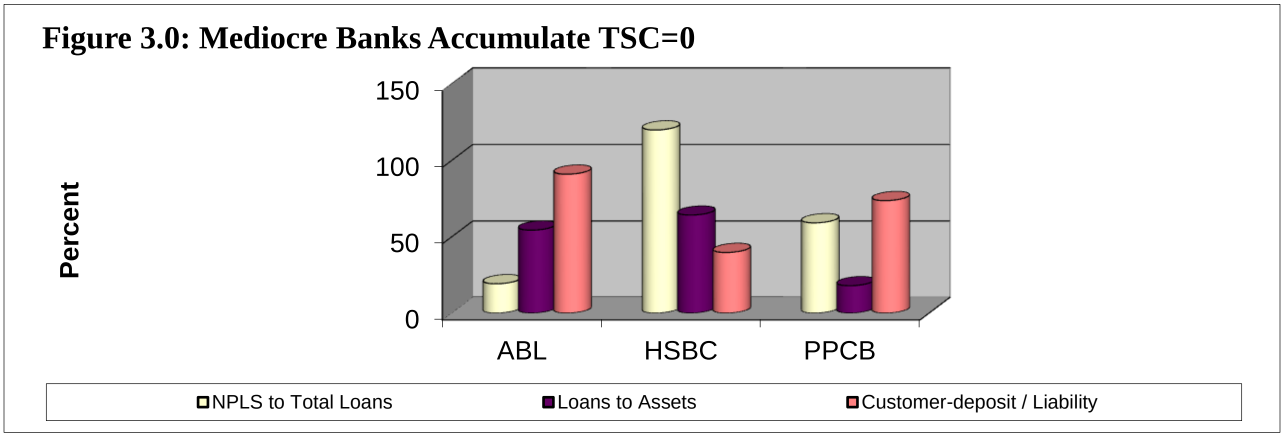
According to CLSA-actual criteria all banks passed the test while under CLSA-adjusted criteria, Dawood Islamic Bank, Emirates Global Islamic Bank, Industrial Development bank of Pakistan (IDBP), and Zarai Taraqqiati Bank Limited (ZTBL) found under-stress. The scores obtained by both the banks under the two criterions are shown in Table 2.0 and Table 3.0.

Figure 2: Capital Adequacy Ratios of ADBP and ZTBL



Allied Bank of Pakistan (ABL), Punjab Provincial Cooperative Bank (PPCB) and HSBC Bank Oman (HSBC) limited were categorized as mediocre during the crisis period.

Figure 3: Mediocre Banks' Accumulate TSC=0



Though CAR of HSBC was above 8.0 %, while other parameters were meeting sound-banks set criteria for example it accumulated huge NPLs. PPCB had extremely low CAR while NPLs to Loans ratio of this bank was very high. Figures of Mediocre banks are shown below in Table 4.0.

Table 4: Mediocre Banks during the crisis period 200709

Crisis Period 2007-09	***Allied Bank***		**PPCB**		***HSBC Oman***	
	%-age	*Score*	*%-age*	*Score*	*%-age*	*Score*
Capital Adequacy Ratio	*6.80*	*-1*	*-33.22*	*-1*	*11.12*	*0*
Equity to total Assets	*1.97*	*-1*	*1.02*	*-1*	*7.16*	*-1*
NPLs to Equity	*81.92*	*-1*	*282.00*	*-1*	*150.50*	*-1*
NPLS to Total Loans	*19.26*	*-1*	*119.90*	*-1*	*59.23*	*-1*
Staff cost per Employee	*0.98*	*-1*	*0.89*	*-1*	*0.86*	*-1*
Loans to Assets	*54.44*	*0*	*64.29*	*0*	*17.98*	*+1*
Customer-deposit / Liability	*91.06*	*+1*	*39.81*	*-1*	*73.79*	*-1*

The Capital to Assets ratio-generally accepted benchmark required for a bank to be solvent is 4.0% (for detail see "Solvency of the Banking System" www.sbp.org.pk). Most of the banks found meeting this bench mark during the crisis period. The banking sector as whole was able to absorb the losses from various credit shocks because banks found to be sufficiently capitalized to withstand direct effects of substantial volatility of the exchange rate and interest rate. Stress Tests for Liquidity risk indicate considerable capacity at banks to withstand a substantial “run” on liquid liabilities. A simultaneous occurrence of shocks on credit quality, exchange rate, and interest rate would have a substantial impact on the capital position of banks, especially public sector commercial banks.

5.2 Stress Test result during the post crisis period 2009-12

During the crisis period 2007-09, total 38 banks were operating in Pakistan. Among them, 5 were public sector commercial banks (PSCBs), 4 specialized banks (SBs), 7 foreign banks (FBs) and 22 local private banks (LPBs). The local banks reduced from 23 to 22 due to absorption of Emirates Global Islamic bank into AlBaraka Bank. The CLSA test criteria remains the same for the post-crisis period 2009-12 as it was for the analysis of GFC shocks during the crisis period 2007-09. Bank that has CLSA Stress Test Total Score (TSC) equal to ZERO is said to be mediocre. During the crisis period 2007-09, out of 38 banks operating in Pakistan, 7.89 % banks found mediocre and not a single bank found to be failing the CLSA stress test adjusted criteria. It shows that GFC affected banks during the crisis period as compared to the pos-crisis period.

Table 5: Allied Bank results during the post-crisis 2009-12

Post-crisis Period 2007-09	**Calc. % age**	**CLSA-Actual Criteria**			**CLSA-Adjusted Criteria**		
		+1	**-1**	**Score**	**+1**	**-1**	**Score**
Capital Adequacy Ratio	**11.11**	>16 %	<08 %	**0**	>=8 %	<08 %	**+1**
Equity to Assets Ratio	**8.45**	>10 %	<07 %	**+1**	>10 %	<02 %	**+1**
NPLs to Total Loans	**5.47**	<02 %	>05 %	**+1**	<05 %	>18%	**+1**
Loans to Total Assets	**67.19**	<60 %	>70 %	**0**	>50 %	<75 %	**0**
			Total Score	**+2**		**Total Score**	**+3**

Table 5.0 depicts that all parameters of the analysis of Allied bank passed the test during both the periods of the GFC. However as far as CAR of Allied Bank during the crisis period is concerned, it found ‘Zero’ and came under mediocre banks. Similar is the case with Loans to asset ratio, it came under mediocre score not only during the crisis period but also in the post-crisis period.

Banks that were under Stress during the crisis period 2007-09 due to vulnerability of GFC shocks, managed to streamline their operations and moved from of CLSA failed criteria to mediocre banks. These banks had CLSA Stress Test Total Score (TSC) ZERO and above; their prominent figures are shown in Table 6.0.

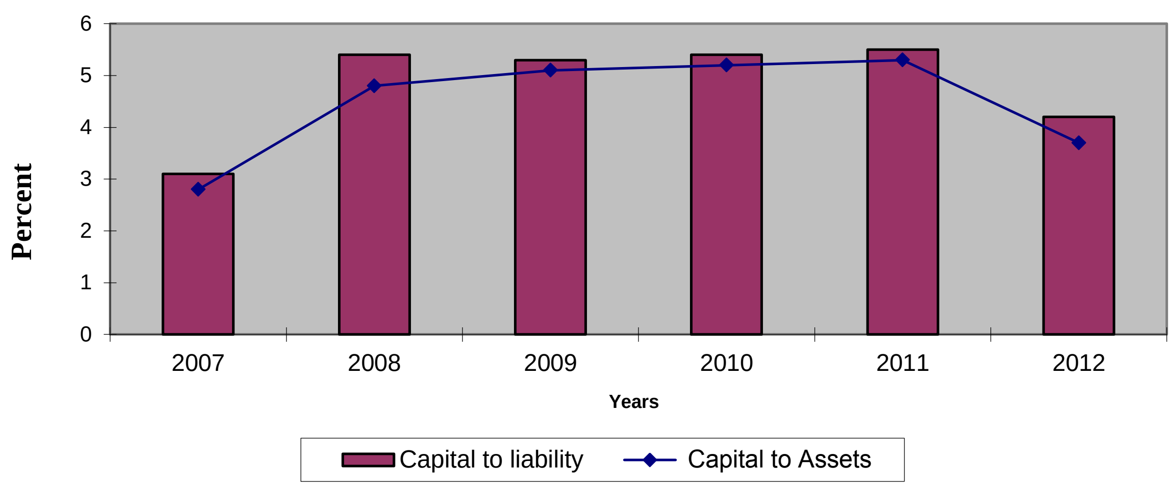
Table 6: Non-Mediocre Banks during the post-crisis 2009-12

Post-crisis Period	*ABL*	*HSBC*	*PPCB*	*HBL*	*CITI*	*IDBP*
Capital Adequacy Ratio	*11.18*	*14.36*	*22.97*	*13.42*	*19.13*	*10.73*
Equity to total Assets	*5.78*	*11.49*	*8.68*	*7.29*	*8.30*	*6.33*
NPLs to Equity	*8.23*	*12.30*	*18.04*	*12.23*	*14.06*	*30.39*
NPLS to Total Loans	*0.89*	*1.86*	*3.82*	*1.11*	*3.79*	*2.67*
Cost to Income ratio	*15.08*	*24.70*	*25.29*	*19.12*	*2.53*	*18.20*
Total Prov./Loans	*2.66*	*1.71*	*4.00*	*3.57*	*27.15*	*3.13*

As discussed above, stress testing process required technical expertise in three areas: identifying, analyzing and proper recording of the assumptions; adjusting the situation and interpreting the results. While the Stress Test results are somewhat comforting they should be interpreted cautiously. Most banks have enough capital to withstand increased in NPLs, assuming a provisioning rate for these managerial NPLs.

Figure 4: Capital Adequacy Ratios of ADBP and ZTBL

Figure 4.0: Capital Adequacy of banks during the post-crisis period 2009-12



However, weaker banks experience capital adequacy problems in the face of relatively modest NPL increases, suggesting the banks on the lower end of the capital adequacy and asset quality spectrum deserve closer attention by supervisors.

Moreover, in the new environment of private sector-dominated banking, sensitivity analysis based on historical experience of shocks may be of reduced accuracy. A simultaneous occurrence of shocks on credit quality, exchange rate and interest rate would have substantial impact on the capital position of banks.

6. Conclusion

In the late 1980s Pakistan undertook major financial sector reforms and was one among such countries that, during 1988 to 1992, very substantially deregulated interest rates and the allocation of credit, liberalized entry into the sector and privatized major state-owned banks, and introduced modern prudential regulation and supervision.

The current financial crisis in the West has critically exposed the vulnerabilities of a liberalized financial system. It has also highlighted the challenges that the policymakers and regulators are faced with in an increasingly globalised, ever-changing world. With increasing complexity in banking, coupled with growing severity of the crises, the focus of regulators has shifted to the adoption of Macroprudential framework to address interconnectedness of financial and non-financial institutions in the economic system (Karadr, 2011).

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This study has analyzed the impact of GFC on the soundness of banks operating in Pakistan during 2007 to 2012. The banks' data segregated into two periods; the crisis period

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Under the CLSA-adjusted criteria, Emirates Global Islamic Bank found under stress during the crisis period and consequently dissolved later by supervising authorities due to its inadequate capital and managerial inefficiency. The dissolution of Emirates Global Islamic Bank authenticated the accuracy of the CLSA-adjusted criteria and encouraged its application on all banks data.

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Results show that GFC has shown adverse effect on banks soundness during the crisis period (2007-09) as compared to post-crisis period (2009-12). This is mainly because of the absence of early warning systems with banks. It is therefore recommended that banks should adopt available early warning systems to desist from the vulnerability of such crises in future.

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Appendix-01: Bankwise CLSA Test Scores

	Stress testing-Crisis period 2007-09				Stress testing-Post-Crisis period 2009-12			
BANK	Stress Test Results Actual CLSA Criteria		Stress Test Results Adjusted Criteria		Stress Test Results Actual CLSA Criteria		Stress Test Results Adjusted Criteria	
Public Sector Commercial Banks								
First Women Bank Limited	5	Passes the Test	7	Passes the Test	4	Passes the Test	6	Passes the Test
National Bank of Pakistan	4	Passes the Test	4	Passes the Test	5	Passes the Test	5	Passes the Test
Sindh Bank Ltd.	1	Passes the Test	2	Passes the Test	2	Passes the Test	4	Passes the Test
The Bank of Khyber	6	Passes the Test	6	Passes the Test	5	Passes the Test	5	Passes the Test
The Bank of Punjab	8	Passes the Test	7	Passes the Test	6	Passes the Test	4	Passes the Test
Local Private Banks								
Al-Barka Islamic Bank B.S.C.(E.C.)	6	Passes the Test	7	Passes the Test	5	Passes the Test	6	Passes the Test
Allied Bank of Pakistan Ltd.	2	Passes the Test	0	Passes the Test	3	Passes the Test	2	Passes the Test
Askari Commercial Bank Ltd.	4	Passes the Test	5	Passes the Test	4	Passes the Test	4	Passes the Test
Bank Alfalah Ltd.	5	Passes the Test	5	Passes the Test	5	Passes the Test	6	Passes the Test
Bank Al-Habib Limited	2	Passes the Test	4	Passes the Test	3	Passes the Test	4	Passes the Test
Bank Islami Pakistan	1	Passes the Test	2	Passes the Test	3	Passes the Test	2	Passes the Test
Dawood/Burj Bank	0	Passes the Test	-1	Fails the Test	1	Passes the Test	0	Passes the Test
Dubai Islamic Bank	6	Passes the Test	6	Passes the Test	5	Passes the Test	4	Passes the Test
Emirates Global Islamic Bank	0	Passes the Test	-2	Fails the Test		N.A		N.A
Faysal Bank Limited	2	Passes the Test	3	Passes the Test	3	Passes the Test	4	Passes the Test
Habib Bank Limited	6	Passes the Test	5	Passes the Test	5	Passes the Test	6	Passes the Test
Habib Metropolitan Bank Limited	4	Passes the Test	3	Passes the Test	5	Passes the Test	6	Passes the Test
KASB Bank Limited	2	Passes the Test	1	Passes the Test	1	Passes the Test	3	Passes the Test
JS Bank P.S.C.	3	Passes the Test	4	Passes the Test	4	Passes the Test	5	Passes the Test
Meezan Bank Limited	7	Passes the Test	7	Passes the Test	6	Passes the Test	8	Passes the Test
Muslim Commercial Bank Limited	1	Passes the Test	3	Passes the Test	2	Passes the Test	4	Passes the Test
NIB Bank	0	Passes the Test	2	Passes the Test	1	Passes the Test	0	Passes the Test
SAMBA Bank	5	Passes the Test	5	Passes the Test	3	Passes the Test	4	Passes the Test
Silk Bank	2	Passes the Test	3	Passes the Test	1	Passes the Test	2	Passes the Test
Soneri Bank Limited	6	Passes the Test	7	Passes the Test	4	Passes the Test	3	Passes the Test
Standard Chartered Bank	5	Passes the Test	5	Passes the Test	2	Passes the Test	4	Passes the Test
Summit Bak	5	Passes the Test	3	Passes the Test	3	Passes the Test	4	Passes the Test
United Bank Limited	1	Passes the Test	3	Passes the Test	2	Passes the Test	2	Passes the Test
Foreign Banks								
Bank of Tokyo Mitsubishi Limited	7	Passes the Test	7	Passes the Test	5	Passes the Test	6	Passes the Test
Barclays Bank PLC	3	Passes the Test	3	Passes the Test	2	Passes the Test	2	Passes the Test
Citi Bank N.A	4	Passes the Test	5	Passes the Test	3	Passes the Test	2	Passes the Test
Deutsche Bank A.G.	2	Passes the Test	3	Passes the Test	4	Passes the Test	3	Passes the Test
HSBC Middle East	5	Passes the Test	3	Passes the Test	3	Passes the Test	5	Passes the Test
Indus and Commercial Bank of	8	Passes the Test	7	Passes the Test	6	Passes the Test	5	Passes the Test
HSBC Oman SAOG	1	Passes the Test	0	Passes the Test	2	Passes the Test	1	Passes the Test
Specialized Banks								
I.D.B.P.	0	Passes the Test	-4	Fails the Test	0	Passes the Test	1	Passes the Test
Punjab Provincial Co-operative	0	Fails the Test	0	Passes the Test	1	Fails the Test	2	Passes the Test
SME Bank Limited	2	Passes the Test	1	Passes the Test	1	Passes the Test	2	Passes the Test
Zarai Tarqiati Bank Limited	**0**	**Passes the**	**-2**	**Fails the Test**	**0**	**Passes the Test**	**0**	**Passes the Test**

Appendix-02: CLSA Scoring Actual criteria

	Rationale / Scoring	
	+1	-1
<u>Capital Strength Ratios (%)</u>		
Capital adequacy Ratio	**>=08%**	**<08%**
Equity / Assets	**>10%**	**<07%**
NPLs l (SE+accumulated provisions)	**>15%**	**>33%**
<u>Asset Quality Ratios (%)</u>		
Long Growth 2 year	**<17%**	**>23%**
Long Growth 5 year	**<17%**	**>23%**
Total Provisions / total loans	**>05%**	**<02%**
NPLs / total loans	**<02%**	**>05%**
<u>Efficiency Ratios</u>		
Cost to Deposits	**<0.9%**	**>1.1%**
Cost to Income (%)	**<30%**	**>40%**
Staff Cost per Employee	**<0.9%**	**>1.1%**
<u>Liquidity Ratios (%)</u>		
Loan to Assets	**<60%**	**>70%**
Liquidity ratio	**>35%**	**<25%**
Customer deposits / total liabilities	**>90%**	**<80%**

Appendix-03: CLSA Scoring Adjusted criteria

	Rationale / Scoring	
	+1	-1
Capital Strength Ratios (%)		
Capital adequacy Ratio	**>16%**	**<08%**
Equity / Assets	**>10%**	**<02%**
NPLs l (SE+accumulated provisions)	**>23%**	**>80%**
Asset Quality Ratios (%)		
Long Growth 2 year	**<26%**	**>42%**
Long Growth 5 year	**<26%**	**>42%**
Total Provisions / total loans	**>08%**	**<03%**
NPLs / total loans	**<05%**	**>18%**
Efficiency Ratios		
Cost to Deposits	**<0.2%**	**>0.8%**
Cost to Income (%)	**<40%**	**>65%**
Staff Cost per Employee	**<0.2%**	**>0.8%**
Liquidity Ratios (%)		
Loan to Assets	**<50%**	**>75%**
Liquidity ratio	**>56%**	**<45%**
Customer deposits / total liabilities	**>86%**	**<74%**

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