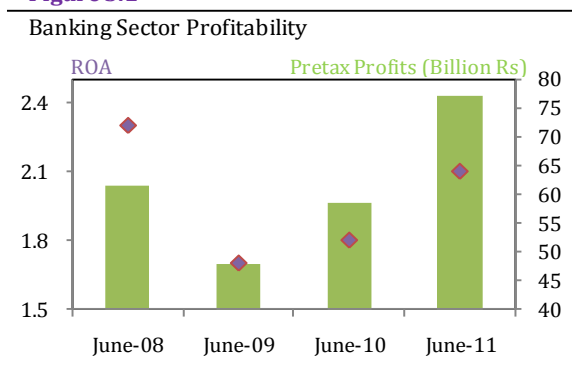


During the half year under review (H1-CY11), pre-tax profits of the banking system soared to 77.3 billion, highest for the Jan-June period in a decade. Robust growth of 31 percent (YoY) in profits came primarily on the back of growing investments in government securities. Of banks total investment income, 81.8 percent came from investments in government papers which on aggregate terms accounted for 29.9 percent of banks' total interest income. Capital adequacy of the banking sector inched up further, thanks to higher profits and rising minimum capital requirement. However, many banks still find the rising MCR a major challenge. Stress tests conducted on June-2011 data reveals that banking sector is resilient to various shocks on credit, market and liquidity risk factors.

Profitability

Deteriorating fiscal discipline gives a flip to banks' profits

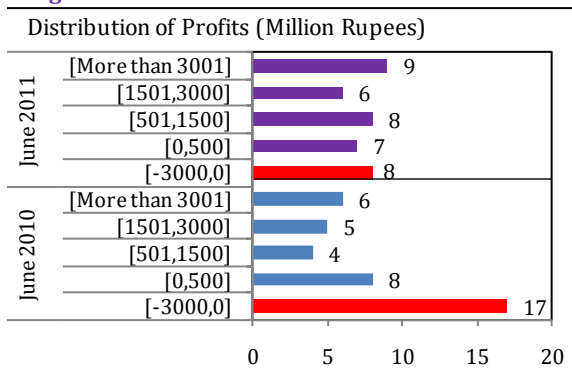
Figure 3.1



The prevailing level of high fiscal deficit has turned out to be blessing in disguise for the banking sector. Amid sluggish demand for credit from the private sector and banks' risk-averse behavior, relentless government's borrowings for budgetary support has proffered banks a risk free source of earning healthy returns. Accordingly, banking sector profits (pretax) soared to Rs. 77.3 billion, registering growth of 31 percent YoY in June 2011 (Figure 3.1). This was the highest first-half yearly rise in earnings of the banking sector in a decade. The improvements in bank profitability, in a period of lackluster macroeconomic performance with an attendant rise in the non-performing loans, has also been supported by lower cost of provisions on account of the FSV benefits allowed by the regulator (SBP).

With an improvement in the bottom-line of banks, the conventional measures of earnings (ROA, ROE) have also improved in June 2011. Similarly, the net interest (NIM) margins and profitability (PM) of the banking sector inched up from 2.6 to 2.7 percent and 16.3 to 18.7 percent YoY respectively.

Figure 3.2

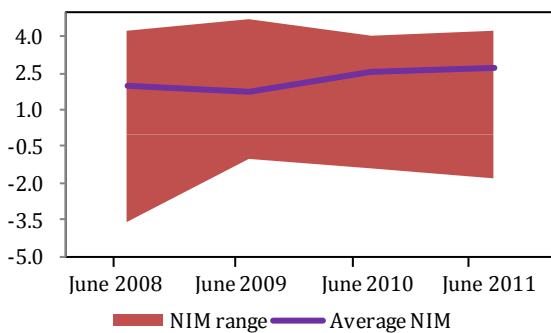


.....with significant decline in profit concentration

The lure of higher yields in risk-free government securities has prompted nearly all the banks to expand their investment portfolios with a favorable impact on their earnings. This has reduced the number of banks facing losses to just 8 in June-11, from 17 in June-10 (Figure 3.2). As nine banks have got out of red during H1-CY11, indicators of profit concentration have improved favorably too. The share of top 5 banks in banking profits has dropped from 95 percent in Dec-10 to 78 percent in June-11.

Figure 3.3

Net Interest Margin (percent)



.....but the advantage of being big remains strong

Despite a reduction in profit concentration, the competitive advantage of larger banks has further amplified as its average NIM far exceeded that of the industry. It is primarily because these banks hold 53 percent of industry deposits at below industry interest level. Despite a shortening of NIM range (High-low), 63 percent of the banks (25 in numbers) witnessed the NIM to be lower than the industry average (*Figure 3.3*)¹. Similarly, the top 5 banks also outperformed in terms of ROA and ROE (*Table 3.1*).

However, the Asset Utilization ratio (AU) has remained almost stable at 6.6 percent since last year². AU declined from 7.1 percent in June-09 to 6.6 in percent in June-10 because of rising infection in banks' loan portfolio (*Figures 3.4*). Bank-wise, it's medium to small sized banks that have witnessed an above average AU of 8.9 percent on account of aggressive utilization of their already narrow deposit base by lending to weaker borrowers at high rates. Similarly, the foreign banks having selected but strong corporate portfolio have also been able to post higher profitability margin along with efficient asset utilization ratio.

In a period of easy earnings for the banking system, the mid-sized banks (top 11 to 20) category did face challenging circumstances on its credit portfolio on account of idiosyncratic shocks. This also led to abnormal provisioning as the infected credit portfolio was directly booked in the loss category.

Investments have turned out to be the primary driver of profitability

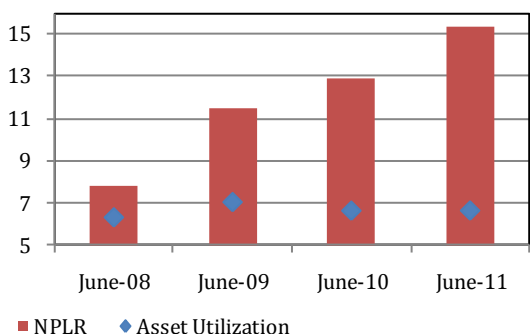
During the half year under review, net interest income (NII) witnessed a growth of 18.4 percent YoY on the back of Rs 131.6 billion of interest income on investments (which was up by 44.5 percent during H1-CY11). On the other hand, non-interest income registered a growth of 10.8 percent during the same period. Accordingly, share of NII in banks earnings inched up to 87.2 percent, while that of the non-interest income

Table 3.1
Concentration of Earnings (percent share)

June-2011	ROA	ROE	AU	PM	NIM
Top 5 banks	3.4	32.2	6.7	29.3	3.3
Top 6 to 10 banks	1.4	24.3	6.6	12.5	2.4
Top 11 to 20 banks	(0.4)	(16.1)	6.5	(6.5)	1.2
Top 21 to 30 banks	2.1	6.7	8.9	11.7	2.7
Public Sector banks	1.8	16.6	6.5	17.5	2.2
Private banks	2.2	23.8	6.6	19.1	2.7
Foreign banks	2.2	14.8	7.1	18.9	2.9
Specialized banks	1.6	37.1	7.7	12.9	3.3
All banks	2.1	21.9	6.6	18.7	2.7

Figure 3.4

Trend of Asset Utilization Ratio (percent)

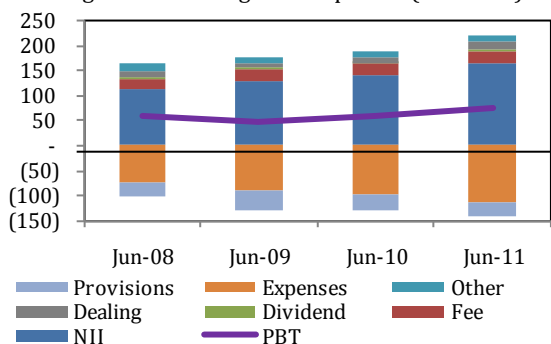


¹ The Figure 3.3 does not take into account two specialized banks as their NIMs were excessively low in June-11 and were ignored as outlier.

² The Asset utilization ratio is the ratio of the sum of markup and non markup income to total assets. Internationally, the average asset utilization ratio lies in the range of 5 to 7 percent. A higher ratio is indicative of higher earnings by optimal utilization of bank assets.

Figure 3.5

Banking Sector Earnings and Expenses (Billion Rs)

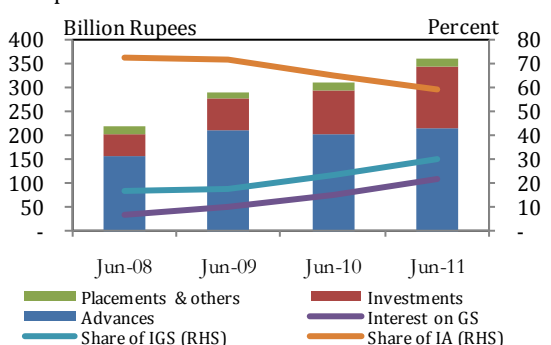


(including dividend income, fee and commission on bank services and income from dealing in foreign exchange) dropped from 13.3 percent to 12.8 percent in Jun-11 (Figure 3.5).

Unsurprisingly, a hefty proportion (81.8 percent) of interest on investments was driven by return on government securities. Overall, the share of interest earnings on government securities (IGS) in total interest income increased from 23.9 percent to 29.9 percent YoY. The high concentration of interest earnings from government securities can make a serious dent to banks profits in case of a sharp cut in SBP discount rate. This also indicates the presence of debt trap where issuance of government debt is solely for the purpose of repaying interest on earlier debt and not for investing in productive and profitable avenues.

Figure 3.6

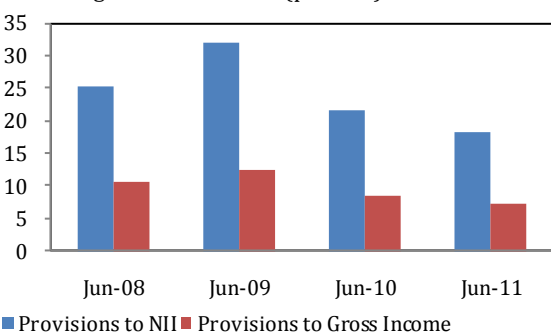
Composition of Interest Income



In addition, the composition of interest income also reveal a compromise on the banks very function of financial intermediation as their share of interest income from loans (IA) has been consistently declining, from 72.6 percent in Jun-08 to 59.5 percent in Jun-11 (Figure 3.6). Besides the investments in government securities, a rising NPLR has also contributed significantly towards this decline.

Figure 3.7

Declining Provision Ratios (percent)



FSV benefit has kept the banks' expenses in check

The non-interest expense, though rising, has been kept at bay mostly by the FSV benefit. Consequently, banks have managed to limit their provision expenses despite higher credit risk and a rising NPLR (which reached 15.3 percent by June-11). During CY10, banks availed Rs. 11.9 billion of FSV benefit resulting in the decline of provision to income ratios (Figure 3.7).

Similarly, while the administrative expenses have continued to rise on account of increasing operating costs, the operating expense ratio and the cost of funds ratio witnessed a marginal decline as the banks' return on investments enhanced the operating and gross income far more than their expenses in Jun-11 period.

Figure 3.8

Solvency Profile of Banks

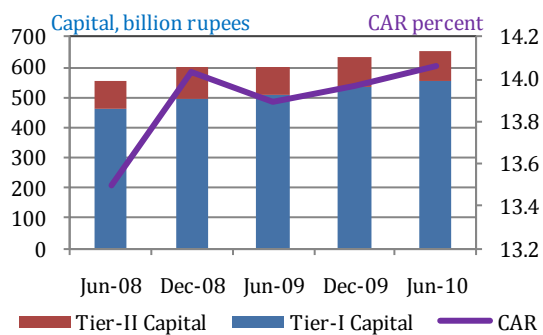


Figure 3.9

Improvements in Tier-1 Capital (percent)

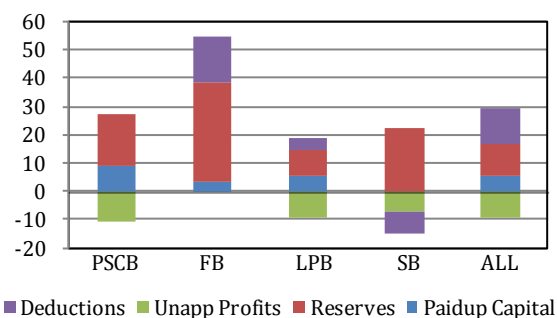


Table 3.2

Banks' Category-Wise Solvency Ratios (percent)

	Capital to RWA		Tier 1 to RWA		Capital to Assets	
	Dec-10	Jun-11	Dec-10	Jun-11	Dec-10	Jun-11
Top 5	16.1	16.1	13.4	13.6	10.3	9.5
6 to 10	8.9	12.0	6.7	9.0	5.0	6.8
11 to 20	12.1	11.6	11.2	10.8	8.5	8.4
21 to 29	24.1	30.1	23.8	30.1	13.2	13.0
All 29	16.0	18.2	14.7	17.0	9.7	9.7
FBs	24.6	25.2	24.3	25.0	14.8	15.1
SBs	4.6	8.0	(0.9)	1.9	3.9	1.9
Industry	14.0	14.1	11.8	11.9	9.7	8.5

Solvency

Higher profits and rising MCR helps solvency profile

Solvency profile of the banking system further improved during H1-CY11 on the back of SBP's drive for enhanced capitalization as well as growing profitability of the banking sector. Capital adequacy ratio (CAR) of banks was up by 10 bps to reach 14.1 percent by Jun-11 (Figure 3.8).

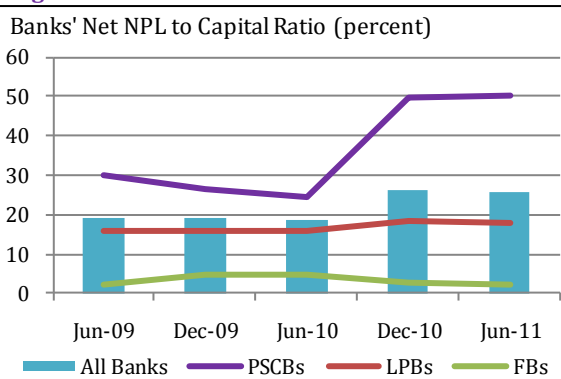
..... with Tier-1 providing much needed strength to banks' capital

Much of the improvements took place in Tier-I or the core capital as the banks, benefiting from a period of easy earnings, started to accumulate reserves and enhance their paid-up capital to meet growing MCR (minimum capital requirements). Since the core capital is considered to be the first line of defense against idiosyncratic and systemic shocks, it is desirable to have a substantial portion of capital in Tier-1 category. The imposition of MCR has been instrumental in improving the quality of the capital base of the banking system as the share of Tier-1 capital has kept on rising, from 80.1 percent in Jun-08 to 84.8 percent in Jun-11.

The growth in tier-1 capital by 3.5 percent during the period under review has been supported by 11.1 percent growth in the reserves and 5.5 percent enhancements in the paid-up capital of the banks (Figure 3.9). Segment-wise, the foreign banks (FB) witnessed a 35.4 percent rise in its reserves while the specialized banks (SB) and the public sector banks (PSCB) also witnessed substantial improvements of 22.4 and 18.3 percent respectively. However, due to consistent losses and rising provisions, the SB witnessed depletion in its un-appropriated profits by 7.4 percent in Jun-11. The large private banks (LPB) though most of them being profitable in Jun-11 still posted a 9.5 percent decline in un-appropriated profits on account of abnormal losses reported by the two leading banks.

Category-wise, the most significant improvement was experienced by the smaller banks (21 to 29), as their CAR soared from 24.1 to 30.1 percent on account of new capital injection and a merger activity which also improved its Tier-1 to RWA ratio to 30.1 percent (Table 3.2). The top 6-10 banks also consolidated their capital profile by increasing their reserves and enhancing paid-up capital. However, due to a surge in foreign remittances leading to a 13.7 percent increase

Figure 3.10

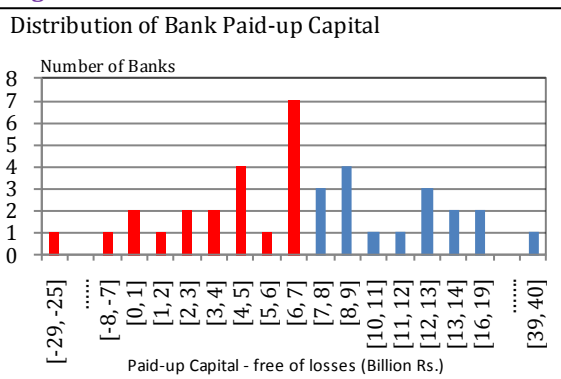


in the asset base marginally depleted the capital to asset ratio by 80 bps. The specialized banks (SBs), though still below regulatory requirements of 10 percent, witnessed a considerable improvement as well. The foreign banks (FBs), with only 3.2 percent share in the industry, continued to maintain the highest CAR across all banks.

High NPLs a major threat to the capital base of PSCBs

The worsening of credit infections in the segment of public sector banks highlights the critical role of higher capital requirements. In case of public sector commercial banks (PSCBs), the Net NPLs to Capital ratio (indicating fraction of banks' equity which can be wiped out by loan losses) has substantially increased since Jun-10 period, though it has remained the same during H1-CY11 (Figure 3.10). On the other hand, some of the banking segments, foreign banks in particular, continue to have net NPL to capital ratio below 2 percent.

Figure 3.11



Banks find MCR still a major challenge, despite being comfortable on CAR

Banks have generally found it difficult to meet the growing MCR despite being profitable and availing the FSV benefit on its infected credit portfolio. The sluggish macroeconomic environment and developments in local and international political scenario has impeded foreign shareholders to further inject equity into the banking system. As of June-2011, 17 banks have been unable to meet MCR of Rs. 7 billion (Figure 3.11). With deadline for higher MCR of Rs. 8 billion just a few months away, this will put further pressure on the banks' compliance to regulatory capital requirement.

Table 3.3

Distribution of Banks by CAR (percent)

	Total	less than 10	10 to 15	Over 15
Dec-08	40	9	10	21
Jun-09	40	7	12	21
Dec-09	40	6	15	19
Jun-10	40	6	15	19
Dec-10	38	6	12	20
Jun-11	38	5	12	21

However in terms of capital adequacy requirements of 10 percent, the majority of the banks have the CAR well above the required level (Table 3.3). Five banks with CAR below 10 percent have a marginal market share (4.6 percent) and are also MCR non-compliant. These include three private banks which are in a process of bringing new equity and one public sector and a specialized bank that are under the process of restructuring.

Resilience and Stress Testing

The banking system appears resilient to various shocks

A strong capital base of the banking system has enabled the banks to withstand various hypothetical and historical credit and market risk shocks. Using the approaches of sensitivity (single factor) and macroeconomic (scenario based) stress testing, the financials of the banking system for Jun-11 have been stress tested and its impact on the capital adequacy of the banking system have been examined.

In case of sensitivity analysis – a single hypothetical shock factor is assumed to impact the profitability and hence the CAR of individual banks. The credit shocks included different hypothetical scenarios covering down-gradation of loan classifications and sector-wise concentration (see *Box C on credit risk shock for details*). In addition, a critical infection ratio, at which the capital base of the bank is assumed to be fully wiped-out due to credit losses, came out to be 41.9 percent as against the present level of actual NPLR of 15.3 percent. None of the banks posted a critical infection ratio of less than 28.5 percent. A high critical ratio is reflective of buffer capital to accommodate for the losses.

Box C: Credit Shocks

C1: 10% of performing loans moving to substandard, 50% of substandard to doubtful and 50% of doubtful to loss.

C2: All NPLs under substandard downgrade to doubtful and all doubtful downgrade to loss.

C3: Default of top 3 borrowers of the banks, downgraded to substandard category.

C4: Increase in provisions against NPLs equivalent to 50% of Net NPLs.

C5: Increase in NPLs to Loans Ratio equivalent to the maximum quarterly increase in NPLs to Loans Ratio of the individual banks during the last 5 years.

C6: Increase in NPLs of all banks by 21% which is equivalent to the maximum quarterly increase in NPLs of the banking system during the last 5 years

C7: Increase in NPLs to Loans Ratio of Textile Sector of the banks equivalent to the maximum quarterly increase in these banks during the last 3 years.

C8: Increase in NPL to Loan Ratio of Consumer Sector of the banks equivalent to the maximum quarterly increase in these banks during the last 3 years.

C9: Increase in NPL to Loan Ratio of Agriculture & SME Sector of the banks equivalent to the maximum quarterly increase in these banks during the last 3 years.

Figure 3.12

Credit Risk Shocks

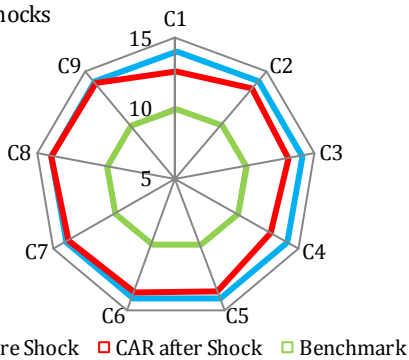
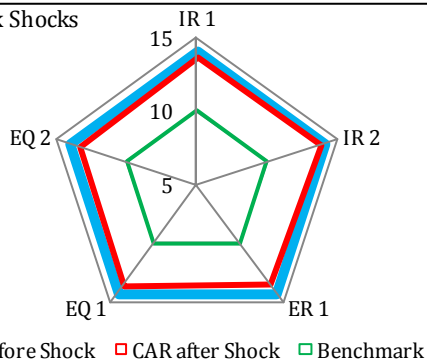


Figure 3.13

Market Risk Shocks



The overall banking system appears quite resilient against all credit shocks (Figure 3.12). The shock C1 proved to be more severe as it deteriorated the stressed system-wide CAR to 12.6 percent against the baseline (pre-shock) system-wide CAR of 14.1 percent. Bank-wise, four banks that had baseline CAR of above 10 percent failed to minimum CAR in stressed condition. Similarly, the default of top 3 borrowers – C3 shock lowered the CAR by 1 percent. In terms of severity, shocks C8 and C9 have been least severe as it deteriorated by baseline CAR merely by 7 and 21bps.

In addition to the credit risk, the sensitivity analysis has also been employed to stress tests the banking sector CAR using hypothetical market risk shocks (see *Box D on market risk shock for details*). However, unlike the credit risk shocks, the market risk shocks were not severe enough to worsen system-wide as well as individual bank CAR. For instance, the ER1 shock deteriorated the baseline CAR by 73 bps to 13.3 percent. Similarly, the equity price shock of 50 percent – shock EQ2 only managed to lower the baseline CAR by 69 bps to 13.4 percent (Figure 3.13).

Box D: Market Risk Shocks

IR1: Parallel upward shift in the yield curve - increase in interest rates by 300 basis points along all the maturities.

IR2: Upward shift coupled with steepening of the yield curve by increasing the interest rates along 3m, 6m, 1y, 3y, 5y and 10y maturities equivalent to the maximum quarterly increase experienced during the last 3 years.

ER1: Depreciation of Pak Rupee exchange rate by 30%.

ER2: Appreciation of Pak Rupee exchange rate by 3.2% equivalent to the quarterly high level of appreciation of rupee against dollar experienced during the last 3 years.

EQ1: Fall in general equity prices by 41.4%

EQ2: Fall in general equity prices by 50%

In addition to sensitivity based stress testing, another useful mechanism for gauging the resilience of the banking system towards adverse but plausible shocks has been the scenario or the macroeconomic based stress testing. This approach is increasingly used by the supervisory authorities and leading commercial banks worldwide. The scenario based stress testing primarily relies on the inter-relationships between the macroeconomic and bank-specific variables with the NPLR that are stressed to produce reliable forecasts of plausible macroeconomic shocks.

The macroeconomic stress testing of the credit risk has been carried out using the Credit portfolio view (CPV) model. The model assumes a linear relationship between default rates (NPLR) and macroeconomic indicators. The leading macroeconomic indicators included the level of industrial output (LSM), exchange rate (EXR), inflation (CPI) and lending rates (LR). By examining a structural relationship between the NPLR and macroeconomic indicators and using Monte Carlo simulation process, the stressed values of NPLR ratios were achieved. Similarly, the same process is also employed to forecast one-period value of NPLR.

Under the baseline scenario, the CPV model forecasts the NPLR to further deteriorate by 20 bps for 2HCY11 to 15.5 percent (*Table 3.4*). Similarly, there is one percent probability that the NPLR deteriorate in excess of 20.8 percent without applying any shocks. Whereas, in case of applying LR shock, the average NPLR is expected to be 15.8 percent. Interestingly, even at 0.01 percent probability and applying all macroeconomic shocks simultaneously, the NPLR can reach 23.2 percent which is less than the critical infection ratio of 28.5 percent calculated in the sensitivity analysis.

In addition, the derived simulations of stressed NPLR also indicate a major shift from the baseline to adverse movement in macroeconomic aggregates projected for H2-CY11 (*Figure 3.14*).

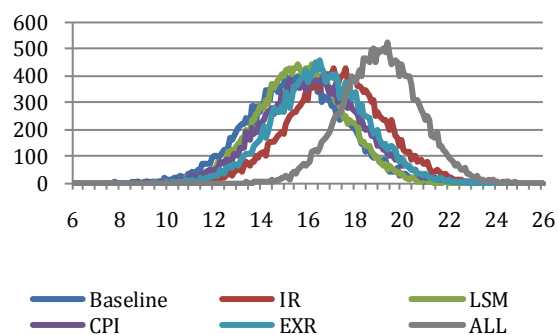
Table 3.4

Simulated NPL Ratios Projected for H2-2011

	Baseline	LR	ER	CPI	LSM	All
Avg	15.5	15.8	16.2	16.6	17.3	19.2
75 P	16.9	17.0	17.7	17.9	18.6	20.2
90 P	18.1	18.1	18.9	19.1	19.8	21.2
95 P	18.9	18.8	19.7	19.8	20.6	21.8
99 P	20.3	20.0	21.1	21.1	21.9	22.9
99.5P	20.8	20.4	21.7	21.6	22.4	23.2

Figure 3.14

Frequency Distribution of Simulation Results



A wide body of literature suggests that banking and financial crises often lead to protracted economic downturns³. One important channel of transmission of banking crisis to the economic activities is bank capital channel⁴. When capital of banks is eroded, they lend less and this accentuates economic slowdown.

The global financial crisis highlighted the significance of banks and adequacy of their capital and liquidity for financial stability, and highlighted deficiencies in financial regulations. In response, BIS issued new guidelines under Basel III proposal to strengthen the capital and liquidity requirements of the banking industry. These guidelines comprise micro and macro prudential reforms to strengthen bank capital and introduce revised regulatory requirements for bank liquidity and leverage.

Capital Standards:

Basel III capital proposal seeks to improve the quality and level of capital by stressing the role of common equity as the best form of capital to withstand idiosyncratic and systemic shocks. The proposal includes increasing the proportion of common equity in the required capital, requiring contingent capital that can be converted into common equity at the discretion of the financial regulator and introducing capital conversion and countercyclical buffers comprising common equity. The new capital requirements will be gradually phased-in between 2013 and 2019 (Table 1), and include the following:

Table 1 : Timeline for Implementation of Basel III Accord

	2013	2014	2015	2016	2017	2018	2019
Common Equity Tier1 (CET1)	Gradual implementation 3.5%	Gradual implementation 4.0%	Final implementation 4.5%				
CET1 including CCB and CCCB*				Gradual implementation 5.125%- 5.75%	Gradual implementation 5.75% -7.0%	Gradual implementation 6.375% - 8.25%	Final Implementation 7.0%-9.5%
Tier 1 Capital	Gradual implementation 4.5%	Gradual implementation 5.5%	Final implementation 6.0%				
Capital Conservation Buffer (CCB)				Gradual implementation 0.625%	Gradual implementation 1.25%	Gradual implementation 1.875%	Final Implementation 2.5%
Counter-cyclical Capital Buffer (CCCB)				Gradual implementation 0.625%	Gradual implementation 1.25%	Gradual implementation 1.875%	Final Implementation 2.5%
Total Capital**	Final implementation 8.0%					Final Implementation 8.0% - 8.25%	Final Implementation 8.0% - 9.5%
Phasing in of New Deductions from Capital Base		Gradual implementation 20%	Gradual implementation 40%	Gradual implementation 60%	Gradual implementation 80%	Final implementation 100%	
Leverage Ratio	Observation	Observation	Disclosure	Disclosure	Final Adjustments	Final Implementation	

*The lower bound represents CET1 requirement including Capital Conservation Buffer (CCB), the upper bound represents CET1 requirement including both CCB and Countercyclical Capital Buffer (CCCB)

** Includes CCB and CCCB, where applicable

Source: Adapted from BIS documents

1. Quality and level of capital

Common Equity Tier 1 capital (CET1) comprising common equity will be at least 4.5% of risk weighted assets (RWA), while total Tier 1 capital will be raised to 6% of RWA from the present requirements of 4% of RWA.

³ Borio (2007); Goodhart (1996); and Minsky (1992), Bernanke and Gertler (1995); Bernanke, Gertler, and Gilchrist (1999); and Kiyotaki and Moore (1997).

⁴ Bernanke, Lown, and Friedman (1991); Kashyap and Stein (1995); Peek and Rosengren (1995); and Altunbas, Gambacorta, and Marqués (2007).

2. Capital conservation buffer

In normal times, banks will be required to hold high quality capital above the regulatory minimum. To fulfill this requirement, banks will hold a capital conversion buffer comprising common equity of 2.5% of RWA that will supplement the Common Equity Tier 1 capital. The total common equity will thus be at least 7% of RWA. This effectively increases the total regulatory capital requirements to 10.5% from the existing 8%.

During stressed periods, when capital levels falls in the buffer range, a progressive capital distribution constraints will be imposed on a bank until buffer is fully restored. The imposed constraints will not restrict operations of the bank and will be limited to capital distributions.

3. "Gone concern" contingent capital

This proposal would require clauses in the capital instruments that would allow the regulator to ask for write-off of such instruments or conversion of such instruments into common equity during stressed periods thereby strengthening the capital base when needed and increasing the contribution of private sector in the bank's capital.

4. Countercyclical capital buffer

The countercyclical buffer is meant to be a macro prudential tool to contain the buildup of excessive systemic risk. Based on the credit growth and other relevant indicators, when the financial regulators believe that there are signs of excessive credit growth that may lead to a buildup of unacceptable levels of systemic risk then they, at their discretion, may require additional countercyclical buffer of up to 2.5%. During downturns the buffers would be released to boost the banks' capacity to lend.

5. Leverage ratio

The recent global financial crisis was characterized by excessive leverage in the banking system while the risk based capital was still strong. To avoid this situation, Basel III has proposed a non-risk based leverage ratio of 3% as a supplementary measure to the risk based capital requirements. Under this proposal banks will be required to maintain a Tier 1 leverage ratio calculated as ratio of Tier 1 capital to on- and off-balance sheet exposures.

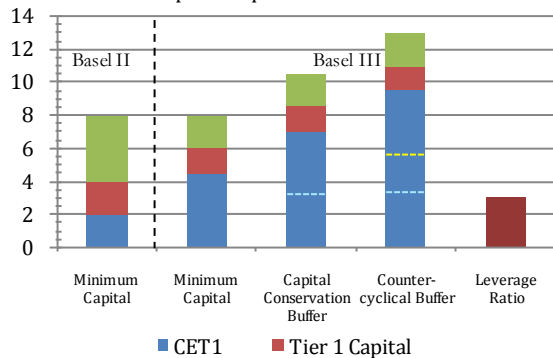
A comparison of capital requirements under Basel II and III is illustrated in **Figure 1**

Basel III requirements and Pakistani banks

It must be appreciated that the Basel III framework is meant for the internationally active banks and as such it is not mandated for Pakistani banks. However, due to inherent conservatism and less sophisticated banking system Pakistani banks can adhere to some requirements of Basel III with relative ease while other requirements may not be relevant for Pakistani banks. Most of the banks in Pakistan hold high quality capital. In June 2011, on average, almost 85 percent of the banks' total regulatory capital was in the form of common equity tier 1 capital (CET1⁵) (**Figure 2**). At the end of June 2011, Capital Adequacy Ratio of all banks and DFIs was 14.93 percent on average and other than five non-compliant banks, all other banks comfortably meet the proposed Basel III requirements of CET1/RWA ratio including capital conservation buffer. Selected capital ratios of major groups of banks are depicted in **Figure 2**.

Figure 1

Basel II and III Capital Requirements

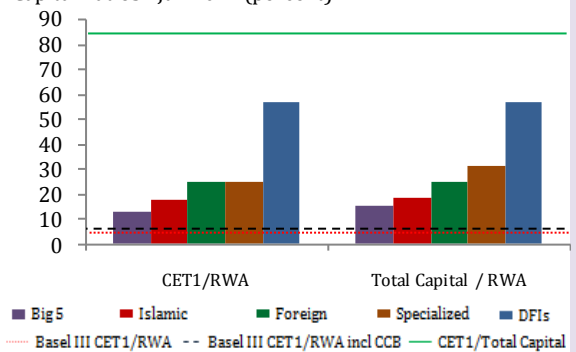


Notes:

- (1) Tier 1 Capital Includes CET1, Total Capital includes Tier 1 Capital
- (2) Leverage Ratio is prescribed against total assets and off-balance sheet commitments, whereas all other capital ratios are in relation to Risk Weighted Assets
- (3) Countercyclical Buffer is between 0 and 2.5 percent, the figure shows countercyclical capital buffer at maximum value.

Figure 2

Capital Ratios - Jun 2011 (percent)



⁵ CET1 calculation is approximate without taking into account revaluation reserves and some regulatory adjustments like deferred tax assets and defined contribution plan liabilities.