Chapter 3 Soundness and Resilience of the Banking Sector

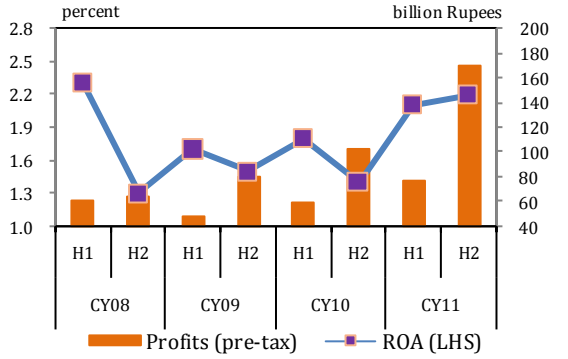
The banking sector posted its highest ever annual profit of Rs 169.9 billion (pre-tax) in CY11 on the back of increasing share of returns on government securities and lower provisions on classified loans. The CAR of the banking sector, which was already well above the regulatory requirements; increased further to 15.1 percent in H2-CY11, up by 100 bps from H1-CY11. The robust profits, fresh equity injections and decreasing RWA due to risk averse behavior of banks strengthened the solvency profile of the banking sector. However, depressed global and domestic conditions have made it challenging for some banks to meet the growing minimum capital requirements. The stress tests results for the H2-CY11 show that banking system is well poised to withstand historical as well as hypothetical credit, market and liquidity risks shock, though severe credit shocks may bring some banks under stress.

Profitability

Healthy returns on investments in government securities boosted banking sector profitability to its highest level

Figure 3.1

Soaring Banking Sector Profitability

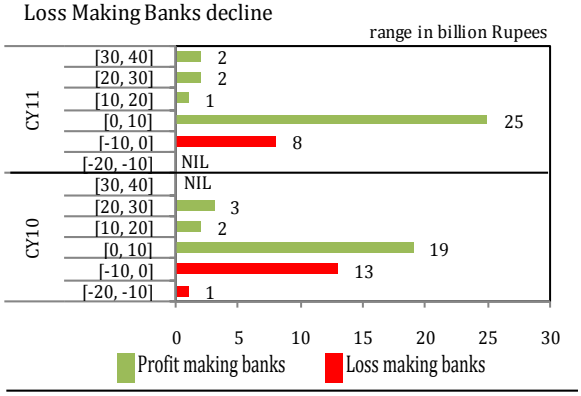


The banking sector earnings continued to accumulate in the second half of 2011 on the back of healthy returns on growing stocks of risk free government securities held by the banks. In addition, the lower provisions due to enhanced FSV benefit contributed towards buildup of profitability levels[24]. Accordingly, the pre-tax profits soared up by 67.1 percent YoY to historically highest level of Rs169.9 billion during CY11 **(Figure 3.1).** The key return indicators surged to levels previously achieved in 2007; Return on Assets (ROA increased to 2.2 percent in H2-CY11, up from 1.4 percent in 2010.

Industry outlook strengthens as profitability concentration further declined among the banks

Figure 3.2

Loss Making Banks decline



Though the banks' investments in government securities are not considered as productive as lending to businesses and households, it has nevertheless provided an avenue for the banks for risk-free earnings and enabled them to post profits even in weak economic environment. The improvement in profitability was observed across all category of banks; only 8 banks faced losses as against 14 banks in CY10 **(Figure 3.2).** Further, share of top 5 banks in total profitability reduced to 74.7 percent which last year accounted for 106 percent in overall earnings. Analysis of banks in terms of return indicators reconfirms that on average top 5 banks continue to enjoy higher returns, compared to industry average, on the basis of competitive edge available to these banks. The return indicators of medium and small sized banks improved

[24] The enhanced FSV benefits were allowed in the BSD Circular 1 of 2011 – October 2011.

Table 3.1: Concentration of Earnings

share in percent

CY11	Share	ROA	ROE	AU	PM	NIM
Top 5	74.7	3.2	30.1	10.9	29.2	6.3
Top 6 to 10	14.7	1.4	19.0	10.9	12.7	4.9
Top 11 to 20	8.3	0.8	9.6	10.6	7.4	3.0
Top 21 to 30	1.4	0.6	4.2	10.4	5.6	4.1
Public Sector	17.8	1.9	18.4	10.0	19.4	4.2
Local Private	76.8	2.2	24.1	11.0	19.9	5.4
Foreign	3.3	2.2	14.1	11.4	19.6	5.9
Specialized	2.1	2.4	43.2	10.6	22.6	5.5
All Banks	100.0	2.1	22.6	10.8	19.9	5.2

Figure 3.3

Interest Income on Government Securities hikes

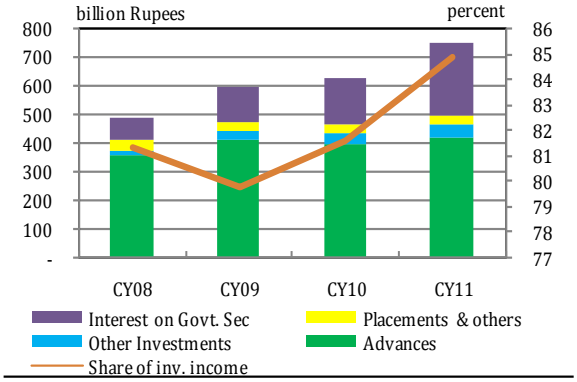
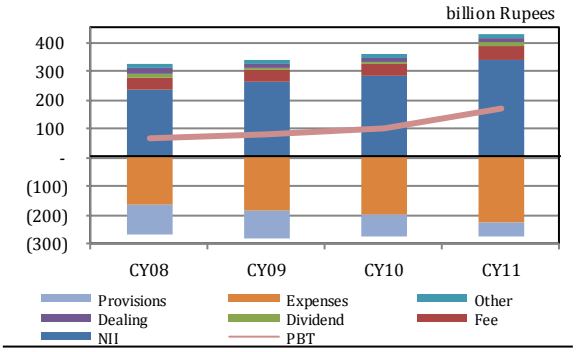


Figure 3.4

Banking Sector Earnings and Expenses



marginally over the half year as most of the increase in advances took place in this category **(Table 3.1).**

Interest income rose sharply on investment yields

The Net Interest Income (NII) of the banking sector witnessed a healthy growth of 20.4 percent during CY11 backed by marked improvement in the interest income on investments; which surged by 52.9 percent during 2011.

Though interest income from advances remains the major contributing factor in the interest income however, further increase in the stock of investments boosted the share of investment income to 40 percent from 31 percent in 2010. Within the investment income, return on government securities accounted for 84.8 percent share of interest earned during CY11 against 81.5 percent in the previous year **(Figure 3.3).** Interestingly, the concentration of interest income on government securities continued to rise despite slashing of policy rate by 200 bps in H2-CY11.

To cater the ever-increasing budgetary needs of the government, banks resorted to excessive repo borrowings in addition to mobilization of saving and fixed term deposits during H2-CY11. As a result, interest expense jumped by 27.4 percent during the period under review as against full year increase of 20.2 percent.

In addition to the NII, the non-interest income also improved by 11.2 percent (YoY) to add to the rising banks' profitability. Much of the improvement in the non-interest income was registered in the second half CY11; as it increased by 12.1 percent compared to 8.9 percent in the first half **(Figure 3.4)**. The improvement was attributed towards increased fee/commission income, dividends and dealing in foreign exchange trading related activities. The general expenses of banking sector augmented by 14.2 percent during CY11 as cost of doing business increased in terms of rising salaries and associated expenses.

Lower provisioning expenses also contributed towards accumulation of profits

During 2005-2007, the benefit of forced sale value of collateral against NPLs was withdrawn to build up sufficient loan loss provisions keeping in view the healthy growth and performance of the banks. This counter cyclical measure provided regulator the leverage to utilize it in the period of economic slowdown. The FSV

Figure 3.5

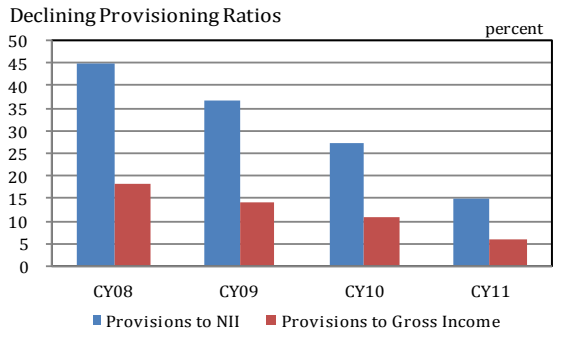


Figure 3.6

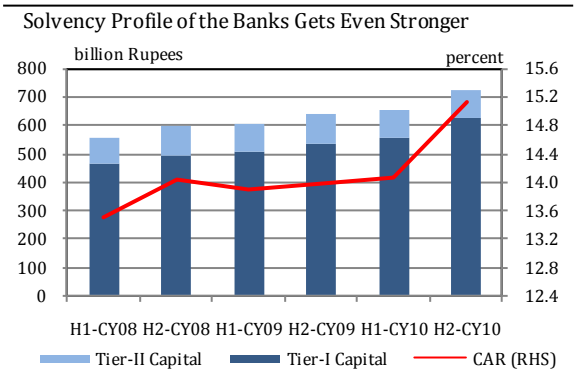


Figure 3.7

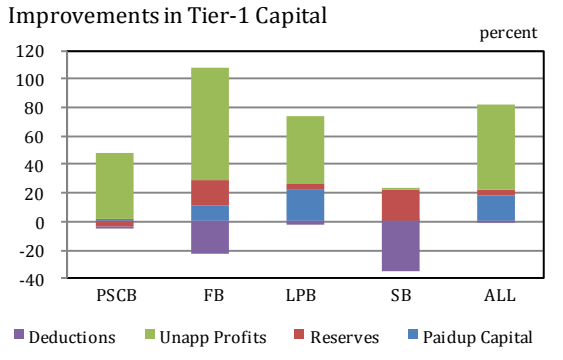


Table 3.2: Bank Category-Wise Solvency Ratios - CY11

in percent

	Capital to RWA		*Tier 1 to RWA*		*Capital to Assets*	
	H1	H2	H1	H2	H1	H2
Top 5	15.5	16.2	13.0	13.8	9.1	9.4
6 to 10	11.9	12.5	9.0	9.6	6.7	6.8
11 to 20	10.8	13.6	9.9	12.1	7.8	7.9
21 to 30	21.9	21.9	22.0	22.2	13.2	13.4
PSCB	12.8	16.5	10.8	14.4	9.0	9.3
LPB	14.1	14.4	12.0	12.3	8.2	8.5
FB	25.2	31.3	25.0	31.1	15.2	16.4
SB	8.0	8.9	2.0	3.4	2.0	7.5
Industry	**14.1**	**15.1**	**11.9**	**13.0**	**8.5**	**8.9**

benefit was enhanced in phases, with last enhancement allowed in second half of 2011. The rationalization of provisions through enhanced FSV benefit supported the buildup of banking profits during the year, with much of the improvement taking place in the H2-CY11.

During CY11, the banks availed the FSV benefit of over Rs20 billion – a rise of 75 percent over the previous year, which led to decline in provision expense by Rs 27 billion over the year **(Figure 3.5).** However, in order to incentivize the banks to focus on managing the credit risk and recovery of infected portfolio, banks were barred from distribution of dividends against additional income from FSV benefit.

Solvency Profile of the banking System

Higher profitability and fresh capital injections strengthened the solvency ratios

Driven by high profitability, fresh capital injections and slow growth in risk weighted assets, the solvency of the banking sector further strengthened in H2-CY11. The benchmark CAR of the banking sector improved significantly by 110 bps to 15.1 percent in H2-CY11 while Teir-1 CAR surged to 13 percent **(Figure 3.6).**

Much of the improvements in the capital structure occurred in the core capital attributable to fresh capital injections by some medium and small sized banks as well as accumulation of rising volume of inappropriate profits. As a result, the share of Tier-1 in total capital further strengthened to 85.9 percent during second half as against 84.8 percent in the first half. Similarly, most of the banks experienced improvements in their Tier-1 capital with the exception of specialized banks **(Figure 3.7).**

Concentration analysis of solvency ratios show that CAR of Top 5 banks further strengthened to 16.3 percent while it improved to 31.3 percent for foreign banks (FB). In addition, improvements in core capital significantly enhanced the Tier-1 to RWA ratio. The performance of the small sized bank improved over the half year; however, abnormal losses faced by one of the small banks overshadowed the performance of small sized banks, which led to marginal increase in their Teir-1 CAR. Moreover, the leverage indicator of capital to assets ratio also improved considerably in H2-CY11 to 8.9 percent for the banking sector **(Table 3.2).**

Figure 3.8

Declining share of Credit Risk Weighted Assets

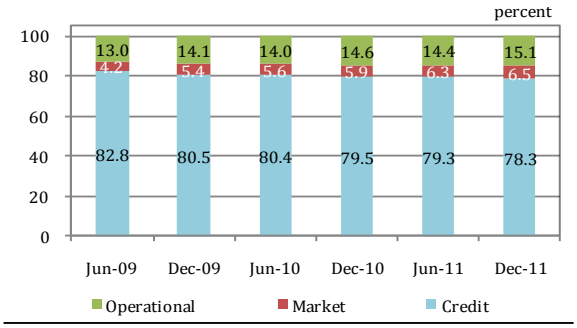


Figure 3.9

Credit Risk Weighted Assets

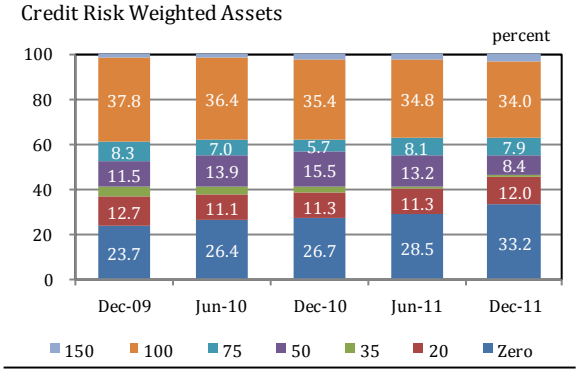
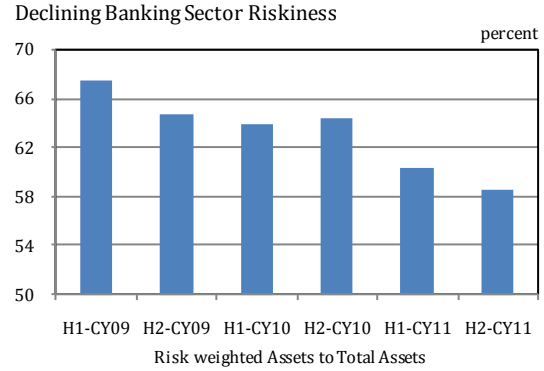


Figure 3.10

Declining Banking Sector Riskiness



Banks' business preferences and rising credit risk lead to the declining share of CRWA…

During the period under review, the capital base of banks surged by 10.7 percent, while risk weighted assets saw a subdued growth of 2.9 percent due to banks' preference towards safer ventures amid growing credit risk on private sector lending. Accordingly, share of credit risk weighted assets that were consistently declining over the last three years, further declined to 78.3 percent in H2-CY11 **(Figure 3.8).** The share of market risk weighted assets surged to 6.5, up from 4.2 percent in Jun-09 as the interest rate risk charge increased on banks' growing stock of investment. Similarly, the share of operational risk weighted assets augmented to 15.1 percent in H2-CY11 attributable mainly to high profitability of the banking system[25].

…..with the banks' risk appetite further decreased

The risk-averse behavior of the banking system is elaborately highlighted in the distribution of credit risk weighted assets that not only include advances but also include some components of investments. The share of zero risk weighted assets in the total credit risk weighted assets (CRWA) further increased to 33.1 percent in the second half as against 28.5 percent in the first half of CY11. On the other hand share of assets having 100 percent risk weight continue to decline. Meanwhile, share of assets with 150 percent risk weight edged up to 3.1 percent in the second half compared to 2.5 percent in H1-CY11 on account of increased classified portfolio[26] **(Figure 3.9)**. Similarly, the share of risk weighted assets to total assets – a measure of overall banking sector riskiness also shows a declining trend **(Figure 3.10).**

Despite stronger solvency indicators, rising level of NPLs still pose threat to the capital base

Though capital base has remained robust over the years owing to regulatory requirements and improved profitability, the capital at risk (Net NPL to Capital ratio) has also surged since CY10 - more profoundly in the public sector banks and still prevailing in the CY11. The ratio declined marginally by 17 bps to 25.6 percent during H2-CY11, which is a welcome development but, it is still

[25] Most of the banks in Pakistan use Basic Indicator Approach (BIA) to measure operational risk charge. Under the BIA, operational risk charge is calculated by taking the average of last three years of positive annual gross income of the banks times 15 percent.

[26] In terms of Basel requirements, overdue loans where specific provisions are less than 20 percent of the outstanding amount are assigned 150 percent risk weight.

Figure 3.11

Growing concern of consistently high Net NPL to Capital Ratio

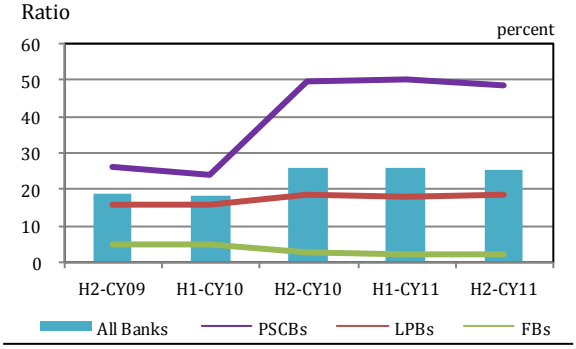


Table 3.3 Distribution of Banks by CAR

in percent

	Total	less than 10	10 to 15	Over 15
H2-CY08	40	9	10	21
H1-CY09	40	7	12	21
H2-CY09	40	6	15	19
H1-CY10	40	6	15	19
H2-CY10	38	6	12	20
H1-CY11	38	5	12	21
H2-CY11	38	5	10	23

Box A: Credit Risk Sensitivity Shocks

C1: 10% of performing loans become non-performing, 50% of substandard loans downgrade to doubtful, 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.

C4: Default of top 3 borrowing Groups of the banks.

C5: Increase in provisions against NPLs equivalent to 50% of Net NPLs.

C6: 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.

C7: 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 (Mar-09).

C8: 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.

C9: Increase in NPLs to Loans Ratio of Consumer Sector of the banks equivalent to the maximum quarterly increase in these banks during the last 3 years.

high enough with a tendency to adversely affect the solvency of the banking sector **(Figure 3.11)**.

Besides a higher net NPL to capital ratio, some banks lag behind in meeting regulatory capital requirements. A total of 12 banks fell short of MCR (minimum capital requirements) of Rs8 billion (as of Dec-11). With the prevailing level of unfavorable geo-political developments and the country's economic and structural issues, it is becoming increasingly challenging for banks to convince their foreign and domestic shareholders to further enhance the capital base of the banks.

In addition to MCR, banks are required to meet minimum CAR requirements of 10 percent which most of the banks meet quite comfortably. As of end Dec-11, only five banks with a market share of 3.6 percent remained short of minimum CAR **(Table 3.3).** These include two specialized banks, which are undergoing restructuring and three small private sector banks that represent 3.4 percent market share. This indicates a limited risk posed by such banks to the system as a whole.

Stress Testing of the Banking System

Improved solvency further enhanced the resilience of the banking system to severe stress shocks

With an industry CAR of 15.1 percent - much above the regulatory requirements, even the severe stress shocks did not affect much of the banking sector with the exception of some banks. The single factor sensitivity stress shocks on the credit, market, liquidity and contagion risk profile of the banking sector reaffirms that with the exception of a few banks, system is satisfactorily placed to withstand the stress[27].

The banking system remained solvent even in face of severe credit risk shocks. The sensitivity based credit risk shock of downgrading of the loan classification affected banks adversely as it depleted the CAR by 350 bps to 11.6 percent (*shock C1 of Box A*). The credit shock related to concentration of loans to large borrowers and borrowing groups (shocks C3 and C4) show that CAR of the banking system deteriorated by 200bps and 280 bps respectively, showing high degree of concentration risk **(Figure 3.12).** Particularly, in the increasing credit risk scenario, banks' lending is mostly directed to large corporates. This increasing loan

[27] For number of banks failing stress scenarios, see Annexure 1.15.

Figure 3.12

Credit Risk Shocks

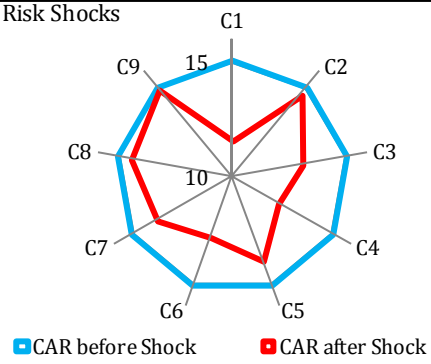
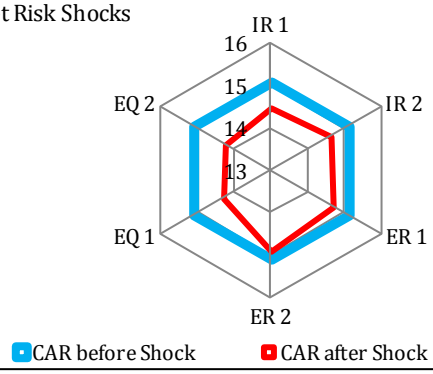


Figure 3.13

Market Risk Shocks



Box B: Market Risk Sensitivity 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 10years maturities equivalent to the maximum quarterly increase experienced during the last 3 years (July-08).

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

ER2: Depreciation of Pak Rupee exchange rate by 14.5% equivalent to the quarterly high depreciation 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%.

concentration to large corporate groups, when lending to SMEs and consumers is diminishing, needs to be effectively monitored to avoid any systemic implications. Similarly, in line with the easing trend of NPLs, the shock (C6) that takes the highest quarterly bank-wise NPL ratio also deteriorates the post-shock CAR significantly by 230bps.

In case of market risk that constitutes only 6.5 percent of banking sectors' risk profile, the market risk sensitivity stress shocks did not affected the banks' solvency profile as much as the credit risk shocks. The interest rate and equity price shocks have varying impact on CAR between 40 to 85 bps, while the exchange rate shocks had negligible impact on the CAR **(Figure 3.13).**

In addition to the conventional credit, market and liquidity shocks, the regulatory stress and inter-bank contagion shocks were also applied on the banks' portfolio and banks were found to survive in these stress events. Similarly, the liquidity shocks that consider sudden withdrawal of bank deposits and applying 20 percent haircut on the liquid assets (government securities) held with the banks to create stress on the liquidity coverage ratio also revealed the healthy liquidity profile even in stress environment.

Macroeconomic stress tests reveal worsening of macroeconomic outlook and further deterioration of the NPLR.

In addition to sensitivity based stress testing, the scenario or the macroeconomic stress testing of the credit risk also did not severely affected the banking sector performance on aggregate basis. Under the scenario analysis, the short-run (6 months) forecasts of macroeconomic indicators tends to worse-off and likewise the expected NPLR under the baseline case projected for H1-CY12 also deteriorated to 16.4 percent – an increase of 20bps over the NPLR of H2-CY11. However, it remained far below the critical infection ratio of 56.25 percent.

Under various scenarios of applying shocks to macroeconomic variables, the NPLR remained in the range of 16.6 to 27.7 percent at different percentile levels **(Figure 3.14).** For instance, the exchange rate shock did not severely affect the NPLR due to its weak relationship with infection ratio. While, the shocks applied to inflation and Large Scale manufacturing Index (LSM) did affect the NPLR under stress scenarios. Under the LSM shock, the average NPLR deteriorated to 17.2 percent (50th percentile) and

Figure 3.14

Simulated NPLR at Percentiles

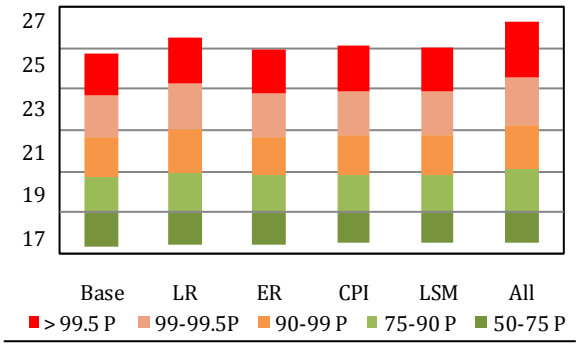
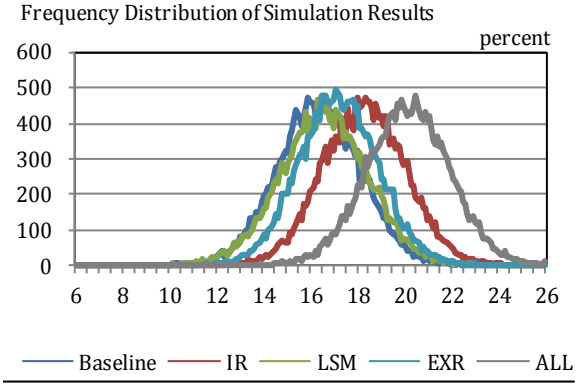


Figure 3.15

Frequency Distribution of Simulation Results



in worst case scenario (All), it further deteriorated to 21.7 percent at 99.5 percentile.

The simulations of various macroeconomic shocks also highlight the worsening trend of the NPLR under different scenarios. If all macroeconomic shocks are applied simultaneously, the resulting stressed simulations will significantly deviate from the baseline (no shock) scenario **(Figure 3.15).**