Chapter 2 Risk Analysis of the Banking Sector

Credit risk soared further due to rising NPLs amid subdued economic growth and tenuous business conditions. Due to sizeable increase in NPLs, the banking sector observed general deterioration in asset quality, with PSCBs maintaining high vulnerability to credit risk. In addition to textile sector, increasing concentration of advances in energy sector emerged as a new source of concern due to unresolved energy sector issues. Liquidity position of banks maintained comfortable profile due to large stock of government securities and steady flow of customer deposits. Despite volatility in the financial markets, the market risk remained contained due to limited market related exposures.

Figure 2.1

Credit Risk Weighted Assets (CRWA)

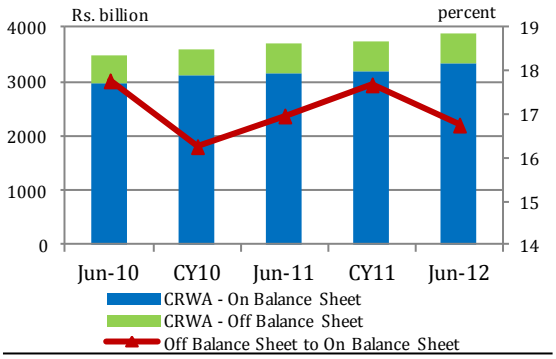
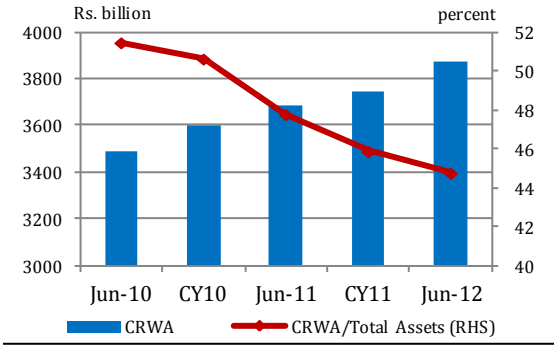


Figure 2.2

Credit Risk Profile



Credit Risk

Credit risk continued to be the key challenge to the stability of the banking sector. Due to lower economic growth and consequent deterioration in asset quality, banks adopted risk averse approach, which led to increased public sector exposure while flow of advances to the private sector subsided. The trend continued during the period under review and with 7.3 percent growth in NPLs, infection ratios worsened, which added to already high credit risk.

Share of Credit risk weighted assets (CRWA) declined despite prominent increase

During H1-CY12, on balance sheet exposures accounted for 85 percent of the credit risk in banking sector and that mainly came from advances portfolio[20] **(Figure 2.1**). The loan portfolio expanded by 6.6 percent, which led to 3.3 percent increase in CRWA of the banking sector during H1-CY12 compared to growth of 1.7 percent in corresponding period of the last year. As growth in total assets, with a good portion of it placed in zero risk weighted assets, outpaced the increase in CRWA, the overall share of CRWA in total assets slipped down further **(Figure 2.2**). However, this declining share of CRWA is a source of concern, as banks seem to be focusing on flow of credit to risk free avenues, with limited flows to private sector. Such approach may compromise the risk management capacities of the banking sector.

Considerable increase in non-performing loans (NPLs) deteriorated infection ratios…

[20] Safer assets include investments in government securities, which carry zero risk weight

Figure 2.3

Trends in Non Performing Loans

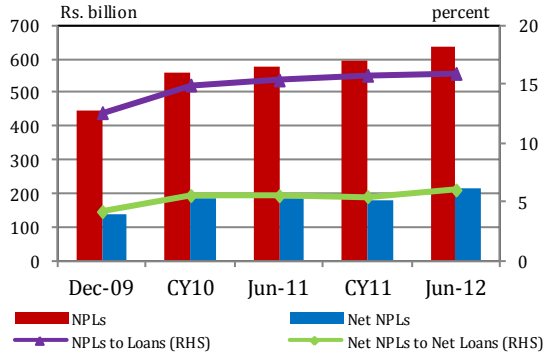


Figure 2.4

NPLs and Restructured Portfolio

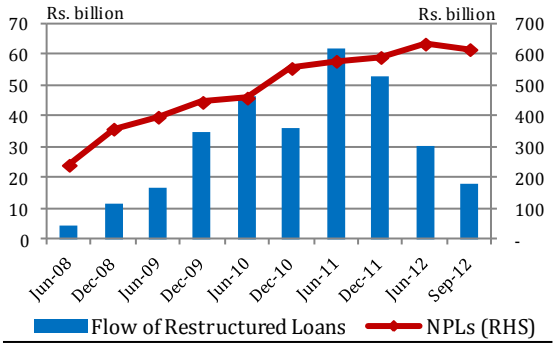
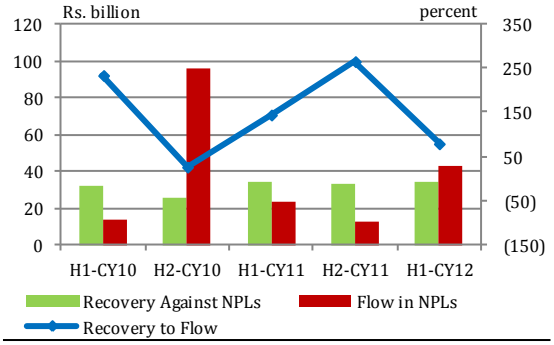


Figure 2.5

Recovery to Flow of NPLs



In the face of challenging economic conditions and increasing cost of doing business coupled with persistent energy crisis, the debt repayment capacity of the borrowers remained under stress, which translated into further increase in infected portfolio. During H1-CY12, NPLs rose by 7.3 percent compared to a nominal 2.6 percent increase in H2-CY11 **(Figure 2.3)**. However, revived public sector credit growth during the period under review kept the infection ratios under check; NPLs to loans ratio increased by 16 bps to 15.9 percent during H1-CY12.

…while banks continued efforts for managing the asset quality and improving recoveries

NPLs, which observed increase during 2008-10, decelerated over the last two years indicating that infection is about to peak out. The possible reasons for slowing down in NPLs include rationalization of provisioning requirements[21], monetary measures introduced over the year and limited preference of banks towards risky exposures. Importantly, during the last few years, banks actively pursued the rescheduling/restructuring of workable corporate loans. Due to slow down of credit to private sector, NPLs, as well as rescheduling/restructuring has diminished during the last year **(Figure 2.4).** Similarly, due to consistent efforts of banks, flow of recoveries against infected portfolio remained steady. However, with a surge in infected portfolio of PSCBs during H1-CY12 **(Figure 2.5)** recoveries fell short of NPL flows.

During H1-CY12, most of the increase in NPLs took place in loss category, with some flows into OAEM[22] category. The categorization of almost three-fourth of the fresh NPLs in loss category during H1-CY12 seemed to be outcome of re-classification of specifically dispensed off portfolio, with adequate collateral coverage[23] **(Figure 2.6)**. The increase in provisions, which was far less than the rise in NPLs, further substantiated this fact. Hence, the provisions coverage declined to 66.3 percent in H1-CY12 from 69.3 percent in H2-CY11 **(Figure 2.7).** In harmony with the accelerated growth in NPLs and lower provisioning coverage, net NPLs registered higher growth.

[21] SBP allowed banks to avail the benefit of Forced Sale Value (FSV) of the securities held against NPLs with a regressive decrease in benefit over the period of default. Banks availed FSV benefit of more than Rs. 20 billion in H2-CY11, which was expected to decline as flow of fresh NPLs declined over period of time. Therefore, reduction in additional benefit to just over Rs. 1 billion in H1-CY12 came as no surprise.

[22] OAEM category NPLs flows mainly resulted from classification of seasonal Agriculture Finance.

[23] More than three-fourth of the rise in NPLs came from PSCBs. Since some of these PSCBs were in the process of making readjustments to their portfolio, it is expected that their NPLs will reduce in third quarter of 2012.

Figure 2.6

Category-wise Flow of NPLs

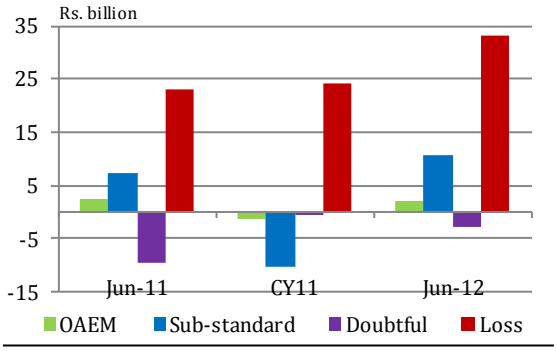


Figure 2.7

Provisions against NPLs

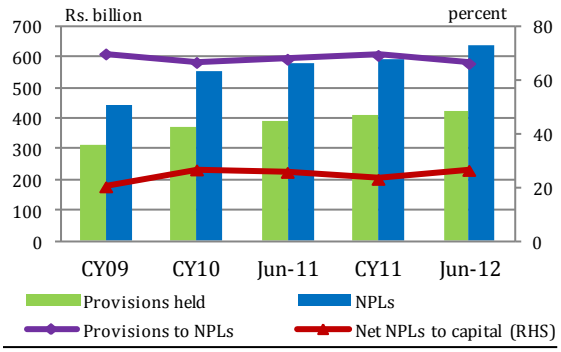


Figure 2.8

Provisions against Advances

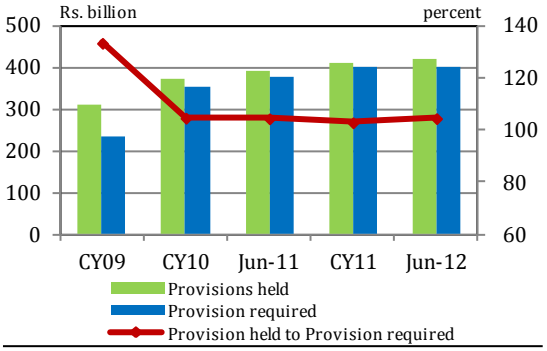


Table 2.1: Asset Quality by Bank Category

in percent

	CY11	Jun-12			
	Infection Ratio	Infection Ratio	Net Infection Ratio	Provision Coverage	Net NPLs to Capital
PSCBs	21.1	22.7	12.8	50.0	56.5
LPBs	13.8	13.4	3.7	74.9	17.4
FBs	10.4	11.1	1.4	88.7	2.1
CBs	**15.3**	**15.5**	**5.7**	**66.9**	**24.6**
SBs	30.1	30.4	16.2	55.5	133.5
All banks	**15.7**	**15.9**	**6.0**	**66.3**	**26.2**

Interestingly, provisions held by the banks exceeded the required level as banks continued to maintain additional reserves for expected infection particularly for consumer portfolio[24] **(Figure 2.8)**. The excess provisions saw further increase during H1-CY12 as the ratio of provisioning held to the required provisioning increased from 102.9 percent to 104.5 percent, mainly on account of growth in personal finance by a few banks.

PSCBs appeared more vulnerable to credit risk....

During H1-CY12, increase in NPLs was observed across the banking sector, though large banks contributed most of the increase in infected portfolio. Group wise analysis show that PSCBs observed highest accretion of NPLs and consequent deterioration in infection ratios. However, as highlighted earlier, additional infected portfolio of PSCBs was adequately covered against collateral, which not only attracted lesser provisions but also deteriorated infection ratios and capital impairment ratio of PSCBs. The asset quality of FBs marginally decreased due to realignment of their business strategy and expected merger activity. Though LPBs observed increase in NPLs, corresponding higher increase in credit portfolio of LPBs actually resulted in a slight decrease in their infection ratio **(Table 2.1)**. Further, infection ratio of top five banks increased by 100 basis points during the period under review, due to increase in NPLs of corporate and SME portfolios **(Table 2.2).**

...while infection rate increased in textile sector...

The continuing energy crisis, non-availability of natural gas, law and order situation and increasing cost of doing business kept on having its toll on the various corporates in H1-CY12. Within the corporate sector, the deterioration in asset quality of textile sector was more pronounced as compared to H2-CY11. The share of textile sector, which is largest user of banks advances, declined by 233 bps (Rs 48 billion) during H1-CY12 due to decline in cotton prices and decline in export receipts. Above that, spinning sector, which is high power consuming sector, added 10 percent of the total NPLs, which deteriorated the overall infection ratio of the textile industry. Cement sector though observed increase in infection ratio; however, most of this surge resulted from net retirement during H1-CY12 and not from increase in NPLs **(Table 2.3)**.

[24] Prudential Regulations for Consumer Financing (R-8, R-14, R-22, R-27)

Table 2.2: Asset Quality by Bank Size

in percent

	CY11	Jun-12			
	Infection Ratio	Infection Ratio	Net Infection Ratio	Provision Coverage	Net NPLs to Capital
Top 5 banks	12.9	13.9	4.2	72.6	17.3
6-10 banks	12.0	17.0	7.9	58.4	46.6
11-20 banks	26.2	20.4	9.0	61.5	46.1
21-30 banks	13.4	10.2	5.1	53.1	13.0
All banks	**15.7**	**15.9**	**6.0**	**66.3**	**26.5**

Table 2.3: Credit and Infection Ratios by Sector (percent)

	Share in Loans	Infection Ratio	
		Dec-11	Jun-12
Textile	15.8	27.9	31.8
Individuals	8.4	15.9	16.1
Energy	12.1	3.9	4.2
Agribusiness	8.8	11.7	10.6
Chemical & Pharma	3.8	9.1	9.3
Sugar	3.1	14.3	9.4
Cement	1.6	23.3	28.4
Others	46.4	15.0	15.0

Figure 2.9

Credit Flows

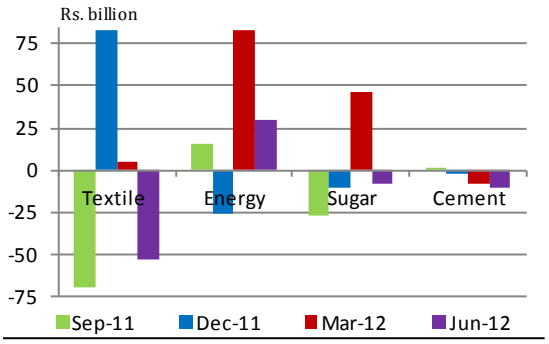
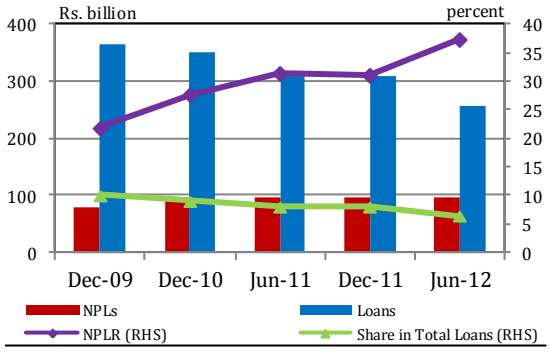


Figure 2.10

Trends in SME Financing



…while concentration in energy sector increased

In the wake of continuing energy crisis and consequent rise in inter-corporate circular debt, concentration of advances to energy sector and associated credit risk continued to accumulate on the balance sheets of banks. Due to high credit demand over the last four years, loans to production and transmission of energy grew on average by 25 percent against 5 percent growth in overall advances. The trend continued during the period under review as energy sector (mainly public sector) borrowed another Rs 113 billion (31 percent increase) during H1-CY12 from the banking system, which increased its share to above 12 percent (against low of 5 percent in CY06). Increasing concentration of advances to energy sector did increase concerns as issues related to the energy sector remained unresolved and NPLs piled up. Despite substantial flow of credit, infection ratio of the sector increased to 4.2 percent in the first half of CY12.

The sugar sector, which observed decline[25] in advances in H2-CY11, remained the second major user of bank credit in H1-CY12. This largely resulted from usual seasonal pattern of credit flows; however, delay in start of the crushing season also kept the demand from the sugar sector relatively high **(Figure 2.9)**. Further, due to improved produce and revenues, infected portfolio of the sugar sector reduced, which led to decline in the infection ratio of the sugar sector over the period under consideration.

SME portfolio continued shrinking …

SME segment remained the worst hit because of prevailing tough business and economic environment. The flow of credit saw a biggest decline since 2009 as the portfolio squeezed by more than Rs. 50 billion. This coupled with stagnant NPLs led to surge in infection ratio to 37.4 percent **(Figure 2.10).**

….while consumer finance remained sluggish

The infection ratio for consumer finance marginally declined to 18.1 percent in H1-CY12 from 18.6 in H2-CY11 mainly due to decline in infection ratio of personal loans **(Figure 2.11)**. Over the last few years, banks focused on personal loan category due to its relative security and recoverability, while they continued to

[25] The inability of sugar mills to off-load their inventories before the start of crushing season on account of lower domestic prices kept the advances demand low in H2-CY12. However, government purchased sugar stock to stabilize prices, which facilitated the sugar sector in settling their dues.

Figure 2.11

Trends in Consumer Financing

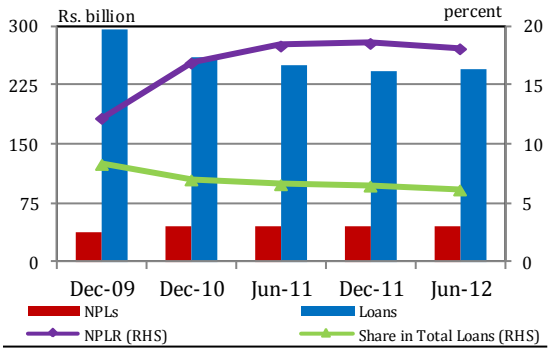


Table 2.4: NPL Ratio of Consumer Financing

in percent

(Private sector only)	Share	Dec-11	Jun-12
Credit cards	9.46	20.60	21.02
Auto loans	18.56	10.40	10.40
Consumer durable	0.06	79.08	68.87
Mortgage loans	22.52	28.62	30.37
Other personal loans	49.41	16.33	14.81
Total	**100.00**	**18.56**	**18.11**

Figure 2.12

Trends in O/N rates and Liquidity Premium (percent)

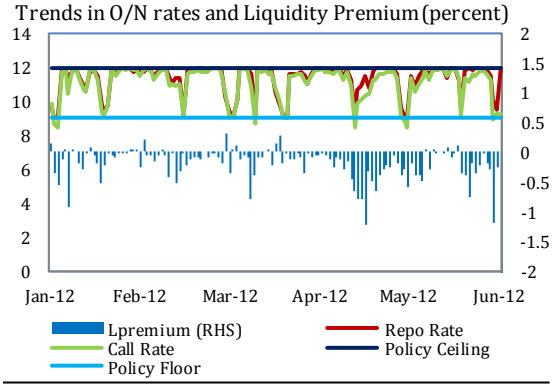
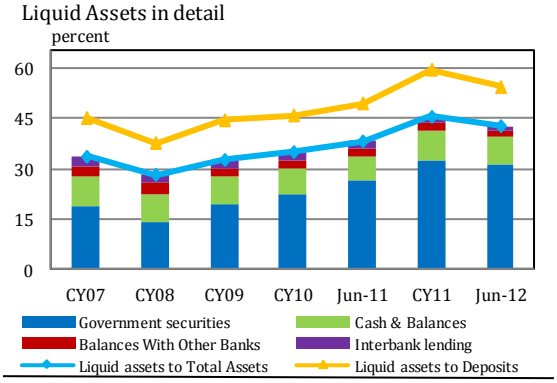


Figure 2.13

Liquid Assets in detail



cut down on other categories of consumer finance. The trend continued during the period under review as personal loans observed a 6.2 percent growth, which increased its share in overall consumer finance to almost 50 percent. Further, with decrease in infected portfolio, infection ratio dipped by 152 bps during H1-CY12.

The depressed real estate market continued to have its toll on the infection of mortgage portfolio. Further, in wake of the uncertain security situation, the auto loans also observed decline, though infection remained unchanged due to corresponding decrease in auto NPLs **(Table 2.4)**.

Liquidity Risk

Banks maintained adequate fund based liquidity, despite some strains in market liquidity…

Liquidity profile of the banking sector stayed comfortable, amidst some retrenchment in the key liquidity indicators during the period under review. The funding requirements of the public sector remained high due to higher demand for seasonal financing, while budgetary borrowing from the banking sector slowed down. Though healthy growth in deposits supported the funding requirements, market liquidity remained constrained due to high and rising demand for funds from public sector and sluggish foreign inflows. Despite slowdown in investments in government securities, the base line liquidity indicators remained steady with marginal softening.

The higher credit demand from public sector, mainly for energy related payments and seasonal commodity finance, constrained the market liquidity during the H1-CY12. Accordingly, short-term overnight rates remained quite volatile and their gap with the policy ceiling was quite narrow during H1-CY12 **(Figure 2.12).** This liquidity strain led SBP to make substantial injections into the banking system. The average daily volume of net injections stayed high in the first quarter of CY12, which declined remarkably by end of second quarter as seasonal financing picked up and government increased its reliance on central bank borrowing.

Liquidity indicators remained steady with marginal dip…

During H1-CY12, funding liquidity risk stayed well contained, nevertheless, the balance sheet liquidity indicators somewhat

Figure 2.14

Surplus liquidity of banking system

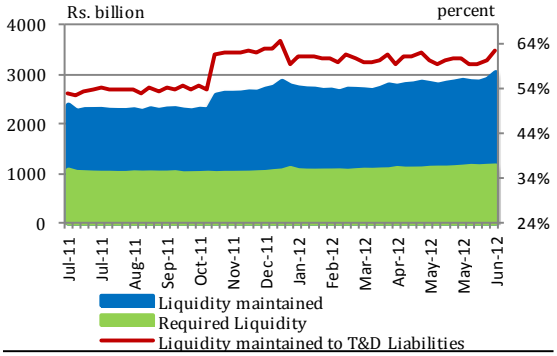


Figure 2.15

Government Securities by type

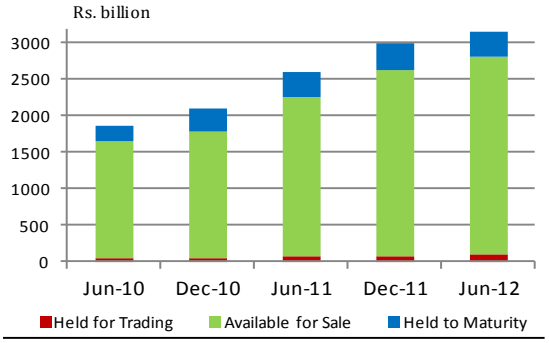


Figure 2.16

Funding structure (in percent)

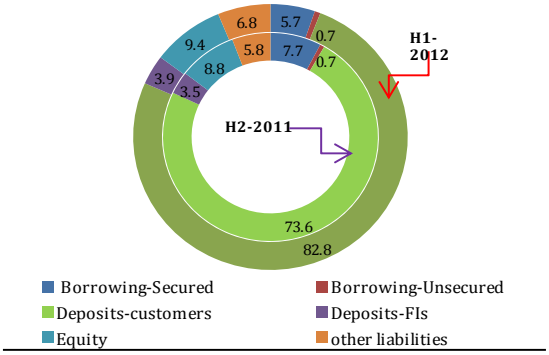
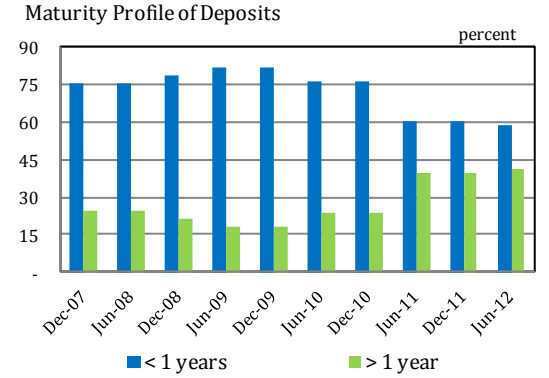


Figure 2.17

Maturity Profile of Deposits



deteriorated. Unlike H2-CY11, when most of the funds were channeled into Government securities, increase in deposits during first half of CY12 went equally into investments (both Government securities and equity stocks) and advances. Due to deceleration in liquid assets, the key liquidity indicators declined marginally; liquid assets as a percentage of total assets and deposits dropped to 42.7 percent and 54.3 percent respectively **(Figure 2.13)**. Further, strong deposits growth led to an increase in time and demand liabilities (TDL), which caused a marginal dip in the surplus liquidity maintained, though still more than double the statutory requirement of 24 percent **(Figure 2.14).**

Advances to deposit ratio (ADR) of the banking sector observed continuous decrease for the last few years. The trend persisted during the period under review; ADR further dropped to 53 percent as growth in deposits outpaced advances growth. However, rate of decline in ADR subsided due to improved credit disbursements to the PSEs.

Excessive placement of investments in government papers into AFS category showed liquidity preference ....

The structure of banks' investments in risk-free government securities showed preference of banks to enhance their ability to meet the fund based liquidity needs. Particularly, the short-term government securities (MTBs), which more than doubled over the last three years, have been placed in Held for Trading (HFT) and Available for sale (AFS) categories. With a meager increase of 1.4 percent during H1-CY12, the structure of MTB holdings of banks remained unchanged, indicating unchanged liquidity preference for managing the immediate liquidity requirements **(Figure 2.15).**

Maturity gap improved due to increase in shorter tenor CASA deposits...

Funding structure of the banking sector observed marginal shift towards customers' deposits as reliance on borrowings abated during first half of CY12. Deposits witnessed a pronounced growth of 9 percent thus providing ample resources to banks for meeting the credit needs as well as partial retirement of borrowings **(Figure 2.16)**. The CASA deposits, which are non-contractual in nature, remained the key and stable funding source for the banking sector. This category of deposits showed significantly higher growth compared to fixed deposits; actually fixed deposits in less than one-year category observed double

Figure 2.18

Maturity Gap (Assets-Liabilities) as percent of Assets

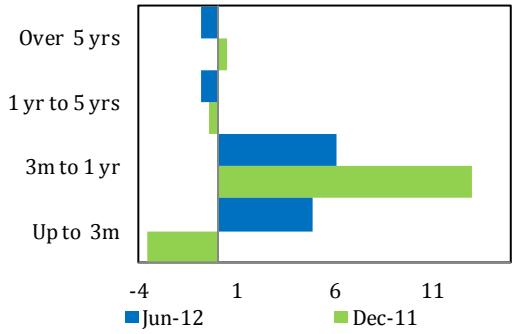


Figure 2.19

Funding Liquidity Risk Indicators

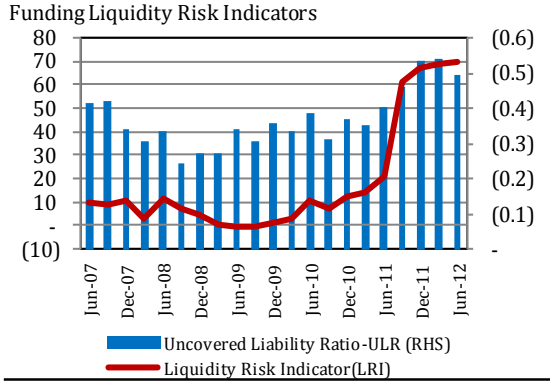
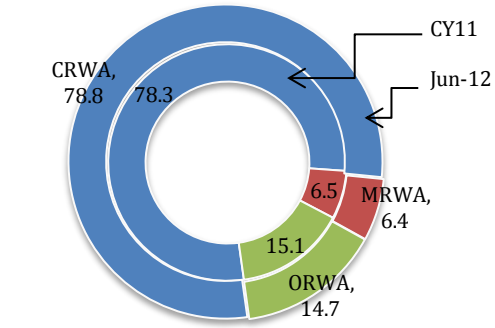


Figure 2.20

Risk Weighted Assets (in percent)



digit dip. Accordingly, despite increase in absolute terms, the share of less than 1-year deposit saw a marginal decline during H1-CY12 compared to corresponding period of the last year **(Figure 2.17)**.

The maturity gap improved over the 1-year horizon due to marginal changes in the investment structure, improvement in flow of advances and decrease in maturity of the deposits. Particularly, banks enjoyed positive maturity gap in the near term buckets, as asset maturing in less than 3 months and 3 months to 1 year maturity bands stayed in excess of the liabilities maturing in the same period **(Figure 2.18)**.

… while funding Liquidity Indicators stayed encouraging

Uncovered Liability Ratio (ULR), which measures liquidity shortage at an institutional level, remained steady with marginal decline due to substantial stock of liquid assets. Liquidity Risk Indicator (LRI), which takes into account short-term liquidity gap calculated for 30-day time horizon, also signified lower funding risk due to growing investment in Government Securities. Both of these indicators demonstrate comfortable liquidity position of banks **(Figure 2.19)**.

Banks would stand resilient towards various liquidity shocks

The healthy liquidity profile of the banking sector provides enough resilience towards liquidity shocks. As such, the banking system has sufficient liquidity to meet significant deposit withdrawal for consecutive five days. Liquidity coverage ratio of the banking system[26], which is a measure of 30-day liquidity, remained well above the acceptable benchmark of 1, as defined under Basel III[27].

Market Risk

Prudent regulatory limits kept the market risk contained

Despite continuing volatility in the financial markets, the market risk of the banking system remained well contained. This comes as a no surprise as banks are subject to prudent regulatory[28] limits on equity and currency exposures and the benchmark

[26] The Liquidity Coverage Ratio will require banks to have sufficient high quality liquid assets to survive a significant stress scenario lasting 30 calendar days
[27] SBP is in the process of finalizing the guidelines on Basel III
[28] SBP has set limits on both the Equity and Foreign Exchange exposures of banks under the PRs.

Figure 2.21

6M PKRV & Policy Rates and Volitility

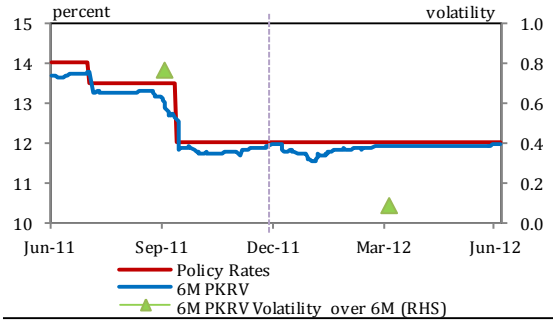


Figure 2.22

Term Spreads: 10Y vs 6M PKRV Rates

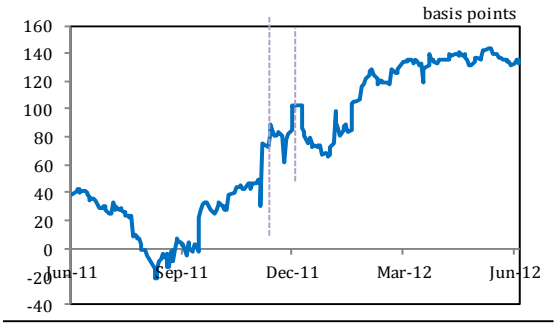


Figure 2.23

Yield Curves

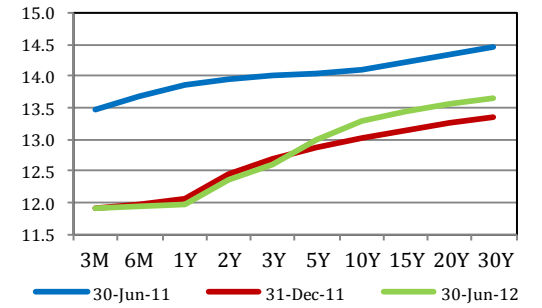
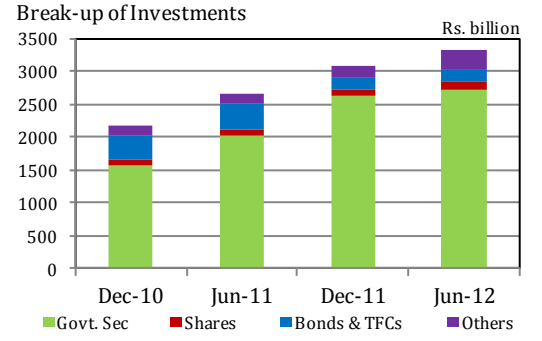


Figure 2.24

Break-up of Investments



limits on interest rate exposures. The limited market risk of the banking system fairly reflected in the meager share of market risk weighted assets in the total risk weighted assets[29] of the banks **(Figure 2.20).** Marginal decrease in the Market Risk Weighted Assets (MRWA) largely resulted from decelerated growth in the investments in Federal Government securities and substantial credit growth to the PSEs.

Volatility in money market subsided, though longer tenor yield curve steepened

SBP kept the policy rate flat at 12 percent during H1-CY12 (against two episodes of rate cut during H2-CY11) due to double digits inflation, slowdown in private investment and persistently high demand for public sector credit **(Figure 2.21).** Though the volatility in money market remained high, however, it stayed relatively low compared to H2-CY11 as expectations of the policy rate change subsided over the half year. During H1-CY12, the long-term rates witnessed significant increase, as 10-year PKRV yield gained 60 basis points against a reduction of more than 100 basis points during the previous half-year (H2-CY11). Though the 6 months yields also showed a marginal increase, the term spread between 10 year and 6 months PKRV rates widened during H1-CY12, touching a peak of 144 basis points towards the end of the period under review **(Figure 2.22).** Accordingly, the yield curve further steepened, in line with increased supply of long-term funds during the half year under review.

The yield curve slightly inched up for maturities more than 1-year; however, steepening was more pronounced for maturities of longer tenor **(Figure 2.23).** Though a good portion of the investment in government securities have longer maturities, however, most of them have been categorized under Available for Sale (AFS), which limited the impact of changing interest rate scenario on profitability[30] **(Figure 2.24 & 2.15).**

The rate sensitive gap marginally exceeded the acceptable limits for shorter tenors due to rising exposure to MTBs

The gaps between the re-pricing of rate sensitive assets (RSAs) and rate sensitive liabilities (RSLs) shape the interest rate risk of a bank. Though these re-pricing gaps are inescapable under a

[29] Throughout this section, risk weighted assets (RWA) are limited to RWA under Pillar-1 of Basel II capital accord.
[30] As the revaluation gains/losses on AFS category do not affect the income and are directly taken to the balance sheet of a bank, the profits of the banking system remained insulated from the additional revaluation losses of Rs 4.7 billion arising due to the steepening of the yield curve.

Figure 2.25

Gap (RSA-RSL) to Asset Ratio

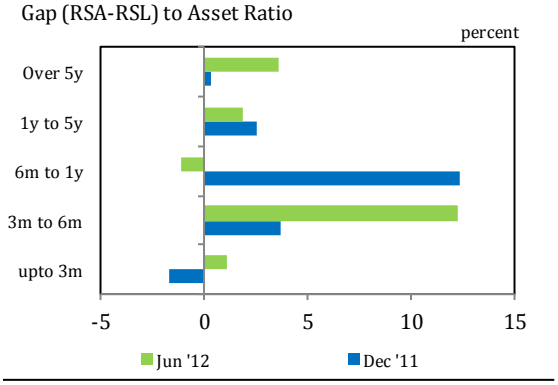


Figure 2.26

KSE 100 Index and Volitility

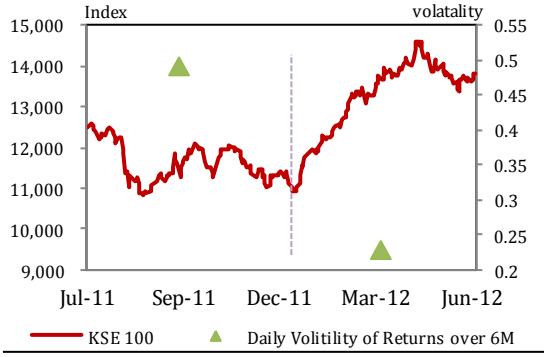
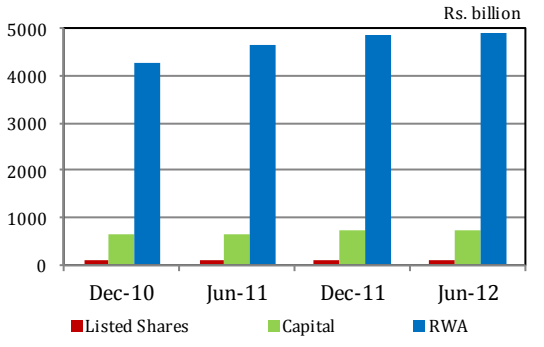


Figure 2.27

Stock Market Exposure of Banking Sector



normal banking business, the mismatch of above +/- 10 percent of total assets raises concern of interest rate risk. During H1-CY12, the banks were able to maintain overall re-pricing gaps within the tolerable limits. However, gap between 3 months to 6 months RSA and RSL increased marginally above the range to 11.3 percent exposing the banks to the interest rate risk. The increase mainly resulted from decline in remaining maturities of the investments and increased investment in shorter maturity MTBs **(Figure 2.25)**.

Bank's exposure to stock market remained small despite bullish equity market trend

KSE outperformed the regional markets and witnessed an overall bullish trend during the H1-CY12, amidst economic and other related issues. The KSE 100 index reached 13,801 points as of June 30, 2012, posting a gain of 21.6 percent in H1-CY12 **(Figure 2.26).** The stock market volatility remained low during H1-CY12, while the rising index reflected building expectations of the investors about the stock returns during the period under review.

As a result of improvements in equity markets, banks increased their investments in stocks by 25 percent during H1-CY12. However, overall exposure of the banks remained well contained as it represented a meager 1.3 percent in terms of total assets and 15.3 percent of total regulatory capital of the banking sector **(Figure 2.27).** The regulatory cap of 20 percent of total capital on bank's investments in shares has played its role in keeping the stock market exposure of banks under check and limited the risk arising out of the significant downward swings in the stock market. The sensitivity analysis reveals that even in case of 50 percent fall in equity prices, banks' CAR would shed merely by 60 bps.

Rupee continued to slide against the USD due to multilateral payments, uncertain inflows and the changing market sentiments ....

The remittances inflows hit a new high as the expatriates sent a record USD 6.9 billion to Pakistan during H1-CY12, marking an annual growth of 18 percent during FY12. However, worsening of current account due to higher trade deficit coupled with payments to the IMF and changing sentiments kept the PKR under pressure. Resultantly, PKR depreciated by 5.2 percent against the USD, closing at PKR/USD 94.62 on June 30, 2012

Figure 2.28

Evolution of PKR/USD Exchange Rates

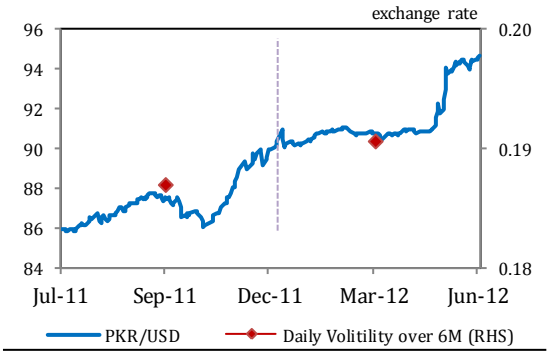
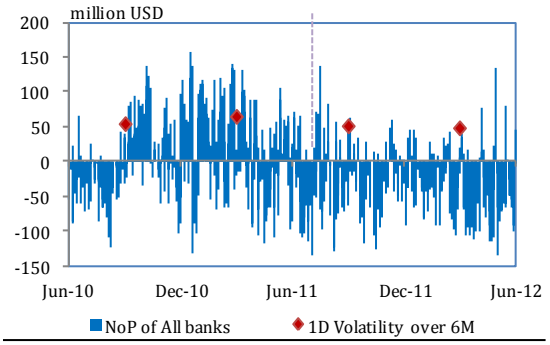


Figure 2.29

NOP of All Banks



(Figure 2.28). On the back of the growing pressure on rupee, and market sentiments, the volatility of rupee dollar exchange rate during H1-CY12 stayed higher during the period under review.

...though foreign currency exposures of banks remained contained, less volatile and on shorter side

Overall Net Open Position (NOP) of the banking sector remained within the manageable bounds of +/- USD 140 or less than 2 percent of bank's capital during the H1-CY12. The volatility in NOP maintained by banks, remained comparatively lower than that of the H2-CY11 and deviations from the square positions were considerably on short side **(Figure 2.29)**. In view of significant depreciation of PKR against USD and other currencies, the short currency positions exposed banks to revaluation losses.