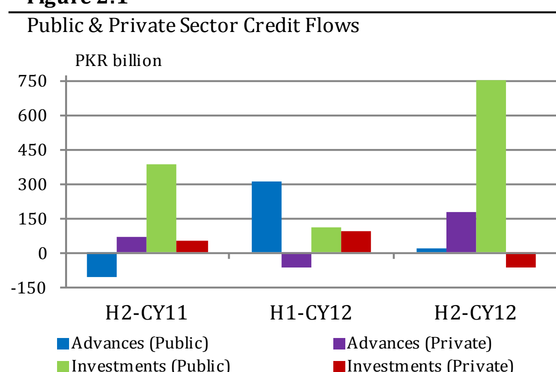
Chapter 2 Risk Analysis of the Banking Sector

Despite difficult business conditions, fresh flow of credit accompanied by a reduction in NPLs kept the credit risk under check. Enhanced recoveries and adequate provisioning helped in improving the asset quality. While seasonal financing to textile sector grew, concentration in energy sector continued to remain as a source of concern. Liquidity profile of the banking sector stayed comfortable; however, demand for funds remained high due to private sector seasonal financing requirements and increase in budgetary borrowing from the banking sector. Market risk profile of the banking system stayed well contained despite uncertainties in the local economic environment and continuing stress in the external position.

Credit Risk

During H2-CY12, credit risk remained manageable, although it continued to be the main contributor to the overall risk of the banking industry. Overall, gross loans of the banking sector observed a steady growth of 6.26 percent. Majority of the incremental loans were extended to private sector, while advances to public sector saw a marginal increase **(Figure 2.1)**. The significant rise in the amount of recoveries and considerable decrease in nonperforming loans (NPLs), improved the overall asset quality in H2-CY12.

Figure 2.1
Public & Private Sector Credit Flows

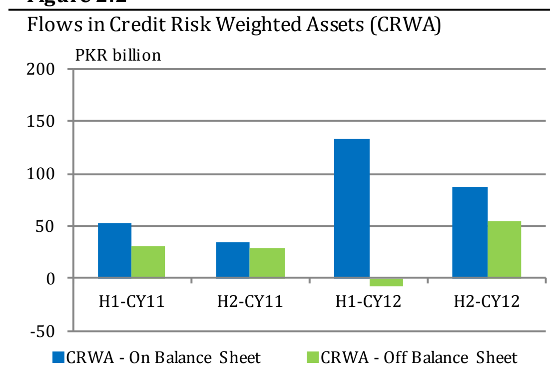


Credit Risk Weighted Assets (CRWAs) continued to grow

A steady growth in credit over the half year enhanced CRWAs of the banking sector by 3.7 percent in H2-CY12. This rise in CRWAs was attributable to 5.7 percent growth in private sector loans and 2.8 percent rise in public sector loans. This was in sharp contrast to H1-CY12, when reduction in private sector portfolio and a substantial growth in lower risk weighted public sector loans decelerated CRWAs.

Within CRWAs, both on balance sheet and off balance sheet assets escalated in H2-CY12 **(Figure 2.2)**. As majority of the rise was observed in private sector advances, carrying higher risk weights, it led to an increase in on balance sheet CRWA. Whereas, increase in trade business as reflected in both increase in trade related contingencies, commitments, and higher export refinance[35] added to the value of off balance sheet CRWAs.

Figure 2.2
Flows in Credit Risk Weighted Assets (CRWA)



NPLs observed first decrease after five years…

[35] In terms of Development Finance ReviewDecember-2012, the linking of Overdue Export Proceeds with the Export Finance Scheme (EFS) Facility was introduced in July 2011 in order to limit EFS borrowers to keep their overdue export proceeds under 5 percent of their last year's exports. Initially, this step reduced the volume of EFS financing but subsequently the borrowers adjusted their overdue proceeds in line with the prescribed limit, which resulted in a boost in EFS portfolio in H1-CY12.

Figure 2.3
Non Performing Loans

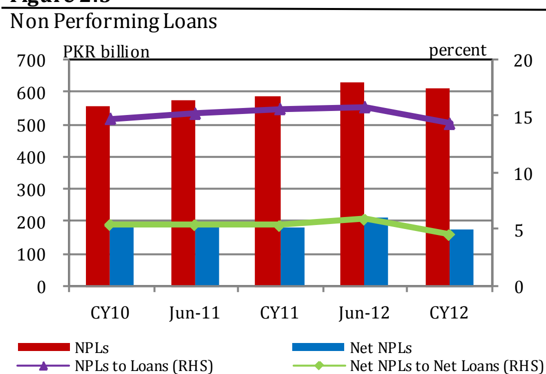


Figure 2.4
NPLs and Restructured Portfolio

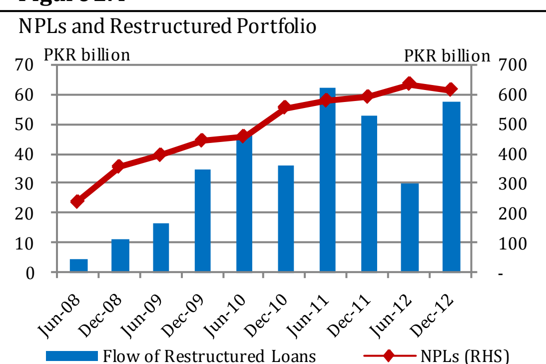


Figure 2.5
Recovery to Flow of NPLs

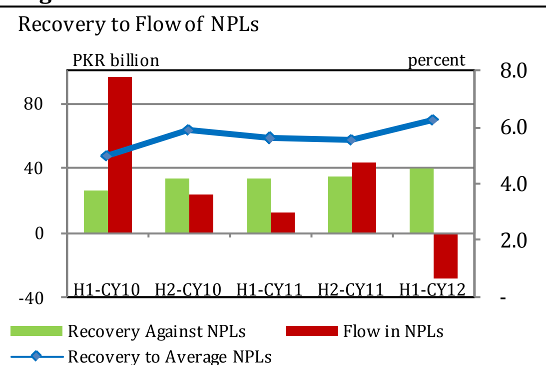
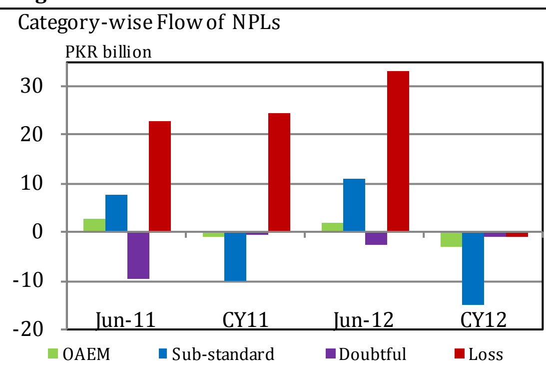


Figure 2.6
Category-wise Flow of NPLs



The asset quality of the banking sector improved over the half year due to drop in NPLs for the first time since CY08. During H2-CY12, NPLs declined by 3.13 percent to PKR 607 billion, which coupled with expansion in loans led to a reduction in infection ratio to 14.5 percent **(Figure 2.3)**. Among various factors, subdued activity in banks' advances over the last few years contributed to subsiding flow of new NPLs, which even led to cut in infected portfolio during H2-CY12.

Another reason behind the fall in NPLs was rescheduling/ restructuring of portfolios. Successful restructuring of loan portfolio of a few large corporate helped banks in restricting flow of NPLs, while ensuring that the viable corporate remained operational. A look at flows of NPLs reveals that rescheduling/ restructuring of loans resulted in drop in NPLs in various classification categories (**Figure 2.4**).

Recoveries enhanced the decline in infected portfolio…

The substantial recoveries over the half year provided for major part of the decrease in infected portfolio. The recoveries enhanced by 14 percent in H2-CY12, against 4.24 percent rise in H1-CY12. As a result, recoveries to average NPLs ratio increased from 5.6 percent in H1-CY12 to 6.3 percent in H2-CY12 **(Figure 2.5)**. Recoveries were more pronounced in specialized banks (SBs) followed by local private banks (LPBs).

Adequate provisions reduced the level of capital at risk

During H2-CY12, drop in NPLs was observed in all classification categories, with major dip in doubtful classified NPLs **(Figure 2.6)**. However, required level of provisions increased due to the shifts within different categories as well as due to phasing out of FSV benefit[36]. The provision coverage improved from 66.3 percent in H1-CY12 to 71.5 percent in H2-CY12 **(Figure 2.7)**. Consequently, Net NPLs reduced by 18 percent and net infection ratio reduced by 1.4 percentage points to 4.6 percent. With the improvement in asset quality, capital at risk also observed considerable decline; Net NPLs to capital ratio decreased by 6.5 percentage points to 20.0 over the half year (**Table 2.1**).

PSCBs lead the improvement in infection, while FBs became an outcast…

[36] The enhanced FSV benefit allowed to the industry in October, 2011 also phased out partially, thus adding to additional provisions.

Figure 2.7
Provisions against NPLs

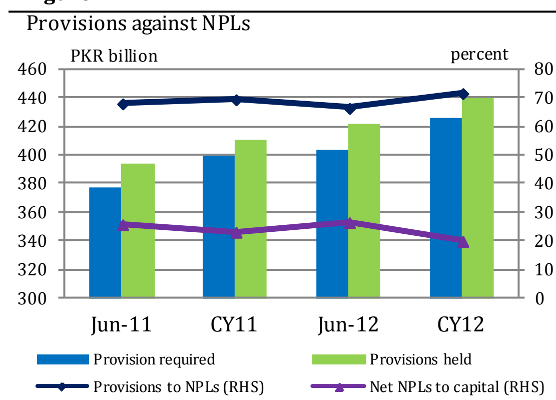
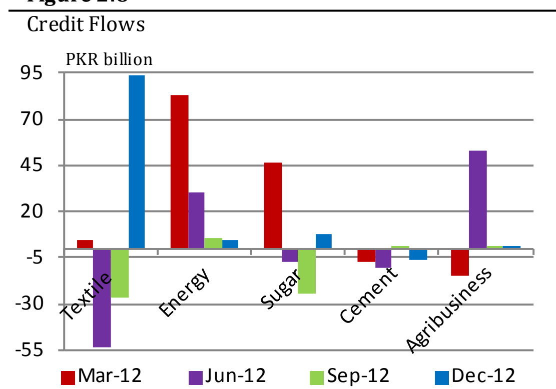


Table 2.1: Asset Quality by Bank Category					
					in percent
	Jun-12	CY12			
	Infection Ratio	Infection Ratio	Net Infection Ratio	Provision Coverage	Net NPLs to Capital
PSCBs	22.7	16.9	7.1	62.8	32.4
LPBs	13.4	13.3	3.6	75.2	15.9
FBs	11.1	13.4	1.0	94.0	1.4
CBs	**15.5**	**14.1**	**4.4**	**72.0**	**18.8**
SBs	30.4	27.6	12.9	61.3	-
All banks	**15.9**	**14.5**	**4.6**	**71.5**	**20.0**

Table 2.2: Credit and Infection Ratios by Sector (percent)				
	Share in Loans		Infection Ratio	
	Jun-12	Dec-12	Jun-12	Dec-12
Textile	15.8	16.7	31.8	29.6
Individuals	8.4	7.9	16.1	16.2
Energy	12.1	11.7	4.2	3.7
Agribusiness	8.8	8.4	10.6	9.1
Chemical & Pharma	3.8	3.6	9.3	9.9
Sugar	3.1	2.5	9.4	10.3
Cement	1.6	1.4	28.4	29.3
Others	46.4	47.7	15.0	12.6

Figure 2.8
Credit Flows



During H2-CY12, Public Sector Commercial Banks (PSCBs) were the major contributor towards decrease in NPLs and infection ratio. The sector responded well to address the significant deterioration in its asset quality (18.11 percent rise) in the first six months of the year, through different measures and managed a 17.0 percent decrease in NPLs. Drop in NPLs of public corporate were the major contributor followed by reduced infection in portfolios of private commodity financing and SMEs. At the same time, lending to all segments grew, with public and private corporate taking the major share. Decline in NPLs and enhanced portfolio size jointly reduced the infection ratio of PSCBs by 5.8 percentage points **(Table 2.1)**.

Despite their small share in the industry NPLs (5.3 percent), SBs' augmented PSCBs' reduction in NPLs by 8.2 percent decline in their infected portfolios. On the other hand, major sector of the industry - LPBs exhibited mixed trend as gross NPLs rose slightly (3.8 percent) while infection ratio dropped by 18 basis points.

Foreign Banks (FBs), with less than 2 percent of the industry NPLs, continued to exhibit poor infection ratios due to rise in NPLs and reduction in outstanding portfolios. The current law and order situation forced FBs to cut down their operations and triggered a few acquisition transactions. For the same reason, infection ratios of FBs continued to deteriorate. Moreover, due to their smaller size, FBs affected the infection ratio of banks ranked from 21 to 30 in terms of asset size. However, as expected, the remaining top 20 banks of the industry showed improvement in their infection ratios.

Textile sector flourished while sugar and agribusiness showed mixed trends…

As highlighted in chapter 1, lending to textile sector grew significantly in H2-CY12. Due to linkages of the sector with the agriculture and substantial contribution in exports, the concentration of advances to this sector seem natural, which enhanced to 16.7 percent of the total loans during the H2-CY12 **(Table 2.2)**. Increase in financing contributed in improving the overall infection rate of the sector by 2.2 percentage points. However, infection ratio at 29.6 percent remained highest among the various financing sectors. Though the continuing constrained socio-political and business environment may have contributed in keeping infection high, banks need to make efforts for managing and recovery of high-infected portfolio of the sector. NPLs of the sugar sector also declined, however, infection rate increased due to higher rate of decrease in advances of the sector **(Figure 2.8)**. The agribusiness exhibited a minor growth of 1.04

Figure 2.9

Energy sector growth and NPLs

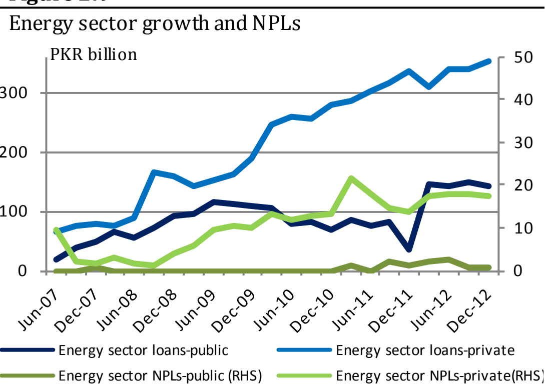


Figure 2.10

Trends in SME Financing

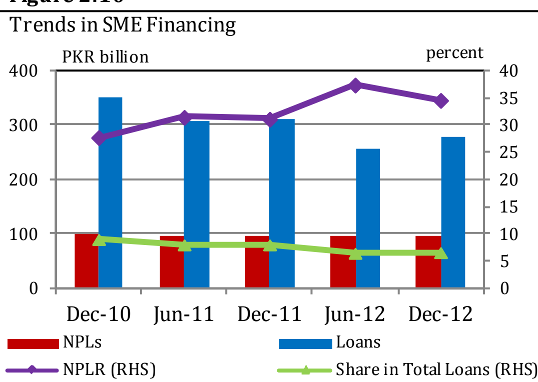


Table 2.3: NPL Ratio of Consumer Financing

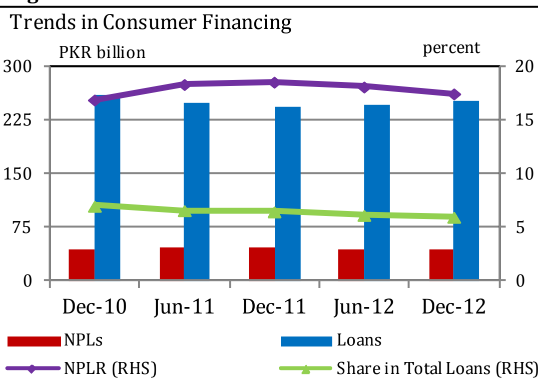
in percent

(Private sector only)

	Share		Infection Ratio	
	Jun-12	Dec-12	Jun-12	Dec-12
Credit cards	9.46	9.25	21.02	21.52
Auto loans	18.56	18.12	10.40	10.26
Consumer durable	0.06	0.05	68.87	71.65
Mortgage loans	22.52	21.17	30.37	31.38
Other personal loans	49.41	51.40	14.81	13.50
Total	**100.00**	**100.00**	**18.11**	**17.47**

Figure 2.11

Trends in Consumer Financing



percent during H2-CY12. This credit growth coupled with reduction in NPLs improved the infection ratio by 1.46 percent.

Concentration in energy sector remained high…

Over last few years and more specifically during CY12, banks' credit exposure in energy sector amplified significantly due to continuous energy crisis. Though the growth in loans to Production and Transmission of Energy Sector (PTES) subsided to a modest level of 2.01 percent in the last six months of CY12, the concentration level remained high at 11.7 percent, only second to textile sector. The major chunk of this portfolio represented public sector borrowings. Analysis of top 25 public/ private borrowers of banks also substantiates the high concentration of advances in the PTES. More than one-third of public sector and one-fourth of private sector borrowers among these top fund users belonged to the energy sector. However, infection rate of the sector remained on the lower side and observed marginal improvement due to decline in NPLs, which lead to decline in infection rate by 50 bps to 3.7 percent **(Figure 2.9)**.

SME portfolio showed signs of life…

With the overall increase in advances, the SME portfolio also followed suit and recorded a proportionate 7.32 percent expansion thus maintaining its share in total outstanding loans of the banking industry **(Figure 2.10)**. Most of this rise came from enhancement in working capital financing provided to textile and sugar industry. The slight decline in NPLs of SMEs resulted in an improvement of 2.82 percent in its infection ratio, which still remained high at 34.7 percent and very much coincided with the high infection rate of textile sector specifically.

…while consumer financing saw a gradual growth …

Consumer finance showed marginal increase due to gradual but consistent growth in "other personal loans". During H2-CY12, portfolios of mortgage, consumer durables, auto loans, and credit cards shrank further, while the rise in other personal loans offset all of this decrease **(Table 2.3)**. The infected portion of the consumer portfolio reduced by 64 basis points, which decreased the overall infection ratio to 17.5 percent in H2-CY12 down from 18.1 percent in H1-CY12 **(Figure 2.11)**. The decline was observed across the various categories of the consumer portfolio, however, decrease in infection rate was more pronounced for other personal loans.

Figure 2.12

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

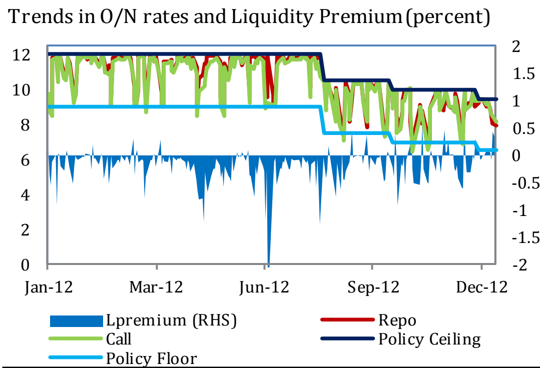


Figure 2.13

Open Market Operations & Repo Borrowings (PKR billion)

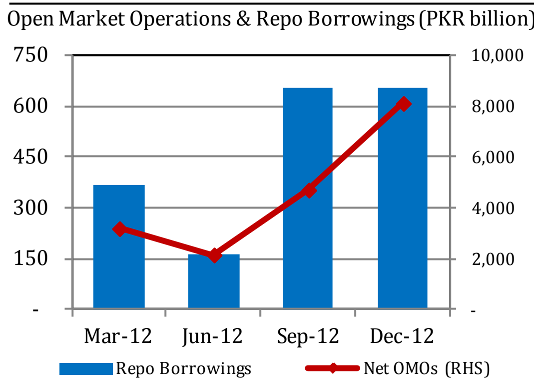


Figure 2.14

Government Securities by type

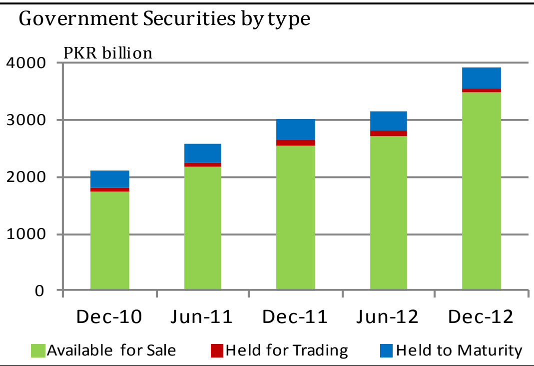
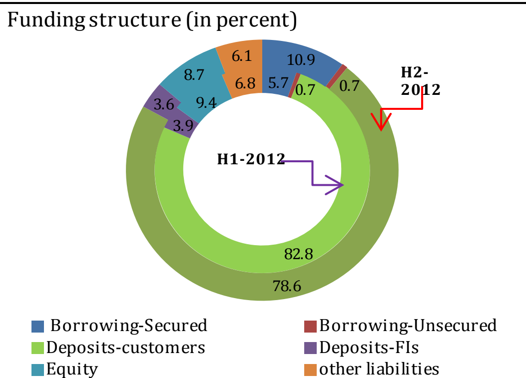


Figure 2.15

Funding structure (in percent)



Liquidity Risk

Recent global financial crisis of 2007/08 signified the importance of efficient management of liquidity risk, which led to introduction of new liquidity standards (Liquidity Coverage Ratio and Net Stable Funding Ratio) in the Basel III. In case of Pakistan, SBP over the years have vigilantly managed the liquidity issues faced by the banks and changed the regulatory framework that helped in avoiding liquidity crisis.

During H2-CY12, liquidity profile of the banking sector stayed comfortable, due to increasing stock of risk free government securities. However, demand for funds remained high due to private sector seasonal financing requirements and increase in budgetary borrowing from the banking sector. Despite a reasonable growth in deposits, banks resorted to the money market for raising funds, which was facilitated by active support of the SBP. Despite constrained market liquidity, high and rising fund based liquidity improved the liquidity indicators of the banking sector in the period under review.

Active intervention by SBP ameliorated the market liquidity…

The trend of the constrained market liquidity continued due to higher flow of credit to private sector and persistent demand for financing by the public sector during the second half of CY12. As a result, banks resorted to heavy secured borrowing from the money market as reflected in 100 percent increase in borrowings**,** which kept short-term overnight rates volatile throughout H2-CY12 **(Figure 2.12)**. The SBP made significant injections through OMOs to ease out the market. The market actually observed historically unmatched level of repo activity for consistently high liquidity requirements of the banking sector for rollover of existing government debt and funding its additional requirements[37] **(Figure 2.13).**

…while banks continued with their liquidity preference to manage immediate liquidity

In the wake of continuing market liquidity stress, banks exhibited liquidity preference through placement of most of the securities into Available for Sale (AFS) category of investments. During H2-CY12, banking sector further enhanced their investments as evident from a prolific 31.3 percent surge in both MTBs and PIBs. Most of these additional investments were placed in AFS category indicating unchanged liquidity preference

[37] See Chapter 5 – Financial Markets for further discussion on market liquidity and OMO injections.

Figure 2.16

Maturity Profile of Deposits (PKR billion)

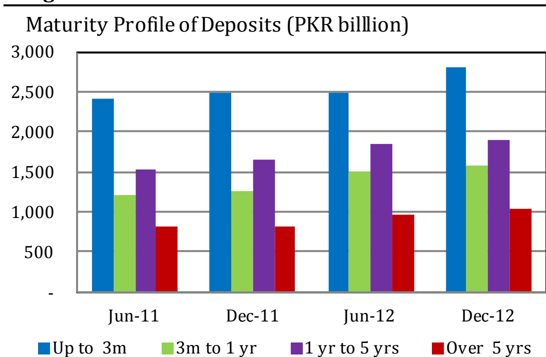


Figure 2.17

Maturity Gap (Assets-Liabilities) as percent of Assets

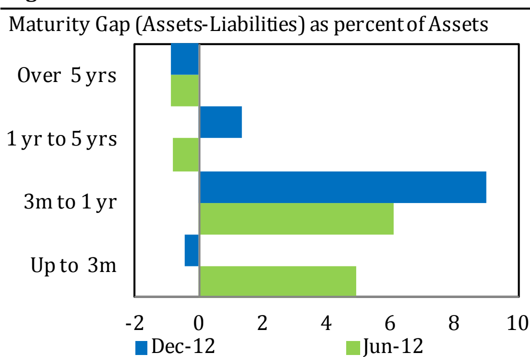


Figure 2.18

Liquid Assets in detail (percent)

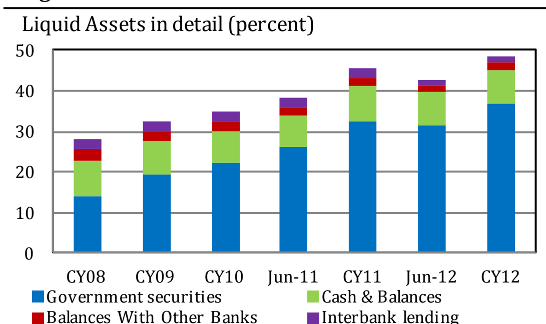
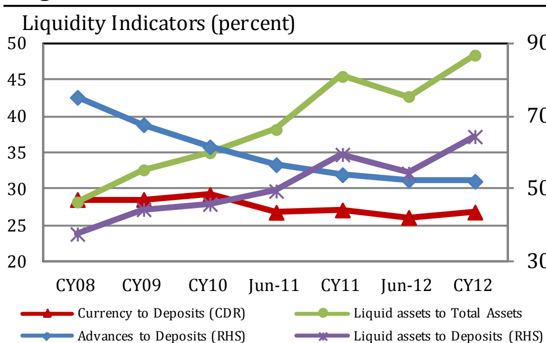


Figure 2.19

Liquidity Indicators (percent)



of banks for managing market liquidity needs. In terms of share, 94 percent of MTBs and 71 percent of PIBs were placed in AFS category as of end CY12 **(Figure 2.14).**

With channelization of substantial portion of deposits and borrowings from financial institutions into Government papers, the fund based liquidity of the banking system improved further during H2-CY12. A decent deposit growth of 7.2 percent supported towards strengthening the liquidity of the banking sector **(Figure 2.15)**. The maturity profile of the deposits indicated that both long and short-term (up to 3-months) deposits increased while medium-term deposits remained stagnant during the period under review **(Figure 2.16)**. The aforementioned rise can be attributed to the higher returns offered by the banks on fixed deposits[38] while slow growth in demand deposits hampered the growth in deposits having medium-term maturity.[39]

Increase in flow of credit to private sector coupled with stationary medium-term deposits resulted in considerable improvement in 3 months to 1 year maturity gap during H2-CY12 **(Figure 2.17)**. On the other hand, lack of long-term financing kept the maturity gap consistently negative in over 5 years bucket during CY12. Moreover, significant investments in short-term securities proved insufficient as assets maturing in less than 3 months fell short of the liabilities maturing in the same period.

Liquidity indicators improved…

The persistent increase in fund based liquidity further improved the liquidity indicators in H2-CY12 **(Figure 2.18)** that reached highest levels in the last five years. The liquid assets as a percentage of total assets and deposits rose to 48.4 percent and 64.5 percent respectively **(Figure 2.19)**. The continued growth in deposits increased the time and demand liabilities (TDL), which slightly dropped the surplus liquidity maintained by banks. However, it remained above double the level of Statutory Liquidly Requirements (SLR) of 24 percent **(Figure 2.20),** while deposits growth further decreased the ADR by 36 basis points to 52.16 percent. However, rate of decline in ADR subsided due to improved credit disbursements to the private sector during H2-CY12.

[38] SBP announced the minimum profit rate would be 6.0 percent p.a. on all Pak Rupee saving deposits with effect from May 01, 2012 vide BPRD Circular No. 1 of 2012.

[39] This is mainly attributable to banks' adjustment to place demand deposits from 3-month bucket to longer time bucket based on their expected maturity after issuance of the instructions in BSD Circular Letter No. 3 of 2011.

Figure 2.20

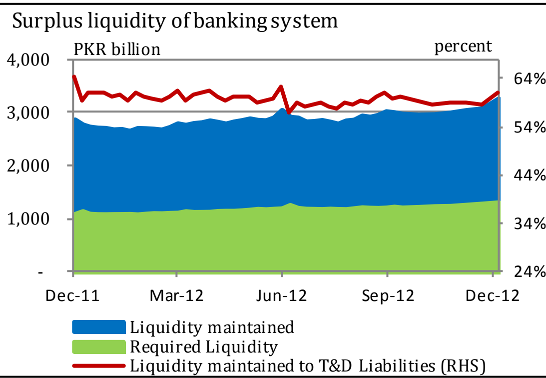


Figure 2.21

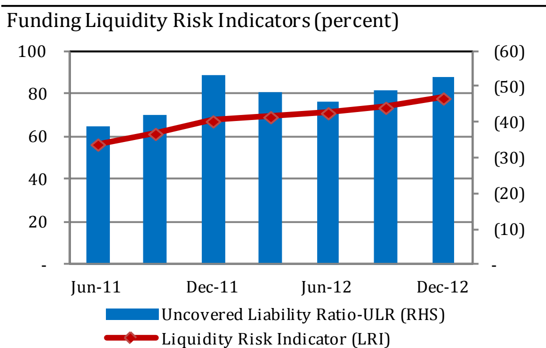


Figure 2.22

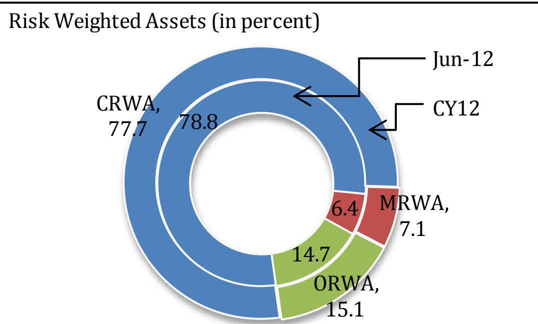
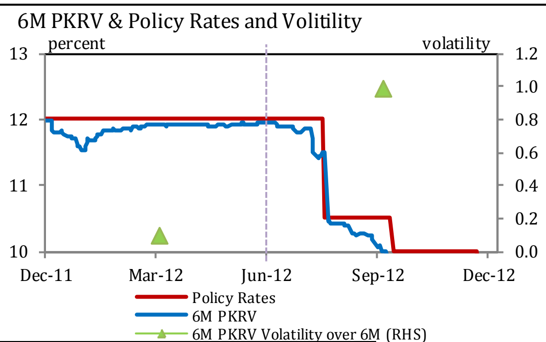


Figure 2.23



Uncovered Liability Ratio (ULR), which measures liquidity shortage at an institutional level, improved due to substantial stock of liquid assets. Similarly, 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 substantiated comfortable liquidity position of banks **(Figure 2.21)**.

Over the last five years, the currency to deposits ratio (CDR) consistently declined, as banks successfully attracted new funds. With a strong growth in deposits in the previous half year, CDR reduced by more than one percentage point to 26.1 percent. As the increase in deposits was slightly less during H2-CY12, CDR exhibited a rise of 73 basis points signifying the potential in the liquidity market, which needs to be tapped by the banking sector.

Banks would stand resilient towards various liquidity shocks

The healthy liquidity profile exhibited resilience of the banking sector towards severe liquidity shocks of significant deposit withdrawal for consecutive five days. Further, the liquidity coverage ratio (LCR) of the banking system[40], remained well above the acceptable benchmark of 1, as defined under Basel III[41].

Market Risk

Market risk profile of the banking system stayed well contained despite uncertainties in the local economic environment and continuing stress in the external position. Prudent regulatory limits[42] on foreign exchange and equity exposures and benchmark limits on interest rate positions facilitated banks in keeping market risk within manageable limits. The market risk exposures of the banking system, as reflected in the MRWA[43] also remained low at 7 percent of overall risk portfolio (**Figure 2.22**).

Significant policy rate cut somewhat steepened the yield curve,

The SBP slashed the policy rate by 2.5 percent during H2-CY12, bringing it down to single digit, mainly on the back of deceleration in inflation, subdued growth in credit to private

[40] The Liquidity Coverage Ratio will require banks to have sufficient high quality liquid assets to survive a significant stress scenario lasting 30 calendar days
[41] SBP is in the process of finalizing the guidelines on Basel III
[42] SBP has set limits on both the Equity and Foreign Exchange exposures of banks under the Prudential Regulations
[43] Risk Weighted Assets (RWAs) calculated based on Pillar I of Basel II Capital Accord.

sector, muted aggregate demand and resultant lower GDP growth (**Figure 2.23**). With the increased expectation of policy rate change, coupled with higher government borrowings kept the overnight rates relatively more volatile during H2-CY12 compared to H1-CY12 (**Figure 2.24**). The yield curve shifted downwards, with more pronounced dip over the short-term horizon. The 6-month PKRV rates dropped by 276 basis points as against a drop of 179 basis points in 10 years PKRV yield, thus steepening the yield curve over the medium to long term. The term spread between 6-month and 10Y PKRV yields increased to 230 basis points in December 2012 from 144 basis points in June CY12 (**Figure 2.25**). The yield curve was much steeper between 1 year to 15 years, whereas towards both ends; the shorter (less than 1 year) and longer (above 15 years) ends, it was comparatively flatter.

Net budgetary borrowing from banking system kept on mounting the fixed income portfolio of banks

The persistent fiscal pressures and consequent higher budgetary borrowing from the banking system increased its investments in government papers substantially (**Figure 2.26**). With cut in policy rate and growing fiscal needs, banks increased their placements in AFS category of investment and allowed them to book a hefty surplus of PKR 22.3 billion in H2-CY12 against a deficit of PKR 5.5 billion in the first half of CY12.

Positive re-pricing gaps, though within limits, may raise interest rate risk under an increasing interest rate scenario….

Interest rate exposures of the banking system largely stayed within manageable bounds as the re-pricing gap between the rate sensitive assets (RSA) and rate sensitive liabilities (RSL) was generally within tolerable limit of ±10 percent (**Figure 2.27**). However, under 6-months to one year maturity bucket, the positive gap marginally exceeded the 10 percent limit, which, along with the overall positive gap mainly driven by fixed income securities, may pose interest rate risk under an increasing interest rate scenario.

KSE outperformed, bank's exposures stayed contained despite buoyant equity market

KSE index, which continuously breached all time high during H2-CY12, posted 22.5 percent gain to reach 16,905 points (cumulative increase of 49 percent for CY12). The index experienced a steady rise which curtailed the volatility in the stock indices (**Figure 2.28**). Accordingly, equity exposure of

Figure 2.24

Yield Curves

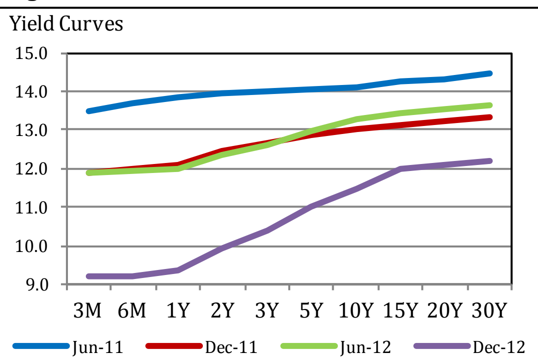


Figure 2.25

Term Spreads: 10Y vs 6M PKRV Rates

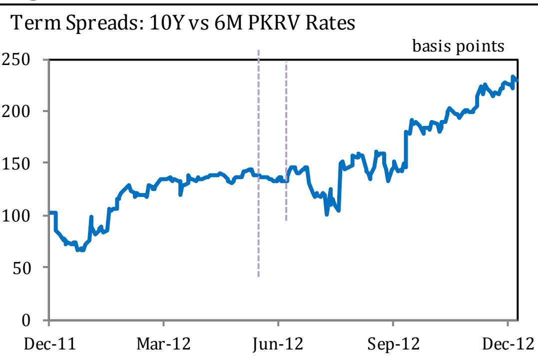


Figure 2.26

Break-up of Investments

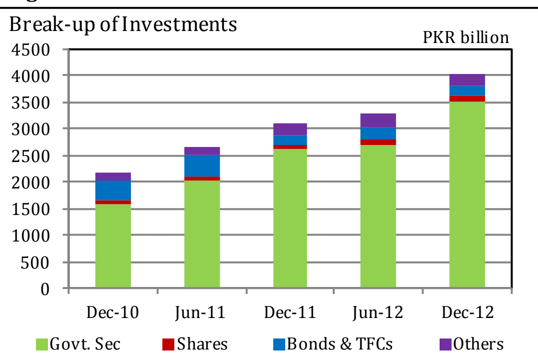


Figure 2.27

Gap (RSA-RSL) to Asset Ratio

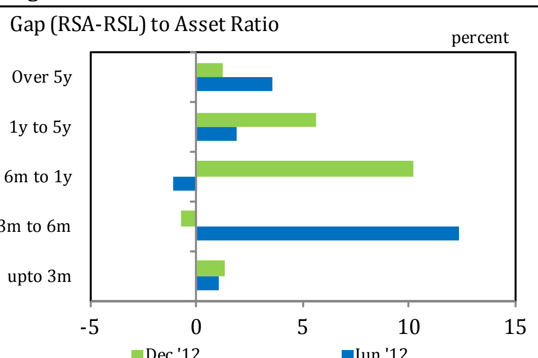


Figure 2.28

KSE 100 Index and Volitility

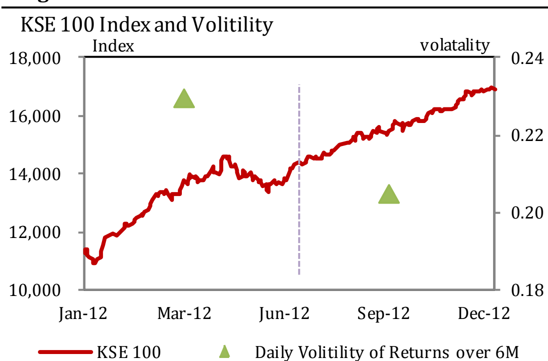


Figure 2.29

Stock Market Exposure of Banking Sector

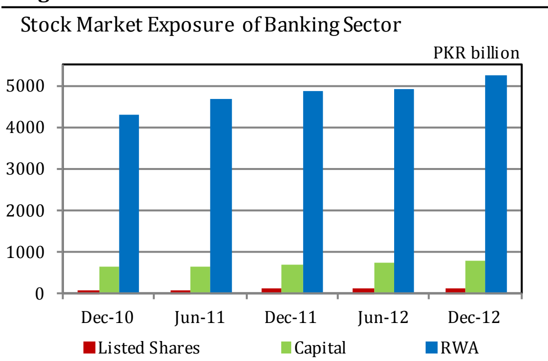


Figure 2.30

Evolution of PKR/USD Exchange Rates

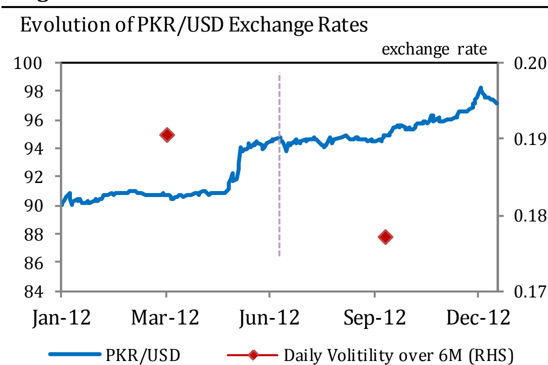
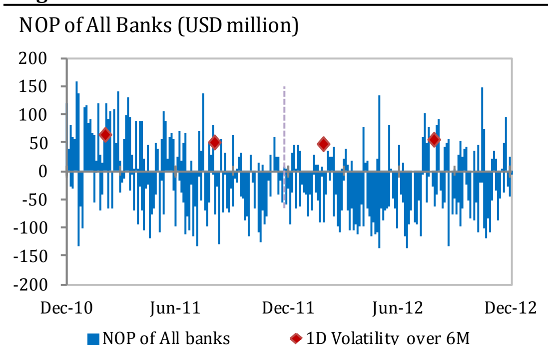


Figure 2.31

NOP of All Banks (USD million)



banks surged by 16 percent during H2-CY12. However, regulatory limit[44] imposed on investment in equities kept the overall exposure of banks well contained i.e. only 1.4 percent of total assets and 16.4 percent of the capital (**Figure 2.29**). That is why, even under a stressed hypothetical scenarios of 50 percent decline in equity prices, would have quite a minor impact CAR of the banking system.

Inflows from multilateral agencies and expatriates and current account surplus kept the rupee dollar volatility low

Primarily supported by growing remittances and inflows of Coalition Support Fund and hence current account surplus, PKR posted relatively a stable outlook during the first quarter of FY13 (**Figure 2.30**). The modest depreciation of 2.6 percent mainly took place towards end of CY12. The PKR/USD rate came under pressure in the interbank and KERB markets and touched all time low of 97.70 in December 2012. The excessive demand and supply mismatches driven by uncertain foreign flows and negative sentiments prevailing in the market negatively affected the exchange rate parity. In addition, scheduled payment to the IMF and lumpy oil related payments ate up substantial portion of foreign exchange reserves, also contributed to depreciation of the PKR against the USD during H2-CY12.

Foreign currency positions largely remained short, though well contained

Excessive demand on account of heavy foreign currency payments as compared to its inflows kept the overall Net Open Position (NOP) of the banking system on shorter side. Though the depreciating value of local currency exposes the banks to currency risk especially when they are running net short positions, however, the exposures were well within manageable bounds of around 2 percent of the bank's capital (**Figure 2.31**).

[44] In terms of Regulation R-6 of the Prudential Regulations for Corporate/Commercial banking, "the total investments of banks in shares should not exceed 20 percent of their own equity"