



FINANCIAL STABILITY REVIEW 2016



State Bank of Pakistan

Acknowledgements

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Governor's Message

Ensuring financial stability is one of the key strategic goals of the State Bank of Pakistan (SBP). A stable and resilient financial system is vital for the sustainable economic growth of a country regardless of its state of development. Accordingly, an assessment of the state of financial stability and identification of underlying systemic vulnerabilities and risks assumes paramount importance. To this end, SBP has established a full-fledged Financial Stability Department (FSD) which is mandated to, inter alia, review and evaluate the level of stability and soundness of the financial sector (particularly, the banking sector), financial markets and financial market infrastructures.

Financial Stability Review (FSR) is the flagship annual publication which aims at conveying our assessment of the stability and resilience of the financial system of the country. The current issue takes a comprehensive look at the risks and vulnerabilities in various segments of the financial sector; including the banking sector and non-bank financial institutions; financial markets i.e. money, equity and foreign exchange markets; and financial market infrastructure including the payment system. Moreover, the resilience of the banking sector to any unanticipated domestic and global shocks has also been assessed. Finally, an attempt has been made to assess the financial behavior of households and the corporate sector for the first time.

The analysis in the report finds that the financial sector vulnerability has eased relative to its past. Macroeconomic indicators, largely, post positive outlook; banking sector remains stable, strong and resilient to moderate shocks; financial markets show better performance and the corporate sector has benefited from favorable macro-financial conditions. This has translated into an improved risk profile of the system as a whole; though, some low to moderate levels risks have emerged in the short to medium term, which are being closely monitored by SBP.

We hope that the stakeholders – in particular the financial markets and the public at large – will find the analysis and assessment of the financial conditions useful and informative. Any feedback and comments on the FSR are welcome.

Riaz Riazuddin
Acting Governor

Data Convention and Coverage

The FSR 2016 uses CY for the Calendar Year, FY for the Fiscal Year (starting in July of a CY and ending in June of the following CY), Q1-Q4 for the four quarters of the corresponding CY or FY and H1-H2 for the two halves of a CY or FY.

The review is, generally, based on the data reported in unaudited accounts or audited accounts (where available) of financial institutions for different components as follows:

- Banks (conventional or Islamic), Development Finance Institutions (DFIs), Microfinance Banks (MFBs), Financial Markets and Payment System are based on un-audited financial statements reported to SBP through Quarterly Reporting Chart of Accounts (RCOA) and various other returns.
- Data on NBFIs is based on monthly reports submitted to SECP through Specialized Companies Return System (SCRS).
- Insurance is based on limited scope reviewed financial statements for the half-year ending on June 30, 2016.

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The financial sector of Pakistan has remained in a sound and stable state in CY16; though a few low to moderate level risks need to be closely watched.

The overall asset base of the financial sector has increased by 12.93 percent during CY16 (14.46 percent, on average, during CY14-CY16). Financial depth, measured by financial assets to GDP, has gradually improved from 65.57 percent in CY14 to 69.36 percent in CY15 and 72.76 percent in CY16 (**Table 1**). The steady rise in asset growth has been achieved amid a challenging global environment but evolving domestic landscape.

Table 1

Assets Composition of the Financial Sector

	CY13	CY14	CY15	CY16
Assets (PKR Billion)	14,371.2	16,502.3	19,068.9	21,535.2
Growth rate (Percent)	7.90	14.83	15.55	12.93
	Percent of Total Assets			
MFBs	0.41	0.43	0.52	0.79
NBFIs (<i>including DFIs</i>)	5.28	5.19	4.99	6.08
Insurance	3.91	4.06	4.18	4.35
CDNS	17.08	16.96	16.15	15.26
Banks	73.32	73.36	74.17	73.51
	Assets as Percent of GDP [†]			
MFBs	0.26	0.28	0.36	0.58
NBFIs (<i>including DFIs</i>)	3.39	3.40	3.46	4.43
Insurance	2.51	2.66	2.90	3.17
CDNS	10.96	11.12	11.20	11.10
Banks	47.07	48.10	51.44	53.49
Overall assets	64.20	65.57	69.36	72.76

[†] GDP is on FY basis.

Source: SECP & SBP.

On the global front, growth has decelerated. World GDP has been estimated to grow at 3.11 percent in CY16, down from 3.35 percent in CY15.¹ Primarily,

slow growth in Advanced Economies (AEs) (1.69 percent) has been the drag; although, Emerging Markets and Developing Economies (EMDEs) have provided some uplift (4.13 percent).

Global financial markets have observed short-lived episodes of volatility during CY16 due to various political and macrofinancial shocks. Concerns about China's hard landing earlier in the year, muted and low oil prices, international trade slowdown, adoption of negative interest rates by Bank of Japan (BOJ), unexpected results of Brexit and United States (US) Presidential elections have all contributed to market jitters. However, markets rebounded at the year-end (and in early 2017) in anticipation of better economic prospects in the US and European Union (EU), stable commodity prices and higher investor confidence.

Ultra-low interest rates backed by Asset Purchase Programs (APPs) in some AEs (EU and Japan, in particular) have adversely affected the profitability of the banking sector. Policy normalization in the US (in 2016 and 2017) has provided some respite as some of the major banks in the US have posted decent returns lately; but this also has implications for tighter financial conditions in EMDEs (**For details see Chapter 1**).

Domestically, the financial sector has operated in a relatively enabling environment in CY16. Output (both GDP and LSM) has been increasing; inflation remains subdued; exchange rate is stable amid adequate reserves; government borrowing from banking sector has receded, law and order conditions have improved and economic prospects are encouraging, more so, in view of China Pakistan Economic Corridor (CPEC). Not surprisingly,

¹ International Monetary Fund. (2017). World Economic Outlook: Gaining Momentum?, April.

performance of the banking sector has been satisfactory (See Chapters 1 and 3.1) and financial markets have performed smoothly (See Chapter 2). In addition, the corporate sector has also benefited from the favorable macrofinancial conditions and has posted robust profits (See Chapter 3.7).

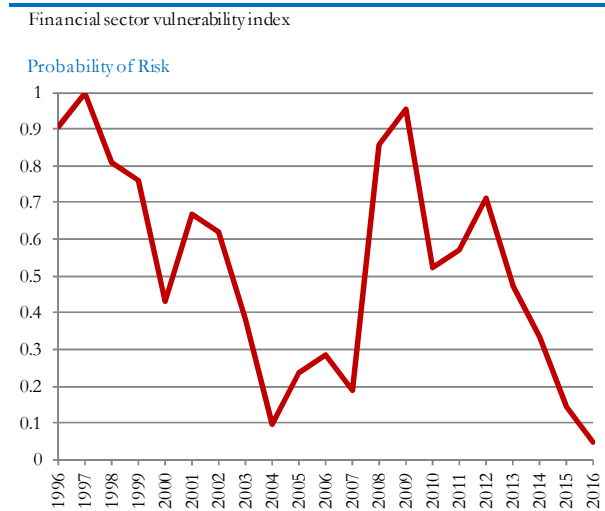
The better performance of both the financial and non-financial sectors has improved the risk profile of the system as a whole. As indicated by the financial vulnerability index and the heat map, risks to the financial system have not only been reducing but also remain subdued (Figure 1).²

Banking sector – the key player of the financial sector –has performed well. The growth momentum in advances is encouraging as, mostly, the private sector is the beneficiary, while asset performance has improved with decline in infection ratios. Banks’ profitability has moderated after seeing exceptionally high growth in the last few years, while capital adequacy remains high with some downwards adjustment, primarily, due to advances growth indicating better utilization of available capital.

The **asset quality** of the banking sector has remained satisfactory. Stagnant NPLs along with growing advances have pulled the infection ratio down to a decade low level of 10.01 percent at the end of CY16. Importantly, the high provisions coverage ratio against existing NPLs and decreasing

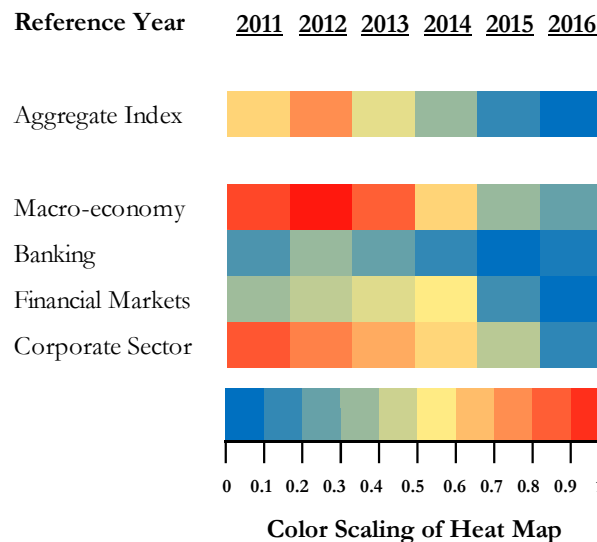
risk to capital mitigates any major threats to the future profitability and solvency of the banks.

Figure 1
Financial sector stability has improved further during CY16



Source: SBP

Financial Sector Heat Map



Note: The graph above presents the aggregate vulnerability index of the financial sector in terms of probability (ranging from 0 to 1). The financial sector heat map is an aggregating index of four sectors of the economy, as shown above, based on their respective cumulative probability distribution. The color scaling of the heat map depicts the degree of risk associated with the probability distribution with risk decreasing from dark red to dark blue. For methodology details, see Appendix A.

The fund based **liquidity** of banks has remained comfortable owing to large stock of government

²The Financial Stability Heat Map represents a comprehensive picture of stability of financial sector. The heat map considers four key dimensions of financial sectors i.e. (i) Macro-economy, (ii) banking, (iii) financial markets, and (iv) corporate. Risks in each dimension have been incorporated with an un-weighted average of key risk indicators. For details please see Technical Appendix. For methodology please see Aikman, David, Michael T. Kiley, Seung Jung Lee, Michael G. Palumbo, and Missaka N. Warusawitharna (2015). “Mapping Heat in the U.S Financial System”, Finance and Economic Discussion Series 2015-59, Washington: Board of Governors of the Federal Reserve System. <https://www.federalreserve.gov/econresdata/feds/2015/files/2015059pap.pdf>

papers. While placement of most of securities in AFS category exposes banks' portfolio (and eventually Equity) to market risk in case of adverse rate movements, it does allow banks to effectively manage their liquidity needs. Core liabilities (i.e. customer deposits) have remained the prime funding source during CY16. Nevertheless, banks have increased their reliance on relatively costly non-core liabilities (financial borrowings); a potential risk to the bottom line if this trend continues.

After seeing high growth over the last few years, **profitability** of the banking system has moderated due to continuity in low interest rates and reduced volume of banks' investment in government papers (particularly, high yielding PIBs). Consequently, profitability indicators have witnessed some decline during CY16. However, these concerns are not deep as earnings from core sources remain intact and robust growth expected in private sector advances will support future earnings.

Capital adequacy ratio (CAR) of the banking sector remains robust and well above the regulatory minimum. With the much needed surge in private sector advances and strengthening of the capital requirements, CAR has adjusted downwards. Banking sector, in fact, has utilized the idle capital cushion to enhance the lending activity. Incidentally, banks are required to maintain higher minimum regulatory CAR in the coming years, mainly as Capital Conservation Buffer (CCB) rises. Banks, therefore, need to keep a close watch on these developments and devise their capital enhancement plans accordingly. **(For detailed risk analysis of banking sector, see Chapter 3.1)**

Stress testing is an important tool to assess the **resilience** of the banking sector under adverse scenarios. In addition to the baseline scenario, resilience of the banking sector has been assessed

against two (02) hypothetical but coherent 'tail-risk' scenarios over three year horizon (Q1CY17-Q4CY19). The simulations reveal that the banking system is resilient to adverse domestic scenario but in case of extremely adverse global scenario the capital adequacy falls below the benchmarks **(For details see Chapter 4)**

Within the banking sector, **Islamic Banks** have maintained their growth trajectory; though some risks have surfaced. The investment growth has moderated due to low frequency of issuance of Sukuk coupled with maturity of Bai Muajjal Sukuk transaction of Islamic Banking Institutions (IBIs) with the Government of Pakistan. Thus, liquidity management poses challenges for IBIs. Further, due to decline in spreads and higher operating cost, profitability has gone down a little. Capital adequacy ratio, though well above the minimum required level, has moved down due to growth in financing. **(See Chapter 3.2)**

Financial markets, in general, have performed smoothly without any considerable disruption during the year. Volatility in the money, foreign exchange (FX) and equity markets has remained relatively muted, though, some developments need attention.

For instance, the fiscal consideration has continued to drive the liquidity need in the money market; though, prudent management by SBP has kept the market running smoothly. The kerb market exchange rate has witnessed some pressures towards the end of CY16. However, given the transitory nature of movements in the kerb market and adequate level of foreign exchange reserves, the FX market is expected to remain calm. The activity in PSX with high growth in KSE-100 index has outperformed various global benchmarks, yet rising Price-Earning (P/E) ratio in short span of time

indicates significant role of sentiments behind the market movements. **(For details see Chapter 2).**

The **non-bank sector** has managed to grow alongside the growing banking sector; their main competitor. The regulatory framework and non-existence of complex and high value structures (private equity funds and hedge funds) have contained the risks within the sector. Further, the demonstrated (financial crisis episode) toxic elements i.e. excessive leverage and illiquid investments are contained within the mutual fund industry (the major participant of NBFIs) through prudential limits.

Moreover, the major share of the NBFIs sector is concentrated in few large institutions, while other small institutions are facing solvency issues. The NBFIs, generally, have limited avenues for contingency liquidity support in times of stress. NBFIs sector entities are also exposed to funding constraints. In the absence of any emergency liquidity assistance facility, liquidity risk can become severe **(See Chapter 3.5).**

The **insurance** industry has expanded in terms of its assets due to improved industry conditions and better economic prospects. However, insurance penetration remains low and the industry continues to face concentration risk with a single life insurer constituting more than 60 percent of the entire insurance industry's assets. The industry also faces financial risks (liquidity, credit, market etc.) but has taken steps to strengthen its risk management framework. Briefly, the industry is expected to continue its expansion with significant growth expected in the Takaful segment **(See chapter 3.6).**

The financial health of **corporate** sector has remained satisfactory with decent growth in the bottom line. The cash rich sector mainly relies on equity as the major source of funding. However, within the borrowing segment, banks are the main

financiers. With corporates' strong repayment capacity, risk to financial sector remains marginal in the near term **(See chapter 3.7).**

Lack of reliable and timely data limits the detailed assessment of financial soundness of the **household (HH) sector**. Encouragingly, a consistent rise in per capita income and high participation of youth in the labor force are positives for the HH sector. Concomitantly, high unemployment rates for females, low-level of savings and the high-level of borrowing (as percentage of HH income) pose risks to the financial soundness of the poorest households in the future **(see chapter 3.8).**

The Financial Market Infrastructure (FMI) of Pakistan remains resilient and continues to function smoothly and efficiently. The rising interdependencies of different FMIs, although necessary and valuable from efficiency perspective, do pose supervisory challenges. However, SBP has strengthened the oversight mechanism and enhanced engagement with the institutions for upgrading safety, security and resilience of their systems.

In **payment systems**, the expansionary momentum of large value payments of Pakistan Real-time Interbank Settlement Mechanism (PRISM) has continued. In retail transactions, e-banking is fast replacing the paper based modes and the downtime of Automated Teller Machines (ATMs) has significantly improved.

In CY16, three Stock Exchanges were merged to form a single one i.e. Pakistan Stock Exchange (PSX), while National Clearing Company of Pakistan Limited (NCCPL) assumed the role of a Central Counter Party (CCP). The former event is expected to bring technological progression and operational efficiency while the later one would help minimize credit and liquidity risks **(See Chapter 5).**

The **outlook** of the financial sector, in CY17, largely remains positive; though some risks appear on the horizon. First, moderation of profitability of the banking sector in CY16, after recent exceptional performance, may carry forward to CY17, if the monetary conditions and structure of the balance sheet of the sector follow recent trends. The growth in credit and high provision coverage ratio do provide reasons for some comfort. However, to minimize risk of future defaults and any impact on income, banks need to enhance their credit evaluation and monitoring standards.

Second, the exposure of the banks to the public sector, in terms of advances, investments, money market activities, off-balance sheet items and revenue generation remains significant. This not only challenges the financial intermediation function of banks and some non-banks, but is also susceptible to changes in government policy.

Third, as the financial sector integrates, the breadth of interconnectedness among banks and non-banks is bound to increase. Already many of the banks own Asset Management Companies and Alternate Payment Delivery systems; therefore, consolidated supervisory oversight has become imperative.

Fourth, the widespread use of technology, though useful for the end consumer, puts an additional burden on the institutions to protect and safeguard their vital systems and information technology infrastructures. The threat of nefarious cyber-attacks is real and omnipresent.

Fifth, asset prices, especially equity prices, have been rising at a brisk pace. Corporate performance and an enabling macroeconomic environment support this surge, but, investor sentiments are also playing their part. Though the banking sector's exposure to equities is within prescribed limits, it is vulnerable to corrections in asset prices.

Sixth, capital adequacy of the banking system, though substantially above the prescribed limits at present, needs further attention in view of enhanced regulatory requirements in the coming years, moderation of profits and expected increase in their risk profile as exposure to the private sector increases. Moreover, stress test results under severely adverse developments in the global scenario reveal that the capital adequacy of the banking system falls below the prescribed limits in the simulations.

SBP is cognizant of these emerging risks and have been taking measures to strengthen its regulatory and monitoring frameworks (including Macroprudential/Financial Stability), improve the efficiency and security of payments systems, enhance financial consumer protection and reinforce corporate governance regime (**For regulatory development in CY16 see Box B**).

Other than the financial sector, the corporate sector is likely to benefit from favorable economic conditions, particularly, the low borrowing costs, rising demand, improving security conditions, and better energy supply. The highly profitable corporate sector is a positive sign as it reduces the asset quality concerns of the lending financial institutions in the short to medium term. However, given the enabling environment, the corporate sector also needs to innovate in terms of production processes, product development, quality controls and price rationalizations.

Box A: Regulatory Developments-Perspective of Growth and Stability of Financial Sector

State Bank of Pakistan (SBP)-within its regulatory preview-continuously endeavors to increase resilience, ensure soundness, and improve efficiency of the financial system in general and banking system in particular. To achieve these objectives, SBP has introduced improvements in the regulatory and supervisory architecture to cater to the local needs amid changes taking place in financial landscape and to align it with international best practices. The improvements over the year are also very much aligned with the high level strategic goals set out in SBP Strategic Plan “*Vision 2020*”. The impact of the improvements is visible in the areas of legal, regulatory and supervisory framework, payments and settlements and financial inclusion.

Before going into specifics of these developments, it is imperative to take into account the measures taken by SBP for putting in place an appropriate Financial Stability Framework.

Global Financial Crisis (GFC) of 2008 paved the way for coordination between the international bodies and enhanced emphasis on focused approach on financial stability throughout the world. A recent paper issued jointly by the IMF, FSB and The World Bank on “Elements of effective macro prudential policies”³, among others, suggested the presence of effective institutional arrangement encompassing mandate, powers and accountability as one of the key elements for effective implementation of the Macro-prudential policies. To this end, SBP under its “Vision 2020” has set “Strengthening of the Financial System Stability Regime” as one of the key goals.

For that purpose, a separate “Financial Stability Department (FSD)” has been established at SBP to identify and assess the risks to the financial system and disseminate the overall appraisal to the stakeholders. Besides, FSD has been entrusted to focus on resilience analysis of the banking system, identification and

³ <http://www.g20.utoronto.ca/2016/imf-fsb-bis-macropudential-policies.pdf>

designation of Domestic Systemically Important Banks (D-SIBs), and macro surveillance through monitoring of large borrowing groups and financial conglomerates. This newly established setup also coordinates and collaborates with domestic and international bodies on the financial stability issues.

SBP has also established a management level Financial Stability Executive Committee (FSEC) for discussing and monitoring financial stability issues, taking decisions to remove systemic risks and facilitating coordination among various departments within the bank to protect and enhance the resilience of the banking system.

With regard to institutional arrangements, SBP and the Securities and Exchange Commission of Pakistan (SECP) have signed a letter of Understanding (LOU) on May 26, 2017 to establish a Council of Regulators to strengthen financial stability regime in the country⁴. Moreover, work is underway for establishing a National Level Financial Stability Council (NFSC).

Any Financial Stability framework is incomplete without having both the micro and macro surveillance frameworks in place (**Table A.1**). By covering the macro surveillance under the newly established FSD, key elements of the financial stability have been put in place.

As part of its efforts to enhance coordination and cooperation on global front, SBP has been actively participating in international and regional financial forums and groups concerning financial stability.

SBP is an active member of Financial Stability Board (FSB) Regional Consultative Group for Asia (RCG Asia) since 2011. From July 1, 2015, SBP became the co-chair of FSB RCG Asia for two years. Since then, SBP along with Hong Kong Monetary Authority-the other RCG-Asia co-chair-has successfully conducted three meetings (two meetings in 2016) and a workshop on “Fintech and Cyber Security”.

⁴ “SECP-SBP establish the Council of Regulators to strengthen Financial Stability” <http://www.sbp.org.pk/press/2017/Pr-SECP-26-May-17.pdf>

Table A.1: Micro and Macro Surveillance Framework

Macro-surveillance	Micro-Surveillance	Regulation
Financial system Surveillance and Macro-analysis	Banking Supervision-On-site inspection and Off-site Supervision and Enforcement	Banking Policy and Regulations
Systemic Risk Assessment		Banking Conduct and Consumer Protection
Supervisory Practices Assessment	Bank Resolution arrangements	Payments Systems

Over the years, SBP has been enhancing capacity of its employees in the area of financial stability. As a result, SBP employees are now better equipped to implement international financial standards and contribute in international forums through participation in working groups of Basel Committee (*guidelines-prudential treatment of problem assets – definitions of non-performing exposures and forbearance finalized in April 2017*) and FSB (*Correspondent Banking Group*), and are engaging with other jurisdictions/ central banks for their capacity building.

Strengthening of regulatory and supervisory practices plays a key role in protecting the stability of the financial system. During the year, following set of **legislative reforms** has been introduced:

- Amendments in the Financial Institutions (Recovery of Finances) Ordinance 2001⁵ to facilitate recovery of defaulted loans.
- Enactment of Corporate Restructuring Companies (CRC) Act, 2016⁶ that allows formation of Asset Management Companies (AMCs), among others, for acquisition of banks’ bad debts.
- Promulgation of Deposit Protection Corporation Bill 2016 that will strengthen the resolution regime and promote financial stability.⁷ The preparatory arrangements to set up and operationalize Deposit

Protection Corporation (DPC) are in their final stages.

- Amendment in Foreign Exchange Regulation Act, 1947 has been introduced to further strengthen the foreign exchange regime of the country.⁸

To **build the resilience** of the banking system, SBP is implementing Basel-III in line with the reform package introduced by the Basel Committee on Banking Supervision (BCBS).¹² CAR, including the Capital Conservation Buffer (CCB), will increase from 10 percent to 12.50 percent in a phased manner from December 31, 2015 to December 31, 2019. Currently, the applicable CAR plus CCB requirement is 10.65 percent. In 2016 SBP has adopted liquidity standards on “Liquidity Coverage Ratio (LCR)” and “Net Stable Funding Ratio (NSFR)”.⁹ Both of these ratios aim to achieve two separate but complementary objectives of promoting short term liquidity resilience of banks and reduction in the funding risk faced by them over a longer time horizon.

To ensure that the banks have sufficient capital to cover all the material risks and that their risk governance frameworks are effective, SBP has developed detailed guidelines on Supervisory Review and Evaluation Process (SREP). The guidelines entail a process of review and evaluation of effectiveness of the banks’ Internal Capital Adequacy Assessment Process (ICAAP) and

⁵ “Enactment of Laws”, BPRD Circular Letter No.33 dated October 21, 2016

⁶ “The Corporate Restructuring Companies Act, 2016”, BPRD Circular Letter No.34 dated October 21, 2016

⁷ “Enactment of Laws”, BPRD Circular Letter No.33 dated October 21, 2016

⁸ “The Foreign Exchange Regulation (Amendment) Act, 2016”, EPD Circular Letter No. 11 dated October 07, 2016

⁹ “Implementation of Basel III – Liquidity Standards”, BPRD Circular No. 8 dated June 23, 2016.

soundness of internal risk governance framework through an independent assessment of banks' risk profile and risk management processes. Based on this assessment, SBP may take appropriate prudential measures and actions to address any supervisory concerns.

With a view to further **strengthen corporate governance regime** of banks, SBP has issued guidelines and disclosure requirements on Governance and Remuneration Practices.¹⁰ These set of instructions provide detailed guidance to regulated entities to review remuneration practices and take into consideration the ever expanding risk profiles and the direct link of risk taking behavior with remuneration. It also aims at making the Board and senior management of Banks/DFIs more accountable and responsible, and to align their compensation with risk adjusted performance in a fair, transparent and timely manner.

To ensure proper performance evaluation of Boards, banks have been advised to conduct performance evaluation of Board of Directors on annual basis.¹¹ Also to bring independent judgment at the Board level, the minimum number of independent directors for banks has been increased to one third and the criteria for independence has been further strengthened.

SBP is taking continuous measures to prevent the use of banking channels for illicit transactions. Accordingly the Anti Money Laundering (AML)/ Combating the Financing of Terrorism (CFT) regime is being strengthened through appropriate regulatory and supervisory framework. In February 2017, SBP has issued revised Guidelines advising banks to enhance controls to make sure that they should not provide any banking services to proscribed entities and persons or their associated persons. To improve deterrence against possibility of opening and use of *benami* bank accounts, SBP has made it mandatory for banks and Branchless Banking (BB) operators to install biometric machines at all branches.

¹⁰ "Guidelines and Disclosures on Governance and Remuneration Practices", BPRD Circular No.1 dated January 25, 2017

¹¹ "Guidelines on Performance Evaluation of Board of Directors", BPRD Circular No.11 dated August 22, 2016

To **strengthen its supervisory tools** and improve processes, SBP has revamped its inspection manuals to align with the latest international standards in the field of banking supervision and Shariah inspection of Islamic Banking Institutions. It has also developed Risk Based Inspection methodology for exchange companies and AML-CFT.

Further, to proactively identify and address potential risks, issues and vulnerabilities that are common across the financial industry, SBP has adopted the supervisory approach of thematic/ focused inspections. This inspection tool, while allowing SBP to focus on industry wide risk areas, provides feedback for prompt policy intervention, if required.

SBP has also initiated work on updating its existing supervisory methodology to forward looking Risk Based Supervision (RBS). Development of RBS framework is one of the main components of technical cooperation agreement signed between SBP and the World Bank.¹² RBS would help SBP in prioritizing supervisory resources and articulating responses to financial stress besides more structured profiling of financial institutions. RBS will greatly help SBP to identify the problem and institute corrective action on proactive basis.

SBP continues to focus on efforts for enhancing the **credit demand**, in coordination with various stakeholders, so as to improve the flow of credit and increase credit to GDP ratio. SBP – in its capacity – has taken various measures to enhance private sector credit. Some of the key measures are given below:

- To facilitate SMEs' access to finance from formal sector and to increase share of SME financing in total private sector credit from existing 7 percent to 20 percent by 2020, a host of measures have been taken during the year:
 - SBP has introduced SME finance indicative targets for banks and DFIs from January 2016. The mechanism has worked well as financing targets set for the year have been achieved.

¹² "SBP and WB ink agreement on Technical Cooperation for achieving SBP's Strategic Goals"

<http://www.sbp.org.pk/press/2017/Pr-WB-29-Jan-17.pdf>

- After promulgation of Financial Institutions (Secured Transactions) Act 2016, Government of Pakistan (GOP) and SBP are currently working on establishment of electronic secured transactions registry that will register charge on moveable assets of the unincorporated entities especially the SMEs to facilitate their access to finance against their moveable assets.
- SBP issued amendments in Prudential Regulations (PRs) for Small & Medium Enterprises (SMEs) in May 2016¹³ to align them further with changing market dynamics. Revised regulations have rationalized the Sales and Employee parameters under Small Enterprise (SE) and Medium Enterprise (ME). Per party exposure limit has also been enhanced to facilitate SEs for availing more financing from the formal sector, while classification requirements have been rationalized to facilitate restructuring/ rescheduling of SMEs finance.
- With a view to promoting the infrastructure financing in Pakistan, SBP has issued Prudential Regulations for Infrastructure Project Financing (IPF).¹⁴ These Prudential Regulations emphasize on important features of infrastructure project finance to facilitate the banks and DFIs to assess the cash flow generating capacity of the projects like the requirement of technical feasibility, comprehensive risk assessment, project insurance, technical monitoring of the project during loan tenure and requirement of supply and off-take agreements. The IPF regulations allow enhanced per party exposure limits of 5 percent (only for infrastructure projects) over and above 20 percent allowed under PRs for Corporate/Commercial Banking.
- SBP has issued revised financing scheme for renewable projects in June 2016.¹⁵ Under category I of the Scheme, end borrowers can avail financing of up to Rs. 6 billion at 6 percent for up to 12 years for renewable energy projects. Under the category II, the

scheme incentivizes renewable energy solutions of less than 1 MW for consumers at the same concessional rate of 6 percent.

- The role of private credit bureaus cannot be overemphasized in the credit risk assessment process of banks. To promote establishment of private sector credit bureaus, SBP has issued licensing criteria for their establishment and a set of regulations for their supervision under the Credit Bureaus Act, 2015.

Being cognizant of the vitality of **Financial Consumer Protection** and its linkage with Financial Inclusion and Stability, SBP has revitalized its mandate in this area in the past few years. Subsequent to enforcement of an explicit Fair Treatment of Consumers framework and other related initiatives, SBP has further strengthened the conduct regulation and supervision regime as follows:

- In line with SBP's vision 2020 to foster a responsible and fair banking sector, comprehensive guidelines on complaint handling were issued by SBP. Accordingly, a conducive culture, Turn Around Time (TATs), record retention, annual disclosures and regulatory returns are the first ever inclusions in complaint handling instructions issued by SBP¹⁶.
- Being cognizant of the need of standardized disclosure requirements for other consumer products, SBP has issued Key Fact Statements along with general Product Disclosure Requirements (PDRs) for personal, housing and auto loan products.¹⁷
- With the intent to help banks demonstrate Fair Treatment of Consumers (FTC), SBP has developed a Conduct Assessment Framework (CAF) to be used by the banks themselves.¹⁸ This framework will serve as conduct monitoring tool for SBP to gather conduct data and address the gaps therein by adoption of different regulatory interventions.

¹³ "Revised Prudential Regulations for Small and Medium Enterprises Financing", IH&SMEFD Circular No.2 dated May 6, 2016

¹⁴ "Prudential Regulations for Infrastructure Project Financing (IPF)", IH&SMEFD Circular No.6 dated December 30, 2016

¹⁵ "Revised SBP Financing Scheme for Renewable Energy", IH&SMEFD Circular No.3 dated June 20, 2016

¹⁶ "Consumer Grievances Handling Mechanism (CGHM)", BC&CPD Circular No.1 dated February 29, 2016

¹⁷ "Product Disclosure Requirements", BC&CPD Circular No.2 dated June 14, 2016

¹⁸ "Conduct Assessment Framework for Banks", BC&CPD Circular No.3 dated November 4, 2016

Facilitation of the existing consumers and smoothening entry of the new customers remains the hallmark of the present day tech based banking services. Some of the measures taken for customer facilitation are listed below:

- Keeping the latest developments in view and to provide ongoing regulatory support to financial institutions for enhancing Branchless Banking (BB) services to low income/unbanked masses; SBP has issued revised Branchless Banking Regulations for the banking industry.¹⁹
- Besides, The Framework for Branchless Banking Agent Acquisition and Management for the banks has been issued by SBP.²⁰ The framework provides enabling environment for banks to ensure effective delivery of services via agent channel for better customer experiences and mitigation of risks arising from banks' dependence on agents.
- SBP and Pakistan Telecommunication Authority (PTA) signed a Memorandum of Understanding (MOU) for development of branchless banking in Pakistan. In this regard, SBP and PTA has issued regulatory framework on interoperability of branchless banking services.²¹ The interoperability serves as a tool to provide a range of integrated services to the customers, resulting in wide uptake of digital transactional accounts. Through interoperable BB services, the customers can transfers funds between banking accounts and mobile-wallets through their cell phones having account of any bank and SIM of any telecom operator.

¹⁹ "Branchless Banking Regulations for Financial Institutions", BPRD Circular No.9 dated July 12, 2016

²⁰ "Framework for Branchless Banking Agent Acquisition and Management", BPRD Circular No.6 dated June 21, 2016

²¹ "Regulations for Mobile Banking Interoperability", BPRD Circular No.3 dated May 16, 2016

1 Global and Domestic Macro-financial Environment

The global economic growth after remaining subdued in CY16 is expected to recover in CY17. Growth prospects in the emerging market economies are upbeat, while the economic activity is strengthening in the advanced economies. Financial markets, especially the world equity markets, having experienced bouts of volatility during CY16, are on an upward trajectory. Nonetheless, normalization of monetary policy in the US may tighten financial conditions in the emerging and developing economies, prompting financial stability concerns. The global trade activity remains subdued as well. At the same time, the growing political uncertainties and protectionist tendencies in some advanced economies pose further downside risks to both the trade and the global economic growth. The domestic economy, however, is well on its growth path. The financial conditions remain accommodative with banking sector sound and resilient. Asset prices are, however, rising as stock market is at historic highs. Similarly, recent pressures on external front, resurgence of inflation and rising commodity prices needs close monitoring for promptly addressing any financial stability concerns.

1.1 Global Developments

The global economy to tread on slow growth trajectory...

The global economy recorded a growth of 3.11 percent in 2016, down from 3.35 percent in 2015, primarily due to slowdown in Advanced Economies (AEs) (**Table 1.1**). The growth outlook in AEs remains subdued given uncertainties post-Brexit vote, moribund growth prospects both in EU and Japan and the fact that most of the AEs are operating below potential. The real growth in AEs slowed down to 1.69 percent in 2016 from 2.15 percent in 2015. However, with recovery and pick up in major AEs, the growth is likely to convalesce to 2.01 percent in 2017.

Some of the risks to global growth associated with Emerging Markets and Developing Economies (EMDEs), though, have abated: the concerns about China's hard landing have subsided; the commodity markets have rebounded; and, with Brazil and Russia expected to come out of recession, the EMDEs have grown by 4.13 percent in 2016. The growth prospects in India and Saudi Arabia are more restrained, due to former's experience with currency note withdrawal and latter's concurrence with other oil producing countries to shed oil

production. The EMDEs are, however, estimated to lead global growth with a healthy growth of 4.49 percent in 2017. As a result, the world output is projected to recover to 3.46 percent in 2017.²²

Table 1.1
Global Economy: Real GDP growth (percent)

	CY14	CY15	CY16	CY17*
World	3.50	3.35	3.11	3.46
Advanced Economies	1.90	2.15	1.69	2.01
Euro Area	1.10	2.05	1.73	1.68
Emerg. and Dev. Econ.	4.65	4.25	4.13	4.49
Emerg. and Dev. Asia	6.75	6.74	6.38	6.43
MENAP	2.79	2.70	3.89	2.58
China	7.30	6.90	6.70	6.58
Japan	0.34	1.20	1.00	1.25
Saudi Arabia	3.68	4.11	1.40	0.37
United Kingdom	3.07	2.19	1.81	2.05
United States of America	2.40	2.60	1.60	2.30

* Forecast

Source: World Economic Outlook, IMF, April 2017.

In 2016, the financial markets experienced bouts of volatility, generally of transient nature, due to various political and macro-financial shocks. The negative shocks came from uncertainties

²² International Monetary Fund (2017), World Economic Outlook: Gaining Momentum?, April.

surrounding China's hard landing earlier in the year; the slump of oil prices to a decade low; the adoption of negative interest rates by Bank of Japan and the unexpected outcome of UK's referendum. However, the election results in the US, though unexpected as well, only briefly unsettled the markets. Anticipating fiscal stimulus and reversal of regulatory restrictions by the incoming US administration, the US stock markets strongly rallied, with global markets following suit.

The ultra low interest rates during most of the year 2016 adversely affected the profitability of the banking sector in major banking markets, particularly, EU and Japan. However, the second dose of policy normalization in the US in December 2016 followed by another one in early 2017, led to increased yields in the US with spillovers to other advanced markets. This will potentially ease some pressures on the profitability of some of the global players in the banking sector. However, in the Euro area and Japan, the pressures still remain. The financial institutions in Japan, especially, face negative interest rates and low credit demand and have accumulated exposure in foreign bonds and investments trusts. These heightened risk taking activities can impair financial system stability.

In general, various factors may influence the dynamics of global growth and stability of financial markets. These could include, for example, a growing wave of protectionist tendencies that may strengthen inward-looking policy prescriptions; the divergent policy stances in AEs; expected tightening of financial conditions in EMDEs in the wake of normalization of the US monetary policy stance; slowdown of global trade, both in the AEs and EMDEs; the tightening fiscal conditions in oil producing countries, especially the Gulf Cooperation Council (GCC), and, finally, the ongoing rebalancing of Chinese economy.

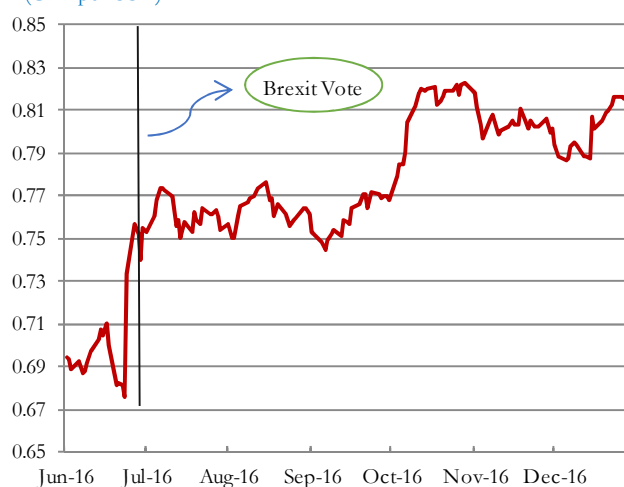
Protectionist sentiments are on the rise...

The year 2016 witnessed a rise of populist politics and protectionist sentiments around the globe. Mid-way through the year, Britons shocked the world by voting to opt out of the EU (Brexit) and the year culminated with the surprise election results in the US. Brexit briefly unsettled the global financial markets, and was a particularly watershed event for the pound sterling (**Figure 1.1**).²³

Figure 1.1
Brexit vote sends pound tumbling

Trajectory of British pound (Daily)

(GBP per USD)



Source: Federal Reserve Economic Data (FRED), St. Louis.

Bank of England (BoE), however, intervened early on to reassure the markets, cutting interest rates to historic lows, increasing the stimulus and promising to stand ready to step in when needed.²⁴ On macroprudential front, the Financial Policy Committee (FPC) reduced counter-cyclical capital

²³ The British pound traded at a 31-year low of USD 1.3224 on June 24, 2016, a day after the Brexit vote. Between June 23, 2016 and Dec 30, 2016, the Sterling lost around 17 percent to the US dollar.

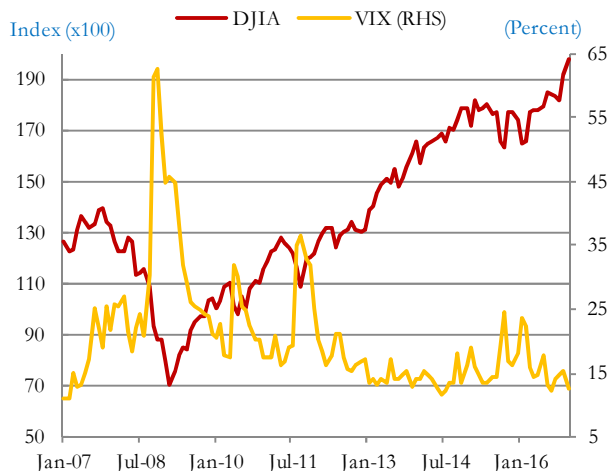
²⁴ Bank of England, Monetary Policy Summary and Minutes of Monetary Policy Committee meeting, July 2016. (<http://www.bankofengland.co.uk/publications/Pages/news/2016/07.aspx>)

buffers from 0.5 percent to zero percent.²⁵ The UK economy has so far shown resilience: the official data and the major business surveys continue to indicate a steady pace of expansion in real activity.²⁶

However, full ramifications of Brexit decision are contingent on the outcome of UK's divorce negotiations under Article 50 of the Lisbon Treaty and possible renegotiation of trade treaties with other countries and trading blocks. Nonetheless, the events unfolding around the exit negotiations will have financial stability implications not only for the UK's domestic economy but also for the global financial markets.

Figure 1.2
Post US elections, global risk perceptions remain muted

Monthly Global Risk Perceptions (VIX) and the US Stock Market (DJIA)



Source: Federal Reserve Economic Data (FRED), St. Louis.

Financial markets shrug off the US election surprise...

The impact of the US election surprise on financial markets, however, proved to be short lived as the markets factored in the benefits of promised fiscal stimulus, tax cuts and easing of regulations under

²⁵ Financial Policy Committee, Countercyclical capital buffers. (<http://www.bankofengland.co.uk/financialstability/Pages/fpc/ccbrites.aspx>).

²⁶ Bank of England, Monetary Policy Summary and Minutes of Monetary Policy Committee meeting, March 2017.

the new US administration. This prompted a bullish rally on the US stock markets with the benchmark indexes heading for a steep rise and the bourses around the world following suit. The rally was further fueled by the strengthening of energy prices as OPEC and other oil producing countries agreed to slash oil production.²⁷ The global risk, as gauged by VIX,²⁸ largely remains muted as well (**Figure 1.2**).

...But, easing of regulations may have financial stability consequences...

It is no surprise that internationally coordinated efforts to strengthen financial regulations in the wake of GFC has, generally, led to macro-financial stability. The global banking sector, for example, has substantially beefed up its capital and liquidity buffers and remains in a better position to withstand any potential shocks. Nonetheless, the agenda remains unfinished and much needs to be achieved.²⁹ The expected easing of financial regulations under new US administration, for instance, may trigger reciprocatory responses from other jurisdictions as well. The competitive regulatory easing may eventually encourage risk taking and may lead to build up of vulnerabilities in the global financial system.

²⁷ OPEC agreed on November 30, 2016 to slash oil production by around 1.2 million barrels per day. On December 10, 2016, other oil producing countries also agreed to join OPEC in the cut. (Source: OPEC Bulletin, December 2016).

²⁸ VIX, CBOE's Volatility Index, is a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices. It is also known as 'fear gauge'. (Source: Chicago Board of Options Exchange (CBOE)).

²⁹ International Monetary Fund. (2017). Global Financial Stability Report: Getting the Policy Mix right. April. (henceforth IMF GFSR 2017)

...and the pace of tightening in the US critical for EMDEs...

Now that the US has started normalizing its monetary policy stance,³⁰ the implications for the EMDEs are enormous. The US dollar has already started to strengthen, potentially introducing exchange rate pressures, putting fiscal positions under stress and creating financial stability concerns in such EMDEs that carry higher dollar-denominated debts.³¹ At the same time, any potential capital flight in response to attractive interest rates in the US may also adversely affect EMDEs external positions and their capacity to tap global capital markets. The financial conditions for the EMDEs, therefore, are expected to remain tight in the near term. The upshot could be that the economic recovery in the US reignites the export engines of the EMDEs, if protectionist sentiments do not take hold in the form of policy actions.

Table 1.2

Euro area and Japan Macroeconomic Performance

	Euro area		Japan	
	CY16	CY17*	CY16	CY17*
	Percent			
Real GDP Growth	1.7	1.6	0.9	1.0
Inflation	0.2	1.7	-0.1	0.4
Unemployment rate	10	9.6	3.1	3.1
Current Account (percent of GDP)	3.6	3.2	3.9	4.1
Fiscal Balance (percent of GDP)	-1.7	-1.4	-3.7	-4.0

Source: European Commission

* Forecast

³⁰ After bringing the policy rate to historic lows in December 2008, the Federal Reserve's Open Market Committee (FOMC) started policy normalization in December 2015. The second and third rate hike came in December 2016 and March 2017, respectively. With a quarter point increment each time, the current range of federal funds rate is 0.75-1.00 percent from its lowest 0.0-0.25 percent. (Source: The Board of Governors, Federal Reserve System, USA).

³¹ As of end 2014, the corporate debt in emerging markets (local and foreign currency) stands at \$ 18 trillion (Alter and Elekdag, 2016).

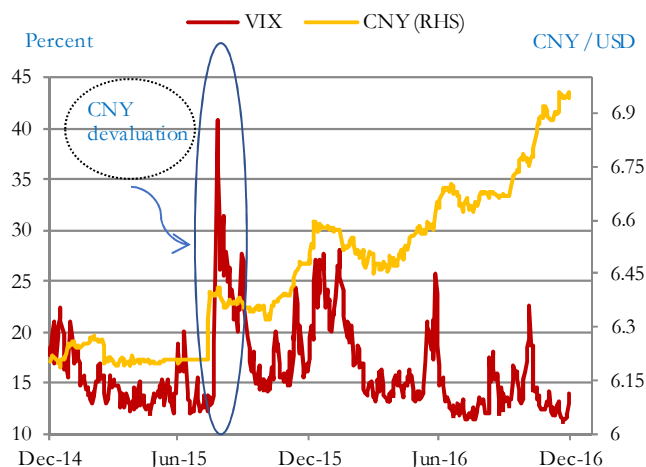
The policy stance in the EU and Japan remains ultra-easy...

The economic activity in the Euroarea and Japan remained sluggish and inflation rates stayed well below the official targets (**Table 1.2**). This prompted the central banks (ECB & BOJ) to pursue ultra-accommodative policy stance by resorting to unconventional monetary policy tools. The main refinancing rate in the Euroarea, for instance, is at *zero*-percent while the interest rate on deposit facility stands at *negative* 0.40 percent. Further, the ECB's governing council decided in March 2017 to extend its asset purchase program until end 2017, and beyond, if necessary.³²

Figure 1.3

Devaluation of Chinese Yuan (CNY) sends global risk perceptions high

Daily trend of VIX and Chinese currency



Source: Federal Reserve Economic Data (FRED), St. Louis, USA.

The stimulus seems to be working in the Euro area (EA). From the beginning of 2015, the real growth has picked up; unemployment is lowest since May 2009; the lending rates are on a downward trajectory; credit to both the households and business is picking up; and, most importantly, the

³² Governing Council, European Central Bank (<https://www.ecb.europa.eu/press/pr/date/2017/html/pr170309.en.html>)

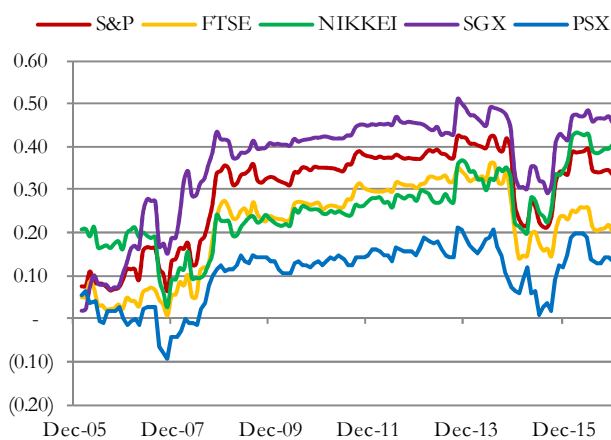
inflation is heading up.³³ Being a major trading partner, the strengthening of economic activity in EA bodes well for the export sector of Pakistan.

However, the legacy issues with the balance sheets of the banking sector, including elevated stock of NPLs in some EA member states, cost inefficiencies (i.e., low assets per employee ratios) prevailing in several markets, and limited degree of income diversification are principal factors creating uncertain outlook for the EA banking sector and its stability.³⁴

Figure 1.4

Synchronization of Chinese stock market with world markets is strengthening

Rolling window (6 years) correlations of Shanghai Stock Exchange Returns with...



Source: Federal Reserve Economic Data, St. Louis; and Haver Analytics

In Japan, the negative benchmark rates and low credit demand have hurt the profitability of financial institutions, prompting them to venture into foreign bonds, such as the US government securities. Besides, the Japanese banks have also heavily channeled funds to offshore centers through investment fund special purpose vehicles.³⁵ These

³³ Benoit Coeure, 'Outlook for monetary policy in the euroarea'. Speech at Association d'Economie Financiere, Paris, 2017.

³⁴ European Commission. (2017). European Economic Forecast. Institutional Paper No. 048. Luxembourg, February.

³⁵ Inoue M., Yoshizaki Y., Sasamoto K. and Shiotani K. (2017). Enhancements to the BIS international banking statistics and

cross-border exposures increase the financial stability concerns.

Besides the US, now China's economy matters too...

Ranked as the second largest economy in the world, China's role and influence on the global economy and markets has been increasing over the years. For instance, towards the end of 2015, the uncertainties surrounding its economic slowdown (hard landing) sent tremors throughout the global financial markets. The IMF in its Global Financial Stability Report (GFSR) of April 2016³⁶ has noted that the impact of shocks to the economic fundamentals in China on the equity returns in both EMDEs and AEs has been rising. Indeed, the slowdown in China in the aftermath of GFC led to the commodity price deflation,³⁷ affecting the resource rich and commodity exporting countries in, e.g., Middle East and Latin America. Moreover, the shock to the real output in China has been one of the major causes of global trade slowdown.³⁸

...as spillovers from China are strengthening

As regards the spillovers of shocks from the Chinese financial markets, especially the equity markets, to the rest of the world, the correlation seems to be higher but it remains less strong (IMF, GFSR 2016). Nevertheless, global risk perceptions remained elevated after devaluation of Chinese Yuan in August 2015 (see **Figure 1.3**). The co-movement between major world equity markets and the Chinese stock market is also strengthening, especially after GFC (see **Figure 1.4**). Therefore, the news emanating from Chinese markets will have

highlights of the results of the statistics in Japan. *Bank of Japan Review*, March.

³⁶ International Monetary Fund. (2016). Global Financial Stability Report: Fostering Stability in Low-Growth, Low-Rate Era. October. (henceforth IMF GFSR 2016)

³⁷ Financial Times. (2015). Explainer: Why commodities have crashed. August 24, 2015.

³⁸ The World Bank. (2017). Global Economic Perspectives: Weak Investments in Uncertain Times, Washington, D.C., January.

quite a bearing on the global financial markets including that of Pakistan.

...and the Chinese economy remains highly leveraged.

In the wake of GFC, the Chinese government encouraged investments which resulted in a credit boom. The credit-to-GDP ratio has crossed 200 percent, while its deviation from long-term trend – the so-called credit overhang and a leading indicator of financial crisis³⁹ - has exceeded 25 percent. Besides bank credit, corporate bonds and other shadow products are also rapidly increasing, shrouding the financial system in opacity.⁴⁰ On the other hand, many financial institutions rely on short term wholesale funding, creating large maturity mismatches.⁴¹ At the same time, investment efficiency has fallen and the financial performance of the corporates has steadily deteriorated, potentially affecting the asset quality of financial institutions.⁴² Together, these developments point to tighter conditions and financial stability concerns. Given its importance and inter-linkages with the global economic and financial system including Pakistan, the implications could be enormous. However, the Chinese authorities have embarked on regulatory initiatives to rein in leverage and increase transparency in the financial system.⁴³

Finally, as noted in GFSR 2016, the uncertainties surrounding the transition of the Chinese economy from an investment-led growth model to a more sustainable consumption-based model with a relatively open market-based financial system have abated, as the government continues to pursue

³⁹ Borio, C and P. Lowe, 2002, Assessing the Risk of Banking Crises, *BIS Quarterly Review*, December, pp 43–54

⁴⁰ Shadow products – credit products composed of trust and other structured products – surged by 50 percent (YoY) in 2015 compared with 13 percent and 20 percent growth of loans and bonds, respectively (GFSR October 2016).

⁴¹ IMF GFSR 2017.

⁴² International Monetary Fund. (2016). Resolving China's Debt Problem. Working Paper No. 16/203.

⁴³ IMF GFSR 2017.

multi-faceted reforms agenda. Nonetheless, the new normal for the Chinese economy is a slower but sustained growth path.

Low growth in AEs spurs global mergers and acquisitions...

A low growth in advanced economies coupled with low interest rates has been a driving force behind continued higher activity in mergers and acquisitions (M&A). The activity has been recorded at USD 3.9 trillion in CY16 compared with last year's USD 4.7 trillion.⁴⁴ The multinationals responded to investors' demand for high returns by exploring and acquiring cross border stakes to enhance outreach, market access and exploit know-how. Moreover, a substantial thrust came from Chinese investors. If the trend continues, EMDEs are expected to benefit from continuous M&A activity.

Table 1.3

GCC - Genral Government Overall Budget Balances

	CY14	CY15	CY16	CY17*
	(Percent of GDP)			
Kuwait	27.1	1.2	-3.6	3.60
Qatar	15.3	5.6	-4.1	-3.10
Saudi Arabia	-3.4	-15.8	-16.9	-9.80
United Arab Emirates	5.0	-2.1	-3.9	-2.60

Source: Fiscal Monitor, IMF, April 2017.

* Forecast

GCC economies battered by oil price slide....

The slide of oil prices that started in mid-2014, has adversely affected the fiscal position of oil exporting countries. The economies of the GCC are no exception. As a result, the countries of the region which depend heavily on oil revenues are experiencing overall negative budget balances (**Table 1.3**). Saudi Arabia, world's top oil producer, for instance, suffered heavily as it drew down on its

⁴⁴ J. P. Morgan. (2017). 2017 M&A Global Outlook: Finding Opportunities in a Dynamic Market. *January*.

international reserves to finance its fiscal needs.⁴⁵ Further, the currencies of the region are pegged with the US dollar. Therefore, besides supporting the fiscal position, maintenance of the parity to the US dollar also required them to intervene in the forex market, leading to further depletion of their reserves.

...and are pushed to pursue ambitious reforms agenda

The situation has led to a general reform process in the GCC countries whereby the expenditures on subsidies and infrastructure projects are being scaled down. Most notably, Saudi Arabia, the largest economy in the region, has rolled out an ambitious reforms plan, *Vision 2030*, which seeks, inter alia, to pivot the economy away from its reliance on oil revenues; envisions educational reforms, development of SME sector, setting up of special economic zones, boosting tourism and encouraging home ownership.⁴⁶

...including labor reforms....

The GCC economies are also implementing labor market reforms whereby businesses would be required to hire nationals (locals) to meet human resources needs. This move will have far reaching effect on many developing economies which export human capital that forms a major chunk of the labor force in these resource-rich countries. The resulting retardation of the remittances outflows from these oil exporting countries will have repercussions for the current accounts of the recipient countries. The receding flows of remittances are likely to affect negatively the funding source of the receiver countries' banks.

...and are tapping international financial markets

⁴⁵ Between Jun 2014 and Dec 2016, the depletion of reserves is to the tune of USD 206.6 billion. (Source: Saudi Monetary Authority)

⁴⁶ Vision 2030 (<http://vision2030.gov.sa/en>)

Apart from domestic fiscal consolidation measures, many GCC countries have tapped international capital markets during 2016, raising a record amount of USD 66 billion through fixed income securities. Most notable is Saudi Arabia's debut bid to raise USD 10 billion from international bond issuance. The issue was over-subscribed and the Kingdom ended up accepting USD17.6 billion.⁴⁷ The country is also contemplating, under *Vision 2030*, an initial public offering of the state oil company, Aramco, which is being dubbed in the financial markets as historically the biggest IPO. Separately, Kuwait is also mulling over its first ever dollar-denominated bond issue in early 2017.⁴⁸

Reforms in GCC countries carry promise for developing countries

Despite initial disruptions due to reforms, their successful implementation may have some silver lining for developing countries. Conditional on the pace of the reforms and resulting rebound in economic growth, the countries may require additional human resources while the eventual strengthening of aggregate demand may support the export engines of the developing and even developed countries.

Global trade exhibits moribund growth...

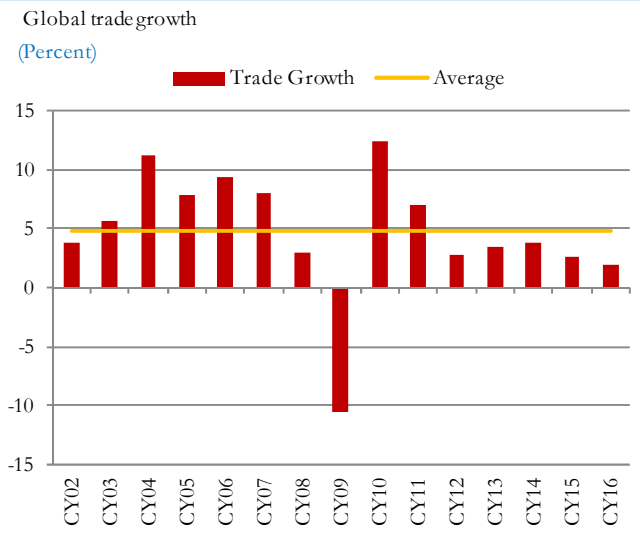
The global trade witnessed another troubled year in terms of growth (**Figure 1.5**). Worryingly, being the worst since 2010, the deceleration in trade growth was experienced simultaneously by the AEs and EMDEs. While the AEs principally contributed in global merchandise imports, supporting the export

⁴⁷ Against the bid amount of USD10 billion, the government received offers to the tune of USD67 billion of which it accepted a higher amount of 17.6 billion in 5, 10 and 30 year bonds offering yields of, respectively, 2.60 percent, 3.41 percent and 4.63 percent (Financial Times and Thomson Reuters).

⁴⁸ Financial Times. (2017). Kuwait closer to first sale of dollar debt. *January 17*.

engines of EMDEs, however, low imports by EMs reflect weak investments on their part⁴⁹ (Figure 1.6).

Figure 1.5
Global trade growth remains muted



Source: The World Bank

The reasons for such profoundly weak global trade growth in 2016 are many. A recent World Bank study finds that a one percent increase in economic policy uncertainty (EPU) in major AEs and some EMDEs lead to 0.02 percent reduction in trade volume of goods and services. By that count, three fourth of the slowdown in global trade in 2016 could be accounted for by EPU.⁵⁰

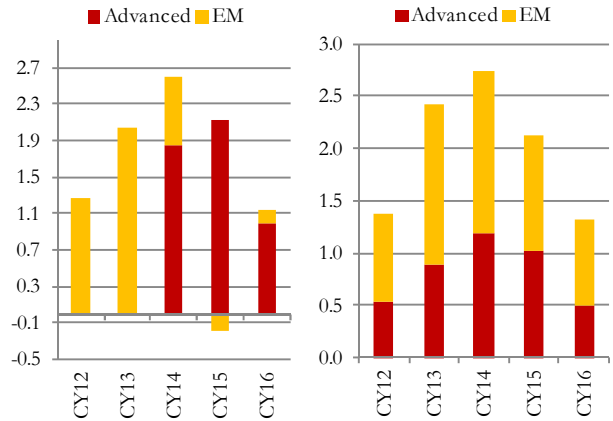
Besides policy uncertainty, maturing global value chains, slow global economic activity, slower pace of trade liberalization, downfall in commodity prices and the structural shifts in China could be some of the other factors that have contributed to the slowdown in world trade.

⁴⁹ World Bank. (2017). Global Economic Prospects. *Washington, January*.

⁵⁰ The EPU increased by 30 percent between Nov. 2015 and Oct. 2016, which translates into a 0.6 percent (30*0.02) decline in trade due to EPU in 2016. The latest IMF estimates put the decline in global trade between 2015 and 2016 to 0.8 percent. Therefore, around 75 percent of YoY decline in trade is accounted for by EPU. (Global Trade Watch, 2016)

Figure 1.6
Low imports by EMs reflect weak investments

Contribution to Growth in Merchandise Trade (Volume Index)
(a) Imports (b) Exports



Source: CPB Netherlands Bureau of Economic Policy Analysis

It is worth noting that the trade policy uncertainty, which is a component of EPU, may have played some role in undermining global trade during 2016. However, average trade restrictive measures during 2016 appear in line with the past eight years' average.⁵¹ Nonetheless, such policies do affect the trade dynamics and, given the rise of nationalist sentiments globally, the prospects for the already fragile growth of world trade are depressing. A growing policy uncertainty will lead firms to hold back on their investment and export decisions, which will further feed negatively into the real growth in both AEs and EMDEs, with adverse consequences for everyone involved.

⁵¹ Constantinescu, C., Matto, A. and Ruta, M., 2017. Trade Developments in 2016: Policy uncertainty weighs on world trade. *Global Trade Watch*, Washington D. C., World Bank Group.

1.2 Domestic Developments

Domestic economy is gaining momentum...

The economy of Pakistan is on a higher real growth trajectory, increasing in size by 4.51 percent and 5.28 percent during FY16 and FY17, respectively, compared with 4.06 percent in FY15. The industrial activity is also rebounding, with large-scale manufacturing (LSM) recording a year-on-year growth of 7.04 percent in CY16 compared with last year's 1.99 percent. With a rebound in the commodity prices, the inflation has also bottomed out, but the end of year figure at 3.76 percent remains considerably lower than the official target of 6.0 percent (**Table 1.4**). The exchange rate has remained stable on the back of adequate forex reserves. Moreover, the outlook has been portrayed as *stable* by various international rating agencies.⁵²

A number of other developments on the ground also point to an increasing aggregate demand, going forward. These include an enabling policy and operating environment; for example, decades-low interest rates, upsurge in credit uptake (especially for fixed investments), lower corporate taxes⁵³, government's commitment towards development spending (mainly infrastructure), availability of energy, improving law and order conditions, and an accelerated pace of progress on the projects under China-Pakistan Economic Corridor (CPEC). With impetus from these developments, the economy is poised to head towards a higher target growth of 6.0 percent in FY18.⁵⁴

...amid rising headwinds...

Nonetheless, some domestic and global economic developments are likely to act as headwinds. For

instance, an increasing trend of imports with stagnating exports implies higher trade deficit; the recent recovery of oil prices and the government's policy decision to import high quality (92 RON) petrol means even higher import bill; the deceleration of global trade and rising protectionist sentiments coupled with subdued economic activity in major markets like GCC, EU and Japan further bodes ill for the exports; the budgetary pressures and structural reforms in GCC countries may lead to lower remittances inflows for Pakistan.

Table 1.4
Pakistan: Key Economic Indicators

	CY13	CY14	CY15	CY16
	Percent			
Real Sector				
Real GDP Growth (on <i>FY</i> basis)	3.65	4.05	4.06	4.51
LSM Growth (YoY)	12.90	0.86	1.99	7.04
Inflation (12-month Average)	7.69	7.19	2.54	3.76
Banking Sector				
WALR	11.73	11.58	9.10	8.45
WADR	7.23	7.19	5.19	4.64
	USD billion			
External Sector				
SBP Reserves (End-of-Period)	4.7	11.9	17.2	19.5
Current Account Balance	(4.4)	(3.6)	(2.1)	(4.9)
Exports	25.1	24.8	22.7	21.7
Imports	41.2	42.7	39.3	41.6
Trade Balance	(16.1)	(17.9)	(16.6)	(19.8)
Remittances	14.6	17.2	19.2	19.7
PKR/USD Rate (Average)	101.5	101.0	102.7	104.7

Note: WALR and WADR (Outstanding, Excluding zero mark-up but including interbak)

Sources: Ministry of Finance, Pakistan Bureau of Statistics and State Bank of Pakistan

On the domestic front, the increase in inflation, though currently contained; the lower tax-to-GDP ratio and receding pace of government's revenue collection which implies widening fiscal deficit, and

⁵² The sovereign ratings by various international rating agencies are: Moody's, B3 (stable); S&P, B (stable); Fitch, B (stable).

⁵³ Corporate tax rate has been reduced from 35 percent in FY13 to 32 percent in FY16.

⁵⁴ Ministry of Finance. (2017). Economic Survey 2016-17.

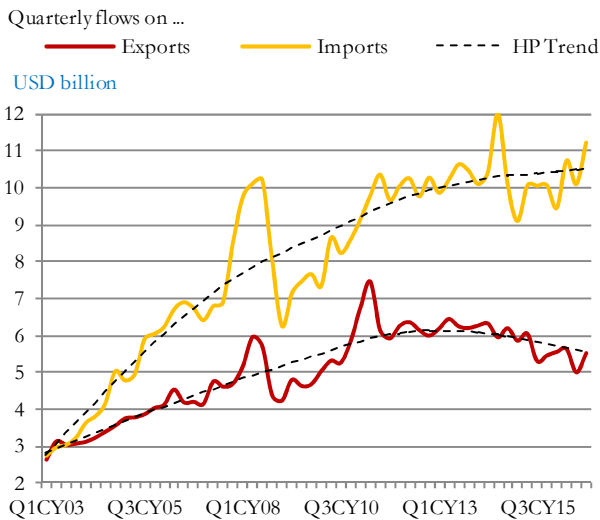
the public debt standing at 66.5 percent of GDP⁵⁵ present some challenges as well.

Rising machinery imports point to capital formation...

The imports are on a rising trajectory, ticking above the trend recently (**Figure 1.7**). However, the good news is that the bulk of the imports comprise of higher purchases of fuel and capital equipments, which implies capital formation and strengthening of economic activity going forward.⁵⁶ Specifically, the imports of power generation, electrical, textiles and construction related machinery and that of heavy vehicles (buses, trucks, etc.) are rising and will support the projects under CPEC (**Figure 1.8**). This is a welcome sign for the sustainable growth of industrial activity, which is already inching up.

Figure 1.7

Pakistan: The trend of exports and imports points to widening trade deficit



Source: State Bank of Pakistan

Moreover, the announcement of PKR 180 billion five-year package for the uplift of exports would benefit industry, particularly the textile sector, and

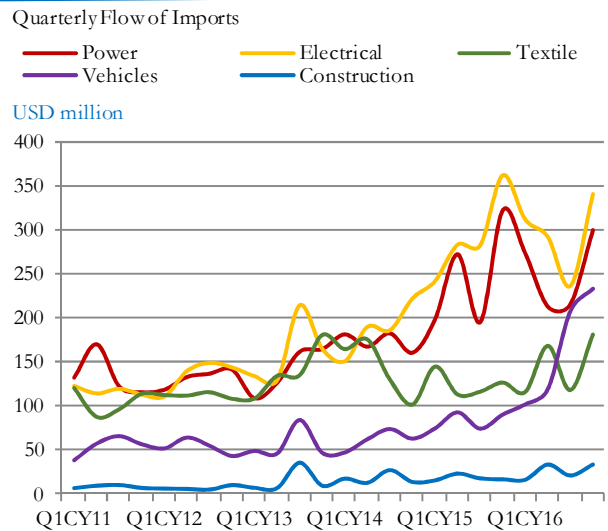
⁵⁵ The Fiscal Responsibility and Debt Limitation Act (FRDLA) places a cap of 60 percent on public Debt-to-GDP ratio

⁵⁶ State Bank of Pakistan. (2017). The State of Pakistan's Economy, Second Quarterly, FY17, Chapter 5. [henceforth SBP 2017]

may provide the needed support to reverse the trend of exports.

Figure 1.8

Pakistan: The uptick in imports of machinery and heavy vehicles is encouraging



Source: State Bank of Pakistan

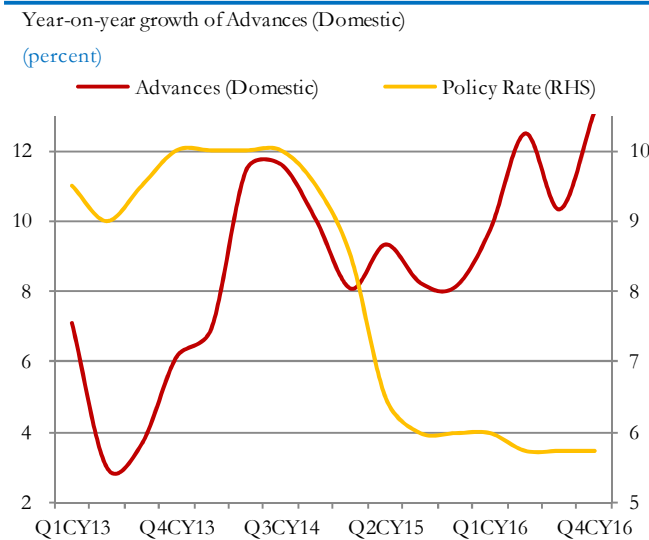
...and easy monetary policy induces credit uptake

In the meantime, the monetary policy stance remained accommodative throughout the year 2016. Starting from November 2014, the policy rate was successively cut from 10 percent to the four-decade's low of 5.75 percent in May 2016. The easy policy stance became possible due to improving macroeconomic conditions, mainly the easing of inflationary pressures and comfort on external front with historic high reserves coupled with manageable trade and current account balances.

Resultantly, the domestic private sector availed a hefty PKR 645.86 billion of advances in CY16, growing by 13.16 percent over the past year (See **Figure 1.9**). The intake was broad-based as all major industrial sectors including Textile, Auto and transport, Cement and Energy utilized credit. Encouragingly, the private businesses kept strengthening their capital investments by resorting to fixed term loans (see also **Chapter 3**). With

CPEC related projects gaining traction and the demand conditions improving further, advances are expected to maintain their growth momentum.

Figure 1.9
Easy monetary policy spurs credit growth



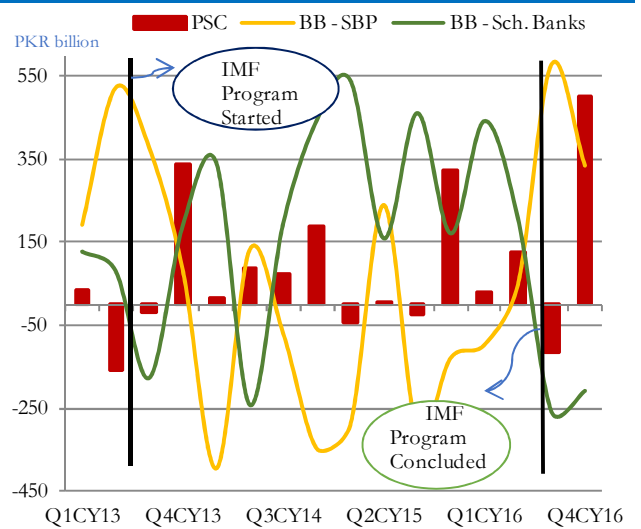
Source: SBP

The uptick of advances may get additional support from the shift in government’s budgetary borrowing away from the banking sector to the central bank. As the reliance of Government on the banking sector reduces the funds available for the private sector,⁵⁷ a subsiding trend of government borrowing may help banks channel funds to the private sector (Figure 1.10).

A shift in asset mix of banks is already visible as shown in Figure 1.11. Investments (net) as a proportion of deposits are declining while the share of advances (net) is inching up. This implies that the banking sector is engaging more in its core business of lending.

⁵⁷ During CY16, the federal government borrowed PKR 1042 billion for budgetary support. Out of this, PKR 865 billion were raised from the Central Bank while PKR 177 billion were borrowed from scheduled banks (Source: SBP’s Monetary Survey). Incidentally, the shift in borrowing pattern coincides with the completion of IMF’s 3-year Extended Fund Facility (EFF) in September 2016.

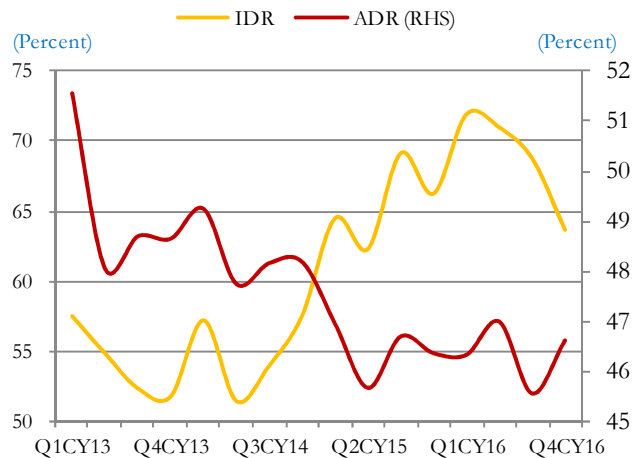
Figure 1.10
Flows of Private Sector Credit (PSC) and government’s Budgetary Borrowing (BB)



Source: Monetary Survey, SBP.

Figure 1.11
Asset mix of banks shifts from investments towards advances

Asset mix as a proportion of deposits



Source: SBP

However, the pace of revenue collection is receding⁵⁸ which might make the government tap funds from the banking system. As the central bank borrowing tends to be inflationary, an extended use of such a facility warrants caution. Given that the

⁵⁸ State Bank of Pakistan. (2017). The State of Pakistan’s Economy, Second Quarterly, FY17, Chapter 4.

inflationary pressures are already building up in the economy, it poses a downside risk for the nascent growth of private sector credit.⁵⁹

Funding base remains robust to challenges....

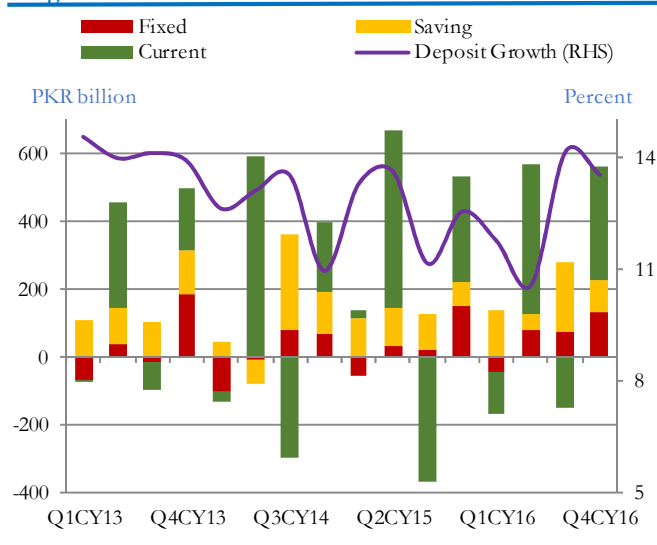
While easy monetary policy boosted the advances growth, low interest rates presented a challenge for the deposit mobilization. Also, the increase in withholding tax on cash withdrawals from banks exceeding PKR 50,000 since July 2015 has been another constraining factor for the supply of deposits. At the same time, tying of minimum return on savings deposits to 50 bps below the floor of policy rate has also had an impact on the spreads of the banking sector. Whereas the impact of each factor cannot be disentangled, the first two were particularly challenging.

After imposition of tax, the year-on-year growth of deposits has decelerated from 13.64 percent in June 2015 to 10.57 percent in June 2016, before recovering to 13.56 percent in December 2016. Simultaneously, the cash holding, proxied by currency-to-deposit ratio (CDR), has also gone up from 28.43 percent in December 2014 to 32.48 in December 2015 and further nudged to 33.86 percent in December 2016.⁶⁰ Given that the inflationary pressures remained subdued during this period, build-up of currency for transactional purposes can be less of a motive.

The recovery of deposits in CY16 coincides with the multiplier effect of credit growth and can be discerned from healthy flows in the category of current deposits, majority of which belongs to private businesses. The savings segment, which is mostly deposits of personnel, witnessed lower but continuous inflows. However, higher flows into current deposits, which are pre-dominantly non-

remunerative, may also reflect conscious efforts on part of the banks to mobilize low cost deposits in order to maintain their spreads (See **Figure 1.12**).

Figure 1.12
Deposit growth picks up with current deposits witnessing higher inflows



Source: State Bank of Pakistan

The upturn in deposit growth is a welcome sign and will support the anticipated growth in loans and advances. Besides, the decline and subsequent reversal of deposits also indicates that the banking system remains the preferred avenue for the customer savings despite costs. As shown in **Figure 1.13**, with the decline in benchmark rate, the year-on-year growth of NSS flows has sharply decelerated while the deposits have maintained their growth momentum.

... and the banking sector remains resilient

The risk weighted CAR at 16.2 percent in CY16 remains substantially higher than the regulatory benchmark of 10.65 percent and international requirement of 9.25 percent. Banking sector has also earned reasonable profits, however, due to higher growth in assets and low interest rate environment, the before-tax return on assets (ROA) has declined to 2.10 percent in CY16 from 2.51 percent in CY15.

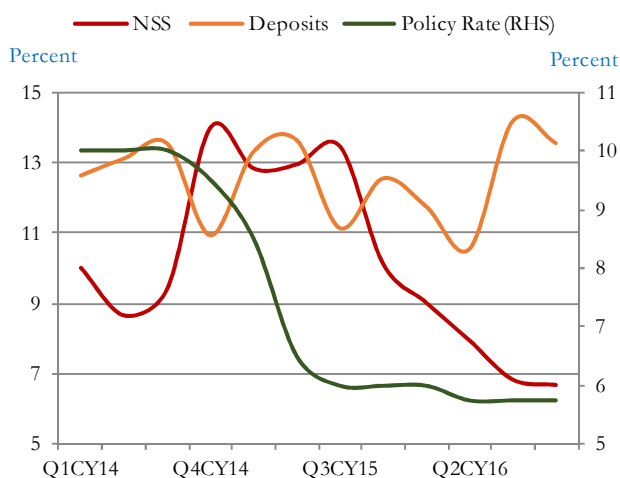
⁵⁹ Ahmed, J. (2016). Credit Conditions in Pakistan: Supply Constraints or Demand Deficiencies? *The Developing Economies*, 54(2), 139-61.

⁶⁰ State Bank of Pakistan, Monetary Survey, December 2016.

Figure 1.13

Banking sector remains preferred avenue for placement of savings

YoY growth of NSS and Deposits



Source: State Bank of Pakistan

Nevertheless, the sector needs to be watchful given: the moderation in profitability; anticipated increase in regulatory capital requirements; and an uptick in advances, which may lead to increase in credit risk weighted assets.

Financial markets also remain stable and upbeat...

The other components of financial sector, especially the exchange, money and equity markets, have generally remained stable. For instance, the volatility in exchange market stayed contained, with PKR parity against major currencies remaining stable. However, the premium between Rupee's parity with US dollar in the interbank and Kerb markets widened lately, reflecting some speculative sentiments which can be attributed to a host of factors including appreciation of USD before and after the second dose of rate hike by the FED, growing current account deficit, decelerating remittances and net outflows of equity investments. The trend is, however, reversing and the gap has reduced (see Chapter 2).

In money market as well, due to existence of interest rate corridor and the commitment of the central bank to stabilize overnight rate around the policy rate has largely brought stability. Except for occasional off-shoots, the volatility in the market remained subdued. Given that the State Bank stands ready to intervene in the event of any probable liquidity disruptions, the market does not pose any immediate risk to the stability of the financial system.

Bulls ride the stock market but equities witnessed outflows

There were equity outflow in Foreign Portfolio Investments (FPI) despite the fact that during CY16, domestic stock market continued its bullish trend and staggering performance, fetching stellar returns of 45.7 percent during the period (Figure 1.15). At the same time, from June 2017, the PSX would be shifted from MSCI's Frontier Market Index (FMI) to Emerging Market Index (EMI).

That would signal confidence of international institutions and is expected to boost FPI in Pakistan. However, as pointed out in SBP's second quarterly report of FY17, the reclassification may entail some portfolio outflows as the funds tracking the FMI could rebalance. Nonetheless, positive or stable outlook reflected in the sovereign ratings by international agencies is a confidence booster for the investors. Moreover, besides rating upgrade, the upward real growth trajectory—implying better corporate performance—suggests that the FPI inflows would outweigh the outflows resulting from portfolio rebalancing, and may further strengthen if the general bullish sentiments continue.

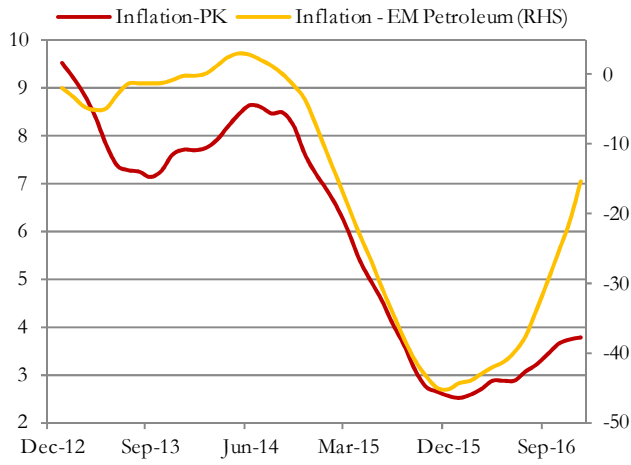
Some macro-financial risks are building up: inflation heading up ...

After a slump that started in mid-2014, the commodity prices have rebounded. With recovery of demand for commodities in China and OPEC's

decision to cut oil production, the World Bank's energy price index has bottomed out. The domestic prices are also following the pattern and the price levels are heading up (**Figure 1.14**).

Figure 1.14
With petroleum prices, the domestic prices bottomed out as well

Year-on-year 12-month moving average growth of Petroleum (EM) and Consumer Price Indexes (PK)



Source: The World Bank and Pakistan Bureau of Statistics

Besides global factors, the strengthening domestic demand, some disruptions in the supplies of certain food items due to dry weather in CY16, recovery in prices of some edible commodities (rice, sugar, cooking oil etc.) and imposition of taxes on some items in the budget of FY17 led to generally higher price levels.⁶¹ With strengthening of aggregate demand and recovery of energy prices, the pass-through to domestic prices is expected and the trajectory of the inflation is likely to remain upward sloping.

...external account is under pressure...

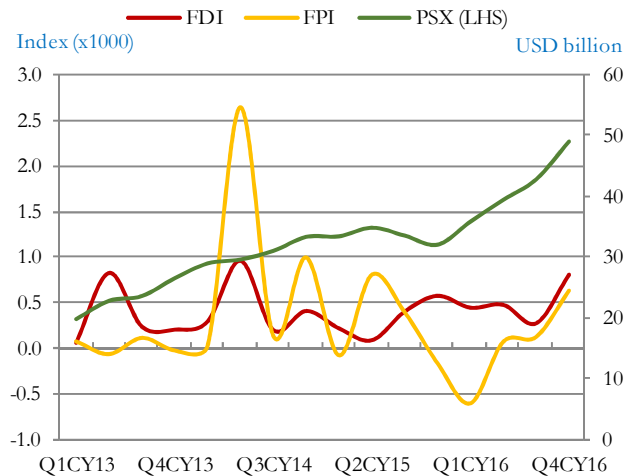
The current account balance is widening. Risks are stemming from rising imports, stagnant exports, gradually declining official reserves, decelerating remittances and monetary policy normalization in

⁶¹ State Bank of Pakistan. (2017). The State of Pakistan's Economy, Second Quarterly, FY17, Chapter 3.

the US. While the foreign direct and portfolio investments (respectively, the FDI and FPI) witnessed upswing lately; the FPI flows were mainly driven by public sector's debt inflows. The equity investments, however, witnessed net outflows, mainly driven by monetary policy normalization of the US. Besides, the bulls on the US equity markets in the wake of US presidential elections in November 2016 also sparked outflows from EMs (**Figure 1.15**). These developments might pose challenges for the external account management.

Figure 1.15
Pakistan: Bulls ride the stock market while FDI and FPI flows recover

PSX Index and Quarterly Flows on FDI and FPI



Source: Bloomberg and State Bank of Pakistan

...fiscal balance may slip...

Although fiscal deficit has decreased to 4.6 percent in FY16 from 5.3 percent in FY15, higher expected development expenditures and possible deceleration in revenues could lead to more budgetary borrowings and rising interest expense. Therefore, to keep fiscal balance in check some additional revenue generation measures may be needed.

...but banking sector is expected to remain stable

Despite these rising macrofinancial risks, banking sector, with improving asset quality and ample liquidity, is expected to perform steadily. In fact, under stress tests, in the *baseline scenario* that assumes normal business conditions, banking sector's soundness more or less remains the same or even improves in the coming three years. However, in extremely adverse scenario (*hypothetical*) banks' earnings and, therefore, resilience could come under pressure (See Chapter 4).

2 Financial Markets Risk Analysis

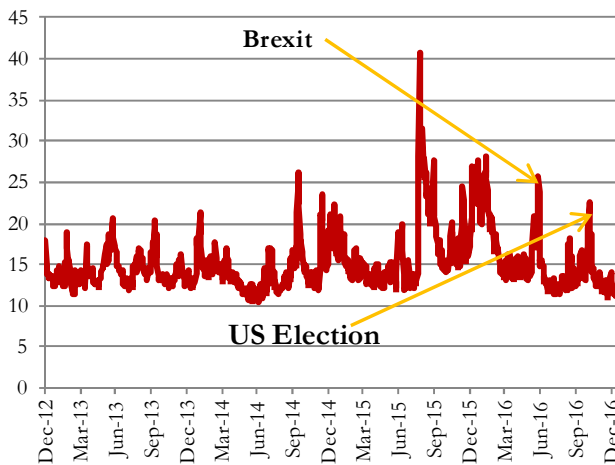
The contained volatility in CY16 reveals higher stability in financial markets of Pakistan, though few issues require attention in the short to medium term. Government's reduced borrowing from commercial banks has eased the liquidity needs – and hence SBP liquidity injection – in money market. Foreign exchange market, particularly interbank, has remained stable, though pressure mounts in open currency market. Foreign exchange reserves reaching historical high is a positive sign, though sustainable sources of foreign exchange inflows (e.g. exports, FDIs, remittances etc) are imperative from the long lasting stability perspective. Spark in the equity market in CY16 distinguishes it from its own historical norms as well as the global equity markets; rising P/E ratio, however, hints that sentiments are playing their role in the rise.

Global financial markets are characterized by political uncertainty, low yield and investors' high risk appetite

Global financial markets – particularly in the Euro area - have witnessed several episodes of short-lived asset price volatility during CY16, as highlighted in **Chapter 1**.

Figure 2.1
CY16 is marked with low volatility in global equity markets

Chicago Board Options Exchange (CBOE) Volatility Index



Source: Chicago Board Options Exchange (CBOE)

Political uncertainties have prevailed due to two major events i.e. first, unexpected Brexit as UK voted to leave EU in June 2016 and, second, US presidential election in November 2016. The Brexit event was more impactful for financial markets

resulting in sharp fall in equity prices, significant depreciation of pound sterling and falling bond yields across the globe. Notwithstanding, markets – by and large - have shown strong resilience as corrections followed quick recoveries to track the steady path in CY16 (**Figure 2.1**)⁶².

Besides the bout of volatility, subdued global growth expectation and, consequently, easy monetary policy in advanced economies (e.g. ECB asset purchase program) have kept the bond yields at the bottom during the reviewed year. In the low yield era and flat term structure, emerging market economies (EMEs) have successfully attracted the investor's attention resulting in a bounce back in financial inflows to EMEs in CY16 compared to net-outflow in CY15 (**Figure 2.2**). Less skeptical investors, with higher risk appetite and search for yield, added riskier instruments in their asset portfolio. Moreover, anticipating further decline in yields, investors' preference for higher duration bonds has risen during the year.

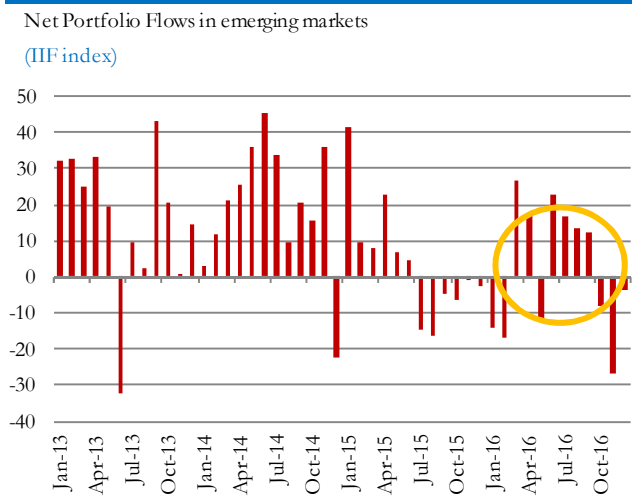
However, uncertainty still prevails and the major concerns arise from normalization of monetary policy and inflation expectation in the US, movement in global commodity prices⁶³, heightened

⁶² Source: European Central Bank (ECB), Financial Stability Review, Financial markets, November 2016

⁶³ The World Economic Outlook (WEO) – April 2017 reveals an upward movement in commodity prices (Source: IMF).

political uncertainties in advanced economies and continued fragilities in emerging markets, as a whole. The jittery outlook may ignite high volatility in asset prices going forward leading to reversal in investors' risk appetite and financial inflows to emerging markets.

Figure 2.2
Net portfolio flows in emerging markets have picked up



Note: IFF index is monthly estimates for official non-resident portfolio flows to emerging markets as defined in the balance of payments. Those headline figures are for a sample of the 25 largest emerging economies. Source: Institute of International Finance

Low volatility prevails, yet some concerns remain in the domestic financial markets

Risk spectrum of domestic financial markets has remained within tolerable bounds and the markets have performed smoothly without any major disruptions in CY16. Volatility in all three financial markets has remained quite subdued primarily due to strong oversight and calibrated intervention by the regulators (**Figure 2.3**). However, stability, from a broader perspective and over longer horizon, demands attention beyond just the volatility.

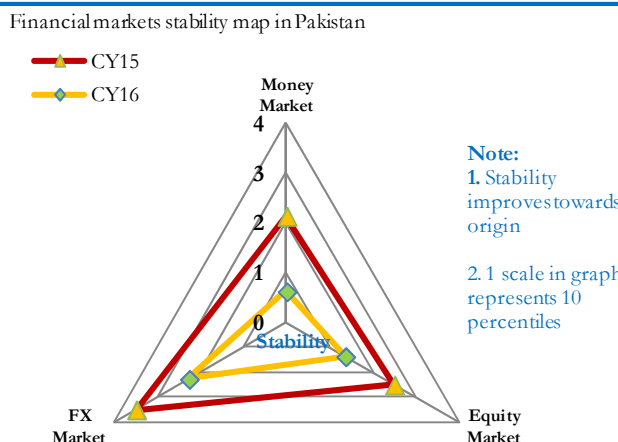
Money market is largely driven by fiscal considerations i.e. the quantum of amount needed, institutional choice, and maturity preference of

<https://www.imf.org/~media/Files/Publications/WEO/2017/April/pdf/text.ashx>.

government's borrowing. The depth of the overall money market may be improved by adding adequate number of new alternate instruments (particularly, corporate bonds) with diversified risk spectrum, term structures, and liquidity profile.

Money market has witnessed a major structural change after introduction of SBP target rate in May 2015. SBP accommodates the liquidity need of the market in order to keep the overnight (O/N) rate closer to the target rate. Thus, volatility in overnight repo rates cannot be considered, on its own, the true indicator of market liquidity stress. SBP liquidity injections/mop ups also capture some information about market liquidity needs.

Figure 2.3
Stability in financial markets have improved through contained volatility in CY16



Note: Volatility in respective markets are calculated using Exponential Weighted Moving Average (EWMA) method. Daily Overnight repo rate, KSE-100 index and interbank PKR/USD Exchange Rate are used as indicators of the money, equity and foreign exchange markets. Source: SBP

Given these dynamics, market liquidity is likely to be driven by the financing needs of the government and liquidity management by SBP.

Foreign exchange market – though has seen contained volatility in interbank – is confronting challenges due to widening trade deficit, decelerating remittances, low FDI etc., which all point to lower FX inflows in the market. High foreign exchange

reserves, though, is a positive sign as it assures SBP's capacity to deal with speculative sentiments in the short-run; its sustainability based on consistent stream of foreign exchange inflows is a must, going forward.

The equity market, moving above and away from historical trend with rising Price-to-Earnings (P/E) ratio (from 9.01 in CY15 to 12.38 in CY16), signals the possible role of sentiments driving the market. If so, the rising market trend may follow an episode of corrections if investors' expectations are not met.^{64,65} In addition, major portion of market capitalization is concentrated in few sectors at local bourse which limits the diversification opportunities for investors – a key element to minimize risk.

Government borrowing has been driving the liquidity needs

Yields in Pakistan have remained at low level during CY16 though pace of monetary easing has slowed down; only 25 bps reduction in policy rate during CY16 compared to 300 bps fall in CY15. Money market has been characterized by low volatility in overnight rate since the structural shift last year (May 2015) when SBP introduced the target rate. The short-term liquidity demand in the market, primarily driven by government's borrowing needs, has remained on the higher side in the first half of CY16 prompting SBP to inject adequate liquidity through Open Market Operations (**Figure 2.4**).

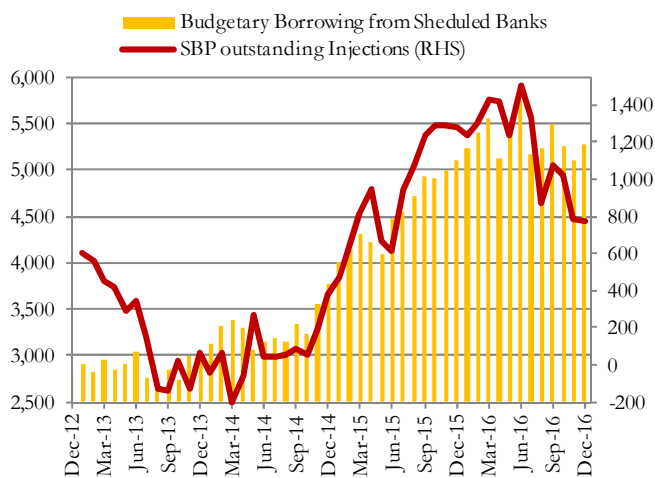
After end June 2016, government has started to borrow from SBP with concurrent net retirement to commercial banks. One of the possible reasons behind this borrowing was heavy maturity of PIBs during the third quarter of CY16 (around PKR 1.7 trillion). This – along with higher deposit growth - has created liquidity ease in the second half of

CY16.⁶⁶ Resultantly, SBP average O/N rate injections have reduced, volatility in O/N rate has eased further, and banks' repo borrowing from SBP has dipped considerably in the latter half of CY16.

Figure 2.4

Govt. borrowing from commercial banks creates liquidity demand in the money market

Govt. borrowing from commercial banks and SBP's liquidity injection
PKR billion



Source: DMMD, SBP

Though O/N rate hovers around SBP target rate in general, a closer investigation reveals that it has mostly been trending slightly above the target rate (**Figure 2.5**). In 2016, weekly weighted average money market O/N rate has remained above the target rate around 67 percent of the time; though magnitude of variations has remained low (average 10 bps). This indicates slightly tighter conditions in the money market.

⁶⁴ Post December 2016 behavior of equity market confirms this with KSE-100 index, after reaching 50,192 on January 26, 2016, has gradually dropped by 3,318 index points to 46,874 on April 18, 2017.

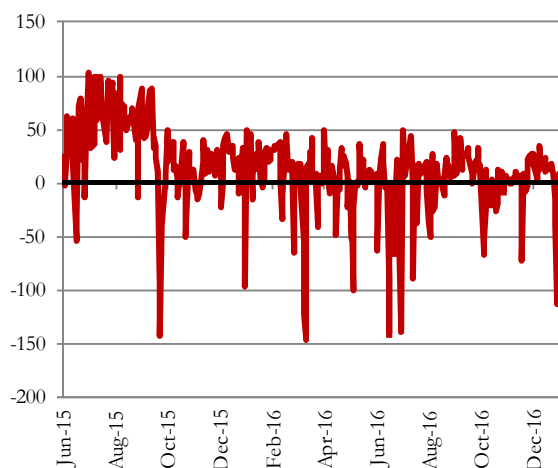
⁶⁵ P/E ratio indicates price per share divided by earning per share.

⁶⁶ Though, religious festivals (Eid, Hajj etc.) and year end closing generated some temporary liquidity stress.

Figure 2.5

Interbank overnight rate has remained above SBP target rate

BPS Spread between daily O/N rate and SBP target rate



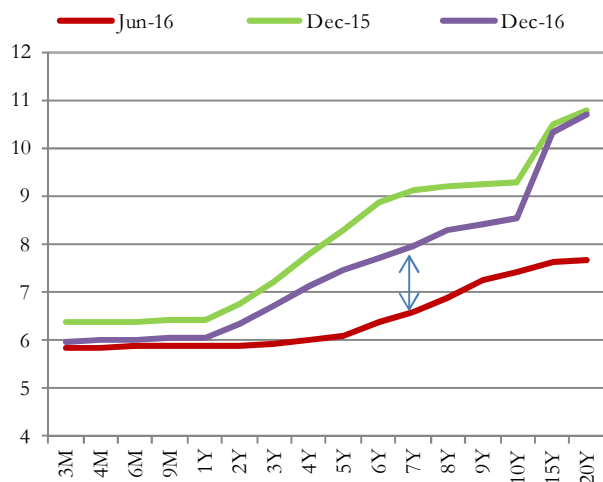
Source: SBP

Figure 2.6

Yield curve depicts rising inflation expectations beyond CY16

Term Structure of Interest Rates

(Percent)



Source: DMMD, SBP

Rise in inflation expectation steepens the yield curve...

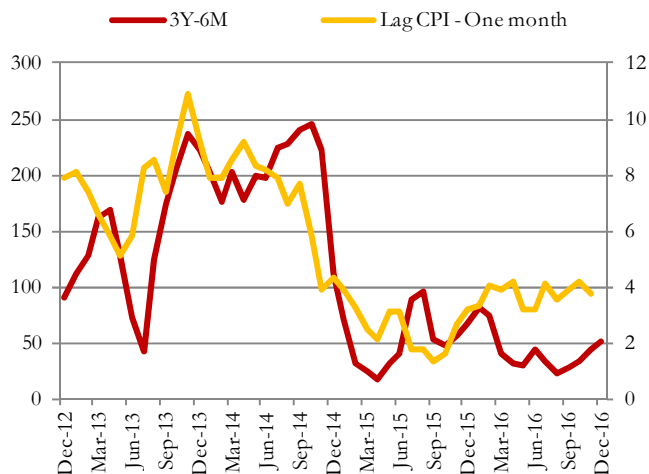
The term structure of interest rate (i.e. yield curve) has started to steepen with widening of the gap between long and short term risk free rates since June 2016 (**Figure 2.6**). The spread (monthly average) between 3 years PIBs and 6 months MTBs

has inched up from 34 bps as of end June 2016 to 69 bps as of end December 2016. In contrast, market sentiments for short-term rates seem stable as the portion of yield curve of short-term maturity (i.e. 1 year or less) is relatively flat (yield spread between 1 year and 1 month instruments has moved up only by 5 bps in the second half of CY16).

Figure 2.7

Pick up in expected inflation has seen concomitant rise in spread

BPS spread (3 years minus 6 month) and one month lag CPI inflation



Source: SBP

It may be worth considering that current and expected inflation plays a pivotal role in defining the shape of the term structure (**Figure 2.7**). The market anticipates no major shift in inflation and hence monetary policy stance in the short-run and, therefore, the yield curve of shorter maturity is quite flat.⁶⁷ However, inflation expectations seem to rise for medium to longer term horizon due to, both, supply and demand side factors. While reversal in international oil prices seems the key determinant from the supply side, demand-side factors include fiscal expansion (possible high government

⁶⁷ Instead, market anticipated further drop in the policy rate before the announcement of monetary policy (MP) in November 2016 and January 2017. This has been reflected through temporary dip in secondary market rates before each of the MP announcement followed by quick reversal.

borrowing from the banking system due to expected rise in development expenditures in the wake of upcoming elections), private sector spending (high credit to private sector), higher consumption by the households (due to low oil prices and domestic interest rates in recent past) etc.

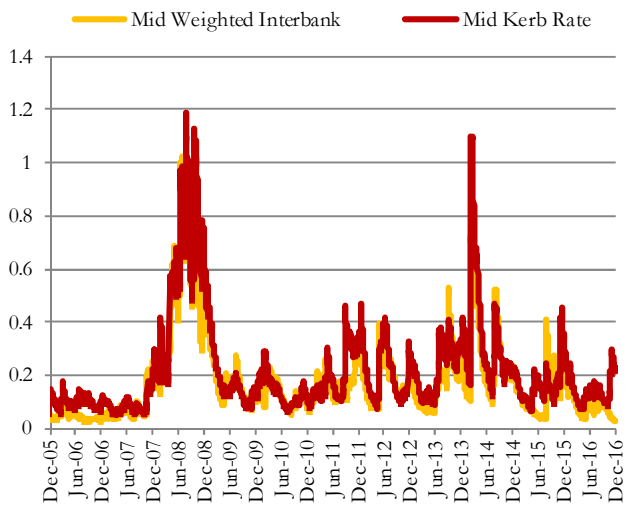
Volatility in foreign exchange market remains subdued; though, Kerb market premium escalates at year's end

The volatility in foreign exchange market has reduced in CY16 and value of local currency against major world currencies especially the greenback has remained stable; thanks to adequate foreign exchange reserves (Figure 2.8). However, some stress has been observed in the open market currency rate (i.e. Kerb market) at the end of the year with escalated Kerb market premium (Figure 2.9).

Figure 2.8

Volatility in foreign exchange market curtailed

Exponential Weighted Moving Average (EWMA) volatility of PKR/USD



Source: DMMD, SBP

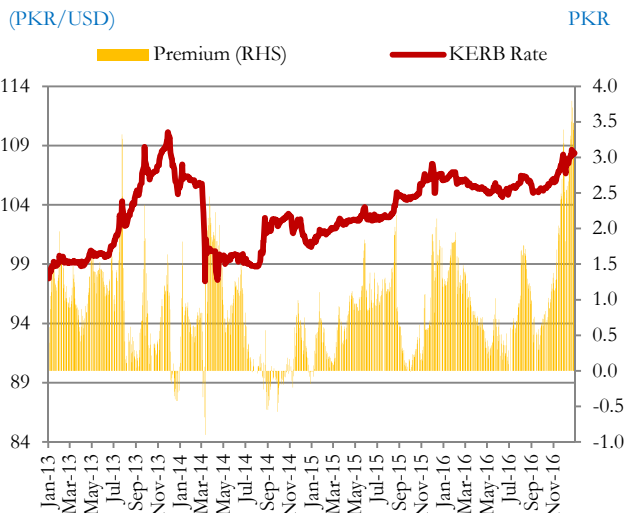
Particularly, pressures pronounced during November and December of 2016 with average monthly premium rising to around PKR 1.98 and PKR 3.05, respectively (Average Premium: CY16, PKR 1.18; CY15, PKR 0.78). The historical data

reveals that hikes or lows in Kerb market (due to temporary market distortions) are, generally, short-lived. Therefore, it is likely that the existing escalated Kerb premium may return to its trend value going forward.

Figure 2.9

KERB premium escalated post Yuan devaluation

KERB Exchange Rate and Premium (R.H.S)



Source: DMMD, SBP

REER is appreciating...

Though nominal exchange rate – particularly interbank – seems to have further stabilized in CY16, REER shows gradual appreciation. Rising REER may deteriorate trade competitiveness in the long-term. Stability of current account requires reliable sources of inflows (such as exports and FDI). Moreover, there is a need to keep a check on inflation, as acceleration in domestic prices could put additional pressures on the REER.

Fundamentals need to improve for long-term stability in the foreign exchange market

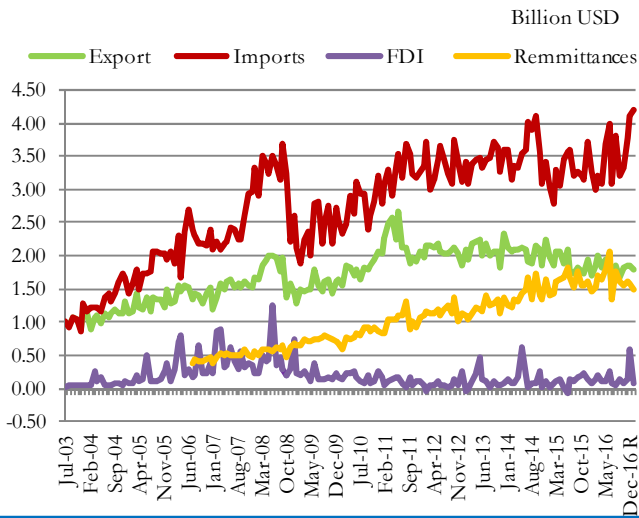
The high foreign exchange reserves with adequate import coverage ratio, no doubt, enable SBP to ward off any speculative activity in the foreign exchange market. However, fundamentals of the

external sector are weakening; trade account deficit is widening, volume of remittances is decelerating, Special Convertible Rupee Account (SCRA) is witnessing outflow and FDI is not picking up (Figure 2.10).

Figure 2.10

Sustainable sources of foreign exchange inflows need to improve

Monthly flows of export, import, foreign direct investment and remittances



Source: SBP

The sustainability of adequate reserves is, therefore, pivotal from the stability perspective which is not possible without improvement in recurring sources of foreign exchange inflows.

The spread between forward and spot rate (the forward premium) has declined significantly in the second half of CY16, a trend which has continued in the first few months of CY17 as well.⁶⁸ The relatively higher rise in US treasury yields - owing to expected rate rise by the FED, expected fiscal expansion (e.g. tax cuts) and inflation - compared to almost flat local yields and stable spot rate has

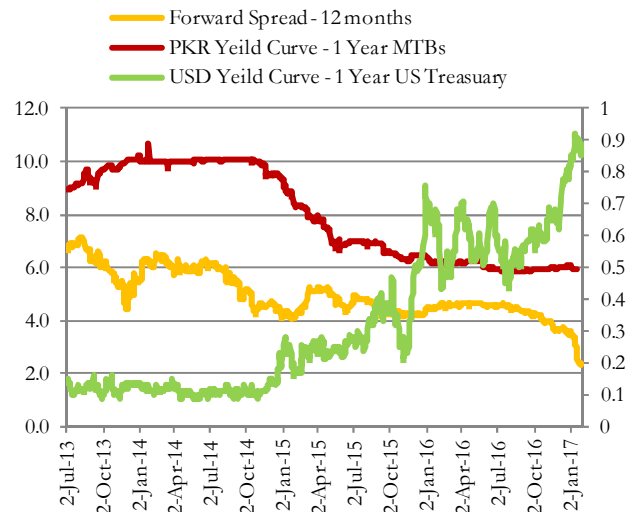
⁶⁸ The positive spread between forward and spot rates is termed as forward premium while negative spread is forward discount (<http://www.investopedia.com/articles/forex/08/interest-rate-parity.asp>)

squeezed the forward premium (Figure 2.11).⁶⁹ The expectations about further rise in FED's rate, assuming little change in domestic conditions, may induce the market participants (particularly, exporters) to accelerate forward bookings to hedge their foreign currency risk.⁷⁰

Figure 2.11

Rising yields on USD has reduced forward spread of PKR

Mark to market revaluation exchange rates for Authorized Dealers



Source: SBP and US Department of Treasury

Equity market has crossed various performance benchmarks...

CY16 has been one of the splendid years for the equity market in Pakistan. KSE-100 index – the core index of Pakistan Stock Exchange⁷¹ - has observed exceptional growth of 45.7 percent during CY16 to reach 47, 807 points; significantly higher than the growth in CY15 (2.1 percent), average growth in last 10 years (20 percent) and MSCI Emerging Market index rise of 8.6 percent in CY16 (Table 2.1 and

⁶⁹ Forward rate are derived based on the spot rate and relative yields of the two currencies. If the yield of base currency rises relatively more than the yield of price currency, the forward rate (price currency/base currency) goes down.

⁷⁰ Reduced spread on forward contract in foreign currency also provides opportunity to book mark to market gains.

⁷¹ After the integration of three stock exchanges in January 2016, the capital market now comprises of only one integrated stock exchange called Pakistan Stock Exchange (PSX).

Figure 2.12.⁷² Globally, KSE-100 index outperformed most of the markets' benchmarks with its returns leading the Asia as well as MSCI frontier markets and securing 5th place worldwide.⁷³

Table 2.1

Progress of Capital Markets in Pakistan during CY16

	31-12-2015	31-12-2016
Million PKR except companies, index and bond data		
Total No. of Listed Companies	554	558
Total Listed Capital - PKR	1,269,703	1,291,040
Total Market Capitalization - PKR	6,928,497	9,628,514
KSE-100™ Index	32,811	47,807
KSE-30™ Index	19,309	25,852
KSE Meezan Index (KMI-30)	55,647	81,795
KSE All Share Index	22,868	32,842
New Companies Listed during the year	8	4
Listed Capital of New Companies - PKR	29,941	5,490
New Debt Instruments Listed during the year	2	1
Listed Capital of New Debt Instruments - PKR	25,000	10,000
Average Daily Turnover - Shares in million	258	293
Average value of daily turnover - PKR	11,465	11,638
Average Daily Turnover (Future™) YTD	36	49
Average Value of Daily Turnover - YTD	3,142	3,057

Source: Pakistan Stock Exchange

This strong performance may be attributed to positive economic outlook, ample availability of liquidity and low interest rates, MSCI's inclusion of KSE-100 index in emerging market segment (from frontier markets)⁷⁴, restructuring of capital market with rising stake of foreign investors etc.⁷⁵ Further, market reports suggest that tax imposition on real

⁷² KSE-100 exceeded 50,000 mark in January 2017

⁷³ Source: Topline Securities Limited, *Strategy Update, Pakistan Market, December 30, 2016*

⁷⁴ MSCI announced to include Pakistan in its emerging markets segment (from frontier market) in June 2016. The implementation of this inclusion is to be made in May of 2017.

(<https://www.msci.com/market-classification>)

⁷⁵ Under Stock Exchanges (Corporatization, Demutualization and Integration) Act, 2012, 40 percent of PSX's stake has been acquired by the consortium (China Financial Futures Exchanges, Shenzhen Stock Exchange, Shanghai Stock Exchange, Pakistan China Investment Company Limited and Habib Bank Limited). Foreign ownership is expected to improve operational efficiency, bring in technological advancement and enable better global marketing. This has resulted in enhancing the investors' confidence.

estate, in the second half of the calendar year, diverted some financial flows towards the equity market. The institutional investments, such as banks and mutual funds, into equity market have also pushed the index up.

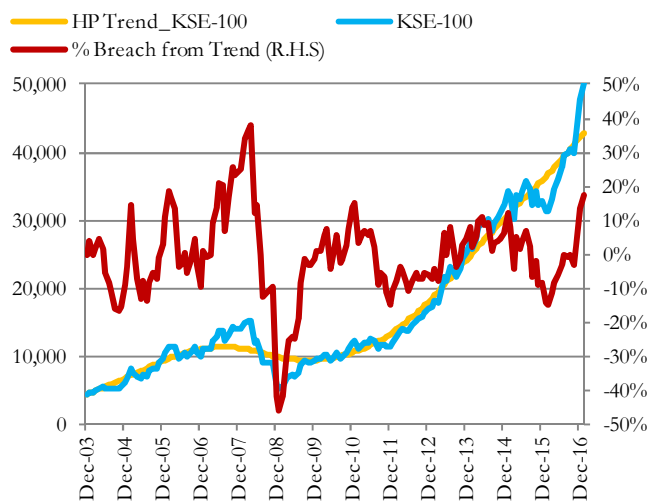
The KSE-100 breaches its long-term trend, yet magnitude and horizon is not alarming yet

KSE-100 has beaten its long-term HP filtered trend in October 2016 and margin of breach widened thereafter up to 12 percent in Dec-16 (17 percent in Jan-17).^{76,77} During Feb 16-Jan 17, average monthly returns of KSE-100 have been 4.1 percent.

Figure 2.12

KSE-100 Index - Actual Vs. HP Trend

KSE-100 started to pick sharply since Jan-16 and breached long-term trend but not by wide margin



Source: FSD, SBP

Volatility is contained in the capital market...

Despite vibrant growth momentum, the volatility of the local bourse has reduced in CY16 compared to CY15 (**Figure 2.13**). The low volatility of the index during CY16 is, primarily, due to unidirectional

⁷⁶ In February 2016, the local index was 15 percent below the trend

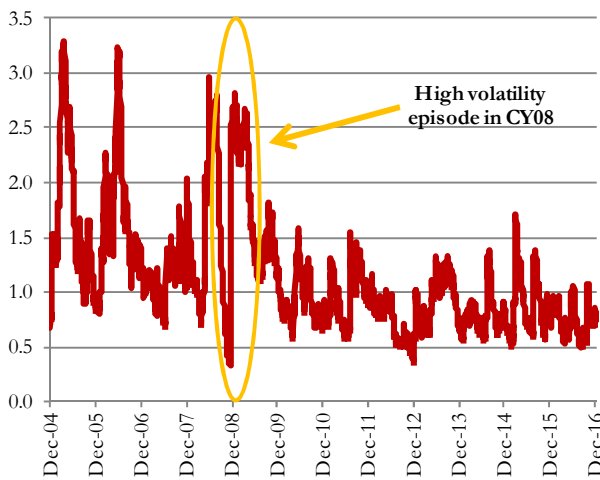
⁷⁷ The Hodrick–Prescott filter (also known as Hodrick–Prescott decomposition) is a mathematical tool used in macroeconomics, especially in real business cycle theory, to remove the cyclical component of a time series from raw data.

upward movement. However, being a fundamental property of equity markets, volatility may rise going forward once the consistent upward trajectory of the index comes to an end.

Nevertheless, the recent trend in the equity market calls for caution as following few vulnerabilities demand attention.

Figure 2.13
Volatility in capital market has declined during CY16

Exponential Weighted Moving Average of KSE-100 Index



Source: Pakistan Stock Exchange

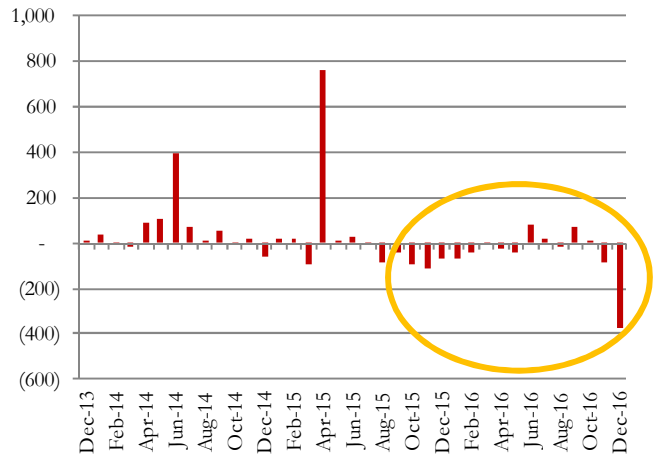
The recent hike in PSX may, partly, be sentiment driven. For example, P/E ratio of KSE-100 firms has sharply moved up to 12.4 as of December 31, 2016 (13.1 as of January 27, 2017) from 9.0 as of Dec 31, 2015 (average 9.2 during 2010-15: 6 years).⁷⁸ Thus, proportionally, higher growth in prices than earnings has actually pushed up the P/E ratio which strongly suggests investors' high expectations of corporates' future earnings. Further, the rise in the KSE-100 index is neither sufficiently matched with long-term GDP growth trends nor profitability of the corporate sector (see Chapter 3.7 for details). This questions the growth sustainability of equity market. Therefore, any performance of the

⁷⁸ Source: Bloomberg

corporate sector below the expectations of investors may cause a reversal in the buoyant sentiments that could potentially lead to market corrections.

Figure 2.14
Net flows of Special Convertible Rupee Account (SCRA) have remained negative during CY15 and CY16

Net flows in SCRA
(Million USD)



Source: SBP

Market capitalization is concentrated in few sectors only and, as such, is not diversified enough. Around 32 sectors listed in PSX, the top-5 sectors constitute around 64 percent share in the market capitalization. These dominant sectors include: banks (market capitalization: 19 percent), oil and gas (18 percent), construction and material (10 percent), food producers (9 percent) and chemicals (8 percent). So, the overall market performance heavily relies on the performance of a few key sectors. This provides limited opportunity to investors to minimize idiosyncratic risk through diversification.

Portfolio investment [SCRA] in equity market has seen consistent net outflows in CY15 and CY16 (Figure 2.14). Further, rate rise by US FED and likely reduction in investors' risk appetite from emerging economies may put further challenges to stop the consistent outflow of funds through SCRA

during CY17.⁷⁹ Though strong confidence of local investors has, so far, overshadowed the impact of net outflow in Pakistan, the net outflows of foreign investments requires close attention.

The fresh supply of equity is hardly seen during CY16 despite huge gains. Only four Initial Public Offerings (IPOs) have been conducted in CY16 with subscription amount (including premium) worth PKR 8.5 billion which is almost negligible compared to the overall market size.⁸⁰ During CY15, eight IPOs amounting to PKR 190.6 billion were conducted including secondary offering of one large bank worth PKR 162.1 billion. This means that in the current run in the equity markets only the existing securities are changing hands.

The outlook for financial markets is positive

Given the upbeat economic outlook, strengthening oversight by the regulators and higher investor confidence, the domestic financial markets are expected to perform smoothly in CY17.

⁷⁹ First two months of CY17 have observed SCRA net outflow in equity segment by USD 47.3 million.

⁸⁰ Source: Pakistan Stock Exchange

3 Risks to the Financial System

Section A: Banking Sector

- Chapter 3.1: Risk Analysis of the Banking Sector
- Chapter 3.2: Risk Analysis of the Islamic Banking
- Chapter 3.3: Risks to the Microfinance Banking Sector

Section B: Non-Banking Financial Sector

- Chapter 3.4: Risks to the Development Finance Institutions
- Chapter 3.5: Risks to the Non-Banking Financial Institutions
- Chapter 3.6: Risks to the Insurance Sector

Section C: Non-Financial Sector

- Chapter 3.7: Risk Analysis of the Corporate Sector
- Chapter 3.8: Risks to the Household Sector

3.1 Risk Analysis of the Banking Sector

The overall risks to the banking sector have remained contained. Credit risk has been under check as Non-Performing Loans Ratio (NPLR) has declined with the growth in advances. NPLs of majority of the sectors and segments have also dropped, though SME segment and textile sector continue to have the highest NPLRs. Ample stock of highly liquid risk free sovereign securities has ensured sufficient fund based liquidity for the banks. Market risk remains low, though in case of an adverse movement in interest rates, banks may face some re-pricing and revaluation risks. After increasing for almost a decade, the profitability has come under some pressure in the wake of low interest rate environment, while capital adequacy has remained well above the required regulatory benchmark.

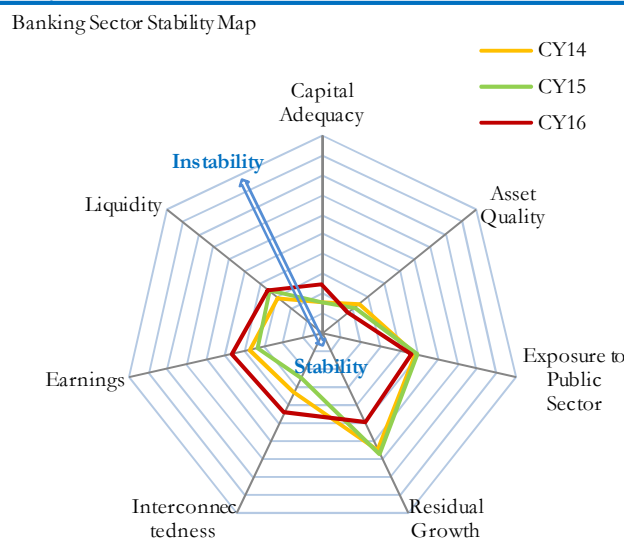
Enabling economic environment including low interest rates, subdued inflation, stable external sector, political stability and improvement in law and order, has resulted in better performance of the banking sector in CY16, particularly the growth in private sector credit. The stability, thus achieved, is obvious from the “Banking Stability Map”⁸¹ which depicts low risk levels in various dimensions of soundness in CY16 (Figure 3.1). The banking sector is characterized by robust CAR, continued improvement in asset quality, slight decline in profitability due to lower interest rates and somewhat increase in interbank activity. The CAR remains well above local and international regulatory standards, though with some downward adjustment due to much needed high growth in private sector advances. The high capital ratios have been facilitated by capital accumulation due to reasonable level of profit, though there has been slight dip in profitability over the last year. Assets quality continues gradual improvement with NPLR drifting

down and a lower provisioning charge for NPLs compared to last year.

In case of interconnectedness, banks’ dealings among themselves (e.g. call lending and borrowings) have risen proportionately to the growth in assets. However, in the presence of sufficient liquid assets, this is not a significant issue.

Figure 3.1

Despite growth, banking sector has remained stable over the last two years



Source: FSD, SBP

⁸¹ The Banking Stability Map represents a comprehensive picture of stability in seven different dimensions. Risks in each dimension are measured by a weighted combination of key indicators. The percentile rank of each indicator gives the degree of stability relative to its level in the past (since 1996). For details please see Technical Appendix in FSR 2015. For methodology please see Dattels, P., McCaughrin, R., Miyajima, K., & Puig, J. (2010). “Can you map global financial stability?” *IMF Working Papers*, 1-42.

In the short term, the profitability of the banking sector may come under pressure. Low interest rates, receding investments in government securities and maturity of high yielding PIBs have lowered interest income of the banks and could, potentially, keep

their earnings in check. Income from growth in advances may, however, partially offset the decline in income from investments in the medium term.

Further, fund based liquidity is expected to remain comfortable; while market liquidity (as measured by interconnectedness) and exposure to public sector will be largely driven by government’s institutional choice for borrowing (SBP vs. commercial banks).

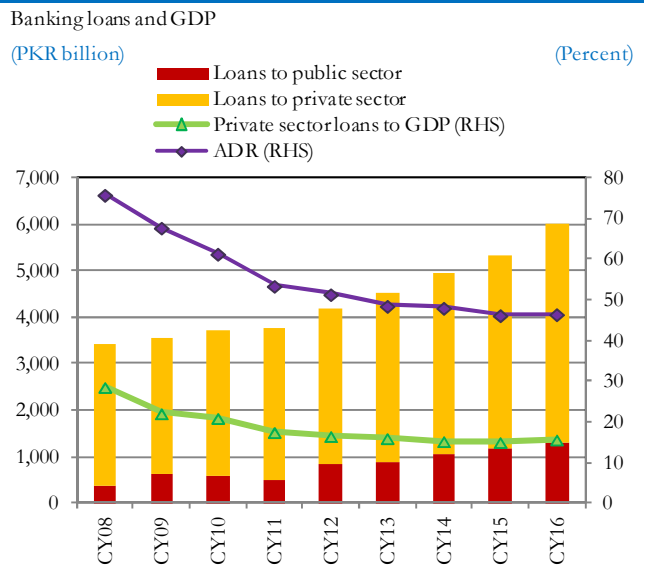
While banking sector has sufficient capital buffers due to high CAR, banks need to take into consideration a host of anticipated operational and regulatory factors for developing their future capital plans. These include expected uptick in advances that can lead to higher risk weighted assets (RWA); narrowing interest margins that may constrain the accumulation and plough back of retained earnings and a gradual increase in CAR from present level of 10.65 percent to 12.5 percent by 2019 as part of Basel-III implementation plan.

3.1.1 Credit Risk

Private sector loans have picked up...

Gross loans of the banking sector have grown by 12.81 percent during CY16 compared to 8.12 percent last year. Encouragingly, private sector loans have increased by 12.61 percent which is the highest growth since CY08. The uptick in advances has been broad-based, with intake by almost all the segments and sectors of economy, including textile, sugar, energy, cement etc. The thrust came as the households and firms capitalized on decades’ low interest rates, better energy availability, government’s focus on infrastructure development and the projects under CPEC gaining steam. Consequently, private sector loans to GDP ratio has increased for the first time in the last eight years. Advances to deposits ratio (ADR) which have been on downhill for almost a decade has marginally improved to 46.61 percent (Figure 3.1.1).

Figure 3.1.1
Private sector loans have picked up



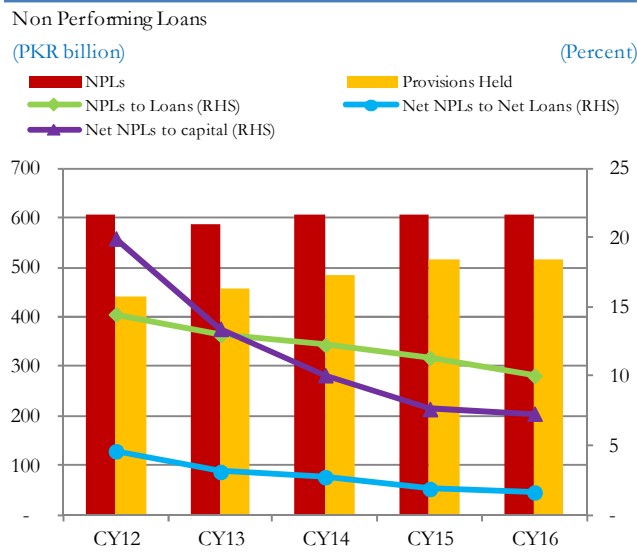
Source: SBP

...while asset quality continues to improve

The stock of NPLs effectively remains unchanged at PKR 604.7 billion as of end CY16 (PKR 605.4 billion as of end CY15) (Figure 3.1.2). While rise in loans has led to decline in NPLR by 1.30 pps to 10.06 percent, as discussed in previous FSR, banks continue to hold higher provisions against NPLs. Hence, provision coverage ratio (provisions to NPLs) has marginally improved to 85.05 percent, which declined Net NPLR and capital at risk (Net NPLs to Capital) to 1.64 percent and 7.32 percent respectively as of end CY16 compared to 1.89 percent and 7.56 percent as of end CY15.

The high level of provisions indicates that banks have already accounted for these bad loans in terms of profitability and solvency. Despite this, the stock of NPLs continues to remain high indicating that banks have not been able to recover or write off these bad loans. A multitude of reasons can be cited, though the most important ones are the impediments in the legal framework and slow resolution of legal cases.

Figure 3.1.2
Stock of NPLs stays stagnant



Source: SBP

Over the last year or so, a set of laws and legal amendments have been enacted that are expected to facilitate cleaning of bad loans from books of the banks and enhancement of private credit. These include enactment of Corporate Restructuring Companies Act 2016, Financial Institutions (Secured Transactions) Act 2015, Credit Bureaus Act 2015, and amendments to Financial Institutions (Recovery of Finances) Ordinance 2001 (FIRO)

Asset quality indicators are at comparable levels with other regional countries

With continuous improvement, asset quality of banks in Pakistan is now almost comparable with the peer countries. With highest provision coverage, net NPLs to loans ratio for Pakistan is on the lower side though it has the highest NPLR (**Table 3.1.1**). Nevertheless, recent legal and regulatory reforms are expected to further improve the asset quality of the banks in Pakistan in the future.

Table 3.1.1

Asset Quality - Cross Country Comparison

Country	CY14	CY15	CY16*	CY14	CY15	CY16*	CY14	CY15	CY16*
	Infection Ratio			Net Infection Ratio			Provision Coverage Ratio		
Percent									
Pakistan	12.27	12.47	10.06	2.74	1.89	1.64	80.00	82.00	85.05
India	4.35	5.88	8.80	2.28	3.28	5.40	48.72	45.71	40.88
Indonesia	2.07	2.43	3.03	1.03	1.19	1.39	50.83	51.49	54.92
Malaysia	1.65	1.60	1.65	1.18	1.16	1.23	28.36	27.67	25.98
Sri Lanka	4.23	3.24	2.89	2.13	1.25	1.05	50.68	62.33	64.53

*September 2016 except Pakistan

Source: FSIs (<http://data.imf.org>)

Table 3.1.2

Asset Quality by Bank Size

Bank Category*	CY14		CY15		CY16	
	Infection Ratio	Provision Coverage Ratio	Infection Ratio	Provision Coverage Ratio	Infection Ratio	Provision Coverage Ratio
Percent						
Large	11.76	80.41	9.75	91.99	8.16	92.66
Medium	13.88	78.03	16.45	74.92	13.81	79.19
Small	9.87	73.54	9.46	72.23	11.53	67.06
Very Small	19.62	92.44	21.17	92.49	18.68	92.05
All banks	12.27	79.82	11.36	84.95	10.06	85.05

* Banks have been sorted by asset size and divided in to four quartiles (large, medium, small, very small)

Source: SBP

Asset quality of large banks has improved while that of Specialized Banks (SBs) banks has deteriorated

Comparing different categories of banks based on their total assets suggests that asset quality of large banks is improving over the last three years and is now well below the industry average (**Table 3.1.2**). It implies that this quartile (large) of banks might have relatively better credit lending and monitoring practices and systems, besides having presence throughout the country.

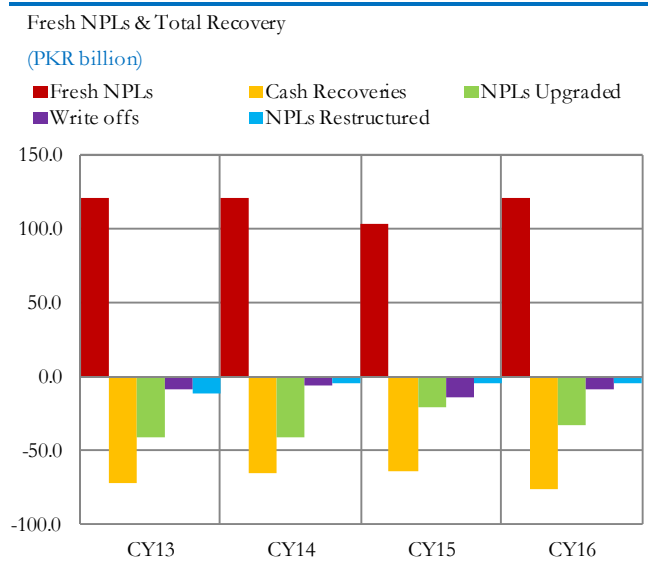
Table 3.1.3
Asset Quality by Bank Category

Bank Category	CY14		CY15		CY16	
	Infection Ratio	Provision Coverage Ratio	Infection Ratio	Provision Coverage Ratio	Infection Ratio	Provision Coverage Ratio
	Percent					
PSCBs	17.82	71.20	18.28	79.05	15.90	81.43
LPBs	10.40	85.20	9.34	89.78	8.14	90.11
FBs	7.61	102.00	7.78	100.35	8.33	100.25
CBs	11.94	80.90	11.13	86.29	9.72	87.28
SBs	23.27	61.10	18.92	59.27	21.82	50.09
All banks	12.27	79.80	11.36	84.95	10.06	85.05

Source: SBP

Figure 3.1.3

Both fresh NPLs and recoveries increase



Source: SBP

Categorizing banks based on their ownership structure and type of business reveals that SBs that are publically owned, have the highest NPLR and lowest provision coverage (**Table 3.1.3**). However, most of the increase in NPLs is due to seasonal nature of agriculture finance, which normally gets recovered in subsequent quarters.⁸² NPLs of all

⁸² As per Prudential Regulations, categories of NPLs for Agriculture financing are different from other types of financing: OAEM (90 days overdue), Substandard (One year overdue), Doubtful (One and a half year overdue), Loss (Over two years overdue). This is due the fact that agriculture loans are characterized by longer recovery periods based on the harvesting cycle of different Rabi & Kharif crops.

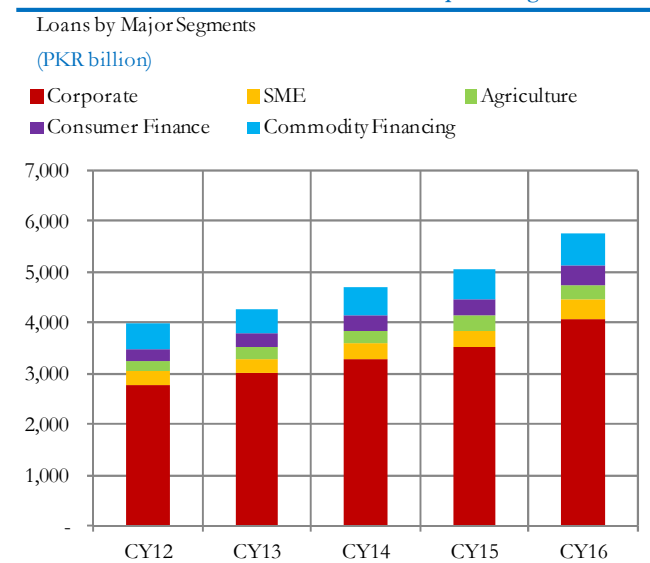
other categories have declined except where increase in NPLR is a result of decline in loans portfolio during CY16.

Improved cash recoveries and NPLs management have offset the impact of flow of fresh NPLs

Banks have made highest cash recoveries in CY16 as compared to the last five years. This coupled with upgrade of NPLs and some restructuring/ rescheduling activity has led to marginal decline in stock of NPLs (**Figure 3.1.3**).

Figure 3.1.4

Loans continue to remain concentrated in corporate segment



Source: SBP

Corporate segment⁸³ remains the largest borrower of funds from the banks

More than 70 percent of the outstanding loans have been provided to private sector corporates (**Figure 3.1.4**). Though flow of loans to corporate and

Therefore, due to cropping cycle, every year in June and December quarters, a certain amount of agriculture loans fall into OAEM category, which are subsequently recovered in the following September and March quarters, respectively.

⁸³ In terms of 'segments', corporate segment is the key user of bank loans followed by commodity finance, SME, agriculture and consumer. On the other hand, 'sector-wise' analysis reveals that major borrowers belong to the energy, textile, sugar, and agribusiness sectors.

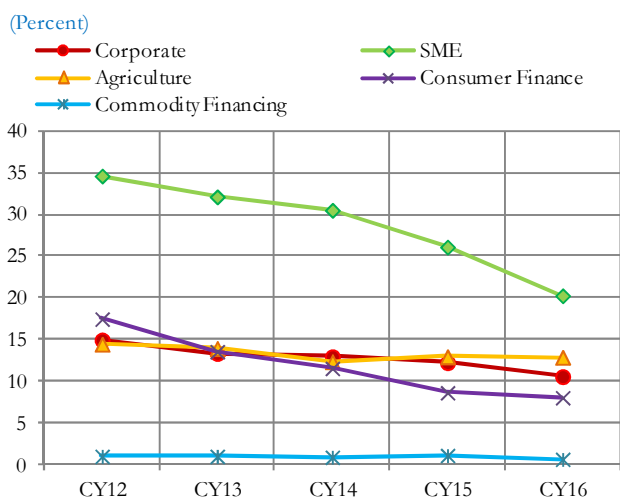
agriculture sector seems to be growing steadily, trend of flows to other segments has remained somewhat irregular. While lending to private sector corporates does exhibit prudence in banks' lending practices, banks also need to improve focus for catering to the untapped segments of the economy particularly SMEs and consumer finance.

With over 10 percent share, seasonal commodity financing remains the second biggest user of banks' loans. The segment has negligible infected portfolio as its NPLR is below 1 percent as of end CY16.

Figure 3.1.5

Despite significant decline, SME sector continues to have the highest infection ratio

Infection Ratio by Major Segments



Source: SBP

Despite substantial reduction, NPLR of SME segment remains highest among all segments

Over the years, SME finance has attracted limited attention of banks; however, the segment has registered highest growth (27.12 percent) during CY16. This is partly attributed to the prevailing low interest rates that have made bank loans accessible to SMEs and partly to the regulatory incentives.⁸⁴

⁸⁴ With a view to broaden the coverage of SMEs, the relevant PRs were revised to enhance the parameters for identification of SMEs: <http://www.sbp.org.pk/smefd/circulars/2016/C2.htm>. Moreover,

With virtually the same stock of NPLs, NPLR has taken a nosedive during CY16 falling to 20.29 percent from 26.10 percent as of end CY15 due to rise in SME advances. However, the segment still has the highest ratio among all the segments.

Consumer finance segment continues to grow gradually amidst declining credit risk...

In line with trend seen in the previous few years, consumer finance has observed double digit growth of 10.79 percent. With improved credit standards and cautious approach towards selection of borrowers, the NPLR of consumers has dropped to 8.11 percent. Within consumer finance, auto loans remain the mainstay with a share of 34.73 percent, which have been rising for last few years. The auto sector outlook is promising as some foreign investment is expected which may provide further boost to auto financing.⁸⁵

...and mortgage finance starts breathing again

The mortgage finance has registered a significant rise (13.24 percent) during CY16 (4.02 percent in CY15). However, share of the sub-segment remains 1.02 percent in the overall loans of the banks and 16.57 percent in consumer financing. Presently, the 'search for yield' motive of Islamic banks and preference for shariah compliant mortgage products by customers have resulted in Islamic banks achieving the highest share in this segment. The sub-segment, nevertheless, provides immense opportunities to banks and it is imperative that they take measures for enhancing the share of mortgage

SBP has set SME financing targets for banks related to size, branch network, existing SME portfolio etc. <http://sbpweb/sme/pdf/Q-Review/2016/QSMEF-June-2016.pdf>

⁸⁵ A French automaker, Renault SA, German carmaker, Audi, and Korean automakers Hyundai and KIA are in talks to invest in the auto sector in the country. <http://boi.gov.pk/ViewNews.aspx?NID=%201466>. Meanwhile, Toyota Boshoku Corporation (TBC) also plans to enhance its investment in Pakistan for manufacturing of interior components. <http://boi.gov.pk/ViewNews.aspx?NID=%201469>

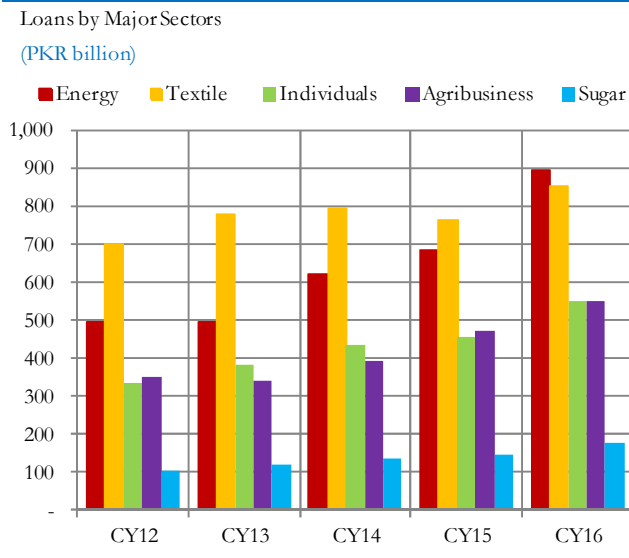
finance in the overall loan portfolio. Further, the legal reforms, mentioned earlier, should serve as another motivational factor for banks to channel their funds to the sub-segment.

NPLs of mortgage finance have considerably declined during CY16 resulting in a dip of 7.07 pps in the NPLR. However, the ratio at 17.70 percent still remains highest in the consumer segment.

After a decline last year, NPLs of personal loans have risen again

A small sample of banks has been engaged in providing personal loans over the last few years. Not surprisingly, the same sample has been feeling the brunt of rising NPLs in the sub-segment during CY16. With a decline of 3.37 percent in loans and 2.68 pps rise in NPLR to 9.16 percent, the personal loans sub-segment could become a potential source of credit risk for the banks.

Figure 3.1.6
Energy sector has become the biggest user of banks' loans



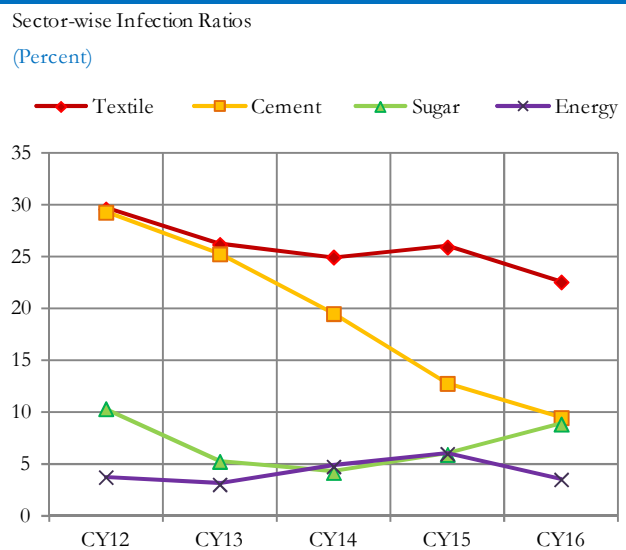
Source: SBP

Energy sector has become the biggest user of banks' loans

Among the corporates, energy sector loans have been progressively growing over the last three years

due to focus of government on tackling the energy shortages. With a growth of 30.90 percent during CY16, loans to energy sector stand at PKR 892.1 billion (PKR 681.5 billion as of end CY15), having a share of 14.81 percent in overall loans of the banking sector (**Figure 3.1.6**). However, the credit risk remains relatively low as only 60.24 percent of these loans have been extended to the private sector and the NPLR is 3.5 percent.

Figure 3.1.7
Textile sector still has the highest infection ratio



Source: SBP

Textile sector has the highest share in private sector loans and its NPLR has declined

The lending to textile sector, which remained subdued during CY15, has witnessed a recovery in CY16 with loans growing at 11.88 percent. The sector also continues to hold highest share in the private sector loans (18.18 percent). However, its infection rate has also remained high for quite some time now. Nonetheless, increasing disbursements in other sectors of the economy and a decline in NPLs have somewhat lessened both concentration and credit risk posed by the textile sector (**Figure 3.1.7**). In addition to the improvements in security situation, energy supply, pick up in raw material

prices, considerable reduction in the sales tax as per Federal Budget 2016/17⁸⁶ and macroeconomic conditions are some of the reasons behind this revival.

Sugar sector has registered significant growth while its NPLR has worsened...

Sugar sector that has seen over 20 percent increase in financing over the year has also observed some deterioration in its loan portfolio. NPLs have actually doubled to reach PKR 15.6 billion. This is due to the liquidity crisis faced by the sugar sector in early CY16 owing to dispute over cane support price and delay in sugarcane crushing season.⁸⁷ Nevertheless, NPLR at 8.83 percent still remains lower than the industry average.

... while asset quality of the cement sector has improved

Despite small share in overall loans, cement sector has had second highest NPLR during the last five years. However, this trend seems to be changing as the sector's NPLs have declined by 7.77 percent. This decline, coupled with 24.47 percent growth in loans has decreased the NPLR of the sector by 3.31 pps to 9.47 percent. This is a significant development since cement sector is one of those sectors which are pivotal to the infrastructure development and economic growth of the country.

Expected economic growth may induce higher lending but poses challenges for credit risk management of the banks...

⁸⁶ Five export-oriented sectors are subject to reduced rates i.e. 3 percent and 5 percent under SRO 1125(I)/2011, dated 31.12.2011. In order to facilitate the exporters and provide for a No-Tax, No-Refund Regime, the items as specified in the said SRO and the purchase of energy i.e. electricity, gas, furnace oil and coal by the five export-oriented, are to be subjected to zero rate of sales tax. The retail sales of locally manufactured finished goods of these sectors are to be subjected to sales tax @ 5 percent:

<http://www.fbr.gov.pk/budget2016-17/default.html>

⁸⁷<http://www.pakissan.com/english/issues/dispute.over.cane.support.price.shtml>

In the near future, projects like CPEC present immense opportunities for the banks to expand their credit base. At the same time, these will test the banks' lending practices, which have been underutilized for quite some time now. On the positive side, reforms like establishment of private credit bureaus⁸⁸ will help in improving banks' credit quality. Moreover, creation of corporate restructuring companies along with other reforms in the legal framework will certainly make a difference towards reducing the outstanding stock of NPLs.

3.1.2 Liquidity Risk

The banking system has remained sufficiently liquid during CY16, maintaining liquidity in excess of the regulatory requirements (**Figure 3.1.9**). However, risks pertaining to financial markets and funding availability are the main liquidity issues facing the banks.

Reduced volatility in financial markets lowers the liquidity risk

The introduction of SBP's target rate⁸⁹ back in May 2015 has continued to yield positive results during CY16. Volatility in the money market has remained much lower in CY16 than CY15. To achieve the stated objective of target rate, SBP had to increase both the volume and frequency of OMOs. (For details see **Chapter 2**).

Nevertheless, there seems to be little impact on liquidity management of the banks as they have been able to maintain sufficient reserves during CY16, as indicated by average Statutory Liquidity Requirement (SLR) ratio of 45.46 percent against the required regulatory level of 24 percent (**Figure 3.1.8**).

⁸⁸ <http://www.sbp.org.pk/about/act/CreditBureauAct-2015.pdf>

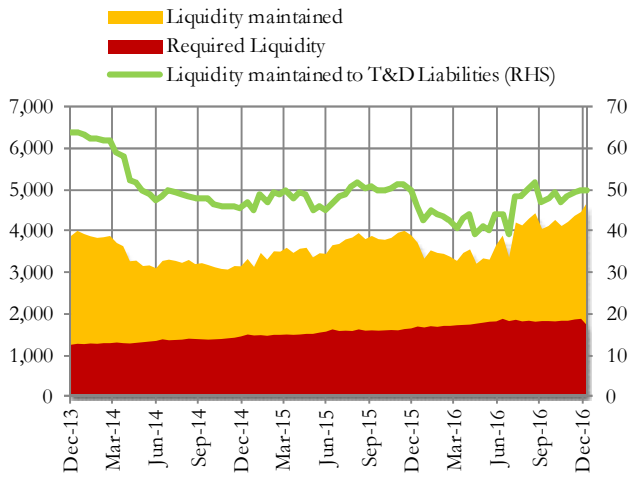
⁸⁹ It is to be noted that this target rate is for money market ONR where SBP manages liquidity (primarily through OMOs) in the market to ensure that ONR remains close to the target rate. <http://www.sbp.org.pk/dmmd/2015/C9.htm>

Figure 3.1.8

Banks maintained surplus liquidity

Required and Maintained Liquidity by Banks

(PKR billion) (Percent)



Source: SBP

Funding risk remains diluted due to minimal change in funding profile...

Core liabilities⁹⁰ have continued to provide resources needed for managing funding requirement of the banks during CY16 (**Figure 3.1.9**). Deposits have registered a healthy YoY growth of 13.56 percent during the year compared to 12.56 percent growth in CY15. However, the share of non-core liabilities remains significant during CY16 with 10 percent growth in borrowings.

Analyzing weekly borrowing levels of the banks throughout the year suggests that both secured and unsecured borrowings have increased. Banks seems to have utilized these non-core liabilities to meet the rising credit requirements of the private sector particularly in the last quarter of the year.

Last year, funding cost of non-core liabilities did not decline as much when compared to the significant dip in policy rate due to the volume effect.

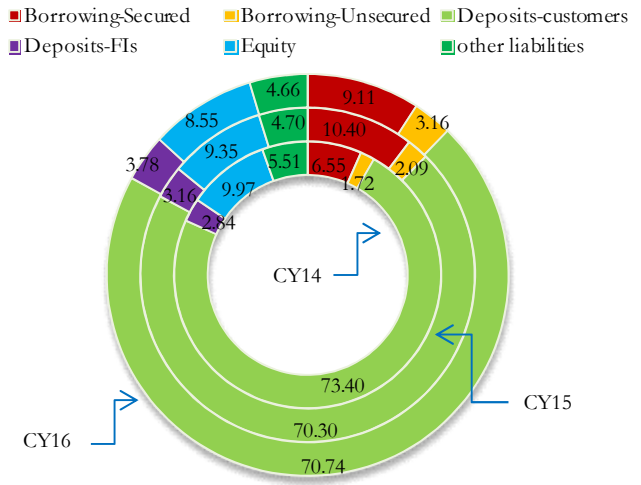
⁹⁰ Customer deposits are core liabilities while all other liabilities are referred to as non-core liabilities.

Figure 3.1.9

Deposits continued to be the main funding source

Funding structure

(percent)



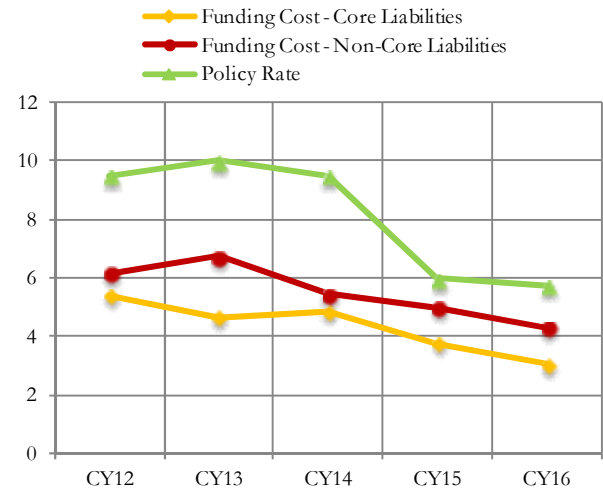
Source: SBP

Figure 3.1.10

Funding cost of non-core liabilities remains higher

Funding Cost

(Percent)



Source: SBP

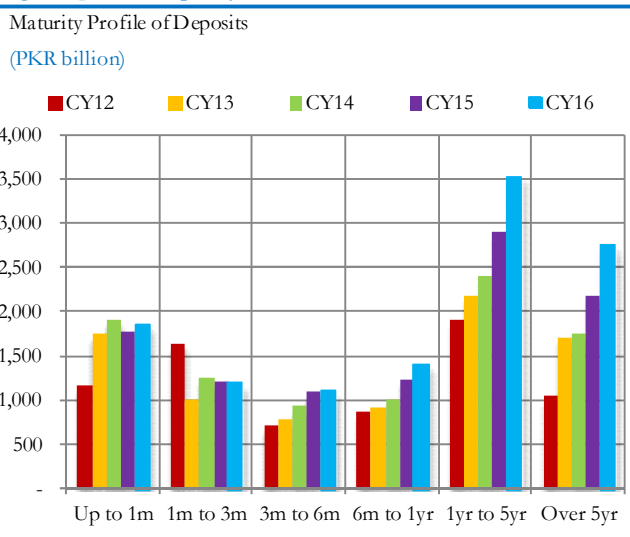
However, during CY16 the decline in funding costs of non-core liabilities (67 bps) is more than decline in policy rate (25 bps). Comparatively lower rise in volume of borrowings during CY16 is the reason behind this phenomenon. Despite decline, funding cost of non-core liabilities has stayed higher than

that of the core liabilities (**Figure 3.1.10**). Moreover, if the growth momentum of advances continues and outpaces the increase of core funding sources, reliance on non-core funding may enhance, making liquidity management challenging.

Longer behavioral maturities of deposits are supporting funding needs

Current and saving deposits (CASA) comprise 71.51 percent of the total deposits as of end CY16.

Figure 3.1.11
Longer behavioral maturities of deposits have shielded banks against potential liquidity risks



Source: SBP

In terms of behavioral maturities, more than 53 percent of the deposits fall in more than 1 yr maturity bucket (**Figure 3.1.11**).⁹¹ Given the fact that fixed deposits have only 22.63 percent share in total deposits, CASA have practically longer expected maturities. This bodes well for the overall liquidity profile of the banks, as they can effectively utilize these funds for comparatively longer term loans. Nevertheless, banks need to attract longer

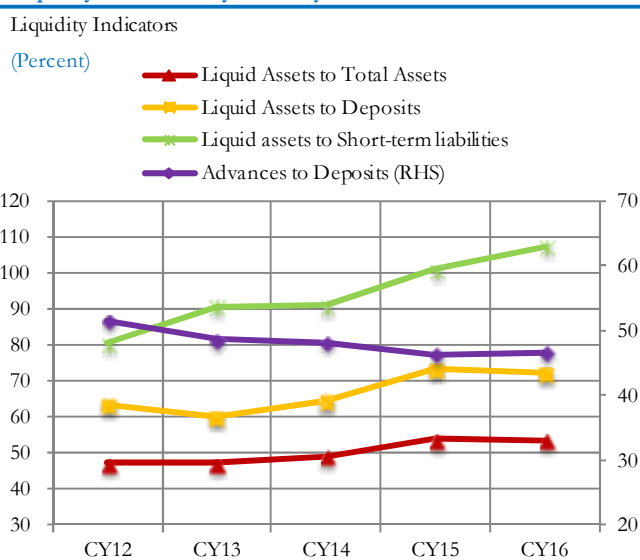
⁹¹ In terms of BSD Circular Letter No. 03/2011, banks are required to report non-contractual assets and liabilities as per their “expected maturities” that should be calculated based on objective and systematic behavioral studies.

term fixed deposits to fund the long-term investment opportunities presented by expected economic developments (CPEC etc.) in the near future.

High quality liquid assets have kept fund based liquidity at comfortable levels

In line with trend seen over the last few years, fund based liquidity of the banking system has improved further with growing stock of risk free sovereign securities. However, with partial shift of government borrowing to SBP, banks’ investment in government securities has decelerated. Accordingly, various liquidity indicators like liquid assets to total assets and liquid asset to deposits have seen a first yearly decline in the last four years. However, the ratios still remain quite high and do not pose any risk to the liquidity of the system. Further, liquid assets to short-term liabilities⁹² ratio has increased by 6.28 pps to 107.12 percent as of end CY16. This further confirms the stable funding liquidity position of the banks (**Figure 3.1.12**).

Figure 3.1.12
Liquidity Indicators stayed healthy



Source: SBP

⁹² Liabilities maturing within one year

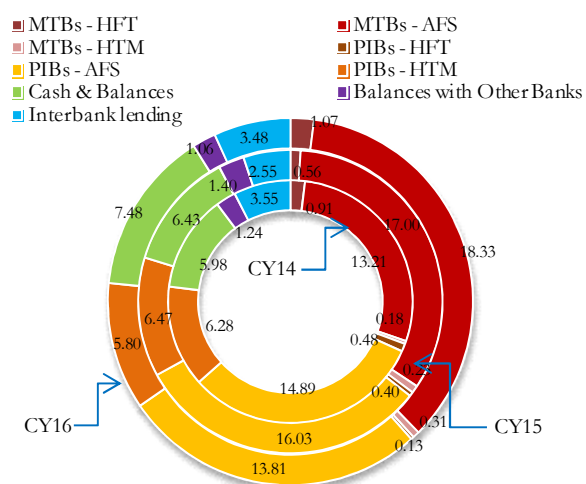
The composition of MTBs and PIBs has somewhat changed during CY16 as the share of the former has increased (3.29 pps) while that of the latter has declined (6.45 pps). As discussed earlier, interbank call money lending has also risen during CY16 thus increasing its share by 1.80 pps in overall liquid assets (**Figure 3.1.13**).

Figure 3.1.13

High quality liquid assets ensure efficient liquidity management

Liquid Assets as a percentage of Total Assets

(Percent)



Source: SBP

...while banks continue to place majority of liquid assets in “Available for Sale (AFS)” category

In order to efficiently manage their liquidity, banks have preferred to keep most of the sovereign securities in the AFS category (81.47 percent). Such categorization allows banks to utilize these liquid assets for funding appropriately when required. Hence, banks continue to remain adequately hedged against any liquidity pressures.

Small banks have relatively lower liquid assets to total assets ratio

As highlighted in last FSR, small banks have comparatively lower level of liquid assets. The pattern has continued as their liquid assets to total assets ratio has further declined by 3.04 pps to 42.70

percent as of end CY16 (**Table 3.1.4**). The ‘small’ banks category corresponds to the third quartile of the banks which mainly consists of some Islamic banks, public sector banks, and a couple of growing banks carrying baggage of previous mergers/acquisitions. Therefore, for conventional banks, reduction in exposure to treasury securities while for Islamic banks, a higher financing growth and relatively lower availability of high quality Shariah compliant securities, are the reasons behind lower liquid assets. (**See Chapter 3.2 for details**).

Table 3.1.4

Liquidity by Bank Size (percent)

Bank Category*	CY12	CY13	CY14	CY15	CY16
	Liquid Assets to Total Assets				
	Percent				
Large	47.20	48.44	51.47	55.38	54.22
Medium	45.81	41.88	42.55	51.82	55.87
Small	50.60	45.81	45.86	45.74	42.70
Very Small	57.04	58.32	48.55	54.10	63.90
All banks	47.38	47.34	49.15	53.81	53.73

* Banks have been sorted by asset size and divided in to four quartiles (large, medium, small, very small)

Source: SBP

Maturity mismatch exists in over 30-day horizon bucket but is within acceptable limits...

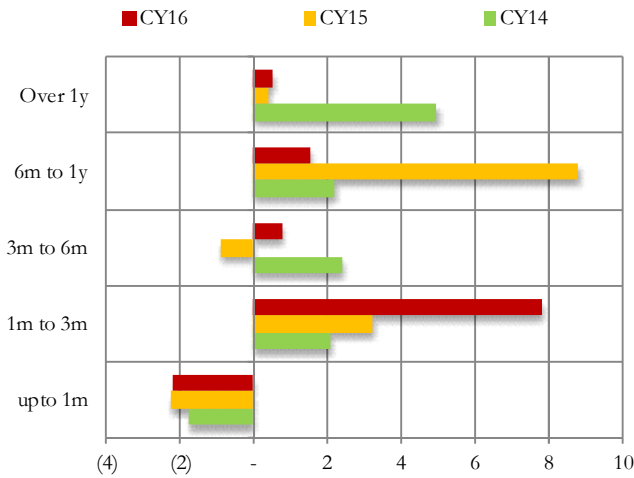
Maturity gap analysis of assets and liabilities of the banks reveals that the liabilities maturing within 30 days will exceed the assets, creating a negative gap (**Figure 3.1.14**). However, the gap is quite small and within acceptable limits. Further, banks have a huge stock of readily tradable liquid securities at their disposal, which also limits possibility of liquidity risk. All remaining maturity buckets reflect positive gaps further reducing such risk.

Figure 3.1.14

Banks are exposed to maturity mismatch risk over 30-day horizon

Maturity GAP (Assets-Liabilities) as percent of Assets

(percent)



Source: SBP

3.1.3 Market Risk

Market risk refers to the possibility of losses in the on and off-balance sheet positions arising from adverse movements in market prices (interest rates, exchange rates, etc.).⁹³ The sector has negative repricing risk at short end, while positive gaps exist beyond 3m horizon. In terms of equity exposure, the stock market investments have increased while foreign currency denominated assets and liabilities have decreased.

With interest rate at historically low levels, any increase may expose banks to repricing risk...

Interest rate risk is influenced by the presence of major re-pricing GAPS, exposing the banks to repricing and yield curve risk due to excessive movements in interest rates. The gap between rate sensitive assets (RSA) and rate sensitive liabilities (RSL) has remained within comfortable ranges.⁹⁴

⁹³ For details see European Banking Authority <https://www.eba.europa.eu/regulation-and-policy/market-risk>

⁹⁴ The gap between RSA and RLA of about + 10 percent of total assets is considered an acceptable limit.

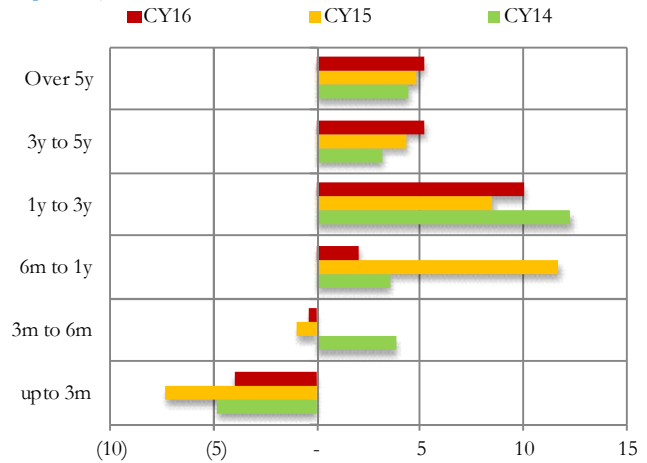
Though negative gap exists for “up to 3m” and “3m to 6m” maturity buckets, gaps are quite small and due to shorter duration of the tenor, these GAPS are likely to have only a limited impact on market value of the assets in case of adverse movements in interest rates (Figure 3.1.15).

Figure 3.1.15

Banks may face repricing and revaluation risks in case of increase in interest rates

GAP (RSA-RSL) as percentage of Assets

(percent)



Source: SBP

...and revaluation risk due to long-term positive gaps

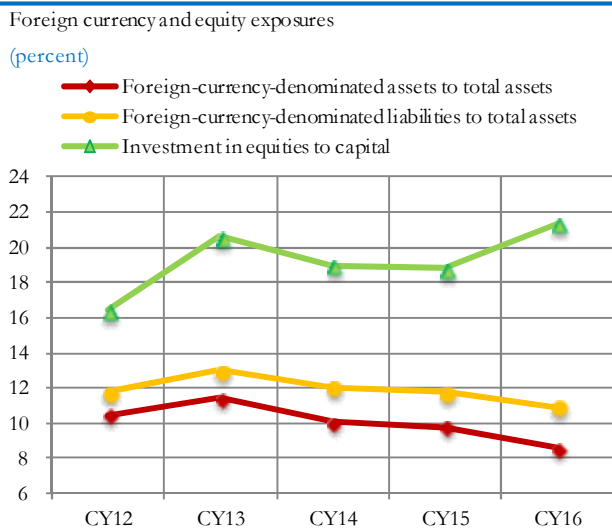
The gap for “1y to 3y” maturity bucket that almost touches 10 percent of the assets seems to be on the higher side. As discussed in Chapter 2, the gap between long and short term risk free rates has widened since June 2016, where short-term rates seem more stable. As such due to shorter tenor and relatively stable short term interest rates, there will be minimal impact on revaluation of assets on the system due to adverse rate movements. Nevertheless, inflation having increased, interest rates may rise and banks may find themselves exposed to revaluation risk in longer maturity buckets.

While foreign currency exposures have declined, banks’ investment in equities has increased

During the year under review, shares of both foreign currency assets and liabilities in total assets of the banking sector have declined thereby minimizing the exposure of the banks to foreign currency (Figure 3.1.16). On the other hand, there has been significant rise in banks' investment in equity market. Although, both foreign currency and equity exposures are well within the limits prescribed by SBP⁹⁵, the portfolios remain vulnerable to market risks.

Figure 3.1.16

While foreign currency exposures have declined, banks' investment in equities have increased



Source: SBP

3.1.4 Profitability

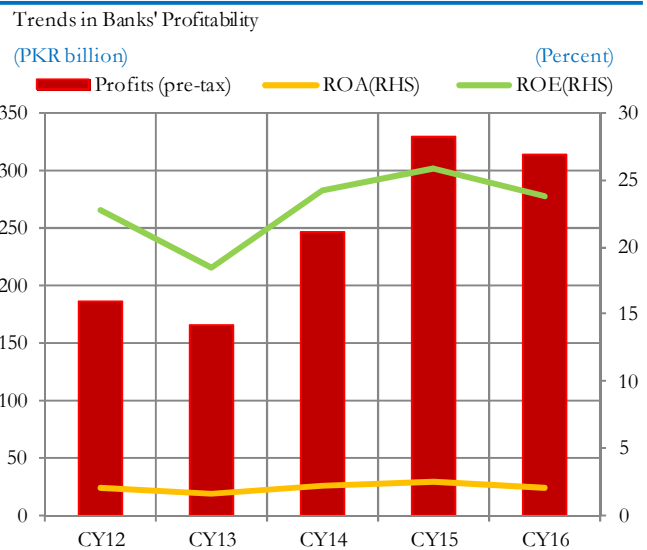
Profits are, generally, the main driver for building regulatory capital which improves shock absorption capacity of the banks and gives comfort to the regulator as more resilient banks mean less stability concerns.

Banks' profitability that has been increasing for last few years has slightly shrunk in CY16 due to

prevailing low interest rate environment. As a result, earnings (before tax) have narrowed by 4.5 percent in CY16 against 33 percent growth in the previous year. This coupled with growth in asset and equity has reduced the ROA to 2.1 percent from 2.5 percent in CY15 and ROE to 23.8 percent down from 25.8 percent (Figure 3.1.17).

Figure 3.1.17

Profitability indicators slightly moved downward



Source: SBP

Declining spread has surfaced as a risk to banks' profitability

Interest rate movement has impacted retail rates, such as Weighted Average Lending Rate (WALR) on fresh loans and Weighted Average Deposit Rate (WADR) on fresh deposits. Both these retail rates are, to a large extent, synchronized with the SBP policy rate (Figure 3.1.18).

Against the policy rate decline of further 25 pps, WALR, on average, has declined by 136bps and WADR by 76bps to stand at 7.25 percent and 3.54 percent, respectively, in CY16. More than proportionate decrease in retail rates may imply the lagged impact of monetary policy transmission. Consequently, the average spread charged by banks has declined by 60 bps.

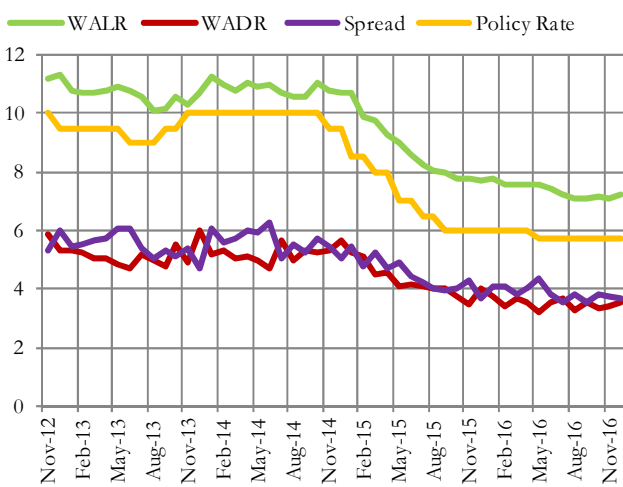
⁹⁵ Prudential Regulations R-6 and O-5 for Corporate/Commercial banking <http://www.sbp.org.pk/publications/prudential/index.htm>

Figure 3.1.18

Spread in tandem with policy rate

Movement of Deposit, Lending and Policy rates

(Percent)



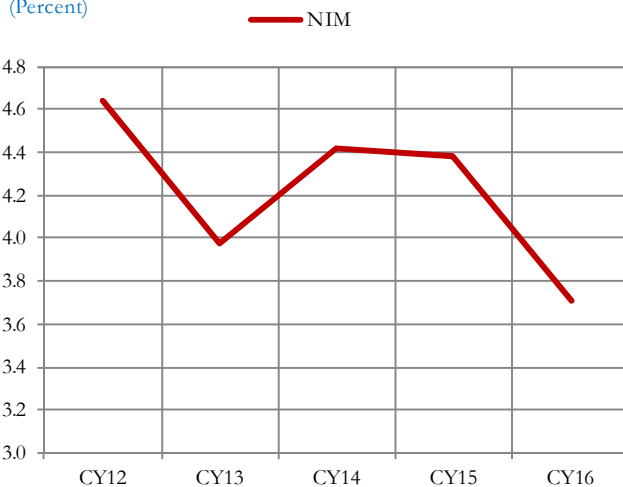
Source: SBP

Figure 3.1.19

NIM observed marked decline

Net Interest Margin

(Percent)



Source: SBP

Net Interest Margin (NIM⁹⁶) observed decline...

Low interest rates have affected bank's profitability through direct impact on income from earning assets and indirectly through revaluation gains on

⁹⁶NIM equals Net Interest Income (NII) over average earning assets. NII equals Interest revenue from advances, investments and others less interest expense on deposits, borrowings and others.

investment portfolio. NIM has registered a decline of 66 bps in CY16 after staying flat for last two years (**Figure 3.1.19**). Despite decent growth in average earning assets (15 percent), largely comprising of investments (9 percent growth) and advances (13 percent growth), NIM has declined due to pronounced impact of falling rates which translated into decline in Net Interest Income (NII).

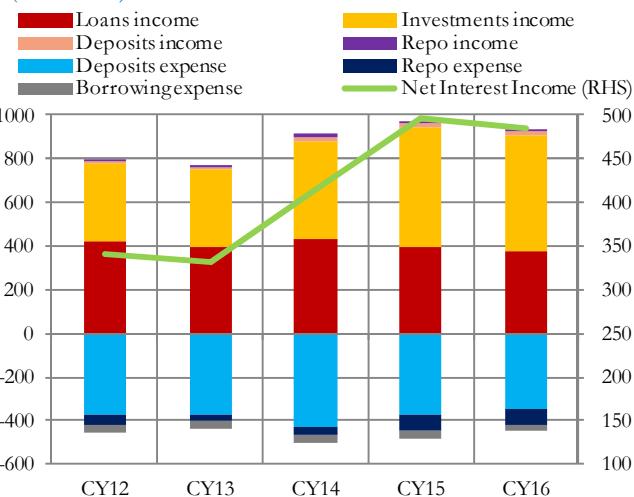
Declining markup on investments and advances has reduced Net Interest Income (NII)...

NII of the banking sector has declined by 2.3 percent (YoY) in CY16, due to the fall in revenue leg of the banks by 4.5 percent. Despite 12.8 percent growth in advances portfolio, the interest earned on loans has reduced by 5 percent while markup income on investments, which has been the main revenue component of banks over the last couple of years, has contracted by 3.2 percent after expanding over last decade (**Figure 3.1.20**).

Figure 3.1.20

Net interest income declined

Net Interest Income (PKR billion)

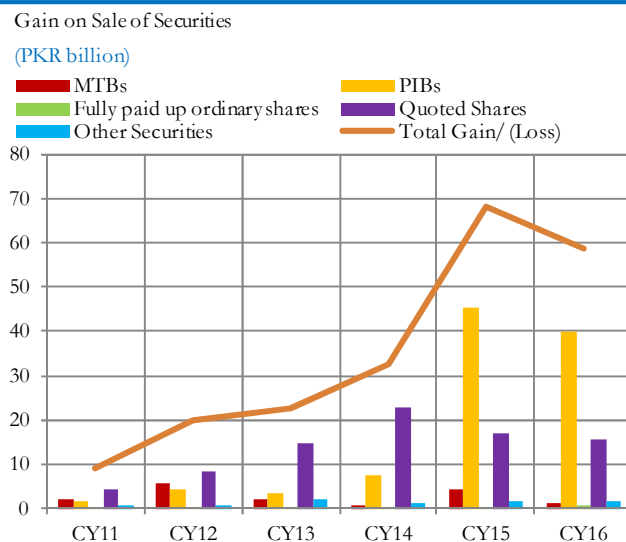


Source: SBP

On the cost front, banks seem to have passed on the impact of low interest rates to their depositors and creditors. As a result, markup expense has

reduced by 6.7 percent in CY16. As a whole, the markup cost on deposits has decreased by 8.5 percent in CY16 despite 13.6 percent growth in stock of deposits. As for the borrowings, the cost on secured borrowings surged by 5 percent while on unsecured borrowing it reduced by 12 percent.

Figure 3.1.21
Revaluation gains observed steep decline



Source: SBP

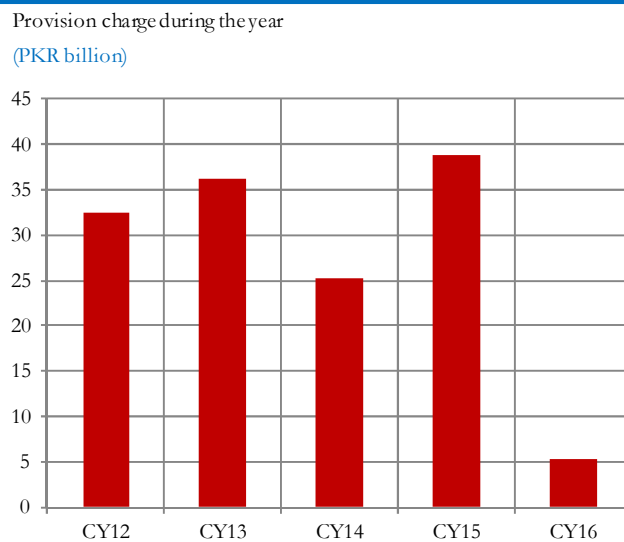
The second channel through which interest rates have affected banks profitability is in terms of lost revaluation gains. Banks in the past have benefitted from gains on sale of their higher interest bearing securities portfolio. Banks earning from gain on sale of securities in CY16 has been 14 percent less than last year, resulting in a decline in overall profitability (Fig 3.1.21).

Lower provisions charge considerably offset decline in profitability...

Low interest rates generally result in less probability of defaults—barring instances of untamed disbursement of loans in pursuit of “search-for-yield”—as they reduce the cost for the borrowers thereby improving their capacity to repay. Lower defaults then lead to lower provisioning. During

CY16, provision charge for NPLs decreased by 86 percent to PKR 5 billion, which has supported the overall profitability of the banking system (Figure 3.1.22).

Figure 3.1.22
Momentous saving on provision expense



Source: SBP

Non-mark up income moves in tandem with declining mark up income

The non-mark up income has also followed the trend of markup income and declined in CY16. Banks reliance for non-markup income is largely on fee, commission and brokerage which are strongly correlated with overall economic activity and in turn with markup income. While Fee and Dividend income inched up, contraction in FX income due to stable exchange rate and as discussed above, lower gain on sale of securities decreased the non-mark-up income by 6.2 percent (Figure 3.1.22 and 3.1.23).

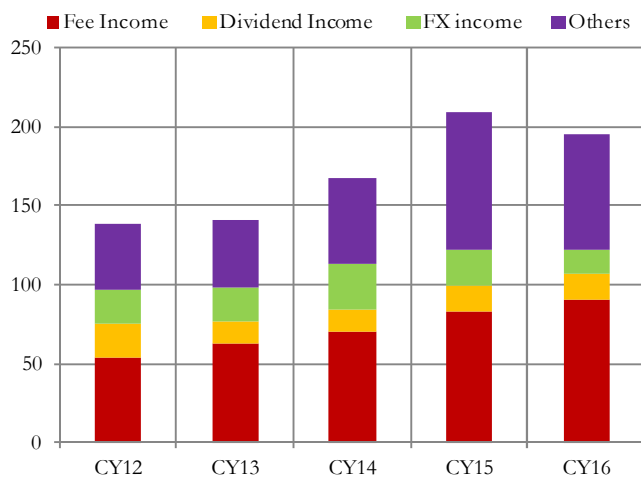
With rising CPEC related economic activity and in line with growth in fixed capital formation, it is expected that banks income from fee, commission and brokerage will rise, being strongly correlated with overall economic activity.

Figure 3.1.23

Non mark-up income also declined

Composition of Non Markup Income

(PKR billion)



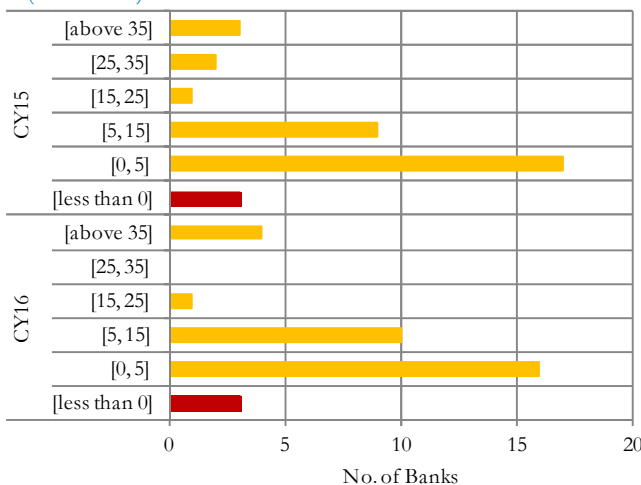
Source: SBP

Figure 3.1.24

Number of loss making banks remained the same

Pre-tax profitability of banking sector

(PKR billion)



Source: SBP

Concentration in earnings somewhat increased ...

Size is a major determinant of growth in banking sector which is depicted in profitability distribution of banks as well. Bank-wise statistics reveal a diverse contribution in banking profits as 31 banks posted

profits, while the count of loss making banks has remained 3 (**Figure 3.1.24**).

Concentration of earnings has increased as the share of large banks in total profits has increased to 77 percent in CY16 from 72 percent in CY15⁹⁷, while share of medium banks sized banks has reduced to 16 percent. The share of small banks in profitability has reduced to 5 percent in CY16 from 8 percent in CY15. Very small banks have also been successful in increasing their share to 2 percent in earnings in CY16 from a meager 1 percent share in CY15 (**Table 3.1.5**).

Table 3.1.5

Concentration of Earnings by Bank Size

Bank Category*	CY16	CY15	Change
	Share in earnings(before tax)		
	Percent		Percentage Points
Large	77	72	5
Medium	16	19	-3
Small	5	8	-4
Very Small	2	1	1

* Banks have been sorted by asset size and divided in to four quartiles (large, medium, small, very small)

Source:SBP

With any possible movement in interest rates in future, concentration pattern of earnings with some minor adjustments will remain intact. Large banks will keep on compounding on their larger branch network which provides them with added advantage of cheap deposits and better investment avenues. Apart from outreach advantage, large banks will keep on enjoying higher earnings because of their potential to expand their balance sheet for which they have cushion available in terms of their strong solvency and liquidity positions (**Table 3.1.6**).

⁹⁷ With merger of one Islamic bank with another bank, the number of banks has reduced to 34 in CY16 form 35 in CY15.

Table 3.1.6**Category wise Capital and Liquidity Cushion CY16**

Bank Category*	RWAs Cushion	LA/TA
	PKR billion	Percent
Large	5,272	54.2
Medium	1,341	55.9
Small	857	42.7
Very Small	163	63.9

* Banks have been sorted by asset size and divided in to four quartiles (large, medium, small, very small)

Source: SBP

Low interest rates, receding investments in government securities and maturity of high yielding PIBs could potentially keep earnings of the banking system in check in short term. However, banks are expected to gain form rise in advances as evident from current momentum of fixed investment loans which will translate into high working capital requirement in the future as well. These prospective developments will ultimately give the desired push to banks' profitability.

3.1.5 Solvency⁹⁸

Both risk based and non-risk based indicators of solvency remained in comfortable zone...

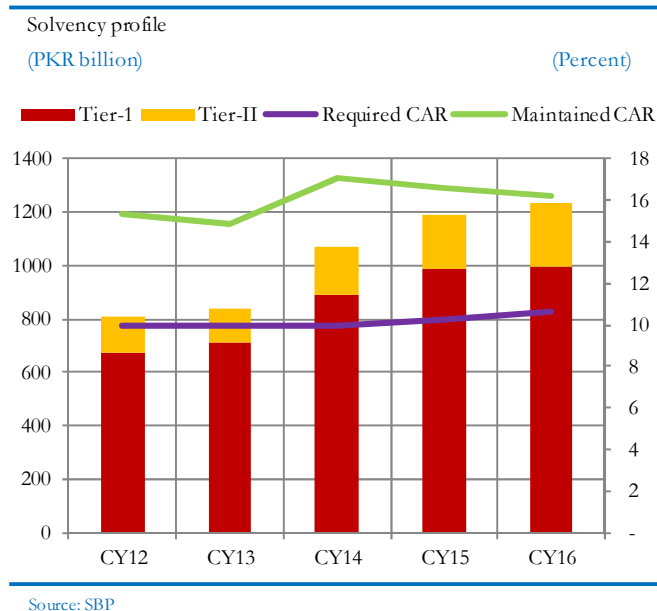
The CAR of the banking system is robust despite implementation of a comparatively strict Basel III Capital Accord. Capital Adequacy Ratio (CAR) with a nominal decline of 45 bps⁹⁹ has reached 16.2 percent which is well above the local benchmark of 10.65 percent. The leverage ratio (LR)¹⁰⁰ after a slight decline stood at a comfortable level of 5.1 percent in CY16—well above the Basel-III standard requirement of 3 percent. Lastly, majority of the

⁹⁸ Solvency is largely measured by Capital Adequacy Ratio(CAR) in banks

⁹⁹ Adjusted CAR after structural adjustment (one-off accounting adjustment by a public sector bank) has remained at 16.6 percent in CY15 against 17.3 percent before adjustment.

¹⁰⁰ Leverage ratio is defined as Tier-I capital as proportion of total assets (adjusted both sides for intangible assets). The inverse of leverage ratio is called leverage multiples.

banks are compliant with the prescribed Minimum Capital Requirement (MCR) of SBP.

Figure 3.1.25**CAR of the banks remained above the benchmark**

Source: SBP

Credit Risk Weighted Assets(CRWAs) share increased slightly...

In CY16, total eligible capital has grown at a rate of 3.7 percent; largely contributed by Tier II instruments; while RWAs has observed 11.2 percent growth (**Figure 3.1.25**). In line with private sector's credit uptake, CRWAs witnessed a growth of 11.4 percent and increased its share in RWAs to 74.8 percent (**Figure 3.1.26**). Within CRWAs, exposures to unrated borrowers¹⁰¹ (15.85 percent) and retail (5.54 percent) have contributed to this rise.

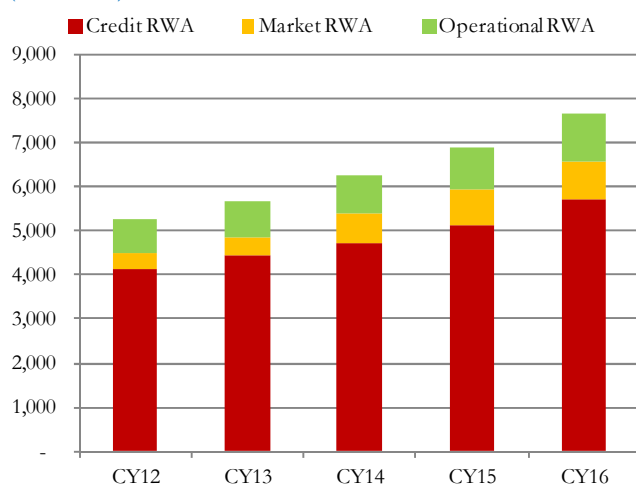
¹⁰¹ Effective from December 31, 2015, all unrated private sector corporate entities with aggregate outstanding exposure from financial institutions (both fund-based and non-fund based) of Rs. 3.0 billion or above, net of liquid assets, will attract risk weight of 125 percent. Retail exposure and residential mortgage with risk weights of 75 and 35 percent respectively.

Figure 3.1.26

Credit risk remains dominant

Riskiness of the banking sector

(PKR billion)



Source: SBP

...while growth in Market Risk Weighted Assets (MRWAs) slowed down

MRWAs, after observing sizeable growth in last couple of years, have observed a deceleration in CY16 due to maturity of longer term debt instruments, primarily, on account of maturing PIBs with no proportional roll-over. Among the MRWAs, Interest rate risk (IRR) has remained the driver of increase in capital charge due to significant holding of investment portfolio by banks. However, with significant growth of 26 percent in equity investments, the associated capital charge has surged by 17 percent (Figure 3.1.27). On the other hand, the share of Operational Risk Weighted Assets (ORWAs) continued to increase in CY16.¹⁰² Though gross income has declined in CY16, the share of ORWAs in total RWAs has increased to 14.2 percent due to averaging out effect.

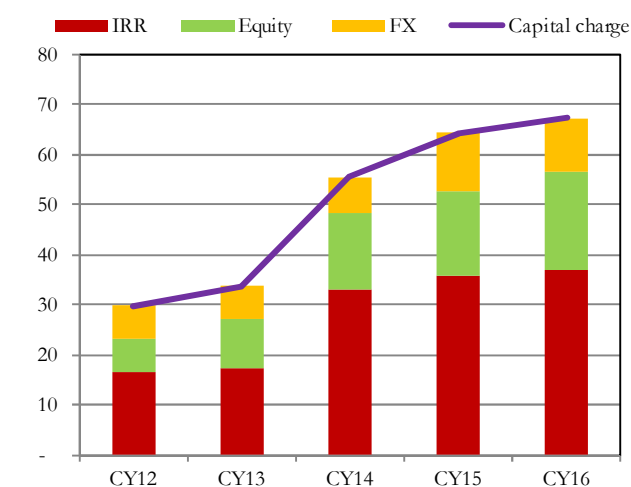
¹⁰² Most of the banks in Pakistan use Basic Indicator Approach (BIA) to measure operational risk charge. Under the BIA, operational risk charge is 15 percent of the average of last three years' positive annual gross income. As the methodology of calculating ORWAs is dependent on gross income of the banks, so ORWAs naturally increases with increase in gross income.

Figure 3.1.27

Interest Rate Risk (IRR) remained major component of market risk

Market Risk Components

(PKR billion)



Source: BPRD, SBP

Table 3.1.7

Distribution of Banks by CAR

	CY12	CY13	CY14	CY15	CY16
CAR < Required	5	5	3	3	4
Required < CAR < 15 percent	9	12	12	13	13
> 15 percent	24	21	22	19	17
Total	38	38	37	35	34

Source: SBP

Minimum Capital Requirement (MCR) policy guiding CAR...

A higher capital base above the regulatory requirements provides banks with sufficient cushion against unexpected idiosyncratic shocks and severe macroeconomic conditions. As part of its policy to strengthen common equity base of banks, the SBP over the period has enhanced the MCR in gradual manner¹⁰³. The outcome of this approach is obvious in comfortable CAR of almost all banks (Table 3.1.7). Few banks falling short of MCR represent

¹⁰³ As per BSD Circular No. 07 of 2009, banks are required to raise their paid up capital (free of losses) from PKR 6 billion in 2009 to PKR 10 billion by 2013.

only a nominal share of industry assets and are either under restructuring or undergoing privatization.

Improvement in CAR is seen across all the categories of banks

In terms of size, CAR has improved among all categories of banks except very small banks (Table 3.1.8). Large banks, which are holding 69 percent of the industry’s risky assets, have maintained their CAR well above the local benchmark. On the other hand, CAR of medium sized and small banks has improved over the years due to capital build up in these banks which has started paying off in expanding their balances sheets. As a consequence, CAR of small banks has grown by 300 bps in CY16.

Table 3.1.8

Capital Adequacy Ratio (CAR) by Bank Size

Bank Category*	CY13	CY14	CY15	CY16
	percent			
Large	15.2	15.8	15.9	15.9
Medium	12.1	13.8	14.8	15.1
Small	13.6	15.2	16.3	19.3
Very Small	17.5	15.0	18.2	17.2
Overall	14.9	17.1	17.3	16.2

* Banks have been sorted by asset size and divided in to four quartiles (large, medium, small, very small)

Source:SBP

Banking system’s leverage remains well within the prescribed limit...

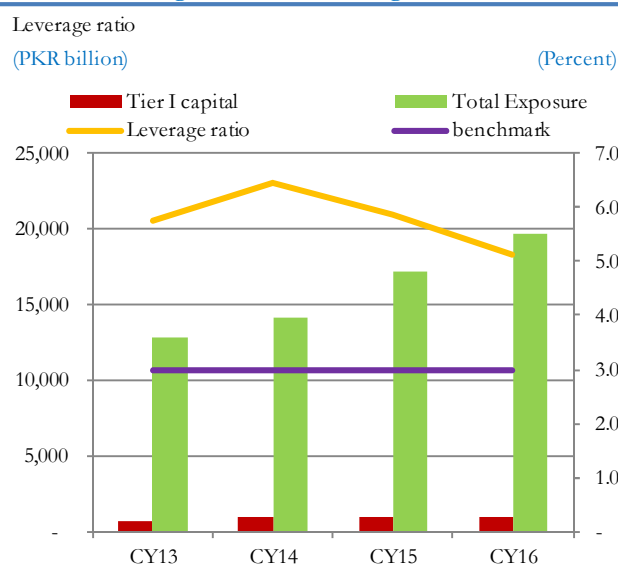
The leverage ratio, a non risk based indicator of solvency with a slight decline remained at a comfortable level; thanks to growing Tier-I capital which kept on supporting the increasing asset base. During CY16, the leverage ratio stood at 5.1 percent which is higher than the minimum 3 percent set by the Basel Committee on Banking Supervision¹⁰⁴

¹⁰⁴ The parallel run period of leverage ratio in Pakistan is from December 31, 2013 to December 31, 2017.

(Figure 3.1.28). However, industry still has the gap of 214 bps between actual leverage and benchmark leverage which can be exploited to increase its asset base with existing level of equity.

Figure 3.1.28

Banks have margin to increase leverage



Source:SBP

The risk based measure of CAR, at its present level is reinforcing the room available for further risk taking in banks’ balance sheets; banks will remain within prescribed limit even if they expand their risk weighted assets by another 52 percent (Table 3.1.9).

Table 3.1.9

Capital Cushion CY16

	Existing	Simulated	Cushion
	PKR billion		
Capital	1,234.4	1,234.4	-
RWAs	7,633.2	11,590.5	3,957.3
CAR	16.2%	10.7%	

Source: SBP

With a comfortable level of both CAR and Leverage indicators and potential of growth in the economy in the backdrop of CPEC related projects, banking

industry enjoys enough buffer to further increase its exposure to the private sector in the future.

The capital adequacy of the banking sector, though still comfortable, could face few challenges due to host of factors; uptick in advances will lead to higher RWAs; pressure on profitability may constrain the plough back of retained earnings to capital base; and, as part of Basel-III implementation schedule, the regulatory CAR requirements are set to gradually increase in the future (11.275 percent in 2017, 11.90 percent in CY18 and 12.5 percent in CY19. For a discussion of Resilience under stress scenario, please see Chapter 4.

Box 3.1: Impact of Leverage Ratio (LR) requirement on bank risk-taking

The leverage ratio is a macro prudential measure which is aimed at constraining the excessive leverage buildup in the system and enhancing the banking system’s stability. Highly leveraged banks have lower loss-absorbing capacity and are arguably less resilient to shocks. However, non-risk-based nature of the leverage ratio could incentivize banks to increase their risk-taking. Assets with the same nominal value but having different riskiness are treated equally and face the same capital requirement under the non-risk-based LR.

The empirical analysis of domestic banking industry shows that leverage ratio of industry has come down by 60 bps since its introduction in 2013. The frequency distribution of banks’ leverage ratio over the years shows that banks have sufficient room to play around by remaining within the regulatory leverage. (Figure B3.1.1)

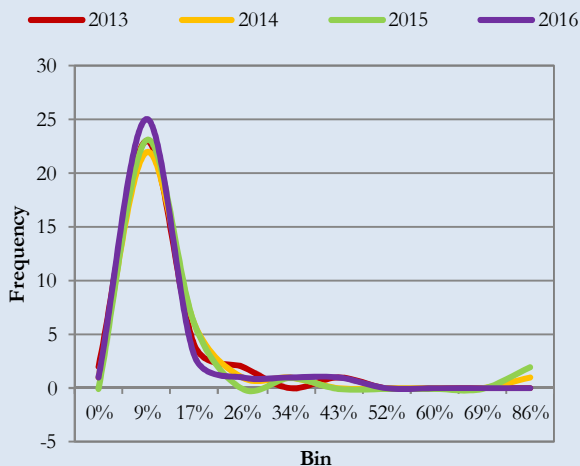
The evidence of increased leverage on banks’ risk taking behavior is mixed. The segregated analysis of banks shows following observations:

1. Banks with highest decline in leverage ratio utilized it to increase their RWAs to total exposure.
2. Other banks have utilized their leverage to increase less risky assets i.e. risk free governments securities.
3. Both categories of banks have maintained their CAR during this time.
4. The main driving factor behind different behavior of banks to utilize leverage is to improve their return on equity. Banks with low ROE relative to their peers mainly expanded their balance sheets in risky spheres.

Figure B3.1.1

Banks' leverage has increased over the years

Leverage ratio



Source: SBP

3.2 Risk Analysis of the Islamic Banking

Islamic Banking continues its double digit growth as the assets share of the sector reaches 11.70 percent of the total banking industry's assets. Healthy growth in financings mainly in Diminishing Musbaraka and Musbaraka supported overall increase in the assets. Diminishing Musbaraka has continued to dominate the share in financing followed by Murabaha, Musbaraka, Istisna and Ijara. The credit risk has remained subdued with improvement in asset quality indicators. The investment growth has remained subdued due to low frequency of Sukuk issuance coupled with maturity of Bai Muajjal Sukuk transaction of Islamic Banking Institutions (IBIs) with the GOP. Resultantly, liquidity management poses challenges for IBIs. The earnings have moderated due to declining spread and higher operating cost. Capital adequacy has remained above the required level, despite slight decline due to considerable increase in financing. The prospects for IBIs are encouraging due to supportive supervisory framework, positive economic outlook and significant energy and infrastructure projects in the pipeline.

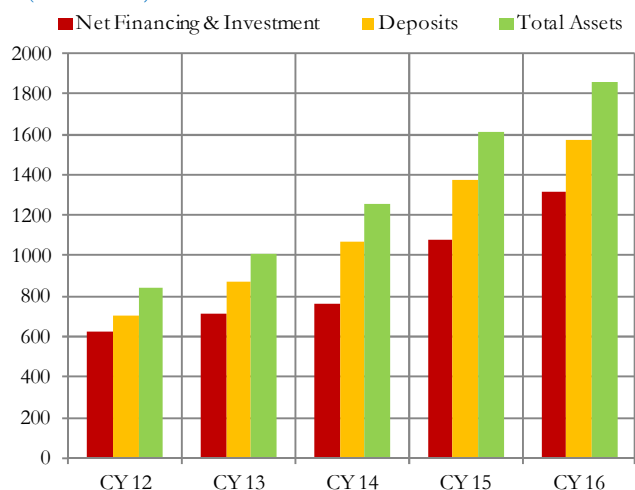
The global Islamic Banking industry's growth has remained stagnant in 2016 largely due to exchange rate fluctuations with respect to US dollar.¹⁰⁵ However, the domestic market share of Islamic banking in relation to total banking sector increased in large number of countries, and Pakistan is no exception. The growth trend of Islamic banking industry in the country has continued, albeit with some moderation (**Figure 3.2.1**).

Figure 3.2.1

Islamic Banks showed a steady growing trend over the last 5 years.

Islamic Banking Industry Progress

(PKR Million)



Source: FSD, SBP

Quite in line with the conventional banking sector, most indicators of Islamic Banking Institutions (IBIs) have also exhibited moderate growth in comparison with the previous year's performance.

The total Assets, Investments (net), Financing (net) and Deposits of IBIs have increased by 15.09 percent, 13.45 percent, 27.21 percent and 14.44 percent respectively, during CY16. This growth may seem modest as compared to the previous year, but the results are still encouraging as compared to conventional banking industry (**see Table 3.2.1**).

Table 3.2.1

Performance of Islamic Banking

	IBIs			Conv. Banks	
	CY14	CY15	CY16	CY15	CY16
PKR billion					
Total Assets	1,258.8	1,610.0	1,852.9	12,533.2	13,978.1
Investments (net)	356.7	431.9	490.0	6,448.9	7,019.2
Financing (net)	408.8	645.3	820.9	4,170.5	4,677.9
Deposits	1,069.7	1,374.8	1,573.3	9,014.5	10,224.5
percent (YoY)					
Total Assets	24.15	27.90	15.09	15.54	11.53
Investments (net)	(9.54)	21.07	13.45	30.20	8.84
Financing (net)	29.75	57.86	27.21	3.27	12.17
Deposits	23.28	28.52	14.44	10.47	13.42

Source: FSD, SBP

¹⁰⁵ IFSB, "Islamic Financial Services Industry Stability Report", 2017. For more details, please see Table 1.1.1 and its explanatory note on page 7 in the IFSB's report.

IBIs assets have reached PKR 1,852.9 billion which is 11.70 percent of the asset base of the overall industry, registering a slight increase from 11.38 percent in the previous year.

The SBP's 5 year Strategic Plan for Islamic Banking industry (2014-2018)¹⁰⁶, inter alia, envisages Islamic banking industry to achieve a target of 2000 branches and 15.0 percent share by the end of 2018. The branch expansion target has already been achieved in CY15. In CY16, the branch network¹⁰⁷ of IBIs has further expanded by 247 branches to 2,322 branches (**Figure 3.2.2**). On the other hand, given the current gap and moderate pace of growth in share of Islamic banking industry, achievement of the share target of 15 percent by 2018 seems challenging.

Financing growth of IBIs outpaces the industry...

In terms of growth in financing, IBIs' have fared well; their financing growth of 27.21 percent has been higher than conventional banks (12.17 percent). The surge in financing has been conspicuous in the last quarter of CY16 especially in the aftermath of maturity of Bai Muajjal sukuk transaction of IBIs with GOP.

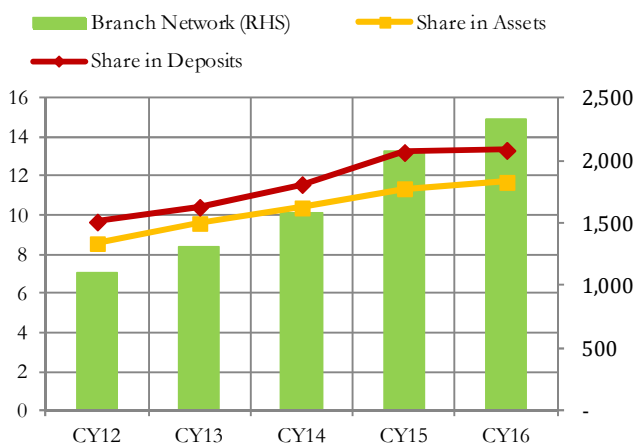
Private sector obtained the major chunk of IBIs financing...

Private sector has remained the major recipient of IBIs financing as outstanding financing to private sector has been recorded at PKR 719.7 billion. Textiles and production and transmission of energy have been the major users of IBIs financing in the private sector. However, these sectors also expose IBIs to concentration risk. Further, financing of PKR 130.9 billion have been provided to the public

sector wherein production and transmission of energy has received the major chunk. This huge rise is attributed to energy sector projects being pursued in the public sector.

Figure 3.2.2
Share and network of Islamic Banking continued to grow

Share and Network of Islamic Banking
(amount in numbers, ratios in percent)



Source: FSD, SBP

Diminishing Musharaka continues to dominate the modes of financing...

In line with the trend set in CY15, Diminishing Musharaka (DM), with 34.71 percent share in overall financing by IBIs, continues to dominate the share in modes of financing. This rising trend of DM is indicative of IBIs' tendency towards financing for longer term projects. Financing under Murabaha has 15.79 percent share and the combined share of Ijara, Salam and Istisna comprises almost 19.60 percent of the financing portfolio of IBIs (**Table 3.2.2**). Among participatory modes of financing, Musharaka increased to 15.63 percent of the total financing.

¹⁰⁶<http://www.sbp.org.pk/Departments/Pdf/Strategicplanpdf/Strategic%20Paper-Final.Pdf>

¹⁰⁷ Currently 21 Islamic Banking Institutions (IBIs) including 5 full-fledged Islamic banks and 16 conventional banks having Islamic banking branches (IBBs) are operating in the country with a network of 2,322 branches across 112 districts.

Table 3.2.2**Islamic modes of financing**

	CY13	CY14	CY15	CY16
	(percent share in total financing)			
Murabaha	40.63	30.12	24.55	15.79
Salam	4.04	4.54	5.33	4.36
Istisna	5.59	8.34	8.63	8.40
Musharaka	6.65	11.02	13.99	15.63
Ijara	7.70	7.65	6.58	6.84
Car Ijara	4.85	5.27	4.17	4.45
Plant and machinery Ijara	1.61	1.48	1.40	1.32
Equipment Ijara	0.54	0.31	0.08	0.13
Others Ijara	0.69	0.59	0.92	0.95
Diminishing musharaka	30.83	32.62	31.71	34.71
Other Islamic modes of finance	4.39	5.64	9.17	14.23
Mudarabah	0.15	0.05	0.03	0.01
Qard/Qard-e-Hasan	0.01	0.01	0.01	0.02
Total	100.00	100.00	100.00	100.00

Source: FSD, SBP

To encourage participatory modes of financing by IBIs, SBP has allowed them to avail the exemption from the requirement of using KIBOR as benchmark rate for financing provided on the basis of participatory (Musharakah & Mudarabah) and Wakalah (Agency) modes.¹⁰⁸ Instead, they can design their own mechanism for pricing under these modes. Besides encouraging financing, this policy action is expected to address perception related issues for Islamic banks.

Corporate sector remains the main recipient of IBIs funds...

In line with the historical trend, client-wise financing of IBIs has remained concentrated in corporate sector (PKR 658.8 billion and 77.45 percent of gross financing). Corporate sector seems to have capitalized on the low markup environment as corporate sector financing has registered a growth of 30.89 percent. In comparison, advances to the corporate sector by the conventional banks, at PKR 3,117.0 billion and 66.26 percent of gross loans,

¹⁰⁸ IBD Circular No.1 of 2016
<http://www.sbp.org.pk/ibd/2016/C1.htm>

have grown by 11.93 percent during the same period.

Within the corporate sector, PKR 339.54 billion (51.54 percent of corporate financings) has been utilized for fixed investment in CY16 as against PKR 215.07 billion (42.73 percent) in CY15. PKR 260.42 billion (39.33 percent of corporate financings) of the funds are utilized for working capital needs and PKR 58.84 billion (or 8.93 percent of corporate financings) for trade financing (**Table 3.2.3**).

Share of SME and Agriculture financing rises ...

Although, SME and Agriculture financing constitute only 4.22 percent share in total financing, SME has grown by 39.41 percent and Agriculture by 58.60 percent in CY16.

The rise in growth of SMEs and Agriculture financing can also be attributed to SBP's endeavors towards promoting such financing by allocating indicative financing targets to banking industry (including IBIs).

Table 3.2.3**Segment wise financing**

	CY13	CY14	CY15	CY16	Growth
	PKR billion				percent
Corporate Sector:	236.2	327.0	503.3	658.8	30.89
Fixed Investment	94.5	138.8	215.1	339.5	57.87
Working Capital	109.3	148.1	228.7	260.4	13.85
Trade Finance	32.4	40.1	59.5	58.8	(1.16)
SMEs:	16.8	15.1	20.8	29.0	39.41
Fixed Investment	5.2	5.4	6.0	7.4	24.78
Working Capital	2.9	1.3	13.2	20.3	53.15
Trade Finance	8.6	8.4	1.6	1.4	(17.92)
Agriculture	0.3	1.8	4.3	6.8	58.60
Consumer Finance:	38.2	50.5	67.7	89.7	32.63
Commodity Financing	31.6	22.7	58.2	47.4	(18.55)
Staff Loans	5.2	6.8	8.8	10.0	14.15
Others	0.8	1.5	13.9	8.8	(36.71)
Total	329.1	425.4	677.0	850.6	25.65

Source: FSD, SBP

Consumer financing grows significantly ...

In view of narrowing profit margins, IBIs have enhanced focus on consumer financing. As a result, it has registered an increase of 32.63 percent (YoY). Incidentally, the consumer portfolio of conventional banks has witnessed an increase of 6.25 percent (YoY) (**Table 3.2.4**).

Particularly, the IBIs have outperformed conventional banks in Mortgage financing which has registered a growth of 28.98 percent (YoY) compared to 16.05 percent growth by conventional banks. Out of total mortgage financing of PKR 53.5 billion by banking industry in CY16, the share of IBIs has amounted to PKR 32.3 billion or 60.33 percent. Similarly, growth of auto financings of IBIs at 35.54 percent is above the conventional bank's auto loans growth of 30.01 percent (YoY) (**Table 3.2.4**).

Table 3.2.4
Consumer Financing

	IBIs		Conv. Banks	
	CY15	CY16	CY15	CY16
	PKR Billion			
Total Consumer Finance	67.66	89.73	256.45	272.46
Credit Card	0.29	0.37	24.23	27.80
Auto Financings	40.34	54.68	54.71	71.12
Consumer Durable	0.25	0.24	0.08	0.08
Mortgage Financings	25.01	32.26	18.28	21.21
Other Personal Financings	1.76	2.17	159.16	152.26
	percent (YOY)			
Total Consumer Finance	33.87	32.63	11.23	6.25
Credit Card	27.81	28.76	8.10	14.74
Auto Financings	35.20	35.54	33.33	30.01
Consumer Durable	(4.58)	(2.42)	(8.50)	(2.43)
Mortgage Financings	31.53	28.98	(12.46)	16.05
Other Personal Financings	47.36	23.39	8.91	(4.33)

Source: FSD, SBP

Growth in Investments of IBIs slows down...

The investment portfolio of IBIs, mostly comprising GoP Ijara Sukuk, has grown at a moderate pace of 13.45 percent during CY16

compared with 30.2 percent in CY15 (**Table 3.2.5**). This deceleration in investments is mainly attributed to lack of adequate supply of sukuk instruments by the government coupled with the maturity of Bai Muajjal sukuk transaction of IBIs with the government. This made it quite challenging for IBIs to meet the SLR requirements. To address this issue, SBP has announced reduction of SLR for IBIs from 19 percent to 14 percent in November 2016.¹⁰⁹

Nonetheless, the growth in investments of IBIs in CY16 is higher than the growth of 8.84 percent recorded in similar portfolio of the conventional banks.

Table 3.2.5
Investments

	CY13	CY14	CY15	CY16	Growth
	PKR billion				percent (YoY)
Federal Government Securities	266.7	240.5	307.4	356.5	15.97
Fully paid up ordinary shares	4.3	5.4	12.0	18.8	55.67
Bonds/ PTCs/Sukuk certificates	34.0	45.1	56.7	86.3	52.32
Other investments	90.9	67.3	62.5	34.6	(44.62)
Total Investments	395.9	358.2	438.7	496.2	13.13
Provisions & deficit/ (surplus)	(1.5)	(1.5)	(6.7)	(6.3)	(7.37)
Investments (net)	394.4	356.7	431.9	490.0	13.45

Source: FSD, SBP

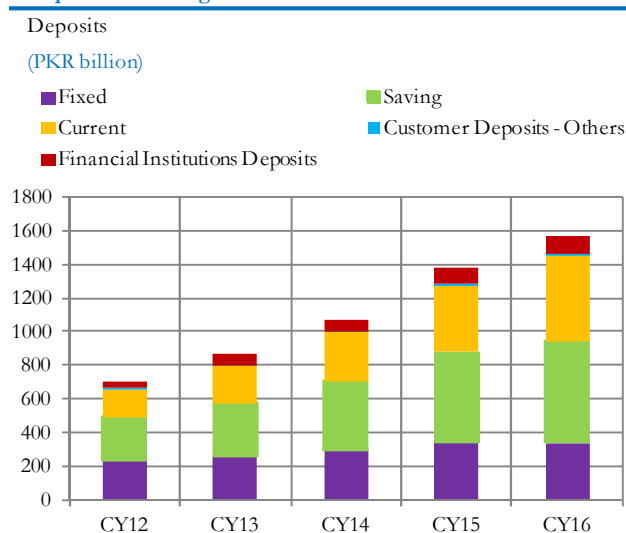
Deposits, the key funding source of IBIs, continue the growth momentum...

Deposits remain the main funding source as IBIs maintain their deposit growth albeit with moderation. Nevertheless, deposit growth of 14.44 percent is still marginally ahead of 13.42 percent growth of deposits of the conventional banks. Moreover, IBIs deposits at current level of PKR 1,573.3 billion constitute 13.34 percent of the banking industry's deposits.

¹⁰⁹ DMMD Circular No.16 of 2016
<http://www.sbp.org.pk/dmmd/2016/C16.htm>

Customer deposits, at 92.96 percent of total deposits, provided the base for the expansion in Islamic banking assets as it grew by 13.97 percent in CY16. Within customer deposits category, Savings and Fixed deposits (generally, Mudaraba based), having a combined share of 59.85 percent, have grown by 7.14 percent. Current deposits (generally, Qard based), having a share of 32.09 percent, have increased by 28.94 percent (Figure 3.2.3).

Figure 3.2.3
Deposits maintain growth momentum



Source: FSD, SBP

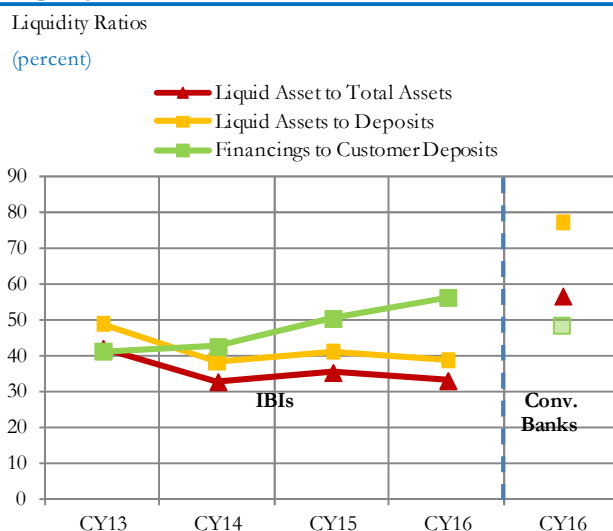
But, fund based liquidity profile of IBIs demand further attention...

The liquidity profile, however, poses a challenge for IBIs. Despite having sufficient resources (deposits), the stock of liquid assets with IBIs is low. Liquid Assets to Total Assets and Liquid Assets to Total Deposits are currently at 32.91 percent and 38.95 percent, respectively, for IBIs compared with 56.49 percent and 77.23 percent for conventional banks (Figure 3.2.4).

This is because lack of approved Shariah compliant instruments induces IBIs to place their surplus funds elsewhere. IBIs have higher balances with

other banks and higher amounts due from financial institutions as compared to their conventional counterparts which have high investments in government securities (Table 3.2.6).

Figure 3.2.4
Liquidity ratios decline



Source: FSD, SBP

Table 3.2.6
Structure of IBIs vs Conventional Banks

	IBIs		Conv. Banks	
	CY15	CY16	CY15	CY16
	Share in Percent			
Cash and Due from treasury Banks	7.25	7.97	6.32	7.42
Balances with other banks	3.91	2.17	1.08	0.92
Due from Financial Institution	16.25	14.35	0.79	2.04
Investments-net	26.83	26.44	51.45	50.22
Financing-net of provision	40.08	44.30	33.28	33.47
Fixed Assets	1.67	1.75	2.26	2.17
Deferred Taxes	0.59	0.53	0.45	0.39
Other Assets	3.42	2.47	4.37	3.37
Total assets	100.00	100.00	100.00	100.00

Source: FSD, SBP

IBIs focus on financing side is also evident from their Financing to Deposit ratio (FDR), which at 52.17 percent, is well above the conventional banks' average ADR of 45.75 percent.

Asset quality has improved ...

On the asset quality front, IBIs have performed fairly well. Infection ratio has registered a decline from 4.90 percent in CY15 to 4.13 percent in CY16. A relatively higher growth of 15.65 percent in financing compared with a slight increase of 5.91 percent in NPF lead to a decline in overall NPFR. This is considerably better than that of conventional banks whose infection ratio is 11.03 percent.

However, the provision coverage ratio of IBIs has declined from 95.63 percent in CY15 to 84.67 percent in CY16. Resultantly, the Net infection ratio has increased from 0.22 percent in CY15 to 0.66 percent in CY16. The ratio for conventional bank is recorded at 1.82 percent, though. Similarly, Net NPAs to capital for IBIs has remained at 5.27 percent against the conventional banks' average of 7.43 percent.

Earnings under pressure ...

IBIs' earnings have, somewhat, tapered off during CY16 as ROA & ROE-before tax have declined to 1.00 percent and 15.45 percent, respectively, in CY16 as compared to 1.20 percent and 18.67 percent in CY15 - lower than the conventional banks' averages currently at 2.10 percent and 23.85 percent. Net profit income, though a major contributor towards the IBIs' earnings, has declined by 2.07 percent over the year primarily due to a fall in spread, which has declined from 5.19 percent in CY15 to 4.19 percent in CY16. Net non-markup income, on the other hand, has increased by 6.14 percent in CY16 (**Figure 3.2.5**).

In a scenario where the benchmark rate for conventional banks is declining in the wake of easy monetary policy, the competitive decline in the mark-up income of IBIs is understandable. Moreover, markup income of IBIs have also come under stress due to limited investment avenues (e.g.

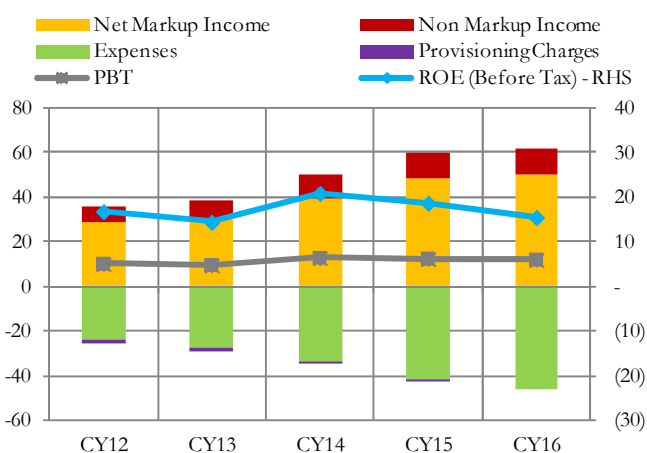
Ijara Sukuks) as compared to conventional banks which have access to ample interest based Government securities (PIBs and T-bills). Nonetheless, an increase in the non-profit income is encouraging as the Islamic banks are exploring other avenues to shore up their overall earnings.

Figure 3.2.5

IBIs earnings moderated

IBIs' Earnings and Expenses

(amount in PKR billion, ratio in percent)



Source: FSD, SBP

As discussed earlier, Islamic banks are expanding outreach through expansion of their branch network. This coupled with increase in the related administrative and operating expenses, including the personnel expenses and investment in IT infrastructure, have increased the total non-markup expenses which in turn has impacted the profits of IBIs. The high capital expenditures and salary expenses are, however, expected to facilitate future income stream of IBIs.

Capital adequacy above the required level...

The CAR of IBs has declined from 13.75 percent in CY15 to 12.94 percent in CY16; though it is still above the required level of 10.65 percent (**Figure 3.2.6**). CAR of IBs is, however, below the conventional banking industry's level of 16.45 percent in CY16. The main reason for relatively

lower CAR is the significant growth of risk-weighted exposure due to increase in financing by IBs, which in a way has improved the utilization of available capital buffer.

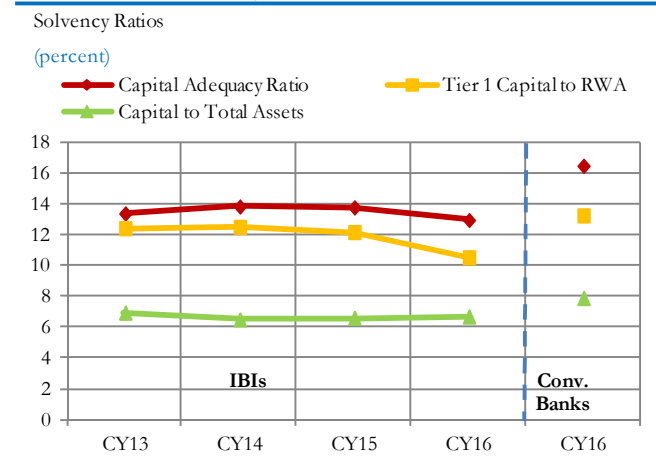
Similarly, the other capital adequacy indicators like Capital to Assets and Total Capital to Total RWA of IBs are also lower than the average of the conventional banks.

Nevertheless, IBs need to strengthen their capital adequacy position in view of evolving regulatory requirements till 2019¹¹⁰ and narrowing profitability which limits plough back of retained earnings to the capital. Moreover, current expansionary focus of IBs also demands more capital cushion.

infrastructure financing, IBIs may also exploit the hugely untapped market of agriculture and SME sectors. A key challenge in this regard is product development and product diversification. In addition, conventional banks offering Islamic banking through IBBs need to capitalize on their huge branch network for booking Islamic banking assets as well.

Promotion of Islamic banking requires concerted efforts from all stakeholders. SBP's strategic plan for Islamic banking industry (2014-18) has already set the tone for the essential pre-requisites for promotion of Islamic banking industry.

Figure 3.2.6
IBIs CAR remained steady



Capital Adequacy Ratio and Tier 1 Capital to RWA ratio are for Islamic Banks only, while Capital to Total Assets include both Islamic Banks and Islamic Banking Branches.

Source: FSD, SBP

Way forward...

The conducive regulatory environment provided by SBP, the positive economic outlook and the CPEC related projects in energy and infrastructure sectors offer significant opportunities to IBIs. Besides

¹¹⁰ BPRD Circular No. 6 of 2013
<http://www.sbp.org.pk/bprd/2013/C6.htm>

3.3 Risks to the Microfinance Banking Sector

Pakistan has been endeavoring to increase financial inclusion in the country and the National Financial Inclusion Strategy has been a milestone in this context. Over the past decade and a half, Microfinance Banks (MFBs) have been playing their part towards enhancing financial inclusion. The sector has flourished well in recent times; though asset quality has somewhat worsened. Profitability has been high and deposit base has been growing at a significant pace. Most of the credit is extended to enterprises, agriculture and livestock with majority of the customers belonging to the under-served rural areas. The penetration has been limited though, as the client base stands at 1.9 million in a country of around 126 million adults; pointing to huge potential ahead. Encouragingly, women comprise around one-fourth of the clientele. Future of MFBs seems bright though careful supervision is required especially in the area of branchless banking.

SBP has been taking a number of steps and initiatives to increase the outreach of financial services to a wider range of populace. In fact, the goal of Financial Inclusion has been accorded strategic importance and is an integral part of SBP's Strategic Plan 2016-2020. Under this plan, SBP is aiming to implement the National Financial Inclusion Strategy (NFIS) and promote alternative channels for delivery of financial services.

Table 3.3.1

Access Strand in Pakistan

Percent of adult population	A2FS 2008	A2FS 2015
A. Bank Accounts	11	16
B. Other formal	1	7
Formally served (A+B)	12	23
C. Informally served	32	24
Financially served (A+B+C)	44	47
Financially excluded	56	53

Source: Access to Finance Survey (A2FS) 2008 and 2016, SBP

The reason for focusing on financial inclusion is that despite considerable growth of the banking sector in recent times, the overall financial inclusion in the country remains on the lower side. Access to Finance Survey (A2FS) 2015 indicates that access to formal financial services has increased from 12 percent of the adult population in CY08 to 23 percent in CY15. The adult population with a bank

account has increased from 11 percent in CY08 to 16 percent in CY15. Particularly, women's access to financial services has expanded considerably, as 11 percent now have access to a bank account, compared with merely 4 percent in CY08 (**Table 3.3.1**).

Microfinance banks better placed to cater to financial inclusion...

MFBs in Pakistan present immense opportunities for increasing financial inclusion. Although their asset base stands at just 1.08 percent of the total assets of the banking sector as of end CY16, MFBs, because of their alternative lending technology, outreach in remote areas and their clientele at lower end of income distribution, are better positioned to serve the purpose.

Given the fact that more than half of the population of Pakistan lives in rural areas, access to financial services through conventional banks is difficult for them. MFBs, on the other hand, with their focus on rural areas could provide the solution. MFBs, generally, offer small loans with minimal paper work, which is better suited to meet the needs of an underserved population.

Unlike commercial banks, one of the strengths of microfinance banks is the "Group lending (GL)" technology. The GL consists of the attribution of a

loan to each person within the group. However, the loans are not renewed to anyone in the group even if one borrower defaults. Consequently, through social pressure, the GL gives individuals incentives to be financially disciplined and to repay their loans¹¹¹.

MFBs have shown prolific growth over the last few years...

Microfinance banking in Pakistan dates back to CY00, when the first MFB was incorporated. By CY08, the number of MFBs increased to six; and currently there are eleven MFBs operating in Pakistan (Table 3.3.2).

Table 3.3.2
Number and Major Financial Soundness Indicators of MFBs

	CY12	CY13	CY14	CY15	CY16
Number of MFBs	10	10	10	10	11
	Percent				
CAR	47.48	43.11	37.57	28.95	23.38
NPLs to Advances	1.04	1.02	1.16	1.32	1.57
Net NPLs to Net Advances	(0.68)	0.11	0.13	0.16	(0.56)
ROA (After Tax)	(0.03)	1.20	2.12	4.75	4.72
ROE (After Tax)	(0.14)	5.28	9.76	23.41	27.77
Cost / Income Ratio	86.95	83.68	81.20	77.32	73.28
Liquid Assets to Short-term Liabilities	87.98	70.93	70.58	59.37	66.45
Advances to Deposits	85.00	83.60	85.43	86.73	73.04

Source: SBP

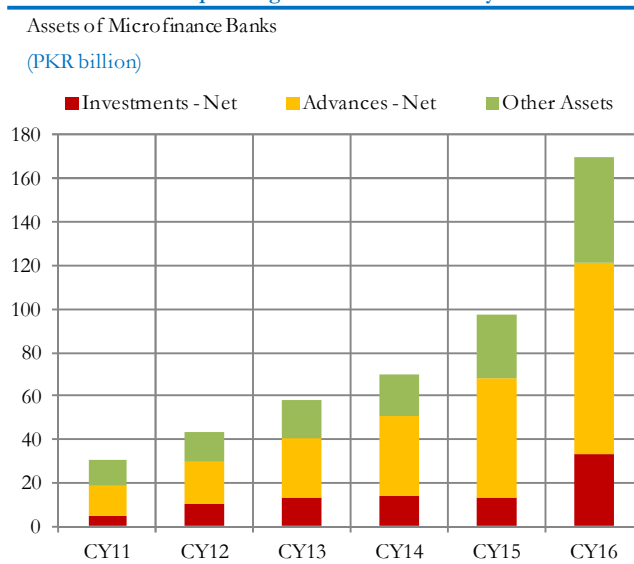
Financial health of the MFBs has been encouraging despite tremendous growth. Over the period of last four years, total assets of the industry have expanded nearly four times. During CY16 alone, the industry has expanded by 74.65 percent. More than half of the assets of MFBs are loans and advances while share of investments stands at 19.64 percent. The government's focus on achieving the goals of

¹¹¹ Ugur, Z. (2006). Commercial Banks and Microfinance. CUREJ - College Undergraduate Research Electronic Journal. Retrieved from <http://repository.upenn.edu/cgi/viewcontent.cgi?article=1042&context=curej>

the NFIS is partly responsible for the prolific growth of MFBs during CY16.

It is noteworthy that a substantial amount of assets of MFBs are parked as interbank balances, which is mainly for meeting the liquidity requirements since MFBs are not entitled to the SBP's discount window facility (Figure 3.3.1). Currently, MFBs are catering the credit needs of around 1.9 million people, mostly in the remote areas.

Figure 3.3.1
MFBs have shown prolific growth over the last few years



Source: SBP

Asset quality shows some signs of worsening...

Gross loans of MFBs have increased by more than four folds over the past four years with around 60 percent growth during CY16 alone. At the same time, the volume of NPLs has also increased from PKR 208.5 million as of end CY12 to PKR 1.4 billion as of end CY16. Portfolio at Risk for greater than 30 days (PAR30), which is a popular measure of asset quality specifically for MFBs, also stands at the same level as the NPLs.¹¹² Consequently, both

¹¹² Portfolio at Risk (PAR) is defined as the outstanding balance of all loans with arrears over 30 days, plus all refinanced (restructured) loans (Damian von Stauffenberg, 2003), while NPLs are defined as the

infection ratio and PAR30 to gross loans ratio has risen to 1.57 percent as of end CY16 from 1.04 percent as of end CY12.

The credit riskiness of MFBs is amplified by the fact that a sizeable proportion of 87.13 percent of the advances is non-collateralized. However, higher rate of return and GL somewhat dilute this risk.

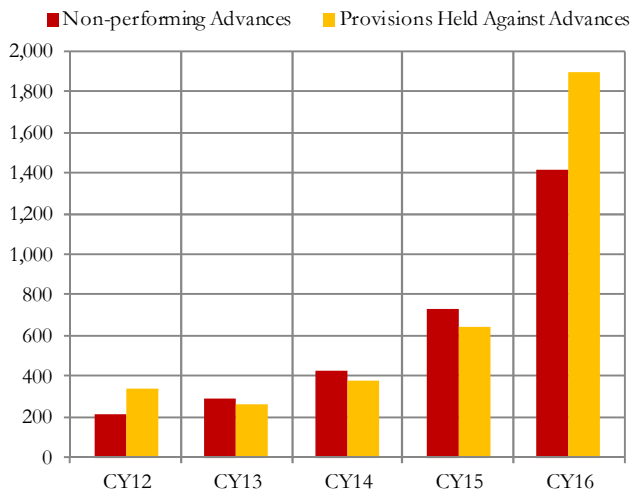
Generally, expansion of operations and growth in loan portfolio are accompanied by a rise in NPLs. However, MFBs need to exercise caution by reviewing and tightening/strengthening credit standards as the absolute amount of NPLs has nearly doubled over the course of CY16 alone.

Figure 3.3.2

Provisions held by MFBs are well above the level of NPLs

NPLs and Provisions of MFBs

(PKR million)



Source: SBP

...while provisions held by MFBs are well above the level of NPLs

Although NPLs are rising, infection is being adequately covered. The provisioning coverage ratio of the MFBs has reached 134.57 percent as of end

outstanding principal and mark-up of the loans and advances, payments against which are overdue for 30 days or more as per Prudential Regulations for Microfinance Banks (R-8): <http://www.sbp.org.pk/acd/2014/C3-Annex.pdf>

CY16. Given the rise in NPLs, the industry booked PKR 1.2 billion of provisions during the year under review (**Figure 3.3.2**). Hence, MFBs have already taken the impact of the classified loans on their books.

Rural areas remain key beneficiary of microfinance...

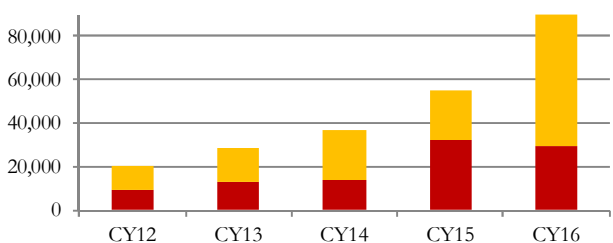
Encouragingly, during the year under review, there has been a remarkable increase in loans provided to the rural areas of the country (**Figure 3.3.3**). Both the amount and the number of rural loans have more than doubled during CY16. Moreover, this rise has been spread across the major segments of the industry (**Figure 3.3.4**).

Figure 3.3.3

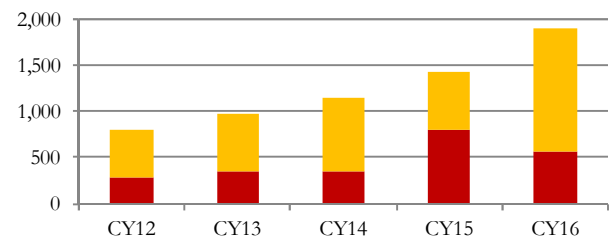
Both amount and number of rural loans have risen during CY16

Urban and Rural Loans of MFBs - amount and number

(Amount in PKR million)



(Number in thousands)



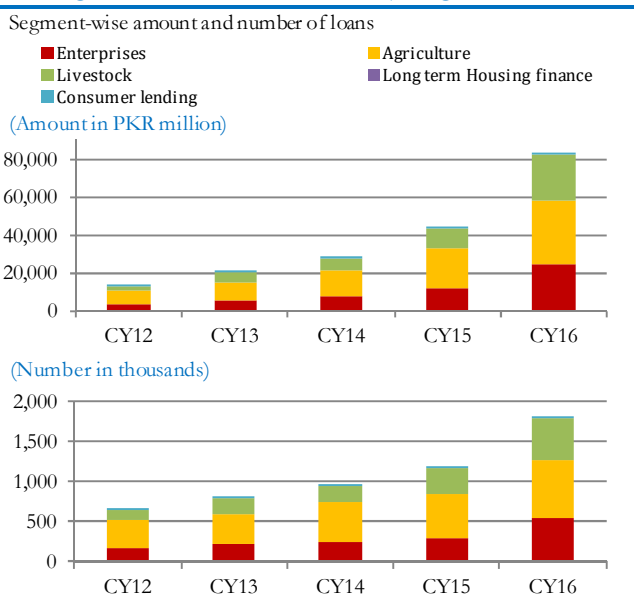
Source: SBP

...with loans mainly extended for Agriculture and Livestock

Understandably, as the MFBs are catering more to the rural customers, the exposure in Agriculture and Livestock loans dominates. As of end CY16, more than 60 percent loans are disbursed in these two segments as most of the rural population is associated with these two businesses.

With the introduction of Crop Loans Insurance Scheme, the risks associated with natural calamities like floods and droughts have been hedged to a greater extent. In contrast, housing and consumer finance continue to remain lower priority as MFBs have shown minimal interest in these areas (Figure 3.3.4). Given the level of outreach of MFBs compared with their conventional counterparts, there is a sizeable potential in both categories of lending in rural areas that can be tapped.

Figure 3.3.4
Lending remains concentrated in three major segments



Source: SBP

NPLs in Enterprise sector have increased...

Despite having only 26.94 percent share in total advances, enterprise¹¹³ sector has almost half of the NPLs of the industry. As such, infection ratio of the sector stands at 2.96 percent, which is higher than industry's average of 1.57 percent.

¹¹³ Enterprise means loans extended to "Microenterprises" defined as projects or businesses in trading, manufacturing, services, or agriculture that lead to livelihood improvement and income generation. Moreover, these projects/businesses are undertaken by micro entrepreneurs who are either self-employed or employ few individuals not exceeding 10 (excluding seasonal labor). For further details, please see Prudential Regulations for Microfinance Banks: <http://www.sbp.org.pk/acd/2014/C3-Annex.pdf>

Funding risks are minimal since the deposit base of MFBs has continued to expand...

Advances to deposit ratio has dropped to 73.04 percent as of end CY16 from 85 percent four years ago. This is primarily due to more than five folds increase in deposit base over the past four years, increasing by 90.43 percent in CY16 alone. Moreover, 50.81 percent of the deposits are fixed-term deposits while the remaining are CASA deposits. This exponential growth in deposits has been supported by increasing use of branchless banking in addition to healthy growth in lending activity.

Concentration in deposits has, however, increased over the last four years. Contribution of top 10 depositors in total deposit base has increased to 25 percent which was 16 percent four years ago.

Due to prolific growth over the past four years, the key liquidity ratios have come down significantly, though they are still at comfortable levels: liquid assets to total deposits, liquid assets to short term liabilities, and liquid asset to total assets ratios have all declined from 75.42 percent in CY15 to 45.99 percent in CY16, 87.98 percent to 66.45 percent and 40.03 percent to 32.46 percent, respectively.

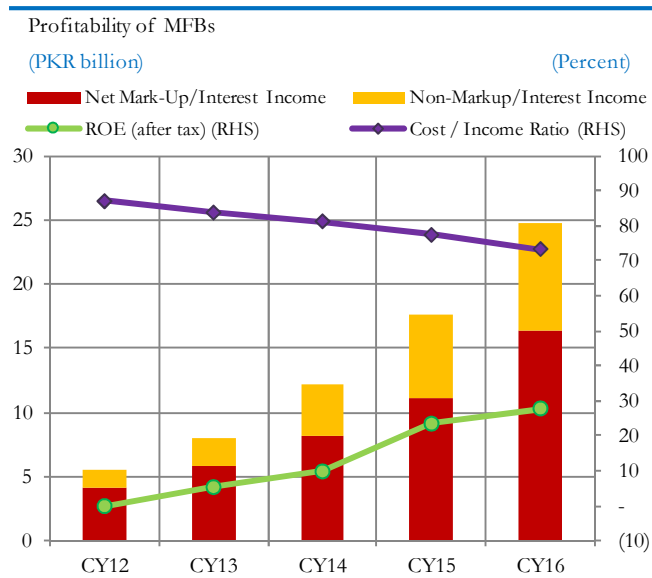
...nevertheless, liquidity management can be a tricky business for MFBs

Since MFBs cannot avail SBP discount window facility, managing liquidity can be a challenge. As mentioned before, in order to efficiently manage liquidity, 12.34 percent of assets of MFBs constitute interbank balances and another 12.69 percent are invested in MTBs. One of the major challenges for the MFBs lies in finding the 'right' amount of funds to be placed in liquid assets without hindering extension of credit.

Profitability of MFBs has been rising

The profitability of MFBs has risen by 28.43 percent during CY16. Around two-third of the income has come from interest based products. Consequently, the profitability indicators have been improving. For instance, ROE (after tax) has surged to 27.77 percent as of end CY16 from negative 0.14 percent as of end CY12 (**Figure 3.3.5**).

Figure 3.3.5
Profits of MFBs continue to rise



Source: SBP

While administrative costs remain high...

The level and depth of outreach and expansion of asset base by MFBs entails substantial costs since microfinance services involve frequent face to face interaction between banks' staff and the target clients. Resultantly, a point of concern for MFBs is the higher cost to income ratio. The ratio, though has dipped by 13.67 pps from its level in CY12, yet still stands at 73.28 percent in CY16.

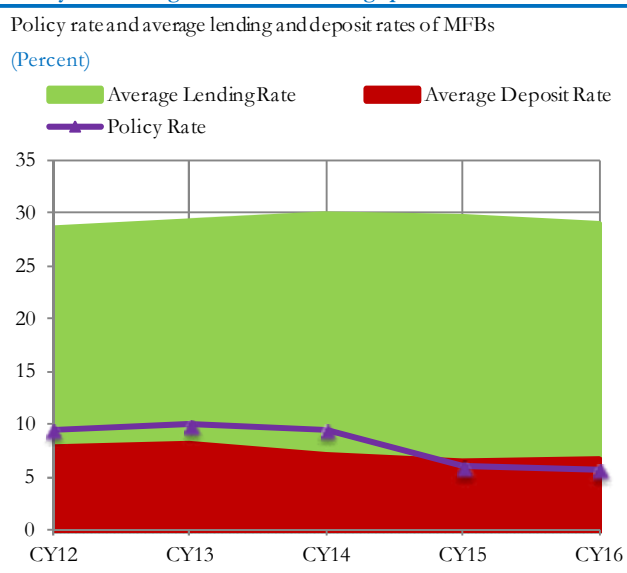
Given the significant growth pattern of the MFBs, such higher expenses are understandable. Recently, MFBs have tried to reduce the prices of their

lending products; nevertheless, their administrative costs have either risen or remain unchanged.

...that lead to relatively higher lending spreads

SBP has reduced the policy rate by more than 4 pps during the last three years. Ideally, this decline should impact the average lending and deposit rates of MFBs. However, the aforementioned higher administrative costs mean that MFBs have to maintain a certain lending spread in order to stay profitable. Therefore, despite some dip in the average deposit rate, there has not been a pronounced reduction in average lending rates of MFBs. As a result, lending spread of MFBs has remained steady over the last few years (**Figure 3.3.6**).

Figure 3.3.6
Policy rate has negligible effect on lending spread of MFBs



Source: SBP

Increasing lending portfolio has improved capital utilization

Lending portfolio has substantially increased over the past four years due to which Risk Weighted Assets have also shown considerable growth. This has pushed the CAR down to 23.38 percent in CY16 from 47.48 percent in CY12. CAR is,

however, still higher than the minimum requirement of 15 percent. Nevertheless, if MFBs continue to follow the present growth pattern of their lending activity, the strengthening of the capital base may be needed either through plough back of profits or fresh capital injection.

Inclusion of third parties in branchless banking may raise issues related to operational risk

Core Banking Systems and branchless banking systems are using different platforms; their untimely integration may raise reconciliation issues. In case of branchless banking, super agents in the form of telecom companies are involved that may lead to financial information leakage and confidentiality risks. These risks have become all the more important since three MFBs are now subsidiaries of telecom companies. Moreover, retailers involved in OTC branchless banking transactions may split large transactions which raise money laundering concerns. Cognizant of their importance, Prudential Regulations for MFBs comprehensively address these risks vide “Section M: Money Laundering, Terrorist Financing and other Unlawful Activities” and “Annexure F: Guidelines on Internal Control and Risk Management”.¹¹⁴

Though increasing, the outreach of MFBs is below potential...

Although number of people benefiting from the MFBs has risen to 1.9 million as of end CY16 from 0.8 million four years ago, penetration is still low when compared with the total adult population of the country (around 126 million).¹¹⁵ As per the Pakistan Microfinance Network, the potential

microfinance market is 20.5 million¹¹⁶, which means that less than 10 percent of this market has been covered by MFBs.

Gender-wise, though women comprise a significant 26 percent of this headcount, the share has been hovering around this mark since CY12. Moreover, the share of outstanding amount of loans to women customers is even lower, sticking around 18 percent since CY12.

Although MFBs have grown significantly in recent times, further growth of the sector would facilitate access to finance, reduce poverty and also help existing small businesses to grow and foster employment. As mentioned before, NFIS will continue to facilitate growth in microfinance since it aims at bringing attention of GoP, regulators, and private sector to the microfinance sector. Moreover, with women accounting for a significant portion of the client base, MFBs are promoting gender equality and women’s empowerment and can help reach the NFIS target of 25 percent of women having formal accounts.

¹¹⁴ Prudential Regulations for Microfinance Banks: <http://www.sbp.org.pk/acd/2014/C3-Annex.pdf>

¹¹⁵ Pakistan economic Survey 2015-16 - http://www.finance.gov.pk/survey/chapters_16/12_Population.pdf

¹¹⁶ Pakistan Microfinance Network - <http://www.microfinanceconnect.info/assets/articles/d34305e0accfd13f591fa0ddf120445e.pdf>

3.4 Risks to the Development Finance Institutions

Operations of the DFIs are far from an ideal business model which should foster economic growth in emerging economies by promoting private investments. Most of the sector's asset base remains parked in government securities with only 37 percent lent to the private sector. This cautious activity profile translates into a strong solvency position and impressive financial soundness indicators (FSIs). However, in CY16, given relatively lesser government borrowings, credit to private sector has expanded with the advances posting a 21 percent increase. This is suggestive of increasing risks on the sector balance sheet. Accordingly, CRWAs have posted an increase of 19 percent. Further, increase in Repo lending by a factor of 11 is suggestive of increasing inter-connectedness within the financial sector.

Development Finance Institutions (DFIs) play a fundamental role in emerging markets as they aim to invest in sustainable and profitable businesses either directly (investments in private sector companies or provide lending), or through financial intermediaries. Being funded by bilateral and multilateral sovereigns, they can catalyze higher risk private sector investments while remaining financially viable in the long run. Such sought-after development-oriented activities of DFIs have rather been slack in the past in the country. But this may be changing with the improving macroeconomic conditions.

Table 3.4.1
Key Variables and Financial Soundness Indicators of DFIs

	CY12	CY13	CY14	CY15	CY16
	PKR billion				
Investments	79.1	79.5	108.3	115.3	108.9
Advances	46.0	45.3	48.6	56.8	68.6
Total Assets	140.4	149.1	176.1	190.5	208.8
Borrowings	58.2	67.3	74.4	86.5	98.4
Deposits	13.5	8.9	15.0	12.0	10.9
Equity	59.6	62.6	76.4	79.3	82.2
NPLs	18.2	17.1	15.1	15.0	13.9
	Percent				
CAR	54.82	51.42	44.85	43.62	40.78
NPLs to Advances	31.80	30.04	25.27	21.98	17.48
Net NPLs to Net Advances	14.68	12.25	7.93	6.21	4.51
ROA (After Tax)	(0.17)	8.77	4.48	3.36	3.56
ROE (After Tax)	(0.42)	7.49	10.64	7.92	8.66
Cost to Income Ratio	42.06	40.85	30.96	32.59	38.78
Liquid Assets to Short-term Liabilities	81.31	84.77	84.80	86.31	90.23
Advances to Deposits	340.40	505.90	323.92	471.61	627.65

Source: SBP

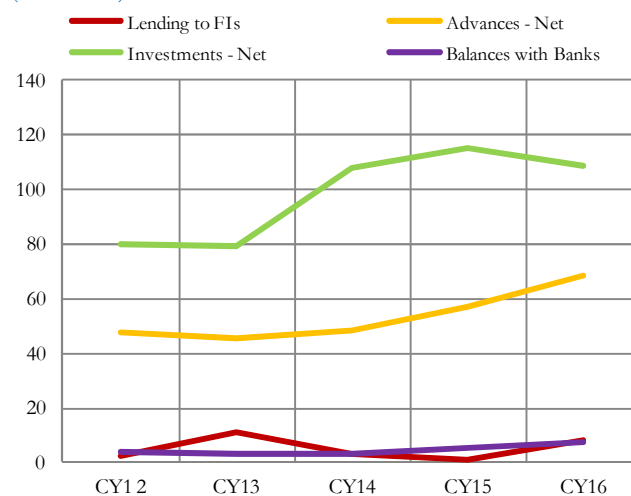
Strong growth in advances provided boost to assets base

The asset base of the DFIs has expanded by 9.6 percent in CY16; mainly driven by growth in advances. Investments, as compared to advances, still holds roughly one half of the balance sheet of DFIs, however, its growth has receded in CY16 (Table 3.4.1 & Figure 3.4.1).

Figure 3.4.1
Investments occupied significant share in Total Assets

Composition of earning assets

(PKR billion)

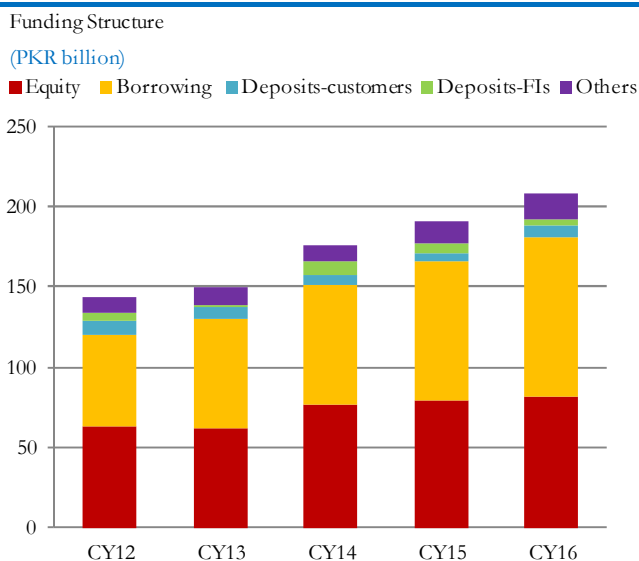


Source: FSD, SBP

Funding structure has remained heavily reliant on costly borrowings

Unlike banks, which rely on deposits as the main funding source, DFIs has remained reliant on equity and borrowings which jointly fund 86 percent of the assets of DFIs (**Figure 3.4.2**). Equity usually has remained the mainstay of the funding structure of DFIs; however, borrowing has seen a substantial jump, particularly clean borrowing, which has almost doubled in CY16.

Figure 3.4.2
Borrowing remained the main funding source

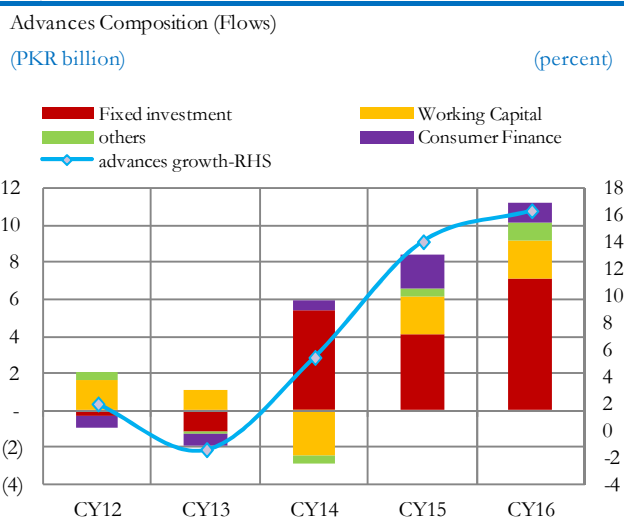


Source: FSD,SBP

This phenomenon of clean borrowing is quite in contrast to previous behavior of DFIs which are very active in secured borrowing market. This trend indicates strong money market activity by DFIs which is further substantiated by their active involvement in Repo lending to FIs in CY16 which is 11 times higher than previous year. The active role of DFIs in money market is indicative of their strategy to borrow short and lend long and earn the yield spread. However, such a strategy is very risky because any adverse movement in yield curve may lead to severe losses for DFIs.

Deposit¹¹⁷ base of DFIs, largely comprising of Certificates of Investments (COIs) and financial institutions deposits, on the other hand, has declined in CY16. However, within deposits, customers deposits have picked up pace and have grown by 40 percent which can provide strong base for further expansion in DFIs' advances portfolio. Apparently, this deposit growth is result of accommodative regulatory policy which has allowed DFIs to issue COI of shorter tenors (one month and above).¹¹⁸

Figure 3.4.3
Major share of funds flew to Fixed Investments



Source: FSD,SBP

Advances have grown both for working capital and fixed capital formation

In CY16, advances (gross) have increased by a notable 16.3 percent over the last year, higher in comparison to growth of 12.8 percent in the banking sector. The main contributing factor in advances' growth during the year can be traced to a remarkable 17.9 percent growth in corporate sector lending for both working capital needs and fixed

¹¹⁷ DFIs as per their mandate cannot raise checking deposits (CASA deposits).

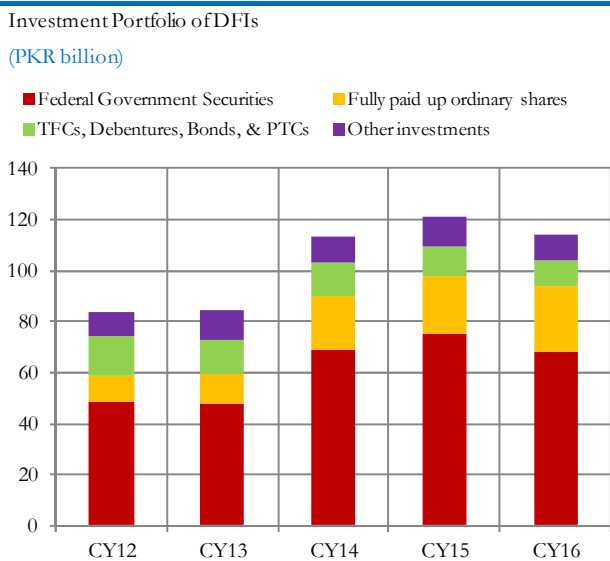
¹¹⁸ BPRD circular No. 2 of 2015

capital formation mainly in textile and electronics. Private sector lending has increased as the macro economic conditions have improved. An analysis of advances' flow shows same pattern of growth in fixed loans as observed in the banking sector (Figure 3.4.3).

Investment composition skewed towards government securities...

Contrary to their defined roles as development finance institutions, the business model followed by DFIs is more of investment banking. Their balance sheet composition comprises on average 50 percent of investment book. Investment composition is skewed towards government securities (60 percent share) followed by equity instruments and TFCs.

Figure 3.4.4
Investment composition skewed towards Government Securities



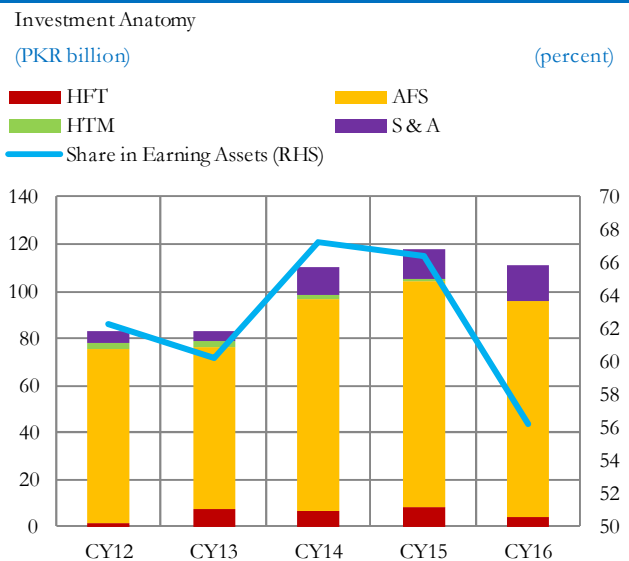
Source: FSD,SBP

Investments, despite a decline in their share by 135 bps, occupy 56 percent share in earning assets of the DFIs. Despite 10 percent additional exposure to stock market, investments have observed a dip of 5.5 percent largely on the back of 39 percent contraction in PIBs portfolio (Figure 3.4.4). This declining investment portfolio can have a strong

bearing on the earnings performance of DFIs (both in terms of interest income and revaluation gains) in the long run.

Liquidity preference is also dominant in classification of investment portfolio by DFIs. In order to manage their liquidity and gain benefit from interest rate movements, DFIs have kept their investment strategy flexible by parking major chunk of their investments under AFS category (Figure 3.4.5). DFIs hold 83 percent of their investment portfolio, largely comprising of T-bills and PIBs, under AFS category.

Figure 3.4.5
Major chunk of investments parked under AFS category



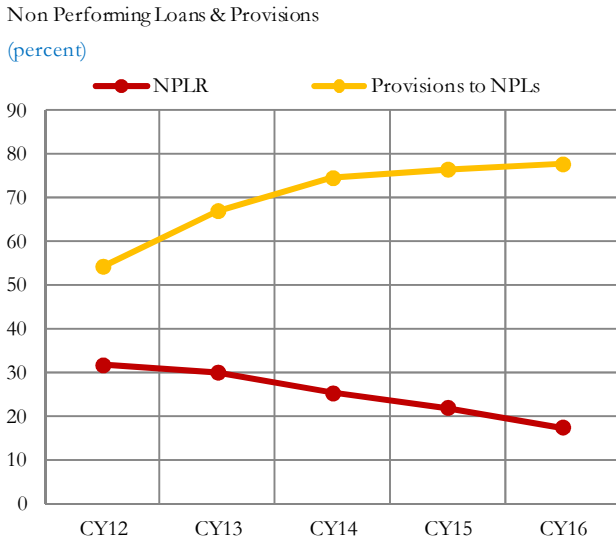
Source: FSD,SBP

Assets quality of the DFIs shows improvement...

The infection ratio of DFIs has dipped due to decline in NPLs stock and relatively higher growth in advances, leading to improved asset quality (Figure 3.4.6). Among DFIs, trend of NPLs decline is mixed. However, most of the NPLs have been parked under loss category with provision coverage ratio of 77.69 percent demonstrating improved resilience of the sector. With growing advances portfolio, DFIs need to be vigilant to arrest the flow

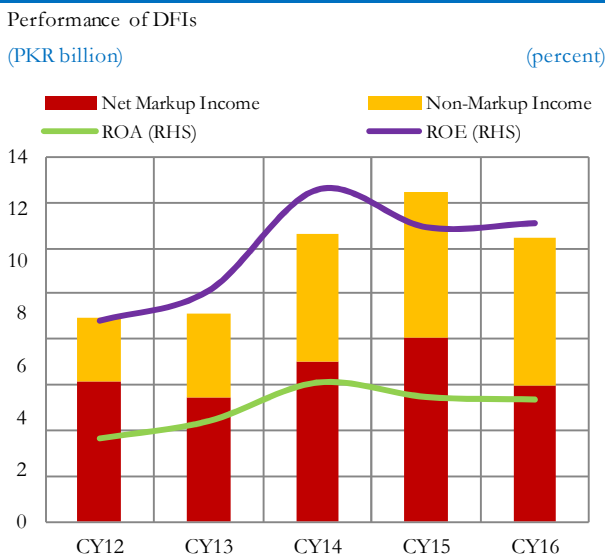
of fresh NPLs in the system to maintain a healthy growth momentum.

Figure 3.4.6
NPLR showing a downward trend



Source: FSD,SBP

Figure 3.4.7
Return indicators remained in comfortable zone



Source: FSD,SBP

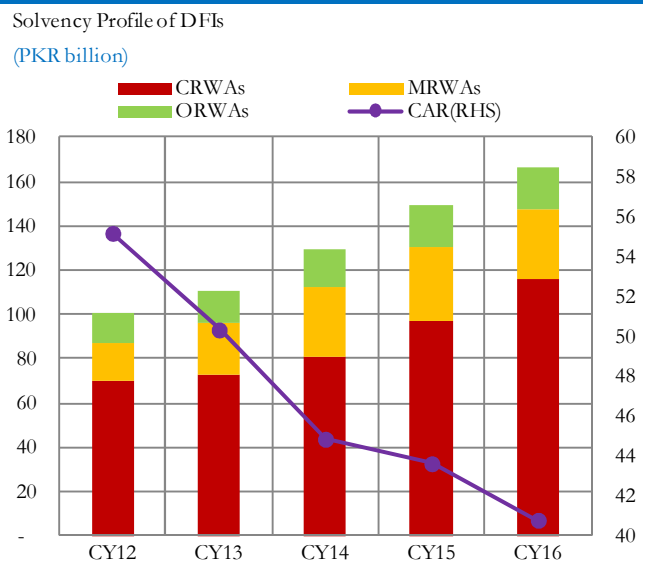
Operating performance improved...

In comparison with the banking sector, operating performance of DFIs has been strong during CY16.

The sector has posted pretax profit of PKR 9.2 billion, 4.9 percent higher over the last year.

In contrast to revenue from investments in previous years, advances portfolio has provided boost to profitability of DFIs in CY16. This has further been complemented by provision reversals and increase in non-mark up income. Nevertheless, ROA has marginally dipped due to higher growth in average assets compared to rise in profits (**Figure 3.4.7**), while ROE has improved due to relatively slower growth in average equity levels.

Figure 3.4.8
CRWAs inched up



Source: FSD,SBP

CAR is declining but significantly higher than regulatory benchmark CAR...

The DFIs have maintained strong solvency profile over the years due to risk averse behavior. However, this trend has reversed in CY16 as evident from growth in credit risk weighted assets on the back of growth in advances. Eligible total capital has increased as well but proportionately lesser than the increase in RWAs, pulling the CAR downwards (**Figure 3.4.8**). Nevertheless, the overall CAR of the industry at 40.8 percent is well above the regulatory

requirement evidencing strong solvency of the sector.

Growth prospects for DFIs seem bright, though prudence will be the key

DFIs financing activities have remained subdued when it comes to their real objective of development finance. They have been functioning more as an investment house by parking major portion of their assets in government securities. However, with ample cushion on their balance sheet and better demand prospects, it is appropriate time for DFIs to focus on lending. They may exploit long term financing projects in line with the developments on CPEC by joining hands in consortium type mode of financing. Nevertheless, the inherent riskiness of financing demands prudent approach, going forward.

3.5 Risks to the Non-Banking Financial Institutions

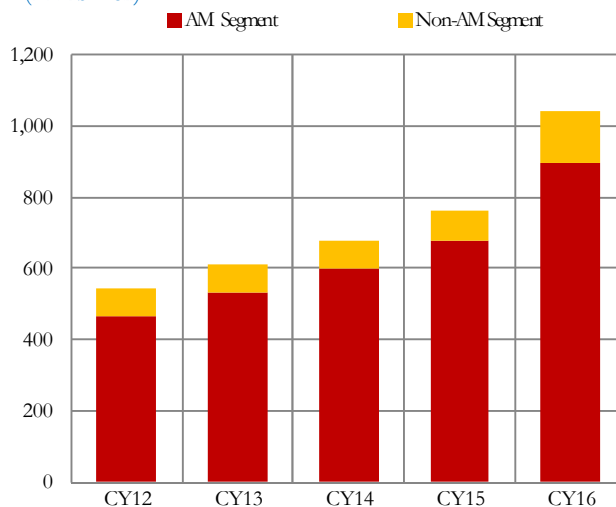
The country's non-bank sector is evolving, both in terms of structural complexity and size, supported by an adequate regulatory framework to safeguard against risks to the stability of the financial system. Within the sector, increasing share of equity funds is spurring growth as the stock market continues to offer significantly higher returns to investors. Rapid expansion of the discretionary/non-discretionary portfolio signals active wealth management intent of private investors who may in their "search for yield" also turn to the stock market. Inclusion of Non-Bank Microfinance Companies' (NBMFCs) segment within SECP's domain last year has resulted in increasing the sector's asset base to over a trillion rupees. The significance of the sector's activities in the country's financial landscape is growing; realization of its full potential, though, depends upon both the demand factors (such as, financial literacy, investor confidence, technology adoption etc.) as well as the supply aspects (such as, product diversification, ease of access, taxation etc.). Moreover, operationalization of recently licensed big-ticket businesses i.e. three REIT Management Companies (RMCs) and two Private Equity and Venture Capital firms and documentation of resources and activities of NBMFCs could provide added boost.

The NBFIs¹¹⁹ sector constitutes a diverse set of financial intermediaries; some offering predominantly market based products (Asset Management activities¹²⁰-AM) while others involved in traditional financing products for businesses and individuals (Non-Asset Management activities¹²¹-Non-AM). The non-bank players with an asset base of 6.59 percent of that of the banking sector assets in CY16 have improved their comparative position from 5.38 percent in CY15. The NBFIs posted a 37.05 percent increase in the asset base during the

year backed by growth in both AM and Non-AM activities (**Table 3.5.1**).

Figure 3.5.1
Sector Composition

Asset Management activities dominate the non-banking financial sector (PKR billion)



Source: SECP

AM activities have long dominated and driven the growth of the non-bank financial sector in Pakistan with an average share of 87.22 percent in total NBFIs assets over the last five years (**Figure 3.5.1**). Internationally, such growth has been synonymous to the shifting of the function of financial

¹¹⁹ NBFIs for our analysis purpose include NBFCs, REITs and Modaraba Companies. As per section 282A of Companies Ordinance, 1984, Non-banking finance companies (NBFCs) include companies licensed by the Commission to carry out any one or more of the following forms of business, namely Investment Finance Services, Leasing, Housing Finance Services, Venture Capital Investment, Discounting Services, Investment Advisory Services, Asset Management Services and any other form of business which the Federal Government may by notification in the official Gazette specify from time to time. Non-Bank Microfinance Companies are also included in NBFCs.

¹²⁰ Asset Management activities include: Asset Management Companies (AMCs), Investment Advisors (IAs), Real Estate Investment Trusts (REITs), Mutual / Pension Funds, discretionary / non-discretionary portfolio (Discretionary Portfolio is a portfolio wherein investment decisions rest with the Investment Advisor on behalf of its client. Under a Non-Discretionary Portfolio, investment decisions are made as per the written instructions of the clients.)

¹²¹ Non-Asset Management activities include: Leasing, Modarabas, IFCs and NBMFCs

intermediation towards less/unregulated space but this has not been the case for Pakistan. The sector has adequate regulatory framework, developed and implemented by SECP that addresses structural vulnerabilities associated with asset management activities making the growth desirable as a diversified source of credit supply and as a support to financial inclusion and real economic activity.

Contrasting the trend, the Non-AM segment -driven by the inclusion of NBMFCs- registered growth of 73.46 percent outpacing the 32.46 percent growth of the AM segment in CY16. Inclusion of the PKR 50 billion NBMFC segment made the non-bank sector hold an asset base of PKR 1.04 trillion¹²² in CY16 (Table 3.5.1).

Table 3.5.1

Asset Profile of NBFIs

	CY12	CY13	CY14	CY15	CY16
	PKR billion				
Asset Management (AM) Segment					
AMCs/IAs	42.7	42.2	31.0	31.3	39.0
Mutual Funds	367.4	417.8	477.6	495.5	653.6
Pension Funds	3.5	6.0	10.4	15.7	22.9
Portfolios	50.6	66.9	81.8	108.8	139.8
REITS	-	-	-	24.5	39.8
Non-Asset Management (Non-AM) Segment					
Leasing companies	33.4	35.0	38.3	41.6	44.1
Modarabas	29.8	30.7	30.2	33.7	40.6
Investment Finance Companies	13.9	11.3	10.7	9.9	12.8
Non-bank Micro Finance Companies	-	-	-	-	50.2
Total Assets	541.2	610.0	680.2	760.9	1,042.8

Source: SECP

¹²² The asset figure excludes one public sector IFC with a PKR 60 billion paid-up-capital. The IFC was licensed in 2007 but is not yet operational. SECP has started reflecting the capital of the entity in NBFi assets from CY16.

Despite the growth and wide regulatory scope which allows creation of more complex structures¹²³, the NBFi sector is constrained by simpler business models. Even with its tremendous growth of 92.68 percent registered from CY12 to CY16, the share of the sector still remains small at 4.84 percent of the total financial system and represents only 3.52 percent¹²⁴ of GDP.

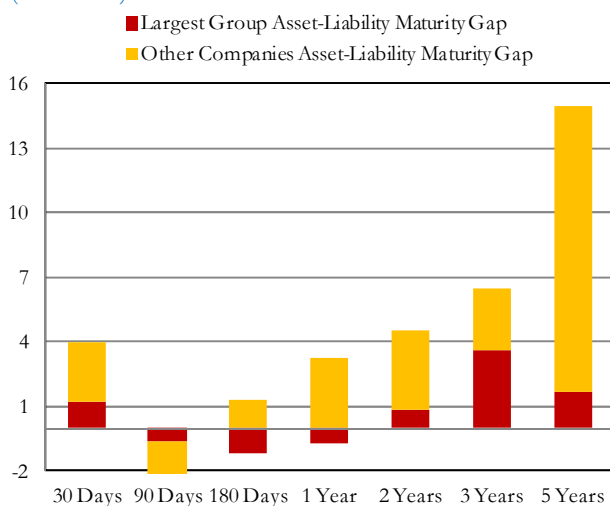
Liquidity risk remains paramount for NBFIs amid concentration risk

A few relatively larger institutions are dominant in the non-AM. Further, AM segment is characterized by absence of relatively riskier business models which implies lower market depth. This is evident from the fact that Hedge Funds are non-existent, two Private Equity and Venture Capital Entities have been licensed in CY16, and among the licensed REIT Management Companies only one has a product offering.

Figure 3.5.2

Maturity Mismatch of the Single Group in Non-AM segment

Risks from maturity mismatches in the nearest maturity bucket (PKR billion)



Source: SECP

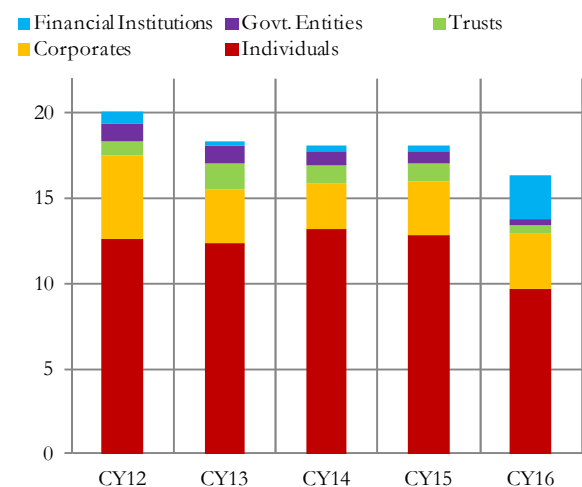
¹²³ Private Equity and Venture Capital, Hedge Funds, Discount Houses, House Finance Services.

¹²⁴ See Overview of FSR 2016

Concentration in large groups may be risky for the NBFI sector which lacks contingency liquidity support in the form of the “Lender of Last Resort”; a fall-back cushion in times of stress. Also, maturity mismatches in assets/liabilities of these large institutions may create stress in the segment (**Figure 3.5.2**). Currently, larger groups are financially strong and have adequate credit lines to provide safeguard against liquidity stress. However going forward, more companies and business models should be incentivized to open up in this segment to dilute the risks from concentration. Inclusion of the non-bank microfinance category may diversify away concentration of the segment’s activities in leasing business.

Figure 3.5.3
Individuals dominate Deposits

Deposits composition of Leasing companies, Modarabas and IFCs only (PKR billion)



Source: SECP

The NBFI sector has been successful in mobilizing PKR 16 billion in deposits in CY16 held by 5 IFCs, 3 leasing Companies and 6 Modarabas. About 59 percent of these deposits belong to individuals (**Figure 3.5.3**). The lack of deposit protection mechanism in case of failure of any of these institutions may pose systemic risk for deposit raising NBFs. As discussed in Box A, Deposit

Protection Corporation (DPC) Act, 2016 provides for coverage of deposit banking companies and member financial institutions.¹²⁵ Once operationalized, DPC may facilitate in resolution and deposit protection of financial institutions in addition to banking companies.

...minimal stake of the AMC's in the funds and prudential limits dampen structural vulnerabilities associated with the AMC structure.....

Traditionally, capital buffers are taken to be the primary fall-back cushion for entities in times of distress. But unlike banks which act as principals using their balance sheet in their transactions with the clients, asset management activity is merely an agency function. This feature may be stabilizing because the distress of the AMC does not extend to the distress for the funds. However, it may drive excessive risk-taking on part of the fund managers as they strive to increase the assets under management for increasing their asset management fee.

As of end December-2016, the 22 AMC's/IA's¹²⁶ have investment funds of PKR 816.25 billion (Mutual funds, Pension funds and discretionary/non-discretionary portfolio) under management with their own balance sheet footing that is only 4.8 percent of the fund assets (PKR 39 billion as of December-2016). The AMC's/IA's' stake in the total Assets under Management (AUMs) is only 3 percent (**Figure 3.5.4**).

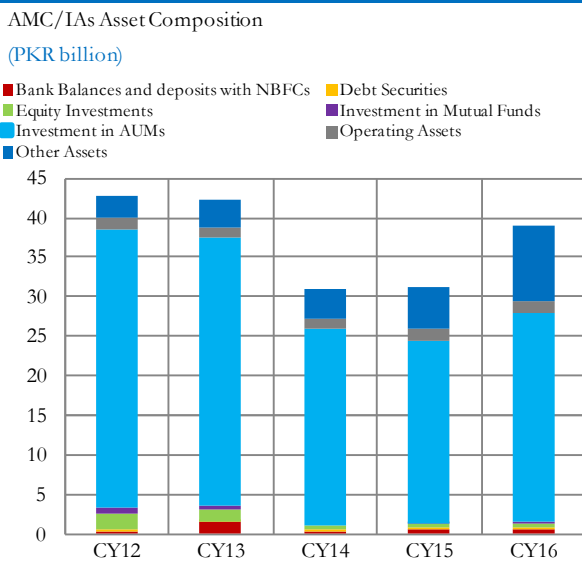
Although for the services industry it is desirable to have low entry barriers of in the form of capital, in the case of mutual funds industry, with few new entrants, increase in the flotation of funds overtime has given rise to concentration of funds floated by

¹²⁵ “Enactment of Laws”, BPRD Circular Letter No.33 dated October 21, 2016, <http://www.sbp.org.pk/bprd/2016/CL33.htm>

¹²⁶ There are 20 AMC's and 2 full fledge IA's while 16 of the AMC's have also obtained IA license.

AMCs. While in CY12, none of the 25 AMCs floated more than 15 funds; in CY16 out of the 20 AMCs, six floated 15 or more funds. Three of the AMCs account for 33 percent of the active 200 funds in CY16. In view of this concentration, permissible criteria¹²⁷ for floatation of additional funds (in excess of three funds) which has been linked to minimum rating /track record of the AMC/fund may also be linked with capital. This may serve as an additional safeguard and provide a backstop buffer for AMCs that are floating funds more than the specified threshold.

Figure 3.5.4
Investments in AUMs by AMCs/IAs



Source: SECP

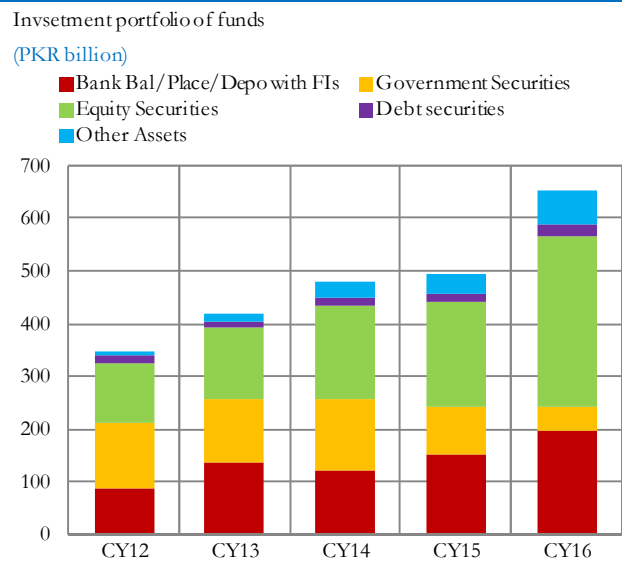
Leveraged investment funds are susceptible to runs as leverage in stressed events may amplify losses. To contain this risk, AMCs have been allowed to borrow only to meet the required liquidity for redemptions. Such borrowing has been limited to fifteen per cent of the total net asset value of the fund for a maximum of 90 days. Further,

¹²⁷Para 37(5) of Non Banking Finance Companies and Notified Entities Regulations, 2008, <https://www.secp.gov.pk/document/non-banking-finance-companies-and-notified-entities-regulations-2008/>

amortization of the liability has been made a priority by requiring utilization of the net cash flows during interim period for repayment of borrowing.

Caps on funds' exposure to single entity, sector exposure limits and specification of the types of investments further extends resilience to concentrated/ large exposures. Since the daily redemptions of open-end investment fund do not align with illiquid investments, the regulations further disallow investments in real estate.

Figure 3.5.5
Liquid assets account for thirty percent of funds investments



Source: SECP

Liquidity remains the primary risk for the mutual funds

Open-end funds account for more than 96 percent of the total AUMs of the mutual fund industry. Primary risk of open-end funds remains their ready-cash position. In market stress situations large-scale redemptions may be triggers which require immediate generation of liquidity. To limit such severity, the Non Banking Finance Companies and Notified Entities Regulations, 2008 have placed various limits of AMCs. For example an AMC must meet the redemption request within 6 days, suspension of redemptions is allowed under SECP

orders for up to 15 days initially, and cap on investments in unlisted securities have been adopted.

As of end December-2016, 30 percent of the all mutual/ pension fund assets are available as liquidity buffers¹²⁸ (Figure 3.5.5).

On the fund categories level, review of available liquidity buffers reveals lesser buffers on an average with the equity category of funds (6.35 percent of total assets)¹²⁹ and more with the income and money market funds (in excess of 50 percent of total assets). The excess liquidity with the income and money market funds is in view of their current net redemptions status while the lesser ready cash buffers with the equity funds are understandable considering the opportunity cost associated with idle cash (and equivalents). But, less liquidity may also mean selling-outs of investments in securities to generate liquidity which may threaten market valuations if it coincides with sell-outs from other participants. To contain this risk, special redemption reserves may be created by the industry to provide liquidity in any adverse event.

Activity from sales and redemptions of units possibly driving valuation effects which dominate YoY growth of equity funds AUMs

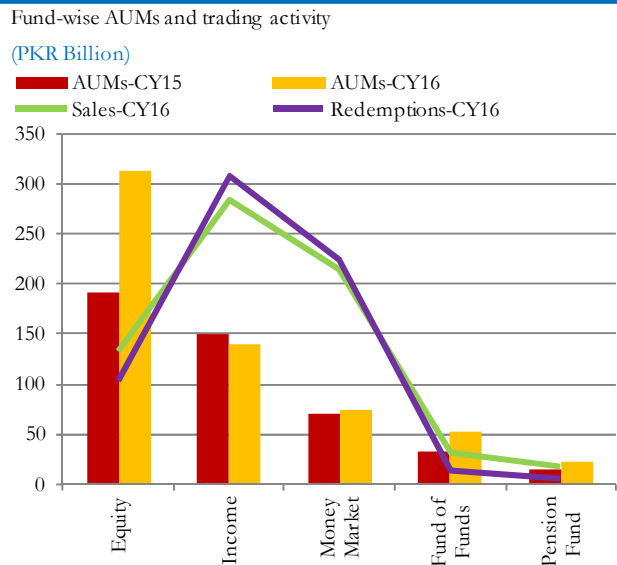
Redemptions have far exceeded the available cash of the mutual funds. Given the insufficient ready cash balances and in case of income and money market categories where redemptions further exceed the total assets invested in these categories (Figure 3.5.6a), related liquidity seems to have been

¹²⁸ Liquidity buffers for this analysis means balances with banks and NBFs' placements with Financial Institutions which represents cash pools that can be tapped into without liquidating any investments.

¹²⁹ As per Direction No. 07 of 2017, all equity funds and funds of funds are required to maintain 5 percent of net assets in cash & near cash instruments and committed credit lines equal to 10 percent of each fund are required to be arranged by AMC of each fund; thereby, creating the liquidity buffer of 15 percent of net assets of these funds.

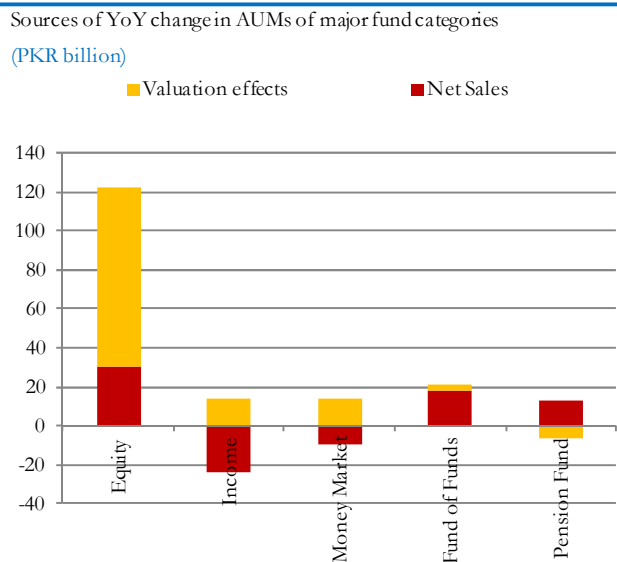
generated from the sale of units. While this cycle of sales feeding redemptions is currently working smoothly (the industry generated net inflows of PKR 45 billion in CY16) as long as there are inflows whether fresh or reinvestments, any unmatched outflows may cause problems for the funds.

Figure 3.5.6a
Excessive trading activity may be driving security valuations



Source: SECP & MUFAP

Figure 3.5.6b
Valuation effects drive change in YoY equity fund assets

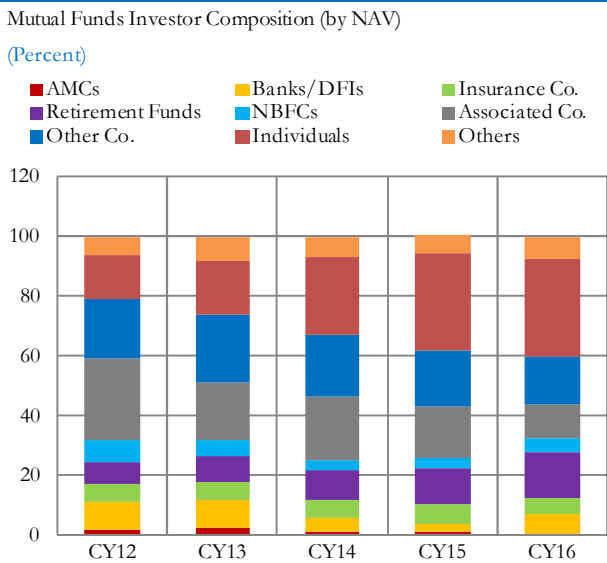


Source: SECP & MUFAP

Equity funds have experienced strong growth in AUM as the rising equity prices are reinforced by net inflows into the funds. Equity funds drew-in the highest inflows (net of sales) of PKR 30 billion in CY16. But, of the PKR 121 billion increase in equity fund AUMs over the year, 75 percent is attributable to valuation effects- the rest is coming from net inflows (**Figure 3.5.6b**).

The trading activity is further a sign of the flighty nature of investors. In such a scenario, growth of faith-driven Islamic funds and pension fund (which tend to hold long-dated investments) is desirable- given their low frequency trading in theory- to dilute market volatility providing cushion from short term price shocks due to excessive activity. But both, the Islamic funds (38.02 percent of total AUMs) and Pension funds (about 3 percent of the total mutual fund assets) have turned out to be frequent traders in our market, thus bringing little comfort from market participation by these investing groups.

Figure 3.5.7
Institutional Investors account for 60 percent of Net Asset Value



Source: SECP

The non-existent big-ticket¹³⁰ (private equity and venture capital, hedge fund) structures while playing down on the structural complexity indicate shallow institutional participation...

Retail participation, by bringing benefits of diversification in terms of product demand and stable funding provides fund managers with a solid base to plan and finance investments; while participation from institutional groups tends to validate market prices as their thorough research is translated into trading behavior. Over the past five years, individual investments have grown from 14 percent to 33 percent of the NAV (**Figure 3.5.7**) and institutional investments (AMCs, Banks, Insurance, Corporates, Retirement funds etc.) came down from 79 percent to 60 percent.

The institutional investment is still sizeable making the market susceptible to manipulations by institutional investors as the uninformed retail clients follow investments of institutional investors given their superior investment acumen. It may also propagate pro-cyclicality as with the concentration of trading intent (information-based/ speculative motives) in few hands, market sentiments tend to move together in financial markets. A varied set of players in the market are desirable to limit herd behavior by bringing in diversified analysis, risk appetite, and investment strategies.

Operationalization of structures as hedge funds which are engaged in style- based investing (style may move contrary to the market) and private equity and venture capital firms (which may create demand for distressed securities) by taking counter-market positions may help stabilize market-driven valuations. There is a need to develop the market

¹³⁰ Private Funds Regulations, 2015 lay down rules for Private Equity and Venture Capital Firms (PE & VC) and other alternative funds (infrastructure funds, hedge funds). These funds can only solicit investments from high net worth individuals. Such an investor is defined to be one with a minimum investment of 3 million rupees in the fund.

for these structures to give needed depth and support to the financial sector.

A shallow breadth of institutional participation is especially disruptive for our financial system which is already bank-centric and most of the non-bank players are, in some way, have linkages with the banking institutions. Asset management function in Pakistan is largely confined to 22 AMC/IA of which 12 are part of banking groups. This kind of concentration could also feed into systemic risk for the banking system if a problem triggers on the other side of the financial system.

Inter-connectedness with the banking sector...

Inter-connectedness of the NBF sector with the banking system may flow through various channels with the prime one being the flow of funds. The banking sector has been a net receiver of funds from the non-bank sector with 21 percent of the sector's assets placed as deposits with the banking sector.

Deposits of the NBFCs with the banking sector accounts for a minor portion of total deposits of the banking sector but the mutual funds sector's exposures are concentrated in banking sector's debt/equity securities (Table 3.5.2). With the adoption of Basel III capital regime's "look through approach"¹³¹ for collective investment schemes, capital advantage for banks from investing in mutual funds has diluted. This led to a decrease in banks/DFIs' share in mutual funds from around 9 percent in CY12 to 6 percent in CY16. Despite this change, the banking sector remains one of its top holders of investment units. Any drying up of liquidity with the banking sector and related redemption pressures could make the mutual funds susceptible to performance of the banking sector.

¹³¹ Under look through approach, banks are required to calculate capital charge on their Mutual fund investments as if the underlying exposure/asset class is held by the banks themselves.

However, liquidity support by the banking sector to its owned AMCs in order to prevent reputation and funding risks may work towards diluting that channel of liquidity stress.

Yet another form of feed-back loop may flow from common customer groups and common investment exposures.¹³² Some of the top borrowing groups of the banking sector are also among the top 20 holders of mutual fund investments and issuers of equity securities in which the mutual funds have invested. Extent of such commonality reveals possibility of simultaneous stress by both the sectors from deteriorating credit profile of the common exposure entities (Table 3.5.2).

Table 3.5.2

Flow of funds & exposure to the banking sector by the NBFCs

	Total Value (i)	Bank & DFIs share (ii)	Bank/ DFIs Share in Total (iii)= ii/i
	PKR billion		Percent
NBFC deposits with banks as a percentage of total assets	810	169	20.8
Equity of AMCs	24	12	50.7
Mutual Funds AUMs	654	38	5.8
Mutual Fund exposure in top 20 equity securities	83	13	16.0
Mutual Fund exposure in top 10 debt securities	12	7	57.8
Top 20 holders of mutual fund units	70	26	36.5
Mutual Fund exposure in top 20 equity issuers- common*	83	15	17.6
Mutual Fund exposure in top 10 debt issuers- common*	12	4	34.8
Top 20 holders of mutual fund units- common*	70	15	21.5

Source: SECP & SBP

*Issuer/holder group common to banking sector's top 15 large borrowing groups as on June 30, 2016

¹³² Banking sector large exposure data as of June 30, 2016.

Risks from common investment exposures could also emanate from possible decline in value of direct investments in equities and bonds held by the banking sector due to any large-scale unwinding of positions by the mutual funds. However, the banking sector currently holds 89.89 percent of investments in government securities and only 3.49 percent in listed shares as the bank prudential regulations cap aggregate equity investments (inclusive of mutual fund investments) to 30 percent of equity for fund-mobilizing banks/DFIs and to 35

percent of equity for those Islamic banks and DFIs which are not mobilizing deposits/COIs. In contrast, for the funds 50 percent of the AUMs are invested in equities and only 8 percent in government securities. Risk from this contagion channel is, therefore, likely to be contained given the two sector's varied investment concentrations.

Box 3.5: Analysis of Shadow-Banking Risks

Financial Stability Board (FSB)¹³³ Framework

The financial crisis of 2007-09 underscored the risks of credit intermediation by the non-bank financial institutions enough to prompt regulatory reform in the area. FSB has been especially active in this domain with its regulatory reforms focused on transforming what it terms to be “shadow banking”, into resilient market-based finance.

Broadly, FSB defines shadow banking as “credit intermediation involving entities and activities outside the regular banking system”. More specifically, the term refers to conduct of bank-like activities of maturity¹³⁴/liquidity transformation¹³⁵, credit risk transfer and creation of leverage by the loosely regulated non-bank sector which may pose systemic risks either on its own or through its inter-connectedness with the regulated banking system.

Initially, casting the net wide, FSB started out with an entity-based definition of shadow banking to derive a list of entity types¹³⁶ followed by an assessment of their shadow banking risk factors (i.e. maturity/liquidity transformation and leverage). However, differences in classification across jurisdictions arising from variation in business models, risk profiles and regulatory structures of the entities made way to a more universal definition. In its Global Shadow Banking Monitoring Report 2015,

¹³³ The Financial Stability Board is a group of finance ministries, financial sector regulators (including members of the G20) and international financial bodies established in April 2009 to coordinate at the international level the work of national financial authorities and international standard setting bodies and to develop and promote the implementation of effective regulatory, supervisory, and other financial sector policies.

¹³⁴ Maturity transformation refers to the short-term funding dependence in the form of material use of short term liabilities to fund long term assets.

¹³⁵ Liquidity transformation is the amount of assets, other than highly liquid assets, funded by short-term claims (liabilities and redeemable equity).

¹³⁶ The entities identified were: (i) credit investment funds; (ii) exchange-traded funds (ETFs); (iii) credit hedge funds; (iv) private equity funds; (v) securities broker-dealers; (vi) securitisation entities; (vii) credit insurance providers/financial guarantors; (viii) finance companies; and (ix) trust companies.

FSB took a narrowed down focus on the shadow banking system by adopting a risk-based definition. The new definition uses an activity-based “Economic Function (EF)” measure to determine the extent of shadow banking risks in the non-banking financial sector entity classes. The non-banking entities are considered part of the shadow banking system if they are:

- Part of a credit intermediation chain,
- Not subject to bank supervision through prudential consolidation in a banking group, or
- Engaged in bank-like risks such as liquidity, maturity and credit transformation risks, and leverage.

To identify the NBFIs that form part of shadow banking, detailed analysis is done which involves macro-mapping of the financial sector’s balances sheet (Central banks, deposit-taking banks, other financial institutions), examining their credit assets (to assess extent of involvement in credit intermediation) and flow-of funds to other financial institutions (to assess inter-connectedness with other financial institutions). Part of the non-banking sector that is prudentially consolidated in a banking group and is adequately supervised is excluded. Using indicative ratios for liquidity transformation, maturity transformation, credit transformation, leverage and existence of policy tools in the existing regulatory framework to counter such risks, assessment of shadow banking in the non-banking sector is made (see **Table B3.5.1**).

The case of Pakistan

The starting point for our analysis of shadow banking risks in our financial system is the non-banking financial sector. As per our assessment, shadow banking risks exist but they are being addressed through regulatory limits on risky activities. Economic Function-wise assessment of the non-banking sub-sector is as follows:

Table B3.5.1

Shadow Banking Risk Metrics

Credit Intermediation (CI1, CI2)	Maturity Transformation (MT1)	Liquidity Transformation (LT)	Credit Risk Transfer (CRT)	Leverage (L1, L2)
Economic Function		Typical Entity Types	Typical Policy Tools	
Management of collective investment vehicles with features that make them susceptible to runs (EF1)		Fixed income funds, mortgage funds, money market funds, hedge funds		Suspension of Redemptions, liquidity buffers, limits on illiquid investments/ leverage/ portfolio assets' maturity
Loan provision that is dependent on short-term funding (EF2)		Finance companies, leasing companies, credit unions		Capital requirements, limit on leverage/large exposures
Intermediation of market activities that is dependent on short-term funding or on secured funding of client assets (EF3)		Broker-dealers		Bank equivalent prudential regulations, liquidity/capital requirements, restriction on use of client assets
Facilitation of credit creation (EF4)		Financial guarantors		Liquidity/capital requirements, restriction on scale/scope of business
Securitisation-based credit intermediation and funding of financial entities (EF5)		Securitisation vehicles		Restriction of maturity/liquidity transformation, restriction on eligible collateral, restriction on exposure to/ funding from other financial entities

Source: FSB

CI1 = credit assets (loans/receivables and investments in debt securities) / total financial assets; CI2 = lending / total financial assets

MT1 = (long term assets - (long term liabilities + non-redeemable equity (equity or shareholders equity))) / total financial assets

LT = for EF1 (very short-term liabilities (< 30 days) + redeemable equity (< 7 days)) / liquid assets, for non-EF1 very short-term liabilities (< 30 days) / liquid assets

CRT = off balance sheet exposures (credit risk transfer type) / (total financial assets + off balance sheet total)

L1 = for EF1 total financial assets / NAV, for non-EF1 total financial assets / equity

L2 = for EF1 (total financial assets + off balance sheet total) / NAV, for non-EF1 (total financial assets + off balance sheet total) / equity.

Collective Investment Vehicles (CIVs)-EF1

Equity (46 percent), Income (21 percent) and Money Market funds (11 percent) make up 78 percent of the CIVs in Pakistan. Equity funds are not included in the FSB shadow banking framework as these funds do not invest in debt securities. Close-end investment funds (3 percent of total CIV assets) are also not part of the shadow banking system because they are not susceptible to runs.

For income and money market funds that are susceptible to maturity and liquidity transformation, requirements regarding proportions of total assets to be held as liquidity buffers and limits to weighted average maturity of total portfolio or individual assets have been adopted. For income funds, the weighted average time to maturity of the net assets have been capped at 4 years with no

maturity specification for individual assets. For money market funds, individual asset's time to maturity has been capped at six months while the weighted average time to maturity shall not exceed 90 days.

FSB's suggested policy tools to contain risks from collective investments schemes are part of the existing regulatory framework. Under this framework¹³⁷, 25 percent of net assets are to be invested in liquid assets. Investments in the illiquid real estate have been prohibited. Leverage has been limited by restricting borrowing only to meet redemptions for a period of 90 days only. Further, a provision for temporary suspension of redemptions for up to 15 days has been recognized to

¹³⁷ Non Banking Finance Companies and Notified Entities Regulations, 2008

contain run risk in case of excessive redemptions from funds.

DFIs/IFCs/ Leasing/Modarabas-EF2

Development Financial Institutions (DFIs), Investment Finance companies (IFCs), Leasing Companies and Modarabas may be classified in this economic function. DFIs are regulated by SBP and subject to bank-like prudential regulations and hence may be excluded from the shadow banking estimate.

Together IFCs, leasing and modaraba companies make up 7.7 percent of non-banking sector assets. Reliance of IFCs on short-term funding from the banking system was apparent in the aftermath of liquidity crunch of the

2007. But since the crisis the asset base of IFCs has been shrinking with activities focused on commission-based income which is to be treated part of the shadow banking.

As for the leasing and modaraba companies, credit assets (advances and leases) make up 60 percent of total assets indicating their active involvement in the process of credit intermediation. However, capital requirements (see **Table B3.5.2**), limits to individual/ group/ capital market exposures/ liabilities provide an adequate framework. Further, both leverage and maturity profile of assets/ liabilities is reported by the entities to the regulator (SECP) on a monthly basis.

Table B3.5.2

Minimum Equity Requirement of Non-banking Finance Companies

Form of Business	Minimum Equity Requirement PKR million
New deposit taking NBFCs for license of Investment Finance Services or Leasing or Discounting or Housing Finance Services	1,000.0
Existing NBFCs with valid deposit taking permission having Investment Finance Services license	750.0
Existing NBFCs with valid deposit taking permission having Leasing license	500.0
Non-deposit taking NBFCs for Investment Finance Services license	100.0
Non-Bank Microfinance Company for Investment Finance Services License	50.0
Non-deposit taking NBFCs for Leasing or Discounting or Housing Finance Services license	50.0
Asset Management Services	200.0
Investment Advisory Services	30.0
Modaraba Company	2.5

Source: Non-Banking Finance Companies and Notified Entities Regulations, 2008 and The Modaraba Companies and Modaraba (Floatation and Control) Ordinance, 1980

Brokerage Houses-EF3

Securities Brokers are subject to an intensive set of regulations as issued by SECP, Pakistan Stock Exchange (PSX), National Clearing Company Limited (NCCL) and Central Depository Company (CDC). Capital requirement have been aligned with the scope of a broker's activities to allow security clearing functions with financially sound brokerage houses only (see **Table B3.5.3**). Detailed regulations related to segregation and record of client assets from broker's proprietary assets have been laid out to avoid their misuse by a broker. Further, under SECP's Joint Inspection Regulations, 2015 a team composed of Chief Regulatory Officers of

CDC, NCCPL and PSX is responsible for conducting quarterly inspections of 16-18 brokers selected randomly to confirm their regulatory compliance.

Table B3.5.3**Paid-Up capital requirement of Securities Brokers**

Category of Securities Broker	Paid-Up Capital
	PKR Million
Trading Only	15.0
Trading and Self-Clearing	35.0
Trading and Clearing	100.0

Source: Securities Brokers (Licensing and Operations) Regulations, 2016

However, some risks from regulatory non-compliance persist. For example, SECP had set out to replace Carry-Over-Trade (COT)/badla financing (in-house financing of brokers) by margin financing from banks in 2004 to extend due diligence to financing of brokers and their clients, but the COT still continues¹³⁸. The COT while allowing market participants to trade without the corresponding payment brings needed liquidity to the market but also sustains speculation. And as market liquidity dries up, the system stands vulnerable to escalating costs of unsettled trades pushing speculators to trade more in order to manipulate prices to move to the levels where they can comfortably settle their trades. This unchecked leverage and settlement risk of stock market participants can be problematic as default by one or more brokers might cause more defaults from others triggering a systemic event. Hence in the case of brokerage houses, existence of FSB suggestive policy toolkit in the regulatory framework might be insufficient.

Cognizant of these risks, SECP and PSX are currently contemplating establishing a national level self-disciplinary broker organization to formulate code of ethics and disciplinary policies. To ensure safe custody of client assets, capital requirements have been aligned with the scope of a broker's activities to allow security clearing functions with financially sound brokerage houses only (see **Table B3.5.3**). Further, expeditious sale of broker assets to satisfy investor claims and increased focus on investor education for self-monitoring of their cash and securities flows is being stressed as a strategy to protect investor interests.

¹³⁸ Securities & Exchange Commission of Pakistan press release dated February 07, 2017.

Currently, there are no entities in the NBFIs sector to be categorized under EF-4 and as for the EF-5 function, none of the securitized issues of the registered SPVs are currently outstanding.

3.6 Risks to the Insurance Sector

The insurance industry's asset base has increased by 17.7 percent due to the improving economic and political environment, aggressive marketing and sales (including bancassurance), increasing consumer demand and wider use of technology. In addition, although still small, the Takaful segment has increased its market share due to greater consumer acceptability and the entrance of conventional insurers into the segment as Window Takaful Operators (WTOs); however, the rapid growth in the Takaful segment may lead to capacity constraints. Although there has been a slight increase in profitability, the accommodative monetary policy may dampen the industry's investment income which may contribute to financial risk. This, coupled with the increasing claims may decrease future income. Concentration of business remains with public sector players in the life, non-life, and reinsurance sectors, while penetration, though increasing, remains low. In addition, the increased usage of financial technology may contribute to operational risks.

The improving economic environment has helped facilitate the continued growth in the insurance industry. Both Life and Non-Life Insurance sectors have shown considerable growth (due to numerous factors like increase in bancassurance, aggressive marketing, greater consumer awareness, etc).¹³⁹ However, the most significant growth has been reported by the Takaful segment¹⁴⁰, due to the influx of conventional insurers in the Takaful market in the form of Window Takaful Operators (WTOs).

Public Sector insurers continue to dominate the industry as one of the public life insurers constitutes more than 60 percent of the insurance industry. Two of the other public insurers, one in life and one in non-life, are also big players in the industry. However, since their financials are not publically available, nothing substantive could be said about their contribution to the sector.

¹³⁹ The analysis is based on the data of 5 life insurers and 21 non-life insurers covering 98 percent and 82 percent of the life and non-life insurance sectors, respectively. The analysis covers data up to half-year ending June 30, 2016. The financial close for insurers is December of the corresponding year. All growth ratios are on year-on-year (YoY) basis.

¹⁴⁰ It may be noted that Conventional insurers operating in the Family Takaful segment are not required to publish separate financial statements for their Window Takaful Operations.

Emerging Markets and Developing Economies (EMDEs) facilitate Global insurance industry's growth

In real terms, global insurance premium volumes have been bolstered by strong growth in emerging markets.

Global life insurance premiums have been estimated to have grown by 5.4 percent in 2016 compared to 5 percent in 2015. In the AEs, life premium growth has slowed to 2 percent in 2016 (against 3.4 percent in 2015) while the life premium growth in EMDEs has been estimated to have increased to 20.1 percent in 2016 (against a 13.2 percent increase in 2015).

Global non-life premiums growth slowed down in 2016 to 2.4 percent (compared to 3 percent in 2015); in the AEs, premium growth has decelerated to 1.7 percent from 2.5 percent on the back of weaker economic growth and a softer pricing environment in commercial insurance. Non-life premiums grew by an estimated 5.3 percent in 2016 which is slightly higher than the previous year.¹⁴¹

Pakistan has an insurance penetration ratio of 0.84 percent in CY16¹⁴² which, although higher than 0.77 percent in CY15, is below that of other countries in

¹⁴¹ Swiss Re's Global insurance review 2016 and outlook 2017/18

¹⁴² SECP Annual Report 2016

the region (India: 3.44 percent¹⁴³; China 4.2 percent¹⁴⁴). This means that there is vast potential for growth in the industry for which concerted efforts are needed.

The insurance industry has performed well ...

Life Insurance sector has expanded with asset growth of 17.4 percent to PKR 792 billion in H1CY16 while gross premiums and net premiums have increased by 4.2 percent and 3.9 percent to reach PKR 65.7 billion and PKR 64.6 billion, respectively (YoY).

Non-life insurance sector has also shown an increase of 18.5 percent to reach PKR 145 billion while gross premiums and net premiums have increased by 17.8 percent and 10.9 percent to reach PKR 33.8 billion and PKR 16.6 billion, respectively (YoY).

The impressive growth in the insurance industry may, in part, be attributed to the improving political and economic environment, the adoption of modern distribution channels, innovative products, wider use of technology, etc.

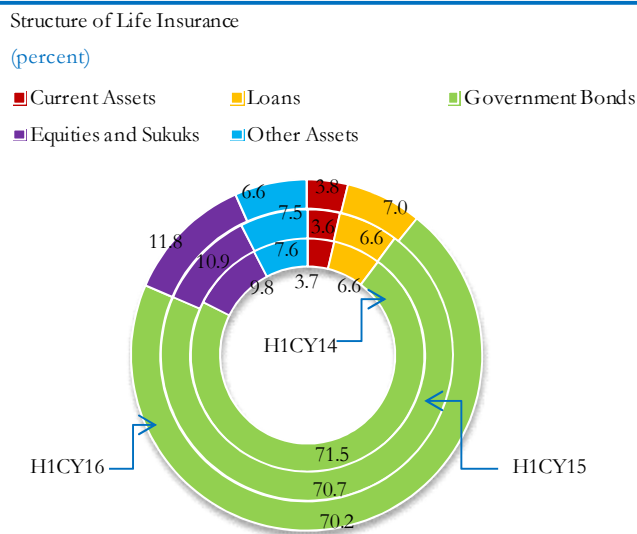
Net claims have increased faster than net premium for the life insurance sector...

Life Insurance sector still has majority of its assets in the form of investments in government securities, though, it has begun decreasing them. However, the share of investments in equities and Sukuks in total assets has been increasing. **(Figure 3.6.1)**

Generally, there is some seasonality in the net premiums as the industry increases its outreach efforts in the second half of a calendar year **(Figure 3.6.2)**. Net premiums have increased by 3.9 percent

(YoY) during H1CY16 mainly due to 19.6 percent rise in “subsequent years” renewals over the same period.

Figure 3.6.1
Government securities continue to be the main investment avenue



Source: Unaudited published financial statements of life insurance companies.

Net claims have shown a marked increase due to the increase in surrender of claims in the “investment-linked business” statutory fund of a private life insurer.

Life insurance has registered an increase in profit (before tax) of 44 percent (YoY) in H1CY16, compared with H1CY15, mainly due to slight increases in premium and investment income.

(Figure 3.6.2)

Increase in core activity of non-life insurer kept the decline in profits under check

The Non-Life Insurance sector has witnessed a decline of 7.3 percent in its profitability for the period ended H1CY16 mainly due to a decrease in investment income and increase in Underwriting and Management expenses as compared to the corresponding period of last year **(Figure 3.6.3)**.

¹⁴³ https://www.irdai.gov.in/ADMINCMS/cms/frnGeneral_Layout.aspx?page=PageNo3021&flag=1

¹⁴⁴ <https://www.munichre.com/en/reinsurance/magazine/topics-online/2017/01/insurance-market-china/index.html>

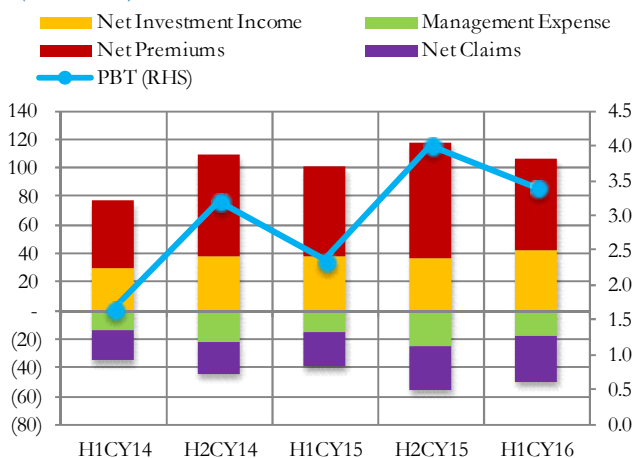
Net premiums have also increased while the claims ratio after decreasing at a rapid rate has started to stabilize around 48 percent. Motor business continues to dominate the non-life net premiums constituting about 47 percent of the total net premiums. (Figure 3.6.4)

In addition, the claims ratio has gone down due, in part, to the adoption of technology to monitor insured assets and resolve claims. The claims ratio may further improve by the introduction of the SECP's guidelines for estimation of incurred but not reported (IBNR) claims reserve in 2016. The guidelines intend to ensure the adequacy of IBNR claims reserve and help bring standardization in the sector in respect of such estimation.¹⁴⁵

Figure 3.6.2
Life insurance profitability

Life insurance profitability (flows)

(PKR billion)

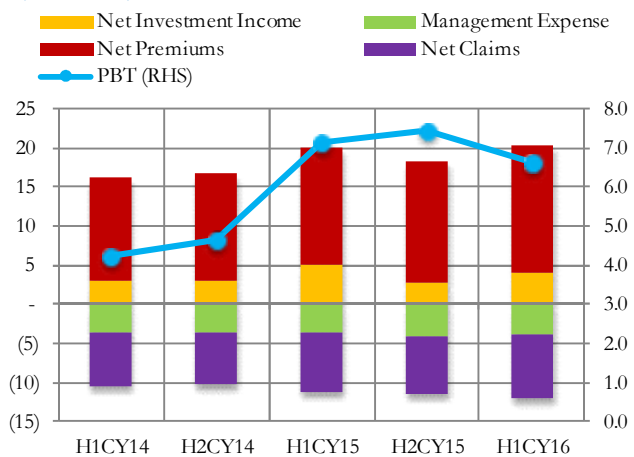


Source: Unaudited/Audited published financial statements of life insurance companies.

Figure 3.6.3

Non-Life insurance profitability (flows)

(PKR billion)

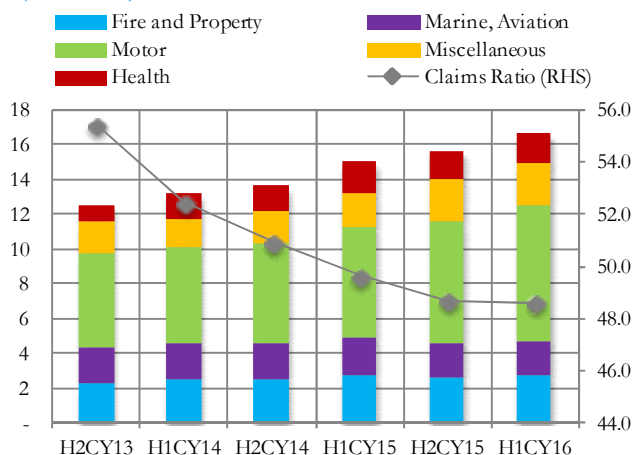


Source: Unaudited/Audited published financial statements of non-life insurance companies.

Figure 3.6.4
Non-life net premiums flows and claims ratio

Non-life net premiums (flows)

(PKR billion)



Source: Unaudited/Audited published financial statements of non-life insurance companies.

Table 3.6.1

Soundness of Non-Life Insurance (percent)

	H1CY14	H2CY14	H1CY15	H2CY15	H1CY16
Capital to Assets	13.4	13.6	13.8	12.8	12.5
Claims Ratio	52.5	50.9	49.7	48.7	48.6
Expense Ratio	26.3	25.9	24.3	31.6	30.5
Combined Ratio	78.8	76.9	74.0	80.3	79.2
Premium Retention	51.3	51.5	52.1	53.0	49.1
ROA	3.2	3.4	5.0	5.2	3.4

Source: Unaudited/Audited published financial statements of non-life insurance companies.

¹⁴⁵ See <https://www.secp.gov.pk/document/circular-no-9-of-2016-sec-guidelines-for-estimation-of-incurred-but-not-reported-ibnr-claim-reserve-2016/>

Barring the Claims ratio, the financial soundness indicators for the sector have seen some decline; the Combined ratio has increased from 74.0 percent in H1CY15 to 79.2 percent in H1CY16 while the Capital to Assets ratio has declined by 1.3 pps to 12.5 percent in H1CY16 (**Table 3.6.1**).

Rapid growth in the Takaful segment....

Family Takaful segment has increased its asset base by 39.3 percent to PKR 14.4 billion in CY15, while gross contribution written have increased from PKR 5.9 billion to PKR 7.8 billion. These may be conservative figures as conventional life insurers operating in the segment as WTOs are not required to publish separate financial statements, yet. This segment is expected to witness rapid growth after one of the public life insurers has been allowed to enter the Family Takaful segment in August 2016. (**Table 3.6.2**)

Table 3.6.2

Profile of Family Takaful Business

	CY12	CY13	CY14	CY15
	Amount in PKR million			
Net Investment Income	99.5	65.0	59.1	59.7
Surplus in shareholders' sub-fund - transferred to shareholders	267.4	340.0	(28.3)	43.7
Profitability (P.B.T)	(15.8)	(8.9)	16.9	96.0
Assets	5,001.1	7,541.2	10,352.9	14,397.4
	Percent			
Capital to Assets	29.2	19.4	14.1	10.1
Claims Ratio	36.4	32.4	37.3	42.7
Premium Retention	75.2	78.4	77.8	77.5

Source: Audited published financial statements of Family Takaful companies.

General Takaful segment has also increased its asset base substantially (26.6 percent) to reach PKR 3.7 billion as of December 31, 2015. The segment has written gross premium of PKR 3 billion for CY15 –

a 38 percent increase over the previous year. This was, in part, due to the influx of conventional non-life insurers into the General Takaful segment in the form of WTOs and the SECP requirement that non-life insurers publish separate statements for their Window Takaful Operations. It is anticipated that the General Takaful segment will grow substantially over the coming years due to the economies of scale available to the WTOs' from the existing network of parent insurance companies.

However, the General Takaful segment registered an overall loss due to a restatement of financial statements by one of the full-fledged Takaful companies. If its accounts are excluded, the General segment posts a profit. (**Table 3.6.3**)

Table 3.6.3

Profile of General Takaful Business

	CY12	CY13	CY14	CY15
	Amount in PKR million			
Gross Premiums	932.6	2,029.8	2,144.8	2,959.6
Net Premiums	623.4	863.9	917.5	1,306.4
Net Claims	553.8	815.9	1,015.5	1,127.9
Expenses	337.3	462.1	579.8	720.5
Profitability	82.6	77.8	79.7	(342.2)
Assets	1,803.8	2,324.9	2,959.5	3,745.8
	Percent			
Capital to Assets	57.5	47.6	40.0	32.6
Claims Ratio	88.8	94.5	110.7	86.3

Source: Audited published financial statements of General Takaful

Nevertheless, both Family and General Takaful segments are expected to grow as the public becomes aware of an Islamic substitute to conventional insurance. This may also lead to some cannibalization as some conventional insurance contracts may be replaced with new Takaful contracts.

There is potential for risk buildup in the sector...

As highlighted in the previous FSR, one of the biggest risks that the insurance industry faces is **concentration risk**; one of the Public Life Insurer comprises more than 60 percent of the insurance industry's PKR 955 million asset base¹⁴⁶. The financial information on its size or performance is not available for the other big public player in the life insurance sector. Even the Non-life insurance sector has a prominent public player. All these entities are significant state-owned market players which need to be brought under market discipline to improve their efficiencies.

In addition, the public non-life insurer has not published its financials since 2011 (reportedly, in part, due to alleged irregularities worth billions); nothing substantive can be said about its health. The possibility of its failure may lead to significant systemic risk buildup in the non-life sector.

As noted previously, the lack of reinsurers may also contribute to **reinsurance risk**. This is mitigated, to some extent, by insurers establishing reinsurance contracts with international reinsurers. Nevertheless, all general insurers are mandated to offer 35 percent of their surplus business to Pakistan Reinsurance Company¹⁴⁷ in the form of cession; thus, limiting the business which can be reinsured with international reinsurers and contributing to concentration of reinsurance risk. Being the only reinsurance company, the insurance industry may be susceptible to **reinsurance default risk**. As most local insurers have reinsurance arrangements with international reinsurers, this risk is partly mitigated.

In the Takaful segment, one of the Takaful companies (with a 12-13 percent share of the General Takaful segment asset base) has been

involved in gross negligence and misstatement of financial statements, which may lead to substantial **systemic risk** build-up in the segment. However, due to the small share of the Takaful segment in the overall insurance industry (less than 5 percent of total insurance assets), it does not pose a significant risk to the overall industry.

In addition, this episode, coupled with the irregularities reported in the public non-life insurer¹⁴⁸, may indicate the presence of **misconduct risks** in the insurance industry.

The insurance industry has been registering double digit growth in various sectors due to factors such as bancassurance, greater awareness of Takaful business, etc.; this high growth rate may lead to **capacity constraints** (in particular, the risk-bearing, solvency, and shock absorption capacity) for insurers and Takaful companies.

The increasing use of financial technology to provide better customer services, expand outreach to uninsured areas, offer innovative products and services, etc. will also lead to increased operational risks, in particular, **cyber risks**. It is not only a growing concern for insurers but for other companies as well which in turn may imply increasing insurance risks as a cyber attack may lead to lost customer data, damage to a firm's reputation, business interruption, etc. This may also increase insurers' operational costs as they look to enhance their cyber security capabilities.

This may also provide insurers an opportunity to offer cyber insurance; however, due to the complex nature of cyber risks and the potential for significant losses, insurers need to be cautious regarding which (and to what extent) cyber events can be insured adequately.

¹⁴⁶ The data covers insurers as of June 30, 2016 and Takaful companies as of December 31, 2015.

¹⁴⁷ Pakistan Reinsurance Company Limited (PRCL) is a public sector reinsurer under the administrative control of the Ministry of Commerce.

¹⁴⁸ See <https://www.dawn.com/news/1246362>

The operations and investment returns of the insurance industry are subject to market volatility and macro-economic factors. Investments constitute about 76 percent of total insurance industry assets as of June 30, 2016. Consequently, the insurance industry may face **financial risks** i.e. an adverse change in the capital markets or a “low for longer” interest rate environment. If there is a “low for longer” rate environment, insurers’ investment income will suffer and they may invest in higher risk securities in search of greater profitability. In addition, while the low yields affect both sides of the balance sheet, they generally imply lower capital ratios for long-term business such as life insurance.

There is potential for **credit risk** for some insurers; as of June 30, 2016, the estimated carrying amount of financial assets representing the maximum credit exposure for life insurers and non-life insurers is PKR 222 billion (representing 28 percent of total life insurer assets) and PKR 67 billion (representing 47 percent of total non-life insurer assets), respectively. However, most insurers continually monitor credit exposure to mitigate this risk. In addition, insurers avoid any significant credit risk exposure to any single counterparty.

In addition, while bancassurance has helped insurers reach banks’ customers through their large branch networks, there is potential for mis-selling which may lead to **compliance risks**. SECP and SBP have taken steps to mitigate these risks.¹⁴⁹

Outlook

In 2017, global non-life insurers’ premium growth will be modest while global life insurers are expected to have substantially higher premium growth. Insurance premium growth in emerging economies is expected to be robust due to improving

commodity prices and increasing demand for insurance¹⁵⁰.

In Pakistan, the China-Pakistan Economic Corridor (CPEC) will provide new opportunities for the local insurance industry especially the non-life sector. Pakistan is expected to witness continued growth in almost all sectors of the insurance industry with significant growth expected in the Takaful segment.

¹⁴⁹ SECP has issued Bancassurance Regulations 2015 while SBP has issued a Circular on Sale of Third Party Products by Banks in 2012.

¹⁵⁰ Swiss Re’s Global insurance review 2016 and outlook 2017/18

3.7 Risk Analysis of the Corporate Sector

The financial health of corporate sector is satisfactory with steady growth in asset base and high ROA and ROE, though profitability ratios are trending downwards. The extended DuPont analysis reveals that decline in ROE is, primarily, due to dismal sale performance particularly in textile and energy sectors. The listed corporate companies are mostly relying upon own resources due to strong profitability, and adequate cash flows from operations. From the risk management perspective, rating culture needs to be developed while concerted efforts are needed for utilizing alternative financing avenues.

Corporate sector, by virtue of its deep connections with the financial sector, is an important player from the financial stability perspective throughout the business cycle. Unchecked corporate leveraging in upswings, in anticipation of higher profit margins, adds momentum to the expansion but sometimes leads to overheating in the economy. In any downturn, however, the capacity of the corporates to repay and take on new risk shrinks thereby accelerating the pace of contractions. The behavior of corporates, along the business cycle, has adverse implications for the real economy as well as for the stability of the financial sector. Escalating defaults concomitantly with squeeze in lending activities severely impacts financial institutions profitability and solvency.

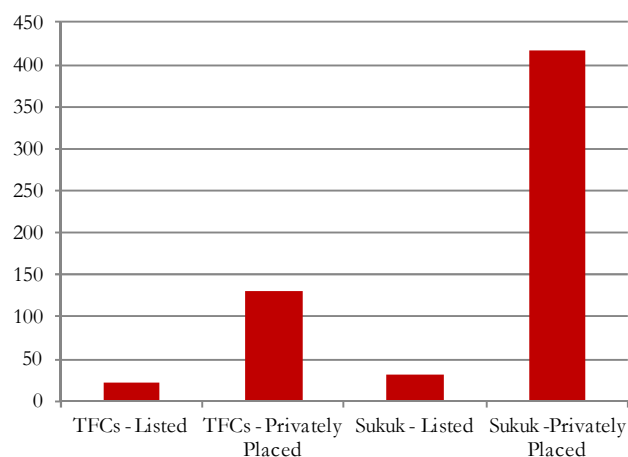
Banks play a lead role in corporate financing...

In Pakistan, as is the case with other jurisdictions, corporate sector is a key player of the financial system. As of end December 2016, domestic corporate sector borrowing from banking sector has reached PKR 3.8 trillion which is around 68 percent of domestic loans (of which, PKR 3.1 trillion pertains to private sector). On the other hand, corporate financing through capital market debt instruments (mostly Sukuk) only stands at PKR 600 billion (**Figure 3.7.1**).¹⁵¹ Though equity plays a significant part in asset financing, fresh equity through IPOs has been limited in the last few years

(See Chapter 2). Thus, the corporate debt structure, in Pakistan, is mostly bank centric with limited reliance on capital debt market or overseas borrowings.¹⁵²

Figure 3.7.1
Pakistan's corporate debt market is limited and mainly confined in privately placed Sukuk

Corporate Debt Market of Pakistan as of June 30, 2016 (Outstanding)
(PKR billion)



Source: SECP

Performance of corporate sector in CY16 is mixed...

Since aggregate numbers of corporate sector for CY16 are not available, the analysis has been carried out using two sets of information i.e. (a) a pro forma (projected) balance sheet and income statement for CY16 based on last 5-years average growth (2010-

¹⁵¹ Source: Securities and Exchange Commission of Pakistan (SECP).

¹⁵² Overseas private borrowing (i.e. loans) as of end December, 2017 stands at USD 2.64 billion (approximately PKR 277 billion) or around 6.5 percent of corporate's bank borrowing
Source: <http://www.sbp.org.pk/ecodata/pakdebt.pdf>

2015) of listed companies and (b) actual financials of top-100 listed companies with available data for CY16 on Pakistan Stock Exchange (PSX).¹⁵³

The total assets of the corporate sector have increased, on average, by 9.9 percent over the last 6 years (2011-2016) (Table 3.7.1). Besides the normal course of business, the sector has witnessed a huge growth of 32.7 percent, on average, in long term investments and 16.2 percent, on average, in short-term investment. Particularly, corporate investment witnessed the growth as high as 83.3 percent (PKR 307.3 billion) in 2013. Funds are mainly invested in government securities especially in PIBs. The profitability of the sector is impressive with high ROA and ROE; though falling over time.

It has been observed that listed companies reflect limited quantum of overall corporate debt from financial institutions. Corporate sector borrowings (PSX Listed Companies only) constitute only 25 percent of the total advances of the banking sector. Further, the growth in borrowing has been 6 percent (lower than the overall credit growth of 8.4 percent) with negative growth in 2013 and 2015. This may be attributed to the following:

- Corporate sector is cash rich (high cash flows from operation) with current ratio consistently higher than 1 and high profitability (average ROA and ROE are 9.5 percent and 25.5 percent, respectively). This enables the sector to rely on their retained earnings (average growth: 19.7 percent) as the core funding source.
- The financing demand has remained restricted due to energy crisis, declining inflation, falling oil prices and lower demand in the world market.

¹⁵³ Top-100 listed companies had around 44 percent share in total assets of all corporate and 61.5 percent in private sector corporate as of June 2015.

- The borrowings of two major sectors (energy and textile) are lower since 2014. Both sectors are facing challenges, as depicted in their declining sales.

Table 3.7.1
Financial Statements of KSE Listed Companies and Ratio Analysis

(Amount in PKR billion, ratios in percent)

	2013	2014	2015	2016*
Balance Sheet				
Non-Current Assets	3,112	3,430	3,745	4,207
<i>of which Long term investments</i>	509	559	607	806
Current Assets	2,300	2,703	2,873	3,253
<i>of which Short term investments</i>	167	211	200	233
Current Liabilities	2,239	2,601	2,713	3,004
<i>of which Short term Secured loan</i>	653	810	700	757
Non-Current Liabilities	1,119	1,180	1,233	1,332
<i>of which Long term secured loan</i>	548	524	606	635
<i>Debentures/TFCs</i>	22	18	38	42
E. Shareholders Equity	2,053	2,351	2,671	3,031
<i>of which Paid up capital</i>	634	669	674	708
<i>Reserves</i>	1,125	1,356	1,655	1,986
Total Assets	5,412	6,132	6,618	7,460
Income Statement				
Sales	6,183	6,768	6,211	6,751
Gross Profit	945	964	964	1,052
Financial expenses	185	182	176	185
<i>of which: (i) Interest expenses</i>	141	145	152	166
Net profit before tax	520	557	571	645
Net Profit After Tax	383	398	419	482
Cash Flow from Operations	745	371	517	662
Key Ratios				
Current Ratio	1.0	1.0	1.1	1.1
Debt Equity Ratio	1.6	1.6	1.5	1.4
Return on Assets	9.7	9.7	9.0	9.7
Return on Equity	27.1	25.3	22.7	22.6
Interest Coverage Ratio	4.7	4.9	3.5	3.4

Source: SBP

*CY16 represents proforma balance sheet and income statement projected based on 5-years average growth

The sector has low debt to equity ratio (1.4 in CY16) which has gradually fallen from 2.0 percent in CY12. The high profits and low debt-equity ratio have strengthened the sector's debt repayment capacity which is reflected through interest coverage ratio at 3.4 in CY16 (though slightly reduced overtime but still seems quite comfortable).

ROE is falling continuously, though still stands high...

Since there is continued decline in ROE, an extended DuPont analysis on the actual data of top-100 companies for CY16 has been performed to further explore the reasons behind its fall.^{154,155} The financial performance of top-100 listed companies as of June 30, 2016, appears mixed. While the net income and assets have grown in 2016, sales have gone down and so has the ROE (**Table 3.7.2**).

The extended DuPont analysis decomposes the ROE into various financial ratios, and provides helpful insight to assess profitability, leverage and operating performance, altogether.

During the year 2016, ROE of top-100 listed companies has declined to 17.3 percent despite the cushion provided by reduced tax and interest cost burdens (higher ratios indicate reduced burden). While declining corporate tax rates in recent years explains lower tax burden, easy monetary policy with significant downfall in weighted average lending rates has resulted in lower interest burden (**Please see Chapter 3.1**).¹⁵⁶

Operating profit margin, though showing some improvement, is mainly due to higher decline in sales compared to rise in profit before interest and taxes (PBIT). The dismal performance in sales, however, is explicitly reflected in asset turnover

¹⁵⁴ There are some limitations of combining the balance sheets of corporate for top-100 companies. First, corporates in different sectors have different financial year closing dates. Second, there could have been mergers/acquisitions/closures. These issues have been addressed by keeping the sample of firms constant over time in the analysis.

¹⁵⁵ As per DuPont: $ROE = \text{Net Income (NI)} / \text{Equity (E)} = \text{NI} / \text{Profit before tax (PBT)} \times \text{PBT} / \text{profit before interest and taxes (PBIT)} \times \text{PBIT} / \text{Sales} \times \text{Sales} / \text{Assets} \times \text{Assets} / \text{Equity}$
 NI/PBT: tax burden, PBT/PBIT: interest burden, PBIT/Sales: gross profit margin, Sales/Assets: sales turnover, Asset/Equity: financial leverage

¹⁵⁶ With effect from fiscal year 2014-15, the government has reduced maximum corporate tax rate by 1 percent annually to bring it down to 30 percent by 2018.

http://www.finance.gov.pk/budget/FinalBudgetSpeech_13_14_english.pdf

ratio, which has declined from 1.10 in 2015 (and 1.34 in 2014) to 0.85 in 2016. Similarly, decline in financial leverage also contributed to falling ROE.¹⁵⁷

Table 3.7.2
 Extended Dupont Analysis- Top 100 Non- Financial Companies of KSE-100*

(Amount in PKR billion, ratios in percent)

	2014	2015	2016
Net Income (NI)	260	232	254
Profit Before Tax (PBT)	354	320	337
Profit Before Tax and Interest (PBIT)**	64	68	50
Revenue/Sales	3,511	3,097	2,581
Assets	2,723	2,916	3,167
Equity	1,199	1,382	1,563
Average Assets (Av. A)	2,616	2,819	3,041
Average Equity (Av. E)	1,114	1,290	1,472
Extended Dupont Components			
Tax Burden (a=NI/PBT)	0.73	0.72	0.76
Interest Burden (b=PBT/PBIT)	5.52	4.73	6.74
Operating Profit Margin (c=PBIT/Sales)	0.02	0.02	0.02
Asst Turn Over (d=Sales/Av. A)	1.34	1.10	0.85
Financial Leverage (e=Av. A/Av. E)	2.35	2.19	2.07
ROE (after tax) [axbxcxdxe]x100	23.38	17.96	17.27

*Asset-wise Top-100 companies of 2016 have been taken with available financials on KSE website as of March 15, 2017.

**Financial Charges have been taken as proxy of interest expense

Source: PSX

Dwindling sales performance affecting corporate sector...

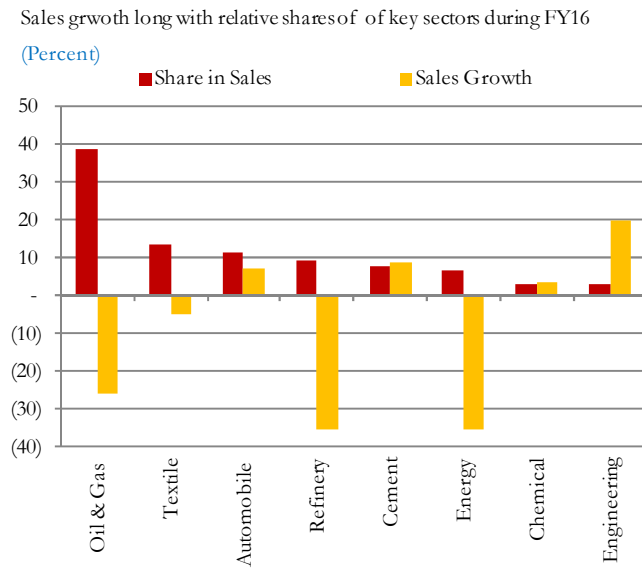
Dwindling sales have taken their toll in terms of reducing ROE since last couple of years. Sector-wise investigation reveals that diminishing sales are broad based and more pronounced in the oil & gas and Refinery sectors, most likely, due to continued plunge in oil prices (**Figure 3.7.2**).

The revenue stream of textile sector – the largest borrower of banking sector, is also on the downside. In FSR-2015, we did highlight several challenges for

¹⁵⁷ Equity is more expensive source of capital than debt and, thus, reduces ROE.

the textile sector including (a) inadequate energy supply, (b) reduced external demand and textile exports, (c) decrease in global commodity prices (particularly cotton prices), (d) reduced demand from China – a major importer of Pakistani textile products etc.¹⁵⁸ Few of these challenges still prevail.

Figure 3.7.2
Sales growth of key corporate sectors has declined in 2016



Source: PSX

However, the outlook for these sectors is positive as oil & gas sector may benefit from the recent rebound in international oil prices while textile sector is expected to recover owing to positive economic outlook, better energy supply, improved security condition¹⁵⁹, and recently announced package from the government enabling the sector to avail several cuts in duties.¹⁶⁰

Rating culture is not yet developed in Pakistan...

Besides financial health, debt repayment capacity of the corporate borrowers can also be gauged through their credit risk ratings. Generally, different rating

¹⁵⁸ See State Bank of Pakistan “Financial Stability Review – 2015”

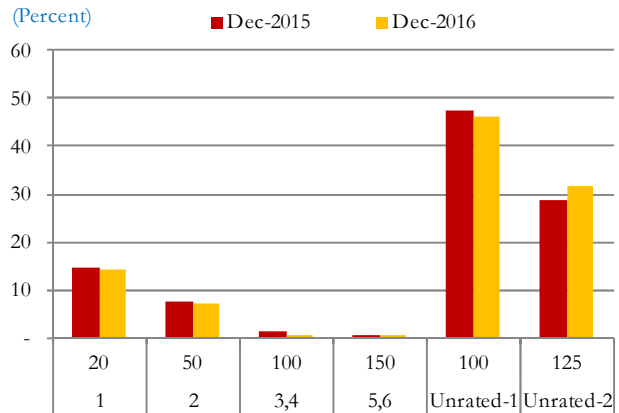
¹⁵⁹ <http://oicci.org/wp-content/uploads/2015/12/BCI-Wave-12.pdf>

¹⁶⁰ Recently, government has announced package of PKR 180 billion giving several incentives to textile sector to boost export.

grades provide specific probability of default. In this regard, credit rating agencies play a pivotal role. They assign ratings to debt securities, structured finance instrument or issuers of the instruments (i.e. institutions).

Figure 3.7.3
Most of banks' lending to corporate sector falls in unrated segment

Share of outstanding banks' lending to corporate sector against SBP's supervisory mapped rating grade*



* Banks are required to map the rating grades assigned by rating agency with SBP supervisory rating grades ranging from 1 to 6. For example, AAA to AA- fall in grade 1 with 20 percent risk weight.

Source: SBP

The rating culture in Pakistan is, however, not widely spread as major portion of corporate entities remains unrated (**Figure 3.7.3**). Most corporate borrowers of banks have not been rated by any authorized External Credit Assessment Institution (ECAI: i.e. the rating agency). As a result, banks that may use corporate borrower's/instrument's ratings for capital adequacy purposes under Basel III (better the rating, lower the capital charge) might suffer in terms of higher capital charge.

Banks appear to be unable to persuade their borrowers to get them rated by ECAI. The reasons may be (i) fee cost associated with the rating (b) CAR is already well above the regulatory required level (little incentive to save capital) etc. However, going forward, considering the dynamics of international and domestic regulatory environment, ratings could gain more traction. Further, SBP is

also playing its part to promote the rating culture in Pakistan.¹⁶¹

High financing concentration exposes the equity of banks ...

The banks' lending to corporate sector seems to carry concentration risk with top 30 group borrowers holding around 31.66 percent share in total private sector corporate loan portfolio as of December 31, 2016. The low granularity of loan portfolio exposes banks' equity to default of large borrowers with systemic repercussions. It has been observed during 2010-11 that large exposure defaults hit the banks' bottom lines and, consequently, eroded their equity base.¹⁶²

Business friendly environment needs to flourish...

Financing demand requires investor friendly business environment. Pakistan's ranking in terms of "Ease of Doing Business" is 144 (out of 189 countries) in the year 2017. Though the ranking has improved compared to year 2016 (148), it is still on the lower side (**Figure 3.7.4**).¹⁶³ Noticeably, the rankings are low on several accounts: inadequate electricity (Pakistan's rank 170), trading across border (rank 172), registering property (rank 169), enforcing contract (rank 157) etc.

Financing through capital market is limited...

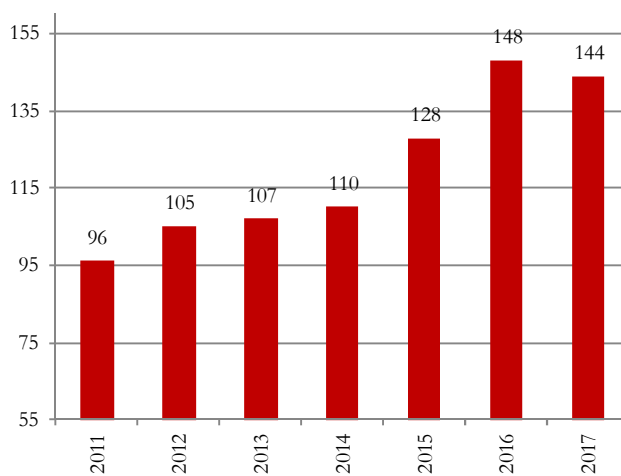
Given the balance sheet strength of the corporates, the non-issuance of debt instruments at local bourse is understandable. Non listed corporates may also do not prefer financing from capital market, to (a)

evade market disclosure (one of the listing requirements) for tax evasion purpose and (b) prevent dilution of business ownership. The below potential usage of capital market creates frictions and, consequently, features of free market operations such as price discovery, liquidity, and low cost are not fully met.

Figure 3.7.4

Pakistan's ranking in "Ease of Doing Business" index is low, though has improved

Pakistan's ranking in "Ease of Doing Business" index
(Lower numerical value shows better ranking)



Source: World Bank

Outlook for the corporate sector is positive ...

The better performance of the corporate sector is likely to continue in CY17, given the positive economic outlook. The strong cash generation through operations and high profits may result in some plough back of the earnings for sustaining the growth.

Taking a holistic view, the risks to financial sector coming out of the corporate sector appear marginal in short to medium term. However, given the enabling environment, the corporate sector also needs to innovate in terms of production processes, product development, quality controls, price rationalizations and financing avenues.

¹⁶¹ For example, banks are required to rate their corporate (and consumer) borrowers through their internal risk rating system where SBP monitors the compliance regularly. Further, as of 31-12-2015, SBP imposed risk weight of 125 percent on unrated corporate borrower with loan size of PKR 3 million and above.

Source: BSD Circular No.8 of 2007

(<http://www.sbp.org.pk/bsr/d/2007/C8.htm>) and BSD Circular No.9 of 2015(<http://www.sbp.org.pk/bprd/2015/CL2.htm>)

¹⁶² See FSR, 1st Half, 2011

<http://www.sbp.org.pk/fsr/2011/pdf/Chap-02.pdf>

¹⁶³ Source: World Bank

<http://www.doingbusiness.org/data/exploreconomies/pakistan>

3.8 Risks to the Household Sector

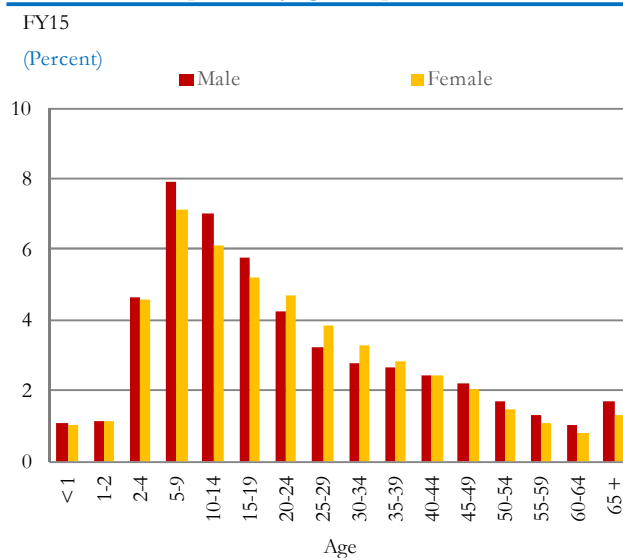
Limited data prevents the detailed assessment of financial soundness of the household sector. In terms of exposure, banking sectors advances to households (i.e. consumer loans) account for only 6.18 percent of total advances while deposits of households (i.e. individual deposits) constitute 48.72 percent of total deposits. Asset quality of consumer finance has improved though NPLR is high for mortgage financing. Steadily rising per capita income and a large 'youth bulge' in labor force provides an opportunity for households to create buffers against shocks. However, high unemployment rates for females, low-level of savings and high-level of borrowings as percentage of household income pose a risk to the financial soundness of the poorest households in the future. In light of the demographic trends, where the share of youth in the population is large and female unemployment is high, banks need to offer saving and credit products geared towards them.

Recently, and specifically after the GFC of 2008, viability of household balance sheets has become important. Various studies have traced the onset of the GFC in the United States of America to the rapid and unchecked increase in supply of mortgage loans in early 2000's to the US households having relatively low credit worthiness which resulted in very large delinquency rates on mortgage loans triggering the financial crisis¹⁶⁴. In this respect, the household sector and the health of its balance sheet is critical to the stability of financial and banking system.

In Pakistan, households are the major savers in the economy but they are not the major borrowers. Household's share in bank deposits (individual deposits) is 48.72 percent while their share in bank loans (consumer loans) is 6.18 percent. So, in terms of credit risk, households do not pose any significant risk. Nevertheless, it is important to assess the dynamics of the household demographics and finances for the growth of the financial sector.

¹⁶⁴ Mian, A. and Sufi, A. (2011). Household Balance Sheets, Aggregate Demand And Unemployment. Pakistan Society of Development Economics – Quaid-e-Azam Lecture. Islamabad. <http://www.pide.org.pk/psde/pdf/AGM27/PSDE_QaideAzamLecture_Dec2011.pdf>

Figure 3.8.1
Distribution of Population by Age Group, Gender



Source: Labour Force Survey 2014-15, Pakistan Bureau of Statistics

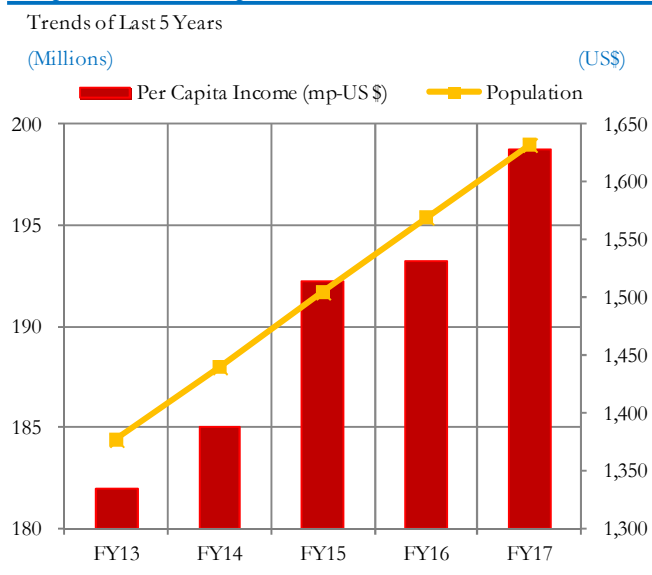
Population and Labor Force Trends

Pakistan is a country with a large *youth bulge* as approximately 80 percent of the population is 39 years or below¹⁶⁵ (see Figure 3.8.1). The youth bulge is a common phenomenon in many developing countries where infant mortality has been reduced but female fertility rate is still high. As a result, the population of such countries comprises

¹⁶⁵ Labour Force Survey 2014-15, Pakistan Bureau of Statistics <http://www.pbs.gov.pk/sites/default/files//Labour%20Force/publications/lfs2014_15/t01-pak.pdf>

of a large share of children and young adults¹⁶⁶. The higher proportion of children and young adults in the population is bound to have effects on the balance sheet of Pakistani households. On the one hand, household expenditure is expected to be higher on education and skills/job trainings while on the other hand, household revenues could be higher if the youth gets employed.

Figure 3.8.2
Population and Per Capita Income



Source: Pakistan Economic Survey 2016-17, Ministry of Finance

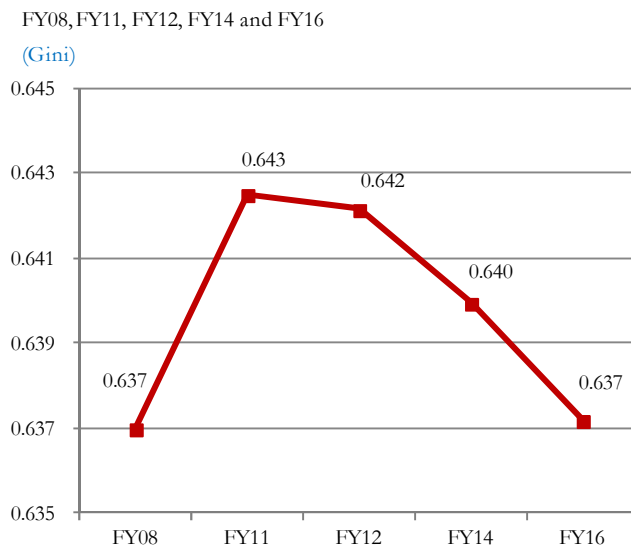
Per Capita Income is steadily rising but inequality is High

The Per Capita Income (PCI) is a useful statistic to understand income trends of households. In the five year period from FY13 to FY17, PCI in Pakistan has increased from US\$ 1,334 (FY13) to US\$ 1,629 (FY17) which translates into an increase of 22.14 percent over the five-year period (see **Figure 3.8.2**). However, PCI adjusted for Purchasing Power Parity (PPP) shows an increase from US\$ 4,461 in FY12 to US\$ 5,011 in FY15 which

¹⁶⁶ Lin, J.Y. (2012). Youth Bulge: A Demographic Dividend or a Demographic Bomb in Developing Countries? <<http://blogs.worldbank.org/developmenttalk/youth-bulge-a-demographic-dividend-or-a-demographic-bomb-in-developing-countries>>

represents an increase of only 12.33 percent over the four year period.

Figure 3.8.3
Gini Co-efficient of Income Inequality



Source: HIES 2015-16, HIES 2013-14, HIES 2011-12, HIES 2010-11, HIES 2007-08, Pakistan Bureau of Statistics

Analysis of different rounds of Household Integrated Economic Survey (HIES) from FY08 to FY16 shows that Gini co-efficient¹⁶⁷ of income inequality has remained very high, average 0.639, and has hovered around this figure for the entire eight-year period.¹⁶⁸ Although Gini co-efficient of income inequality is high, it has been on a slightly downward trend from FY11 (0.643) to FY16 (0.637) as the economic growth has picked up pace (see **Figure 3.8.3**). High and persistent level of inequality may harm the economy by causing financial crises. Inequality may lead to stagnation of incomes of a section of households in the economy and those households could increase their

¹⁶⁷ As per Organization of Economic Cooperation and Development (OECD), the Gini coefficient is defined as “the comparison of cumulative proportions of the population against cumulative proportions of income they receive, and it ranges between 0 in the case of perfect equality and 1 in the case of perfect inequality”. <<https://data.oecd.org/inequality/income-inequality.htm>>

¹⁶⁸ Gini coefficients have been computed using HIES surveys’ Table 12. Household Integrated Economic Survey (HIES) provides income and expenditure data of households in quintiles.

borrowings in order to meet their rising consumption expenditures, eventually leading to high and unsustainable level of debts. Conversely, if the incomes of the richest households keep increasing disproportionately due to high inequality, these households could end up with excess savings, which fuels speculative investment and financial bubbles¹⁶⁹.

Labor Force Participation Rates for Males in some age brackets are Three Times that of the Females

As per the latest data available in the Labor Force Survey of 2014-15, the labor force participation rates¹⁷⁰ are more than 96 percent or more for males in the age brackets of 25 – 54 years while for females in the same age bracket, the participation rates range from 26 percent to 32 percent.¹⁷¹ In comparative terms, labor force participation of males in the 25 to 54 years age bracket is more than three times that of the females in the same age bracket. This implies that females in the working-age population are not becoming part of the labor force and potential income streams are not being realized. Increasing female labor force participation rates will increase household income and increase resilience of households to income shocks.

Unemployment rates on downward trajectory after FY13

The Pakistan Economic Survey of 2016-17 shows that the unemployment rate in Pakistan has been hovering around 6 percent (on average) during

¹⁶⁹ Interview of Professor Lane Kaneworthy of University of Arizona on Inequality:

<https://economix.blogs.nytimes.com/2014/03/25/qa-a-sociologist-on-inequality/?_r=0>

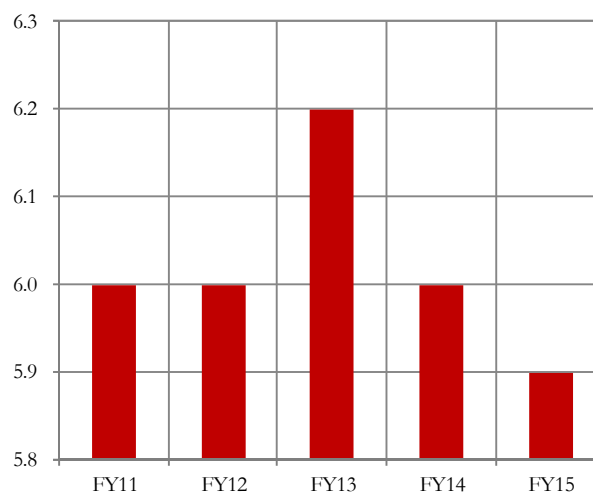
¹⁷⁰ As per OECD, the Labour Force Participation Rate is calculated as “the labour force divided by the total working-age. The working age population refers to people aged 15 to 64. This indicator is broken down by age group and it is measured as a percentage of each group.” <<https://data.oecd.org/emp/labour-force-participation-rate.htm>>

¹⁷¹ The labor force participation rate is for the following 6 age brackets presented in the survey: 25 - 29, 30 – 34, 35- 39, 40 – 44, 45-49, 50- 54. Pakistan Economic Survey 2015-16. http://www.finance.gov.pk/survey/chapters_16/12_Population.pdf

FY11-FY15, but the unemployment rate has declined since FY13 (See Figure 3.8.4). With pick-up in economic growth and steadily rising income per capita, unemployment is expected to decline further, which would positively impact households’ repayment ability.

Figure 3.8.4
Unemployment Rate

Trend of 5 Years: FY11 to FY15
(Percent)



Source: Pakistan Economic Survey 2016-17, Ministry of Finance

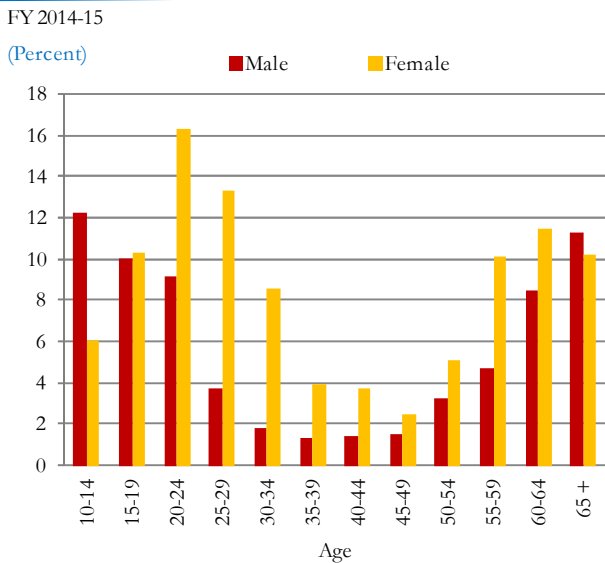
Unemployment rates for females are consistently higher than those for males

Unemployment rates by age group and gender shows that unemployment rate in the 20-24 age bracket for males is 9.15 percent which drops below the average unemployment rate of 6 percent for the age bracket 25 - 59 years.¹⁷² However, for females the unemployment rates are very high for the age brackets 20 – 24 years (16.35 percent) and are consistently higher than the male unemployment rates for all age brackets except the very young age bracket of 10-14 years and 65+ years (See Figure 3.8.5). With low female participation rate and higher

¹⁷² The labor force participation rate is for the following 7 age brackets presented in the survey: 25 - 29, 30 – 34, 35- 39, 40 – 44, 45-49, 50- 54, 55 - 59.

female unemployment, the potential income streams are not being utilized by the households.

Figure 3.8.5
Unemployment Rates by Age Group, Gender



Source: Labour Force Survey 2014-15, Pakistan Bureau of Statistics

Income, Expenditure and Savings of Households

In order to ascertain the balance sheet position of households, two rounds of Household Integrated Economic Survey (HIES) published by Pakistan Bureau of Statistics (PBS) have been used. HIES is a pertinent source for analysis of income and expenditure trends of households and presents data pertaining to households in quintiles¹⁷³.

¹⁷³ Consumption quintiles are used to distinguish the population according to their welfare: poorest households are grouped together into the 1st quintile, those with higher consumption into the 2nd quintile, and so on. Five quintiles rank the population from the poorest 20 percent to the richest 20 percent. The main aim of quintile is to analyze how social and economic indicators change in relation to people's welfare. (Household Integrated Economic Survey (HIES) 2016).

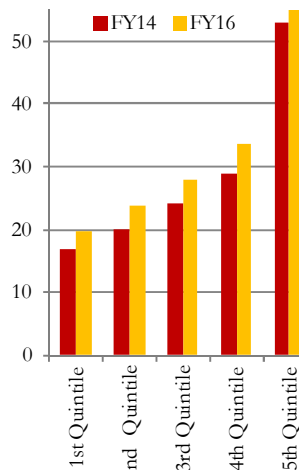
http://www.pbs.gov.pk/sites/default/files//pslm/publications/hies_15-16/write%20up%2015-16-HIES-final_0.pdf

Household Income is much greater than Household Expenditure for the Fifth Quintiles

Analysis of household income and expenditure shows that household income and expenditure are almost equal to each other for the first three quintiles i.e. 1st, 2nd and 3rd quintiles because of which household savings (difference of household income and expenditure) is very low (see Figure 3.8.6 and 3.8.7).

Figure 3.8.6
Household Income

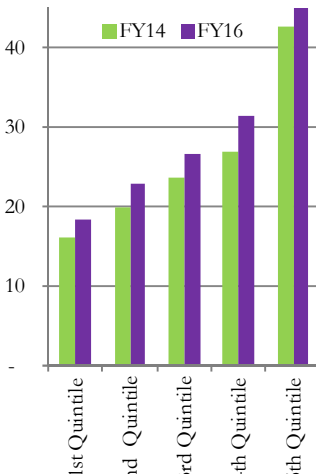
Quintile-wise FY14 & 16 position (PKR Thousand)



Source: HIES 2013-14, HIES 2011-12, PBS

Figure 3.8.7
Household Expenditure

Quintile-wise FY14 & 16 position (PKR Thousand)



Source: HIES 2013-14, HIES 2011-12, PBS

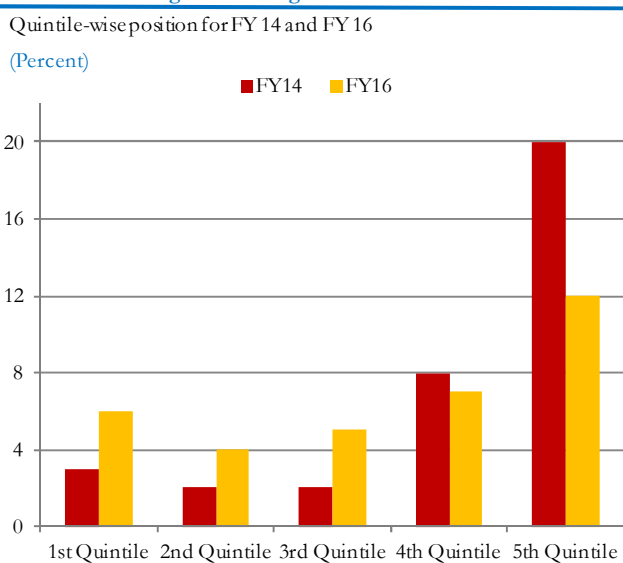
Household income is greater for the fifth quintiles as compared to household expenditure. It implies that relatively rich households are able to generate a higher level of savings as compared to the poorer ones. So as income rises, consumption, as a portion of income, falls and households are left with additional resources to save.

Savings in the Fifth Quintiles are disproportionately large but they have declined in FY16

In fact, households in the fifth quintile - which are the richest twenty percent of the households - have disproportionately large levels of savings, as

percentage of their household income, as compared to savings of households in the first four quintiles. (see **Figure 3.8.8**). However, in FY16 the household savings as percentage of household income in the 5th Quintile has dropped to 12 percent from 20 percent in FY14. This may not be a good sign for the richest households as low level of savings will reduce their resilience to any income shocks in the future. On the other hand, the saving capacity of the lower quintiles have improved as a percentage of their income.

Figure 3.8.8
Household Saving as Percentage of Household Income



Source: HIES 2013-14 & HIES 2015-16, Pakistan Bureau of Statistics

Consumption expenditures dominate the income earned

Consumption expenditure is very high for all quintiles, constituting around 90 percent of all expenditure for all quintiles across the two HIES surveys except for the 5th quintiles in the HIES 2013-14 survey (where consumption expenditure is 86 percent) (see **Table 3.8.1**). This shows that consumption expenditure is a very large component of expenditure regardless of the income status of households.

Table 3.8.1

Comparison of Consumption Expenditure across two HIES Surveys

Consumption Expenditure	Quintiles				
	1st	2nd	3rd	4th	5th
	Percent				
HIES 2015-16	91	94	90	95	96
HIES 2013-14	93	95	97	92	86

Source: HIES 2015-16, HIES 2013-14

Debt Burden of Households

In order to ascertain the financial position of households, Net Borrowing and Net Sale of Other Assets are being considered. Debt burden of the households can be computed by taking ratio of Net Borrowing of Households against Total Household Income¹⁷⁴.

Households in all five Quintiles are, on average, Net Borrowers but the richest households are the least indebted

Interestingly, as per both rounds of HIES used for the current analysis, households in all five quintiles are on average net borrowers with households in the 1st, 2nd and 3rd quintiles being large net borrowers in terms of proportion of their incomes while households in the 5th quintile borrowing the least as proportion of their incomes (2 percent for HIES 2015-16 and 1 percent for HIES 2013-14) (see **Figure 3.8.9**). The richest households are the least indebted as a proportion of their incomes.

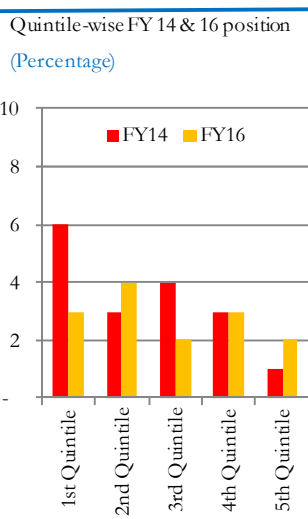
¹⁷⁴ As per HIES framework, the definition of Net Borrowing consists of two parts: (a) the value of loans obtained minus the loans repaid (including interest/profit) and (b) the difference between the values of loan given out minus repayments on such loan received. Net borrowing is net loans obtained minus net loans given out. Hence, a positive value of Net Borrowing for a household shows that a household is paying more amount for principal and interest payment for loans borrowed than the amount it is receiving in lieu of principal and interest payment for loans disbursed to other agents. (Household Integrated Economic Survey (HIES) 2016). http://www.pbs.gov.pk/sites/default/files//pslm/publications/hies-15-16/write%20up%2015-16-HIES-final_0.pdf

Households are making more investment in assets for future financial gains as income rises

Another important indicator of financial position of households is the Net Sale of Other Assets¹⁷⁵ which includes difference of sale and purchase of financial assets (stocks, shares and other securities) and some selected assets such as precious metal, jewelry etc. Hence, a negative value of Net Sale of Other Assets implies that a household is a net purchaser of other assets.

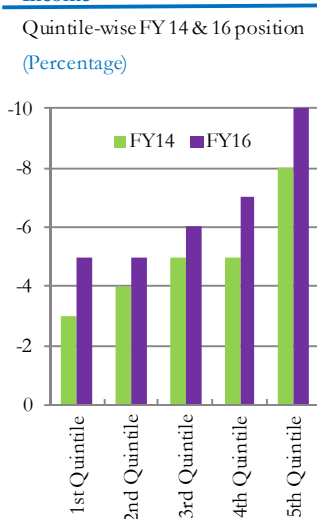
Both rounds of HIES used for the current analysis reveal that from the 1st Quintile to the 5th Quintile, households progressively purchase more ‘other assets’ as their household income increases (See **Figure 3.8.10**).

Figure 3.8.9
Net Borrowing as Percentage of Household Income



Source: HIES 2015-16, HIES 2013-14, PBS

Figure 3.8.10
Net Sale of Other Assets as Percentage of Household Income



Source: HIES 2015-16, HIES 2013-14, PBS

¹⁷⁵ In HIES, the definition of Net Sale of Other Assets includes sales minus purchases of stocks, shares and other securities; withdrawal from deposits minus savings added to deposits; sales minus purchases of gold, silver and precious metals (including jewellery), and the sale of durable items. Also cash transfers for dowry and inheritance have been considered asset movements and added to the net sale of assets (cash expenses minus values received). Finally, from this aggregate those amounts that households reported as losses of cash were deducted. (Household Integrated Economic Survey (HIES) 2016). http://www.pbs.gov.pk/sites/default/files//pslm/publications/hies-15-16/write%20up%2015-16-HIES-final_0.pdf

The trend of net purchasing of other assets across all quintiles implies that households are making investments in assets which could result in financial gains in the future.

From the above analysis of HIES surveys it is evident that as household income increases their investments in financial assets increases. The trend of investments in financial assets with increase in income is positive as it shows that households at all income levels and specially the high income households are using the financial and banking sector to channel their savings and investments.

Default Risks in the Household Sector:

This section briefly looks at the default risks by the households using infection ratios of consumer financing portfolio of banks¹⁷⁶.

The consumer finance portfolio has five sub-categories, namely: Credit cards, Auto loans, Consumer durables, Mortgage loans and Personal loans.

Infection ratios in mortgage loans, despite decline, remains highest...

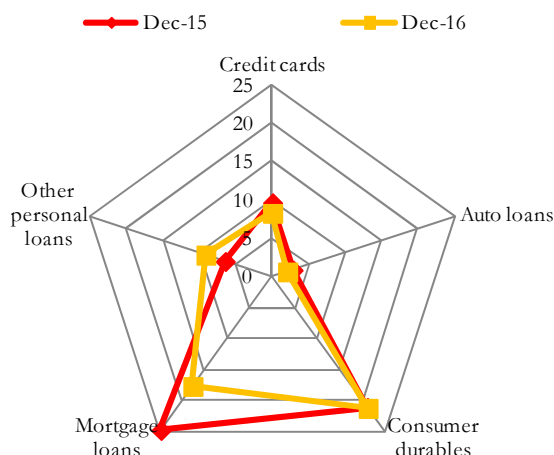
The Consumer Financing Stability Map shows similar pattern of infection ratios of loans in Credit cards, Auto loans and Consumer durables for CY16 in comparison with CY15 (see **Figure 3.8.11**). As discussed in Chapter 3.1, infection ratio in Mortgage loans have considerably declined in CY16 due to increased lending by medium-sized banks and Islamic banks, but infection ratio of the segment still remains the highest in the consumer finance segment.

¹⁷⁶ It must be noted that the consumer finance portfolio caters to households which have bank accounts and these households generally have higher education and income levels as compared to the rest of the population.

Figure 3.8.11

Consumer Financing Stability Map - Infection Ratios

Comparison of Infection Ratios of December 2015 and December 2016
(Percent)



Source: FSD, SBP

Real estate sector may be unattractive for banks ...

In the Federal Budget of FY2016-17¹⁷⁷ and the subsequent amnesty scheme introduced in December 2016, the government levied fixed tax on builders and developers on the basis of developed or built up area for various cities across the country. The objective of these measures was to improve tax collection to match the level of investment and profits accruing in the construction sector. However, these taxation measures did not yield the expected results due to which the government has proposed to reintroduce the normal tax regime for land builders and developers in the Federal Budget FY2017-18.¹⁷⁸

It is pertinent to mention that clarity in taxation rules is pivotal to remove uncertainty and price

¹⁷⁷ Federal Board of Revenue (2016). Finance Bill 2016-17. Islamabad. <<http://www.fbr.gov.pk/budget2016-17/FinanceBill/Finance%20Bills%202016%20Final.pdf>>

¹⁷⁸ Federal Board of Revenue (2017). Salient Features – Customs Salient Features – Budget FY2017-18. <<http://www.fbr.gov.pk/Budget2017-18/SalientFeatures/SalientFeatures.pdf>>

escalation in the real estate market. From the perspective of the households, it is important to keep a check on prices of real estate, so that the low end segment of the population can actively participate in the real estate market.

The real estate sector in Pakistan has historically failed to generate enough interest from the banks in terms of mortgage finance schemes. In Pakistan housing finance uptake has remained low due to various factors such as weak foreclosure standards and lengthy judicial procedures, high interest rate spreads, non-automation of documentation, non-standardization of procedures amongst various housing schemes, and high portion of very low income group of population. However, as already mentioned in Chapter 3.1, a set of laws and legal amendments have been enacted that are expected to facilitate cleaning bad loans from the books of banks and enhance private credit. These new developments present opportunities to banks to increase lending in the mortgage finance sub-segment.

Outlook of the Auto Sector is positive...

The outlook of the Auto sector looks positive as the Board of Investment (BoI), Government of Pakistan has announced that French car manufacturing company Renault will start assembling cars in Pakistan by 2018 while efforts are being made to attract other foreign auto manufacturers to set up auto manufacturing plants in Pakistan¹⁷⁹. Further, the increase in import of refurbished cars in the 600-1000 CC segment, growth of the ride-hailing services and the increased availability of hybrid cars will increase the choice set of consumers. It is expected that the banking sector

¹⁷⁹ Board of Investment (2016). Press Release to Review the Auto Policy. <http://boi.gov.pk/ViewNews.aspx?NID=%201104>

will also complement the surge in activity in the auto sector by introducing new auto loans schemes for the consumers.

Outlook of Household Sector

High unemployment rates (especially for females), low-level of savings, and high-level of borrowings as a percentage of household income, at the lower end of the distribution, pose a risk to their financial soundness. Nevertheless, households are making more investments in financial assets as their incomes increase. It is expected that with rising GDP per capita households would become more active agents of the financial system.

Furthermore, announcement of new investments in the Auto sector shows that consumers may have more choice for cars in the future. It may be reasonable to assume that the financial and banking sector will not be isolated from these developments and hence there may be an uptick in Auto loans. Further, the mortgage finance sector could also improve in the wake of legal and regulatory developments.

A potential for a win-win situation exists for banks and households, if banks are willing to cater to the needs of the young population especially women. Banks need to come up with more banking products specifically saving and credit products geared towards the youth and female population. For banks, this will result in greater deposit mobilization while it will also increase the savings of households and provide them more opportunities for credit uptake. Generally access to financial products geared towards females and youth will lead to improvement in the balance sheet of the households as well.

4 Resilience of the Banking Sector

A stress scenario is not a forecast of macroeconomic and financial conditions. It is a hypothetical but coherent tail-risk simulation that is designed specifically to stress test the resilience of the financial system to deterioration in macroeconomic conditions. Based on the simulation results, banking sector is found resilient to adverse domestic scenario but in case of extremely adverse global scenario the capital adequacy falls below the benchmarks. Further, sectoral level default analysis suggests that Textile and Sugar sectors are relatively vulnerable to global shocks.

4.1 Background & Developments

In continuation of FSR 2015, which had underpinned certain challenges for the banking sector's resilience under hypothetical stress conditions; this year's resilience assessment has been built on similar premises but extends the analysis in a number of ways.

With rising interconnectedness of global markets, no economy can operate in silos and is immune from global economic shocks. Likewise domestic events, such as natural calamities, have a history of disrupting economic growth and banking sector's performance. Keeping this in mind, three separate scenarios have been designed to assess the resilience of the banking sector in the coming three years (Q1CY17-Q4CY19).

In terms of shock distribution, apart from analyzing the *baseline* (business as usual) scenario or *Scenario 0*, two separate adverse scenarios are considered. *Scenario 1*, the domestic scenario, assumes crystallization of idiosyncratic shocks (such as, natural disasters, floods, earthquake etc.) to the macroeconomy of the country. *Scenario 2*, on the other hand, assumes disruptions to the global economy including Pakistan i.e. it assumes systemic events. Scenario 2 is, therefore, considered to be more severe than Scenario 1.¹⁸⁰

In terms of methodology, global adverse scenario (i.e. Scenario 2), this year, is based on detailed quantitative forecasts of key variables. Also, to enhance the forecasting accuracy, the estimates of multivariate linear regression (*using OLS*) are complemented by Vector Auto-Regression (VAR) Models and Vector Error Correction Models (VECM), where appropriate. VARs and VECM ensure taking contemporaneous correlations among chosen variables into account and VECMs also consider cointegrating relationships, if existing.

In terms of coverage, besides assessing the credit and interest rate risks that were also considered in the last year's FSR, exchange rate risk has also been evaluated. Importantly, banks' resilience against sectoral level (textile, sugar, cement and agriculture) credit losses has also been estimated. The resilience of the sectors has been tested under the same scenarios but using additional sector specific explanatory variables.

Below the design elements of all three stress scenarios are discussed followed by both system-wide and sectoral results. Technical details of the methodologies and model equations along with selected estimation results are given in Box 4.1.

¹⁸⁰ In Stress Testing, usually three types of scenarios, based on the length of the shock events, are considered: V-shaped, L-shaped and

U-shaped. Under this terminology, Scenario 1 is V-shaped and Scenario 2 is L-shaped.

Scenario Design Overview:

The stress testing simulation exercise considers a period of 3-year (12 quarters), starting in Q1CY17 and ending in Q4CY19, for the three simulations.

The *Scenario 0* assumes the business as usual, in the global and domestic economy, and is largely based on recent macroeconomic forecasts published by global observers¹⁸¹. *Scenario 1* has been designed, primarily, on the basis of adverse domestic events such as the 1992 floods, which have disrupted the output growth (particularly, the agriculture growth). *Scenario 2*, the extremely adverse scenario, assumes severe shocks to the global economy, on the pattern of GFC of 2008, which are also assumed to disrupt the domestic economy.

For all the three scenarios, stress test models are designed keeping in view the linkages between the real sector, external sector and the monetary (*and banking*) sector. It is also assumed that government may act through changes in prices (e.g. Interest Rates, Inflation, and Exchange Rate).

The basic underlying assumption of the exercise is that the Macroeconomic variables (MVs), such as Gross Domestic Product (GDP), Large Scale Manufacturing (LSM) Index, Inflation (CPI), Interest Rates (KIBOR) etc. have implications for the financial variables, such as Gross Non-Performing Loans Ratio (GNPLR), Profitability (ROA) and Solvency (CAR). This is because economic downturns and upturns influence borrowers' capacity to service their debts (say, through changes in employment status and income levels) and banks' earnings (say, through changes in default levels and risk appetite). A variant of the

Credit Portfolio View (CPV) model¹⁸², estimates this one-way causation.

Under this approach, in case of Pakistan, it is assumed that the Gross Non-Performing Loans Ratio (GNPLR) is a function of industrial output (LSM index), Exports (XP), developments in stock market (PSX index), inflationary pressure (CPI Index) and prevailing risk pricing (6 months KIBOR).

Financial sector also influences the real economy. Certainly, the GFC of 2008, is a testament to the cross correlations existing between the two. Therefore, to account for the two-way correlations, VARs and VECMs have also been estimated for all the three scenarios, mostly using same macrofinancial variables as in CPV.

The weighted average of these estimations is taken in accordance with their in-sample precision, while arriving at the final forecasts.

Besides credit risk, the resilience of the banking system has also been assessed against market risk (interest rate and exchange rate) and operational risk. Any fluctuations in interest rates, generally, impact not only the composition of rate sensitive assets and liabilities but also banks' profitability through revaluation gains/losses. Likewise, external factors have stronger influence on economic soundness and exchange rate movement can affect the banking sector's profitability on account of its net open position (NOP) in foreign currency.

In the simulations it has been assumed that the long term interest rates are a linear function of expected short term rates¹⁸³. Therefore, any changes in the

¹⁸¹ The forecasts are largely based on IMF's recent forecasts (World Economic Outlook April 2017)

¹⁸² Based on Blaschke, W., M. T. Jones, G. Majnoni, and S.M. Peria (2001), "Stress testing of Financial System: An Overview of Issues, Methodologies, and FSAP Experiences" IMF Working Papers WP-01/88

¹⁸³ Expectation Hypothesis- *Predictions of Short-Term Rates and the Expectations Hypothesis of the Term Structure of Interest Rates*. Massimo, Thornton-ECB Working paper series (No. 977/December 2008)

market risk premia (KIBOR) would shift (parallel) the yield curve accordingly. The exchange rate (ER) forecasts are estimated using the uncovered interest rate parity (UIP) condition.

For operational risk assessment, the Basic Indicator Approach in accordance with Basel II standards has been applied. (see Box 4.1)

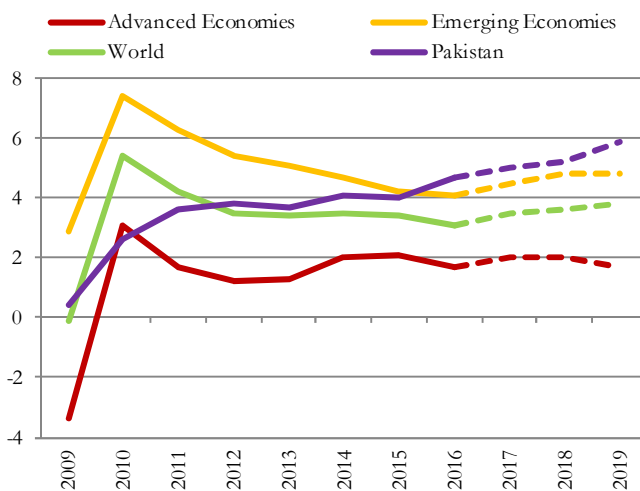
Scenario 0: Baseline

In *Scenario 0* it is assumed that the domestic and world economies are going to grow broadly consistent with the IMF's WEO forecasts of April 2017. No disruptions of any kind arising from idiosyncratic or systemic shocks are considered. Under this scenario, it is largely expected that the economic and banking performance will likely maintain its current growth path or would improve.

Figure 4.1

IMF annual Real GDP Growth Forecast

Percent GDP growth Actual and Forecast (Dotted lines)



Source: IMF World Economic Outlook April 2017

Note: Average GDP growth for 2019-2022 is reported, which is the value taken for 2019

Given the recent performance, most of the international observers are forecasting better position of the economy of Pakistan in the coming

years¹⁸⁴ (Figure 4.1). It can be seen that the major economies recovered from the GFC with faster pace than Pakistan; however, the growth in our GDP surpassed others in 2016.

Similarly, Moody's (February 2017) has projected Pakistan's growth at 4.9 percent and 5.0 percent (as against 5.0 percent and 5.2 percent by the IMF) in 2017 and 2018. They have added that the CPEC project will continue to support manufacturing and structural development activities, and will be a key driver of this growth.

The projected GDP growth of Pakistan is then assumed to map into LSM growth, proportionately. In view of the upcoming elections in 2018, it is assumed that government spending would increase as the structural development programs and mega projects are initiated and projects pick pace towards completion. As the demand in the economy grows, inflation is also expected to rise, somewhat. The point forecasts of inflation are obtained using exponential smoothing, assuming that it follows recent trend.

Exports are expected to rise along with better stock market performance, while interest rates are expected to provide the enabling environment. All these three variables are assumed to be largely reactionary; therefore, appropriate linear OLS models have been used to obtain their forecasts.

Scenario 1: Domestic

Historically, domestic events like natural calamities, political uncertainties and deteriorations in law and order cause disruptions in the domestic economy and shake the investor's confidence. For example, agriculture output growth experienced a steep fall after the 1992 flood. As a result, industrial production (large scale manufacturing) also

¹⁸⁴ IMF's latest projections (WEO of April 2017) suggest an upward growth trend till 2022.

witnessed negative growth with some lags. A brief summary of natural disasters in the country is given in Table 4.1 below:

Table 4.1

Major Natural Disasters in Pakistan

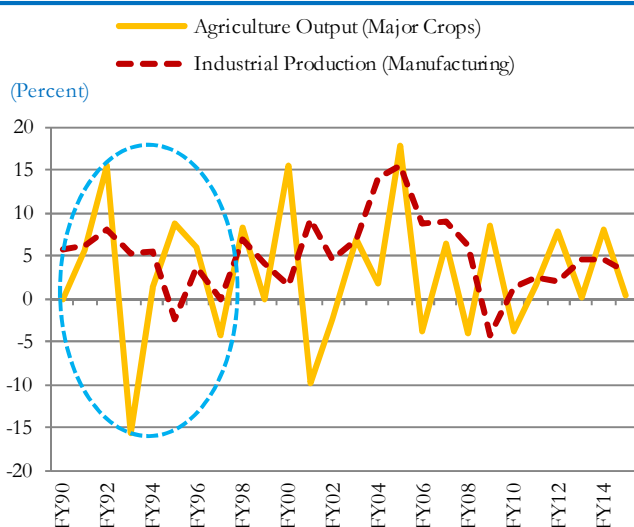
Disasters Type	Date	Human Death Toll
Earthquake	October 8, 2005	78,000.0
Flood	June 1, 1977	10,354.0
Wind Storm	December 15, 1965	10,000.0
Earthquake	December 28, 1974	5,300.0
Flood	1950	2,900.0
Flood	July & August 2010	1,645.0
Flood	September, 1992	1,334.0
Flood	March 3, 1998	1,000.0

Source: Pakistan National Disaster Management Authority (NDMA)

In scenario 1 it is assumed that domestic economy experiences some natural shock, similar to 1992 flood, at the beginning of the simulation period. Agriculture output, primarily due to crops, is assumed to fall substantially at the end of CY17, but will recover in CY18 and later.

Figure 4.2

Growth trend in Agriculture Output and Industrial Production



Source: S&DWH (SBP)

Industrial production is also assumed to come under stress and the manufacturing sector is assumed to follow growth pattern of 1993-1995 in CY17-CY19 (Figure 4.2).

In view of the post disaster relief initiatives and higher raw material imports, it is assumed that government's current expenditures would rise. The expansionary fiscal policy, in addition to supply shock, is expected to contribute to higher inflation.

As the growth in manufacturing declines, the growth in exports is also expected to decline. With low investor confidence, in this adverse scenario, the stock market is assumed to be bearish.

Moreover, in view of rising inflationary and external sector's pressures, it is hypothesized that the interest rates in the economy would rise. The forecasts of these key variables are obtained using the same linear models as in scenario 0.

As the macroeconomic conditions, in this assumed scenario, deteriorate initially and then recover the pressure on repayment capacity of the borrowers is likely to be transitory. The non-performing loans are, therefore, assumed to increase moderately under this scenario.

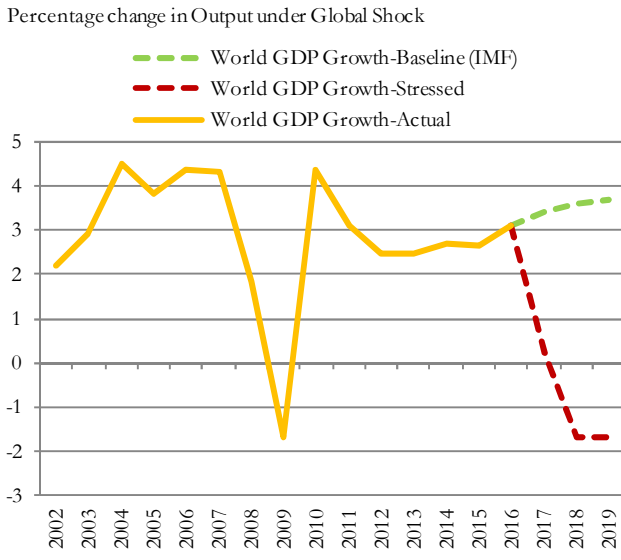
Scenario 2: Global

As per IMF's WEO, April 2017, the performance of the World economy has been deteriorating. From the level of 5.4 percent in 2010, the global real output has dropped to 3.1 percent in 2016 (a drop of 2.3 percentage points).¹⁸⁵ As per fund's statistics, major economies of the world (such as US, EU, Japan, China and Russia) are all facing decline in their outputs. Lowered and uncertain oil and commodity prices, euro-zone distress, political uncertainties, and US potential trade policy shift have added fuel to this decline. This has triggered a rapid deterioration of market sentiments globally and market

¹⁸⁵ Table A1. Summary of World Output, IMF, WEO, April 2017

participants have attempted to de-risk their portfolios by moving away from emerging markets and going towards less risky assets e.g., US treasuries.

Figure 4.3
Annual Growth in World Real GDP



Source: IMF World Economic Outlook April 2017 & Staff calculations

The key vulnerabilities of world economy such as US Government’s trade policy and its propositions towards revision of major trade agreements¹⁸⁶, uncertainties in oil prices and the political turmoil in the middle east, slower growth in China and Euro-zone etc. are assumed to put pressure on Pakistan’s trade, exchange rate, remittances and output. The global shocks are assumed to crystallize in scenario 2.

Amid this backdrop, the scenario 2 assumes that real world GDP growth will fall in the simulation period i.e. 2017-2019. From the current level of 3.1 percent World GDP is assumed to fall to 0.2 percent in 2017 and negative 1.7 percent in 2018 and 2019. This drop is consistent with the fall observed during the GFC of 2008 (Figure 4.3). This postulation is in

line with the adverse scenarios considered by other Central Banks (such as Bank of England).¹⁸⁷

It has been observed that in a crises situation, correlation among GDP growth rates across countries is significantly higher and closer to one.¹⁸⁸ It has also been found that factors such as heightened uncertainty and wake-up call that change investors’ perceptions, in addition to financial inter-linkages, are important in explaining the co-movement of output observed during 2008 crises. The scenario assumes that these channels would again operate strongly and would trigger global crises situation. Resultantly, global trade business is assumed to drop manifolds.

With the contraction of global trade, oil prices are susceptible to a decline on account of weaker demand. To ascertain the extent of drop in global oil prices in this stress scenario, simulated tail random values have been drawn from Wald distribution¹⁸⁹.

These additional factors, however, justify scenario’s assumption that the decline of world GDP would not show any sign of recovery in subsequent years of the scenario (against the actual event of 2008 where the start of recovery was observed in 2009).

As a consequence, Pakistan’s GDP is assumed to face a gradual decline as was observed during GFC 2008. The path of domestic GDP is forecasted using a linear model (See Figure 4.4). Given the path of GDP, LSM, a proxy for GDP, has been assumed to drop proportionately.

In the wake of declining global demand and domestic output, exports are also assumed to decline in this hypothetical scenario. This would in turn put pressure on the external sector which is

¹⁸⁶ NAFTA, TIFA, WTO etc.

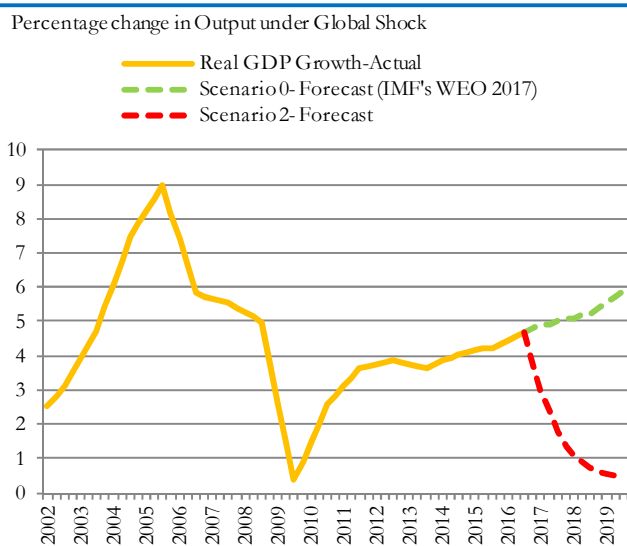
¹⁸⁷ Stress testing the UK banking system: 2015 results

¹⁸⁸ IMF October 2013, World Economic Outlook, Chapter 3

¹⁸⁹ Crude Oil Prices, trends & forecast, Nouredine Krichene (IMF, 2008, Working Paper No. 08/133)

likely to result in appreciation of foreign currencies. Domestic prices are then assumed to rise due to imported inflation. The extent of fall in exports is forecasted using the same linear model as previously (scenario 0), while the level of inflation has been assumed to be similar to its level during GFC of 2008.

Figure 4.4
Growth in Pakistan's Real GDP



Source: IMF World Economic Outlook April 2017 and SBP staff calculations

The tremors in the world economy are expected to further dent the confidence of the investors who are assumed to take refuge in safe heaven assets. Resultantly, stock markets of emerging economies, including Pakistan, are assumed to experience substantial and prolonged dip. Given the assumed inflationary pressures and external sector vulnerabilities, interest rates are likely to respond accordingly.

Stress Testing Results: System Level

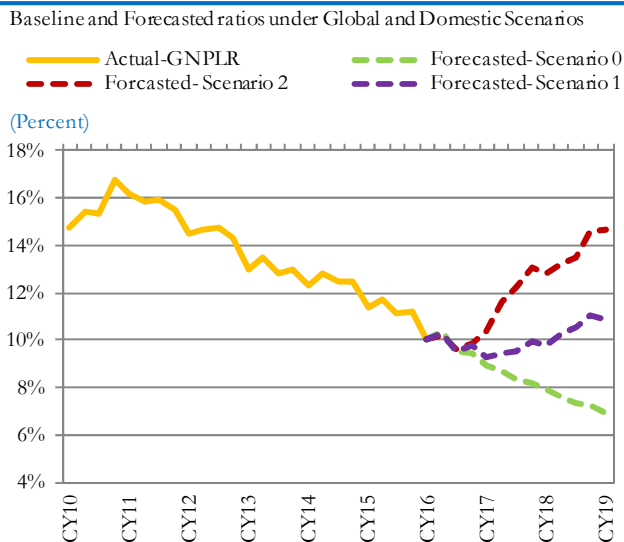
The stress test indicated that under the baseline scenario, the GNPLR ratio may decline from 10.06 percent in Q42016 to 8.94 percent by Q42017 and may further reduce to 6.88 percent by Q42019.

If the macroeconomic conditions deteriorate, the GNPLR may increase. GNPLR under baseline, global and domestic scenarios is given in **Figure 4.5**.

Under the scenarios, it can be seen that the banking sector is more vulnerable to the global shocks and the ratio shows an upward trend and reaches to the level of around 15 percent by Q42019. This increase however, remains below the worst level of GNPLR observed in recent past. This shows that the assumed crisis, erupted under global shocks, does not pose strong stability threat for the banking system of Pakistan.

Similarly, domestic led vulnerabilities (*sudden shocks like flood or earthquake*) or political change/uncertainties might not affect the banking sector stability that much and the system shows resilience against the assumed shocks.

Figure 4.5
Comparison of Quarterly GNPLR under different scenarios



Source: SBP and staff calculations

Capital Adequacy Ratio (CAR)

CAR of the system is a useful metric to assess the solvency profile since it captures credit, market and

operational risks simultaneously. However, it is assumed that the balance sheet structure would largely remain static, and so does the market risk and operational risk dynamics. CAR has been derived using effects of all the three major risks both on eligible capital and risk weighted assets of the banking system¹⁹⁰.

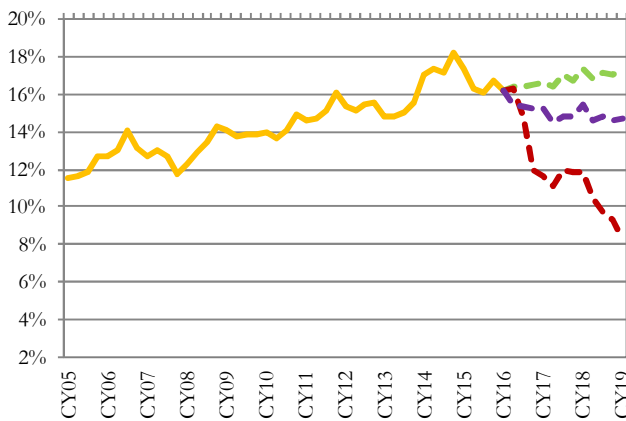
Under normal business conditions, the CAR of the banking system tends to increase by around 1 percentage point by the end of scenario period (2019Q4) which shows a healthy solvency profile of the banking sector (**Figure 4.6**).

Figure 4.6

Quarterly CAR- Forecast under different scenarios

Baseline and Forecasted under Global and Domestic Stressed Scenarios

— CAR-Banking System - - - Forecasted-Scenario 0
- - - Forecasted-Scenario 2 - - - Forecasted-Scenario 1
 (Percent)



Source: SBP and staff calculations

In global shock scenario, the impact seems to deteriorate banking sector's CAR significantly. It may be noted that the decline in CAR in CY17 and CY18 are almost near to what has been observed during GFC 2008, though it remains above local

¹⁹⁰ Increase in credit risk weighted assets has been mapped with the incremental rise in gross loans (net of provisions and taxes). Market risk weight is assumed to have been captured in scenario 0 projections for risk weighted assets. Operational risk weighted assets have been calculated using *Basic Indicator Approach* of the Basel II/III.

and global benchmark CAR levels.¹⁹¹ Additional assumption that no recovery occurs during post crisis, however, may result in further decline in CAR in 2019, which falls below local and global standards. For the domestic shock, the decline in CAR is observed but the fall is not extreme and remained above global and local CAR standards.

Stress Testing Results- Sectoral Level Default Analysis

In line with the system level default analysis, sectoral level infection ratio has been estimated for four (04) key sectors in this FSR which include *Textile*, *Cement*, *Sugar* and *Agriculture*. These sectors have been chosen keeping in view their contribution in overall domestic output (*such as textile and agriculture*) and also their sizeable borrowings from the banking channel and historical loan infection ratios.

For GNPLR, forecasts have been made using in-house time-series models which include sectors' specific variables to explain the infection ratio. Other macro variables are the same as forecasted in system-level simulations. This sectoral level assessment has made general observations regarding impact on profitability or solvency as both have not been quantified at sector level.

Textile Sector

Textile is one of the major industrial sectors and foreign exchange earners for the country. It also constitutes a significant portion of corporate lending of the banking sector. To forecast its loan infection ratio, under hypothetical scenarios, it is assumed that the sector's GNPLR depends upon its export

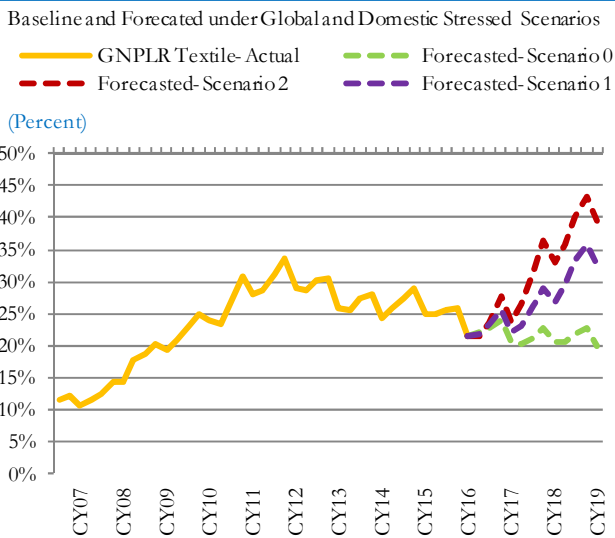
¹⁹¹ Global CAR requirement (including conservation buffer) is 9.25 percent, 9.875 percent and 10.5 percent in 2017, 2018 and 2019 respectively. Source: BIS (www.bis.org/bcbs/basel3). Local CAR requirement is 11.275 percent, 11.90 percent and 12.5 percent in December 2017, 2018 and 2019, respectively. Source: SBP (www.sbp.org.pk)

performance, output, prevailing interest rates and capital market fluctuations.

In scenario 1, it is assumed that textile manufacturing (LSM Textile) and textile exports are likely to suffer from disrupted input flows due to natural disaster. Therefore, GNPLR is expected to rise. In Scenario 2, the sector is likely to have rising default ratio because of the contraction of the global trade and a feedback effect of reduction in textile production. Rising interest rates and dip in stock market index is likely to add to this rise (**Figure 4.7**).

Figure 4.7

Comparison of Quarterly GNPLR under different scenarios



Source: SBP and staff calculations

The resulting forecasts for the GNPLR in scenario 1 is slight higher than its level observed recently and it is likely that with little government relief, the sector may sustain this shock. However, it can be seen from the figure that the sector is most vulnerable to the global shock. The rise in infection ratio is significantly higher than its historically adverse level. If the scenario assumptions materialize, the industry may experience sizeable shut-downs, large credit defaults and possible businesses migration. In that case, government bailout to sustain the sector seems

to be the likely outcome. Under this scenario, the banking sector may experience some rise in infection and reduction in profitability (**see Annexure B4.2 of Box 4.1.**)

Cement Sector

Cement sector has positive association with infrastructure development domestically as well as in neighboring countries.

The sector’s loan infection ratio increased recently. To forecast the sector’s credit infections under stressed scenarios, it is assumed that the sector’s GNPLR is largely explained by its exports, capital formation (*constructions*), inflation and interest rates.

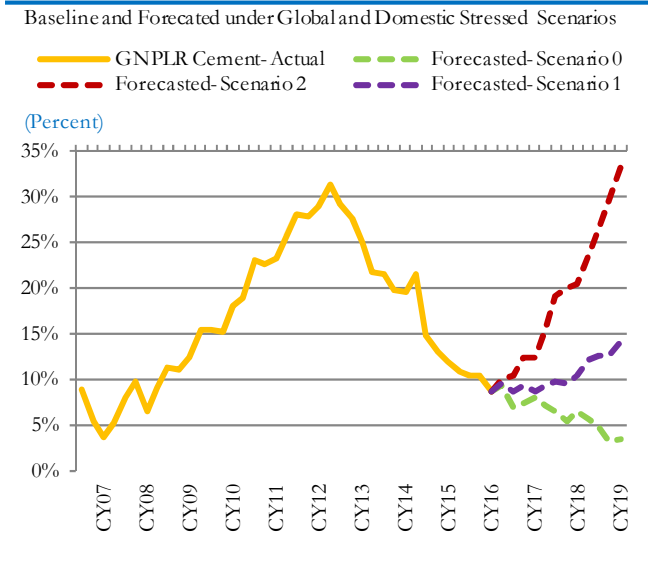
Cement export is one key factor affecting the sector’s performance. Similarly, the real estate development (*gross fixed capital formation-construction*) is another key determinant of the sector’s performance. Rising prices may, however, have a negative impact due to rise in input material cost.

In scenario 0, mega developmental projects are expected to increase use of cement due to CPEC and pre-election rising developmental expenditures. This would result in lower level of infection ratio. In scenario 1, a mild decline in cement export is assumed while structural projects are likely to slow-down; however government relief initiatives are expected to somewhat cool down the rise in infection ratio. In scenario 2, however, the contraction in global trade, rising interest rates, slowdown of CPEC related projects, is expected to result into an increase in GNPLR (**Figure 4.8**).

The result under scenario 1 indicates lower infection than historical default levels and doesn’t appear to dent banking sector’s resilience. Under scenario 2, however, infection ratio increases significantly as compared to other scenarios as well as historical levels (CY2012). However, due to cash rich nature of the industry, small size of its exposure and the

sector's experience with similar level of defaults recently; it is expected that it will sustain this shock (see Annexure B4.3 of Box 4.1.)

Figure 4.8
Comparison of Quarterly GNPLR under different scenarios



Source: SBP and staff calculations

Sugar Sector

Pakistan's major agri-products, besides cotton and wheat, include sugarcane. Sugarcane production is mostly consumed by industry to produce sugar which is also exported. This makes Sugar industry as an important sector of the economy.

To forecast its infection ratio, it is assumed that the sector's NPLR is a function of sector's exports, agriculture output¹⁹², prevailing risk premium (KIBOR), and capital market developments.

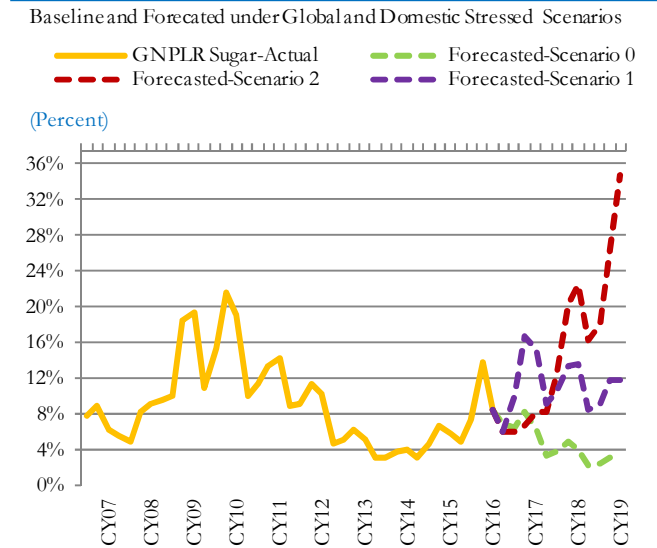
In scenario 0, the existing conducive business environment and rising domestic output would restrict GNPLR. However, in Scenario 1, the fall of agriculture output (including sugarcane) added with decline in sugar exports is likely to negatively impact the sector's performance initially. However, the

¹⁹² Major Crops only-Since overall agriculture output include livestock, fisheries, forestry etc. which have no direct relationship with the sector's input (sugarcane).

transitory shock is expected to decay quickly and the infection ratio is expected to improve.

In scenario 2, global trade retrenchment and rising interest rates may result in significant rise in delinquencies (Figure 4.9).

Figure 4.9
Comparison of Quarterly GNPLR under different scenarios



Source: SBP and staff calculations

It can be seen from the results that the sector is less vulnerable to scenario 1 (i.e. domestic shock) and the infection ratio remains close to its existing trend. Under scenario 2, however, the level of GNPLR surges significantly. As historically the domestic sugar prices are higher than global prices and the industry usually requires subsidies for exports, sector's exports may be affected and may require Government intervention. The banking sector, earnings may, come under pressure in this case (see Annexure B4.4 of Box 4.1.)

Agriculture Sector:

Agriculture is the one of the major sectors contributing in Pakistan's GDP growth. Besides, the output of the sector is a key source of input for a number of industries. To test the sector's resilience

against credit risk, it is assumed that the GNPLR of the agriculture sector is explained by the agriculture output, overall exports, inflation and interest rate (SBP target rate).

Under existing economic conditions, rising exports, increasing industrial production and low interest rates, the sector is expected to perform better.

In scenario 1, the flood disaster is assumed to disrupt agriculture output as was observed during the 1992 flood event. A slowdown in industrial production is likely to impact the exports, while inflationary pressure may affect the repayment capacity of the borrowers resulting in rise in GNPLR. However, historically, the government has been intervening after such disasters and credit relief programs are initiated. This would help restrict or ease sector's rising GNPLR.

Under scenario 1, the GNPLR is showing a declining trend initially but gradually moves upwards. The reason for this initial improvement could be the flood relief programs (*including credit relaxations*) initiated by the government in the immediate aftermath of the disaster. But as the impact of relief dies down, the infection ratio starts inching up but remains manageable.

Overall the sector appears to be resilient in all the three scenarios and no significant adverse impact on the banking sector is anticipated (**see Annexure B4.5 of Box 4.1**).

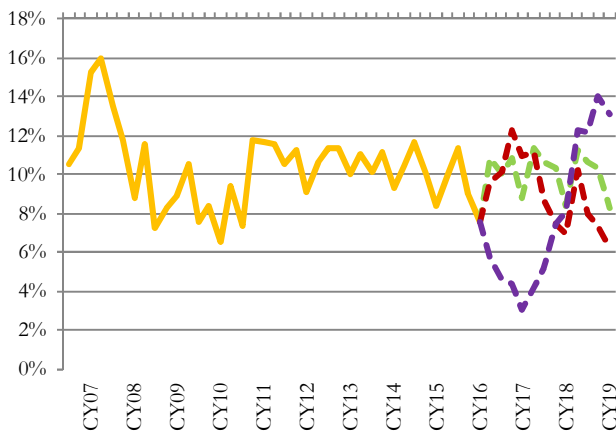
Figure 4.10

Comparison of Quarterly GNPLR under different scenarios

Baseline and Forecasted under Global and Domestic Stressed Scenarios

- GNPLRAgri- Actual
- Forecasted-Scenario 0
- - - Forecasted-Scenario 2
- - - Forecasted-Scenario 1

(Percent)



Source: SBP and staff calculations

In scenario 2, the sector is likely to be less vulnerable to global shocks. The slowdown in exports may pose some pressure on the sector's output; however, domestic consumption is expected to largely nullify some of this impact (**Figure 4.10**).

Box 4.1: Technical Details

Models and Estimation Results:

System level models:

There are three scenarios i.e. 0-Baseline, 1-Adverse-domestic, 2- Severely adverse-global. In all the three scenarios, different set of assumptions have been made while keeping the models consistent throughout the scenarios.

Credit Risk

The system level gross non-performing loan ratio (GNPLR) has been projected using three different econometric approaches: *multivariate regression*, *Vector Autoregression (VAR)* and *Vector Error Correction Model (VECM)*.

- *Multivariate Regression Technique:*

Ordinary least square (OLS) is considered as the best linear unbiased estimator (BLUE) of unknown parameters if it complies with the certain conditions. A step-wise regression model¹⁹³ using a satellite Credit Portfolio View model (CPVM) has been used assuming that the GNPLR of the banking system can be explained by macro-economic variables including, large industrial manufacturing, export volume, price level, risk premium or prevailing market interest rates and stock market performance.

All variables are in logs and the dependent variable is logit transformed to avoid non-Gaussian errors¹⁹⁴. Stationarity is ensured by taking the appropriate differences.

- *VAR model*

While multivariate regression allows evaluating the impact of selected macroeconomic variables on the GNPLR, the VAR model takes into account the

feedback effect and correlations among all endogenous variables.

In notational form, mean-adjusted VAR of order p (VAR(p)) can be written as:

$$y_t = A_1 y_{t-1} + \dots + A_p y_{t-p} + u_t \quad ; t = 1, 2, 3, \dots \quad (2)$$

Where, $y_t = (y_{1t}, \dots, y_{kt})'$ is a (K×1) vector of variables at time t, the A_i ($i=1,2,\dots,p$) are fixed (K×K) coefficient matrices and $u_t = (u_{1t}, \dots, u_{kt})$ is a K-dimensional white noise errors or innovation process.

In order to estimate the VAR model, the same variables used in multivariate regression are chosen and appropriate order is selected based on minimum information criteria (*Schwarz or Akaike Information Criterion*) coupled with other diagnostics such as *no-autocorrelation (via LM test)*, *stability (via AR characteristic polynomial test)*, *normality (via multivariate Jarque-Berra test)*, etc.

- *VECM:*

The VAR concept can be extended to the VECM, when there is an evidence of cointegration¹⁹⁵ among two or more series. While in case of cointegration, VAR model produces reliable results in levels and is commonly used by the regulatory agencies for stress testing (*such as Bank of Canada*); however, theoretically, VECM produces better results as it estimates the long run relationships in addition to short-run dynamics.

After testing and identifying co-integration relationship in variables using *Johansen Co-integration Tests*, VECM has been estimated as well. The model is estimated using the first differences of the non-stationary variables, but a lagged error-correction term is added to the relationship.

In all these methods, the conditional mean of nonperforming loan ratios is estimated. It is, however, assumed that the impact of macro-variables on credit quality will remain the same irrespective of the level of

¹⁹³ Parameters are estimated using OLS

¹⁹⁴ Vazquez, F., Tabak, B. M., & Souto, M. (2012). A macro stress test model of credit risk for the Brazilian banking sector. *Journal of Financial Stability*, 8(2), 69-83.

¹⁹⁵ X_t and Y_t are non-stationery and are said to be co-integrated if there exists a long term relationship which makes them stationary in long-term.

the credit quality, which, however, may not always be true in practice.

The weighted average projections of GNPLR derived from the three approaches are then used to forecast System level CAR for each scenario and is reported at **Annexure B4.1**.

Assumptions and methodology in scenarios:

The explanatory variables used in multivariate and VAR and VECM techniques are individually forecasted under each scenario explained in the main report. We understand that for macroeconomic variables, there is no single method for forecasting. Therefore, certain linear models have been designed and used to capture causal relationship of all variables under the baseline, and shock scenarios. While forecasting the variables, it has been ensured that the model meets the regularity conditions. For example, besides ensuring stationarity of the variables, the model residuals have also been checked for serial correlation and heteroskedasticity. Similarly, to maintain consistency in the results, models so applied in one scenario (*such as baseline*) have been kept the same for other scenarios (*adverse scenarios*).

Market Risk:

To capture the impact of fluctuations in Interest rates (IR) and Exchange Rates (ER) on the banking sector's profitability, it is assumed that the expected medium to long term interest rates are the function of short term rates. Proportionate parallel shift of yield curve, upto next 12 quarters, have been made in accordance with the changes in six-month Kibor (*forecasted under each of the three scenarios*). Similarly, the exchange rate is forecasted using uncovered interest rate parity (UIP) condition, i.e.,

$$E[S_{t+k}] = S_t \times \frac{(1+r_d^k)}{(1+r_f^k)} \quad ; \text{where } r_d \text{ is six-month Kibor and } r_f \text{ is six-month US treasury bill rate.}$$

The r_f is forecasted using empirical kernel density function¹⁹⁶. The impact of both IR and ER has been translated to the profitability of the banking sector.

System Level CAR Estimation:

For CAR calculation, it has been assumed that the risk weighted assets (RWAs) would grow in accordance with the increase in advances portfolio (adjusted for non-performing loans) and rise in operational risk weighted assets¹⁹⁷. The advances and NPLs have been forecasted using VAR and VECM methodologies. For eligible capital, it is assumed that the capital growth will follow existing trend and hence is estimated using exponentially weighted moving average method *i.e. Holt-Winters*.

Sectoral Level Default Analysis:

In addition to the system level forecasting of CAR under three scenarios, sectoral level default analysis has also been carried for four (04) sectors, viz., Textile, Cement, Sugar and Agriculture. For each of these sectors, multiple linear regression models have been designed to include sector specific variables, in addition to the macro-financial variables. Point estimates for GNPLR for each sector have been forecasted and reported in **Annexure B4.2 – B4.5**.

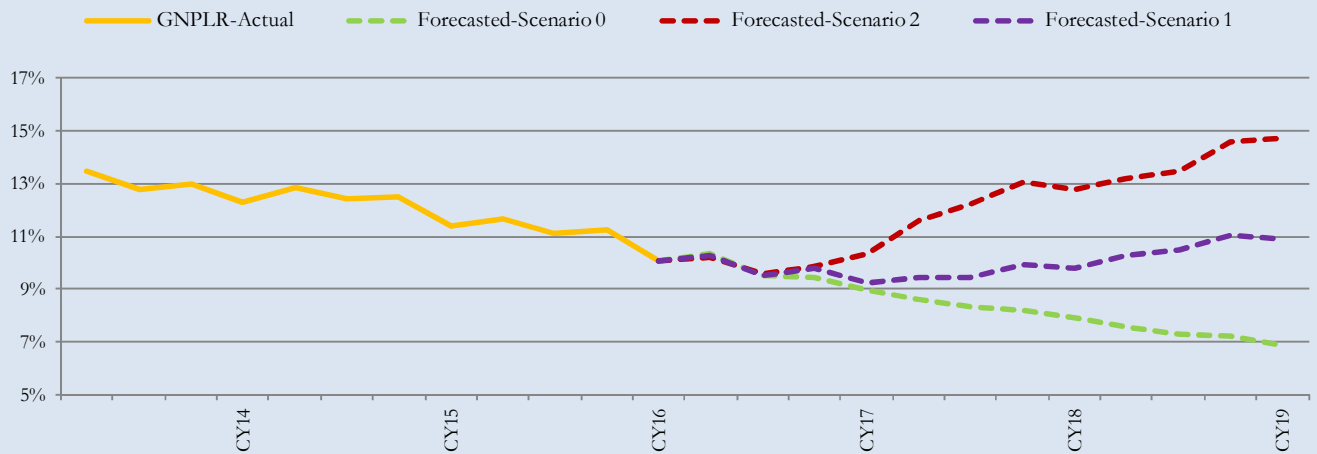
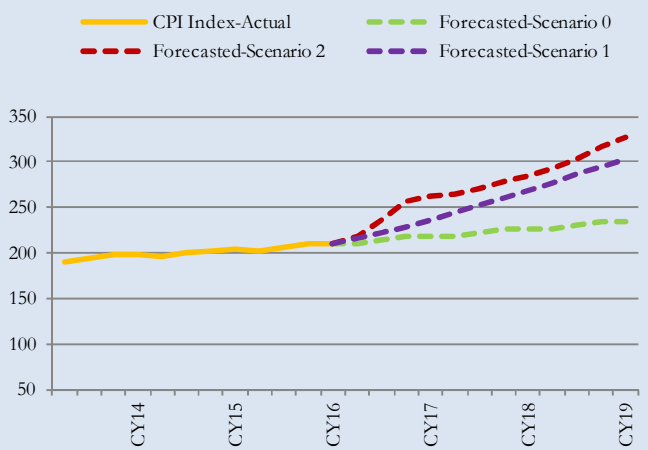
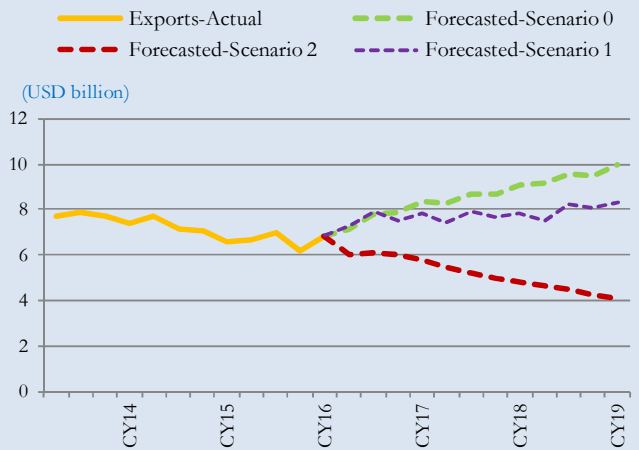
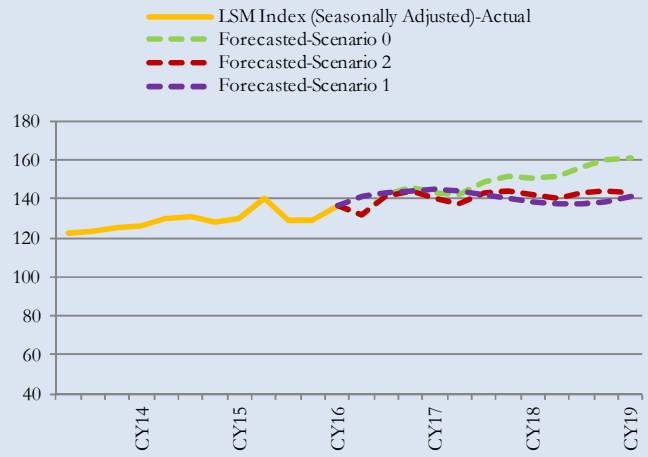
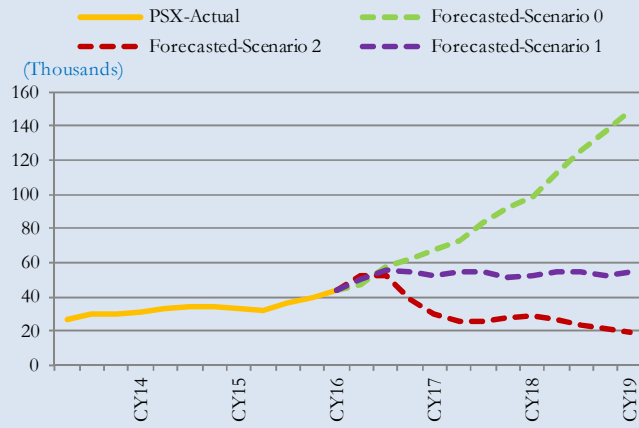
¹⁹⁶ To draw tail-values or stressed values, the kernel density function has been used to approximate distribution of the USD Tbill rates in scenario 2 (*global shock*) only. For other scenarios, simply smoothing technique has been employed.

¹⁹⁷ Estimated as per Basic Indicator Approach of the Basel II/III instructions.

Annexure B4.1

Trend of Macroeconomic Variables and System Level GNPLR

(Quarterly Forecast under different Scenarios)



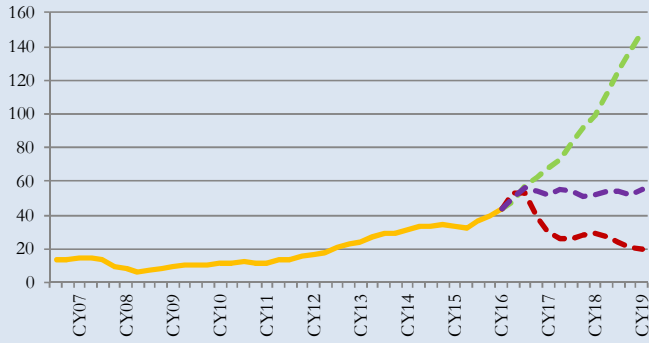
Annexure B4.2

Trend of Macroeconomic Variables & Textile Sector's GNPLR

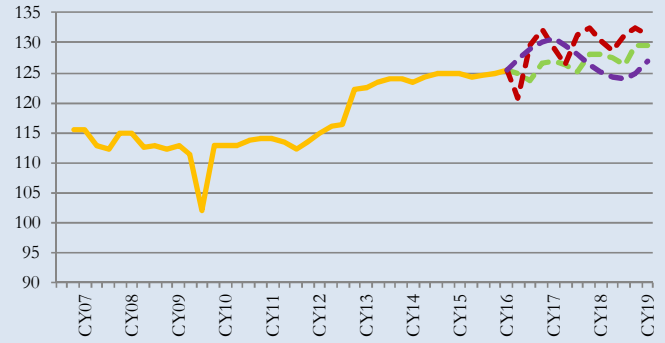
(Forecasts under different Scenarios)

PSX-Actual Forecasted-Scenario 0
 Forecasted-Scenario 2 Forecasted-Scenario 1

(Thousands)

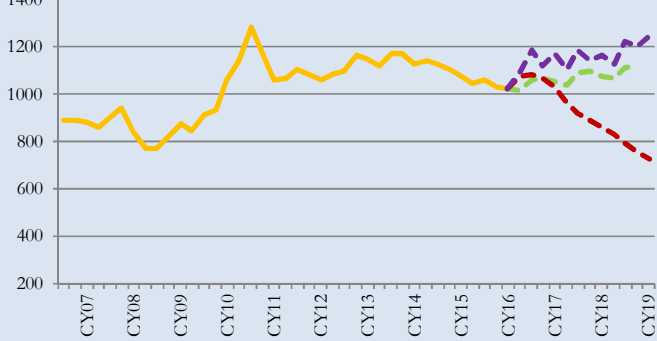


LSM Textile-Actual Forecasted-Scenario 0
 Forecasted-Scenario 2 Forecasted-Scenario 1

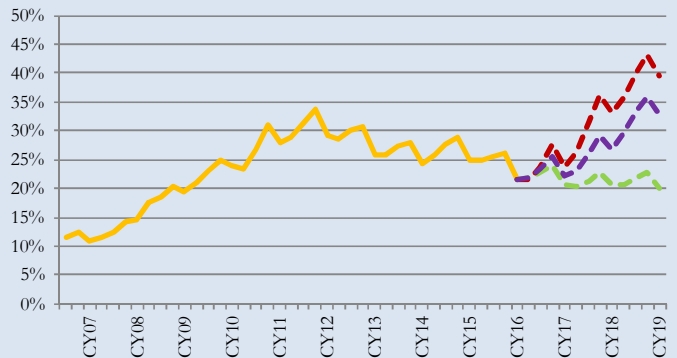


Textile Exports- Actual Forecasted-Scenario 0
 Forecasted-Scenario 2 Forecasted-Scenario 1

(PKR in million)



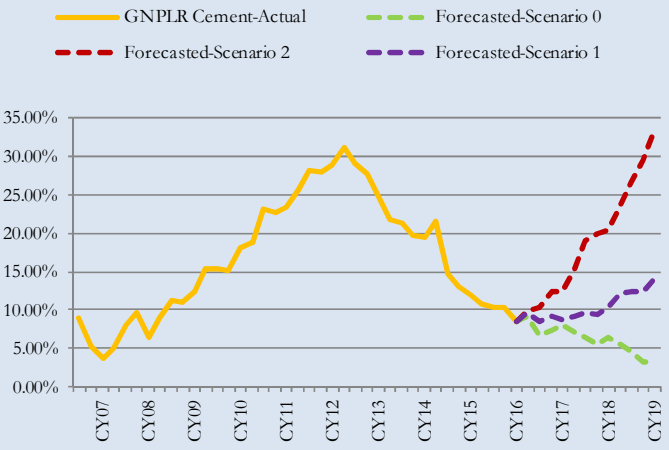
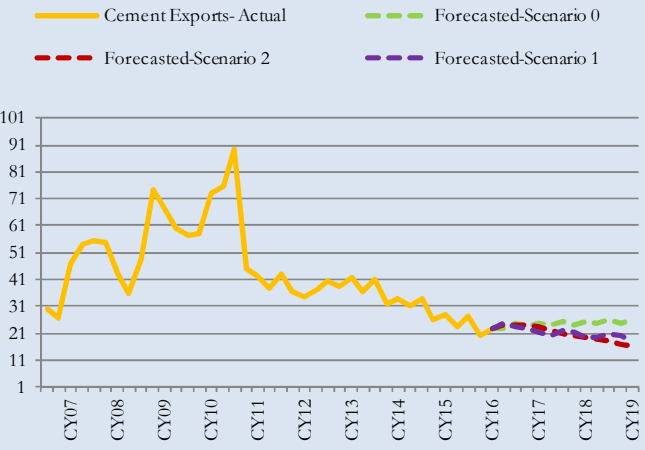
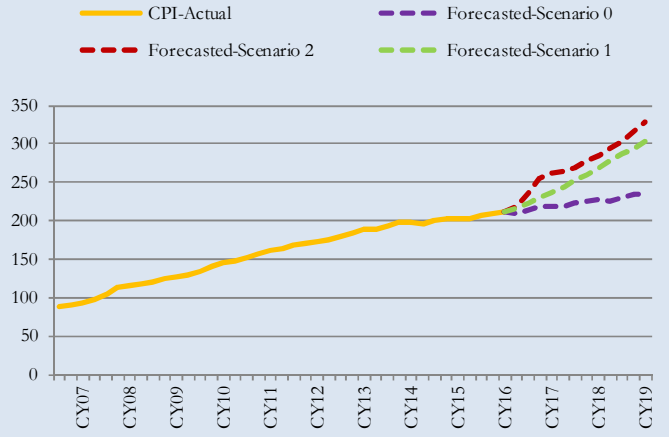
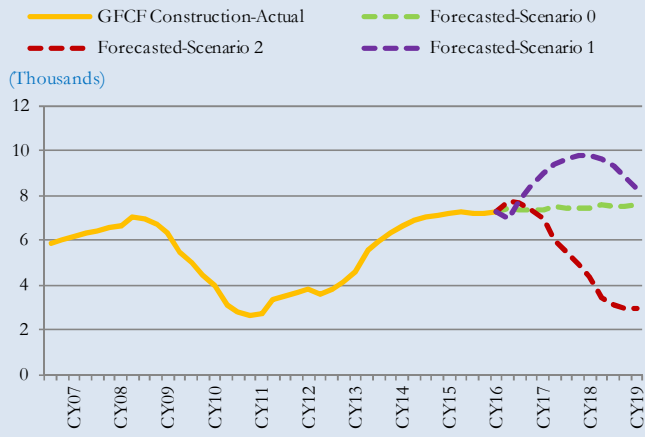
GNPLR Textile-Actual Forecasted-Scenario 0
 Forecasted-Scenario 2 Forecasted-Scenario 1



Annexure B4.3

Trend of Macroeconomic Variables & Cement Sector's GNPLR

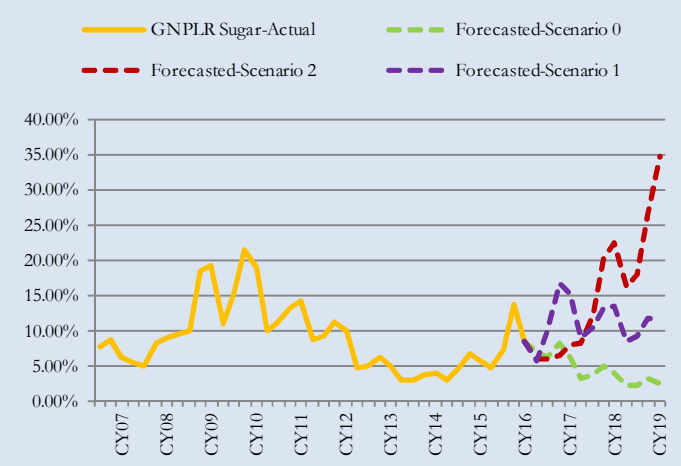
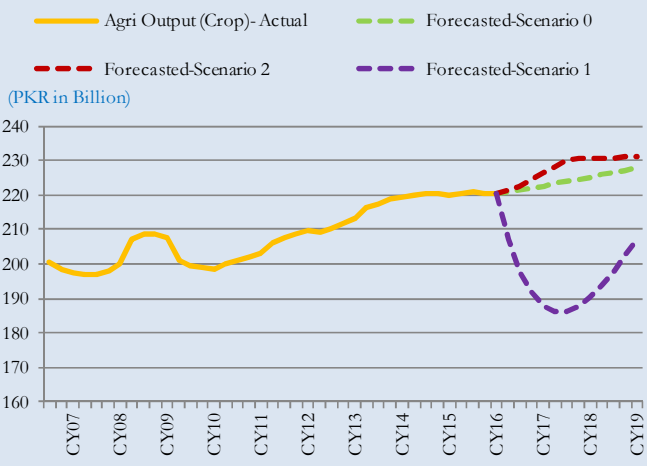
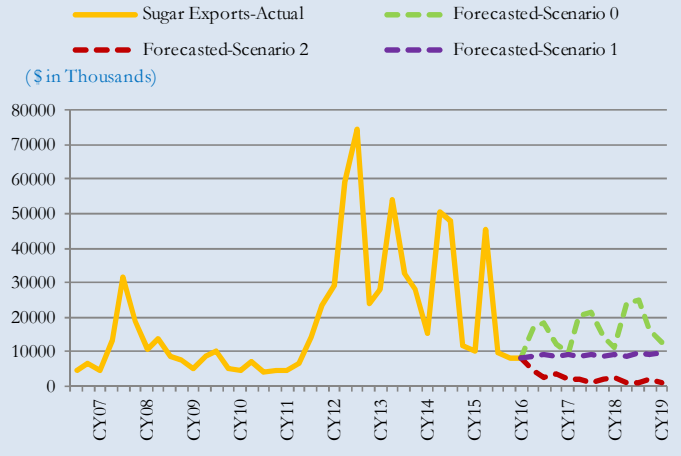
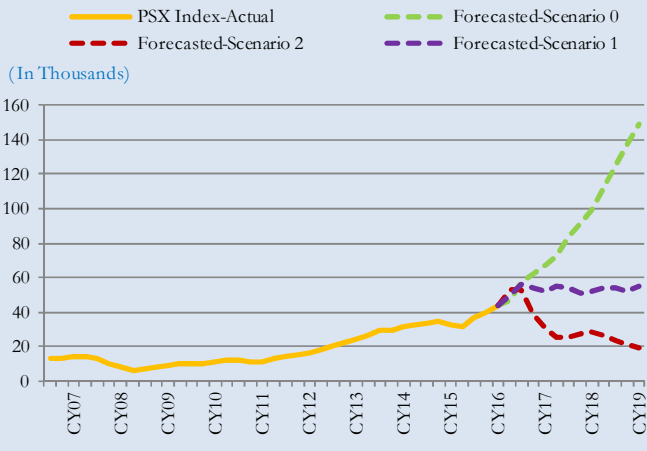
(Quarterly Forecasts under different Scenarios)



Annexure B4.4

Trend of Macroeconomic Variables and Sugar GNPLR

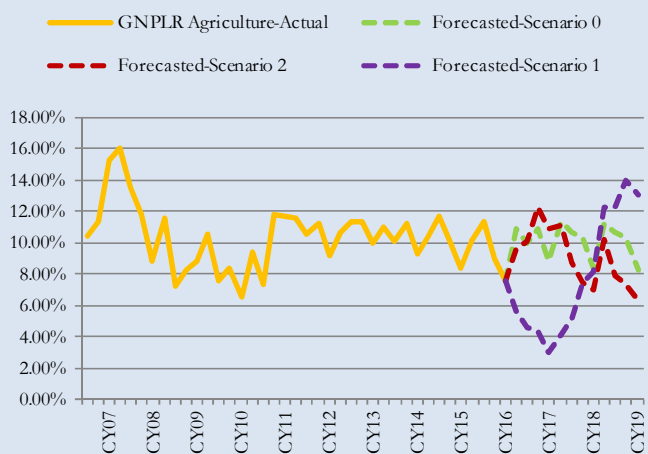
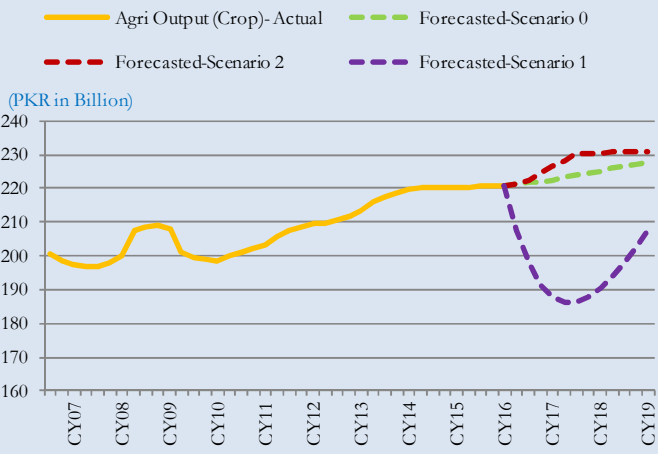
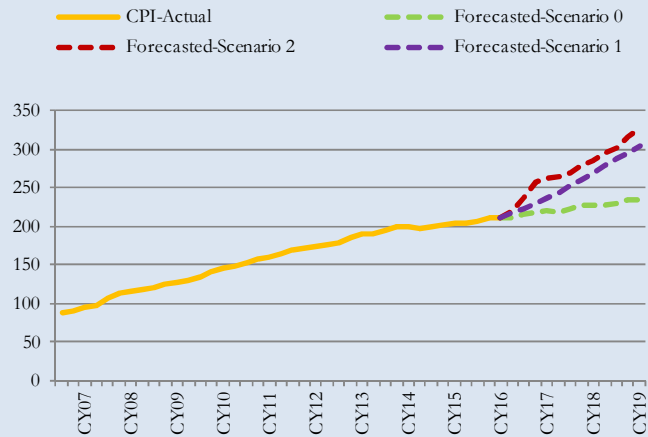
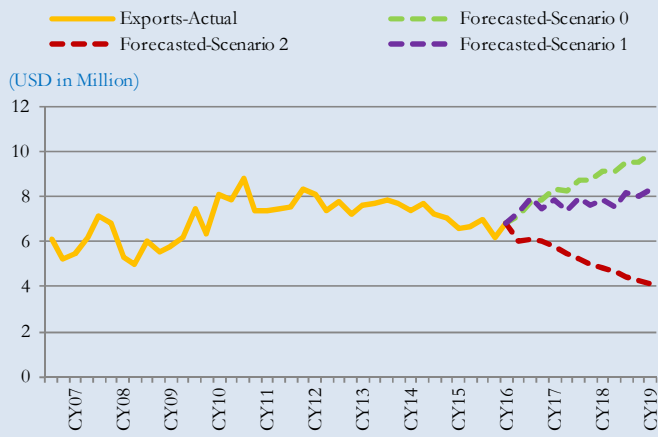
(Quarterly Forecast under different Scenarios)



Annexure B4.5

Trend of Macroeconomic Variables and Agriculture Sector GNPLR

(Quarterly Forecasts under different Scenarios)



5 Soundness and Efficiency of Financial Market Infrastructure

Pakistan Real-time Interbank Settlement Mechanism (PRISM) has continued its consistent trend of growth both in volumes and values in whole-sale; while in retail segment, paper based transactions showed a dip by almost similar fraction by which e-banking transactions have gone-up. Notably, Operational risk attached to the functionality of Automated Teller Machines (ATMs) i.e. ATM downtime, has shown some improvements. The growing interconnectedness of various Financial Market Infrastructures (FMIs), though beneficial from efficiency point of view, raises systemic risk concerns going forward. In CY16, a couple of major events took place that are expected to contribute towards soundness and efficiency of the FMI: a) Integration of the three Stock Exchanges to form a single one i.e. Pakistan Stock Exchange (PSX) which could bring technological advancement and operational effectiveness, and b) National Clearing Company of Pakistan Limited (NCCPL) assuming the role of a Central Counter Party (CCP) that could help mitigate credit and liquidity risks. Financial Technology (FinTech) has emerged as the new phenomenon in the FMI landscape. To reap its full potential in making payment and other financial services efficient and less costly, besides encouragement, there is a need to tackle the full spectrum of risks associated with the nascent FinTech sector.

Financial Market infrastructure (FMI) plays a critical role in the smooth functioning of the real economy, maintaining financial stability and improving monetary transmission mechanism, thus promoting economic growth. It covers the Payment Systems, Central Securities Depositories (CSD), Securities Settlement Systems (SSS), Central Counter Parties (CCP) and Trade Repositories.¹⁹⁸

The FMI of Pakistan has been facilitating the government, businesses and individuals in discharging their financial obligations effectively and efficiently. The major FMIs of the country include multi-dimensional Large Value Payment System (LVPS) i.e. Pakistan Real-Time Interbank Settlement Mechanism (PRISM); two interoperable inter-bank switches (1Link & M-Net); one clearing house of paper based payment instruments (NIFT); one corporate securities settlement company (NCCPL); and one corporate securities depository

company (CDC). A functional overview of the key FMIs of Pakistan are given in **Box 5.1**.

Payment System Landscape and performance

SBP, being the central bank of the country, has a strong interest in the smooth functioning of the **payment and settlement systems**. To enhance focus on this area, SBP has identified “Development of Modern and Robust Payment System” as one of the key objectives under its strategic plan “Vision 2020”. SBP is playing its role not only in development of national payment systems but also through oversight, regulation, operation and facilitation of the market (**see SBP’s detail roles in Box 5.1**) for achieving the public policy objectives of soundness and efficiency of financial market infrastructure.

The performance of payment systems remained persistent with the previous years. PRISM is consistently growing both in terms of volumes and values. In retail segment, paper based transactions have seen considerable decline while e-banking transactions have maintained steady growth, showing customers’ changing preferences.

¹⁹⁸ FMI is defined as a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions. Committee on Payment and Settlement Systems of BIS, (2012). “Principles for Financial Market Infrastructures”

PRISM efficiently managed higher volume of LVPS...

In CY16, value and volume of transactions settled through the PRISM continued to rise, though at a slower pace. The PRISM has settled 59.14 percent of total value of all payments that is almost 8 times of the GDP (**Table 5.1**). The daily average volume of settled transaction has grown to about 3800 (2015: 3300) while daily average value increased to about PKR 930 billion (2015: PKR 876 billion).

Table 5.1

Profile of Payment System Mechanisms

Mechanism	CY12	CY13	CY14	CY15	CY16
(Volume in thousands and Value in PKR trillion)					
PRISM					
Volume	430.8	528.7	681.4	852.9	985.4
Value	137.6	146.9	156.6	224.5	238.1
Retail Payments					
Volume	656,529.9	719,916.3	800,426.8	857,383.3	868,603.9
Value	130.8	138.8	158.2	165.5	164.5
Paper based					
Volume	360,547.9	359,966.6	365,371.2	349,882.1	298,492.7
Value	103.4	107.1	123.2	129.2	127.8
E-Banking					
Volume	295,982.0	359,949.7	435,055.6	507,501.3	570,111.2
Value	27.4	31.7	35.0	36.4	36.8

Source: PSD, SBP

Note: The figures of CY16 are provisional.

The growth in value and volume of PRISM transactions has moderated during CY16 compared to last few years. This has largely resulted from slowdown in government securities settlement transaction following partial shift in government borrowing to SBP that led to decrease in the OMOs activity and banks repo borrowings from the SBP (see **Chapter 2**).

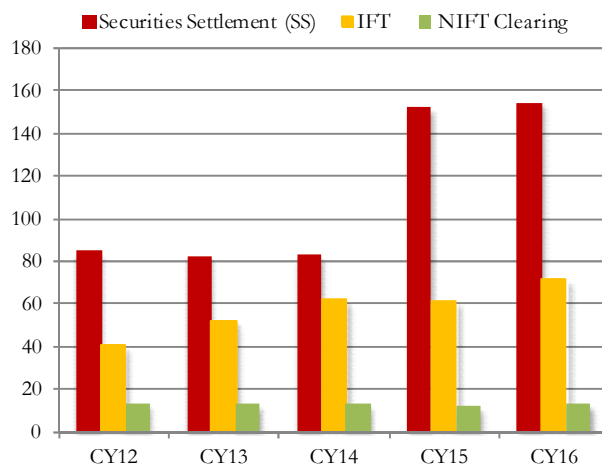
Use of PRISM for Interbank Fund transfers (IFT) activity has seen healthy growth over the year. The volume of IFT, which forms the major portion of PRISM transactions, has shown increase of 16.77 percent, while value increased by 16.67 percent (**Figure 5.1 & 5.2**).

Figure 5.1

Value of PRISM transactions increased

Components of PRISM

(Value in PKR Trillion)



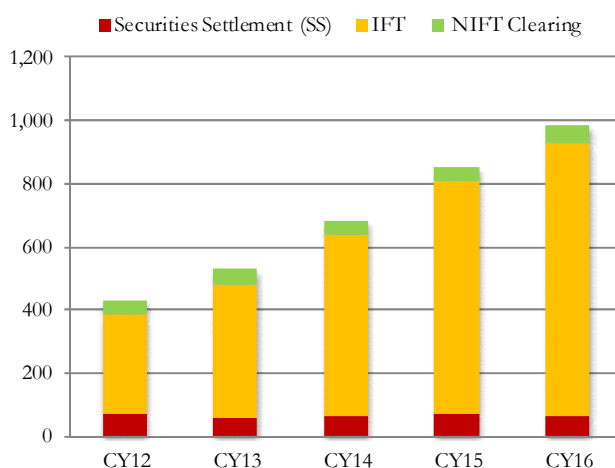
Source: PSD, SBP

Figure 5.2

Number of PRISM transactions show uphill trend

Components of PRISM

(Volume in thousand)



Source: PSD, SBP

Enhanced use of PRISM for IFT has, among other things, resulted from continuing SBP efforts to encourage it for efficient payments. To this end, SBP has allowed the third party fund transfers facility to bank account holders through PRISM and advised banks to create awareness among their customers for utilization of PRISM for efficient

funds transfers. Further, banks have been allowed to use PRISM system free of charge for same day Inter-Bank domestic transfer of Home Remittances to their beneficiaries, under Pakistan Remittance Initiative (PRI) arrangement¹⁹⁹.

Large Value Payment System – PRISM – remained resilient...

Reliable and resilient LVPS acts as the catalyst for growth in the financial system. The PRISM maintained high level of system availability during the years. To ensure continuous availability of the PRISM and resilience against any operational disruption, SBP has put in place effective backup arrangements including disaster recovery centre that can be used in the event primary site is down.

SBP focusing on improving PRISM efficiency...

As discussed earlier, PRISM has efficiently managed the increasing number of large value payments. In line with its continuing efforts for enhancing the efficiency in settlement of large value payments, SBP implemented Straight Through Processing (STP) early in 2016 for electronically integrating participants' core banking system with PRISM. While STP will optimize the transaction processing, it will also facilitate in reducing processing cycles, elimination of manual entry, reducing chances of errors and conducting transactions at branch level.

SBP has allowed CDC as a direct participant of PRISM, while some banks are performing as settlement banks in National Clearing & Settlement System (NCSS) through PRISM (**For details see Box 5.1**). These arrangements have facilitated seamless large value fund transfers among key stakeholders. Further, to facilitate the investors, Central Directorate of National Savings (CDNS) has been allowed direct membership of NIFT to clear

and settle the profit coupons and withdrawals slips of their investors.

Pakistan's retail payment system is also fast...

While PRISM works on real time settlement basis, the country's retail payment system works on Deferred Net Settlement (DNS) basis which is also considered fast. It is settled on T+1 basis: when Inter Bank Fund Transfer (IBFT) transaction takes place, payer and payees accounts are debited and credited respectively in real time (i.e. at time T), while back-end settlement between their banks takes place on the next working day (i.e. at time T+1).

The overnight credit risk during the said process is managed by imposing maximum transfer limit of PKR 0.25 million per account per day. Since, per transaction and overall daily quantum of exposure is not very high, adequate liquidity is maintained in the banks' accounts with SBP accordingly in the wake of emerging liabilities.

E-banking transactions are replacing paper-based transactions in retail segment...

During CY16, the total retail payment transactions moderated as compared to last year, both in terms of value and volume, mainly due to shrinking paper based transactions (**Figure 5.3**). The paper based transactions have decreased in CY16 – 14.69 percent down in volume and 1.06 percent in value, while e-banking transactions have increased – 12.34 percent up in volume and 1.05 percent in value. This indicates a shift in customer's preference towards e-banking due to its efficiency and ease of use.

Cheques dominate paper based transactions...

In paper based transactions, Cheques are the preferred instruments followed by pay orders/ demand draft/ bankers cheques (**Figure 5.4**).

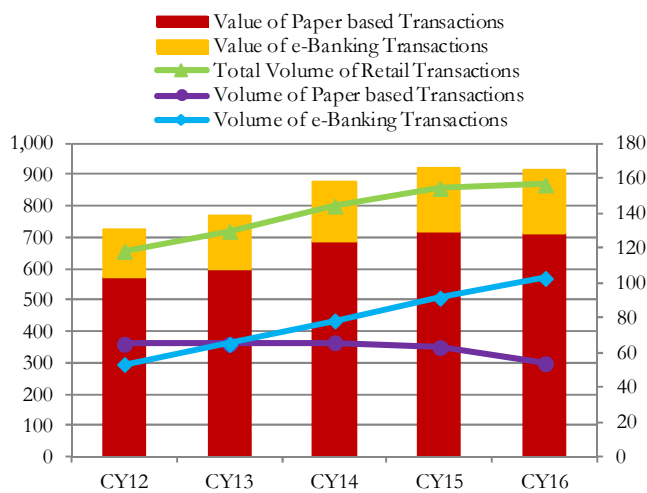
¹⁹⁹ PSD Circular Letter No. 03 of 2016;
<http://www.sbp.org.pk/psd/2016/CL3.htm>

Figure 5.3

Retail payment growth trend consistent with previous year

Retail payment trend

(Volume in million) (Value in PKR trillion)

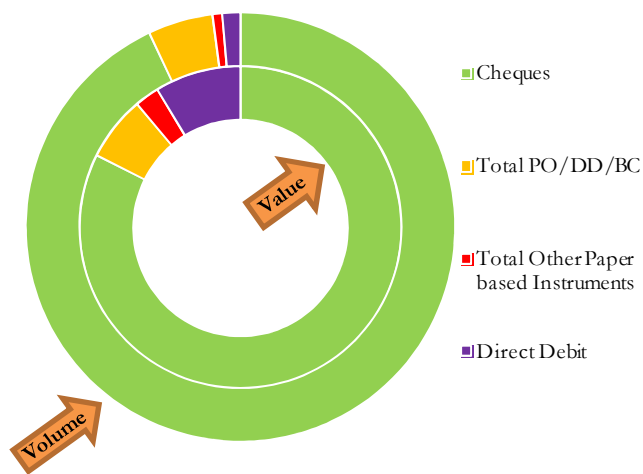


Source: PSD, SBP

Figure 5.4

Cheques dominated paper based transactions

Volume and Value wise share of paper-based retail transactions during CY16



Source: PSD, SBP

Within the cheque based transactions in CY16, the volume of instruments used for cash withdrawal has remained the highest but the amount of withdrawal the lowest (Table 5.2). It seems that customers are using a large number of small denomination cheques for cash withdrawal – may be to avoid withholding tax – while large value transactions are being settled via Transfers and Clearing where no

withholding tax is applicable on tax filers (Table 5.2).

Table 5.2

Chequing Transactions in CY16

Type	Number (Million)	Amount (PKR Billion)	Volume share (percent)	Value Share (percent)
Cash	158.1	15,231.3	56.95	14.47
Transfer	66.7	65,202.6	24.03	61.94
Clearing	52.8	24,841.0	19.03	23.60

Source: PSD, SBP

The banks have enriched e-banking services and infrastructure...

The commercial and microfinance banks are expanding e-banking services and have enriched infrastructure to accommodate changing preferences of the customers towards the use of technology (Table 5.3).

Table 5.3

Banks offering E-Banking Services

Description	Number as of	
	31-12-16	31-12-15
Banks providing internet banking	23	21
Banks providing mobile phone banking (through SMS/ Mobile App)	18	16
Banks providing call center/ IVR banking	16	16
Banks issuing credit cards	12	12
Banks issuing debit cards	28	28
Banks issuing ATM only cards	18	13
Banks issuing social welfare cards*	8	-
Banks issuing prepaid cards*	4	-
Banks having own ATMs	32	32
Banks acquiring POSs	6	6

Source: PSD, SBP

* Social welfare & pre-paid cards are special type of debit cards which are not directly linked with bank accounts, and were not reported separately prior to CY16.

E-banking infrastructure shows steady growth in CY16 in terms of Online Branches, Automated

Teller Machines (ATMs) and Point of Sales (POS) network in line with previous years. Plastic cards also witnessed expansion except credit cards, which declined due to probable cancellation by some of the banks on account of prolonged inactivity by the customers (**Table 5.4**).

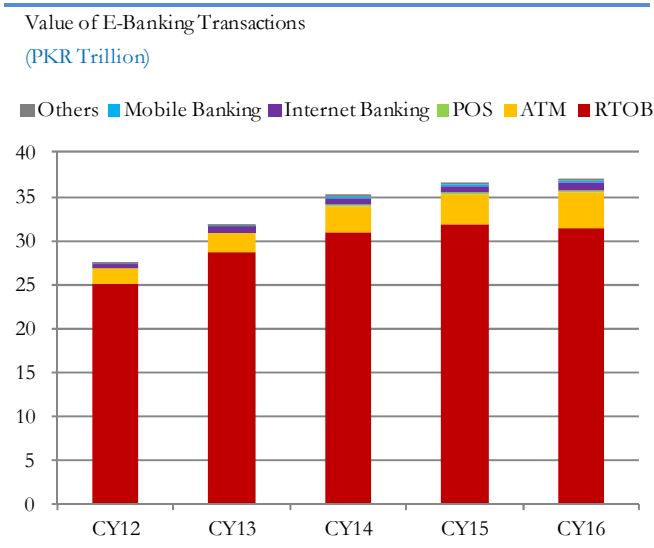
Table 5.4
E-Banking Infrastructure Position at the end of Calendar Years

Description	CY12	CY13	CY14	CY15	CY16
Online Branches	9,896	10,596	11,149	12,442	13,926
ATMs	6,232	7,684	9,018	10,736	12,352
POS	34,724	33,734	34,945	50,072	52,062
Total Payment Cards (000)	20,717	22,380	25,994	32,744	36,202
of which:					
Credit Cards (000)	1,271	1,336	1,332	1,394	1,209
Debit Cards* (000)	18,572	20,048	23,727	26,489	17,470
ATM Only Cards (000)	874	996	935	4,861	6,806
Social Welfare Cards (000)	-	-	-	-	10,358
Pre-paid Cards (000)	-	-	-	-	359

Source: PSD, SBP

* Prior to CY16, Debit cards also included social welfare and pre-paid cards.

Figure 5.5
E-Banking transactions' value inched up in CY16



Source: PSD, SBP

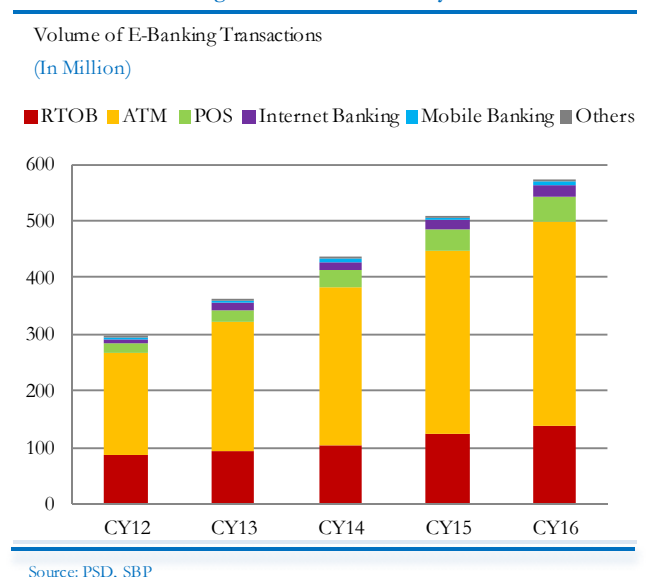
E-banking transactions' growth is decelerating...

Among e-banking transactions in CY16, Real Time Online Banking (RTOB) transactions have accounted for 85.70 percent in value terms followed

by ATM transactions of 10.92 percent. E-banking transactions have been observing healthy growth till CY14, but thereafter the growth has tapered off (**Figure 5.5**). The value of transactions inched up by merely 1.05 percent in CY16 compared to 4.06 percent in CY15 (10.29 percent in CY14). The slowdown in CY16 is visible in RTOB transactions as the value has declined by around 1 percent over the last year.

In terms of volume, ATMs lead with 63.05 percent share, well ahead of RTOB transactions having 24.47 percent share. POS transactions are also improving their share gradually over the past few years (**Figure 5.6**). This reveals that customers are using e-banking channels extensively for low value retail transactions. Also, the total volume of e-banking transactions has decelerated with 12.34 percent increase during CY16 compared to 16.65 percent in CY15 (20.87 percent in CY14).

Figure 5.6
Volume of E-Banking transactions consistently increased



Source: PSD, SBP

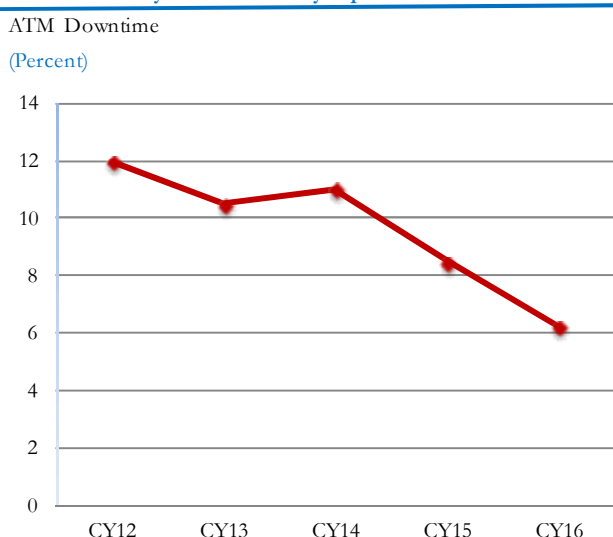
This slowdown in value and volume of e-banking transactions may be attributed to strengthening of oversight framework at SBP which resulted in removal of certain redundancies, in addition to the

impact of some fiscal measures to document the economy and to promote the tax culture. As the focus on financial inclusion has been enhanced over the last few years and targets have been set to increase the outreach, it may be feasible to revise the fiscal measures in such a manner so that they promote tax culture as well as facilitate financial inclusion in the country.

Improved ATM efficiency signals lower operational risk...

ATMs are among the most important interfaces of payment system. As the name suggest, their automatic functionality is important. If disrupted due to bank’s own system being down, poor connectivity with the system, power outages and no cash replenishment, especially in prolonged holidays, it may result in customer dissatisfaction and raise reputational risk. With stringent measures and monitoring by SBP, availability of ATMs has improved and its down time is on the decline over the past few years. It shows improved efficiency of ATMs, thus reducing operational risk (Figure 5.7).

Figure 5.7
ATM Efficiency has continuously improved



Source: PSD, SBP

Branchless Banking making inroads...

Currently, there are nine banks offering branchless banking services, include six commercial banks and three microfinance banks. In CY16, the number of accounts and deposits in branchless banking has increased by 30.30 percent and 32.74 percent, respectively. This demonstrates growing confidence of customers in this service. It also helped in raising the volume and value of branchless banking transactions to 478.5 million and PKR 2,169.5 billion, respectively, during the period under review (Table 5.5).

Table 5.5
Key Highlights of Branchless Banking

Description	CY15	CY16	Growth (percent)
No. of Agents	301,823.0	359,806.0	19.21
No. of Accounts (thousands)	15,322.0	19,964.9	30.30
Deposits as on period ends (PKR million)	8,827.0	11,717.0	32.74
No. of Transactions during the period (millions)	374.5	478.5	27.75
Average No. of Transactions per Day (thousands)	1,040.4	1,329.1	27.75
Value of Transactions during period (PKR billion)	1,872.5	2,169.5	15.87
Average Size of Transactions (PKR)	4,992.0	4,539.2	(9.07)

Source: AC&MFD, SBP

Enhanced oversight facilitates in minimizing operational risk and improves soundness...

Oversight of retail payment through monitoring of existing and planned systems is necessary for achieving the objective of safety and soundness of the system and promoting efficiency.

To this end SBP, after detailed discussions and deliberations with the stakeholders, has revised the data reporting templates enhancing its coverage to all payment channels.²⁰⁰ This would enable SBP to

²⁰⁰ PSD Circular No. 03 of 2016 and Circular Letter No. 07 of 2016 <http://www.sbp.org.pk/psd/2016/C3.htm> , <http://www.sbp.org.pk/psd/2016/CL7.htm>

perform proactive oversight of payment channels and instruments.

Also, SBP has enhanced its engagement with various market players including banks, payment system operators and payment service providers to ensure that market players make continuous efforts for upgrading the safety, security and resilience of their systems. To address the threat of cyber attacks, SBP has recently advised banks to continuously enhance their cyber security controls, processes and procedures in order to anticipate, withstand, detect, and respond to cyber attacks.

Customers' facilitation and protection a prime priority of SBP...

SBP has taken various measures and initiatives to facilitate end users of the financial services, one of its top priorities. Further, an effective customer complaints and redressal mechanism is in place at SBP to protect the rights of consumers in case of misconduct by the banks.

In order to enhance the security of payment cards and safeguard the interests of consumers, SBP has issued 'Regulations for Payment Card Security' in June 2016. These regulations outline a minimum set of operational, administrative, technical and physical safeguards to secure payment card operations.

In line with SBP's "Vision 2020" to enhance and promote financial inclusion, Pakistan's first domestic payment scheme PayPak has been launched in April 2016, to be operated by 1Link – the country's largest inter-bank switch. In this scheme, the transaction will be routed through domestic servers of the operator, rather than international routing as is done in Visa, MasterCard etc.

The PayPak card scheme is aimed at providing efficient, cost-effective, secure and omnipresent payments solutions. It is best suited for the

customers who want to make domestic payments only. This domestic scheme is expected to provide high level of local customization and enhanced regulatory oversight by the country's payment system regulator – SBP.

In order to enhance interoperability among various payment channels such as Alternative Delivery Channels (ADCs), Branchless Banking (BB) network and conventional payment service providers, the concept of establishing National Payment Gateway is under review at SBP. This will allow consumers to efficiently transfer funds to and from traditional banking accounts and branchless accounts.

Major developments in CY16 that could positively impact FMIs covering corporate sector settlements...

A couple of significant developments have taken place over the FMI landscape during CY16. These include: integration of the country's three stock exchanges into a single one and divestment of their shares to a strategic investor, and assumption of the role of CCP by the leading corporate securities' settlement company (NCCPL). Both these events are expected to contribute towards strength, competitiveness and resilience of the FMI.

Integration and divestment of the Stock Exchanges to bring technological advancement and operational efficiency...

A significant development in CY16 was the merger of the three stock exchanges of the country namely Karachi, Lahore and Islamabad stock exchanges to form a single entity i.e. the Pakistan Stock Exchange (PSX). Further, the majority shareholding of the PSX has been divested to a consortium led by three Chinese exchanges.

The integration of stock exchanges is expected to provide numerous benefits to the stakeholders including Trading Right Entitlement Certificate Holders (brokers), listed companies and investors.

The foremost benefit being the access to a more liquid, efficient and cost effective market. For investors, important benefits may be the facilitation of best price discovery, greater investor protection, ease of order execution and enhanced service delivery. A single stock exchange with strong risk management and investor protection mechanisms will be better able to attract investors from within and outside the country, apart from achieving synergies, economies of scale and regulatory and operational efficiencies.²⁰¹

The integration and divestment process is also expected to facilitate consolidation of brokers leading to financially strong entities that might be better placed to generate liquidity and expand market outreach. The strategic sale may help improve trading platforms, enhance global visibility and become a catalyst for introduction of new financial products such as derivatives securities (e.g., options).

Assumption of Central Counter Party's role by NCCPL to mitigate credit and liquidity risks...

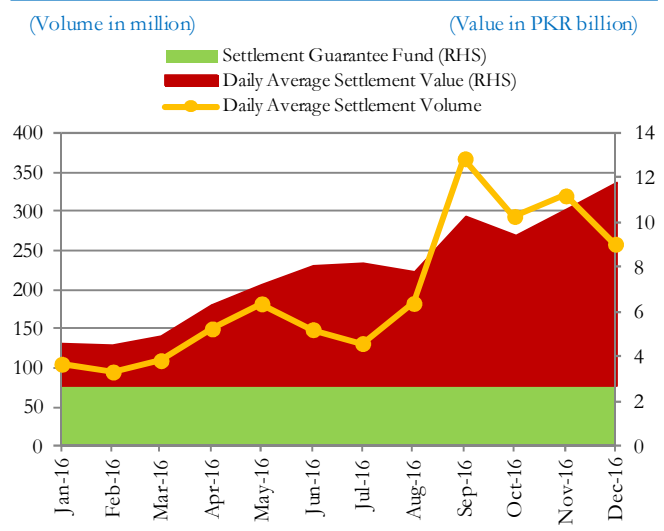
With the promulgation of Securities Act, 2015, the National Clearing Company of Pakistan Limited (NCCPL) has assumed the role of a Central Counter Party (CCP) with effect from May 2016. It, thereby, interposes between transacting counter-parties – a seller to the original buyer and a buyer to the original seller – to guarantee execution of the transactions by acting as the CCP. In doing so, it assumes the rights and obligations of the counterparties and reduces counterparty credit and liquidity risks exposures through multilateral netting.²⁰²

²⁰¹ SECP's Newsletter, *Spring 2016*

²⁰² 'CCPs' have multiple roles in its central clearing function. They set standards for clearing members, ensure netting of trades and the orderly close out of positions in a member's default scenario, maintain margin, maintain a default fund for loss mutualization (i.e. risk sharing), make margin calls, and carry out trade settlement'.

To facilitate settlements, NCCPL has established a well funded and liquid Settlement Guarantee Fund (SGF) to manage the risk of default. The fund is expected to be used in stress situations to settle the obligation of defaulting members.²⁰³ The initial size of the SGF has been determined through independent actuarial valuation and is established at PKR 2.75 billion.²⁰⁴

Figure 5.8
Comparison of Settlement Guarantee Fund with Daily Average of Settlement Value



Source: NCCPL and its Annual Report 2016

In case of a systemic event in the stock market, the securities may lose a sizeable portion of their value. As such, arrangement needs to be in place for effectively managing any crisis situation. The trading volume is rising due to recent upbeat activity on the stock market. The daily average of settlement values during CY16 at PKR 7.8 billion is much higher than the size of SGF (**Figure 5.8**). Once MSCI shifts PSX from Frontier Market Index to Emerging

Global Association of Risk Professionals (GARP) Schweser Notes, 2016, FRM: Financial Markets and Products, Kaplan Inc. USA
²⁰³ 'If a clearing participant defaults, a CCP typically has three lines of defence to cover the resulting losses – Default Waterfall of Resources: (i) defaulter's margins (initial and variation) (ii) default fund contributions; and (iii) the CCP's own financial resources (capital)'. Central clearing: trends and current issues; BIS Quarterly Review, *December 2015*

²⁰⁴ NCCPL's Annual Report, 2016

Market Index, these volumes are expected to be even higher. These developments entail further strengthening of SGF for adequate, smooth and seamless settlement of transactions in a crisis scenario.

In line with international best practices, the arrangement should be such that the onus of bailout of CCPs in case of stressed scenario should be borne by the market players i.e. the clearing members (specifically brokers), the CCP (clearing company) and the stock exchange.

NCCPL taking leading role in Risk Management functions of the stock exchange...

In accordance with the provisions of the Securities Act, 2015, the NCCPL has taken over the entire risk management functions of the capital market trades in CY16 that are executed and settled by the Clearing Members.²⁰⁵ These functions were previously performed by PSX. This is in addition to NCCPL performing the risk management of trades/ transactions of Ready and Futures markets executed by its Non-Broker Clearing Members (NBCMs)²⁰⁶ through Financial Institutions Risk Management System. Moreover, risk management functions for trades which are recorded in debt & leverage markets are also performed by the NCCPL.

Central Depository Company (CDC) launched innovative services to control custody risk...

Another significant FMI is CDC that is the only corporate Central Securities Depository (CSD) of the country. It handled 129.8 billion shares with a

²⁰⁵ <http://www.nccpl.com.pk/products-services/products-services-1/risk-management>

²⁰⁶ A person/ entity that is admitted as a Clearing Member to National Clearing and Settlement System under NCCPL Regulations is not a Trading Right Entitlement certificate holder (broker) of a stock exchange. NBCMs, generally include institutions but are not limited to, the banking companies, development finance institutions (DFIs), investments/ asset management companies under non-bank finance companies and insurance companies.

total market capitalization of PKR 6,202.4 billion in Central Depository System (CDS) as of 31 December 2016. Its Investors Accounts have crossed the 50,000 mark in 2016 by reaching to 50,533 accounts (corporate investors – 1,522 and individual investors –49,011).²⁰⁷

To enhance the investors' protection, CDC introduced Direct Settlement Service (DSS) in 2015. This web-based service offers investors a risk-free option of keeping their cash in their accounts along with their securities. With brokers only executing trades, CDC takes up the responsibility of settling transactions (both in cash and securities) of the subscribers through investor accounts. This service minimizes investors' need of a sub-account with broker and allows investors to maintain both trade and custody of their portfolio through just one account.²⁰⁸

FinTech requires encouragement as well as putting in place the required safeguards...

Technological developments are taking place at a phenomenal speed; they are penetrating every sector of the economy and the financial sector is no exception. One such recent development is the Financial Technology (FinTech), which is at an early stage of its evolution. Fintech has great potential to expand access to financial services for both households and businesses. This could enhance sustainable and inclusive growth, provided that the accompanying risks are managed to maintain trust in the system.

SBP, being cognizant of the potential and associated risks of FinTech, has already issued "Rules for Payment System Operators (PSOs) and Payment Service Providers (PSPs)" in October 2014.²⁰⁹

²⁰⁷ CDC's Newsletter, October-December 2016

²⁰⁸ CDC's Annual Report, 2016

²⁰⁹ PSO/ PSP means such Authorized Party that is a company registered under Companies Ordinance 1984 and is engaged in operating and/or providing Payment Systems related services like

These rules cover large firms requiring minimum paid-up capital of PKR 200 million. In addition, SBP has also envisaged a regulatory framework for small FinTech firms to encourage innovative payment solutions so as to maximize the opportunities and minimize the risks for the society (see **Box 5.2**).

electronic payment gateway, payment scheme, clearing house, ATM Switch, POS Gateway, E-Commerce Gateway etc. acting as an intermediary for multilateral routing, switching and processing of payment transactions.

Box 5.1: Role of SBP in Payment Systems and Functional Overview of Key Financial Market Infrastructures (FMIs) of Pakistan

State Bank of Pakistan (SBP) is playing following major roles in achieving its broad objectives of soundness and efficiency of payment systems.²¹⁰

- (a) **Role as Regulator:** SBP regulates and oversees payment systems under the Payment System and Electronic Fund Transfers Act, 2007. Under this Act, SBP has authority to issue regulations, rules and guidelines with the objective to reduce systemic and operational risk to make payments infrastructure more secure in order to promote financial stability.
- (b) **Role as Operator:** SBP plays a major role by operating Pakistan's Real-Time Interbank Settlement Mechanism (PRISM) – Real Time Gross Settlement System (RTGS). It acts as a settlement institution for wholesale interbank funds transfers, government securities and retail clearing batches. Moreover, SBP also operates the central depository for government securities which is an integral part of PRISM.
- (c) **Role as Facilitator:** SBP plays a crucial role in the development of retail payment systems by assessing and authorizing financial institutions with regards to their payment products, channels, services and instruments. SBP also coordinates with the government and private institutions to implement various initiatives relating to payment systems.

Payment and settlement transactions in Pakistan are largely dominated by: (1) electronic inter-bank fund transfers (IBFT), (2) paper-based payment instruments' clearing for inter-bank settlement, and (3) securities settlement (government as well as corporate). These transactions are managed by three different types of systems in place which are key elements of FMIs of the country. These are: (1) PRISM & Inter-bank Switches, (2) National Institutional Facilitation Technologies (NIFT), and (3) National Clearing & Settlement System and Central Depository System.

The brief functional overview of these systems is as follows:

(1) Inter-bank payments are classified into wholesale and retail transactions keeping in view the value of transaction and the type of party that initiates the transaction. Wholesale payment system is considered to be Systemically Important Payment System due to the fact that it processes large values and it can create systemic risk in the financial system. This risk can be mitigated by implementing a RTGS, thereby allowing financial institutions to settle their obligations in real time securely and irrevocably. PRISM, managed by the SBP, provides a central platform for the settlement of large-value interbank funds transfers, government securities, retail clearing and customer transfers (over a certain lower limit).

The country's retail payment system consists of 1Link and M-Net inter-operable inter-bank switches (1Link being the leading switch with strength of 36 member banks is a potential candidate for Systemically Important Payment System), which facilitate customers to access their funds and accounts through Alternate Delivery Channels (ADCs) such as Automatic Teller Machine (ATM), Point of Sale (POS), Internet, Mobile, Call Center, e-Commerce etc. These switches are also connected with payment schemes of VISA, MasterCard, China Union Pay (CUP), Japan Credit Bureau (JCB) and American Express (Amex) for international transactions.

(2) National Institutional Facilitation Technologies (Pvt.) Ltd. (NIFT) is a clearing house of paper instruments, which performs collection, clearing and netting of interbank obligations arising from processing of retail clearing payment instruments. The net obligations between banks are settled through PRISM.

(3) National Clearing Company of Pakistan Limited (NCCPL) is the country's corporate Securities Settlement System (SSS). It was incorporated to manage and operate the National Clearing & Settlement System (NCSS) in a fully automated environment. NCSS provides centralized clearing and settlement²¹¹ services to the Stock

²¹⁰ Payment Systems Review, 2014-15

²¹¹ *Clearing* refers to the processes (including margining and netting) between the period from trade execution until settlement. *Settlement* of

Exchange. All trade/ transactions are settled in NCSS on the settlement date (T+2) on Delivery vs Payment (DVP) basis²¹². NCCPL sends the securities delivery instructions to Central Depository Company (CDC), while the payment leg of securities transactions is settled through the settlement banks in PRISM.

The Capital Market of Pakistan has a triangular foundation comprising of the PSX, NCCPL and CDC. CDC is recognized as the infrastructure backbone of the Pakistan capital market and it is the sole corporate Central Securities Depository (CSD) in the country. The main function of CDC is to operate and maintain the Central Depository System (CDS) – an electronic book-entry system used to record and maintain securities and to register the transfer of securities. The system changes the ownership of securities without any physical movement or endorsement of certificates and execution of transfer instruments. Both NCCPL and CDC are regulated by the Securities and Exchange Commission of Pakistan (SECP).

Committee on Payment and Settlement System (CPSS) of BIS and Technical Committee of the International Organization of Securities Commissions (IOSCO) issued “Principles for Financial Market Infrastructures” in April 2012. All the FMIs were encouraged to observe those principles to achieve public policy objectives of safety and efficiency, transparency and financial stability including limiting systemic risk.

These principles were designed to apply on systemically important FMIs. The presumption is that all CSDs, SSSs and CCPs are systemically important (unless otherwise specified by the authorities) typically because of their critical roles in the markets they serve.

As far as Payment Systems are concerned, in general a payment system is systemically important if it has the potential to trigger or transmit systemic disruptions; this includes, among other things, systems that are the sole payment system in a country or the principal system in terms of the aggregate value of payments; systems that

mainly handle time-critical, high-value payments; and systems that settle payments used to effect settlement in other systemically important FMIs²¹³.

In this backdrop, there is a need to assess the feasibility of designating large value payment system (PRISM) and the largest e-banking retail inter-bank payment switch (1Link with 36 member banks) as systemically important payment systems. In this way, the application of BIS-IOSCO principles (in letter and spirit) would help enhance management of credit, liquidity, general business, custody, investment and operational risks of these payment systems.

a trade occurs when the trade is completed and all payments have been made and legal obligations satisfied.

²¹² <http://www.nccpl.com.pk/products-services/products-services-1/clearing-settlement-services>

²¹³ CPSS (BIS) and IOSCO, (2012). “Principles for Financial Market Infrastructures”

Box 5.2: Financial Technology (FinTech)

Financial Technology (FinTech) is a dynamic segment at the intersection of the financial services and technology sectors where technology-focused start-ups and new market entrants innovate the products and services currently provided by the traditional financial services industry. As such, FinTech is gaining significant momentum and causing disruption to the traditional value chain.²¹⁴

Keeping in view the importance of the issue, many multilateral organizations, including Financial Stability Board (FSB), have been monitoring FinTech activities to understand their implications for financial stability. On the advice of G20, FSB has launched the work on the regulatory and supervisory issues pertaining to FinTech. In this respect, FSB has established the “FinTech Issues Group”. FSB is expected to publish its report in 2017 identifying the key regulatory and supervisory FinTech risks that merit authorities’ attention.

These new technologies could transform wholesale payments, clearing and settlement. In particular, Distributed Ledger Technology (DLT)²¹⁵ could yield significant gains in the accuracy, efficiency and security of such processes, thus saving a substantial amount of bank capital and significantly improving the resilience of the system.²¹⁶

Currently, there are some efforts underway to nurture FinTech globally. Most importantly, a number of central banks have commenced experiments or proof of concept to study the viability of replacing the RTGS systems with wholesale payment systems based on DLT. These experiments with DLT applications in securities settlement aim for speeding up settlement and reducing

back office costs while providing greater transparency of transactions and holdings.

For example, in order to help distinguish distributed ledger’s potential from its hype, the Bank of England (BOE) is participating in several related initiatives. They have completed their own proof of concept. Now BOE aims to make their next generation RTGS compatible with settlement in a distributed ledger.²¹⁷

The SBP is also currently studying ‘blockchain’ technology solution (known as DLT) being experimented by central and commercial banks around the globe to bring efficiency in the processing of financial transactions and for protection against cyber crimes²¹⁸.

In Pakistan, FinTech activities and entities mostly related to retail payments area are in the swing at this stage. Presently, some other facets of FinTech are not prevalent in country. However, crypto-currencies²¹⁹ are around for quite some time. The awareness about crypto-currencies is not very high in the country at the moment. Some tech savvy people (like bloggers) are trying to create awareness among the people regarding this ‘alternative payment method’ and have set up their own small businesses dealing with crypto-currencies.²²⁰

Since virtual currency is an unregulated phenomenon, it may become a cause of regulatory concern going forward after getting some sizeable momentum. Keeping in view the limited awareness and nascent phase of virtual currencies so far, it may not be a challenge for financial stability of Pakistan for now.

²¹⁴ PWC Global FinTech Report 2016

²¹⁵ A distributed ledger is a database that is consensually shared and synchronized across network spread across multiple sites, institutions or geographies. It allows transactions to have public “witnesses,” thereby making a cyber attack more difficult. Source:<http://www.investopedia.com/terms/d/distributed-ledgers.asp#ixzz4gSz1p15l>

²¹⁶ Oliver Wyman and Santander estimated that distributed ledger technology could reduce banks’ infrastructure costs attributable to cross-border payments, securities trading and regulatory compliance by \$15-20bn per annum by 2022. See: <https://santanderinnovations.com/fintech2/>

²¹⁷<http://www.bankofengland.co.uk/publications/Documents/speeches/2017/speech974.pdf>

²¹⁸ Speech delivered by the Executive Director, SBP at 15th Innovative, Diebold Nixdorf e-banking conference, 2017 at Karachi.

²¹⁹ Crypto-currency refers to a math-based, decentralized, convertible virtual currency which is based on cryptography. The currency is constructed on complex mathematical algorithm which ensures safety and anti-counterfeiting during its transactions (Stevenson, 2013).

²²⁰ Bizinjo and Talal, Crypto-Currency: The Disruptive Phenomenon, *State Bank News*, July 2016

Appendix A: Financial Sector Vulnerability Index (FSVI) and Financial Sector Heat Map (FSHM)

The financial sector vulnerability index (FSVI) and financial sector heat map (FSHM) have been estimated covering the period from the year 1996 to year 2016 following the methodology described by Aikman et. al. (2015)²²¹.

The FSVI represents the equal-weighted average risk arising from the four key areas i.e. the banking sector, the corporate sector, the financial markets, and the macro-economy. Each area is assessed based on various risk dimensions. For example, banking sector's risk dimensions include capital adequacy, earnings, liquidity etc. Within each risk dimension, in turn, various risk indicator(s) are used. For example, asset quality includes NPLs to loans ratio, Loss to NPLs etc. Generally, higher values of an indicator read higher risk. However, to make the direction of risk consistent, few indicators (such as CAR, ROA, GDP etc.) are pre-multiplied by negative unity.²²² See **Table 1** below for details.

The risk is depicted in terms of cumulative probability ranging from 0 to 1 such that closer to 0 means lower risk and closer to 1 is the higher risk. The risk magnitude of FSVI is, then, represented by various color scaling (blue with the lowest risk and red with the highest risk) to form Financial Sector Heat Map (FSHM).

In order to calculate the magnitude of risk, each indicator is standardized around its mean. Taking simple average of all the standardized indicators in all risk dimensions of a particular area yields the average standardized values of the area. For example, the values for banking is derived from averaging all standardized indicators of the banking sector in various risk dimensions i.e. capital adequacy, liquidity, earnings etc. The aggregate values are then derived by taking equal weighted average of values of all areas (i.e. banking, financial markets, etc.). The FSVI is

then derived by rescaling the aggregate values, between 0 and 1, using the empirical cumulative distribution function (ECDF) of the entire time series data.

The FSVI is then mapped into color spectrum (blue to red) to obtain the FSHM. FSHMs of all sectors are also estimated separately.²²³

For completeness, a number of alternative measures for scaling the aggregate index between 0 and 1 have been explored, such as Normal Cumulative Distribution Function (NCDF) and Cumulative Probability by assigning equal probabilities to each value. All methodologies yield similar results for the FSVI and FSHM.

²²¹<https://www.federalreserve.gov/econresdata/feds/2015/files/2015059pap.pdf>

²²² Otherwise, higher value of indicators would have shown lower risk.

²²³ For sector-wise heat maps, each sector standardized values is also rescaled with empirical cumulative distribution function

Table 1: FSVI and FSHM: Risk Areas, Risk Dimensions and Indicators

Sr. No.	Risk Area	Risk Dimension	Risk Indicator(s)	Impact on Financial Stability
1	Banking	Capital Adequacy (C) $C = \frac{1}{n} \sum_{i=1}^n c_i, n = 3$	$c_1 = \text{Capital Adequacy Ratio (CAR)}$ $c_2 = \text{TIER 1 (CAR)}$ $c_3 = \text{Capital to Asset Ratio}$	Positive Positive Positive
		Asset Quality (AQ) $AQ = \frac{1}{n} \sum_{i=1}^n aq_i, n = 4$	$aq_1 = \text{NPLs to Total Loans}$ $aq_2 = \text{Provisions to NPLs}$ $aq_3 = \text{Net NPLs to Capital}$ $aq_4 = \text{Loss to NPLs}$	Negative Positive Negative Negative
		Earnings (E) $E = \frac{1}{n} \sum_{i=1}^n e_i, n = 5$	$e_1 = \text{Return on Assets Before Tax}$ $e_2 = \text{Return on Equity (Avg. Equity and Surplus) Before Tax}$ $e_3 = \text{Net Interest Margin}$ $e_4 = \text{Net Interest Income/Gross Income}$ $e_5 = \text{Cost to Income Ratio}$	Positive Positive Positive Positive Negative
		Liquidity (L) $L = \frac{1}{n} \sum_{i=1}^n l_i, n = 3$	$l_1 = \text{Liquid Assets/Total Assets}$ $l_2 = \text{Liquid Assets/Total Deposits}$ $l_3 = \text{Earning Assets/Deposits}$	Positive Positive Positive
		Residual Growth (RG) $RG = \frac{1}{n} \sum_{i=1}^n rg_i, n = 4$	$rg_1 = \text{Growth in Investment}$ $rg_2 = \text{Growth in Borrowings}$ $rg_3 = \text{Growth in Advances}$ $rg_4 = \text{Growth in Deposits}$	Negative Negative Negative Positive
2	Corporate	Corporate Debt	<i>Debt Burden (average of asset/equity, debt/equity and debt/asset ratios)</i>	Negative
3	Financial	Foreign Exchange	<i>Mid-Weight Interbank Exponential Moving Weighted Average (EMWA) Volatility</i>	Negative
		Money Market	<i>Overnight Repo Rate Exponential Moving Weighted Average (EMWA) Volatility</i>	Negative
		Capital Market	<i>KSE-100 Index Exponential Moving Weighted Average (EMWA) Volatility</i>	Negative
4	Macroeconomic	External Sector (Ex) $Ex = \frac{1}{n} \sum_{i=1}^n ex_i, n = 3$	$ex_1 = \text{Total Liquid Foreign Reserve Position}$ $ex_2 = \text{Current Account Balance}$ $ex_3 = \text{Balance of Trade}$	Positive Positive Positive
		Real Sector (R) $R = \frac{1}{n} \sum_{i=1}^n r_i, n = 2$	$r_1 = \text{Real GDP Growth}$ $r_2 = \text{Inflation}$	Positive Negative
		Fiscal Sector	Fiscal Deficit as Percentage of GDP	Negative

Acronyms

A2FS	Access To Finance Survey	BSD	Banking Surveillance Department
AAOIFI	Accounting and Auditing Organization for Islamic Financial Institutions	CAD	Current Account Deficit
ADB	Asian Development Bank	CAELS	Capital Adequacy Asset Quality Earnings
ADCs	Alternative Delivery Channels	CAF	Conduct Assessment Framework
ADR	Advances to Deposit Ratio	CAGR	Compound Average Growth Rate
Ads	Authorized Dealers	CAMELS	Capital, Assets, Management, Earnings, Liquidity and Sensitivity
Aes	Advanced Economies	CAR	Capital Adequacy Ratio
AFS	Available-For-Sale	CASA	Current Account Saving Account
AGD	Accumulated Gross Disbursements	CBs	Commercial Banks
AHFL	Asian Housing Finance Limited	CCB	Counter Cyclical Buffer
AIG	American International Group, Inc	CCP	Central Counter Party
ALM	Asset Liability Management	CDC	Central Depository Company
AM	Asset Management	CDD	Customer Due Diligence
AMC	Asset Management Companies	CDNS	Central Directorate of National Savings
AML	Anti Money Laundering	CDR	Currency to Deposits Ratio
AMZVL	AMZ Ventures	CDS	Credit Default Swaps
ASEAN	Southeast Asian Nations	CDS	Central Depository System
ATM	Automated Teller Machines	CF	Consumer Finance
AUM	Assets Under Management	CFS	Continuous Funding System
BB	Branchless Banking	CFT	Combating the Financing of Terrorism
BC&CPD	Banking Conduct & Consumer Protection Department used in footnote	CGHM	Consumer Grievances Handling Mechanism used in footnote
BCBS	Basel Committee Of Banking Supervision	CIB	Credit Information Bureau
BIS	Bank Of International Settlement	CIC	Currency in circulation
BoE	Bank of England	CNIC	Computerized National Identity Card
BoI	Board of Investment	CoDs	Certificate of Deposits
BoJ	Bank of Japan	COFI	Cost of Financial Intermediation
BOP	Balance of Payment	CoIs	Certificate of Investments
BPRD	Banking Policy and Regulation Department	CPEC	China-Pakistan Economic Corridor
bps	Basis Points	CPI	Consumer Price Index
BRICS	Brazil, Russia, India, China, and South Africa	CPPI	Constant Proportions Portfolio Insurance
BRRGM	B.R.R. Guardian Modaraba	CPSS	Committee on Payment And Settlement
BSC	Banking Services Corporation	CPV	Credit Portfolio View
BSCs	Behbood Savings Certificates		

CRR	Cash Reserve Requirement	FB	Foreign Bank
CRWA	Credit Risk Weighted Assets	FCA	Foreign Currency Account
CSD	Central Securities Depository	FDI	Foreign Direct Investments
CSF	Coalition Support Fund	FDR	Financing to Deposit Ratio
CSF	Competitiveness Support Fund	FED	Federal Reserve System
CUP	China Union Pay	FIFO	First In First Out
CY	Calendar Year	FinTech	Financial Technology
DCMC	Debt Capital Market Committee	FIRO	Financial Institutions (Recovery of Finances) Ordinance 2001
DFIs	Development Finance Institutions	FMAP	Financial Market Association Of Pakistan
DLT	Distributed Ledger Technology	FMI	Financial Market Infrastructure
DM	Diminishing Musharakah	FPC	Financial Policy Committee
DMMD	Domestic Markets & Monetary Management	FPI	Foreign Portfolio Investments
DNS	Deferred Net Settlement Systems	FRA	Forward Rate Agreement
DPC	Deposit Protection Corporation	FRDL	Fiscal Responsibility and Debt Limitation Act
DPCO	Debt Policy Co-ordination Office	FSB	Financial Stability Board
DPS	Deposit Protection Scheme	FSB RCG	Financial Stability Board Regional Consultative Group for Asia
DSC	Defense Saving Certificates	FSD	Financial Stability Department
D-SIBs	Domestic Systemically Important Banks	FSEC	Financial Stability Executive Committee
DSS	Direct Settlement System	FSR	Financial Stability Review
DVF	Delivery Vs. Free	FSV	Forced Sale Value
DVP	Delivery Vs. Payment	FTC	Fair Treatment of Consumer
DW	Discount Window	FX	Foreign Exchange
EA	Euro Area	FY	Financial Year
e-banking	Electronic Banking	FY	Fiscal Year
E-bond	Electronic Bond	G20	Group of Twenty
ECAI	External Credit Assessment Institution	G2P	Government to Person
ECB	European Commercial Bank	GCC	Gulf Cooperation Council
e-Commerce	Electronic Commerce	GDP	Gross Domestic Product
EFS	Export Finance Schemes	GFC	Global Financial Crisis
EM	Emerging Markets	GFSR	Global Financial Stability Report
EMDEs	Emerging Markets and Developing Economies	GL	Group Lending
EMEs	Emerging Economies	GNPLR	Gross Non-Performing Loans Ratio
EMI	Emerging Market Index	GoP	Government of Pakistan
EPD	Exchange Policy Department	GPF	General Provident Fund
EPS	Earnings per Share	HBFCCL	House Building Finance Corporation Limited
ER	Exchange Rate	HBL	Habib Bank Limited
EU	European Union	HFCs	Housing Finance Companies
EWMA	Exponential Weighted Moving Average		
EWS	Early Warning System		

HFT	Held-For-Trading	LOU	Letter of Understanding
HHI	Herfindahl Index	LPBs	Local Private Banks
HIES	Household Integrated Economic Survey	LR	Leverage Ratio
HP Filter	Hodrick–Prescott filter	LRI	Liquidity Risk Indicator
IA	Investment Advisors	LSM	Large Scale Manufacturing
IBD	Islamic Banking Department	LVP	Large Value Payment
IBFT	Inter Bank Fund Transfer	LVPS	Large Value Payment System
IBIs	Islamic Banking Institutions	M&As	Mergers and Acquisitions
IBNR	Incurred But Not Reported	MCR	Minimum Capital Requirement
IDB	Industrial Development Bank	MER	Minimum Equity Requirements
IDR	Investments to Deposit Ratio	MFBS	Microfinance Banks
IDR	Investment to Deposit Ratio	MICR	Magnetic Ink Character Recognition
IFCs	Investment Finance Companies	MMA	Mahana Amdani Accounts
IFIs	International Financial Institutions	MMC	Modaraba Management Company
IFSB	Islamic Financial Services Board	MMF	Money Market Funds
IFSI	Islamic Financial Services Industry	MNSB	Multilateral Net Settlement Batches
IFT	Interbank Fund Transfers	Mod/MF	Modaraba Companies and Mutual funds
IH&SMEFD	Infrastructure, Housing & SME Finance Department	MoF	Ministry Of Finance
ILF	Intra-Day Liquidity Facility	MOU	Memorandum of Understanding
IMF	International Monetary Fund	MPS	Monetary Policy Statement
IOSCO	International Organization of Securities Commissions	MRTBs	Market Related Treasury Bills
IPF	Infrastructure Project Financing	MRWA	Market Risk Weighted Assets
IPO	Initial Public Offering	MSCI	Morgan Stanley Capital International
IPS	Investment Portfolio Securities	MSR	Minimum Saving Rate
IRR	Interest Rate Risk	MTBs	Market Treasury Bills
IRS	Interest Rate Swap	MUFAP	Mutual Funds Association of Pakistan
IT	Information Technology	MVs	Macroeconomic Variables
JCB	Japan Credit Bureau	MW	Megawatt
KDA	Khass Deposit Accounts	NAV	Net Asset Value
KDS	Khass Deposit Certificates	NBFCs	Non-banking Finance Companies
KIBOR	Karachi Inter-Bank Offer Rate	NBFIs	Non-Bank Financial Institutions
KONIA	Karachi Overnight Index Average	NBMFC	Non-bank Microfinance Company
KSE	Karachi Stock Exchange	NBP	National Bank of Pakistan
KYC	Know Your Customer	NCB	Non-Competitive Bids
LCR	Liquidity Coverage Ratio	NCCPL	National Clearing Company of Pakistan Limited
LHS	Left Hand Side	NCS	National Coinsurance Scheme
LIBOR	London Inter-Bank Rate	NCSS	National Clearing and Settlement System
LICs	Life Insurance Companies	NDA	Net Domestic Assets
LMM	Locally Manufactured Machinery		
LoLR	Lender of Last Resort		

NDLC	National Developing Leasing Corporation	PBA	Pensioners' Benefit Account
NEER	Nominal Effective Exchange Rate	PBIC	Pak Brunei Investment company Ltd
NFA	Net Foreign Assets	PBS	Pakistan Bureau of Statistics
NFIS	National Financial Inclusion Strategy	PBT	Profit Before Tax
NFSC	National Financial Stability Council	PCIC	Pak China Investment Company Ltd.
NGOs	Non-Governmental Organization	PDRs	Product Disclosure Requirement
NICL	National Insurance Company Limited	PE&VCF	Private Equity and Venture Capital Fund
NIFT	National Institutional Facilitation Technologies (Pvt.) Limited	PEPCO	Pakistan Electric Power Company
NII	Net Interest Income	PIB	Pakistan Investment Bond
NIM	Net Interest Margin	PIIC	Pak-Iran Investment Company Ltd.
NIT	National Investment Trust Ltd	PKIC	Pakistan Kuwait Investment Company (Pvt)
Non-AM	Non- Asset Management	PKR	Pakistani Rupee
NOP	Net Open Position	PKRV	Pakistan Revaluation Rate
NPFs	Non-Performing Financing	PLA	Personal ledger Accounts
NPLR	Non-Performing Loan Ratio	PLHC	Pak-Libya Holding Company (Pvt) Ltd.
NPLs	Non-Performing Loans	PLI	Postal Life Insurance
NR	Non-Remunerative	PLS	Profit-Loss Sharing
NSB	National Savings Bond	POIC	Pak Oman Investment Company
NSS	National Savings Schemes	POL	Pakistan Oilfields Limited
NTN	National Tax Number	POS	Point Of Sale
O/N	Overnight	PPEML	Pakistan Private Equity Management Ltd.
OAEM	Other Assets Especially Mentioned	PPP	Purchasing Power Parity
OECD	Organization of Economic Cooperation and Development	PPTFC	Privately Placed Term Finance Certificates
OLS	Ordinary Least Square	PRC	Publication Review Committee
OMOs	Open Market Operations	PRCL	Pakistan Reinsurance Company Limited
ONR	Overnight Rate	PRI	Pakistan Remittance Initiative
OPEC	Organization of Petroleum Exporting Countries	PRISM	Pakistan Real-Time Interbank Settlement
ORWAs	Operational Risks Weighted Assets	PRs	Prudential Regulations
OSD	Off-Site Supervision and Support Department	PSC	Private Sector Credit
OTC	Over the Counter	PSCBs	Public Sector Commercial Banks
P/E Ratio	Price-to-Earning Ratio	PSEFT	Payment Systems And Electronic Fund
P2G	Person to Government	PSEs	Public Sector Enterprises
P2P	Person to Person	PSO	Payment System Operator
PAR	Portfolio At Risk	PSP	Payment Service Provider
PAR30	Portfolio at Risk for greater than 30 days	PSX	Pakistan Stock Exchange
PBA	Pakistan Banks' Association		

PTA	Pakistan Telecommunication Authority		Agricultural
PTES	Production & Transmission of Energy Sector	SREP	Supervisory Review and Evaluation Process
RBS	Risk Based Supervision	SSAs	Special Savings Accounts
RCC	Retail Checque Clearing	SSC	Special Savings Certificates
RDNS	Regional Directorate of National Savings	SSS	Securities Settlement System
REER	Real Effective Exchange Rate	STDL	Short-Term Debt And Liabilities
REIT	Real Estate Investment Trust	STP	Straight Through Processing
REPO	Repurchase Agreement	SWIFT	Society For Worldwide Interbank Financial
RHS	Right Hand Side		Turn Around Times
RIC	Regular Income Certificates	TATs	Turn Around Times
RMC	REIT Management Company	TBC	Toyota Boshoku Corporation
ROA	Return on Assets	T-Bill	Treasury Bills
ROE	Return on Equity	TCP	Trading Corporation of Pakistan
RPI	Real Private Investment	TDL	Time And Demand Liabilities
RSA	Rate Sensitive Assets	TFC	Term Finance Certificate
RSL	Rate Sensitive Liabilities	TMTV	TMT Ventures
RTGS	Real-Time Gross Settlement	TR	Trade Repository
RTOB	Real Time Online Banking	TRGPL	TRG Pakistan Limited
RWA	Risk Weighted Assets	TSA	Treasury Single Account
S&DWH	Statistics & Data Warehouse Department	UAE	United Arab Emirates
SA	Savings Accounts	UBL	United Bank Limited
SAB	Shariah Advisory Board	UIP	Uncovered Interest Rate Parity
SBA	Stand-by Arrangement	UK	United Kingdom
SBP	State Bank of Pakistan	ULR	Uncovered Liability Ratio
SBs	Specialized Banks	USA	United States of America
SCRA	Special Convertible Rupee Account	USD	US Dollar
SDA	Special Drawing Accounts	VAR	Vector Auto-Regression
SDRs	Special Drawing Rights	VC	Venture Capital
SECP	Securities Exchange Commission of Pakistan	VCCs	Venture Capital Companies
SGF	Settlement Guarantee Fund	VECM	Vector Error Correction Model
SGS	Singapore Government Securities	WADR	Weighted Average Deposits Rate
SLIC	State Life Insurance Corporation	WALR	Weighted Average Lending Rate
SLR	Statutory Liquidity Requirement	WAPDA	Water and Power Development Authority
SME	Small And Medium Enterprises	WEO	World Economic Outlook
SPIAIC	Saudi Pak Industrial and	WTOs	Window Takaful Operators
		YoY	Year on Year

Annexures

Annexure I - Balance Sheet and Profit & Loss Statement of Banks

PKR million

BALANCE SHEET	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16
ASSETS					
Cash & Balances With Treasury Banks	805,672	840,233	723,664	909,429	1,184,521
Balances With Other Banks	191,599	186,221	149,631	198,395	168,394
Lending To Financial Institutions	169,630	273,991	429,380	360,772	551,695
Investments - Net	4,009,213	4,305,484	5,309,630	6,880,765	7,509,164
Advances - Net	3,760,289	4,046,587	4,447,300	4,815,827	5,498,813
Operating Fixed Assets	247,678	259,405	277,030	310,102	336,376
Deferred Tax Assets	75,542	78,855	67,077	65,644	64,681
Other Assets	501,219	546,214	702,550	602,301	517,412
TOTAL ASSETS	9,760,842	10,536,989	12,106,261	14,143,234	15,831,058
LIABILITIES					
Bills Payable	110,077	122,707	137,651	145,089	182,858
Borrowings From Financial Institution	1,035,671	723,828	1,001,447	1,766,145	1,942,458
Deposits And Other Accounts	7,300,687	8,318,058	9,229,773	10,389,260	11,797,867
Sub-ordinated Loans	55,160	40,070	44,329	51,366	59,330
Liabilities Against Assets Subject To Finance Lease	52	34	33	50	41
Deferred Tax Liabilities	17,924	18,288	37,149	47,622	61,109
Other Liabilities	359,444	375,374	448,432	420,935	434,598
TOTAL LIABILITIES	8,879,016	9,598,360	10,898,816	12,820,468	14,478,261
NET ASSETS	881,826	938,629	1,207,445	1,322,767	1,352,797
NET ASSETS REPRESENTED BY:					
Share Capital	463,647	481,250	587,053	619,862	579,882
Reserves	155,287	175,593	189,242	192,039	205,314
Unappropriated Profit	154,610	164,440	227,151	290,908	344,615
Share Holders' Equity	773,544	821,283	1,003,446	1,102,809	1,129,812
Surplus/Deficit On Revaluation Of Assets	108,281	117,346	203,999	219,958	222,985
TOTAL	881,826	938,629	1,207,445	1,322,767	1,352,797
PROFIT AND LOSS STATEMENT	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16
Mark-Up/ Return/Interest Earned	800,800	776,653	919,821	981,760	938,026
Mark-Up/ Return/Interest Expenses	460,918	444,431	504,990	485,575	453,232
Net Mark-Up / Interest Income	339,882	332,222	414,830	496,185	484,793
Provisions & Bad Debts Written Off Directly/(Reversals)	32,492	36,252	25,323	38,874	5,305
Net Mark-Up / Interest Income After Provision	307,390	295,970	389,507	457,311	479,489
Fees, Commission & Brokerage Income	54,002	62,337	70,421	82,640	90,266
Dividend Income	21,686	14,606	14,098	16,910	17,187
Income From Dealing In Foreign Currencies	21,745	21,431	28,396	22,824	14,015
Other Income	40,559	42,036	54,434	86,369	74,260
Total Non - Markup / Interest Income	137,993	140,409	167,349	208,743	195,728
Administrative Expenses	445,383	436,379	556,856	666,053	675,217
Other Expenses	252,861	267,990	304,588	330,006	356,183
Total Non-Markup/Interest Expenses	257,674	271,227	310,313	337,237	361,186
Profit before Tax and Extra ordinary Items	187,709	165,153	246,543	328,817	314,031
Extra ordinary/unusual Items - Gain/(Loss)	848.99	2.01	3.79	0.51	0.27
PROFIT/ (LOSS) BEFORE TAXATION	186,860	165,151	246,539	328,816	314,030
Less: Taxation	65,480	54,176	83,171	129,811	124,117
PROFIT/ (LOSS) AFTER TAX	121,380	110,975	163,368	199,006	189,914

Annexure II - Financial Soundness Indicators of the Banking Sector

percent

Indicators	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16
CAPITAL ADEQUACY					
Risk Weighted CAR [^]	15.4	14.9	17.1	17.3	16.2
Tier 1 Capital to RWA	12.8	12.6	14.3	14.4	13.0
Capital to Total Assets	9.0	8.9	10.0	8.4	7.8
ASSET QUALITY					
NPLs to Total Loans	14.5	13.0	12.3	11.4	10.1
Provision to NPLs	71.8	78.4	79.8	84.9	85.0
Net NPLs to Net Loans	4.6	3.1	2.7	1.9	1.6
Net NPLs to Capital ^{^^}	19.4	13.4	10.1	7.7	7.3
EARNINGS					
Return on Assets (Before Tax)	2.1	1.7	2.2	2.5	2.1
Return on Assets (After Tax)	1.4	1.1	1.5	1.5	1.3
ROE (Avg. Equity & Surplus) (Before Tax)	22.7	18.4	24.3	25.8	23.9
ROE (Avg. Equity & Surplus) (After Tax)	14.7	12.4	16.1	15.6	14.4
NII/Gross Income	71.1	70.3	71.3	70.4	71.2
Cost / Income Ratio	53.9	57.4	53.3	47.8	53.1
LIQUIDITY					
Liquid Assets/Total Assets	47.4	47.3	49.2	53.8	53.7
Liquid Assets/Total Deposits	63.3	60.0	64.5	73.3	72.1
Advances/Deposits	51.5	48.6	48.2	46.4	46.6

[^] Data for Dec-13 and onwards is based on Basel III, and data from CY08 to Sep-13 is based on Basel II with the exception of IDBL, PPCBL, and SME Bank, which is based on Basel I.

^{^^} Effective from June 30, 2015, Regulatory Capital, as defined under Basel requirements, has been used to calculate Net NPLs to Capital Ratio. Prior to Jun-15, Balance Sheet Capital was used for calculation of this ratio.

Annexure III - List of Banks

Dec-15	Dec-16
A. Public Sector Com. Banks (5)	A. Public Sector Com. Banks (5)
First Women Bank Ltd.	First Women Bank Ltd.
National Bank of Pakistan	National Bank of Pakistan
Sindh Bank Ltd.	Sindh Bank Ltd.
The Bank of Khyber	The Bank of Khyber
The Bank of Punjab	The Bank of Punjab
B. Local Private Banks (22)	B. Local Private Banks (21)
AlBaraka Bank (Pakistan) Ltd.	AlBaraka Bank (Pakistan) Ltd.*
Allied Bank Ltd.	Allied Bank Ltd.
Askari Bank Ltd.	Askari Bank Ltd.
Bank AL Habib Ltd.	Bank AL Habib Ltd.
Bank Alfalah Ltd.	Bank Alfalah Ltd.
BankIslami Pakistan Ltd.	BankIslami Pakistan Ltd.
Burj Bank Ltd.	Dubai Islamic Bank Pakistan Ltd.
Dubai Islamic Bank Pakistan Ltd.	Faysal Bank Ltd.
Faysal Bank Ltd.	Habib Bank Ltd.
Habib Bank Ltd.	Habib Metropolitan Bank Ltd.
Habib Metropolitan Bank Ltd.	JS Bank Ltd.
JS Bank Ltd.	MCB Bank Ltd.
MCB Bank Ltd.	MCB Islamic Bank Ltd.
MCB Islamic Bank Ltd	Meezan Bank Ltd.
Meezan Bank Ltd.	NIB Bank Ltd.
NIB Bank Ltd.	SAMBA Bank Ltd.
SAMBA Bank Ltd.	Silk Bank Ltd
Silk Bank Ltd	Soneri Bank Ltd.
Soneri Bank Ltd.	Standard Chartered Bank (Pakistan) Ltd.
Standard Chartered Bank (Pakistan) Ltd.	Summit Bank Ltd
Summit Bank Ltd	United Bank Ltd.
United Bank Ltd.	
C. Foreign Banks (4)	C. Foreign Banks (4)
Bank of Tokyo - Mitsubishi UFJ, Ltd.	Bank of Tokyo - Mitsubishi UFJ, Ltd.
Citibank N.A.	Citibank N.A.
Deutsche Bank AG	Deutsche Bank AG
Industrial and Commercial Bank of China Ltd.	Industrial and Commercial Bank of China Ltd.
D. Specialized Banks (4)	D. Specialized Banks (4)
Industrial Development Bank Ltd.	Industrial Development Bank Ltd.
Punjab Provincial Co-operative Bank Ltd.	Punjab Provincial Co-operative Bank Ltd.
SME Bank Ltd.	SME Bank Ltd.
Zarai Taraqati Bank Ltd.	Zarai Taraqati Bank Ltd.
All Commercial Banks (31)	All Commercial Banks (31)
Include A + B + C	Include A + B + C
All Banks (35)	All Banks (34)
Include A + B + C + D	Include A + B + C + D

* Burj Bank Ltd has been acquired by AlBaraka Bank on October 30, 2016.

Annexure IV - Composition of Islamic Banking Institutions

Dec-15		Dec-16	
Islamic Banks		Islamic Banks	
1	AlBaraka Bank (Pakistan) Ltd.	1	AlBaraka Bank (Pakistan) Ltd.
2	BankIslami Pakistan Ltd.	2	BankIslami Pakistan Ltd.
3	Burj Bank Ltd.	3	Dubai Islamic Bank Pakistan Ltd
4	Dubai Islamic Bank Pakistan Ltd	4	MCB Islamic Bank Ltd.
5	MCB Islamic Bank Ltd.	5	Meezan Bank Ltd
6	Meezan Bank Ltd		
Conventional Banks having Islamic Banking Branches		Conventional Banks having Islamic Banking Branches	
1	Askari Bank Ltd.	1	Askari Bank Ltd.
2	Allied Bank Ltd.	2	Allied Bank Ltd.
3	Bank Al Habib Ltd	3	Bank Al Habib Ltd
4	Bank Alfalah Ltd	4	Bank Alfalah Ltd
5	Faysal Bank Ltd.	5	Faysal Bank Ltd.
6	Habib Bank Ltd	6	Habib Bank Ltd
7	Habib Metropolitan Bank	7	Habib Metropolitan Bank
8	MCB Bank Ltd	8	National Bank of Pakistan
9	National Bank of Pakistan	9	Silk Bank Ltd
10	Silk Bank Ltd	10	Sindh Bank Ltd
11	Sindh Bank Ltd	11	Soneri Bank Ltd
12	Soneri Bank Ltd	12	Standard Chartered Bank
13	Standard Chartered Bank	13	Summit Bank Ltd.
14	Summit Bank Ltd.	14	The Bank of Khyber
15	The Bank of Khyber	15	The Bank of Punjab
16	The Bank of Punjab	16	United Bank Ltd.
17	United Bank Ltd.		
Grand Total 23 (6+17)		Grand Total 21 (5+16)	

Annexure V - List of Non-Banking Financial Institutions

Modarabas	
1	Allied Rental Modaraba
2	Awwal Modaraba
3	B.F. Modaraba
4	B.R.R. Guardian Modaraba
5	Crescent Standard Modaraba
6	First Al-Noor Modaraba
7	First Elite Capital Modaraba
8	First Equity Modaraba
9	First Fidelity Leasing Modaraba
10	First Habib Modaraba
11	First IBL Modaraba
12	First Imrooz Modaraba
13	Popular Islamic Modaraba
14	First National Bank Modaraba
15	First Pak Modaraba
16	First Paramount Modaraba
17	First Prudential Modaraba
18	First Punjab Modaraba
19	First Treet Manufacturing Modaraba
20	First UDL Modaraba
21	KASB Modaraba
22	Modaraba Al-Mali
23	Orix Modaraba
24	Trust Modaraba
25	Sindh Modaraba

Annexure VI - List of Insurance Companies*

Non-Life Insurance Companies	
1	Adamjee Insurance Company Limited
2	Alfalah Insurance Company Limited**
3	Asia Insurance Company Limited**
4	Askari General Insurance Company Limited**
5	Atlas Insurance Limited**
6	Century Insurance Company Limited
7	East West Insurance Company Limited
8	EFU General Insurance Limited**
9	Habib Insurance Company Limited
10	IGI Insurance Limited
11	Jubilee General Insurance Company Limited**
12	PICIC Insurance Limited
13	Premier Insurance Limited**
14	Reliance Insurance Company Limited**
15	SPI Insurance Company Limited**
16	Shaheen Insurance Company Limited
17	The Crescent Star Insurance Company Limited
18	The Pakistan General Insurance Company Limited
19	The United Insurance Company of Pakistan Limited**
20	The Universal Insurance Company Limited
21	TPL Direct Insurance Limited**
General Takaful Companies	
1	Pak-Kuwait Takaful Company Ltd.
2	Pak Qatar General Takaful Ltd.
3	Takaful Pakistan Ltd.
Life Insurance Companies	
1	East West Life Assurance Company Ltd.
2	EFU Life Assurance Limited**
3	IGI Life Insurance Limited**
4	Jubilee Life Insurance Company Ltd.**
5	State Life Insurance Company Limited
Family Takaful Companies	
1	Dawood Family Takaful
2	Pak Qatar Family Takaful
Reinsurance Companies	
1	Pakistan Reinsurance Company Ltd.

* This list contains those insurance companies whose data has been used to conduct risk analysis for the insurance sector. In total, there are 35 non-life insurance companies (including National Insurance Company Limited) and 8 life insurance companies (including Postal Life Insurance) besides the aforementioned 3 General Takaful companies

** The proceedings seeking sanction under Section 309 (b) of the Companies Ordinance, 1984 for winding up of the Company are underway.

Source: Securities & Exchange Commission of Pakistan (SECP)