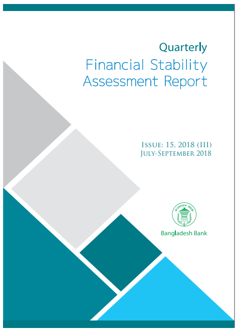
Quarterly

Financial Stability Assessment Report

July-September 2018

Financial Stability Department

Bangladesh Bank



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This report is based on unaudited and provisional data of banks and financial institutions available up to September 30, 2018 unless stated otherwise in the relevant chapters/sections.

Web link of this report: https://www.bb.org.bd/pub/index.php

MESSAGE FROM THE GOVERNOR

In the set up of broadly accommodative and supportive financial environment, the global economy continued to grow moderately during the review period. However, rise in trade sanctions and geopolitical tensions in the advanced economies are escalating risks to financial stability across the globe, which may moderate the growth momentum of developing economies in the long run despite a favorable condition in the short run. Sustained trade tensions and protectionism together with energy price volatility may slow down capital movement and global growth. Therefore, recent developments in the trade partners alongside world economy should be taken into account with considerable attention. In the stated backdrop, current issue of the Quarterly Financial Stability Assessment Report (QFSAR) reviews the overall developments relevant to our financial system stability and the forthcoming global and domestic risks that might impinge the resilience of our financial system.

Bangladesh Bank is entrusted with maintaining price stability with its various policy tools. Alongside, it contributes to maintaining financial system stability through micro and macro prudential supervision approaches. During the review quarter, macro-financial system of Bangladesh exhibited moderate level of stability attributable to stable inflation, increase in export and wage earners' remittance. Financial system showed resilience and capacity to withstand financial and economic shocks. Pertinently, some important financial soundness indicators, such as capital adequacy, profitability remained mostly stable in the review quarter. However, key risk to the financial system lies on gradually rising non-performing loans in the bank and financial institution sectors. Therefore, positive moves by the major financial services providers and associated authorities are of utmost importance for the resolution of non-performing loans.

In addition to its regular analyses of current developments relevant to our financial stability, this QFSAR incorporates two special features- one related to household indebtedness and the other on Fintech- to deepen our understanding on financial stability concerns from these two sources.

I hope that the stakeholders will get a deep insight into the stability attributes of the review quarter from this report. I would like to convey my heartfelt thanks to the officials of the Financial Stability Department who persevered tirelessly in preparing this report.

Fazle Kabir
Governor

MESSAGE FROM THE DEPUTY GOVERNOR

Global growth remains steady leaving behind the legacy of Global Financial Crisis (GFC) of 2007-08 but has softened in July-September 2018, as manufacturing activity and trade have shown signs of slowing down for a number of major economies. Growth projections have also been lowered for the United States, the Euro area and the United Kingdom partially due to the ongoing corrective measures for monetary policy accommodation as well as substantially higher than expected oil prices. A modest growth recovery continues for countries in the Middle East largely attributable to higher oil prices while adding pressure on oil-importing countries. However, the growth of emerging and developing economies appeared to be weaker, reflecting revisions for some country-specific factors, tighter financial constraints, geopolitical tensions, trade barriers and higher energy prices.

Against this backdrop, Bangladesh economy demonstrated notable performance during the review quarter as evident from increase in export and wage earners' remittance, decline in inflation and satisfactory level of foreign exchange reserves. The weighted average lending rate also remained in single digit. A number of Bangladesh Bank initiatives, taken during the review quarter, such as, changes in the Risk Based Capital Adequacy Guidelines, Asset Liability Management Guidelines and Foreign Exchange Regulations, issuance of Agricultural and Rural Credit Policy and Program for FY 2018-19, introduction of Bangladesh Mobile Financial Services (MFS) Regulations 2018, establishment of Food Processing & Agro-based and ICT Projects under Entrepreneurship Support Fund (ESF) have implications for macro-financial stability of the country.

We have noticed that emerging markets are now at the crossroad of digitalization, which promises a substantial transformation of the economy. Indeed, inclusive digitalization may well be a key driver of growth and improved welfare in the long run. However, financial regulators are concerned about the plausible risks to financial stability posed by Fintech innovations. In this connection, it is worth mentioning that Fintech in Bangladesh still remains in nascent stage to pose any systemic threat. Nevertheless, we remain vigilant to take necessary measures if situation warrants.

Experience of the GFC reminds us that excessive household indebtedness may trigger financial system vulnerabilities. In the context of Bangladesh, households are not yet heavily indebted. Nonetheless, evolution of the same should be carefully monitored to prevent any systemic risk enhancing event.

I appreciate the dedication and effort of the officials of Financial Stability Department for bringing this report to light. I hope this report will help different stakeholders of the financial system in taking appropriate decisions, keeping stability scenario in mind.

Ahmed Jamal

Deputy Governor

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Acronyms

ADs	Authorised Dealers
ADR	Advance-to-Deposit Ratio
B/L	Bad and Loss
BB	Bangladesh Bank
BBS	Bangladesh Bureau of Statistics
BDT	Bangladesh Taka
BPS	Basis Points
BRPD	Banking Regulation and Policy Department
CAR	Capital Adequacy Ratio
CPI	Consumer Price Index
CRAR	Capital to Risk-weighted Asset Ratio
CRR	Cash Reserve Ratio
CSE	Chittagong Stock Exchange
CY	Calendar Year
DFIs	Development Finance Institutions
DFIM	Department of Financial Institutions and Markets
DOS	Department of Off-site Supervision
DSE	Dhaka Stock Exchange
EMEs	Emerging Market Economies
FCBs	Foreign Commercial Banks
FIs	Financial Institutions
FOB	Free on Board
FSD	Financial Stability Department
FSV	Forced Sale Value
FX	Foreign Exchange
FY	Fiscal Year
GDP	Gross Domestic Product
GFET	Guidelines for Foreign Exchange Transactions
IS	Interest Suspense
NPL	Non-performing Loan
PCBs	Private Commercial Banks
P/E Ratio	Price Earnings Ratio
QFSAR	Quarterly Financial Stability Assessment Report
ROA	Return on Assets
ROE	Return on Equity
RWA	Risk-weighted Assets
SCBs	State-owned Commercial Banks
SLR	Statutory Liquidity Requirement
SME	Small and Medium-sized Enterprise
TSL	Two-Step Loan
USA	United States of America
USD	United States Dollar
UK	United Kingdom
WAR	Weighted Average Resilience
WIR	Weighted Insolvency Ratio

Executive Summary

This report conveys the assessment of Bangladesh Bank on the resilience of the domestic financial system to risks and vulnerabilities during the July-September quarter of the calendar year 2018. The report also analyses various financial sector issues having implications to stability of the Bangladesh financial system.

The global growth momentum slowed down slightly during the review quarter. Global economic growth slightly moderated during the quarter which could largely be attributed to slowing export growth, high energy prices and political uncertainties in major economies including the USA, China and the Euro area. Hike in energy prices also pushed up the headline inflation in those economies. Monetary policy normalization in the USA and few other advanced economies combined with stronger dollar might lead to reversal in capital flows and rise in borrowing cost of emerging market economies. Global trade growth showed sign of slowdown mainly due to trade tensions between USA and China. However, export in emerging market economies demonstrated an increasing trend during the review quarter.

The domestic macroeconomic situation demonstrated moderate level of stability during the review quarter. Annual average inflation declined during the quarter compared to the previous quarter. Import payments decreased by 4.0 percent while export receipts increased by 7.0 percent over the preceding quarter. Wage earners' remittance increased by 14.1 percent compared to that of the same quarter of the previous calendar year. Gross foreign exchange reserves stood at USD 31.9 billion at end-September 2018, equivalent to meeting more than five months' import payments. Bangladesh Taka (BDT) depreciated marginally against the US dollar. The interest rate spread reduced marginally as both weighted average lending and deposit rates decreased. Gross government borrowing from the banking system remained almost same as the position of the preceding quarter.

The banking sector appeared to be resilient despite having stress on asset quality and profitability in the review quarter. The asset size of the banking sector maintained uptrend and stood at 62.5 percent of the gross domestic product (GDP) at end-September 2018. Loans and advances, the largest share in total assets, increased by 40 basis points (bps) to reach 65.8 percent of total assets during the review quarter. Gross non-performing loan (NPL) ratio increased by 1 percentage point and reached 11.4 percent at end-September 2018 attributable to asset quality issues of the SCBs and DFIs. The share of bad and loss loans in gross NPL portfolio continued to be high. However, provision maintenance ratio slightly improved over the previous quarter. Subsequently, profitability of the banking sector was constrained as observed from a slight decrease in return on assets (ROA) and return on equity (ROE) when compared to the previous quarter. In turn, capital to risk-weighted assets ratio (CRAR) of the banking sector remained unchanged at 10.9 percent at end-September 2018; however, it was above the regulatory minimum requirement of 10 percent. Notable that 48 out of 57 banks maintained CRAR at or above the 10 percent mark. During the review quarter, banking sector liquidity improved as advance-to-deposit ratio (ADR) decreased marginally over the preceding quarter.

Financial Institutions (FIs) sector showed a mixed trend in the review quarter. Share of deposits, the major source of fund in FIs' total funds, increased by 0.5 percentage points over the previous quarter and reached 55.9 percent. Loans and leases comprising 72.6 percent of total assets dominated the asset composition. Liabilities to assets ratio increased at end-September 2018. FIs' classified loans and leases ratio increased from 9.2 percent at end-June 2018 to 11.2 percent at end-September 2018. FIs' profitability increased during the quarter as both ROA and ROE recorded an increase over the preceding quarter. FIs' capital adequacy ratio (CAR) decreased slightly and stood at 12.4 percent at end-September 2018. However, the maintained CAR was well above the regulatory requirement of 10 percent. During the quarter, FIs sector maintained the required CRR and SLR well above the regulatory minimum requirement.

The banking and FIs sectors demonstrated a reasonable level of resilience under stressed scenarios. During the review quarter, stress tests on banks revealed that credit risk remained the most dominant risk factor for banks under different level of shock scenarios. Among them, increase in NPLs, default of top borrowers and the combination of all credit shocks would have major adverse impacts on the capital adequacy of the banking sector. Among the market risks, interest rate shock and equity price shock would have put stress on the aggregate CRAR; still these impacts would be less severe than any shock scenarios under credit risks. During the period, individual banks and the banking system, as a whole, appeared to be resilient against the liquidity shocks. Stress test on FIs revealed that a majority of FIs would remain resilient in the event of stress scenarios as of end-September 2018.

The domestic capital market indicators in both bourses demonstrated a mixed scenario. During the review quarter, turnover improved notably in both bourses of the country, DSE and CSE, compared to the previous quarter. Market capitalization and price-earnings ratio showed a marginal increase during the period. However, all key indices of both bourses recorded a decline. Analysis of sectoral turnover revealed that turnover of the banking sector, one of the top two sectors in terms of market capitalization, in both bourses continued the downward trend during the review quarter, which might indicate a depressed investors' confidence towards the sector. Capital market exposure of the banking sector itself remained much below the allowable limit of Bangladesh Bank, thereby reducing possibility of any stability concern from the capital market in the near term.

Bangladesh Bank (BB) took a number of initiatives during the review quarter, which have implications to domestic financial system stability. During the review quarter, some of the important initiatives, taken by BB, were amendment in Guidelines on Risk Based Capital Adequacy (RBCA) for banks, amendment in Asset Liability Management Guidelines, issuance of Bangladesh Mobile Financial Services (MFS) Regulations 2018, issuance of Agricultural and Rural Credit Policy and Program for FY 2018-19, rationalization of schedule of charges, approval of contactless payment services through Near Field Communication (NFC) technology, allowance of investment by non-resident investors in Alternative Investment Funds, establishment of food processing and agro-based and ICT projects under Entrepreneurship Support Fund (ESF) loan, and modification in various foreign exchange regulations to smoothen the foreign exchange market in Bangladesh.

Chapter-1

Macroeconomic Developments

1.1 Global Macroeconomic Situation

Global macroeconomic situation demonstrated a mixed trend during the review quarter. Growth in major advanced and emerging economies moderated. Headline inflation continued to rise. Besides, global trade recorded slowdown in 2018. US Fed has continued the stance of gradual policy normalization while China eased their monetary policy.

1.1.1 Global GDP Growth

Economic growth in major advanced and emerging economies slightly moderated in the review quarter compared to the same of the preceding quarter. Moreover, the growth momentum seems to be less strong, largely attributable to slowing export growth, high energy prices and political uncertainties (Chart 1.1).

1.1.2 Global Inflation Outlook

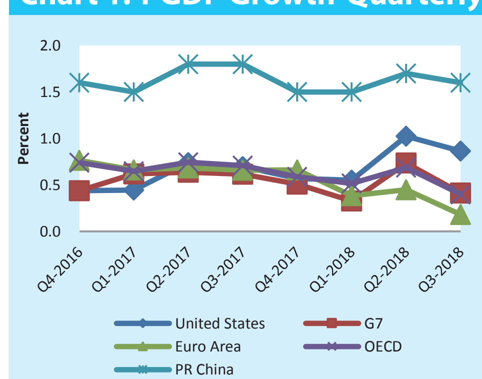
In the review quarter, headline inflation continued to rise in major economies, largely driven by higher energy prices. However, core inflation, that excludes food and energy, remains steady at a level of the previous quarter. Headline inflation in the United States, G20 economies, the Euro area, and OECD group of countries remained uptrend in 2018Q3 (Chart 1.2).

1.1.3 Global Financial Condition

There has been some tightening in the overall global financial condition during the last two quarters. Still, financial conditions in advance economies remained accommodative, reinforcing recent year recovery in growth and income. Similar stance has been observed in the case of China; the country has eased their monetary policy and thereby attempted to ease their financial market condition. However, majority of the emerging countries has been exposed to tighter financial condition attributable to external sector pressure and international trade protectionist measures.

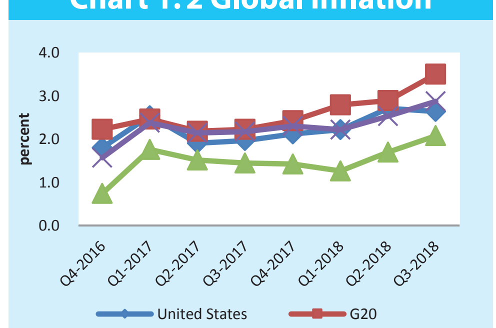
The US Federal Reserve has signaled to raise interest rate further in 2019. Furthermore, as of mid-September, the US dollar has strengthened by about 6.5 percent in real effective terms since February 2018. Monetary policy normalization combined with stronger dollar might result in reversal of capital flows with rise in borrowing cost in emerging market economies.

Chart 1.1 GDP Growth-Quarterly



Source: OECD.

Chart 1.2 Global Inflation

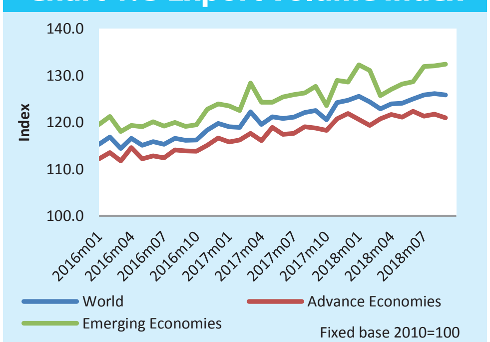


Source: OECD

1.1.4 Global Trade and Investment

Though global trade registered a notable growth in 2017, momentum of the same tapered off in 2018. According to CPB Netherlands Bureau for Economic Policy Analysis, World trade volume recorded a growth of 1.4 percent in 2018Q3 as opposed to no notable growth in the preceding quarter. Export volume of the World as a whole and advance economies reached plateau, while that of emerging market economies was increasing in recent months. Importantly, recent heightened trade tension and related policy uncertainties might dampen capital spending by firms, thereby slowing down investment and trade (Chart 1.3).

Chart 1.3 Export Volume Index



Source: CPB World trade monitor.

1. 2 Domestic Macroeconomic Situation

Macro-financial system of Bangladesh appeared to demonstrate moderate level of stability during the review quarter, attributable to declining inflation, notable increase in export and wage earners' remittance.

1.2.1 Inflation

At end-September 2018, annual average CPI inflation (base 2005-06=100) stood at 5.7 percent, recording a slight decrease from that of the previous quarter. However, compared to the position of end-September 2017, inflation slightly increased. Food inflation decreased to 6.7 percent from 7.1 percent of the preceding quarter, while non-food inflation rose to 4.2 percent from 3.7 percent, recorded at end-June 2018 (Chart 1.4).

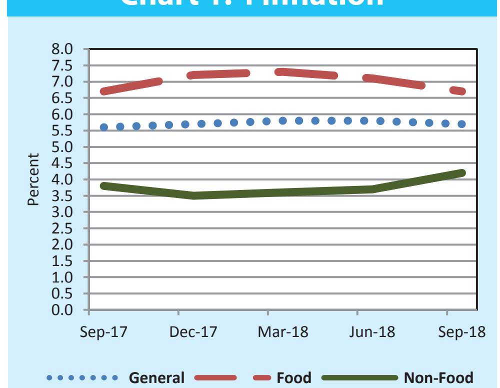
1.2.2 Foreign Exchange Reserve and its Import Coverage

At end-September 2018, the gross foreign exchange reserves reached USD 31.9 billion, recording a slight decrease from USD 32.9 billion of end-June 2018. The reserve position was equivalent to meeting more than five months' imports of goods and services (Chart 1.5).

1.2.3 Wage Earners' Remittance

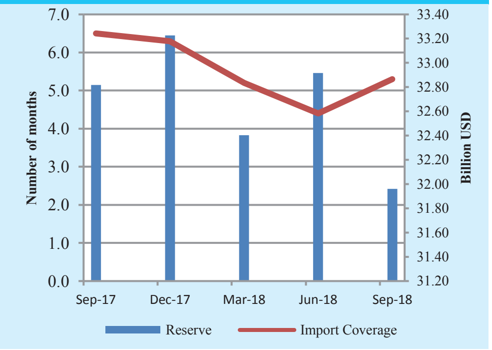
Remittance from Bangladeshi nationals working abroad stood at USD 3,868.9 million during the review quarter, recording an increase of 14.1 percent from that of the same period of the previous calendar year. However, when compared with the preceding quarter remittance inflow recorded a slight drop (Chart 1.6).

Chart 1.4 Inflation



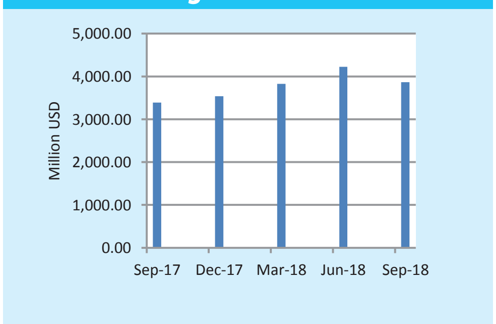
Source: Bangladesh Bureau of Statistics, Base 2005-06=100.

Chart 1.5 Foreign Exchange Reserves



Source: Statistics Department, BB.

Chart 1.6 Wage Earners' Remittance

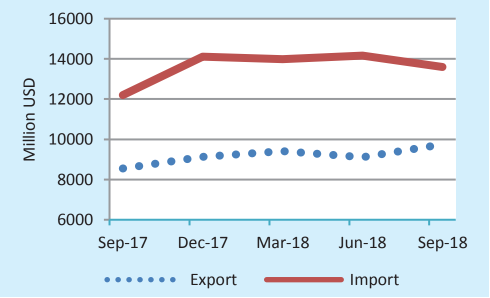


Source: Monthly Economic Trends, BB (various issues).

1.2.4 Imports and Exports

In the review quarter, aggregate import payment[1] decreased by 4.0 percent from USD 14,163.0 million of the preceding quarter. However, in comparison with the position of 2017Q3, it increased by 11.50 percent. On the other hand, export receipts increased by 7.0 percent from USD 9,107.0 million of the preceding quarter. When compared with September quarter of 2017, export receipts recorded a notable increase of 14.0 percent (Chart 1.7).

Chart 1.7 Exports and Imports (FOB)

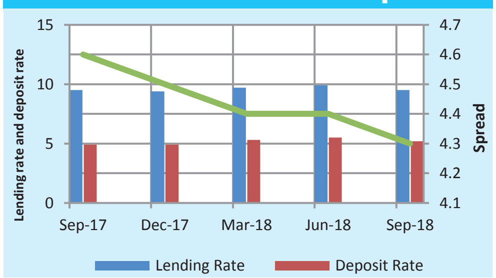


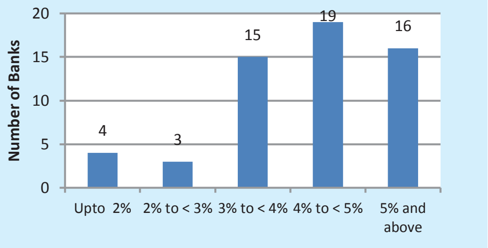
Source: Statistics Department, BB.

1.2.5 Interest Rate

The spread between weighted average lending and deposit rates decreased to 4.2 percent with respect to that of end-June 2018; spreads of 16 out of 57 banks were above 5.0 percent. Out of these 16 banks, 6 and 10 were in the category of FCBs and PCBs respectively. It is noteworthy that in September 2018, the weighted average lending and deposit rates were 9.5 percent and 5.3 percent respectively compared to 9.9 percent and 5.5 percent of June 2018, and 9.5 percent and 4.9 percent of September 2017 (Chart 1.8).

Chart 1.8 Interest Rate Spread





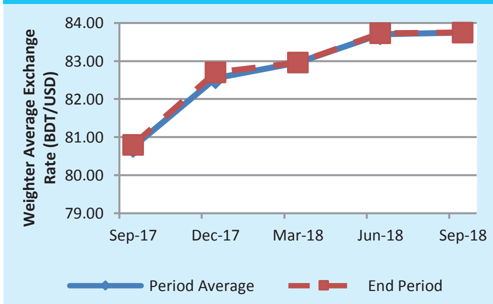
Source: Statistics Department, BB.

[1] On FOB basis

1.2.6 Exchange Rate [2]

Bangladesh Taka against US dollar continued to demonstate depreciation in the review qurter. Exchange rate of BDT per US dollar stood at 83.75 which was 83.70 in June 2018. The rate was BDT 80.74 per USD in September 2017.

Chart 1.9 Exchange Rate

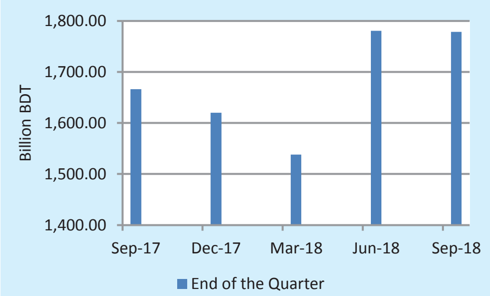


Source: Monthly Economic Trends, BB

1.2.7 Credit to the Government (Gross) by the Banking System

Credit to the Government (gross) by the banking system remained stable at BDT 1,778.39 billion at end-September 2018 in comparison with the same of the preceding quarter. However, it decreased by 1.62 percent than that of the same period of the previous year (Chart 1.10).

Chart 1. 10 Credit to the Govt. (Gross) by the Banking System



Source: Statistics Department, BB.

[2] BDT per USD on weighted average basis.

Box 1: Household Indebtedness and Financial Stability in Bangladesh

Household debt may smoothen consumption and support investment of households and thereby contribute to boosting aggregate demand. However, over-indebtedness of households may create stress on the financial system through their inability to repay debt service. Experience from the global financial crisis of 2007-08 has revealed that excessive accumulation of household debt, disbursement of household debt to subprime borrowers and underlying weaknesses in securitization of household mortgage debt were the key reasons behind the origination and spread out of the financial crisis. Therefore, this study has endeavored to analyze the indebtedness of household in Bangladesh from financial stability viewpoint.

In this study, 'Prudential Guidelines for Consumer Financing 2004' and subsequent directives issued by Bangladesh Bank from time to time has been considered to define household debt, which includes housing construction loan for individuals, loan for house repair/renovation/extension, flat and land purchase loans, auto loans, credit cards, personal loans, loans for consumer goods and other consumer loans. Household loans disbursed by banks and non-bank depository corporations (NBDCs)[3] are covered in this study [4].

This study has revealed that the banking sector in Bangladesh has been the major source of household debt accounting for around 70 percent of total household debt while the remaining 30 percent has been provided by NBDCs (Chart B1.1). However, it accounted for only about 13 percent of total loan portfolio of banks between 2014 and 2017 (Chart B1.2). During the same period, household debt accounted for more than 50 percent of NBDCs' loan portfolio, which might make them vulnerable to any major shock in the household sector, though it is unlikely due to highly populated land demanding country. Nevertheless, a declining trend in household debt share during the last few years, as depicted in Chart B1.2, appears to be a positive sign for the NBDCs.

Chart B1.1: Household debt by institution type

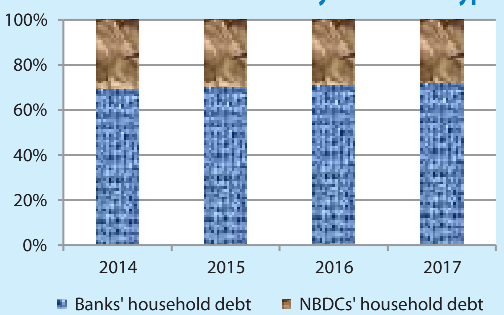
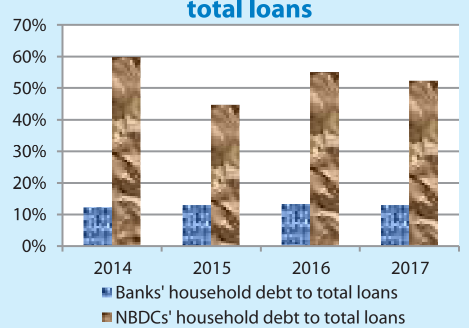


Chart B1.2: Household debt as percentage of total loans



Source: Financial Access Survey, Statistics Department, BB; Calculation: FSD, BB.

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[3] NBDCs refer to deposit taking FIs, Ansar-VDP Unnayan Bank, and Karma Sangsthan Bank.

[4] It should be noted that loans disbursed to individuals with separate entity (sole proprietorship) or the loans taken for specific purposes/project implementation (SME loans, loans distributed by MFIs etc.) have not been considered as household debt in this study.

Chart B1.3 illustrates that total household debt disbursed by banks and NBDCs has been gradually increasing, though the growth has slowed down in recent years. Consequently, after some initial rise, household debt as a percentage of (nominal) GDP remained almost stable since 2015 and stood at 7.6 percent in 2017. As Chart B1.4 shows, compared to neighboring as well as some other Southeast Asian economies, household debt-to-GDP ratio in Bangladesh was the lowest in the last few years. The ratio was lower than that of India (11 percent) and Sri Lanka (7.9 percent) and much lower than the countries which faced financial crisis of 2007-08. The low and stable household debt-to-GDP ratio in Bangladesh indicates low possibility of systemic risk origination from the household sector. This is because at low household debt-to-GDP level, the magnitude of disruption in the financial system from any negative shock in the household sector is likely to be minimal.

Chart B1.3: Household debt and its growth

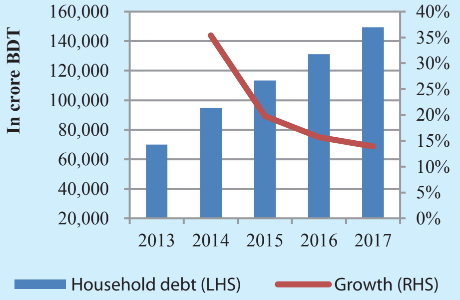
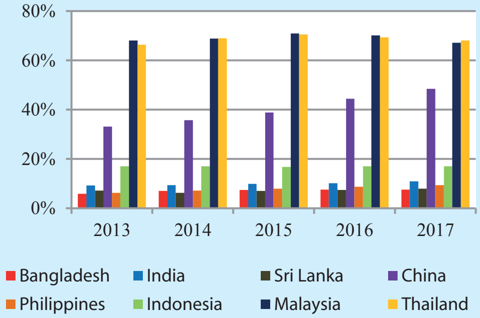
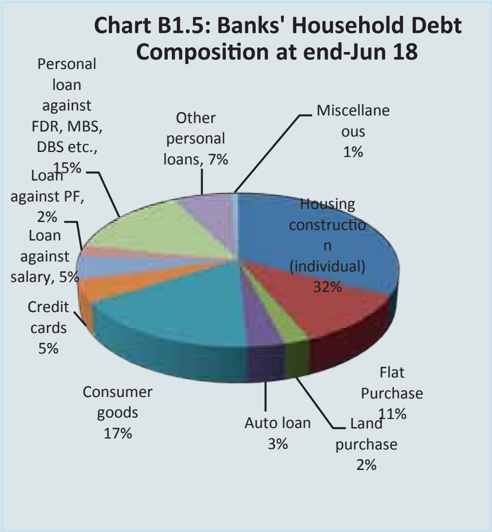


Chart B1.4:Household debt-to-GDP ratio in Selected Asian Countries



Source: Financial Access Survey and National Accounts (GDP), BB website; BIS and CEIC website; Calculation: FSD, BB.

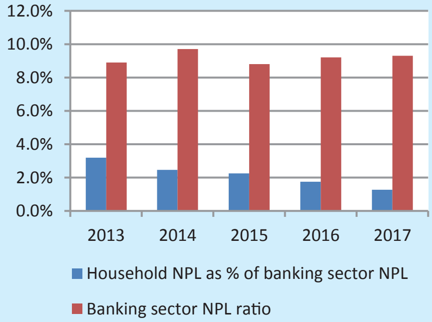
Note: June based GDP data is used as a proxy for December based GDP to calculate household debt to GDP ratio for Bangladesh.



Product-wise analysis of household loans disbursed by banks at end-June 2018 reveal that mortgage loan (i.e. housing construction, flat and land purchase) shared 45 percent of household debt; loans for consumer goods contributed 17 percent followed by 15 percent share of personal loan against FDR, MBS, DBS etc. Credit cards and auto loans shared only 5 percent and 3 percent respectively of total household debt.

Though mortgage loans constituted the largest portion of household debt in banks, the risk of property price volatility spreading across the financial system is low as mortgage loans are not yet securitized in Bangladesh.

Chart B1.6: Household NPL and Overall NPL of the banking sector



Souruuce: StressTestdataaaand Financial Stabiaalitiiy Report 2017, BB.

As Chart B1.6 shows, the NPL ratio of banks' household loans is considerably lower than the overall NPL ratio of the banks. Moreover, the gradual fall in household NPL ratio over the last few years is another positive sign. This suggests that the debt servicing capacity of the borrowers and monitoring of the banks in the household sector is better than the overall industry. However, segment-wise debt servicing capacity of borrowers need to be studied to identify probable risk from any particular income segment.

It can be concluded that, low level of household indebtedness along with low and falling NPL ratio in household sector and low possibility of spreading out of risks from property price volatility, in general, do not appear to pose any major stability threat in the near-term.

Box 2: Financial Stability Implications of Fintech in Bangladesh

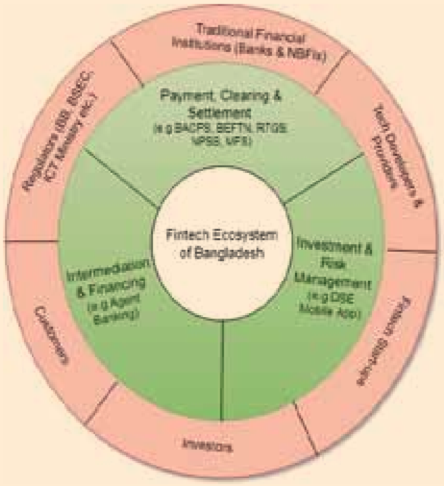
Financial Technology, popularly known as Fintech, is defined by the Financial Stability Board (FSB) as "Technology-enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services." It has wider application ranging from money transfer to E-trading (see Table B2.1). Because of its rapid progression and user-friendly wider application in financial services, policymakers especially in the areas of economics, banking and finance have emphasized on careful application and assessment of its impact on financial stability. This study aims to understand magnitude of Fintech and its impact on financial system stability from Bangladesh perspective.

Fintech Ecosystem of Bangladesh: A large number of players constitute Fintech ecosystem in Bangladesh including regulators, Fintech companies, investors, financial institutions and various beneficiary end-users. At present most Fintech activities are led by banks with support from broad-based national payment systems like BACPS, BEFTN, RTGS and NPSB, which allow them to operate internet and mobile banking, ATM services. Agent banking is the latest addition in Fintech by which banks are authorized to perform financial intermediation. There also exist some companies that act as payment service provider (PSP) and payment service operator (PSO) to facilitate payment in E-commerce. Figure B2.1 demonstrates a snapshot of the Fintech ecosystem of Bangladesh.

Table B2.1:Segments of Fintech applications (global)

Payment, Clearing & Settlement	Intermediation and Financing	Investment and Risk Management
➢ Digital Currency/ Crypto Currency ➢ Digital wallet ➢ Mobile payment service ➢ Wholesale Payment solutions ➢ Cross-border payment solutions	➢ P2P Finance ➢ Crowd funding ➢ Initial Coin offerings (ICO) ➢ Credit scoring ➢ Agent Banking	➢ Robo Advisor ➢ Copy Trading (Social trading) ➢ E-trading ➢ Risk metrics

Figure-B2.1 Fintech Ecosystem of Bangladesh



Fintech and Financial Stability

Fintech works through various channels to influence financial stability. Some of them work favourably while others may have dampening effect. Fintech may facilitate financial inclusion by offering new platforms for savings and borrowings, such as, agent banking. This activity may help to mitigate liquidity and credit risks and eventually improve financial stability. Fintech paves the way for payment system development which can contribute to develop a more integrated, efficient and less frictional financial system. However, payment mechanisms may be exposed to cyber security and operational risks. Money supply might be influenced due to increase in velocity of money resulting from high usage of Fintech such as ATM, POS etc.[5] Fostering well-regulated Fintech solutions in cross-border foreign exchange transactions would enhance remittance inflow through legal channels, which has favourable implication for financial stability. On the other hand, extensive use of Fintech such as credit cards for purchasing foreign goods and services might cause leakage of foreign currency from the country. Besides, easily available Fintech solutions might incite transactions beyond legal boundary like hundi.[6] However, from the current perspective of Bangladesh, likely vulnerability of Fintech on financial stability may transmit largely through payment system mechanism.

Figure B2.2 and Table B2.2 reveal the importance of Bangladesh's payment and settlement system in the financial system established on Fintech. In 2017-18, total amount of transaction through all the systems accounted for 180 percent of GDP, of which BACPS (Regular and High Value) and RTGS processed the major share of payments.[7] The average value per transaction in BACPS (High) and RTGS are BDT 6.01 million and BDT 16.57 million respectively, which are much larger than the average value per transaction processed in any other system. Although BACPS (Regular) processed 35 percent of GDP (relative share is 19.6 percent), the average value per transaction in BACPS (Regular) was much smaller compared to BACPS (High Value) and RTGS. More specifically, payment settled through BACPS (High Value) and RTGS in 2017-2018 was 121.8 percent of GDP (relative share is 67.7 percent jointly), reflecting their relative importance in the entire payment system. Any disruption in these two platforms, even for short period of time, may cause tension in the overall financial system. Therefore, BACPS (High Value) and RTGS could be identified as systemically more important than any other payment platform from the perspective of financial stability.

[5] ATM stands for Automated Teller Machine. POS stands for Point-of-Sale.

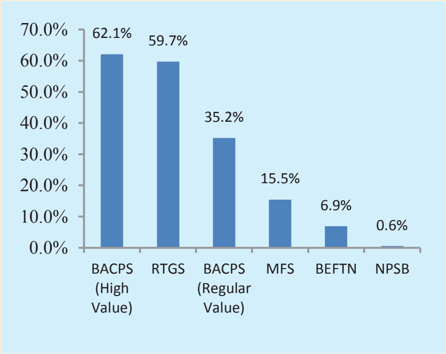
[6] Hundi means unofficial remittance flow.

[7] BACPS stands for Bangladesh Automated Cheque Clearing Process. RTGS stands for Real Time Gross Settlement.

On the other hand, BEFTN, NPSB and MFS collectively facilitated 12.7 percent of the total electronic payments[8]. This smaller percentage of share is also essential as these platforms processed large amount of retail payments. Moreover, the confidence of the users on payment system largely depends on these platforms especially on MFS.

Regulation of Fintech

Figure B2.2: Annual transaction amount of different payment platform as a percent of GDP



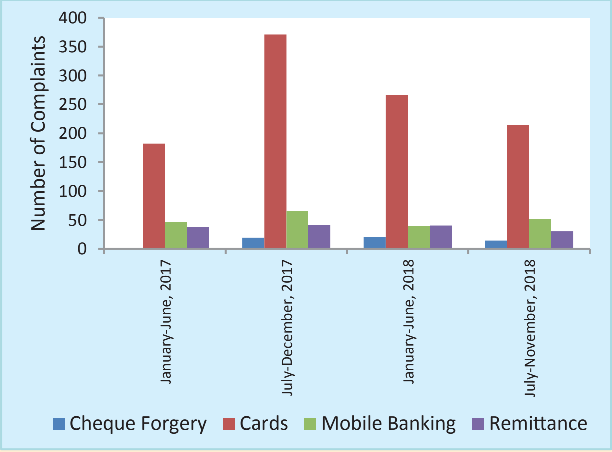
Source: Payment Systems Department, BB.

Table B2.2: Transactions through different payment platforms, FY 2017-2018

Payment Platforms	Total amount (In billion BDT)	Avg. transactio n size (In BDT)	Number of transactions (In thousands)	Relative share of total payment
BACPS (High Value)	13965	6,012,098	2,322	34.5%
BACPS (Regular Value)	7918	379,288	20,876	19.6%
RTGS	13433	16,574,758	810	33.2%
BEFTN	1550	71,352	21,726	3.8%
NPSB	130	6,514	20,002	0.3%
MFS	3483	1,711	2,035,798	8.6%

Source: Payment Systems Departmentnn, BB.

Figure B2.3: Nature-wise Summary Complaints



Source: Financial Integrity and Customer Services Department, Bangladesh Bank.

Figure B2.3 shows the trend in complaints filed to BB related to different Fintech services. During the period 2017-2018, majority of the objections were associated with electronic cards and mobile banking. Although incidence from these issues may lessen the confidence over the Fintech related transactions, the possibility of systemic issues originated from these sources is low.

Regulation of Fintech

In order to face the challenges of handling technology driven financial products and services, global regulators have initiated different regulatory measures where major objectives of those are to ensure integrity, consumer protection and financial stability. Although Fintech application is not yet widely used in Bangladesh, a number of measures including guidelines,

[8] BEFTN stands for Bangladesh Electric Fund Transfer Network, NPSB for National Payment Switch Board, and MFS for Mobile Financial Services.

acts and rules have been issued by various authorities where central bank of the country plays a significant role as shown in Table B2.3.

Table B2.3: Fintech related guidelines and regulations in Bangladesh

Name of the Act/Guideline/Regulation	Year	Publisher	Type
Bangladesh Mobile Financial Services (MFS) Regulations	2018	Bangladesh Bank	Policy/Guideline
Bangladesh Electronic Funds Transfer Network Operating Rules	2014	Bangladesh Bank	Policy/Guideline
National Payment Switch Bangladesh (NPSB) Switch Operating Rules & User Manual: Disputes Management Rules	2015	Bangladesh Bank	Policy/Guideline
Bangladesh Real Time Gross Settlement (BD-RTGS) System Rules	2015	Bangladesh Bank	Policy/Guideline
Guidelines on Agent Banking for the Banks	2013	Bangladesh Bank	Policy/Guideline
Synchronization of all information incorporated in Mobile SIM and KYC of MFS Account for reducing the risk of criminal activities.	2015	Bangladesh Bank	Circular Letter
National ICT Policy	2018	ICT Ministry	Policy/Guideline
Government E-mail Guideline	2018	ICT Ministry	Policy/Guideline
Cyber Security Guideline	2014	ICT Ministry	Policy/Guideline
Digital Security Act	2018	ICT Ministry	Act
Information Security Policy Guideline	2014	ICT Ministry	Policy/Guideline
Security Coding Guideline	2016	Bangladesh Computer Council	Guideline

Conclusion

The Fintech ecosystem of Bangladesh has demonstrated gradual evolution during the last couple of years, mainly based on payment and clearing systems whereas other areas of Fintech are yet to be developed. Apart from the payment system, which might be susceptible to cyber security and other operational risks, the systemic risk from other channels of Fintech is still considerably low. Again, other than some isolated domestic frauds and forgery, the possibility of systemic risk from payment system does not appear to be a major issue as the domestic regulation is quite comprehensive and monitoring is reasonably tight. However, as sporadic events of domestic frauds and forgery may undermine the public confidence on financial system, it is imperative for financial and payment service providers to take prompt remedial measures against the incidences as well as to avoid recurrence of the same. Furthermore, cross border financial transactions need to be dealt with due diligence because of increasing cyber threat, complexity of transactions and involvement of multiple cross border jurisdictions. Importantly, data security should be taken care of properly. Finally, though Fintech is in nascent stage to pose any major systemic threat, it still requires close regulatory supervision and monitoring due to its constant evolutionary nature with the latest technology.

Banking Sector Performance

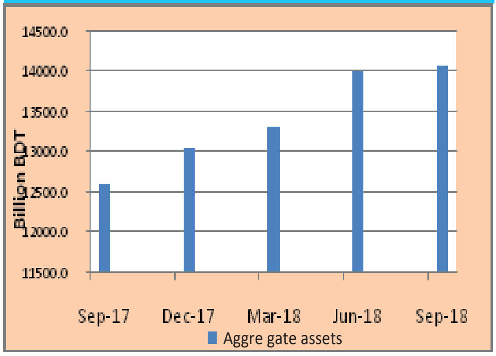
The banking sector experienced slight decrease in asset concentration though moderate deterioration in asset quality occurred in September quarter of 2018. However, return on assets (ROA) and return on equity (ROE) slightly declined.

2.1 Assets Structure

The balance sheet size[9] of the banking sector recorded slight increase and reached BDT 14,072.2 billion at end-September 2018. The increase was 0.4 percent from end-June 2018 and 11.6 percent from end-September 2017. However, credit growth needs to be aligned with targeted GDP growth. Banking sector's assets-to-GDP ratio remained almost stable at 62.5 percent at end-September 2018, compared to 62.3 percent at end-June 2018 [10].

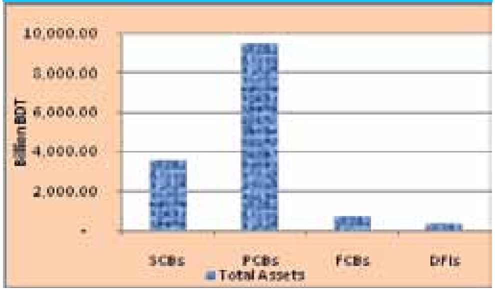
Maximum portion of the banking industry's assets were held by the PCBs. Loans and advances, the largest segment among the asset items, constituted 65.8 percent of total assets during the review quarter (65.4 percent at end–June, 2018).

Chart 2.1 Asset Size of the Banking Industry



Source: Data from Financial Projection Model (FPM), FSD, BB.

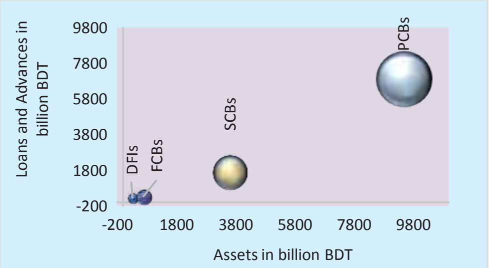
Chart 2.2 Bank Cluster-wise Assets at end-September 2018



Source: Data from Financial Projection Model (FPM), FSD, BB.

Major portion of loans and advances were extended by the PCBs followed by SCBs.

Chart 2.3 Banking Sector Assets and Loans/ Advances: End-September



Source: Data from Financial Projection Model (FPM), Compilation: FSD, BB.

Notes: PCB-Private Commercial Bank.

SCB-State-owned Commercial Bank.

FCB- Foreign Commercial Bank.

DFI-Development Finance Institution.

Table 2.1 Asset Structure of the Banking Industry

Component of Assets	% of Total asset (as on Jun'18)	% of Total asset (as on Sep'18)	Change
Cash in hand	1.0%	1.0%	0.0%
Balance with BB and its Agent Bank	6.5%	5.8%	-0.7%
Balance with other banks and FIs	5.9%	6.0%	0.1%
Investment	14.3%	14.4%	0.1%
Loans and Advances	65.4%	65.8%	0.4%
Fixed Assets	1.6%	1.6%	0.0%
Other Assets	5.2%	5.4%	0.2%
Total Assets	**100.0%**	**100.0%**	**0.0%**

Source: Data from Financial Projection Model (FPM), Compilation: FSD, BB.

[9] Taking into account only scheduled banks.

[10] Taking into account GDP at current market price for the financial year 2017-18.

As table 2.1 shows, among different classes of assets, the share of banks' assets with Bangladesh Bank and its agent bank dropped by 70 basis points at end-September, 2018 compared to the previous quarter. Recent change in CRR requirement with Bangladesh Bank might be the primary reason behind this. The freed up fund is most likely to be used in loans and advances as suggested by 40 basis point increase of its share (65.8 percent) in September quarter.

The asset concentration ratios of Top 5 and Top 10 banks against the total banking system assets dropped marginally in the September quarter, 2018. The ratios were 30.5 percent and 44.2 percent at end-September 2018 which were 30.9 percent and 44.5 percent respectively at end- June, 2018 (Chart 2.4 and 2.5). Falling asset concentration is desirable from financial stability standpoint as it lessens the influence of only few institutions over the entire financial system.

Banking sector asset concentration has also been illustrated using Lorenz Curve and Gini Coefficient. The position of the Lorenz Curve, shown in Chart 2.6, indicates the presence of a moderate concentration in assets of the banking industry. The calculated Gini coefficient of 0.468 also supports the presence of moderate concentration in assets. It is worth noting that, there has been no major change in asset concentration in the banking sector compared to end-June 2018.

Chart 2.4 Top 5 banks based on Assets Size

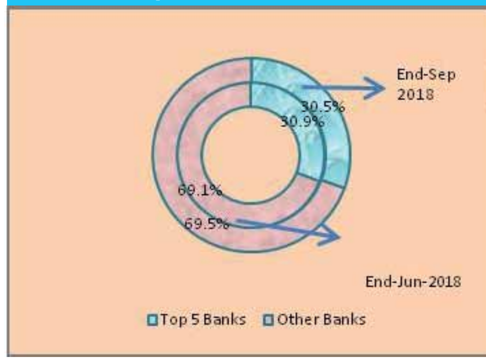


Chart 2.5 Top 10 banks based on Assets Size

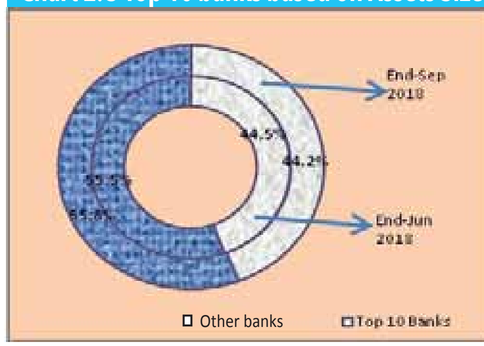
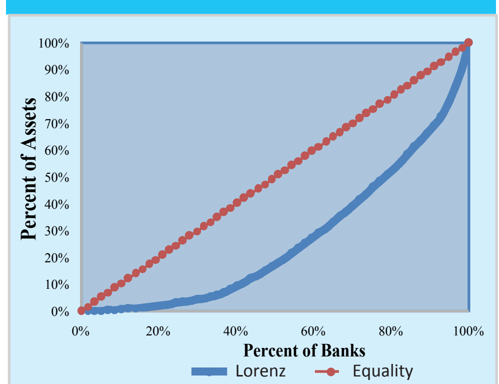


Chart 2.6 Banking Sector Asset Concentrations: Lorenz Curve



Note: Assets are displayed from lowest to highest (in ascending order) from the origin.

Source: FSD Staff calculation.

2.2 Asset Quality

Gross NPL ratio[11] slightly increased in the review quarter from that of the preceding quarter and same quarter of the previous

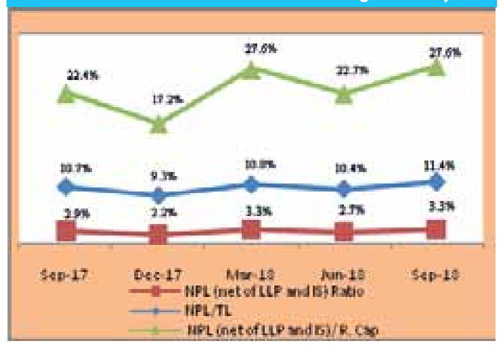
[11] Non-performing loan to total loan ratio.

calendar year. On the other hand, non-performing loans net of specific loan loss provisions and interest suspense to total loans (net NPL) ratio remained unchanged compared to end-September 2017, but increased compared to end-December 2017. It is mentionable that compared to end-June, 2018, the net NPL ratio increased by 60 basis point (3.3 percent at end-September, 2018) whereas gross NPL ratio increased by 100 basis point (11.4 percent at end-September 2018). Increase in NPL ratio is a concern from financial stability point of view. The deterioration in NPL ratio could be due to asset quality issues of the SCBs and DFIs. The PCBs, which account for largest portion of banking sector loans and advances has the lowest NPL ratios. Importantly, default of rescheduled and restructured loans might worsen the asset quality of these banks as well. The number of banks with 10 percent or higher NPL ratio consistently remained high in recent quarters (Chart 2.8) which seems to be a sign of stress for the banking industry. So, banks have to be more prudent in managing their NPL and ensure quality credit for the economy. Furthermore, net NPL to regulatory capital increased to 27.6 percent from 22.7 percent of end-June 2018 (Chart 2.7). This rise is also a concern from financial stability point of view indicating diminishing resiliency of banking sector capital to withstand losses from NPL.

The provision maintenance ratio, at end-September 2018, slightly increased to 85.6 percent from 84.9 percent recorded in the preceding quarter. As chart 2.9 shows and also experience of previous quarters indicates required provision has seasonality in December quarter backed by high rescheduled and restructured loans.

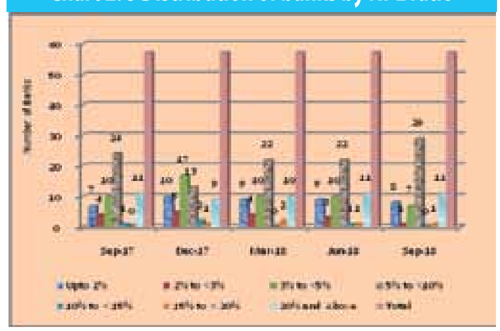
NPL concentration in Top 5 and Top 10 banks increased in September quarter. Based on NPL size, 47.5 percent and 63.8 percent of the non-performing loans were concentrated in the Top 5 and Top 10 banks respectively at end-September 2018 (Chart 2.10 & 2.11).

Chart 2.7 NPL Ratio of the Banking Industry



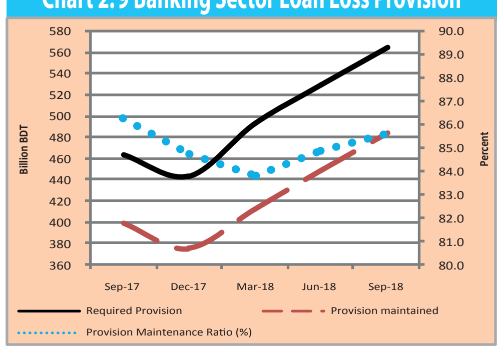
Source: BRPD, BB

Chart 2.8 Distribution of banks by NPL ratio



Source: BRPD, Compilation FSD.

Chart 2.9 Banking Sector Loan Loss Provision



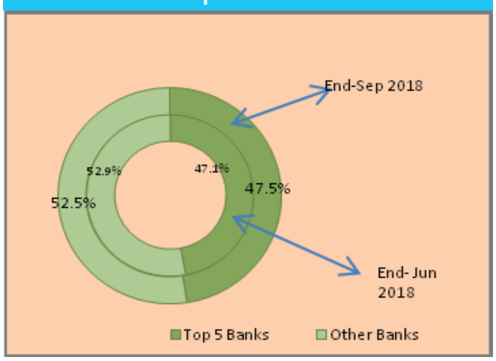
Source: BRPD, BB.

During the review quarter, the ratio of bad and loss loans to total classified loans stood at 83.2 percent while sub-standard and doubtful loans constituted 9.8 percent and 7.0 percent of total NPLs respectively (Chart 2.12). The consistent high proportion of bad and loss loans in recent quarters, as shown in Chart 2.13, suggest low probability of recovery of NPLs.

2.3 Profitability

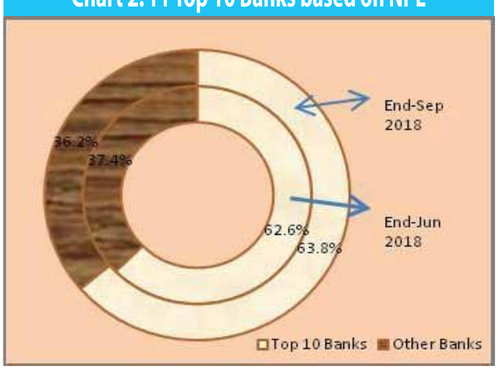
In the review quarter, profitability of the banking industry, measured in terms of quarterly ROA, was 0.3 percent which was slightly lower than 0.4 percent of the previous quarter but unchanged from previous year's same quarter. On the other hand, profitability in terms of ROE decreased to 4.3 percent from 5.3 percent of last quarter and 5.9 percent of the same quarter of the previous year. This decline primarily happened due to high provision requirement against rising NPLs and fall in interest rate spread.

Chart 2.10 Top 5 Banks based on NPL



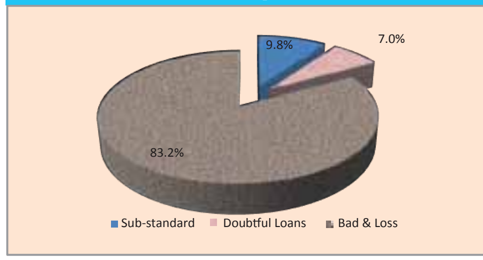
Source: BRPD; Compilation FSD.

Chart 2.11 Top 10 Banks based on NPL



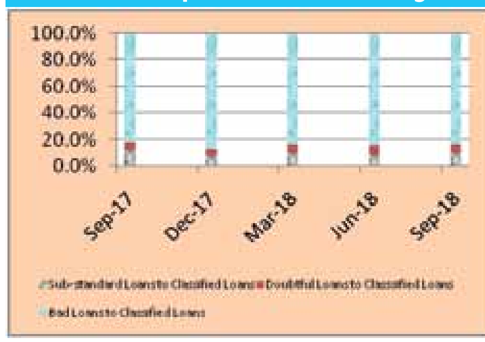
Source: BRPD; Compilation FSD.

Chart 2.12 NPL Compositions of Banks



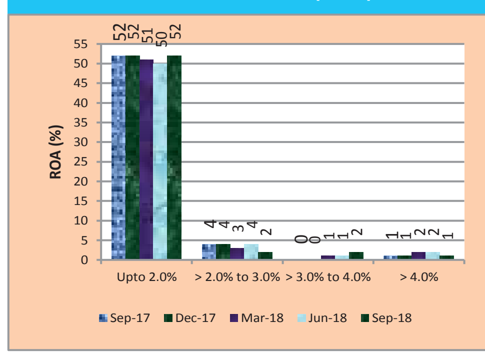
Source: BRPD, BB.

Chart 2.13 Proportions of NPL Categories



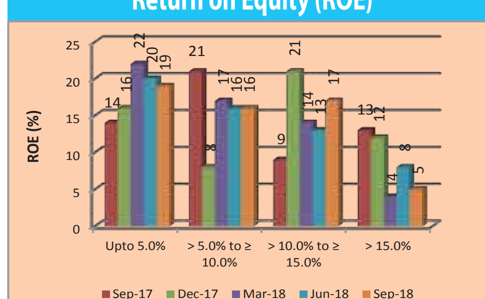
Source: BRPD, BB.

Chart 2.14 Distribution of Banking Sector Return on Assets (ROA)



Source: Compilation (Aggregate P/L account of banking industry): FSD, BB.

Chart 2.15 Distribution of Banking Sector Return on Equity (ROE)



Source: Compilation (Aggregate P/L account of banking industry): FSD, BB.

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12 Ranked in terms of Gross NPL amount

Chapter-3

Financial Institutions' Performance

The key financial soundness indicators of financial institutions (FIs) presented a mixed-picture during the July-September 2018 quarter. The gross non-performing loans and leases soared along with a decline in the amount of loans and leases when compared to the previous quarter. However, FIs' profitability ratios recorded slight increase during this period.

3.1 Sources of Funds

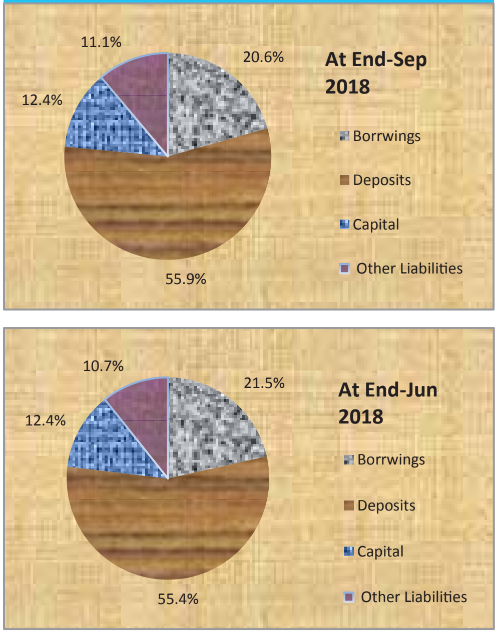
At end-September 2018, borrowings, deposits, capital and other liabilities constituted 20.6 percent, 55.9 percent, 12.4 percent and 11.1 percent of the sources of the FIs' funds respectively. In comparison with end-June 2018, the shares of borrowings decreased by 0.9 percentage points whereas deposits and other liabilities increased by 0.5 percentage point and 0.4 percentage point respectively. However, the share of capital stayed the same over this time period.

3.2 Assets Composition

Loans and leases of the FIs constituted 72.6 percent of total assets at end-September 2018. Besides, the rest of the total assets was composed of cash and balances with banks/FIs, investments, fixed assets and other assets which comprised 14.6 percent, 3.6 percent, 1.3 percent and 7.8 percent respectively.

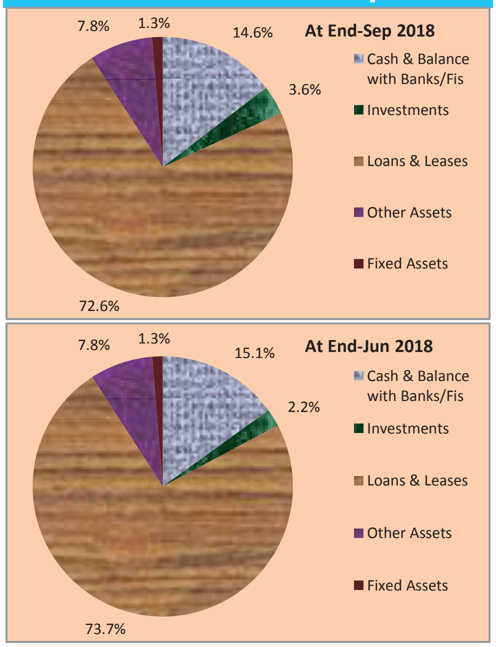
When compared with end-June 2018 positions, the share of loans and leases, and cash and balances with other banks/FIs decreased by 0.9 percentage point and 0.5 percentage point respectively. On the other hand, investments increased by 1.4 percentage points, while the share of rest of the assets remained almost same.

Chart 3. 1 FIs' Sources of Fund



Source: FIs; Compilation: FSD, BB.

Chart 3. 2 FIs' Assets Composition

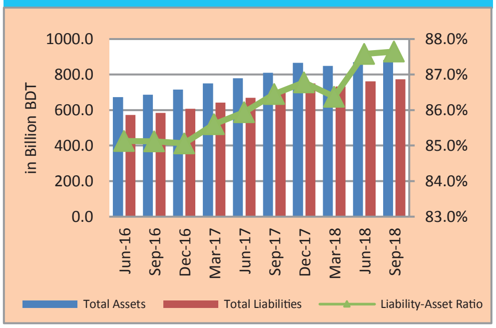


Source: FIs; Compilation: FSD, BB.

3.3 Liabilities-Assets Ratio

The liabilities-assets ratio stood at 87.7 percent which is 40 basis points higher than the liabilities-assets ratio of 87.3 percent recorded at the end of previous quarter.

Chart 3.3 FIs' Liabilities-Assets Ratio

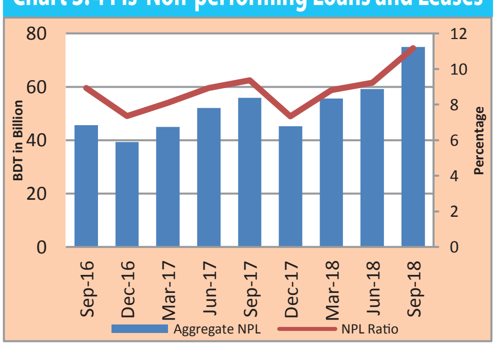


Source: FIs; Compilation: FSD, BB.

3.4 Asset Quality

FIs' classified loans and leases at end-September 2018, increased by 15.7 percent and stood at BDT 74.9 billion from the position of BDT 59.2 billion recorded at end-June 2018. Consequently, the ratio of classified loans and leases to total loans and leases rose to 11.2 percent which is 2.0 percentage points higher than the ratio of 9.2 percent recorded at end-June 2018.

Chart 3.4 FIs' Non-performing Loans and Leases



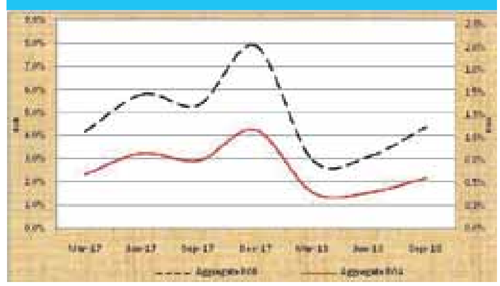
Source: DFIM, BB.

3.5 Profitability

FIs' Return on Assets (ROA) and Return on Equity (ROE) stood at 0.6 percent and 4.4 percent respectively in the review quarter compared to 0.4 percent and 3.1 percent respectively recorded in the preceding quarter. These ratios were 0.8 percent and 5.3 percent respectively in the same quarter of the previous year[13] .

The notable growth of profitability ratios in the current quarter could be attributed to efficiency increase of the FIs from the previous quarter.

Chart 3.5 FIs' ROA and ROE

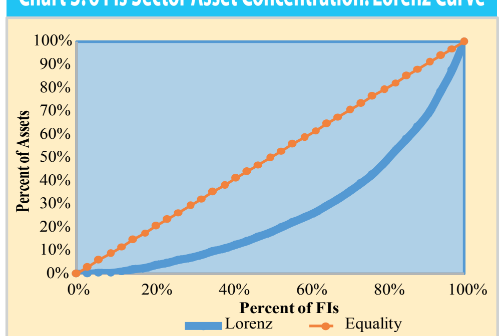


Source: FIs; Compilation: FSD, BB.

3.6 Asset Concentration

FIs sector's asset concentration has been illustrated using Lorenz Curve and Gini Coefficient. As depicted in Chart 3.6, the position of Lorenz Curve implies the presence of moderate concentration in the assets of the FIs sector. The calculated Gini coefficient of 0.4 also supports the presence of aforementioned type of concentration.

Chart 3.6 FIs Sector Asset Concentration: Lorenz Curve



Source: FSD, Staff Calculation.

[13] Here profitability indicators - ROA and ROE - are annualized from quarterly ratios.

Chapter-4

Banking Sector Liquidity and Capital Adequacy

Banking sector capital to risk-weighted assets ratio (CRAR) slightly decreased with respect to the previous quarter. Still, majority of the banks were able to maintain minimum capital conservation buffer. However, liquidity position slightly improved as advance-to-deposit ratio (ADR) decreased slightly.

4.1 Capital Adequacy

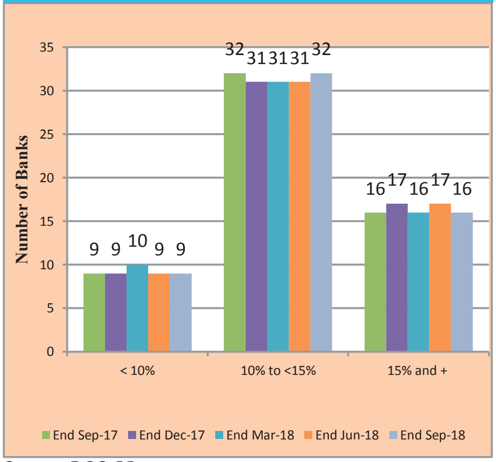
In the review quarter, 48 out of 57 banks maintained CRARs of 10.0 percent or higher in line with Pillar 1 of the Basel III capital framework (Chart 4.1). Importantly, CRARs of 32 banks were within the range of 10-15 percent and their assets accounted for nearly 70.7 percent of the total banking industry's assets at end-September 2018. (Chart 4.2)

The banking sector aggregate CRAR stood at 10.89 percent[14], which is respectively 4 basis points lower and 20 basis points higher than the ratio recorded at end-June 2018 and end-September 2017. Similar trend was observed in case of Tier-1 capital ratio too. Tier-1 capital ratio slightly decreased to 7.6 percent at end-September 2018 from 7.7 percent of the previous quarter and increased slightly from 7.5 percent of end-September 2018. Still, Tier-1 ratio was considerably higher than the minimum regulatory requirement of 6.0 percent.

FCBs maintained higher CRAR while CRAR of the DFIs was negative in the review quarter (Chart 4.4).

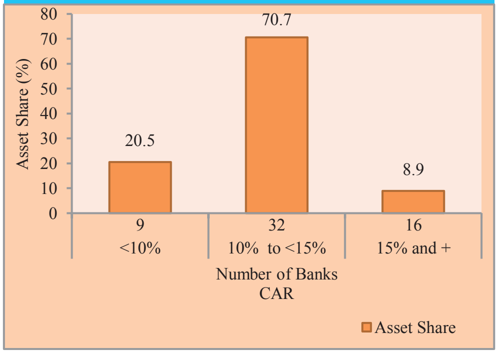
[14] In the review quarter, minimum required CRAR was 10 percent.

Chart 4.1 Banking Sector Capital to Risk-Weighted Assets Ratio



Source: DOS, BB.

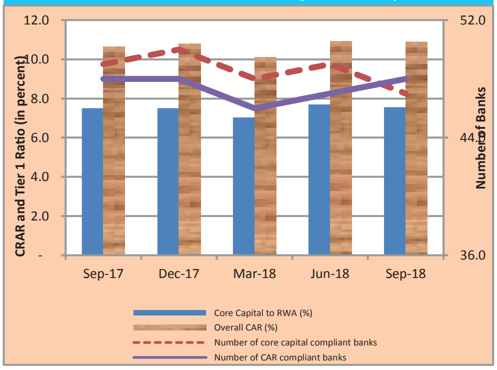
Chart 4.2 Assets Share of Banks based on CRAR at End-September 2018



Source: DOS; Compilation FSD, BB.

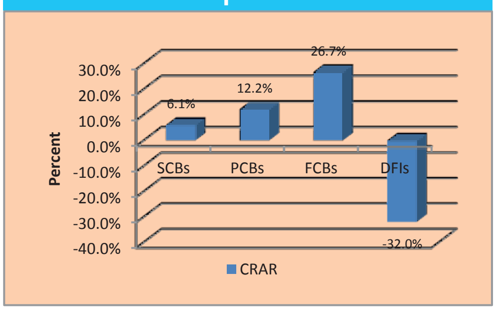
At end-September 2018, risk-weighted assets, arising from credit risks, accounted for 88.1 percent of the total industry's risk-weighted assets under Pillar 1 of the Basel III capital adequacy framework. It is mentionable that the proportion of credit risk weighted assets was 87.8 percent as in the previous quarter and 87.9 percent at end-September 2018. Next positions were held by operational and market risks respectively (Chart 4.5).

Chart 4.3 Tier-1 Capital Ratio and Overall CRAR of the Banking Industry



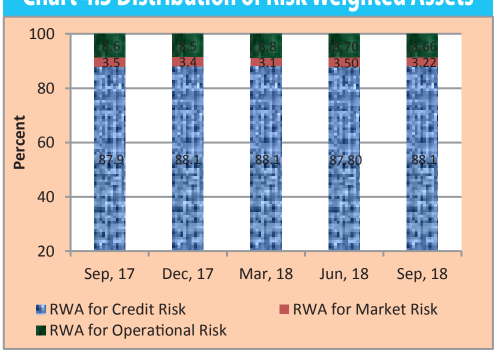
Source: DOS, BB.

Chart 4.4 Bank Cluster-wise CRAR at End-September 2018



Source: DOS, BB.

Chart 4.5 Distribution of Risk Weighted Assets



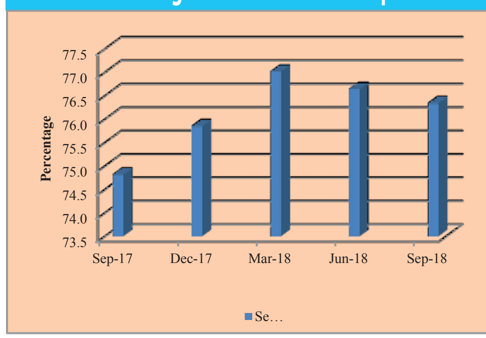
Source: DOS, BB

In the review quarter, against the regulatory requirement of 1.875 percent, 41 out of 57 banks have been able to maintain the minimum required capital conservation buffer (CCB) on solo basis. However, in case of consolidated basis, 24 out of 36 banks fulfilled this regulatory requirement. The aggregate figure of CCB of the banking sector, in the stated quarter, was 0.89 and 1.41 percent on solo and consolidated basis respectively.

4.2 Liquidity

During the review quarter, Advance-to-Deposit Ratio (ADR) of the overall banking industry stood at 76.4 percent, 0.3 percentage points lower than that of end-June 2018 and 1.6 percentage points higher than that of end-September 2017 (Chart 4.6).

Chart 4.6 Banking Sector Advance-to-Deposit Ratio



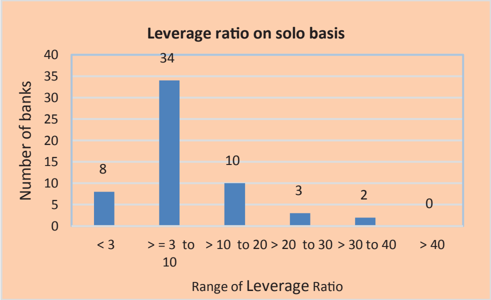
Source: DOS, BB.

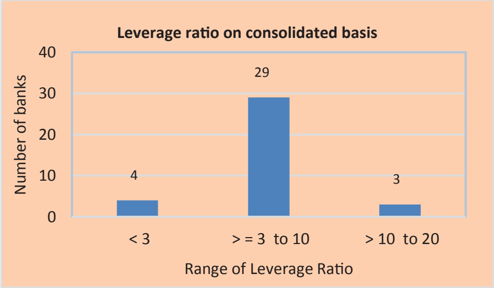
4.3 Leverage ratio

In the review quarter, banking industry fulfilled the minimum leverage ratio requirement of 3.0 percent, on both solo and consolidated basis[15]. At end-September 2018, banking industry's leverage ratio was 4.6 percent on solo basis; 49 out of 57 banks maintained a leverage ratio of 3.0 percent or higher (Chart 4.7). On the other hand, in case of consolidated basis, 32 out of 36 banks were able to fulfill the regulatory requirement. FCBs maintained higher leverage ratio compared to other banking clusters.

[15] In line with Basel III guidelines issued by Bangladesh Bank vide BRPD Circular No. 18 dated December 21,2014.

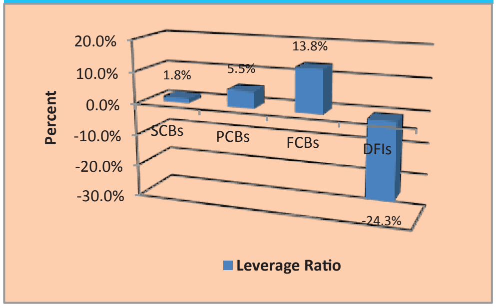
Chart 4.7 Leverage ratio of banks at End-September 2018





Source: DOS, BB.

Chart 4.8 Bank Cluster-wise Leverage ratio at End-September



Source: DOS, BB.

Chapter-5

Financial Institutions' Capital Adequacy and Liquidity

During the quarter reviewed, the FIs sector did not show any shortfall in cash reserve ratio (CRR) and statutory liquidity ratio (SLR), but capital adequacy ratio (CAR) decreased compared to that of the previous quarter.

5.1 Capital Adequacy

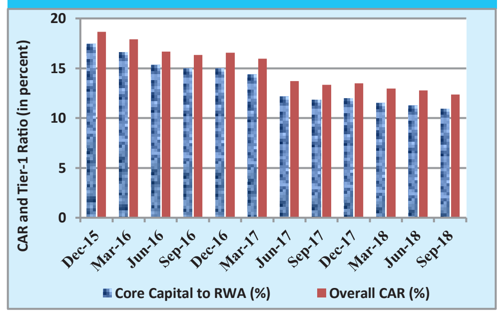
In the review quarter, capital adequacy ratio (CAR) of the FIs sector decreased from 12.8 percent of the June quarter of CY18 to 12.4 percent in the September quarter. However, the maintained CAR was well above the minimum regulatory requirement of Basel II framework[16]. The ratio of Core Capital (Tier-1) to Risk Weighted Asset (RWA) in the review quarter decreased by 0.3 percent compared to the previous quarter. Chart 5.1 shows the trend in the core capital to RWA ratio and CAR since December 2015.

5. 2 Liquidity

As of end-September 2018, the aggregate amount of maintained CRR was BDT 7,324.2 million as compared to BDT 7,508.0 million recorded at end-June 2018, registering a decline of 2.4 percent.

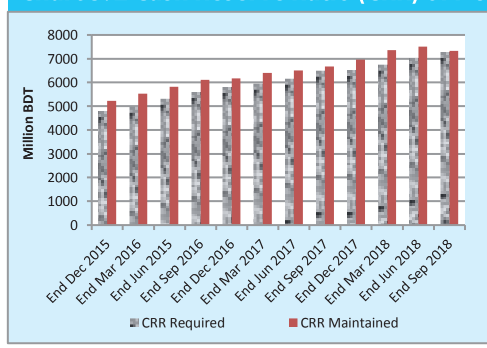
On the other hand, at end- September 2018, the amount of maintained SLR was BDT 97.1 billion against the required amount of BDT 19.9 billion. The maintained SLR is 3.9 percent higher than the amount maintained at end-June 2018. There was no shortfall in CRR and SLR during the quarter reviewed. Chart 5.2 and Chart 5.3 demonstrate the trend in CRR and SLR position of FIs since December 2015.

Chart 5. 1 Capital Adequacy Ratio of FIs Sector



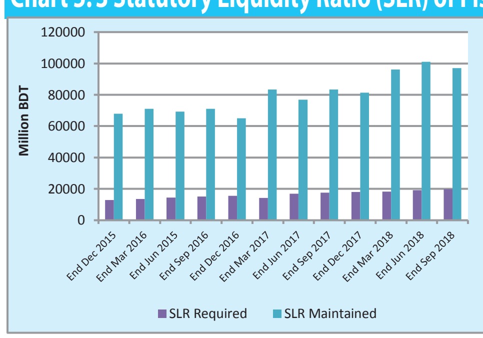
Source: DFIM, BB.

Chart 5. 2 Cash Reserve Ratio (CRR) of FIs



Source: DFIM, BB.

Chart 5. 3 Statutory Liquidity Ratio (SLR) of FIs



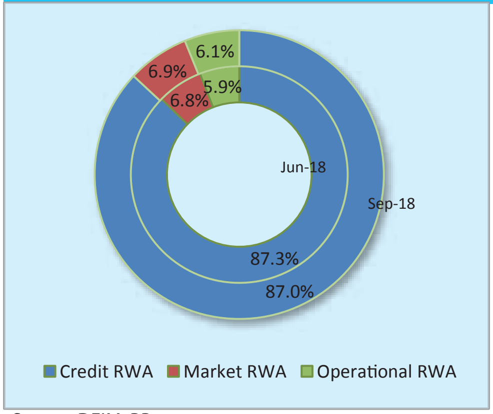
Source: DFIM, BB.

[16] In 2018Q3, FIs were required to maintain a capital adequacy ratio (CAR) of 10.0 percent with at least 5.0 percent in Tier-1 following the Basel II framework.

5.3 Risk Weighted Asset (RWA)

Chart 5.4 shows the overall risk weighted assets (RWA) of the FIs sector. The RWA for credit, market and operational risks were 87.0 percent, 6.9 percent and 6.1 percent respectively at end-September 2018. The figures were 87.3 percent, 6.8 percent and 5.9 percent respectively in the preceding quarter.

Chart 5.4 Components of Risk Weighted Asset (RWA) of FIs



Source: DFIM, BB.

Chapter-6

Stress Test and Resilience of the Banking and FIs Sectors

6.1 Stress Test

Bangladesh Bank conducts stress tests on banks and Financial Institutions (FIs) on quarterly basis under different hypothetical and plausible adverse scenarios, designed to ascertain resilience of a bank individually or the system. It is a simulation technique.

6.2 Stress Test on Banks[17]

Stress test on banks is conducted through sensitivity analysis, under a given set of assumptions to examine how different values of an independent variable affect a particular dependent variable, incorporating impacts of the shock scenarios for credit risk, market risk and liquidity risk. Among these shocks, increase in NPL and default of large borrowers could appear as the most serious threat for the resiliency of the banking sector.

6.2.1 Individual Shocks

Pre-shock capital to risk weighted asset ratio (CRAR) of banking sector was 10.9 percent at end-September, 2018. Out of 57 banks, pre-shock CRARs of 9 banks were below the minimum regulatory requirement of 10.0 percent. That is why, the remaining 48 banks were considered for the analyses based on end-September 2018 data. The following sub-sections present details of the shocks and their associated outcomes:

6.2.1.1 Credit Risk

a) **Increase in Non-performing Loans (NPL):** If NPLs increased by 3, 9 and 15 percent, then 6, 29 and 35 banks respectively would have failed to maintain the minimum required CRAR[18].

b) **Increase in NPL due to Default of Top Large Borrowers:** If 3, 7 and 10 largest borrowers of each bank in the industry defaulted, then 21, 31 and 35 banks respectively would have become non-compliant in maintaining the minimum required CRAR.

c) **Fall in the Forced Sale Value (FSV) of Mortgaged Collateral:** If FSV of mortgaged collateral declined by 10, 20 and 40 percent, then it would make 2, 5 and 9 banks respectively non-compliant in maintaining the minimum required CRAR.

d) **Negative Shift in the NPL Categories:** If NPL categories shifted downward by 5, 10 and 15 percent, then 3, 14 and 17 banks respectively would have become non-compliant in maintaining the minimum required CRAR.

e) **Increase in NPL in Highest Outstanding Sector:** In the event of minor, moderate and major shocks in the highest outstanding sector, 3, 4 and 9 banks respectively would fall below the minimum regulatory requirement.

6.2.1.2 Market Risk

The banking industry is found to be resilient to exchange rate shock, but vulnerable to equity price and interest rate shock:

a) Interest Rate Risk: In the event of interest rate shock of 1, 2 and 3 percent, 2, 2 and 3 banks respectively would fail to maintain the minimum required CRAR.

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[17] The analyses here are based on the data as of end-September 2018 unless stated otherwise.

[18] Only minimum CRAR of 10 percent is considered in this analysis and additional capital conservation buffer (CCB) requirement has not been considered.

Table 6. 1 Stress test on the Banking Sector based on Data as of

Shocks[19]		Banking Sector (%)
Pre-shock CRAR		**10.89**
CRAR after-shock (%)		
Credit Risks:		
Increase in NPLs:		
	Shock-1: 3%	**9.84**
	Shock-2: 9%	**7.31**
	Shock-3: 15%	**3.46**
Increase in NPLs due to default of top large borrowers		
	Shock-1: Top 3 borrowers	**9.39**
	Shock-2: Top 7 borrowers	**7.83**
	Shock-3: Top 10 borrowers	**6.94**
Fall in the FSV[20] of mortgaged collateral		
	Shock-1: 10%	**10.19**
	Shock-2: 20%	**9.47**
	Shock-3: 40%	**8.00**
Negative shift in the NPL categories		
	Shock-1: 5%	**10.15**
	Shock-2: 10%	**7.93**
	Shock-3: 15%	**6.37**
Increase in NPLs in highest outstanding sectors		
	Sector concentration 1[21] ***(Performing loan directly downgraded to B/L[22])***	
	Shock-1: 3%	**10.82**
	Shock-2: 9%	**10.69**
	Shock-3: 15%	**10.56**
	Sector concentration 2[23] ***(Performing loan directly downgraded to B/L)***	
	Shock-1: 3%	**10.76**
	Shock-2: 9%	**10.49**
	Shock-3: 15%	**10.22**
Market Risks		
Interest rate risk (change in interest rate)		
	Shock-1: 1%	**10.56**
	Shock-2: 2%	**10.23**
	Shock-3: 3%	**9.90**
Exchange rate risk (Currency appreciation)		
	Shock-1: 5%	**10.86**
	Shock-2: 10%	**10.82**
	Shock-3: 15%	**10.79**
Equity price risk (Fall in equity prices)		
	Shock-1: 10%	**10.63**
	Shock-2: 20%	**10.36**
	Shock-3: 40%	**9.83**
Combined Shock		
	Shock-1	**7.77**
	Shock-2	**1.66**
	Shock-3	**-6.11**

19 Shock-1 = Minor, Shock-2 = Moderate, Shock-3 = Major.
20 FSV = Forced Sale Value.
21 Sector with highest outstanding.
22 B/L = Bad/Loss.
23 Sector with second highest outstanding.

b) Exchange Rate Risk: In the event of currency appreciation by 10 and 15 percent, only 1 bank in both cases would fall below the minimum regulatory requirement.

c) Equity Price Risk: In the event of equity price shock of 10, 20 and 40 percent, 2, 3 and 4 banks would fall below the minimum regulatory requirement.

6.2.2 Combined Shock[24]

In the event of minor, moderate and major combined shocks, 17, 38 and 39 banks respectively would become undercapitalized.

In sum, if combined shocks were applied (combination of individual credit and market shocks), then the banking sector would fail to maintain minimum regulatory requirement in all three shock scenarios. In standalone basis, increase in NPLs and default of top 3 large borrowers would have the highest negative impact on the banking sector capital adequacy. In this connection, it is mentionable that different levels of credit and market shocks often reduce the CRAR of the banking sector below minimum required level largely due to low capital ratio maintained by the SCBs and DFIs.

6.2.3 Liquidity Shock

The individual banks and the banking system as a whole seemed to remain resilient against specified liquidity stress scenarios at end-September 2018.

Table 6. 2 Liquidity Risk in the Banking Sector: End-September 2018

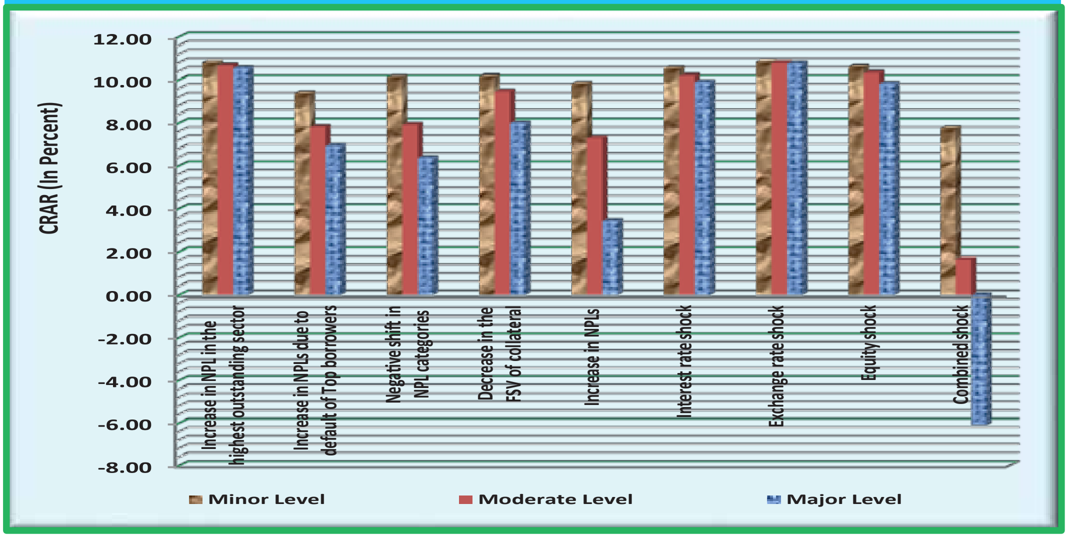
Liquidity Stress*	Stress Scenarios		
	Minor	Moderate	Major
Day 1	1	1	1
Day 2	1	1	1
Day 3	1	1	1
Day 4	1	1	1
Day 5	1	1	1

*Consecutive 5 working days.

Note: '1' indicates that the system is liquid and '0' not liquid.

Source: FSD, BB.

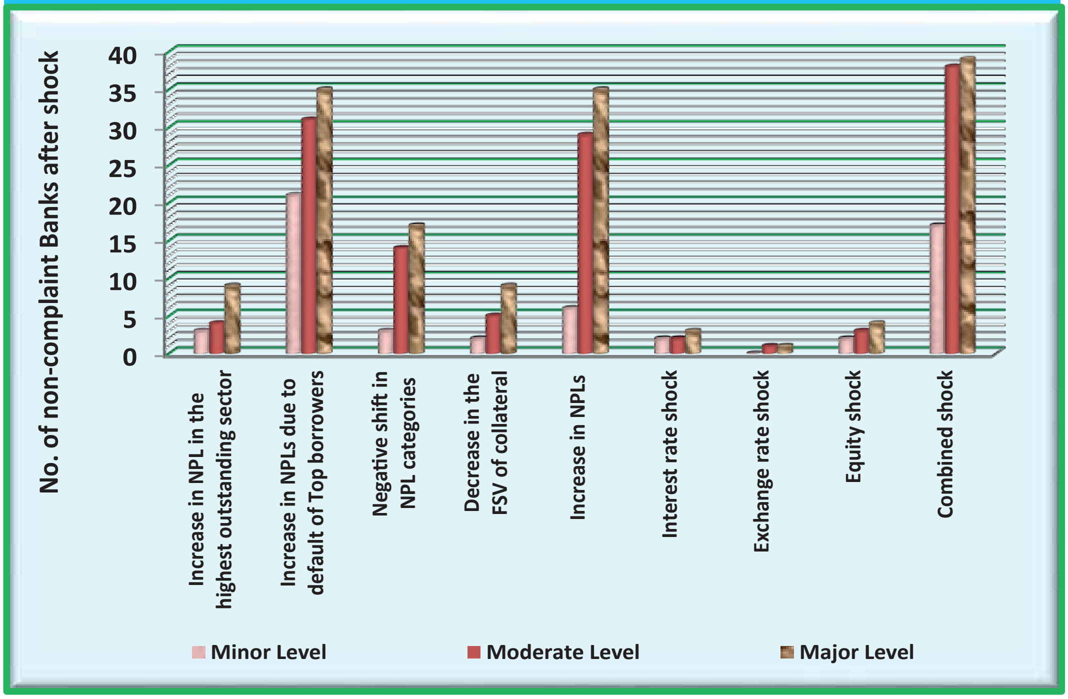
Chart 6.1 Banking Sector CRAR at Different Shock Scenarios: September 2018



Source: FSD, BB.

[24] Combined shock comprised aggregate stress results of increase in NPLs, negative shifts in NPL categories, decrease in the FSV of the mortgaged collateral, exchange rate shock, equity price shock and interest rate shock.

Chart 6. 2 Number of Non-compliant Banks at Different Shock Scenarios: September 2018



Source: FSD, BB.

6.3 Stress Test on FIs

Bangladesh Bank has also designed stress testing techniques to determine the situations of different financial institutions under which four risk factors- credit, interest rate, equity price and liquidity - are analyzed.

At end-September 2018, out of 34 FIs, 4, 18 and 12 were positioned in Green, Yellow, and Red zones respectively on the basis of stress test results.

Table 6. 3 Stress Testing: Zonal Position of FIs

(Number of FIs)

Quarter	Green	Yellow	Red
End-Jun 2017	4	17	12
End-Sep 2017	3	17	13
End-Dec 2017	4	19	10
End-Mar 2018	5	17	12
End-Jun 2018	3	18	13
End-Sep 2018	4	18	12

Source: DFIM, BB

Chapter-7

Capital Market Development

In the review quarter, the domestic capital market indicators in both bourses demonstrated a mixed scenario. Market capitalization showed a slight increase compared to the end of the previous quarter. Besides, turnover improved notably. However, key DSE and CSE indices dropped compared to those of the preceding quarter.

7.1 Dhaka Stock Exchange (DSE)

7.1.1 DSE Performance

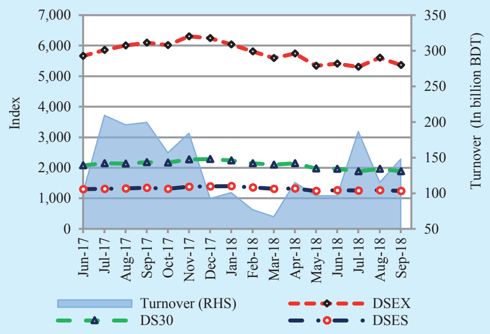
DSE turnover increased from BDT 307.9 billion during April-June 2018 quarter to BDT 449.8 billion during July-September 2018 quarter, registering a rise of 46.1 percent (Chart 7.1). This increase was largely attributed to the increased turnover in engineering, textile, fuel and power, and financial institutions sectors. The turnover of the banking sector remained depressed during the quarter. Though a gradual increase in DSE turnover was observed since March 2018, all DSE indices continued to fall. At end-September 2018, key DSE indices, such as, DSEX, DS30 and DSES dropped by 0.7 percent, 3.6 percent and 2.0 percent respectively compared to those of end-June 2018.

7.1.2 Sectoral Turnover

More than 65 percent of total DSE turnover was shared among five sectors - engineering (19.8 percent), textile (17.7 percent), fuel and power (11.1 percent), pharmaceuticals and chemicals (9.5 percent), and banking (7.3 percent) sectors in the review quarter (Chart 7.2).

The share of banking sector turnover followed the declining trend and reached 7.3 percent during the September quarter from 12.2 percent of June 2018 quarter and 33.7 percent of December 2017 quarter.

Chart 7.1 DSE Performance



Source: DSE; Compilation: FSD, BB.

7.1.3 Market Capitalization

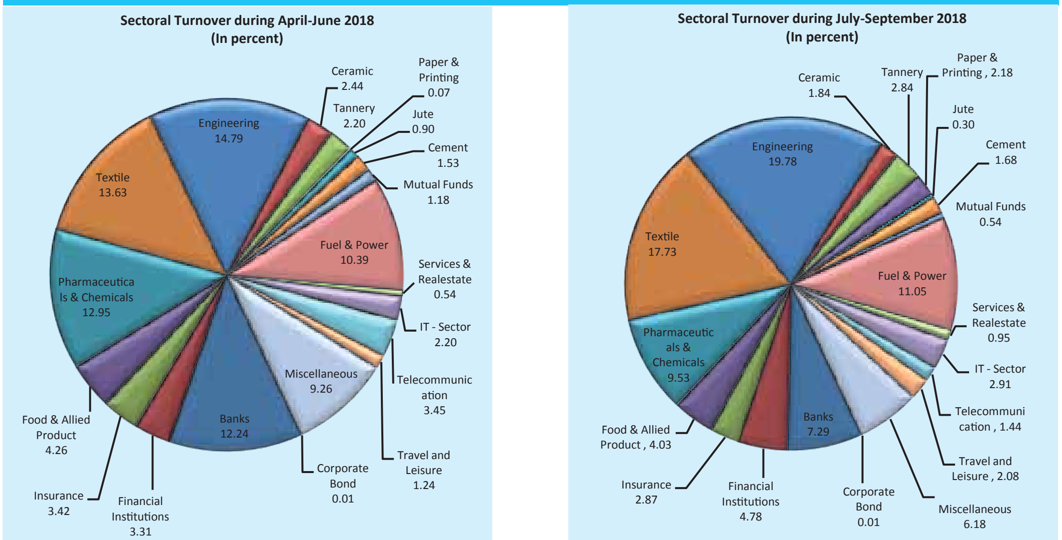
At end-September 2018, the market capitalization stood at BDT 3,876.8 billion, which is 0.8 percent higher than that of BDT 3,847.4 billion recorded at end-June 2018. After an extended period of decline since November 2017, a gradual recovery in market capitalization was observed since May 2018 (Chart 7.3). At end-September 2018, the banking sector continued to secure the top position with 17.0 percent share in total market capitalization followed by 15.6 percent and 14.9 percent of telecommunication sector, and pharmaceuticals and chemicals sector respectively. At the end of the preceding quarter, contributions of the above-mentioned sectors were 17.4 percent, 16.6 percent and 16.0 percent respectively.

It is to mention that DSE market capitalization as a percentage of GDP[25] stood at 17.2 percent at end-September 2018 compared to 20.6 percent at end-September2017[26]. During this period,

[25] GDP at current market price is used to calculate this ratio (Source: Monthly Economic Trends, September 2018 issue).

[26] June 2018 based GDP data has been used as proxy for calculating market capital to GDP ratio of September 2018.

Chart 7.2 Sectoral Turnover at DSE



Source: DSE; Compilation: FSD, BB.

Source: DSE; Compilation: FSD, BB.

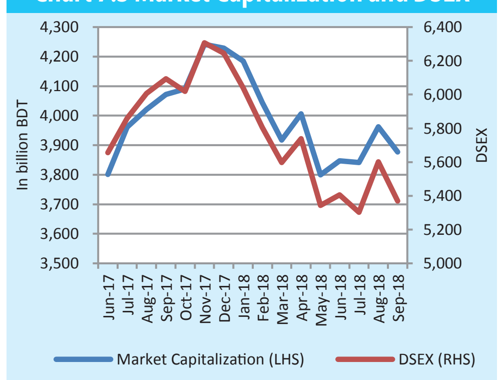
market capitalization grew by only 1.2 percent as opposed to 13.9 percent growth of nominal GDP. Shortage of quality shares along-with infrequent issuance of new IPOs and lack of a vibrant corporate bond market remained largely the obstacles towards capital market development in Bangladesh.

7.1.4 Price-Earnings (P/E) Ratio

The market P/E ratio increased by 0.2 percentage point during the quarter and stood at 15.2 at end-September 2018. Chart 7.4 illustrates that the long-term relationship between DSE broad index (DSEX) and market P/E ratio has been positive. As DSEX incorporates the price information of the shares listed at DSE, the movement in market price per share captured by P/E ratio is reflected in the index. Accordingly, a fall in share price, in general, was observed since the end of December 2017.

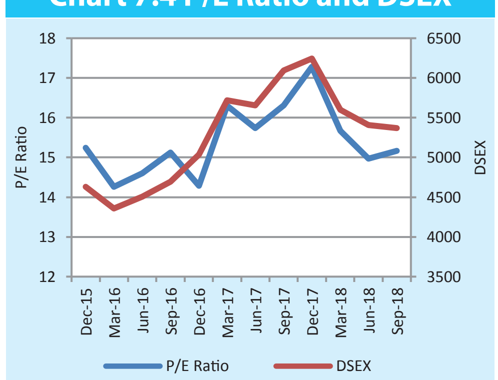
At end-September 2018, the highest P/E ratio was recorded by the jute sector (103.2) followed by the paper and printing sector (51.2). The mutual funds sector recorded the lowest P/E ratio (7.0) closely followed by the

Chart 7.3 Market Capitalization and DSEX



Source: DSE; Compilation: FSD, BB.

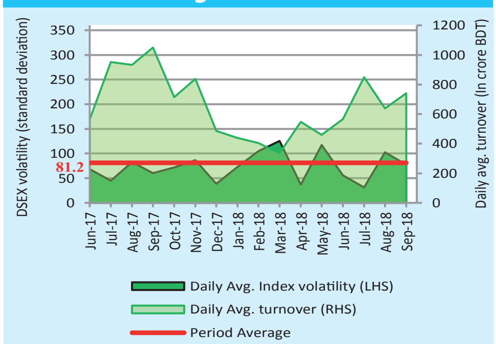
Chart 7.4 P/E Ratio and DSEX



Source: DSE.

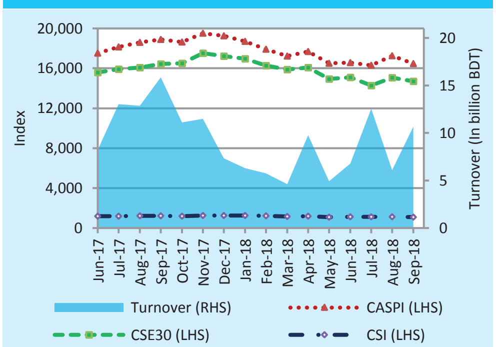
banking sector (8.8). Though the P/E ratio of the banking sector was the same at end-June 2018, it was lower than 11.2 of end-December 2017. Thus, the market price of the shares of the banking sector appeared to be falling since December 2017, impacting the turnover value and market capitalization of the banking sector as well as reflecting a depressed investor sentiment towards the banking sector.

Chart 7.5 DSEX Volatility and Daily Average DSE Turnover



Source: DSE; computation: FSD, BB.

Chart 7.6 CSE Performance



Source: CSE; Compilation: FSD, BB.

7.1.5 Index Volatility and Market Liquidity

As observed from Chart 7.5, relatively less volatile episodes in DSEX are associated with episodes of high market liquidity (i.e. turnover). Between June 2017 and September 2018, highest volatility in DSEX was recorded at March 2018 when daily average turnover was the lowest. During the review quarter, average index volatility was 70.4, which was almost the same as in the previous quarter (70.0) and lower than the period average of 81.2. Consequently, DSE turnover increased indicating improved market liquidity during the review period.

7.2 Chittagong Stock Exchange (CSE)

7.2.1 CSE Performance

Similar to DSE, CSE turnover increased by 36.5 percent to BDT 29.3 billion in the review quarter from BDT 21.5 billion in the preceding quarter. Increased turnover in textile sector mainly pushed up the CSE turnover during the quarter. At the end of September 2018, key CSE indices such as CASPI[27], CSE30 and CSI[28] continued the decreasing trend and recorded 0.5 percent, 2.5 percent and 1.9 percent drop respectively compared to those of end-June 2018. The influence of the 30 companies listed in CSE30 was noticeable from its movement with CASPI (Chart 7.6).

7.2.2 Sectoral Turnover

Share of banking sector turnover at CSE fell from the highest position (21.5 percent) during the previous quarter to fifth position (9.3 percent) during the review quarter (Chart 7.7). The top four sectors in terms of turnover were textile (16.9 percent), engineering (12.1 percent), miscellaneous (11.9 percent), and fuel and power (10.7 percent) during the review quarter.

7.2.3 Market Capitalization

At end-September 2018, the market capitalization at CSE stood at BDT 3,168.9 billion, which is 1.5 percent higher than the end-June 2018 position of BDT 3,123.5 billion.

Like DSE, market capitalization at CSE recovered since May 2018 after demonstrating a downward trend since November 2017 (Chart 7.8).

7.2.4 Price-Earnings (P/E) Ratio

The market P/E ratio increased by 0.1 percentage point and reached 15.0 at end-September 2018 (Chart 7.9). The highest P/E ratio was recorded by paper and printing sector (42.0) followed by ceramics sector (28.8). Banking sector and mutual funds sector were the two sectors with the lowest P/E ratios of 8.4 and 4.5 respectively.

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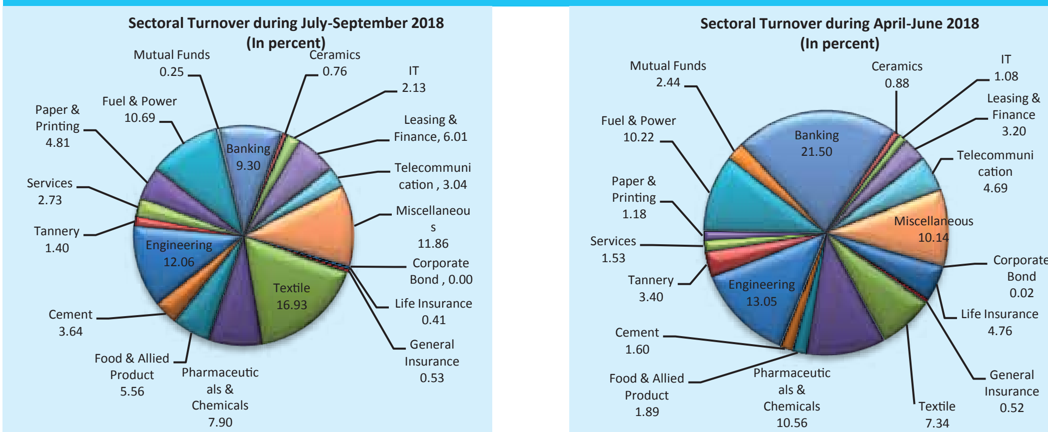
27 CASPI refers to CSE All Share Price Index.
28 CSI refers to CSE Shari'ah Index.

Chart 7.7 Sectoral Turnover at CSE

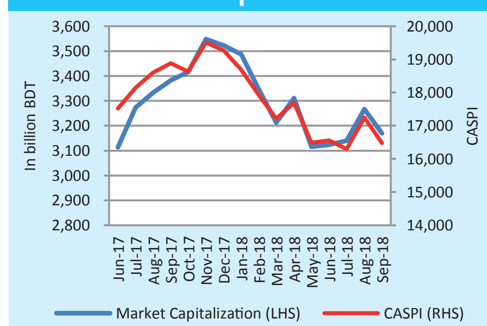


Source: CSE; Compilation: FSD, BB. Source: CSE; Compilation: FSD, BB.

7.3 Capital Market and Financial Stability

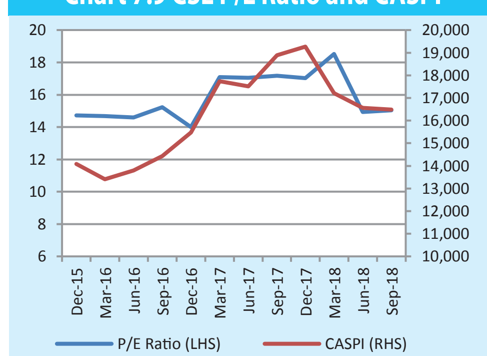
A vibrant, liquid and reasonably volatile capital market is crucial for the stability of the financial system. As it turned out, after a mostly buoyant 2017, both bourses of the country has been going through continuous price correction and thus remained bearish since November 2017. However, it appeared that this scenario of price correction reflected the regular price appreciation-price correction cycle of the bourses as the turnover, market capitalization and P/E ratio showed recovery during the review quarter. A depressed trading of the banking sector shares, which remained the top contributor to market capitalization in both bourses was largely the driving force for such bearish position. This might reflect investors' cautious approach towards share trading of the banking sector, which itself experienced stress on its profitability due to stressed asset quality and liquidity constraints in few banks near the end of 2017. Besides, banks' aggregate investment in the capital market remained much below the allowable limit of Bangladesh Bank[29,30]. Thus, any adverse shock on equity price does not seem to pose any stability threat to the financial sector in the near term.

Chart 7.8 Market Capitalization and CASPI



Source: CSE; Compilation: FSD, BB.

Chart 7.9 CSE P/E Ratio and CASPI



Source: CSE.

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29 Banks' capital market exposure was 16.5% and 27.4% of regulatory capital on solo and consolidated basis respectively at end-September 2018. They were 16.6% and 27.5% respectively at end-June 2018. (Source: DOS, BB)

30 Maximum allowable limit to investment in capital market: 25% and 50% of total prescribed capital components on solo and consolidated basis respectively (DOS Circular No.-02/2013 and DOS Circular Letter No.-07/2014).

Chapter-8

Recent Stability Initiatives of Bangladesh Bank

During July-September quarter of the calendar year 2018, Bangladesh Bank (BB) took a number of initiatives having implications to domestic financial system stability. Some of the key initiatives are discussed below:

8.1 Compliance of Guidelines on Risk Based Capital Adequacy (RBCA) for banks

BB replaced paragraph 9 of "Annex 4: Criteria for Inclusion of Instruments of Regulatory Capital" of the Guidelines on Risk Based Capital Adequacy for Banks regarding implementation of Basel III. The paragraph was replaced as follows: "The surplus amount of subordinated debt is to be reckoned as liability for the calculation of net demand and time liabilities for the purpose of determining CRR/SLR. The surplus amount of subordinated debt is the amount that was raised from issuing such bond(s) after deducting the amount bank invested in the similar bond(s) of other banks. If the figure is 'negative' then it will not be considered as net liability for determining CRR/SLR."

8.2 Compliance of Asset Liability Management Guidelines

BB replaced section 1.3.1.1 of Asset-Liability Management (ALM) Guidelines regarding the calculation of advance-to-deposit ratio (ADR). The formula for calculating ADR ratio is now as follows:

ADR = Total Loans and Advances or Investment (for Shar'iah based banks)/ (Total Time and Demand Liabilities + Interbank Deposit Surplus* + Bond Surplus**), where *Interbank Deposit Surplus = Deposit from other banks-Deposit with other banks (if -ve then 0), and

** Bond Surplus = Total amount raised from issuing bond-Total investment in bond of other banks (if -ve then 0).

8.3 Alert for possible cyber attack in Banking system

On the backdrop of recent cyber-attacks on payment systems of our neighboring countries, Bangladesh Bank has issued an alert to all local banks to ensure proper cyber security measures. The circular stated that as an emerging economy, Bangladesh also belongs to such kind of cyber security risks.

8.4 Rationalisation of Schedule of Charges

In order to rationalise the charges for bank guarantee, BB has issued a circular stating that if any bank gives guarantee for a period of three months or less, banks may impose commission for a maximum period of three months. If the period of bank guarantee is more than three months, banks can impose commission for the full period, i.e., up to the maturity date of the guarantee.

8.5 Scheduling of Probashi Kallyan Bank

BB has enlisted the Probashi Kallyan Bank (PKB) as scheduled specialized bank as per section 37(2)(a) of Bangladesh Bank Order, 1972. PKB provides collateral-free loans to overseas job-seekers and also provides loans for rehabilitation of expatriate workers on their return home so that they can be engaged in income-generating activities.

8.6 Issuance of 'National Integrity Award Guideline'

BB issued 'National Integrity Award Guideline' in conformity with "National Integrity Strategy" to give recognition to the employees of bank and non-bank financial institutions for their contribution to the specific areas outlined in the guideline. As per the guideline, bank employees at all levels will be assessed into five categories for awards. Employees would be selected based on twenty indicators specified in the guideline. Selected employees for awards will be honored with certificates and prize money.

8.7 Policy on Unclaimed Deposits and Valuables

In order to comply with the instructions of Section 35 of Banking Companies Act, 1991 (amended up to 2013), BB issued a policy regarding unclaimed funds and valuables (except the funds of the government, minors and courts) held by commercial banks. According to this policy, funds (deposits, cheques payable, draft etc.,) and valuables in a bank would be considered as unclaimed if the customer or beneficiary of those does not make a transaction or contact with the respective bank for 10 years. If the funds and valuables are not claimed for 10 years, banks have to serve notices to the beneficiaries/ representatives/custodians of those funds and valuables. If no acknowledgement of the notice is received within three months of serving the notice, banks have to deposit or send the valuables to the central bank in April of each year. Respective customers or beneficiaries will be allowed to claim back the funds or valuables to the custodian bank within two years of transferring the assets to the central bank.Otherwise, BB would transfer the assets in favour of the government treasury permanently and no claim can be made after that.

8.8 Issuance of Agricultural and Rural Credit Policy and Program for the FY 2018-19

BB announced its agricultural and rural credit policy and program for the fiscal year (FY) 2018-19. The disbursement target for banks has been set at BDT 21,800 (Twenty one thousand eight hundred) crore, which is 6.86 percent higher than that of the previous FY. The disbursement targets for three core sectors have been specified in the current policy (out of total target not less than 60 percent to crops, 10 percent to fisheries and 10 percent to livestock). Turkey farming, floating agriculture and agro areas of integrated agro based projects are also incorporated in this policy. The major objective of this policy is to ensure the food security and develop a sustainable agricultural credit system. This policy mainly focuses on facilitating easier access to banking network and cheaper credit, which will ultimately help to stabilize the local economy.

8.9 Changes in the Foreign Exchange Regulations

BB brought a number of changes in its foreign exchange regulations that are stated below:

i) Bangladeshi private airlines operating in international route are instructed to submit monthly statement in prescribed format to Bangladesh Bank. They are allowed to make disbursement in respect of bona-fide transactions only out of their receipts at foreign ports and they are under the obligation of regular repatriation of the excess collection if any. They are also required to take prior approval of Bangladesh Bank for remitting any deficit or for meeting bona-fide items of the disbursement.

ii) To encourage deposit in Resident Foreign Currency Deposit (RFCD) Accounts, Authorized Dealers are allowed to apply interest on the balances of the RFCD accounts at Eurocurrency deposit rates.

iii) ADs are allowed to issue bid-bonds on behalf of residents favoring foreign organizations/entities inviting tenders for supply of good/services in Bangladesh or from Bangladesh to overseas.

iv) Along-with maintaining foreign currency clearing accounts in US Dollar, Pound Sterling, Euro, Japanese Yen and Canadian Dollar with Bangladesh Bank, AD banks are also allowed to open foreign currency clearing account in Chinese Yuan (CNY) with Bangladesh Bank from now on.

v) To facilitate export, the Government has decided to continue providing export subsidy/cash incentive against exports in 26 specific sectors at different rates during the financial year 2018-19. Nine new sectors have been added in the list for export subsidy/cash incentives at 10 percent rate from the financial year 2018-19.

8.10 Bangladesh Mobile Financial Services (MFS) Regulations, 2018

Bangladesh Bank has recently replaced the "Guidelines on Mobile Financial Services for the Banks" with "Bangladesh Mobile Financial Services Regulations, 2018". The updated regulations, henceforth, will determine the scope and rules of undertaking the business of MFS. The new regulations allow only banks to set-up a MFS subsidiary with at least 51 per cent stake along with equity partnership from other banks, NBFIs, and NGOs, investment and fintech companies except for mobile network operators. The new regulations has extended the scope of product/service offerings by a MFS provider including traditional cash-in and cash-outs facilities, person to business and business to person payments, government to person and person to government payments, business to business payments, online and e-commerce payments, disbursement of inward remittances to beneficiaries and loan to borrowers, and other payments approved by BB. The newly issued guideline allowed bank-led MFS, a model where a scheduled bank may run the MFS as a product of the bank or a bank may form an MFS providing subsidiary with at least 51 percent of the share held by the bank with control of the board. Under the regulation, MFS operators would be allowed to run cash-in and cash-out services from MFS accounts through agent locations, bank branches, ATM, linked bank account and other methods determined by BB.

The regulation also details the processes of setting-up mechanisms for MFS providers according to the relevant laws and other regulations.

8.11 Contactless Payment Services through Near Field Communication (NFC) Technology

To make card based transactions easier, BB has approved contactless payment services using Near Field Communication (NFC) Technology with the maximum transaction limit of BDT 3000 only. Under this arrangement, transactions can be made using only 'EMVCo Compliant' credit cards. The regulations for using Personal Identification Number (PIN)/2nd Factor Authentication (2FA) have been relaxed for this form of transactions. But the banks concerned have to notify their clients immediately after each transaction through SMS. All merchant outlets in the country will be under the purview of 'EMVCo Compliant' credit cards. Otherwise, Personal

Identification Number (PIN)/2nd Factor Authentication (2FA) regulations will be applied.

8.12 Investment by Non-resident Investors in Alternative Investment Funds

To widen the scope for foreign investment, BB has decided to allow investment by non-resident investors in Alternative Investment Funds (AIF) registered under Bangladesh Securities and Exchange Commission (Alternative Investment) Rules, 2015. Eligible investors in terms of BSEC (Alternative Investment) Rules, 2015 may invest in units of AIF and transactions relating to such investments may be made through Non-resident Investor's Taka Account (NITA). To purchase the units of AIF, eligible non-resident investors need to transfer funds through inward remittance in normal banking channel by debiting the NITAs, permissible FC accounts and Non-Resident Taka Accounts (Vostro) of overseas branches and correspondents (NRTA). Dividends earned on units of AIF can be repatriated subject to deduction of applicable taxes and other charges. Fair value of the sale proceeds of units can be repatriated subject to prior approval of BB. Authorized Dealers are instructed to follow due diligence regarding KYC/AML/CFT norms in this regard.

8.13 Establishment of Food Processing & Agro-based and ICT Projects under Entrepreneurship Support Fund (ESF) Loan

BB has recently issued the "Entrepreneurship Support Fund (ESF) Policies, 2018". In current policies, the previous 'Equity and Entrepreneurship Fund' has been renamed as 'Entrepreneurship Support Fund'. ESF aims to foster the overall economic development of the country by promoting new entrepreneurs and capital formation in promising food processing, agro based and ICT industries of the country. The fund has been remodeled from equity-based to a credit-based model with a very low interest rate (2 percent) for setting up projects in food-processing, agro-based and ICT sectors. The polices outlined the detailed procedures of submitting Expression of Interest (EOI) for the projects, evaluation of EOIs, approval of loans, mode of disbursement and repayment, monitoring mechanism and role of concerned authorities etc.

Table I CPI Inflation (12 month Average)

(Percent)

Month	Inflation (General)	Inflation (Food)	Inflation (Non-Food)
Jun-17	5.4	6.0	4.8
Sep-17	5.6	6.7	3.8
Dec-17	5.7	7.2	3.5
Mar-18	5.8	7.3	3.6
Jun-18	5.8	7.1	3.7
Sep-18	5.7	6.7	4.2

Base: 2005-06=100

Table II Foreign Exchange Reserve

(Amount in million USD)

Month-end	International Reserve
Sep-16	31,385.9
Dec-16	32,092.0
Mar-17	32,215.0
Jun-17	33,407.0
Sep-17	32,816.6
Dec-17	33,227.0
Mar-18	32,403.0
Jun-18	32,916.0
Sep-18	31,960.0

Table III Wage Earners' Remittance

(Amount in million USD)

Quarter	Amount
Sep-16	3,245.8
Dec-16	2,921.1
Mar-17	3,027.7
Jun-17	3,574.9
Sep-17	3,387.9
Dec-17	3,920.7
Mar-18	3,828.6
Jun-18	4,220.7
Sep-18	3,868.9

Table IV Exports and Imports

(Amount in million USD)

Quarter	Aggregate Exports (F.O.B)	Aggregate Imports (F.O.B)
Sep-16	7,909.0	9,502.0
Dec-16	8,501.0	10,645.0
Mar-17	8,920.0	11,448.0
Jun-17	8,689.0	11,123.0
Sep-17	8,549.0	12,199.0
Dec-17	9,137.0	14,115.0
Mar-18	9,412.0	13,986.0
Jun-18	9,107.0	14,163.0
Sep-18	9,747.0	13,599.0

Table V Interest Rate (Weighted Average) Spread

(In percent)

Period	Lending Rate	Deposit Rate	Spread
Sep-16	10.1	5.4	4.7
Dec-16	9.9	5.2	4.7
Mar-17	9.7	5.0	4.7
Jun-17	9.5	4.8	4.7
Sep-17	9.5	4.9	4.6
Dec-17	9.4	4.9	4.5
Mar-18	9.7	5.3	4.4
Jun-18	9.9	5.5	4.4
Sep-18	9.5	5.2	4.3

Table VI Weighted Average Exchange Rate

(BDT/USD)

Quarter	Period Average	End Period
Sep-16	78.4000	78.4000
Dec-16	78.8040	78.7022
Mar-17	79.5000	79.7000
Jun-17	80.5900	80.6000
Sep-17	80.7400	80.8000
Dec-17	82.5500	82.7000
Mar-18	82.9600	82.9600
Jun-18	83.7000	83.7300
Sep-18	83.7500	83.7500

Table VII Credit to the Government (Gross) by the Banking System

(Amount in billion BDT)

Period	Amount
Sep-16	1,807.7
Dec-16	1,691.1
Mar-17	1,615.1
Jun-17	1,684.5
Sep-17	1,666.0
Dec-17	1,620.0
Mar-18	1,538.1
Jun-18	1,780.9
Sep-18	1,778.4

Table VIII Asset Structure of the Banking Industry

(Amount in billion BDT)

Property and Assets	31-12-2017	31-03-2018	30-06-2018	30-09-2018
Cash in hand	117.6	123.1[R]	143.9	147.4
Balance with Bangladesh Bank and its Agent Bank	833.1	796.4[R]	910.7	810.5
Balance with other banks and financial Institutions	756.2[R]	738.0[R]	825.7	841.5
Investment	1918.9	1,945.0[R]	2,003.8	2,019.5
Loans and Advances	8487.3[R]	8,769.0[R]	9,166.2	9,258.5
Fixed Assets	226.7	223.8[R]	227.3	228.8
Other Assets	715.8	727.1[R]	733.6	762.3
Non-banking assets	3.7	3.7[R]	3.7	3.7
Total Assets	**13,059.3**	**13,326.1[R]**	**14,014.9**	**14,072.2**

Note: R-revised.

Table IX Banking Sector Assets & NPL Concentration (Sep-2018)

(Amount in billion BDT)

ASSETS	*TOP 5 BANKS*	*OTHER BANKS*	*TOP 10 BANKS*	*OTHER BANKS*
Amount	4,292.4	9,779.8	6,215.5	7,856.7
Share (%)	30.5	69.5	44.2	55.8
NPL	**Top 5 banks**	**Other banks**	**Top 10 banks**	**Other banks**
Amount	472.3	521.4	634.2	359.5
Share (%)	47.5	52.5	63.8	36.2

Table X Banking Sector NPL Ratio

(Amount in billion BDT)

Quarter	Aggregate NPL	Gross NPL Ratio (NPL/TL) (%)	NPL (net of LLP and IS) Ratio (%)	NPL (net of LLP and IS)/ Reg. Cap. (%)
Sep-16	657.3	10.3	2.8	20.8
Dec-16	621.7	9.2	2.3	18.0
Mar-17	734.1	10.5	2.9	22.7
Jun-17	741.5	10.1	2.6	19.7
Sep-17	803.1	10.7	2.9	22.4
Dec-17	743.0	9.3	2.2	17.2
Mar-18	885.9	10.8	3.3	27.6
Jun-18	893.4	10.4	2.7	22.7
Sep-18	993.7	11.5	3.3	27.6

Table XI Distribution of Banks by NPL Ratio

Range	Number of Banks as at end				
	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18
Up to 2.0%	7	10	9	9	8
2.0% to <3.0%	4	5	4	3	1
3.0% to <5.0%	10	17	10	10	7
5.0% to <10.0%	24	13	22	22	29
10.0% to <15.0%	1	2	0	1	0
15.0% to <20.0%	0	1	2	1	1
20.0% & above	11	9	10	11	11
Total	**57**	**57**	**57**	**57**	**57**

Table XII Banking Sector Loan Loss Provisions

(Amount in billion BDT)

Period	Required Provision	Provision Maintained	Provision Maintenance Ratio (%)
Sep-16	372.3	328.5	88.2
Dec-16	362.1	307.4	84.9
Mar-17	419.2	366.9	87.5
Jun-17	436.4	374.5	85.8
Sep-17	463.1	399.7	86.3
Dec-17	443.0	375.3	84.7
Mar-18	492.4	412.8	83.8
Jun-18	528.8	448.9	84.9
Sep-18	564.9	483.6	85.6

Table XIII Banking Sector Classified Loans Ratios

(In percent)

Period	Classified Loans To Total Loans	Sub-standard Loans To Classified Loans	Doubtful Loans To Classified Loans	Bad Loans To Classified Loans
Sep-16	10.3	11.6	6.0	82.4
Dec-16	9.2	10.2	5.4	84.4
Mar-17	10.5	11.1	6.8	82.1
Jun-17	10.1	10.2	6.8	83.1
Sep-17	10.7	12.0	6.0	82.0
Dec-17	9.3	7.5	5.5	87.0
Mar-18	10.8	10.2	6.7	83.1
Jun-18	10.4	8.1	8.0	83.9
Sep-18	11.5	9.8	7.0	83.2

Table XIV Classified Loan Composition (End-September 2018)

(Amount in billion BDT)

Particulars	Amount	Percent Of Total
Sub-Standard	97.7	9.8
Doubtful	69.7	7.0
Bad & Loss	826.3	83.2
Total	993.7	100.0

Table XV Banking Sector ROA Range

Quarter	ROA Range			
	Up to 2.0%	> 2.0% to ≤ 3.0%	> 3.0% to ≤ 4.0%	> 4.0%
Sep-16	49	4	3	0
Dec-16	48	7	1	1
Mar-17	51	4	1	1
Jun-17	53	2	1	1
Sep-17	52	4	0	1
Dec-17	52	4	0	1
Mar-18	51	3	1	2
Jun-18	50[R]	4[R]	1[R]	2[R]
Sep-18	52	2	2	1

Notes: ROAs have been annualized from respective quarterly ratios.R=Revised

Table XVI Banking Sector ROE Range

Quarter	ROE Range			
	Up to 5.0%	> 5.0% to ≤ 10.0%	> 10.0% to ≤ 15.0%	> 15.0%
Sep-16	14	20	14	8
Dec-16	11	12	16	18
Mar-17	22	17	12	6
Jun-17	18	20	12	7
Sep-17	14	21	9	13
Dec-17	16	8	21	12
Mar-18	22	17	14	4
Jun-18	20^{R}	16^{R}	13^{R}	8^{R}
Sep-18	19	16	17	5

Notes: ROEs have been annualized from respective quarterly ratios.

Table XVII Banking Sector ROA and ROE

Ratio	Mar-17	Jun-17	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18
ROA	0.1	0.3	0.4	0.8	0.3^{R}	0.4^{R}	0.3
ROE	1.2	3.7	5.9	10.9	5.0^{R}	5.3	4.3

Notes: 1. The figures are annualized from respective quarterly ratios; e.g.
(a) annualized ROA of 1st quarter of 2018 = (Profit in 1st quarter of 2018 x 4/Total asset at the end of 1st quarter of 2018) x 100.
(b) annualized ROA of 2nd quarter of 2018 = ((Profit in 1st quarter of 2018+Profit in 1st quarter of 2018) x 2/Average of assets at the end of 1st and 2nd quarters of 2018) x 100.
(c) Annualized ROA of 4th quarter of 2017 = (Aggregate of profits in four quarters of 2017/Average of total assets at the end of four quarters of 2017) x100.
(d) Similar method applied for annualizing quarterly ROE.
2. R– revised.

Table XVIII FIs' Borrowing, Deposit and Capital

(Amount in billion BDT)

Particulars	Mar-2018	Jun-2018	Sep-2018
Borrowings	188.4	187.0	181.8
Deposits	462.8	482.1	492.8
Capital	115.6	108.1	108.9
Other Liabilities	82.1	93.3	98.1
Total	**848.9**	**870.5**	**881.6**

Table XIX FIs' Asset Composition

(Amount in billion BDT)

Particulars	Mar-2018	Jun-2018	Sep-2018
Cash & Balance with Banks/FIs	124.9	131.1	128.6
Investments	19.8	19.0	31.7
Loans & Leases	628.5	641.5	640.4
Other Assets	64.3	67.6[R]	69.2
Fixed Assets	11.4	11.3	11.7
Total	**848.9**	**870.5**	**881.6**

R - revised

Table XX FIs' Classified Loans and Leases

(Amount in billion BDT)

Quarter	Aggregate NPL	Aggregate NPL to total loan (%)
Mar-16	41.8	8.9
Jun-16	45.1	9.0
Sep-16	45.6	8.9
Dec-16	39.3	7.4
Mar-17	45.0	8.1
Jun-17	52.0	8.9
Sep-17	55.9	9.4
Dec-17	45.2	7.3
Mar-18	55.6	8.8
Jun-18	59.2	9.2
Sep-18	74.9	11.2

Table XXI FIs' ROA & ROE

(In percent)

Quarter	Aggregate ROA	Aggregate ROE
Sep-16	0.9	6.0
Dec-16	0.8	5.4
Mar-17	0.6	4.2
Jun-17	1.0	7.4
Sep-17	0.5	3.6
Dec-17	2.0	15.2
Mar-18	0.4	2.9
Jun-18	0.4	3.1
Sep-18	0.6	4.4

Note: The displayed ratios are annualized figures from respective quarterly ratios.

Table XXII Banking Sector CAR/CRAR Distribution

CAR	*NUMBER OF BANKS (AT END PERIOD)*						
	Mar-17	**Jun-17**	**Sep-17**	**Dec-17**	**Mar-18**	**Jun-18**	**Sep-18**
< 10%	9	7	9	9	10	9	9
10% to ≤15%	32	35	32	31	31	31	32
15% +	16	15	16	17	16	17	16

Table XXIII Banking Sector Asset Share based on CRAR as at end-September 2018

CRAR	**Number of banks & their asset size**		**Asset share (%)**
	Number of banks	**Asset size (in billion BDT)**	
<10%	9	2,880	20.5
10% to ≤15%	32	9,942.2	70.7
15% +	16	1250.0	8.8
Total	**57**	**14,072.2**	**100.0**

Table XXIV Tier-1 Capital Ratio and Overall CAR/CRAR of the Banking Industry

Particulars	**Sep-16**	**Dec-16**	**Mar-17**	**Jun-17**	**Sep-17**	**Dec-17**	**Jun-18**	**Sep-18**
Core Capital to RWA (%)	7.9	7.8	7.8	7.5	7.5	7.0	7.7[R]	7.6
Number of core capital compliant banks	50	49	50	49	50	48	49[R]	47
Overall CAR (%)	10.8	10.7	10.9	10.7	10.8	10.1	10.9[R]	10.9
Number of CAR compliant banks	50	48	50	48	48	47	47	48
No. of banks in the industry	57	57	57	57	57	57	57	57

* R-Revised

Table XXV Distribution of Risk Weighted Assets of the Banking Industry

Particulars	**Sep-17**	**Dec-17**	**Mar-18**	**Jun-18**	**Sep-18**
RWA for Credit Risk	7,439.9	7698.2	7933.1	8131.3	8240.2
RWA for Market Risk	297.9	292.9	278.6	325.2	301.4
RWA for Operational Risk	724.4	743.4	796.3	800.9	810.2
Total RWA	**8,462.2**	**8,734.5**	**9,008.0**	**9,257.4**	**9,351.8**

Table XXVI Banking Sector Regulatory CapitalPosition (Solo Basis)

(Amount in billion BDT)

Period	Minimum Capital Requirement	Total Regulatory Capital
Sep-16	783.4	776.9
Dec-16	808.1	837.6
Mar-17	820.9	844.2
Jun-17	857.0	899.6
Sep-17	873.6	901.0
Dec-17	901.5	945.6
Mar-18	927.3	911.1
Jun-18	951.3	925.8
Sep-18	959.9	1018.4

Table XXVII Banking Sector Advance-to-Deposit Ratio (ADR)

Period	ADR (%)
Dec-15	71.0
Mar-16	71.5
Jun-16	71.6
Sep-16	71.1
Dec-16	71.9
Mar-17	73.4
Jun-17	73.9
Sep-17	74.8
Dec-17	75.9
Mar-18	77.0
Jun-18	76.7
Sep-18	76.4

Table XXVIII Bank Cluster-wise ADR at end-Sep 2018

Bank wise	ADR (%)
SCBs	56.7
PCBs	84.4
FCBs	67.9
DFIs	77.6
Industry	76.4

Table XXIX FIs' CRR & SLR

(Amount in million BDT)

Quarter End	Aggregate CRR			Aggregate SLR		
	Required	Maintained	Surplus/ Shortfall	Required	Maintained	Surplus/ Shortfall
Sep 2016	5,576.8	6,115.4	538.6	15,122.4	71,110.0	55,987.6
Dec 2016	5,805.0	6,177.7	372.8	15,514.5	64,958.2	49,443.7
Mar 2017	5,939.4	6,400.4	461.0	14,313.4	83,290.4	68,977.0
Jun 2017	6,158.8	6,509.6	350.8	16,880.2	76,950.7	60,070.5
Sep 2017	6,485.2	6,658.6	173.4	17,645.4	83,334.0	65,688.6
Dec 2017	6,512.1	6,968.4	456.3	17,981.9	81,455.7	63,473.8
Mar 2018	6,751.9	7,358.6	606.7	18,180.7	96,227.1	78,046.4
Jun 2018	7,015.2	7,508.0	492.8	19,246.2	101.073.8	81,827.6
Sep 2018	7,279.0	7,324.2	45.2	19,904.2	97,088.2	77,184.0

Table XXX Capital Adequacy Ratio of FI Sector

Particulars	End Mar-17	End Jun-17	End Sep-17	End Dec-17	End Mar-18	End Jun-18	End Sep-18
Eligible Capital to RWA (%)	16.0	13.7	13.3	13.5	13.0	12.8	12.4

Table XXXI Overall Risk-weighted Assets and Tier 1 Capital of FI Sector

(Amount in billion BDT)

Particulars	End Mar-17	End Jun-17	End Sep-17	End Dec-17	End Mar-18	End Jun-18	End Sep-18
Risk Weighted Assets (RWA)							
Credit RWA	543.8	579.3	592.6	622.5	666.8	665.5	670.4
Market RWA	55.3	54.2	61.5	62.9	54.8	51.9	53.2
Operational RWA	42.4	42.7	42.8	43.1	43.9	45.0	47.3
Total RWA	**641.5**	**676.2**	**696.9**	**728.5**	**765.5**	**762.5**	**770.9**
Core Capital (Tier -1)	92.2	92.7	82.4	87.3	88.2	85.8	84.1
Supplementary Capital	10.2	10.4	10.6	11.0	11.5	11.6	11.4
Eligible Capital	102.4	103.1	93.0	98.3	99.7	97.4	95.5

Table XXXII Banking Sector's After Shock CRAR at Different Shock Scenarios

(Based on data as of end-September 2018)

Shocks	CRAR after Shock (%)		
	Minor Level	Moderate Level	Major Level
Increase in NPL in the highest outstanding sector	10.82	10.69	10.56
Increase in NPLs due to default of Top borrowers	9.39	7.83	6.94
Negative shift in NPL categories	10.15	7.93	6.37
Decrease in the FSV of collateral	10.19	9.47	8.00
Increase in NPLs	9.84	7.31	3.46
Interest rate shock	10.56	10.23	9.90
Exchange rate shock	10.86	10.82	10.79
Equity shock	10.63	10.36	9.83
Combined shock	7.77	1.66	-6.11

Table XXXIII Number of Non-complaint Banks at Different Shock Scenarios

(Based on data as of end-September 2018)

Shocks	No. of Banks		
	Minor Level	Moderate Level	Major Level
Increase in NPL in highest outstanding sector	3	4	9
Increase in NPLs due to default of Top borrowers	21	31	35
Negative shift in NPL categories	3	14	17
Decrease in the FSV of collateral	2	5	9
Increase in NPLs	6	29	35
Interest rate shock	2	2	3
Exchange rate shock	0	1	1
Equity shock	2	3	4
Combined shock	17	38	39

Table XXXIV DSE Performance

Month	(In billion BDT)		Index		
	Turnover	Market Capitalization	DSEX	DS30	DSES
Jun-17	101.56	3,801.00	5,656.05	2,083.80	1,296.74
Jul-17	209.29	3,961.34	5,860.65	2,143.51	1,315.20
Aug-17	195.89	4,020.91	6,006.43	2,138.73	1,322.10
Sep-17	199.44	4,072.08	6,092.84	2,177.62	1,345.86
Oct-17	156.97	4,090.27	6,019.59	2,168.03	1,316.25
Nov-17	184.22	4,241.50	6,306.86	2,270.14	1,381.51
Dec-17	92.38	4,228.95	6,244.52	2,283.23	1,390.67
Jan-18	100.72	4,185.13	6,039.78	2,238.95	1,398.48
Feb-18	76.80	4,044.39	5,804.94	2,146.38	1,361.05
Mar-18	67.15	3,917.19	5,597.44	2,106.02	1,314.65
Apr-18	114.95	4,006.29	5,739.23	2,143.55	1,324.95
May-18	96.68	3,799.60	5,343.88	1,975.00	1,238.31
Jun-18	96.36	3,847.35	5,405.46	1,959.95	1,263.79
Jul-18	186.77	3,841.45	5,302.64	1,881.46	1,251.18
Aug-18	114.95	3,962.26	5,600.64	1,960.72	1,269.61
Sep-18	148.10	3,876.84	5,368.96	1,889.71	1,239.07

Table XXXV CSE Performance

Month	(In billion BDT)		Index		
	Turnover	Market Capitalization	CASPI	CSE30	CSI
Jun-17	8.22	3,113.24	17,516.71	15,580.37	1,178.39
Jul-17	13.04	3,273.16	18,148.44	15,918.75	1,200.62
Aug-17	12.85	3,332.30	18,604.76	16,068.52	1,207.35
Sep-17	15.86	3,382.72	18,881.60	16,424.84	1,227.25
Oct-17	11.11	3,416.79	18,633.29	16,501.17	1,203.48
Nov-17	11.47	3,548.35	19,508.77	17,517.22	1,253.13
Dec-17	7.35	3,522.97	19,268.04	17,235.59	1,251.61
Jan-18	6.30	3,488.26	18,691.23	16,953.17	1,250.24
Feb-18	5.74	3,345.60	17,926.43	16,262.77	1,208.50
Mar-18	4.63	3,213.30	17,215.11	15,875.16	1,166.32
Apr-18	9.78	3,311.71	17,693.30	16,069.06	1,186.82
May-18	4.94	3,115.49	16,491.10	14,940.48	1,103.12
Jun-18	6.78	3,123.52	16,558.51	15,092.77	1,120.37
Jul-18	12.56	3,139.76	16,296.11	14,284.23	1,114.27
Aug-18	6.11	3,267.22	17,244.19	15,059.11	1,136.06
Sep-18	10.67	3,168.92	16,483.29	14,720.68	1,099.18

Table XXXVI Sectoral Turnover of DSE

Broad Sector	SECTOR	% of Total Turnover	
		2018Q2	2018Q3
Financial Sector	Banks	12.24	7.29
	Financial Institutions	3.31	4.78
	Insurance	3.42	2.87
Manufacturing	Food & Allied Product	4.26	4.03
	Pharmaceuticals & Chemicals	12.95	9.53
	Textile	13.63	17.73
	Engineering	14.79	19.78
	Ceramic	2.44	1.84
	Tannery	2.20	2.84
	Paper & Printing	0.07	2.18
	Jute	0.90	0.30
	Cement	1.53	1.68
Service & Miscellaneous	Mutual Funds	1.18	0.54
	Fuel & Power	10.39	11.05
	Services & Real estate	0.54	0.95
	IT Sector	2.20	2.91
	Telecommunication	3.45	1.44
	Travel and Leisure	1.24	2.08
	Miscellaneous	9.26	6.18
Bond	Corporate Bond	0.01	0.01
Total		**100.00**	**100.00**

Note: 2018Q2≡ June quarter 2018, 2018Q3≡ September quarter 2018.

Table XXXVII Sectoral Turnover of CSE

Broad Sector	SECTOR	% of Total Turnover	
		2018Q2	2018Q3
Financial Sector	Banks	21.50	9.30
	Leasing &Finance	3.20	6.01
	Life Insurance	4.76	0.41
	General Insurance	0.52	0.53
Manufacturing	Food & Allied Product	1.89	5.56
	Pharmaceuticals & Chemicals	10.56	7.90
	Textile	7.34	16.93
	Engineering	13.05	12.06
	Ceramic	0.88	0.76
	Tannery	3.40	1.40
	Paper & Printing	1.18	4.81
	Cement	1.60	3.64
Service & Miscellaneous	Fuel & Power	10.22	10.69
	Services	1.53	2.73
	IT	1.08	2.13
	Telecommunication	4.69	3.04
	Mutual Funds	2.44	0.25
	Miscellaneous	10.14	11.86
Bond	Corporate Bond	0.02	0.00
Total		**100.00**	**100.00**

Note: 2018Q2≡ June quarter 2018, 2018Q3≡ September quarter 2018.

Table XXXVIII Price/Earnings Ratio of Capital Market

Quarter	DSE P/E Ratio	CSE P/E Ratio
Dec-15	15.2	14.7
Mar-16	14.3	14.7
Jun-16	14.6	14.6
Sep-16	15.1	15.2
Dec-16	14.3	14.0
Mar-17	16.3	17.1
Jun-17	15.7	17.1
Sep-17	16.3	17.2
Dec-17	17.3	17.0
Mar-18	15.7	18.5
Jun-18	15.0	14.9
Sep-18	15.2	15.0

Table XXXIX DSE Broad Index (DSEX) Volatility and DSE Turnover

Month	Daily Average Index Volatility[31]	Daily Average DSE Turnover (In crore BDT)
Jan-17	198.10	1,488.35
Feb-17	101.90	1,021.31
Mar-17	52.73	1,036.67
Apr-17	108.67	729.42
May-17	64.96	583.72
Jun-17	68.47	564.24
Jul-17	45.06	951.34
Aug-17	82.29	932.82
Sep-17	60.22	1,049.69
Oct-17	71.92	713.52
Nov-17	86.65	837.35
Dec-17	38.55	486.23
Jan-18	73.12	437.92
Feb-18	104.96	404.19
Mar-18	125.61	335.75
Apr-18	36.92	547.37
May-18	117.22	460.36
Jun-18	55.87	566.81
Jul-18	31.09	848.95
Aug-18	102.72	638.62
Sep-18	77.41	740.51

[31] Measured by average of daily standard deviation of DSEX during each month.