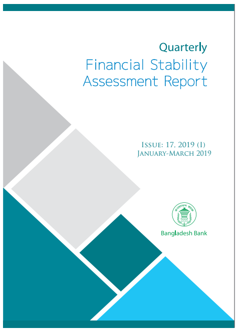
Quarterly

Financial Stability Assessment Report

January-March 2019

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 March 31, 2019 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

After a strong growth in 2017 and early 2018, global economic activity slowed in the review quarter, reflecting a confluence of factors affecting major economies. Global growth is now projected to be 2.7 percent in 2019 slightly lower than 3.0 percent of 2018. Prolonged trade and geopolitical tensions in developed economies have increasingly been weighing on global demand. Still, our economy, particularly export sector remains insulated from any spillover effects of trade tensions. Moreover, recent declaration for monetary stimulus by Federal Reserve may have positive effect on our economy.

On domestic front, macroeconomic situation of Bangladesh exhibited a fair level of stability in the review quarter attributable to stable inflation, increase in export and wage earners' remittances, growth-supportive policy stances of the financial sector regulators, and strong fiscal discipline. However, financial sector appeared to have experienced some stress; both banks and financial institutions (FIs), on an aggregate basis, recorded decline in asset quality and profitability. Therefore, asset quality issues of both banks and FIs have to be dealt with strict due diligence. Positive moves by the financial services providers and associated authorities are of utmost importance for the effective and speedy resolution of non-performing loans.

In addition to our regular analyses of current developments relevant to financial system stability, this report incorporates two special features-one related to financial inclusion and its contribution to country's macro-financial stability and the other on translation of real sector default risk into financial risk. Importantly, while the former of the stated topics covers various aspects of financial inclusion from financial stability standpoint, the latter highlights the probable impact of non-financial corporations' default on financial sector.

I hope our analyses and assessments in this report will be able to provide deep insight into the stability attributes and develop risk awareness among the stakeholders as well as help them take preemptive measures. Finally, I appreciate the efforts of my colleagues of Financial Stability Department in preparing this report.

Fazle Kabir
Governor

MESSAGE FROM THE DEPUTY GOVERNOR

The global economic activity slightly slowed down during the first quarter of 2019 as it was influenced by different factors like escalated trade tensions and protectionism, uncertainties in Chinese economy, US monetary policy normalization, the likely impact of *no-deal Brexit on Europe,* energy price volatility, slowdown of economic momentum in Germany. Moreover, recent free trade agreement between EU and Vietnam is another critical development that may likely increase competition of our export in EU countries in the coming days. Though Bangladesh economy has not experienced any adverse impact from US-China trade tensions yet, the other global dynamics may take toll due to increasing interconnectedness of Bangladesh economy with global financial system.

Albeit the stated global developments, macroeconomic situation of Bangladesh showed moderate level of stability during the review quarter largely attributable to stable inflation, decrease in current account deficit and interest rate spread. However, downside risks remain regarding deterioration in asset quality and profitability of both banking and FIs sectors. Bangladesh Bank is closely monitoring the performance of these institutions, particularly their NPLs. To this end, BB has already issued a circular on revised write-off policy of loan/investment. Also, BB extended the deadline of bringing down the advance-to-deposit ratio/Investment-deposit ratio within prescribed limit up to September 30, 2019 from March 31, 2019. Successful outcomes of these policies will largely depend on active cooperation of the financial services providers.

To improve sustainable inclusive growth and financial stability, financial inclusion is considered to be an important tool which Bangladesh Bank has been promoting since 2009. Our analysis also suggests that financial inclusion has significant positive impact on financial stability in Bangladesh. To reap the desired benefit of financial inclusion, banks and FIs have to strengthen their financial inclusion initiatives while ensuring safeguard against abuse of financial services.

From the financial stability perspective, understanding the strength and weakness of non-financial corporations (NFCs) is crucial as default risk of these corporations can be transmitted into entire financial sector and thus upset financial system stability. To this end, this report illustrates modified version of Altman's Z-score model for calculating likely impact of NFCs' default risk on financial sector. Similar type of models could be developed by banks and FIs to ascertain impact of their corporate borrowers' default as well as to get early warning signal of financial distress.

I appreciate the effort and dedication of the officials of Financial Stability Department for composing this report. I expect next issues of QFSAR will explain contemporary financial stability issues with rigor and convey the outcome of our analyses to the stakeholders of the financial system.

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 January-March quarter of the calendar year 2019. The report also illustrates different financial sector issues having implications to stability of the Bangladesh financial system.

The global macroeconomic situation demonstrated mixed trend during the review quarter. Growth in a number of advanced and emerging market economies moderated during the quarter due largely to slowing export growth, volatile oil prices and political uncertainties in respective jurisdictions. Sharp fall in energy prices dragged down the global headline inflation. Despite significant variability over the last two quarters, global financial conditions remained accommodative. However, global trade and investment recorded slowdown during the review quarter, attributable mainly to recent heightened trade tension and related policy uncertainties. This slowdown along with other potential vulnerabilities including cyber security issues adds downside risk to global growth outlook during the review quarter.

The domestic macroeconomic situation remained moderately stable. During the review quarter, annual average inflation remained almost same as that of the previous quarter. In the review quarter, import payments increased by 2.2 percent while export receipts decreased by 1.3 percent over the preceding quarter. Wage earners' remittance increased sharply by 20.6 percent during the same period. Subsequently, current account balance as well as overall balance of payment showed improvement over the previous quarter. However, gross foreign exchange reserves slightly decreased and stood at USD 31.8 billion at end-March 2019, equivalent to meeting more than five months' imports. The value of Bangladesh Taka (BDT) also depreciated further against the US dollar during the period.

Despite a deteriorating asset quality, the banking sector remained resilient in the review quarter. The balance sheet size of the banking sector recorded a positive growth compared to that of the preceding quarter. Loans and advances, the largest share in total assets, constituted 67.2 percent of total assets during the review quarter. Asset concentration among top 5 and top 10 banks reduced marginally. Asset quality of the banking sector remains a concern as both gross and net non-performing loan (NPL) ratio recorded increase at end-Match 2019 compared to end-December 2018. However, this deterioration could be attributable mainly to poor asset quality of the SCBs and DFIs. Subsequent increase in provision requirement caused provision maintenance ratio and profitability to decline over the previous quarter. On the other hand, capital to risk-weighted assets ratio (CRAR) of the banking sector increased and stood at 11.4 percent at end-March 2019. Besides, Tier-1 capital ratio also increased to 7.7 percent at the end of the review quarter. Banking sector liquidity moderated further as observed from increased advance-to-deposit ratio (ADR).

Financial Institutions (FIs) sector performed poorly in the review quarter. FIs' classified loans and leases ratio increased from 7.9 percent at end-December 2018 to 10.3 percent at end-March 2019. Consequently, FIs' profitability decreased sharply during the quarter compared to that of the preceding quarter. FIs' capital adequacy ratio (CAR) decreased slightly as well and stood at 13.7 percent at end-March 2019. However, the maintained CAR was well above the regulatory requirement of 10 percent. During the review quarter, FIs, on an aggregate basis, could not maintain the required Cash Reserve Ratio (CRR) while their maintenance of Statutory Liquidity Ratio (SLR) was well above the regulatory minimum requirement.

The banking and FIs sectors demonstrated a reasonable level of resilience under stressed scenarios. Stress tests on banks based on March 2019 data revealed that default of top borrowers would have the most adverse impact on banks' capital adequacy. Besides, increase in NPLs in general and increase in NPL in highest outstanding sector would have significant effects under minor shock scenarios. Overall, credit risk remained the most dominant risk factor for banks under different level of shock scenarios. During the period, the banking system appeared to be reasonably resilient against the market and liquidity risks. Stress test on FIs revealed that a majority of FIs would remain resilient under various stress scenarios as of end-March 2019.

The domestic capital market was bullish during considerable part of the review quarter. Compared to the preceding quarter, notable improvements were observed in major indices, market turnover and market capitalization of both bourses, Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE). Price-earnings ratio also increased during the same period. Analysis of sectoral turnover revealed that vibrant trading of the banking sector shares played a major role in improving the market scenario. However, capital market exposure of the banking sector itself remained much below the regulatory maximum limit, 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. Some of the important initiatives taken by BB were revision of loan/investment write-off policy, issuance of policy for offshore banking operations of banks in Bangladesh, instructions to comply with advance-deposit ratio (ADR)/investment-deposit ratio (IDR), policy regarding marking to market based revaluation of treasury bills and bonds held by banks, guidelines for usage of National Payment Switch Bangladesh (NPSB) logo, establishment of loan fund for pre-finance under program to support safety retrofits and environmental upgrades in the Bangladeshi Ready-Made Garments (RMG) Sector Project (SREUP) and modifications in various foreign exchange regulations to smoothen the foreign exchange market in Bangladesh, among other issues.

Chapter-1

Macroeconomic Developments

1.1 Global Macroeconomic Situation

Global macroeconomic situation demonstrated a mixed trend during the review quarter. Growth in most of the major advanced and emerging economies increased. Headline inflation declined. Financial conditions have eased in advance economics and improved in emerging economics since the start of the year. However, global trade recorded some slowdown.

1.1.1 Global GDP Growth

Economic growth in some major advanced and emerging economies slightly increased in the review quarter compared to the same of the preceding quarter (Chart 1.1). However, the growth momentum seems to be less strong, largely attributable to slowing export growth, volatile oil prices and political uncertainties

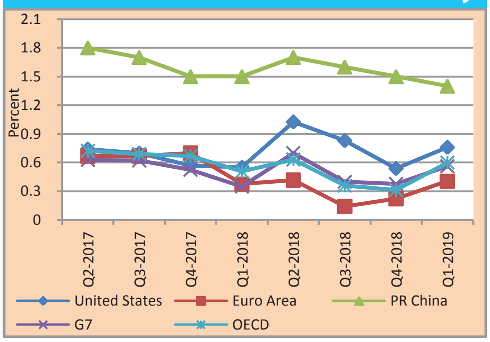
1.1.2 Global Inflation Outlook

In the review quarter, headline inflation continued to fall in major economies, largely driven by sharp fall in 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 downtrend (Chart 1.2).

1.1.3 Global Financial Condition

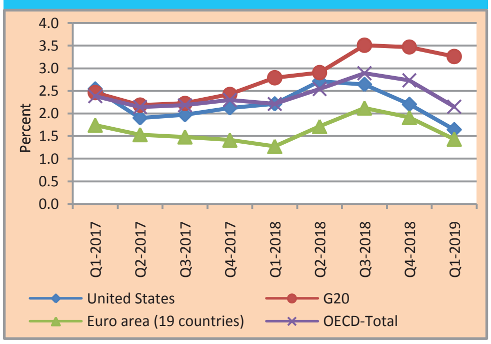
Global financial conditions remained broadly accommodative in the review quarter despite significant variability over the past two quarters. Shifting perceptions about monetary policy normalization of the USA and renewed optimism about trade negotiations between the USA and China sparked a rally in risk assets. On the other hand, corporate debt and financial risk-taking have increased in advanced economies, sovereign-financial sector nexus placed fiscal challenges in the euro area, overseas investment rose in emerging markets. However, China faced a difficult trade off between supporting growth in the face of external shocks and containing leverage through regulatory tightening. In systemically important emerging markets other than China, aggregate financial conditions remained stable after significantly tightening in 2018 on higher external borrowing costs.

Chart 1.1 GDP Growth-Quarterly



Source: OECD.

Chart 1.2 Global Inflation



Source: OECD

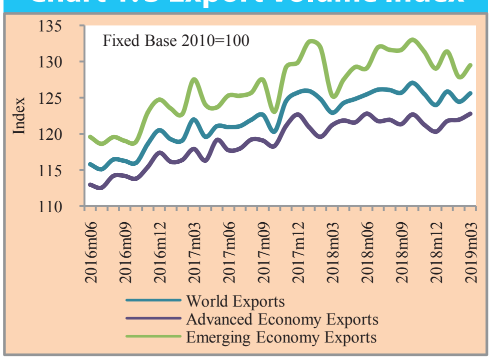
1.1.4 Exchange Rate

With regard to major currencies, US dollar appreciated but Euro depreciated. The yen appreciated modestly and the pound strengthened on shifting expectation of the outcome of Brexit negotiations. Emerging market currencies in general strengthened, helped by the pause in interest rate hikes by the Federal Reserve and by the truce in the US–China trade dispute.

1.1.5 Global Trade

Overall world trade volume remained almost same in the first quarter of 2019 supported by trading activities of advanced economies. Chart 1.3 shows that export volume in advance economies was increasing in the recent months, whereas that of emerging market economies was declining.

Chart 1.3 Export Volume Index



Source: CPB World trade monitor.

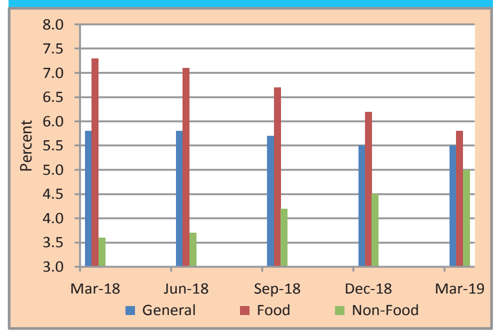
1. 2 Domestic Macroeconomic Situation

Considering the global perspective, macroeconomic situation of Bangladesh also demonstrated moderate level of stability during the review quarter, attributable to stable inflation and notable increase in wage earners' remittance.

1.2.1 Inflation

At end-March 2019, annual average CPI inflation (base 2005-06=100) stood at 5.5 percent same to that of the previous quarter. However, compared to the position of end-March 2018, inflation slightly decreased. Food inflation decreased to 5.8 percent from 6.2 percent of the preceding quarter, while non-food inflation rose to 5.0 percent from 4.5 percent during the period (Chart 1.4).

Chart 1.4 Inflation

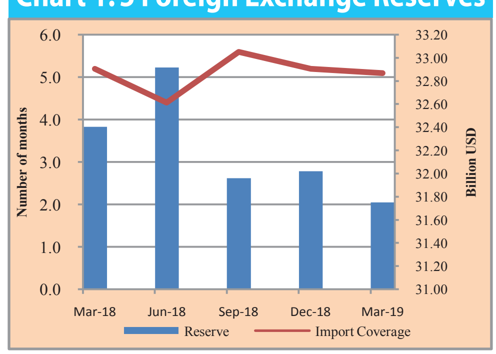


Source: Bangladesh Bureau of Statistics, Base 2005-06=100.

1.2.2 Foreign Exchange Reserve and its Import Coverage

At end-March 2019, the gross foreign exchange reserves reached USD 31.8 billion, recording a slight decrease from USD 32.0 billion of end-December 2018. The reserve position was equivalent to meeting more than five months' imports of goods and services (Chart 1.5).

Chart 1.5 Foreign Exchange Reserves

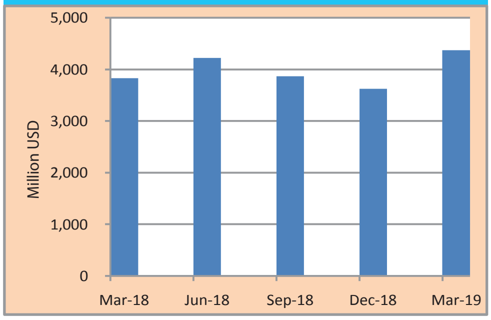


Source: Statistics Department, BB.

1.2.3 Wage Earners' Remittance

Remittance from Bangladeshi nationals working abroad stood at USD 4,373.6 million during the review quarter, recording an increase of 14.2 percent from same period of the previous calendar year. However, when compared with the December quarter of 2018, remittance inflow recorded a sharp rise (Chart 1.6).

Chart 1.6 Wage Earners' Remittance

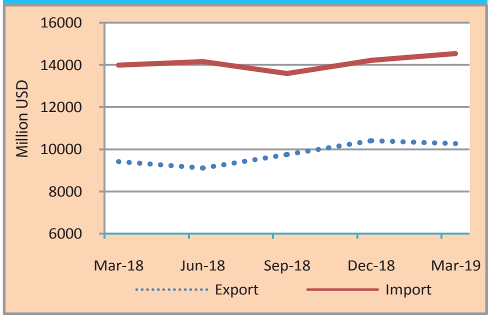


Source: Monthly Economic Trends, BB (various issues).

1.2.4 Imports and Exports

In the review quarter, aggregate import payment[1] increased by 2.2 percent from USD 14,224.0 million of the preceding quarter. However, in comparison with the position of 2018Q1, it increased by 4.0 percent. On the other hand, export receipts decreased by 1.3 percent from USD 10,416.0 million of the preceding quarter. When compared with March quarter of 2018, export receipts recorded a notable increase of 9.2 percent (Chart 1.7).

Chart 1.7 Exports and Imports (FOB)

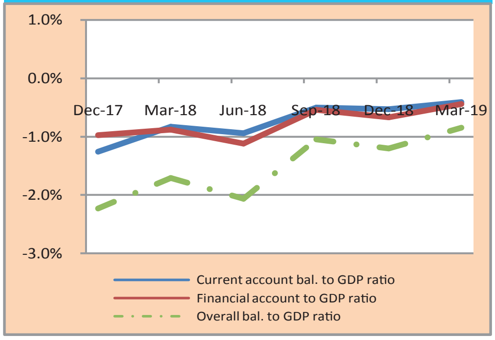


Source: Statistics Department, BB.

1.2.5 Current Account Balance

Current account balance to GDP ratio stood at -0.4 percent as of end-March 2019 recording significant improvement compared to the same of the last few quarters. Financial account also showed improvement during the period. Consequently, overall balance to GDP ratio also improved (chart 1.8).

Chart 1.8 Current Account Balance



Note: Current account balance, Financial account balance and overall balance represent quarterly positions.

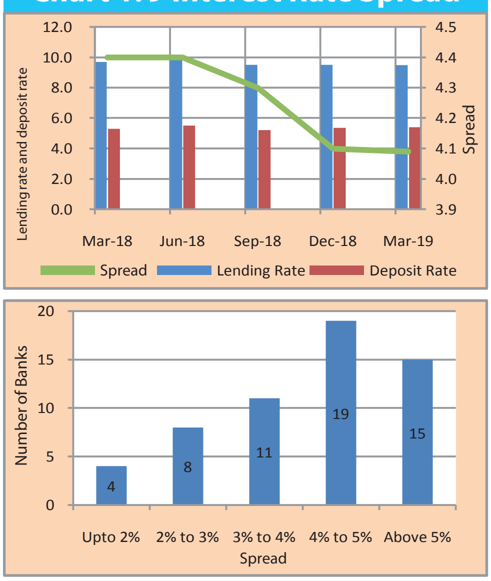
Source: Monthly Economic Trends, BB (various issues).

[1] On FOB basis

1.2.6 Interest Rate

The spread between weighted average lending and deposit rates remain same to 4.1 percent with respect to that of end-December 2018; spreads of 15 out of 57 banks were above 5.0 percent. Out of these 15 banks, 6 and 9 were in the category of FCBs and PCBs respectively. Pertinently, in March 2019, the weighted average lending and deposit rates also remained same to 9.5 percent and 5.4 percent respectively compared to December 2018, and 9.7 percent and 5.3 percent of March 2018 (Chart 1.9).

Chart 1.9 Interest Rate Spread

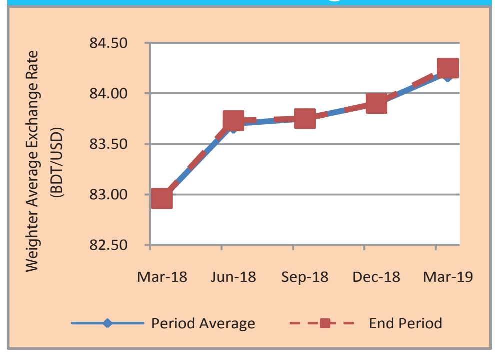


Source: Statistics Department, BB.

1.2.7 Exchange Rate [2]

Bangladesh Taka (BDT) against US dollar (USD) continued to demonstrate depreciation in the review qurter. Exchange rate of BDT per USD stood at 84.21 which was 83.9 in December 2018. The rate was 82.96 in March 2018.

Chart 1.10 Exchange Rate

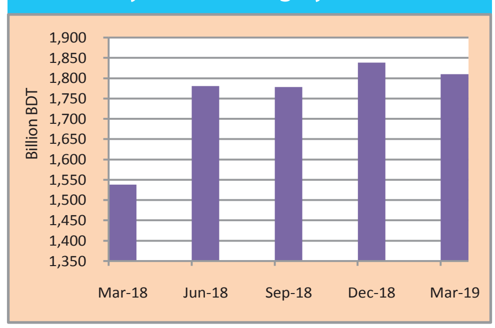


Source: Monthly Economic Trends, BB.

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

Credit to the Government (gross) by the banking system decreased slightly to BDT 1,810.1 billion at end-March 2019 in comparison with the same of the preceding quarter. However, it increased by 17.7 percent than that of the same period of the previous year (Chart 1.11).

Chart 1.11 Credit to the Govt. (Gross) by the Banking System



Source: Statistics Department, BB.

[2] BDT per USD on weighted average basis.

Box 1: Financial Inclusion and Financial Stability in Bangladesh

1. Nexus between Financial Inclusion and Financial Stability

Financial inclusion refers to access to useful financial products that are affordable and accessible for individuals and firms in a sustainable manner (World Bank, 2018). Individuals, over 15 years of age, possessing an account with a full-service financial institution (not credit-only micro-finance institutions), are generally considered as financially included. It is widely accepted that financial inclusion strengthens financial stability provided that inclusion is managed within a prudent regulatory framework ensuring financial integrity and consumer protection.

However, financial inclusion might not directly improve the financial stability. Rather, financial inclusion promotes financial stability with micro-level linkages, such as ease of access to the financial system, accumulation of savings, capitalization, development of new entrepreneurships, improvement in livelihoods, and reduction in poverty and inequality. It is also argued that financial inclusion may support the financial stability and resilience of the system by boosting stable and low-cost deposits while reducing risks through diversification of financial assets. Moreover, financial inclusion is considered to be an important tool to improve sustainable and inclusive growth which is also endorsed under the United Nations' Sustainable Development Goals (i.e., SDG-17) 2030.

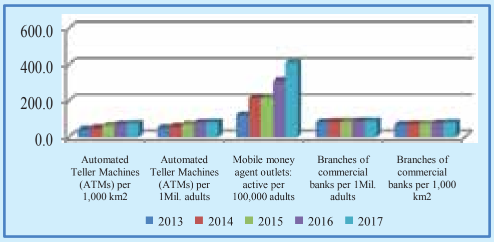
2. Financial Inclusion in Bangladesh

Bangladesh Bank has been promoting financial inclusion since long. Alongside, nationwide improvement in power connectivity and access to internet and mobile phone are creating new opportunities for financial inclusion. Meanwhile, Bangladesh Bank has adopted the target of 'financial inclusion for all by 2024', especially through promoting the digital financial services, to support attaining the objective of the Government of Bangladesh to develop "Digital Bangladesh". In this connection, Bangladesh Bank has undertaken various initiatives, such as promoting mobile banking and mobile application-based bank transactions, increasing ceiling for mobile money transactions, doubling credit card limits, permitting more licenses for agent banking especially, in rural area, encouraging school and street-children banking, promoting no frill accounts (NFAs), and receiving refinance scheme for marginal people, etc. It therefore, aims to ensure that people, especially the marginal ones, can receive financial services at an affordable cost and expected time. In response, according to latest data of IMF, Bangladesh experiences continual improvement in three core attributes of financial inclusion, i.e., availability, accessibility, and usage of financial services.

2.1 Availability of financial services

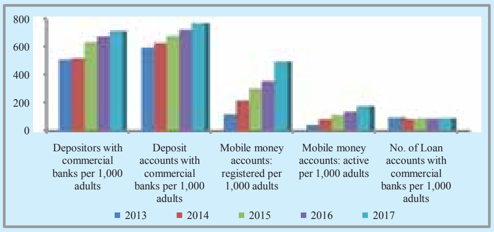
Availability of financial services showed a gradual improvement in recent years. Number of automated teller machines (ATMs) per 1,000 square km increased to 73.15 in 2017 from 69.29 in 2016 whereas number of ATMs for every million adults reached to 80.73 in 2017 compared to 77.85 in 2016. Mobile money agent outlets, active per 1,00,000 adults, registered significant rise. In 2017, number of active mobile money agent outlets per 1,00,000 adults increased to 407.86 from 307.08 in 2016. Branches of commercial banks per 1,000 square km and branches of commercial banks per one million adults also increased to 77.73 and 85.78 respectively in 2017 compared to those of 75.17 and 84.46 in 2016.

Chart B1.1 Availability of financial services



Source: Financial Access Survey, IMF

Chart B1.2: Accessibility of financial services



Source: Financial Access Survey, IMF

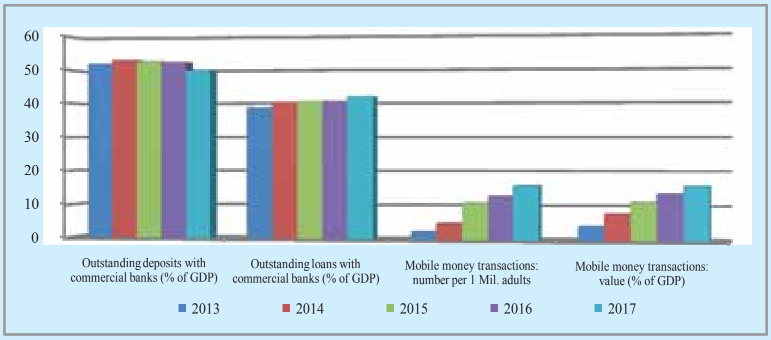
2.2 Accessibility of financial services

Access to financial services also showed a gradual rise in the recent time. Depositors and deposit account with commercial banks per 1,000 adults increased to 715.07 and 770.81 respectively in 2017 compared to those of 675.13 and 723.77 in 2016. Mobile money accounts, registered and active per 1,000 adults, increased to 498.40 and 178.15 respectively in 2017 compared to those of 354.29 and 136.37 in 2016. After a seven percent drop in loan accounts with commercial banks per 1,000 adults in 2014, number of loan accounts registered a slow rise in last three years. In 2017, it increased to 90.23 from 87.95 in 2016.

2.3 Usage of financial services

Deposits with commercial banks to GDP had steadily been dropping since 2015. In 2017, it dropped to 49.81 compared to that of 52.39 in 2016. However, outstanding loans to GDP showed an increasing trend since 2013. In 2017, it registered 42.13 compared to that of 40.38 in 2016. Mobile money transaction, number per one million adults and value (percent of GDP), had been growing at a fast pace during the study period. In 2017, mobile money transaction, number per one million adults and value (percent of GDP), increased to 159.02 and 15.93 respectively compared to those of 126.99 and 13.52 in 2016.

Chart B1.3: Usage of financial services



Source: Financial Access Survey, IMF.

2.4 Inclusion Initiatives for Marginal People

With a view to contributing to social welfare and bringing unbanked marginal people into the financial system, Bangladesh Bank together with financial service providers took various initiatives. In 2018, school banking account, street urchin and working children' account, farmers' account, and physically challenged persons' account rose by 31 percent, 2 percent, 8 percent, and 21 percent respectively compared to those of 2017. Deposit amounts for school banking, farmers', and physically challenged persons' accounts increased by 20 percent, 12 percent, and 74 percent respectively compared to the same of 2017 while the amount decreased by 28 percent for the street urchin and working children' account.

Table B1.1: Inclusion of Marginal People

	Number of Accounts				Deposited Amount (Mill. BDT)			
	2015	2016	2017	2018	2015	2016	2017	2018
School Banking Account	10,34,954	12,57,370	13,87,617	18,18,413	8,442	10,208	12,542	15,103
Street Urchin (street children) and working children' account	3,018	3,725	4,671	4,785	1.9	2.4	4.7	3.4
Farmers' Account	89,33,944	90,43,589	91,91,788	98,86,847	1,593	2,236	2,713	3,033
Physically Challenged Persons' Account	1,15,941	1,43,938	1,60,176	1,93,863	58	139	145	252

Source: Financial Inclusion Department, BB.

Meanwhile, agent banking has been performing remarkably to include the unbanked people, especially of rural area, into banking system. In 2018, number of agents, number of outlets, number of account, deposit amount, loan amount, and remittance disbursement increased by 74 percent, 67 percent, 102 percent, 122 percent, 74 percent, and 180 percent respectively compared to those of 2017.

Table B1.2: Agent Banking

	2016	2017	2018	Growth in 2018
Agent	1,646	2,577	4,493	74%
Outlet	2,601	4,157	6,933	67%
Number of Account	5,44,536	12,14,367	24,56,982	102%
Amount of Deposit (Mill. BDT)	3,807	13,994	31,103	122%
Loan Disbursement (Mill. BDT)		1,088	1,895	74%
Remittance Disbursement (Mill. BDT)	3,096	19,820	55,574	180%

Source: Financial Inclusion Department, BB

Inclusion initiatives from various fronts significantly improved financial inclusion in Bangladesh, which is reflected in *Global Findex Database, 2017*. According to the database, compared to 2014, adults' account in Bangladesh increased by 19 percentage points to reach at 50 percent in 2017. Most importantly, *account-out of labor force, account-female, account-primary education or less, account-income-poorest 40 percent*, and *account-rural* grew significantly along with other indicators. Meanwhile, the rate of receiving wages in cash-only dropped notably alongside a significant rise in receiving wage into the account. Increase in accounts of female, unemployed, less educated, and rural people along with the drop in cash receiving for wage indicate that financial services are reaching to marginal people, which is essential to ensure quality of inclusion.

Table B1.3: Financial Inclusion

	2011	2014	2017
Account (% age 15+)	32%	31%	50%
Account, male (% age 15+)	37%	35%	65%
Account, in labor force (% age 15+)	39%	39%	63%
Account, out of labor force (% age 15+)	25%	24%	38%
Account, female (% age 15+)	26%	26%	36%
Account, primary education or less (% ages 15+)	21%	25%	40%
Account, income, poorest 40% (% ages 15+)	19%	23%	40%
Account, rural (% age 15+)	30%	30%	50%
Received wages: in cash only (% wage recipients, age 15+)	-	86%	69%
Received wages: into an account (% wage recipients, age 15+)	-	13%	25%

Source: Global Findex Database 2017, WB.

3. Relation between Financial Inclusion and Financial Stability

To examine the relation between Financial Stability and Financial Inclusion in Bangladesh, annual data spanning 2005 to 2017 are analyzed. A multidimensional financial inclusion index of Bangladesh (FIIB) is constructed to investigate the level of financial inclusion in Bangladesh, and that is fitted into an empirical model to estimate the impact of financial inclusion on financial stability.

3.1 Methodology

Prior to estimating the relationship between Financial Stability (FS) and Financial Inclusion in Bangladesh, following Sarma (2008)[3], Financial Inclusion Index of Bangladesh (FIIB) is developed. FIIB is constructed using three sub-indexes representing three dimensions of Financial Inclusion, such as availability, accessibility, and usage of banking services. These dimensions consider fourteen indicators that are depicted in Chart B1.1, B1.2, and B1.3 respectively. Data has been collected from the IMF's Financial Access Survey (FAS) database that provides annual data for indicators of financial inclusion since 2004. Considering the availability of data of different indicators for Bangladesh, FIIB for 2005 to 2017 is measured. Each sub-index (i.e., dimension) is separately calculated aggregating all indicators based on their normalized value for a particular year as follows:

$$I_i = \frac{A_i - Min_i}{Max_i - Min_i}, \qquad (1)$$

Where, I_i is normalized value of a particular indicator of dimension I (for example, Number of ATMs in every 1000 km^2), A_i is the actual value of indicator *i*, Min_i is minimum value of dimension *i* across the countries of the globe, Max_i is maximum value of dimension *i* across the countries of the globe. Then, yearly FIIB has been calculated as follows:

$$FIIB_i = 1 - \frac{\sqrt{((1-Av)^2 + (1-Acc)^2 + (1-Us)^2)}}{\sqrt{3}}, \qquad (2)$$

Where Av, Acc, and Us stand for the dimensions (i.e., sub-indexes) of availability, accessibility, and usage respectively.

To estimate the relationship between FS and FIIB, yearly Composite Financial Stability Index (CFSI) is used as the dependent variable for the proxy of financial instability of Bangladesh. FSD has been publishing CFSI, which is a measure of volatility of the financial system. Hence, it is desired that there is a negative relationship between CFSI and FIIB, since financial inclusion is expected to reduce instability, vis-à-vis increase financial stability.

To separate the impact of financial inclusion on financial instability, an empirical model (i.e., equation 3) has been developed. In the model, five control variables are used, such as Growth of GDP per capita (GGDPC), Growth of Domestic Credit to GDP (GDCGDP), Growth of Foreign Direct Investment to GDP (GFdiGDP), Growth of Remittance to GDP (GRemGDP), and Growth of Non Performing Loan to GDP (GNplGDP). It is expected that first four variables have negative relationships, and the last one has a positive relationship with financial instability. The empirical model is as follows:

$$CFSI_t = \alpha FIIB_t + \beta X_t + \varepsilon_t, \qquad (3)$$

Where, *CFSI* represents the financial instability or volatility (the reverse of financial stability) and *FIIB* is the financial inclusion index for Bangladesh. X provides a vector of control variables, namely, GGDPC, GDCGDP, GFdiGDP, GRemGDP, and GNplGDP; ε denotes error term; and *t* is time. As the study period is short, growth of every control variable is used in order to minimize heteroscedasticity. To calculate control variables, World Bank Data for the period of 2004 to 2017 has been used, whereas nominal value for NPL is collected from Bangladesh Bank.

In order to check multicollinearity among the independent variables, the value of Variance Inflation Factor (VIF) is checked. It is found that the value of Variance Inflation Factor (VIF) is less than 10, and the value of tolerance is above 0.1; which indicate the absence of multicollinerity among the variables.

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[3] Sarma, M. (2008). *Index of financial inclusion* (No. 215). Working paper.

To determine the stationarity of the series, Augmented Dickey-Fuller (ADF) unit root tests are conducted, where CFSI, FIIB, GGDPC, GDCGDP, and GNplGDP are found stationary at first differences; while GFdiGDP, and GRemGDP are found stationary at level. Conducting Philips-Ouliaris test, it is found that there is a long-run re¬lationship between the variables considered. Since all variables are a combination of I(0) and I(1) and there exists a long-run relationship between the variables, fully modified ordinary least squares (FMOLS) estimation technique is applied which fits the nature of time series data considering small sample bias.

Table B1.4: Result of FMOLS

Dependent Variable: CFSI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FIIB	-11.20992	2.33594	-4.798891	0.0049
GGDPC	-17.11579	10.37067	-1.650403	0.1598
GDCGDP	-1.404305	2.143936	-0.655012	0.5414
GFdiGDP	0.260448	0.177428	1.467913	0.2021
GRemGDP	-4.615846	0.880662	-5.241338	0.0034
GNplGDP	0.413573	0.305473	1.353878	0.2338
C	2.346816	0.491936	4.770569	0.005
R-squared	0.724288			
Mean dependent var.	0.181264			
S.D. dependent var.	0.453281			

3.2 Result

Result of the empirical analysis shows that one unit increase in FIIB reduces financial instability by 11.21 units, which is significant at 5 percent confidence level. Among the control variables, it is found that 1 percent increase in remittance to GDP reduces financial instability by 4.62 units, which is significant at 5 percent confidence level as well (Table B1.4). Overall, the analysis suggests that there is a markedly positive and statistically significant relationship between financial inclusion and financial stability in Bangladesh.

However, the magnitudes of the coefficients described above might not be well explanatory because of the limited number of observations due to unavailability of data. Though the FIIB is developed in a comprehensive manner by capturing fourteen indicators, few more aspects of financial inclusion remain absent because of data scarcity. Yet, result of the study provides a good notion that there is a positive relationship between financial inclusion and financial stability in Bangladesh.

3.3 Conclusion

Result of the empirical analysis suggests that financial inclusion has a significantly positive relationship with the financial stability, which is statistically significant. Moreover, the result suggests that there is a markedly positive relationship between remittance and financial stability, which is also statistically significant. Though the analysis is based on a short time series due to unavailability of data, results of the analysis advocates that financial inclusion initiatives should receive more attention to ensure financial stability.

Box 2: Translating Real Sector Default Risk into Financial Risk in Bangladesh

Corporate distress is one of the critical issues in bank finance, which was extremely prevalent during the financial crises. Indeed, investors, as well as stakeholders need to understand the strengths and weaknesses of a non-financial corporation (NFC) for financing decision. Altman Z-score model [4] enables managers and regulators to measure the soundness of the companies as well as provides early warning of financial distress. The original Z-score model was first modified with credit analysis of emerging market corporate (known as, EM) in 1983 and a second generation model (recognized as ZETA) was also developed in 1976.

The financial system needs to serve the real economy through matching savings and investments to generate economic growth. Though forecasting the potential bankruptcy is a challenging task, banks want to predict the risk of bankruptcy prior to finance a company. Indeed, the distress and default risk of a company will create an ultimate loss to banks and thus, it translates the real sector risk to financial sector. This study endeavors to measure such default risk of the real sector that transmits to the financial sector of Bangladesh from financial stability viewpoint.

Balance sheet data of 103 companies under following 9 (nine) sectors enlisted with Dhaka Stock Exchange (DSE) have been collected: (1) Textile and RMG companies, (2) Pharmaceutical companies, (3) Engineering Industries, (4) Tannery Industries, (5) Cement Industries, (6) Ceramic Industries, (7) Food Industries, (8) Jute Industries, and (9) Paper and Printing Industries.

This study uses two versions of the Altman Z-score model. In case of original Z-score model, the observed accuracy rate of default prediction is only 29 percent, whereas 70 percent prediction accuracy is required for acceptance. Therefore, this study also uses customized Z-Score model to identify probability of bankruptcy of the companies listed with DSE and to measure the effect of real sector default risk on financial sector which appears to be more accurate for Bangladesh scenario. The lower the score, the greater is the risk of financial distress.

Altman's original Z-Score:

$$Z = 1.2(A) + 1.4(B) + 3.3(C) + 0.6(D) + 1.0(E)$$

Where,

A = working capital/total assets,

B = retained earnings/total assets,

C = earnings before interest and taxes/total assets,

D = market value equity/book value of total liabilities,

E = sales/total assets

Range values:

$Z > 2.99$ Safe Zone: Considered financially healthy

$1.81 < Z < 2.99$ Grey Zone: Could go either way

$Z < 1.81$ Distress Zone: Risk that company will go bankrupt within two years

[4] Professor Edward Altman of New York University framed the Z-score model in 1968, the first multivariate credit scoring model. Altman's Z is commonly employed to assess financial distress by a weighted composite of financial indicators relating to profitability, revenue, slack resources, and market return. The model predicts the likelihood of bankruptcy of a firm by combining five financial ratios.

The ratios used in this study are:

A=working capital/total assets (net liquid assets of the firm relative to the total capitalization, a firm with continuous operating losses will often have reduced current assets in relation to total assets);

B=retained earnings/total assets (the leverage of a firm, companies with high retained earnings relative to total assets have to a greater extent financed their assets through retention of earnings rather than debt financing, which may reduce the likelihood of bankruptcy);

C=earnings before interest and taxes/total assets (productivity of the company's assets before tax or leverage factors are taken into consideration);

D=market value equity/book value of total liabilities (how much the company's assets can decline in value before the liabilities exceed the assets and it becomes insolvent, a low ratio may indicate that the company might encounter difficulties in obtaining financing.);

E=sales/total assets (the ability of the company's assets to generate sales and the management's capacity in dealing with competitive conditions).

Chart B2.1 reveals that original model predicts out of 103 listed companies 37 percent belong to distress zone and will be bankrupt within next two years (the probability of default of this segment is on average 45 percent consisting of total credit exposure of BDT 47 billion. If this segment goes bankrupt, this poses a threat of expected loss of BDT 8.7 billion for the financial institutions.); 23 percent are in grey zone and 40 percent companies are safe. But in reality, after passing more than two years the output does not come true. However, Chart B2.2 shows the sector-wise Z-scored hold of the companies.

Chart B2.1: Z-scored allocation of the NFCs (Original Model)

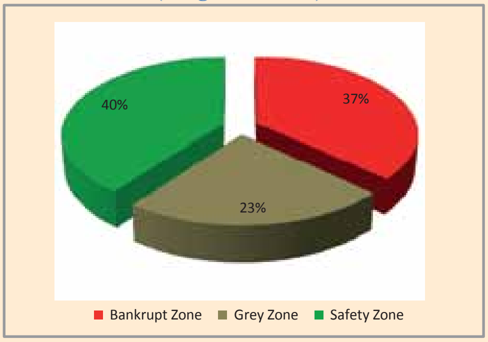
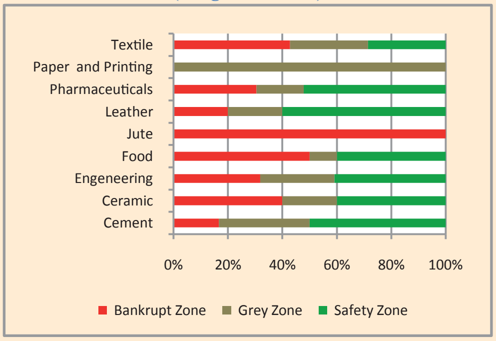


Chart B2.2: Sector-wise Z-scored Zone of the NFCs (Original Model)



Therefore, revised Z-score model is run with different parameters to have more appropriate output.

Revised Z-Score:

$$Z = 0.8(A) + 1.24(B) + 3.8(C) + 0.8(D) + 0.86(E)$$

Range values:

$Z > 2.60$ Safe Zone : Considered financially healthy

$1.13 < Z < 2.60$ Grey Zone : Could go either way

$Z < 1.13$ Distress Zone : Risk that company will go bankrupt within two years

Chart B2.3 depicts that customized model predicts out of 103 listed companies 18 percent belong to distress zone, 26 percent are in grey zone and 56 percent are safe. Chart B2.4 shows the hold of the z-scored companies in different sectors.

Chart B2.3: Z-scored allocation of the NFCs (Customized Model)

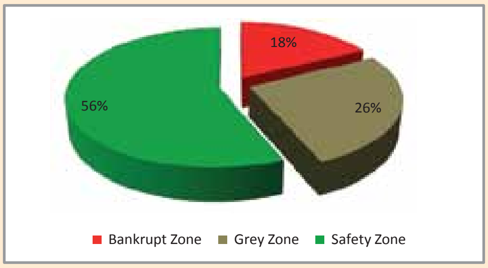
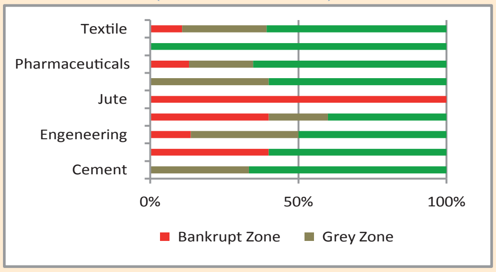


Chart B2.4: Sector-wise Z-scored Zone of the NFCs (Customized Model)



It is observed that 18 out of 103 companies are in distress zone with a high probability of those companies to be bankrupt within two years. Among them, four are Food Companies, three are Textile companies, three are Jute Companies, three are Engineering Companies, three are Pharmaceuticals companies, and two are Ceramics companies. These companies individually hold the Z-score below of 1.13 and, the average probability of default (PD) of this distress zone is 73.64 percent. The total credit exposure to these 18 companies is BDT 10.18 billion and the risk of expected loss for the banks and financial institutions is approximately BDT 3.12 billion. Finally, there are 58 companies that scores high above 2.6 which implies that those companies are financially sound and are not going to be bankrupt in coming years.

Altman's Z score provides a comprehensive overview of a company's health because it includes most common and important financial ratios and determinants and Z-score model performs better for stability prediction. In Bangladesh, revised coefficients for the original variables in the Altman's Z-score may be considered significant for evaluating financial health of a firm. In the model, published data of 2013 is used. After passing 2 years, it is observed that 11 out of 18 red-flagged companies fall in Z-category and 2 in B category, which explains approximately 72 percent prediction accuracy rate. Necessary precautions and measures should be taken to avoid this consequence, the default of these companies transmit loss to the banks' finance and investment as these companies are funded by the banks and financial institutions and could create stability threat to the financial system. Banks can use this customized model to calculate their customers' default risk and take precaution before funding these companies, and also attempt to revise their strategies toward the accounts which are already funded.

Banking Sector Performance

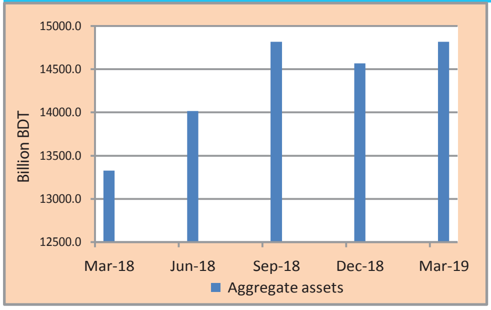
The banking sector experienced some deterioration in asset quality in March, 2019 quarter. Rise in NPL and resulting high provision requirement in few banks exerted adverse impact on industry profitability.

2.1 Assets Structure

The balance sheet size[5] of the banking sector recorded a slight increase and reached BDT 14,817.9 billion at end-March 2019 (1.8 percent increase from end-December 2018). The rate of growth of assets has slowed down in recent quarters mainly due to slow growth in bank deposits. However, the relatively high assets-to-GDP ratio[6] of 65.8 percent at end-March 2019 (64.7 percent at end-December 2018) suggests that credit growth was still quite adequate and aligned with targeted GDP growth in the review quarter.

Maximum portion of the banking industry's assets were held by the PCBs (71.7 percent of industry asset). Loans and advances, the largest segment among the asset items, constituted 67.2 percent of total assets during the review quarter (66.5 percent at end–December, 2018).

Chart 2.1 Asset Size of the Banking Industry

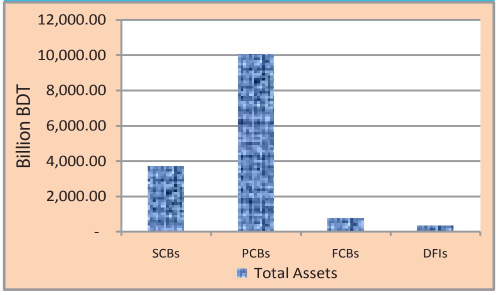


Source: Data from Financial Projection Model (FPM), FSD, BB.

[5] Taking into account only scheduled banks.

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

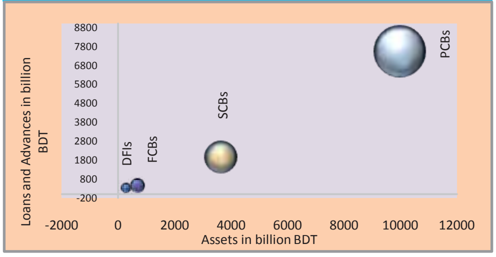
Chart 2.2 Bank Cluster-wise Assets at end-March 2019



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

Balance with BB and other banks/FIs declined in March'2019 quarter indicating that due to slow deposit growth banks utilized liquid assets to finance loans and investments.

Chart 2.3 Banking Sector Assets and Loans/ Advances: End-March 2019



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

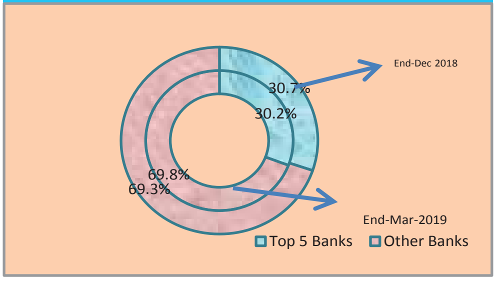
Component of Assets	% of Total asset (as on Dec'18)	% of Total asset (as on Mar'19)	Change
Cash in hand	1.0%	1.0%	0.1%
Balance with BB and its Agent Bank	5.9%	5.2%	-0.7%
Balance with other banks and FIs	6.3%	6.0%	-0.3%
Investment	13.4%	13.7%	0.3%
Loans and Advances	66.5%	67.2%	0.7%
Fixed Assets	1.6%	1.6%	0.0%
Other Assets	5.4%	5.2%	-0.2%
Total Assets	**100.0%**	**100.0%**	**0.0%**

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

As table 2.1 shows, among different classes of assets, the share of banks' assets with Bangladesh Bank and its agent banks dropped by 70 basis points at end-March, 2019 compared to the previous quarter. The freed up fund has most likely been used in funding loans and advances, share of which has increased by same basis points. Similarly, it appeared that interbank/FI lending has been reduced to finance investment in government and other securities. Pick up of deposit growth is necessary for banking sector so that new credit may be sanctioned without decreasing liquid assets.

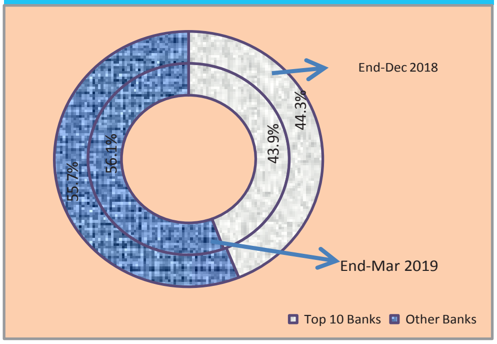
The asset concentration ratios of Top 5 and Top 10 banks against the total banking system assets dropped marginally in the March quarter, 2019. The ratios were 30.2 percent and 43.9 percent at end-March 2019 which were 30.7 percent and 44.3 percent respectively at end-December, 2018 (Chart 2.4 and 2.5). Decrease in asset concentration is desirable from financial stability standpoint as it dilutes the influence of few institutions over the entire financial system.

Chart 2.4 Top 5 banks based on Assets Size



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

Chart 2.5 Top 10 banks based on Assets Size



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

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, indicated the presence of a moderate concentration in assets of the banking industry. The calculated Gini coefficient of 0.467 also supported 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-December, 2018.

Chart 2.6 Banking Sector Asset Concentrations: Lorenz Curve

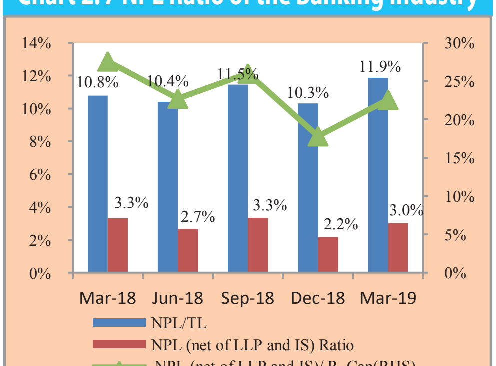
Note: Assets are displayed from lowest to highest (in ascending order) from the origin.

Source: FSD Staff calculation.

2.2 Asset Quality

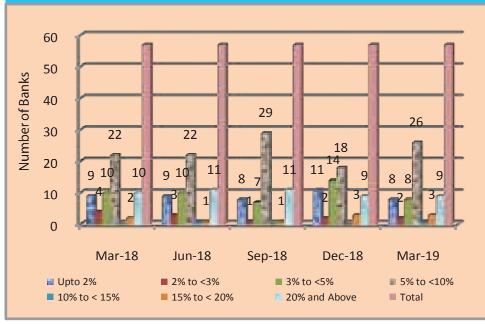
Gross NPL ratio[7] increased in the review quarter from that of the preceding quarter and same quarter of the previous calendar year. On the other hand, non-performing loans, net of loan loss provisions and interest suspense, to total loans (net NPL) ratio also increased slightly compared to end-December 2018. It is mentionable that compared to end-December 2018, the net NPL ratio increased by 80 basis points (3.0 percent at end-March, 2019) whereas gross NPL ratio increased by 160 basis points (11.9 percent at end-March 2019). 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 had low NPL ratio in March, 2019 but the ratio deteriorated compared to end-December, 2018. Moreover, future default of rescheduled and restructured loans could worsen the asset quality of these banks even more. The number of banks having NPL of 10 percent or higher remained high in recent quarters (Chart 2.8) which seems to be a sign of stress for the banking industry. 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 22.6 percent from 17.8 percent of end-December 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.

Chart 2. 7 NPL Ratio of the Banking Industry



Source: BRPD, BB.

Chart 2.8 Distribution of banks by NPL ratio

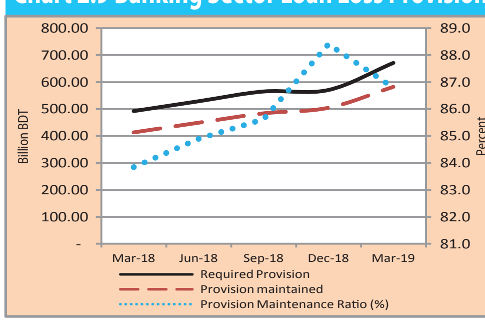


Source: BRPD, Compilation FSD.

The provision maintenance ratio, at end-March 2019, declined to 86.8 percent from 88.4 percent recorded in the preceding quarter. The main reason behind the fall was substantial increase in provision requirement due to increase in NPL. The required provision had increased by BDT 100.3 billion between March and December quarter.

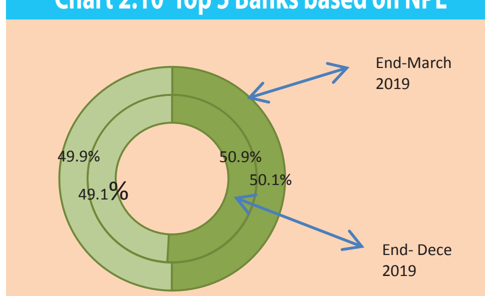
NPL concentration in Top 5 and Top 10 banks increased in March quarter. Based on NPL size, 50.1 percent and 65.6 percent of the non-performing loans were concentrated in the Top 5 and Top 10 banks[8] respectively at end-March 2019 (Chart 2.10 & 2.11).

Chart 2.9 Banking Sector Loan Loss Provision



Source: BRPD, BB.

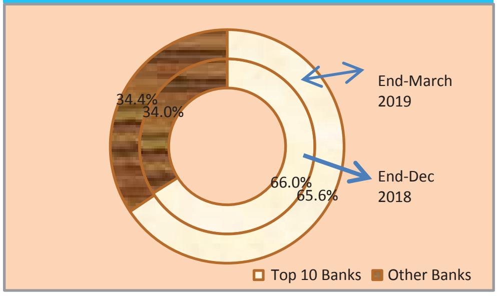
Chart 2.10 Top 5 Banks based on NPL



Source: BRPD; Compilation FSD.

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

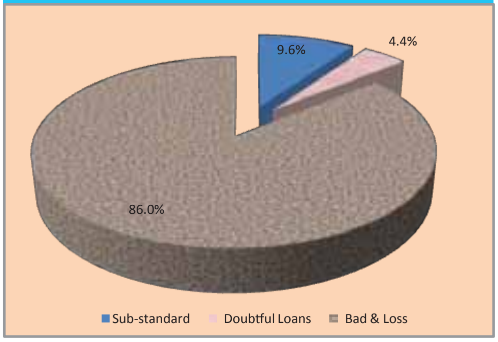
Chart 2.11 Top 10 Banks based on NPL



Source: BRPD; Compilation FSD.

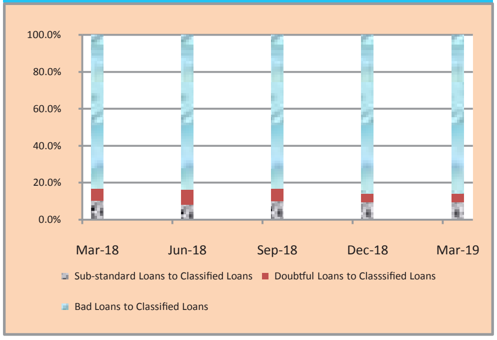
During the review quarter, the ratio of bad and loss loans to total classified loans stood at 86.0 percent while sub-standard and doubtful loans constituted 9.6 percent and 4.4 percent of total NPLs respectively (Chart 2.12). The consistent high proportion of bad and loss loans in recent quarters, as shown in Chart 2.13, indicates low probability of recovery of NPLs.

Chart 2.12 NPL Compositions of Banks



Source: BRPD, BB.

Chart 2. 13 Proportions of NPL Categories

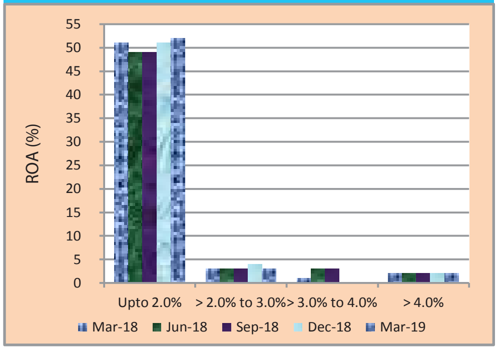


Source: BRPD, BB.

2.3 Profitability

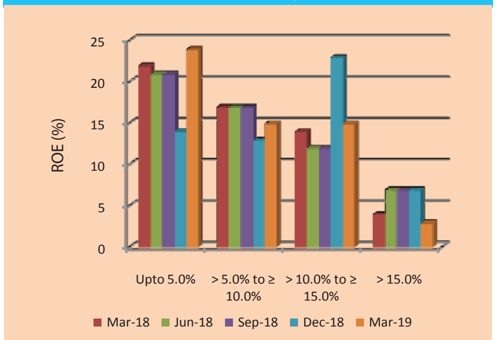
In the review quarter, profitability of the banking industry declined which could partially be attributed to rise in NPL and resulting high provision requirement in one particular SCB. Excluding that particular bank, the industry ROA and ROE stood at 0.4 and 5.9 percent respectively. However, the quarterly Industry ROA, was -0.5 percent which was considerably lower than 0.3 percent of the previous quarter. Similarly, profitability in terms of ROE decreased to -8.1 percent from 4.4 percent of preceding quarter. The distribution of ROA and ROE ratios of the banks (Chart 2.14 and 2.15) also shows that negative profitability was not a system wide phenomenon and majority of the banks had positive profitability in March quarter, 2019.

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.

[8]Ranked in terms of Gross NPL amount.

Chapter-3

Financial Institutions' Performance

The Key financial soundness indicators indicate mix movement in this quarter. The profitability ratios of the financial institutions (FIs) have declined sharply due to negative earnings by some FIs. Gross non-performing loans have recorded substantial growth along with upward trend in the loans & leases of the previous quarter.

3.1 Sources of Funds

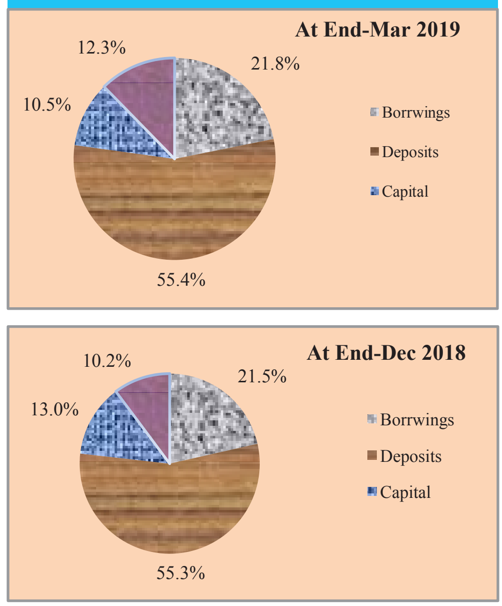
At end-March 2019, borrowings, deposits, capital and other liabilities constituted 21.8 percent, 55.4 percent, 10.5 percent and 12.3 percent of the sources of funds of the FIs respectively. In comparison with end-December 2018, the shares of borrowings and other liabilities increased by 0.4 and 2.1 percentage points respectively whereas capital decreased by 2.5 percentage points. The share of deposits remains almost the same.

3.2 Assets Composition

Loans and leases of FIs constituted 76.9 percent of total assets at end-March 2019. Besides, the rest of total assets is composed of cash and balances with banks/FIs, investments, fixed assets and other assets; shares of these components are 12.4 percent, 3.5 percent, 1.4 percent and 5.8 percent respectively.

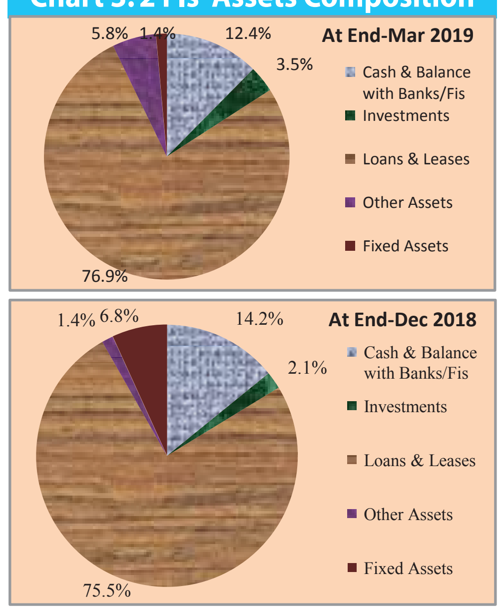
When compared with end-December 2018 positions, the share of loans & leases and investments increased by 1.8 and 0.3 percentage points respectively. Cash and balances with other banks/FIs and other assets decreased by 0.7 and 1.5 percentage points respectively. The proportion of fixed assets remained the same.

Chart 3. 1 FIs' Sources of Fund



Source: FIs; Compilation: FSD, BB.

Chart 3. 2 FIs' Assets Composition

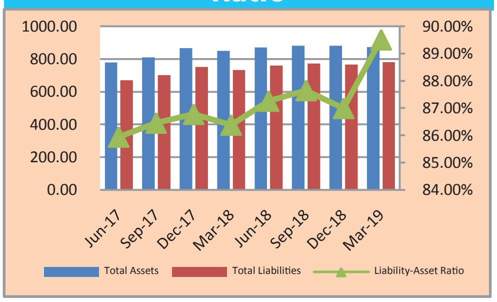


Source: FIs; Compilation: FSD, BB.

3.3 Liabilities-Assets Ratio

The liabilities-assets ratio stood at 89.5 percent which is 2.5 basis points higher than the liabilities- assets ratio of 87.0 percent recorded at the end of the previous quarter. The borrowing from other banks and FIs has contributed to the growth of total liabilities.

Chart 3.3 FIs' Liabilities-Assets Ratio

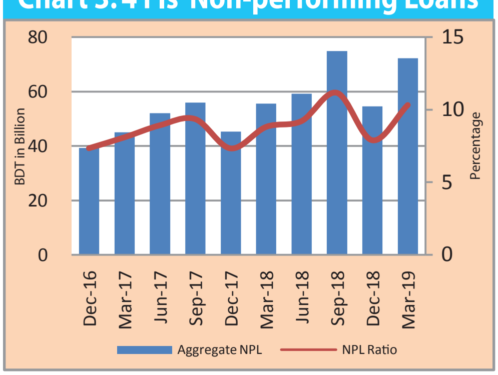


Source: FIs; Compilation: FSD, BB.

3.4 Asset Quality

FIs' classified loans and leases, increased by 32.3 percent, stood at BDT 72.21 billion from BDT 54.6 billion of end-December 2018. The ratio of classified loans and leases to total loans and leases rose to 10.3 percent at end-March 2019, 2.4 percentage points higher than the ratio of 7.9 percent recorded at end-December 2018.

Chart 3.4 FIs' Non-performing Loans

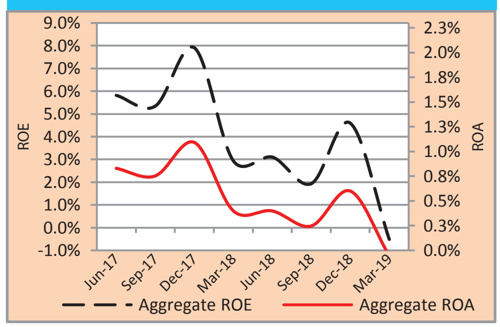


Source: DFIM, BB.

3.5 Profitability

The Return on Assets (ROA) and Return on Equity (ROE) stood at -0.1 percent and -0.5 percent respectively in this quarter compared to 0.03 percent and 0.2 percent respectively recorded in the December'18 Quarter and 0.4 percent and 2.9 percent respectively in the same quarter of 2018[9].

Chart 3.5 FIs' ROA and ROE

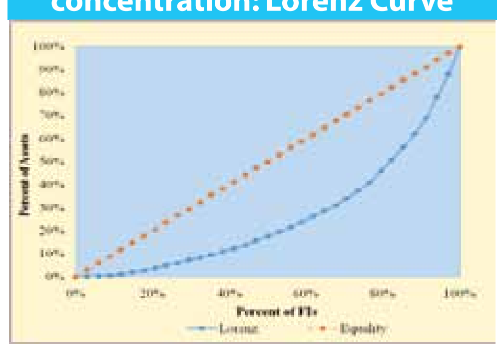


Source: FIs; Compilation: FSD, BB.

3.6 FIs Sector's Asset Concentration

FI 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 lower concentration in the assets of the FI sector. The calculated Gini coefficient of 0.48 also supports the presence of aforementioned type of concentration.

Chart 3.6 FIs sector asset concentration: Lorenz Curve



Source: FIs; Compilation: FSD, BB.

9 Here profitability indicators - ROA and ROE - are annualized from quarterly ratios.

Chapter-4

Banking Sector Capital Adequacy and Liquidity

Banking sector capital to risk-weighted assets ratio (CRAR) increased with respect to that of the previous quarter. In addition, 29 banks out of 57 banks were able to maintain minimum capital conservation buffer. However, liquidity position slightly decreased as advance-to-deposit ratio (ADR) increased slightly.

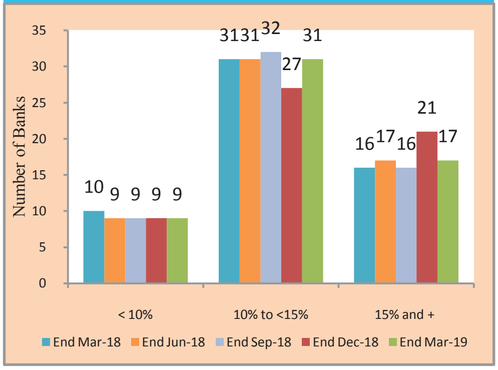
4.1 Capital Adequacy

In the review quarter, 48 out of 57 banks were able to maintain CRARs of 10.0 percent or higher in line with Pillar 1 of the Basel III capital framework (Chart 4.1). Notably, among those 48 compliant banks, 31 banks' CRARs were within the range of 10-15 percent and their assets accounted for nearly 70.3 percent of the total banking industry's assets at end-March 2019 (Chart 4.2).

The banking sector aggregate CRAR stood at 11.41 percent, which is 91 basis points and 130 basis points higher than the ratio recorded at end-December 2018 and end-March 2018 quarters respectively. Similar trend was observed in case of Tier-1 capital ratio. Tier-1 capital ratio increased slightly to 7.7 percent at end-March 2019 from 6.8 percent of the previous quarter and from 7.0 percent of end-March 2018 (Chart 4.3). Whereas, the regulatory requirement of minimum Tier-1 capital ratio is 6.0 percent.

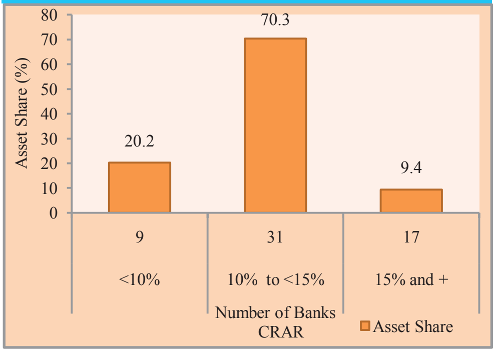
The cluster of FCBs maintained the highest CRAR in the industry while DFIs continued with negative CRAR in the review quarter (Chart 4.4).

Chart 4.1 Banking Sector Capital to Risk-Weighted Assets Ratio



Source: DOS, BB.

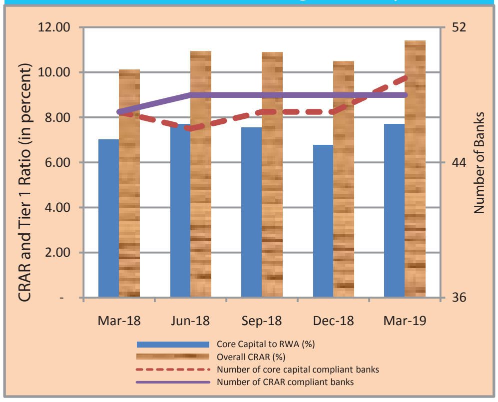
Chart 4.2 Assets Share of Banks Based on CRAR at End-March 2019



Source: DOS; Compilation FSD, BB.

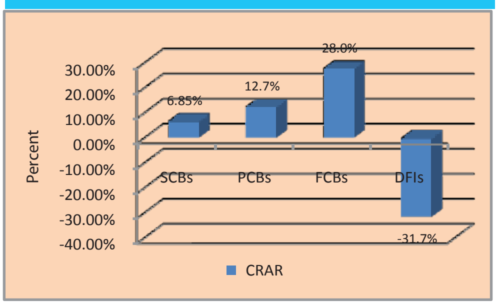
At end-March 2019, risk-weighted assets, arising from credit risks, accounted for 88.0 percent of the total industry's risk-weighted assets under Pillar 1 of the Basel III capital adequacy framework. It is mentionable that the proportion of credit risk weighted assets was also 88.0 percent as in the previous quarter and 88.1 percent at end-March 2018. After credit risk, operational and market risks were the dominant risk ingredients (Chart 4.5).

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



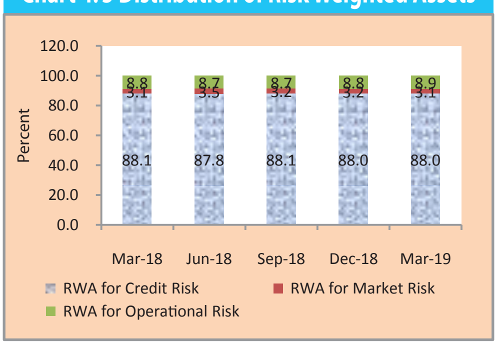
Source: DOS, BB.

Chart 4.4 Bank Cluster-wise CRAR at End-March 2019



Source: DOS, BB.

Chart 4.5 Distribution of Risk Weighted Assets



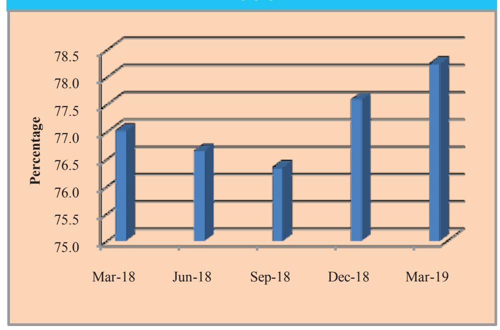
Source: DOS, BB.

In the review quarter, against the regulatory requirement of 2.50 percent of total RWA, 29 out of 57 banks were able to maintain the minimum required Capital Conservation Buffer (CCB) on solo basis. However, in case of consolidated basis, 12 out of 36 banks could fulfill this regulatory requirement. The aggregate figure of CCB of the banking sector, in the stated quarter, was 1.41 and 1.56 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 78.3 percent which is 0.7 and 1.2 percentage points higher than that of end-December 2018 and end-March 2018 (Chart 4.6).

Chart 4.6 Banking Sector Advance-to-Deposit Ratio



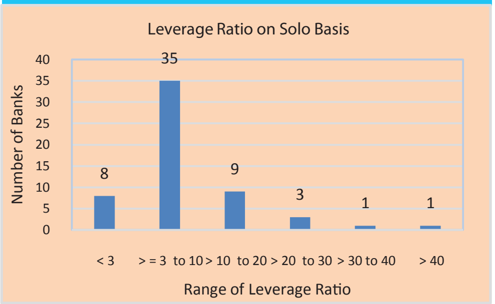
Source: DOS, BB.

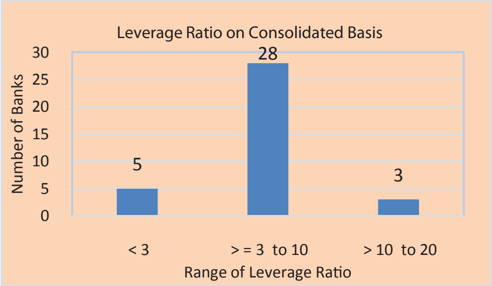
4.3 Leverage ratio

In the review quarter, banking industry fulfilled the minimum requirement of leverage ratio 3.0 percent, on both solo and consolidated basis[10]. At end-March 2019, banking industry's leverage ratio was 4.72 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, 31 out of 36 banks were able to fulfill the regulatory requirement on consolidated basis. FCBs maintained the highest leverage ratio compared to other banking clusters (Chart 4.8).

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

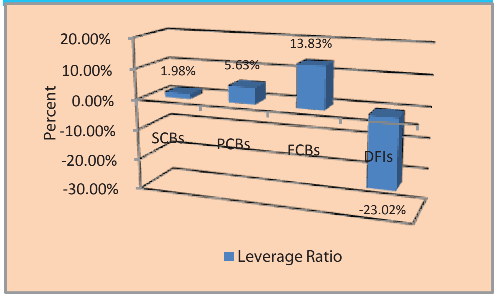
Chart 4.7 Leverage Ratio of Banks at End-March 2019





Source: DOS, BB.

Chart 4.8 Bank Cluster-wise Leverage Ratio at End-March 2019



Source: DOS, BB.

Chapter-5

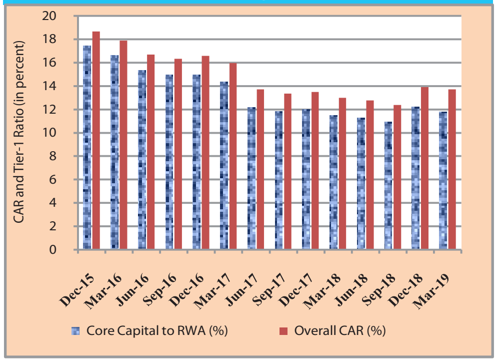
Financial Institutions' Liquidity and Capital Adequacy

During the quarter under review, the FIs sector showed shortfall in cash reserve ratio (CRR) while statutory liquidity ratio (SLR) was adequate and surpasses the required amount. Capital adequacy ratio (CAR) slightly decreased compared to that of the previous quarter.

5.1 Capital Adequacy

Capital adequacy ratio (CAR) of the FIs decreased from 13.9 percent at end-December 2018 to 13.7 percent at end-March 2019. However, the maintained CAR was well above the minimum regulatory requirement of Basel II framework.[11] The ratio of core capital (Tier-1) to Risk Weighted Asset (RWA) decreased by 0.4 percentage point compared to the December quarter of 2018. It is mentionable that 31 out of 34 FIs were able to maintain core capital ratio while 27 succeeded to maintain CAR in the review quarter. Chart 5.1 shows the trend in core capital to RWA ratio and CAR since December 2015.

Chart 5.1 Capital Adequacy Ratio of FIs in Bangladesh

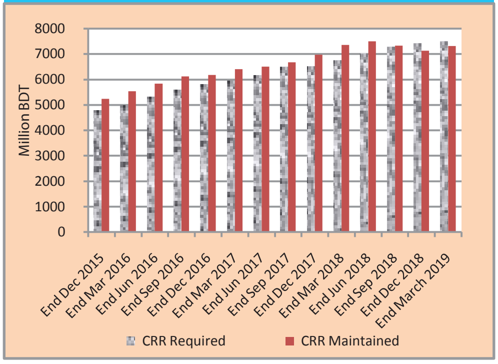


Source: DFIM, BB.

5. 2 Liquidity

As of end-March 2019, the aggregate amount of maintained CRR of the FIs was BDT 7,323.8 million as compared to BDT 7131.8 million at end- December 2018, recording an increase of 2.7 percent. However, a total of BDT 160.9 million shortfall was observed in maintained CRR against the required CRR during the quarter being assessed. The amount of maintained SLR was BDT 91.7 billion at end-March 2019 against the required amount of BDT 21.4 billion. The amount also decreased by 3.4 percent compared to the amount maintained at end-December 2018. Chart 5.2 and Chart 5.3 demonstrate the trend in CRR and SLR position of FIs since December 2015.

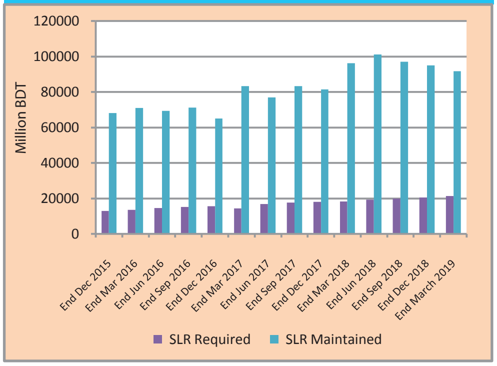
Chart 5.2 Cash Reserve Ratio (CRR) of FIs in Bangladesh



Source: DFIM, BB.

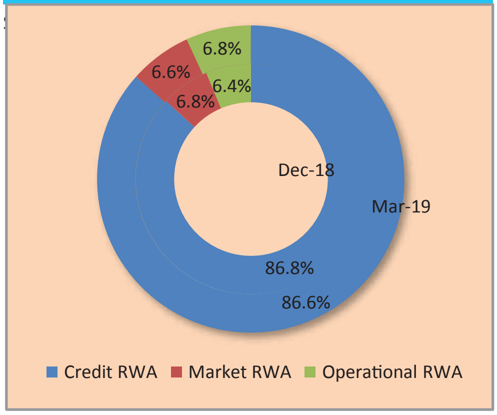
[11] In 2019Q1, FIs were required to maintain a capital adequacy ratio (CAR) of 10.0 percent with at least 5.0 percent in Tier-1 following the Basel II framework.

Chart 5.3 Statutory Liquidity Ratio (SLR) of FIs in Bangladesh



Source: DFIM, BB.

Chart 5.4 Different Components of Risk Weighted Asset (RWA) of FIs in Bangladesh



5.3 Risk Weighted Asset (RWA)

Chart 5.4 shows the overall risk weighted assets (RWA) of the FIs in Bangladesh. The different components of RWA, such as RWA for credit, market and operational risks in the overall RWA were 86.6 percent, 6.6 percent and 6.8 percent respectively at end-March 2019. The figures were 86.8 percent, 6.8 percent and 6.4 percent respectively in the December quarter of 2018.

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.

6.2 Stress Test on Banks [12]

Stress test on banks is conducted through sensitivity analysis, incorporating impacts of the shock scenarios for credit risk, market risk and liquidity risk.

6.2.1 Individual Shocks

Banking sector's capital to risk weighted asset ratio (CRAR) was 10 percent. Out of 57 banks, 9 banks' pre-shock CRARs were below the minimum regulatory requirement of 10.0 percent. As a result, the remaining 48 banks were considered for the analyses based on end-March 2019 data. The following sub-sections present details of the shocks and the 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 4, 29 and 36 banks respectively would fail to maintain the minimum required CRAR.

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, 35 and 39 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 1, 4 and 6 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 1, 11 and 15 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 4, 4 and 7 banks respectively would fall below the minimum regulatory requirement.

6.2.1.2 Market Risk

The banking industry[13] 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, 1, 2 and 4 banks respectively would fail to maintain the minimum required CRAR.

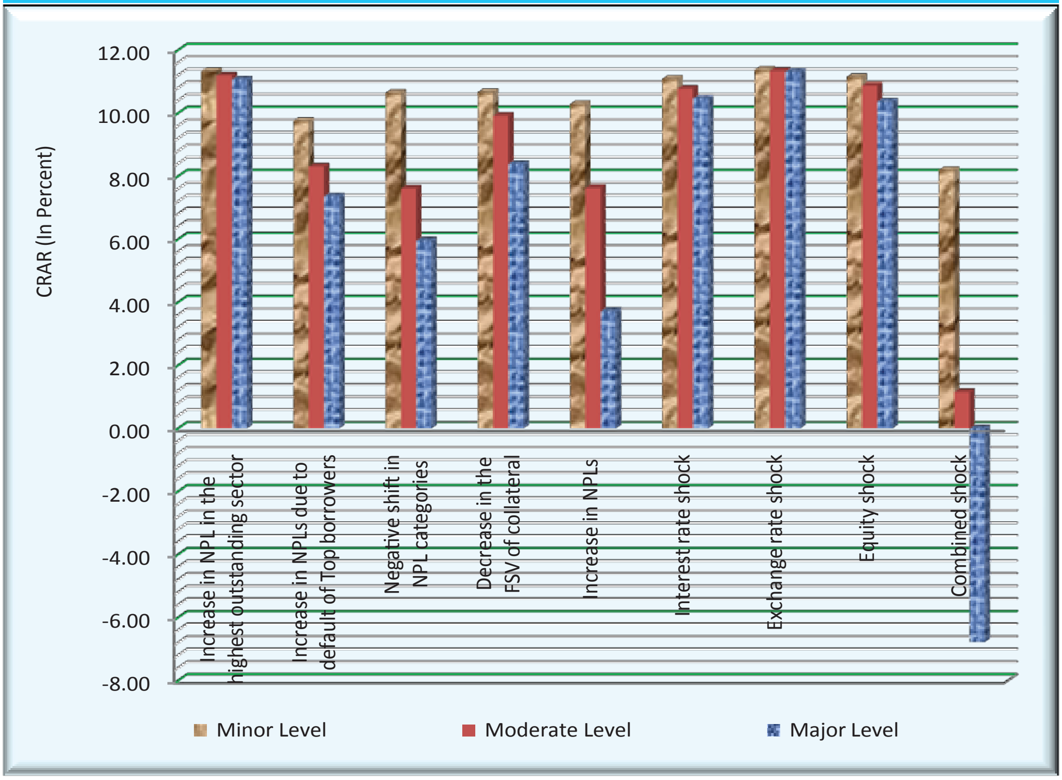
[12] The analyses here are based on the data as of end-March 2019 unless stated otherwise.
[13] Only scheduled banks have been considered here.

Table 6. 1 Stress Test on the Banking Sector Based on Data as of

Shocks[14]	Banking Sector(%)
Pre-shock CRAR	**11.41**
CRAR after-shock (%)	
Credit Risks:	
Increase in NPLs:	
Shock-1: 3%	**10.29**
Shock-2: 9%	**7.63**
Shock-3: 15%	**3.73**
Increase in NPLs due to default of top large borrowers	
Shock-1: Top 3 borrowers	**9.76**
Shock-2: Top 7 borrowers	**8.31**
Shock-3: Top 10 borrowers	**7.36**
Fall in the FSV[15] of mortgaged collateral	
Shock-1: 10%	**10.67**
Shock-2: 20%	**9.92**
Shock-3: 40%	**8.39**
Negative shift in the NPL categories	
Shock-1: 5%	**10.65**
Shock-2: 10%	**7.61**
Shock-3: 15%	**5.97**
Increase in NPLs in highest outstanding sectors	
Sector concentration 1[16] (Performing loan directly downgraded to B/L[17])	
Shock-1: 3%	**11.34**
Shock-2: 9%	**11.20**
Shock-3: 15%	**11.07**
Sector concentration 2[18] (Performing loan directly downgraded to B/L)	
Shock-1: 3%	**11.28**
Shock-2: 9%	**11.02**
Shock-3: 15%	**10.76**
Market Risks	
Interest rate risk (change in interest rate)	
Shock-1: 1%	**11.09**
Shock-2: 2%	**10.78**
Shock-3: 3%	**10.47**
Exchange rate risk (Currency appreciation/depreciation)	
Shock-1: 5%	**11.38**
Shock-2: 10%	**11.35**
Shock-3: 15%	**11.32**
Equity price risk (Fall in equity prices)	
Shock-1: 10%	**11.15**
Shock-2: 20%	**10.89**
Shock-3: 40%	**10.37**
Combined Shock	
Shock-1	**8.20**
Shock-2	**1.16**
Shock-3	**-6.78**

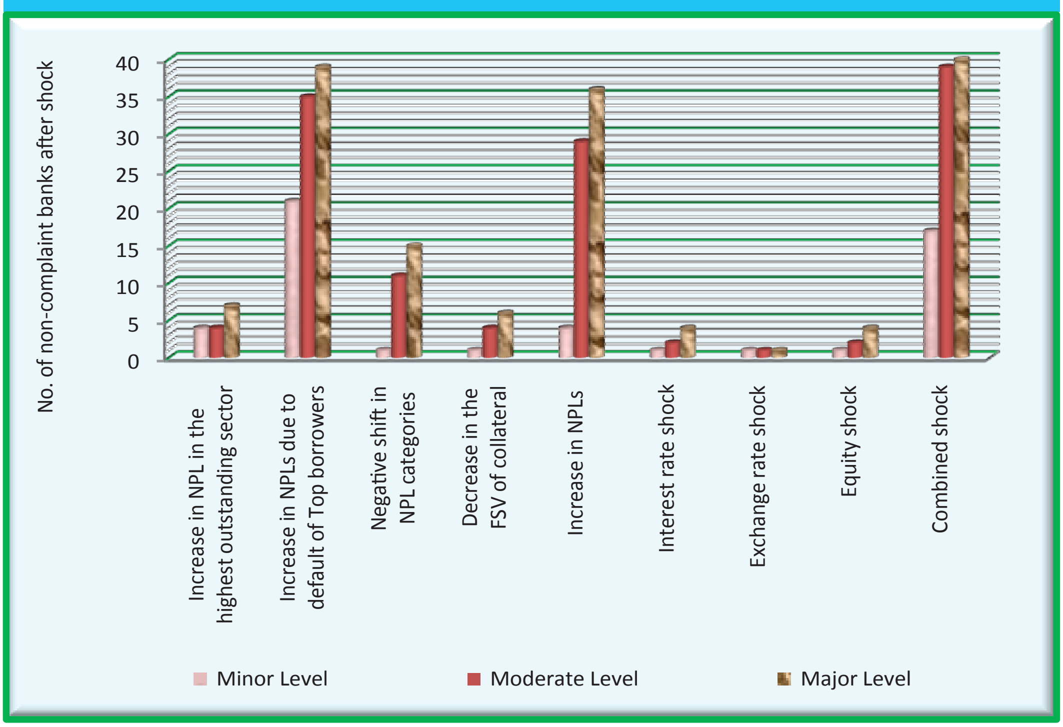
[14] Shock-1 = Minor, Shock-2 = Moderate, Shock-3 = Major.
[15] FSV = Forced Sale Value.
[16] Sector with highest outstanding.
[17] B/L = Bad/Loss.
[18] Sector with second highest outstanding.

Chart 6.1 Banking Sector CRAR at Different Shock Scenarios: March 2019



Source: FSD, BB.

Chart 6. 2 Number of Non-compliant Banks at Different Shock Scenarios: March 2019



Source: FSD, BB.

b) **Exchange Rate Risk:** In the event of currency appreciation or depreciation by 5, 10 and 15 percent, only 1 bank in all 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 1, 2 and 4 banks would fall below the minimum regulatory requirement.

6.2.2 Combined Shock[19]

In the event of minor, moderate and major combined shocks, 17, 39 and 40 banks respectively would be undercapitalized.

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-March 2019.

Table 6.2 Liquidity Risk in the Banking Sector: End-March 2019

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.

6.3 Stress Test on FIs

Bangladesh Bank also conducts stress tests on FIs based on a simple sensitivity analysis, in which four risk factors- credit, interest rate, equity price and liquidity- are analyzed.

At end-March 2019, out of 34 FIs, 4, 17, and 13 were positioned in Green, Yellow, and Red zones respectively on the basis of stress test result.

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
End-Mar 2019	4	17	13

Source: DFIM, BB.

[19] Combined shock comprised of 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.

Chapter-7

Capital Market Development

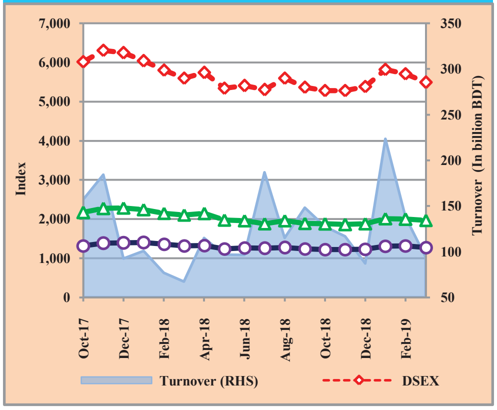
Capital market indicators in both domestic bourses demonstrated improvements in the review quarter. In particular, turnover, market capitalization, and key DSE and CSE indices improved slightly compared to those of the preceding quarter.

7.1 Dhaka Stock Exchange (DSE)

7.1.1 DSE Performance

DSE turnover increased from BDT 331.2 billion at end-December 2018 to BDT 455.2 billion at end March 2019, resulting an increase of 37.5 percent. This was largely attributed to the increased turnover from different sectors, such as engineering, textile, banks, insurance, and fuel & power sectors. The turnover of the banking sector together with other financial sectors was vibrant during the quarter, January-March 2019. The significant rise in DSE turnover and other DSE indices were observed in January 2019 particularly after the national election in December 2018. At end-March 2019, the key DSE indices, such as, DSEX, DS30, and DSES increased by 2.0 percent, 4.6 percent and 3.5 percent respectively compared to those of end-December 2018. Chart 7.1 illustrates the DSE performance for the period, October 2017 to March 2019.

Chart 7.1 DSE Performance



Source: DSE.

7.1.2 Sectoral Turnover

Chart 7.2 demonstrates that more than 59.6 percent of the total DSE turnover was shared among five sectors namely engineering (12.5 percent), textile (12.4 percent), banks (11.9 percent), insurance (11.5 percent) fuel and power (11.3 percent). In terms of nominal value, turnover of banking sector increased by 117 percent, whereas turnover of textile sector dropped by 16 percent during January-March 2019 quarter compared to those of the October-December 2018 quarter.

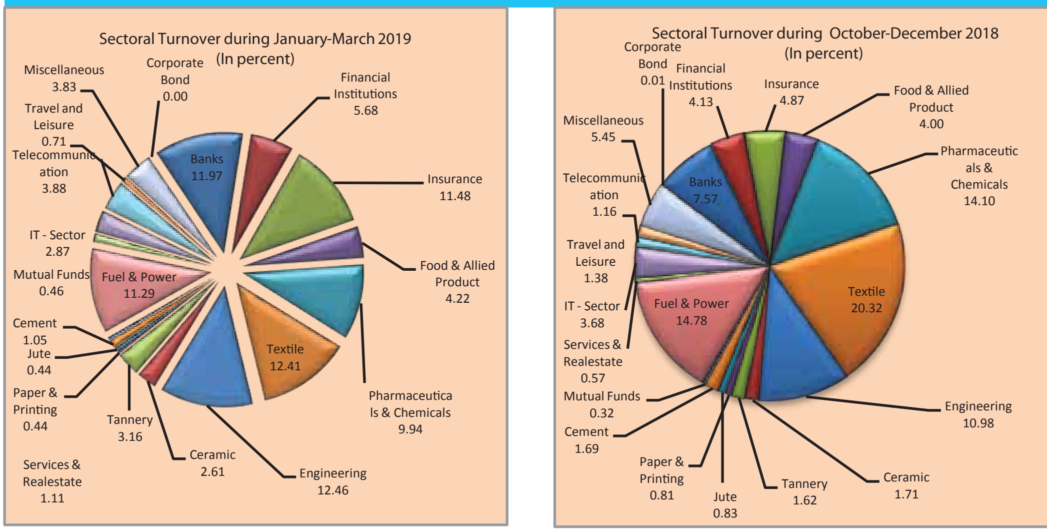
7.1.3 Market Capitalization

At end-March 2019, the market capitalization stood at BDT 4,119.7 billion, which is six percent higher than BDT 3,872.9 billion of end-December 2018. After a period of decline since August 2018, a sharp recovery in market capitalization was observed since November 2018 as shown in Chart 7.3. At end-March 2019, the banking sector secured the top position with 16.7 percent share in the total market capitalization followed by 16.2 percent and 14.8 percent of telecommunication sector, and pharmaceuticals & chemicals sector respectively. The contributions of the aforementioned sectors were 17.6 percent, 15.4 percent and 15.3 percent respectively at end-December 2018.

As a percentage of GDP[20] , DSE market capitalization stood at 18.3 percent at end-March 2019 compared to 17.2 percent at end-December 2018. By and large, lack of a vibrant corporate bond market and shortage of quality shares remained as the challenges towards capital market development in Bangladesh.

[20] GDP at current market price for FY 2017-18.

Chart 7. 2 Sectoral Turnover at DSE



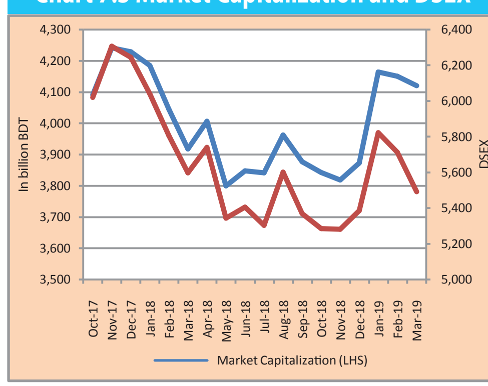
Source: DSE; Compilation: FSD, BB.

7.1.4 Price/Earnings (P/E) Ratio

The market P/E ratio increased by 0.95 percentage points during the quarter and stood at 16.14 at end-March 2019. Chart 7.4 shows a positive relationship between DSE broad index (DSEX) and market P/E ratio. Since 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. The chart reveals that after a price fall during the first half of 2018, a moderate rise of P/E ratio was observed during the second half of 2018. However, P/E ratio has moderately been rising during the review quarter.

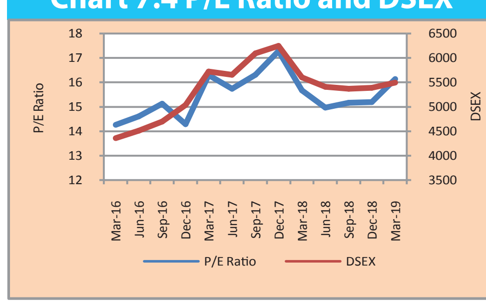
At end-March 2019, the highest P/E ratio was observed in the jute sector (311.4) followed by the cement sector (35.5). The mutual funds sector recorded the lowest P/E ratio (6.9) closely followed by the banking sector (9.3). The P/E ratio of the banking, financial institutions, and insurance sectors increased by 0.2, 1.4, and 2.1 percentage points respectively compared to those of end-December 2018.

Chart 7.3 Market Capitalization and DSEX



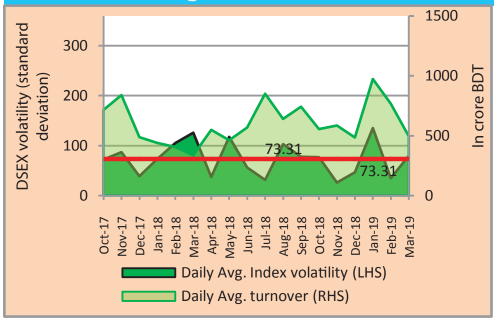
Source: DSE.

Chart 7.4 P/E Ratio and DSEX



Source: DSE.

Chart 7.5 DSEX Volatility and Daily Average DSE Turnover



Source: DSE; computation: FSD, BB.

7.1.5 Index Volatility and Market Liquidity

Chart 7.5 shows relatively less volatile behavior in DSEX associated with episodes of high market liquidity (i.e. turnover). The highest volatility in DSEX was recorded in January 2019 along with the highest daily average turnover. During the review quarter, average index volatility was 83.0, which was much higher compared to that of the previous quarter (49.5). Consequently, an increase in DSE turnover indicates 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 53.4 percent to BDT 28.91 billion during the quarter January-March 2019 from BDT 18.9 billion in the preceding quarter.[21]

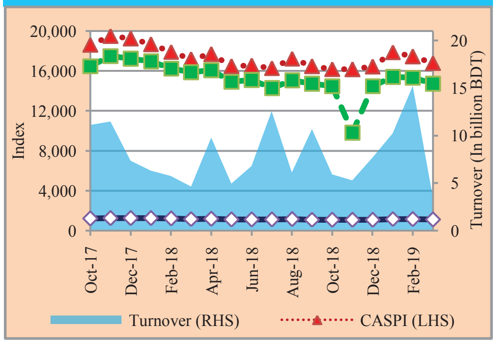
Surge for stocks of banking, general insurance, and leasing & finance sectors mainly pushed up the CSE turnover during the quarter. At the end of March 2019, the key CSE indices, such as CASPI[22], CSE30, and CSI[23] increased by 2.2 percent, 1.5 percent, and 4.0 percent respectively compared to those of end-December 2018. Chart 7.6 presents the CSE performance for the period October 2017 to February 2019.

[21] Due to data inconsistencies in CSE reports (e.g., CSE Bazar Parikrama), daily market turnover figures are analyzed instead of month-end gross figures.
[22] CASPI refers to CSE All Share Price Index.
[23] CSI refers to CSE Shari'ah Index

7.2.2 Sectoral Turnover

Chart 7.7 shows that the share of banking sector turnover at CSE registered top position (22.5 percent) during the review quarter, which was only 4.4 percent in the previous quarter. The other well performing sectors in terms of turnover were engineering (14.3 percent), textile (11.9 percent), leasing & finance (8.9 percent) and pharmaceuticals & chemicals (8.6 percent).

Chart 7. 6 CSE Performance



Source: CSE; Compilation: FSD, BB.

7.2.3 Market Capitalization

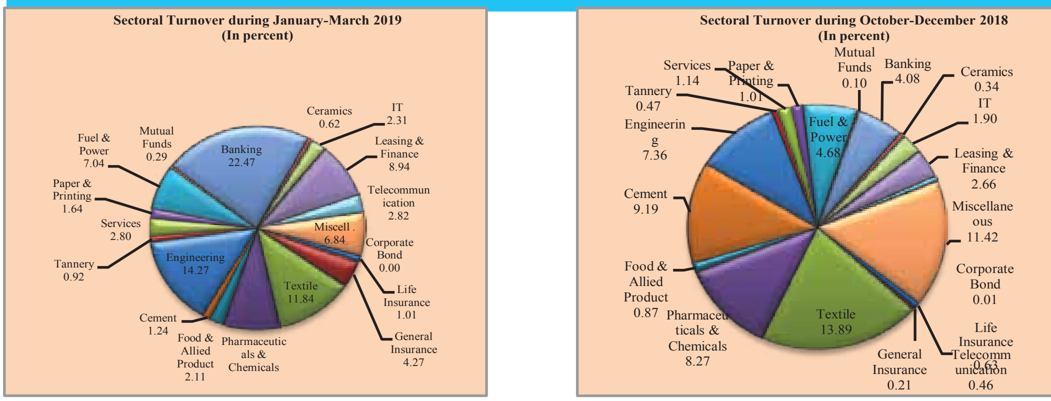
At end-March 2019, the market capitalization at CSE stood at BDT 3399 billion, which is 8 percent higher than the end-December 2018 position of BDT 3,123.5 billion. As a percentage of GDP, CSE market capitalization stood at 15.1 percent at end-March 2019 compared to 14.0 percent at end-December 2018. [24] Chart 7.8 shows the market capitalization at CSE has been somewhat stabilized since May 2018 after demonstrating a downward trend from November 2017.

7.2.4 Price/Earnings (P/E) Ratio

The market P/E ratio reached to 17.2 at end-March 2019 compared to that of 15.9 at end-December 2018 (Chart 7.9). The highest P/E ratio was registered by miscellaneous sector (32.4) followed by ceramics (30.4), and information communication & technology sector (26.5). The lowest P/E was recorded by paper & printing sector (1.0) followed by banking (9.1) and engineering sector (13.7).

[24] GDP at current market price for 2017-18 period is used to calculate this ratio.

Chart 7.7 Sectoral Turnover at CSE



Source: CSE4; Compilation: FSD, BB.

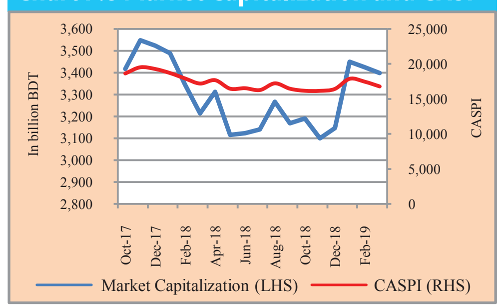
7.3 Capital Market and Financial Stability

Capital markets play an important role in maintaining financial stability and sustainable growth. A resilient and deep capital market mobilizes long term commercial financing, thereby promotes in building strategically important and thrust sectors. The absence of a deep rooted capital market weighs on the banking sector for long term financing which may increase maturity mismatch risks for banks.

Hence, an optimistic, liquid, profound, and reasonably volatile capital market is desired for the stability of the financial system. Following a mostly bearish market in the previous quarter, both bourses of the country were buoyant in the review quarter. Especially, significant increases in turnover and indices were observed during January-February 2019 due to stable political environment after the national election. However, a gradual decrease in turnover and indices were observed in both the bourses since March 2019.

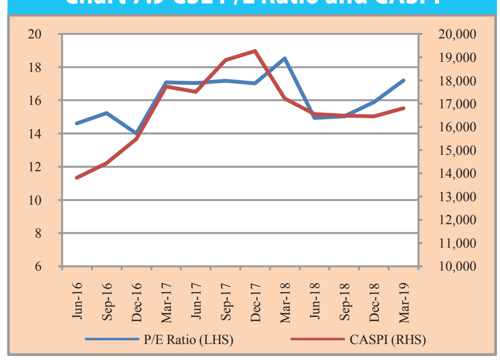
The market capitalization and P/E ratio showed recovery during the review quarter. A vibrant trading of the banking sector played a major role to improve market capitalization in both bourses, banks' aggregate investment in the capital market remained below the allowable limit of

Chart 7.8 Market Capitalization and CASPI



Source: CSE.

Chart 7.9 CSE P/E Ratio and CASPI



Source: CSE.

Bangladesh Bank.[25] [26] Thus, any adverse shock on equity price individually does not seem to pose any stability threat to the financial sector in the near term. However, since banking sector shares dominate both bourses in terms of market capitalization and turnover, so stress to the banking sector may pose adverse effect on the stock markets.

[25] Banks' capital market exposure was 16.68% and 27.53% of regulatory capital on solo and consolidated basis respectively at end-March 2019. They were 16.82% and 28.07% respectively at end-December 2018. (Source: DOS, BB).

[26] 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

Bangladesh Bank (BB) has taken a number of policy initiatives during the first quarter (January-March) of the calendar year 2019 conducive to resilient domestic financial system stability. Some of the key initiatives are discussed below:

8.1 Loan/Investment Write-off Policy

BB has issued a circular revising the write-off policy of loan/investment in the context of current banking scenario. The revised policy incorporates the write-off procedure, activities related to recovery, reporting procedure etc. Major issues are mentioned below:

Loans/investments which have been classified for a period of three consecutive years and there have been no recovery for a long period of time and also there is very slim possibility of recovery in near future, can be turned into written-off. Moreover, banks can write-off loans of defaulters who have already passed away without filing a suit under Money Loan Court Act, 2003, if such are not suitable for suit. Under the current rules, banks have mandatory obligation to file suit before writing-off a loan/investment if no prior legal action had been taken. The revised policy has allowed the banks to write-off loans/investments amounting up to taka two lacs without filing a suit against the borrower/defaulter. Any loan/investment cannot be written-off partially and without approval of Board of Directors. To expedite the recovery of the written-off loans/investments, banks are required to form a separate "debt collection unit" and may hire a third-party service provider. Once written-off, the concerned loan/investment cannot be rescheduled or restructured again. However, banks can determine a repayment schedule for written-off loans to facilitate recovery under an exit plan only. Banks are required to obtain prior approval from Bangladesh Bank for writing-off loans/investments taken by the current or former bank directors or their enterprises.

[Ref.: BRPD circular no. 01; date: 06-02-2019]

8.2 Policy for Offshore Banking Operation of the Banks in Bangladesh

BB has issued a set of instructions for conducting offshore banking in Bangladesh by the scheduled banks. The policy includes a definition of offshore banking, approval for conducting offshore banking in Bangladesh, commencement of operation, operation/transactions of offshore banking, restrictions on activities, prudential regulations, and termination and/or amendment of the approval for offshore banking.

[Ref.: BRPD circular no. 02; date: 25-02-2019]

8.3 Value Added Tax (VAT) Realization/Collection

BB has directed all the scheduled banks to collect 15 percent value added tax (VAT) while payments are made using banking services, such as credit cards or TT or any mode of payment by customers for getting services (e.g., royalty, various internet services, advertisement on Facebook, Youtube etc.) from service providers located in abroad (i.e., outside of Bangladesh) as per clause Gha of sub-section 3 of section 3 of the Value Added Tax Act, 1991.

[Ref.: BRPD circular letter no. 04; date: 04-03-2019]

8.4 Expenditure Limit for the Establishment, Relocation and Decoration of Business Centres of Banks

BB has raised the expenditure limits of banks for setting up new business centre and relocating existing ones considering the increased cost of articles over time. From now banks can spend up to BDT 1,850.00 per square feet for setting up new business centre and up to BDT 1,250.00 per square feet for relocating existing ones except the cost of IT equipments and air-conditioning systems. BB has also instructed banks to use their own fund and management to set up/shift vaults in branches considering security.

[Ref.: BRPD circular letter no. 01; date: 09-01-2019]

8.5 Renaming of 'The Farmers Bank Limited' as 'Padma Bank Limited'

BB has approved the rename of 'The Farmers Bank Limited' as 'Padma Bank Limited' and amended the list of scheduled banks accordingly.

[Ref.: BRPD circular letter no. 02; date: 29-01-2019]

8.6 Compliance with Advance Deposit Ratio (ADR)/Investment Deposit Ratio (IDR)

BB has instructed banks to adjust their Advance to Deposit Ratio (ADR)/ Investment Deposit Ratio (IDR) against their required limit by September 30, 2019. BB has also instructed them to prepare precise work-plan to adjust the said limit and report it to the concerned department of BB. Banks have to submit such monthly progress report within 10 working days after the end of each month.

[Ref.: DOS circular no. 01; date: 07-03-2019]

8.7 Name Change of Financial Institution

As per DFIM circular letter no. 01 dated February 3, 2019, BB has renamed "CAPM Venture Capital & Finance Limited" as "CVC Finance Limited".

[Ref.: DFIM circular letter no. 1; Date: 03-02-2019]

8.8 Opening of business development centre

BB has incorporated a clause "Gha" in the DFIM circular no. 07 dated June 28, 2010 with a view to ensuring better business practices by financial institutions. Now, FIs are required to take approval from BB before establishing any kind of business development centre (e.g., business development center, customer service centre, call centre, unit office, sales centre, etc.) along with establishing /relocating a branch/booth. Any kind of transaction regarding receipt of deposits or disbursement of credit/ lease are not allowed in this kind of installation. However, business activities that are not directly related to financing, area-based customer service, advice, receive and settlement of complain, human resources development, etc. can be performed in such kind of installations.

[Ref.: DFIM circular letter no. 5; Date: 24-03-2019]

8.9 Changes in the Foreign Exchange Regulations/Transactions

BB has made a number of changes in its foreign exchange regulations/ transactions. Some key changes are stated below:

i) Repayment against imports under supplier'/buyer's credit relaxation: To facilitate import of small value, bullet payment re permissible for imports amounting up to USD 0.50 million or equivalent under supplier'/buyer's credit of goods admissible for usance period beyond 6 months but within one year.

[Ref.: FEPD circular no. 5; date: 09-01-2019]

ii) Endorsement of shipping documents: Authorized dealers (ADs) are allowed to endorse transport documents of title to cargo in favor of importer or other designated parties and deliver the same as per the stipulations of export letter of credit/valid sales contract only if full export proceed is received through normal banking channel before sending export documents to counterpart bank abroad for collection.

[Ref.: FEPD circular no. 3; date: 09-01-2019]

iii) Use of balances held in foreign currency (FC) accounts by Type A industrial enterprises: Type A industrial enterprises operating in EPZs/EZs are allowed to invest in zone areas or outside zone areas in Bangladesh from their surplus fund held in their FC accounts. Such type of investment would be treated as reinvestment. Balances held in FC accounts by Type A industrial enterprises of EPZs/EZs can be used for purchasing shares in zone areas or outside zone areas in Bangladesh. Dividend income earned from such investment and disinvestment proceeds (if any) approved by Bangladesh Bank are also allowed to credit to their FC accounts, subject to compliance with regulations of taxes.

[Ref.: FEPD circular no. 04; date: 09-01-2019]

iv) Import of unprocessed yarn on deferred payment basis: To facilitate backward linkage industries, the usance period for import of unprocessed yarn used for producing outputs for only local delivery against back to back LCs has been enhanced from 180 days to 270 days. This usance period is usable for imports within the limits of production capacity of the concerned factory as set by the Department of Textiles or up to delivery value realized in foreign currency in last twelve months, whichever is lower. Authorized Dealers are allowed to arrange refinance under buyer's credit for 90 days to settle EDF loan used to import unprocessed yarn for the tenure of 180 days usance basis following paragraph 5(c) of FE circular no.45 dated December 31, 2017.

[Ref.: FEPD circular no. 06; date: 09-01-2019]

v) Bank guarantee by exporters to competent authorities/agencies in the country of import: It is observed that exporters need to furnish guarantees to quality standard authorities/agencies in the country of import as a commitment to comply with their specified quality standards. To facilitate the transactions, Authorized Dealers, on account of Bangladeshi exporters, are allowed to issue guarantees in favor of such competent authorities/agencies in the country of import subject to usual norms and export performance of the exporter and potential export expectation.

[Ref.: FEPD circular no. 8; date: 22-01-2019]

vi) Issuance of Letter of Credit Authorization Form (LCAF): As per the existing instructions prescribed in the guidelines for Foreign Exchange Transactions (GFET), 2018 (Vol.1), importers are required to sign the LCAF in the presence of an officer of the AD who, in turn, put signature with date and seal on the LCAF. To bring simplification in trade transactions, the lawful representative(s) of the importer are also allowed to sign in the LCAF. Other instructions regarding issuance of LCAF will remain unchanged.

[Ref.: FEPD circular no. 10; date: 05-02-2019]

vii) Issuance of authorized gold dealer licence for import of gold bar and jewellery: According to the sub- section 3.1 of the Gold Policy-2018 issued by the Commerce Ministry of the Peoples Republic of Bangladesh, Bangladesh Bank has issued a set of instructions under section 8 of Foreign Exchange Regulation Act, 1947 for the issuance of Authorized Gold Dealer licence in favour of interested Authorized Dealer banks and institutions interested for import of Gold bar and Jewellery through the FE circular no. 13 dated 11 March, 2019. This circular outlined the detailed procedure of issuance of licence like application process, scope of work of the licenced bank/institution, renewal of licence, import procedure etc.

[Ref.: FEPD circular no. 13; date: 11-03-2019]

8.10 Matching of overdue Bill of Entry without prior approval of Bangladesh Bank

Under the existing foreign exchange transaction system, in many cases, unsettled bill of entry against the paid import expenditure is sent to the Legal Compliance and Enforcement Section of Foreign Exchange Policy Department (FEPD) of Bangladesh Bank. In such cases, after receiving the bill of entry, if matching has been done by the concerned authorized dealer branch of a bank, immediately, it should be informed to the Foreign Exchange Operation Department (FEOD) along with the copy of bill of entry as per FEOD circular letter no. 03 dated February 06, 2019.

[Ref.: FEOD circular letter no. 03; date: 06-02-2019]

8.11 Marking to market based revaluation of Treasury Bills & Bonds held by the banks on the basis of published yield

In order to limit the number of bonds in the market, increase the ISIN based balance, and specify the benchmark securities, treasury bonds of various maturities are being re-issued currently. To facilitate correct revaluation of government securities, the cut-off yields determined in recent auctions of re-issued bonds will be converted to full-period yields of the bonds using the methods of interpolation/extrapolation and the same will be published on the BB website. Banks will determine the valuation of their holdings of government securities using the full-period yields published on the BB website following the relevant BB circulars and circular letters.

[Ref.: DMD circular letter no. 01; date: 01-01-2019]

8.12 Guidelines for National Payment Switch Bangladesh (NPSB) Logo

BB has prepared NPSB logo and issued a guideline for the usage of the NPSB logo vide PSD circular letter no.1 dated March 11, 2019 considering the increased IT based interbank services under NPSB. This logo may be used in payment channels, such as, ATM booth, POS machine, E-commerce acquiring site, Online electronic payment gateway etc. and payment instruments like cards (debit card, pre-paid card) are used for electronic retail payment related activities of banks under NPSB. All banks are required to display the logo in ATM booths, POS terminals and digital displays within July 31, 2019 and also on new proprietary cards issued from August 1, 2019 along with cards issued earlier. Moreover, banks will take necessary steps to use it on Branded Card while renewing contracts with International Payment Scheme (IPS). Banks are instructed to collect the softcopy of the NPSB logo from Payment System Department of BB and follow the guideline accordingly.

[Ref.: PSD circular letter no. 1; date: 11-03-2019]

8.13 Loan fund for pre-finance under Program to Support Safety Retrofits and Environmental Upgrades in the Bangladeshi Ready-Made Garments (RMG) Sector Project (SREUP)

The government with the sponsorship of Agence Francaise de Development (AFD) of France has constituted a loan fund amounting EURO 50 million in Bangladesh Bank to support safety remediation, environmental and social up-gradation of readymade garment factories. Under the "programme to support safety retrofits and environmental upgrades in the Bangladeshi Ready-Made Garments Sector Project (SREUP)", the Loan Fund size of the project is EURO 50 million and Technical Assistance (TA) fund size is EURO 14.29 million. TA component for Participating Financial Institutions (PFIs) and RMG factories is sponsored by the European Union, the Kreditanstalt fur Wiederaufbau (KfW), the Gesellschaft fur Internationale Zusammenarbeit (GIZ) and Bangladesh Bank. BB has issued a circular on March 31, 2019 in this regard. According to the circular, PFIs would be provided with pre-finance for disbursing the credit to eligible RMG factories under the loan fund for safety retrofits and environmental up-gradation. Eligible RMG factories would get loan (in BDT) equivalent up to 1.0 million EURO at an interest rate of maximum 7 per cent and the loan amount might be extended up to 3.0 million EURO in case of (i) major environmental up-gradation or (ii) any other duly justified and documented case. The maturity of the loan would be usually 3 to 5 years but in case of major environmental up-gradation or any other duly justified and documented case, it might be extended up to seven years. BB would provide the pre-finance fund to the PFIs at 3.5 percent interest rate and the PFIs would have to bear the credit risk of end-borrowers.

[Ref.: SMESPD circular no. 1; date: 31-03-2019]

Appendices

Appendix I CPI Inflation (12 month Average)

(Percent)

Month	Inflation (General)	Inflation (Food)	Inflation (Non-Food)
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
Dec-18	5.5	6.2	4.5
Mar-18	5.5	5.8	5.0

Base: 2005-06=100

Appendix II Foreign Exchange Reserve

(Amount in million USD)

Month-end	International Reserve
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
Dec-18	32,020.0
Mar-19	31,750.0

Appendix III Wage Earners' Remittance

(Amount in million USD)

Quarter	Amount
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
Dec-18	3,626.5
Mar-19	4,373.6

Appendix IV Exports and Imports

(Amount in million USD)

Quarter	Aggregate Exports (F.O.B)	Aggregate Imports (F.O.B)
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
Dec-18	10,416.0	14,224.0
Mar-19	10,276.0	14,544.0

Appendix V Interest Rate (Weighted Average) Spread

(In percent)

Period	Lending Rate	Deposit Rate	Spread
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
Dec-18	9.5	5.4	4.2
Mar-19	9.5	5.3	4.2

Appendix VI Weighted Average Exchange Rate

(BDT/USD)

Quarter	Period Average	End Period
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
Dec-18	83.9000	83.9000
Mar-19	83.2100	83.2500

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

(Amount in billion BDT)

Period	Amount
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
Dec-18	1,838.2
Mar-19	1,810.1

Appendix VIII Asset Structure of the Banking Industry

(Amount in billion BDT)

Property and Assets	30-06-2018	30-09-2018	31-12-2018	31-03-2019
Cash in hand	143.9	147.4	139.7	153.0
Balance with Bangladesh Bank and its Agent Bank	910.7	810.5	853.9	766.3
Balance with other banks and financial Institutions	825.7	841.5	914.1	892.1
Investment	2,003.8	2,019.5	1,957.6	2,036.2
Loans and Advances	9,166.2	9,258.5	9,685	9,962.9
Fixed Assets	227.3	228.8	229.0	233.0
Other Assets	733.6	762.3	783.7	770.2
Non-banking assets	3.7	3.7	3.9	4.2
Total Assets	**14,014.9**	**14,072.2**	**14,566.9**	**14,817.9**

Note: R-revised.

Appendix IX Banking Sector Assets & NPL Concentration (Mar-2019)

(Amount in billion BDT)

ASSETS	*TOP 5 BANKS*	*OTHER BANKS*	*TOP 10 BANKS*	*OTHER BANKS*
Amount	4,474.1	10,343.8	6,505.5	7,312.9
Share (%)	30.2	69.8	43.9	56.1
NPL	**Top 5 banks**	**Other banks**	**Top 10 banks**	**Other banks**
Amount	555.2	553.6	727.3	381.5
Share (%)	50.1	49.9	65.6	34.4

Appendix 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)/ Req. Cap. (%)
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	886.0	11.5	3.3	26.0
Dec-18	939.1	10.3	2.2	17.8
Mar-19	1,108.7	11.9	3.0	22.6

Appendix XI Distribution of Banks by NPL Ratio

Range	Number of Banks as at end				
	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19
Up to 2.0%	9	9	8	11	8
2.0% to <3.0%	4	3	1	2	2
3.0% to <5.0%	10	10	7	14	8
5.0% to <10.0%	22	22	29	18	26
10.0% to <15.0%	0	1	0	0	1
15.0% to <20.0%	2	1	1	3	3
20.0% & above	10	11	11	9	9
Total	**57**	**57**	**57**	**57**	**57**

Appendix XII Banking Sector Loan Loss Provisions

(Amount in billion BDT)

PERIOD	*REQUIRED PROVISION*	*PROVISION MAINTAINED*	*PROVISION MAINTENANCE RATIO (%)*
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
Dec-18	570.4	504.3	88.4
Mar-19	670.7	582.1	86.8

Appendix 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
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
Dec-18	10.3	9.4	4.7	85.9
Mar-19	11.9	9.6	4.4	86.0

Appendix XIV Classified Loan Composition (End-March 2019)

(Amount in billion BDT)

PARTICULARS	AMOUNT	PERCENT OF TOTAL
Sub-Standard	106.1	9.6
Doubtful	48.9	4.4
Bad & Loss	953.9	86.0
Total	1108.7	100.0

Appendix XV Banking Sector ROA Range

Quarter	ROA Range			
	Up to 2.0%	> 2.0% to ≤ 3.0%	> 3.0% to ≤ 4.0%	> 4.0%
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
Dec-18	51	4	0	2
Mar-19	52	3	0	2

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

Appendix XVI Banking Sector ROE Range

Quarter	ROE Range			
	Up to 5.0%	> 5.0% to ≤ 10.0%	> 10.0% to ≤ 15.0%	> 15.0%
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	21	17	12	7
Sep-18	21	17	12	7
Dec-18	14	13	23	7
Mar-19	24	15	15	3

Notes: ROEs have been annualized from respective quarterly ratios.

Appendix XVII Banking Sector ROA and ROE

Ratio	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19
ROA	0.4	0.8	0.3^{R}	0.4^{R}	0.3	0.3	-0.5
ROE	5.9	10.9	5.0^{R}	5.3	4.3	4.4	-8.1

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 2nd quarter of 2018) x 2/Average of assets at the end of 1st and 2nd quarters of 2018) x 100.
(c) ROA of 2018 =Profits in 2018/Assets at end-December 2018) x100.
(d) Similar method applied for annualizing quarterly ROE.
2. R– revised.

Appendix XVIII FIs' Borrowing, Deposit and Capital

(Amount in billion BDT)

Particulars	Sep-2018	Dec-2018	Mar-2019
Borrowings	181.8	189.2	190.6
Deposits	492.8	487.8	483.3
Capital	108.9	114.7	91.6
Other Liabilities	98.1	90.0	107.5
Total	**881.6**	**881.6**	**873.0**

Appendix XIX FIs' Asset Composition

(Amount in billion BDT)

Particulars	Sep-2018	Dec-2018	Mar-2019
Cash & Balance with Banks/FIs	128.6	115.9	108.4
Investments	31.7	27.7	30.4
Loans & Leases	640.4	661.8	671.3
Other Assets	69.2	63.9	50.4
Fixed Assets	11.7	12.4	12.4
Total	**881.6**	**881.6**	**873.0**

R - revised.

Appendix XX FIs' Classified Loans and Leases

(Amount in billion BDT)

Quarter	Aggregate NPL	Aggregate NPL to total loan (%)
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
Dec-18	54.6	7.9
Mar-19	72.2	10.3

Appendix XXI FIs' ROA & ROE

(In percent)

Quarter	Aggregate ROA	Aggregate ROE
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
Dec-18	0.6	4.6
Mar-19	-0.05	-0.5

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

Appendix XXII Banking Sector CRAR Distribution

CAR	NUMBER OF BANKS (AT END PERIOD)						
	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19
< 10%	9	9	10	9	9	9	9
10% to ≤15%	32	31	31	31	32	27	31
15% +	16	17	16	17	16	21	17

Appendix XXIII Banking Sector Asset Share based on CRAR as at end-March 2019

CRAR	Number of banks & their asset size		Asset share (%)
	Number of banks	Asset size (in billion BDT)	
<10%	9	2,998.2	20.2
10% to ≤15%	31	10,422.0	70.3
15% +	17	1,397.7	9.4
Total	**57**	**14,817.9**	**100.0**

Appendix XXIV Tier-1 Capital Ratio and Overall CRAR of the Banking Industry

Particulars	Jun-17	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19
Core Capital to RWA (%)	7.5	7.5	7.0	7.7	7.6	7.0	7.7	7.6
Number of core capital compliant banks	50	49	50	47	46	47	47	49
Overall CRAR (%)	10.9	10.7	10.8	10.1	10.9	10.9	10.5	11.4
Number of CRAR compliant banks	50	48	48	47	48	48	48	48
No. of banks in the industry	57	57	57	57	57	57	57	57

* R-Revised

Appendix XXV Distribution of Risk Weighted Assets of the Banking Industry

(Amount in billion BDT)

Particulars	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19
RWA for Credit Risk	7933.1	8131.3	8240.2	8589.1	8769.3
RWA for Market Risk	278.6	325.2	301.4	314.9	309.3
RWA for Operational Risk	796.3	800.9	810.2	859.9	886.8
Total RWA	**9,008.0**	**9,257.4**	**9,351.8**	**9,763.9**	**9,965.3**

Appendix XXVI Banking Sector Regulatory Capital Position (Solo Basis)

(Amount in billion BDT)

Period	Minimum Capital Requirement	Total Regulatory Capital
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
Dec-18	1000.1	1025.6
Mar-19	1019.0	1136.6

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

Period	ADR (%)
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
Dec-18	78.3
Mar-19	77.6

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

Bank wise	ADR (%)
SCBs	59.6
PCBs	86.2
FCBs	65.1
DFIs	79.2
Industry	78.3

Appendix XXIX FIs' CRR & SLR

(Amount in million BDT)

Quarter End	Aggregate CRR			Aggregate SLR		
	Required	Maintained	Surplus/ Shortfall	Required	Maintained	Surplus/ Shortfall
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
Dec 2018	7,422.5	7,131.8	(290.7)	20,508.7	94,986.1	74,477.4
Mar 2019	7,484.7	7,323.8	(160.9)	21,364.2	91,740.4	70,376.2

Appendix XXX Capital Adequacy Ratio of FI Sector

Particulars	End Dec-17	End Mar-18	End Jun-18	End Sep-18	End Dec-18	End Mar-18
Eligible Capital to RWA (%)	13.5	13.0	12.8	12.4	13.9	13.6

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

(Amount in billion BDT)

Particulars	End Dec-17	End Mar-18	End Jun-18	End Sep-18	End Dec-18	End Mar-18
Risk Weighted Assets (RWA)						
Credit RWA	622.5	666.8	665.5	670.4	659.3	648.1
Market RWA	62.9	54.8	51.9	53.2	51.8	49.1
Operational RWA	43.1	43.9	45.0	47.3	48.3	51.2
Total RWA	**728.5**	**765.5**	**762.5**	**770.9**	**759.3**	**748.4**
Core Capital (Tier -1)	87.3	88.2	85.8	84.1	92.5	88.6
Supplementary Capital	11.0	11.5	11.6	11.4	13.2	13.6
Eligible Capital	98.3	99.7	97.4	95.5	105.8	102.2

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

(Based on data as of end-March 2019)

Shocks	CRAR after Shock (%)		
	Minor Level	Moderate Level	Major Level
Increase in NPL in the highest outstanding sector	11.34	11.20	11.07
Increase in NPLs due to default of Top borrowers	9.76	8.31	7.36
Negative shift in NPL categories	10.65	8.21	6.59
Decrease in the FSV of collateral	10.67	9.92	8.39
Increase in NPLs	10.29	7.63	3.73
Interest rate shock	11.09	10.78	10.47
Exchange rate shock	11.38	11.35	11.32
Equity shock	11.15	10.89	10.37
Combined shock	8.20	1.76	-6.16

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

(Based on data as of end-March 2019)

Shocks	No. of Banks		
	Minor Level	Moderate Level	Major Level
Increase in NPL in highest outstanding sector	4	4	7
Increase in NPLs due to default of Top borrowers	21	35	39
Negative shift in NPL categories	1	11	15
Decrease in the FSV of collateral	1	4	6
Increase in NPLs	4	29	36
Interest rate shock	1	2	4
Exchange rate shock	1	1	1
Equity shock	1	2	4
Combined shock	17	39	40

Appendix XXXIV DSE Performance

Month	(In billion BDT)		Index		
	Turnover	Market Capitalization	DSEX	DS30	DSES
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
Oct-18	127.37	3,841.98	5,284.13	1,878.04	1,222.49
Nov-18	116.74	3,817.82	5,281.25	1,861.56	1,223.47
Dec-18	87.06	3,872.95	5,385.64	1,880.78	1,232.82
Jan-19	223.48	4,163.60	5,821.01	2,007.96	1,310.60
Feb-19	137.79	4,150.74	5,711.83	1,998.65	1,314.64
Mar-19	93.92	4,119.65	5,491.91	1,967.21	1,275.45

Appendix XXXV CSE Performance

Month	(In billion BDT)		Index		
	Turnover	Market Capitalization	CASPI	CSE30	CSI
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
Oct-18	5.90	3,190.65	16,191.65	14,499.72	1,077.34
Nov-18	5.28	3,099.68	16,182.32	9,810.66	1,072.84
Dec-18	7.67	3,146.83	16,449.51	14,500.66	1,076.78
Jan-19	10.22	3,450.03	17,890.92	15,405.79	1,162.04
Feb-19	15.21	3,424.32	17,473.49	15,346.03	1,157.71
Mar-19	3.48	3,399.04	16,803.16	14,724.32	1,120.20

Appendix XXXVI Sectoral Turnover of DSE

BROAD SECTOR	SECTOR	% OF TOTAL TURNOVER	
		2018Q4	2019Q1
Financial Sector	Banks	7.57	11.97
	Financial Institutions	4.13	5.68
	Insurance	4.87	11.48
Manufacturing	Food & Allied Product	4.00	4.22
	Pharmaceuticals & Chemicals	14.10	9.94
	Textile	20.32	12.41
	Engineering	10.98	12.46
	Ceramic	1.71	2.61
	Tannery	1.62	3.16
	Paper & Printing	0.81	0.44
	Jute	0.83	0.44
	Cement	1.69	1.05
Service & Miscellaneous	Mutual Funds	0.32	0.46
	Fuel & Power	14.78	11.29
	Services & Real estate	0.57	1.11
	IT Sector	3.68	2.87
	Telecommunication	1.16	3.88
	Travel and Leisure	1.38	0.71
	Miscellaneous	5.45	3.83
Bond	Corporate Bond	0.01	0.00
Total		**100.00**	**100.00**

Note: 2018Q4≡ December quarter 2018, 2019Q1≡ March quarter 2019.

Appendix XXXVII Sectoral Turnover of CSE

BROAD SECTOR	*SECTOR*	*% OF TOTAL TURNOVER*	
		2018Q4	**2019Q1**
Financial Sector	Banks	0.633	1.01
	Leasing &Finance	0.212	4.27
	Life Insurance	13.889	11.84
	General Insurance	8.268	8.58
Manufacturing	Food & Allied Product	0.874	2.11
	Pharmaceuticals & Chemicals	9.189	1.24
	Textile	7.358	14.27
	Engineering	0.471	0.92
	Ceramic	1.139	2.80
	Tannery	1.014	1.64
	Paper & Printing	4.677	7.04
	Cement	0.101	0.29
Service & Miscellaneous	Fuel & Power	4.077	22.47
	Services	0.342	0.62
	IT	1.903	2.31
	Telecommunication	2.663	8.94
	Mutual Funds	0.456	2.82
	Miscellaneous	11.423	6.84
Bond	Corporate Bond	0.008	0.00
Total		**100.00**	**100.00**

Note: 2018Q4≡December quarter 2018, 2019Q1≡ March quarter 2019.

Appendix XXXVIII Price/Earnings Ratio of Capital Market

Quarter	DSE P/E Ratio	CSE P/E Ratio
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
Dec-18	15.2	15.9
Mar-19	16.1	17.2

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

Month	Daily Average Index Volatility[1]	Daily Average DSE Turnover (In crore BDT)
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
Oct-18	76.62	553.78
Nov-18	25.71	583.69
Dec-18	46.22	483.65
Jan-19	134.96	971.64
Feb-19	34.47	765.51
Mar-19	79.52	494.30

27 Measured by average of daily standard deviation of DSEX during each month.

Appendix XL Result of Augmented Dickey-Fuller (ADF) Unit Root Tests

Variable	ADF Stats	Critical Value at 5%	Probability	Order of Integration
CFSI	-3.741	-1.978	0.002	I(1)
FII	-2.934	-1.978	0.008	I(1)
GGDPC	-10.413	-4.008	0.000	I(1)
GDCGDP	-3.792	-1.978	0.001	I(1)
GFdiGDP	-4.903	-1.974	0.000	I(0)
GRemGDP	-2.125	-1.974	0.037	I(0)
GNplGDP	-6.507	-3.933	0.002	I(1)

Appendix XLI Result of Variance Inflation Factors (VIF) Test

Variable	VIF	Tolerance
GRemGDP	4.32	0.231585
FII	4.23	0.236162
GFDiGDP	1.75	0.570168
GDCGDP	1.69	0.592879
GNPlGDP	1.57	0.635258
GGDPC	1.51	0.662694
Mean VIF	2.5	

Appendix XLII Result of Philips-Ouliaris Test

Dependent variable: D(RESID)				
Null hypothesis: No co-integration				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
RESID(-1)	-1.004875	0.294125	-3.416487	0.0058