BANGLADESH BANK
Central Bank of Bangladesh

Macroprudential Supervision of Financial System

Bangladesh Systemic Risk Dashboard (BSRD)

Financial Stability Department
June 2019

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June 2019

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4. Department of Off-site Supervision
5. Statistics Department

- *This dashboard is based on data and information available as of June 2019, unless stated otherwise.*
- *This dashboard can be accessed through internet at https://www.bb.org.bd/pub/index.php.*

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List of acronyms

ADR	Advance-to-Deposit Ratio
BB	Bangladesh Bank
BRPD	Banking Regulation and Policy Department
CY	Calendar Year
DFIM	Department of Financial Institutions and Markets
DMD	Debt Management Department
DOS	Department of Off-site Supervision
DSE	Dhaka Stock Exchange
DSEX	DSE Broad Index
ERD	Economic Relations Division
FCBs	Foreign Commercial Banks
FIs	Financial Institutions
FSD	Financial Stability Department
FY	Fiscal Year
GDP	Gross Domestic Product
GoB	Government of Bangladesh
IMF	International Monetary Fund
MA	Moving Average
NBDC	Non-bank Depository Corporation
NFCs	Non-financial Corporations
NII	Net Interest Income
NPL	Non-performing Loan
PCBs	Private Commercial Banks
P/E ratio	Price/Earnings Ratio
ROA	Return on Assets
ROE	Return on Equity
RWA	Risk-weighted Assets
SCBs	State-owned Commercial Banks
SBs	Specialized Banks
T-bill	Treasury Bill
T-bond	Treasury Bond
TOI	Total Operating Income

Bangladesh Systemic Risk Dashboard: An Overview

1. Macro risk

Real GDP growth rate was recorded at 8.1 percent (indicator 1.1) in the fiscal year 2018-19 (FY19), which was 7.9 percent in FY18. Current account balance-to-GDP ratio (indicator 1.2) improved further during the second half of FY19 compared to that of the preceding period.

Aggregate debt-to-GDP ratio (indicator 1.3) decreased moderately in FY19 compared to that of FY18. During the same period, government debt-to-GDP ratio (indicator 1.4) increased due to rise in government's development expenditure as evident from an increase in government deficit-to-GDP ratio (indicator 1.5).

Financial burden of households, measured by household debt-to-gross disposable national income ratio (indicator 1.6), decreased during the second half of FY19 compared to the corresponding position of FY18 as well as the position of the preceding period. A similar trend was observed in non-financial corporation (NFC) debt-to-GDP ratio (indicator 1.7) during the review period.

2. Credit risk

Credit growth to households by both banks (indicator 2.1) and non-bank depository corporations (NBDCs) (indicator 2.2) increased slightly at end-June 2019 compared to those of end-December 2018. A slowdown in credit growth to NFCs by both banks (indicator 2.3) and NBDCs (indicator 2.4) was observed at the end of June 2019 compared to the positions of the preceding period.

At the end of June 2019, provision maintenance ratio (indicator 2.5) of banks recorded a decline while the ratio of financial institutions (FIs)[1] (indicator 2.6) registered an increase compared to those of end-December 2018. Increase of banks' provision requirement appears to be the main reason for decline in provision maintenance ratio.

In terms of changes in banks' interest rates for housing loans (indicator 2.7), a net tightening was observed at the end of June 2019, indicating a higher number of banks increased their interest rates to accommodate fund flow mismatch in housing sector compared to the number of banks those eased their rates.

3. Funding and liquidity risk

During the review period, liquidity support provided to banks by Bangladesh Bank in the form of both assured liquidity support (ALS) and special repo increased compared to those of the preceding period (indicator 3.1). These liquidity supports against treasury bills and bonds were taken by banks to meet up their occasional demands. Led by a decreased advance-to-deposit ratio (ADR) of domestic private commercial banks (PCBs), ADR of the banking industry (indicator 3.2) decreased at end-June 2019 compared to end-December 2018 position.

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[1] In few cases due to NBDCs' data unavailability, data of FIs, which constitute the majority of NBDCs, were used.

Maturity profile of banks' outstanding debt securities (indicator 3.3) demonstrates that banks' investment in treasury bonds (T-bonds) with all types of residual maturity except the ones up to 2 years increased at end-June 2019 compared to those of end- December 2018. T-bonds having residual maturity over 5 and up to 10 years made up the largest share of the total value of T-bonds outstanding while the same with remaining maturity over 15 years remained the lowest. Treasury bills (T-bills) with all types of residual maturity recorded an increase at end-June 2019 compared to those of end-December 2018. Banks' investment in long-term securities is a sign of long-term solvency to mitigate any obligation in future. Subordinated debt (indicator 3.4), as a source of funding for banks, maintained the increasing trend at the end of the review period.

4. Market risk

Major equity indices (indicator 4.1) increased marginally at end-June 2019 compared to end-December 2018 position. Market price/earnings (P/E) ratio (indicator 4.2) slightly decreased during the review period compared to that of the preceding period.

Average call money market rate (indicator 4.3) maintained an increasing trend since June 2018. Compared to the position of end-December 2018, banks' weighted average interest rates on both deposits and advances (indicator 4.4) increased, but their spread decreased slightly at end-June 2019. Besides, weighted average exchange rate of BDT against USD (indicator 4.5) continued to follow the depreciating trend at end-June 2019. The volatility in call money market, interest rate and exchange rate was a market phenomenon, so risk in this context was low and could be mitigated easily through intensive monitoring.

5. Profitability and solvency risk

Banks' return on equity (ROE) and return on asset (ROA) (indicators 5.1a and 5.1b) decreased marginally during the January-June 2019 period compared to those of the preceding period. During the same period, cost-to-income ratio (indicator 5.1c) and net interest income to total operating income ratio (indicator 5.1d) increased. At end-June 2019, banks' Tier-1 capital to risk-weighted assets ratio (indicator 5.2a) increased compared to that of end-December 2018, remaining well above the regulatory requirement of 6.0 percent. Banks' gross non-performing loan (NPL) ratio (indicator 5.2b) recorded an increase at the end of the review period.

FIs' ROE and ROA (indicators 5.3a and 5.3b) showed a notable decrease during the review period compared to those of the preceding period. Both cost-to-income ratio (indicator 5.3c) and net interest income to total operating income ratio (indicator 5.3d) registered an increase during the same period. FI's Tier-1 capital to risk-weighted assets ratio (indicator 5.4a) recorded a decrease while their gross NPL ratio (indicator 5.4b) increased at the end of June 2019. Strong recovery drive and stringent monitoring may help increase profitability and solvency of banks and FIs.

6. Inter-linkages

Banks' credit growth to the government (indicator 6.1) increased at end-June 2019 compared to that of end-December 2018. Government borrowing from NBDCs (indicator 6.2) was very low and the growth

was negative. One of the positive sides of the banks' credit growth to the government was that banks used that portion as cushion against liquidity and received stable earnings from that source.

Banks' loan growth to both residential and commercial housing sector (indicator 6.3a and 6.3b) demonstrated further slowdown at end-June 2019. Growth of FIs' loans to housing sector (indicator 6.4) recorded an increase during the same period.

An increasing trend was observed in banks' credit exposure to its major public and private counterparts (indicator 6.5), in which NFCs accounted for almost seventy percent. NBDCs' credit exposure to its major counterparts, dominated by NFCs and household loans, also maintained an increasing trend (indicator 6.6). Banks' cross-border claims (indicator 6.7) recorded a decrease and remained less than one percent of banks' total assets at end-June 2019. NBDCs' cross-border claims (indicator 6.8) was almost non-existent at the end of June 2019.

7. Structural Risk

Aggregate assets of both domestic banks and foreign banks, as a percentage of nominal GDP, (indicator 7.1) recorded a decrease at end-June 2019 compared to those of end- December 2018. Similar trend was observed in FIs' aggregate assets to nominal GDP ratio (indicator 7.3). Leverage ratios of banks (indicators 7.2) demonstrated an upward trend over the last few years while the same for FIs (indicators 7.4) showed a declining trend since June 2018.

1. Macro risk

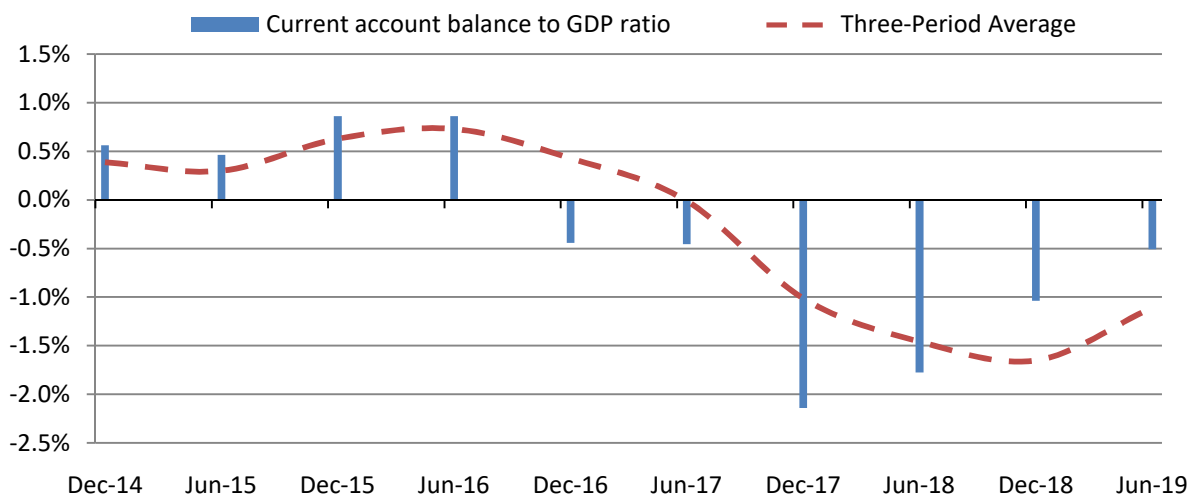## 1.1 Current and forecasted real GDP growth
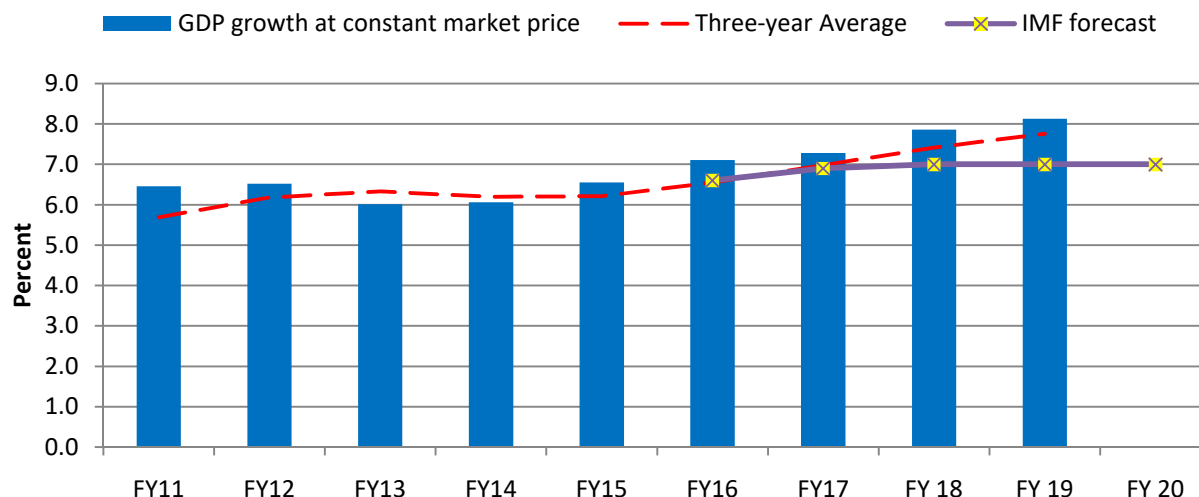
Source: Statistics Department, BB; IMF's World Economic Outlook, April, 2019.
Notes: As half yearly GDP is not calculated in Bangladesh, GDP growth is shown for only fiscal years.

Real GDP growth showed an increasing trend, surpassing the IMF forecast for the fiscal year 2019 (FY19).
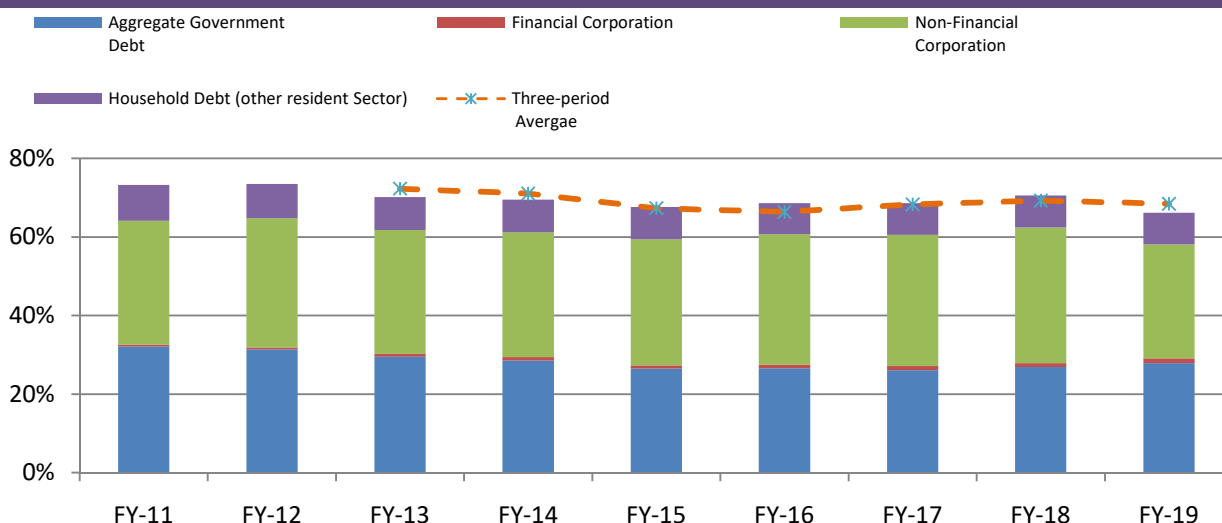
1.2 Current account balance-to-GDP ratio

Source: Monthly Economic Trends, BB.
Note: As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating current account balance-to-GDP ratio.

Current account balance-to-GDP ratio, though remained negative, showed a gradually improving trend since December 2017.

1. Macro risk–Cont'd.

1.3 Aggregate debt-to-GDP ratio

Legend:
- Aggregate Government Debt
- Financial Corporation
- Non-Financial Corporation
- Household Debt (other resident Sector)
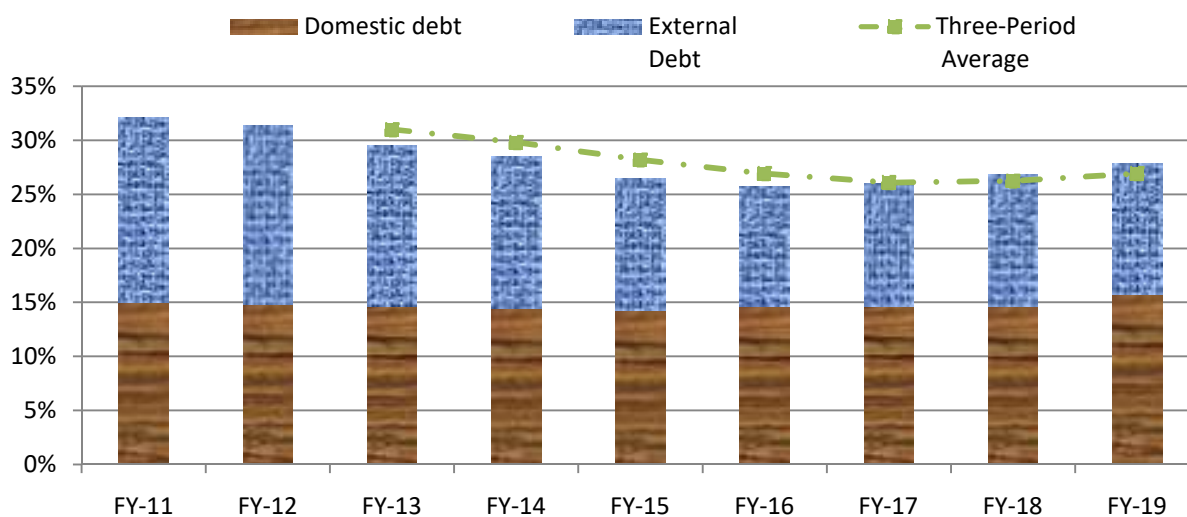- Three-period Avergae

Sources: Bangladesh Economic Review, Ministry of Finance, GoB; Monthly Economic Trends, BB (various issues).
Note: Because of unavailability of half yearly data of GDP, aggregate debt-to-GDP ratio is shown only for fiscal years. Aggregate debt refers to the claims on government, households, financial and non-financial corporation by depository corporations. Government debt includes both domestic and external debt. External Debt figures are up to February,2019.

Aggregate debt-to-GDP ratio recorded moderate decrease in FY19 compared to that of FY18. Debts of non-financial corporations and government are the major constituents of aggregate debt.

1.4 Government debt-to-GDP ratio

Legend:
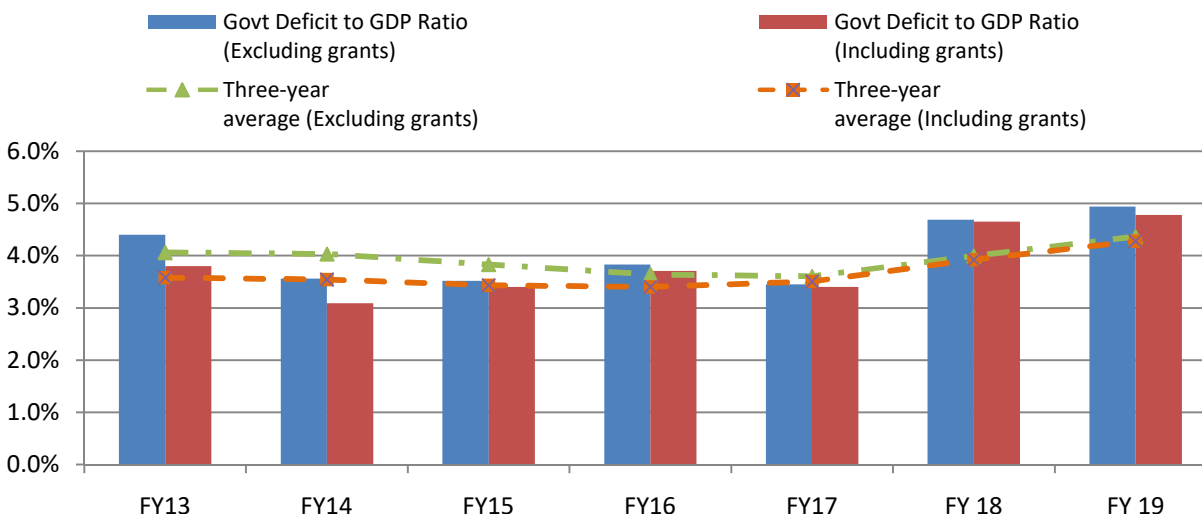- Domestic debt
- External Debt
- Three-Period Average

Source: Bangladesh Economic Review, Ministry of Finance, GoB; Monthly Economic Trends, BB.
Notes: Because of unavailability of half yearly data of GDP, government debt-to-GDP ratio is shown only for fiscal years. External Debt figures are up to February,2019.

Domestic government debt constitutes major portion of aggregate government debt. Government debt-to-GDP ratio slightly increased in FY19 compared to that of FY18.

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1. Macro risk–Cont'd.

1.5 Government deficit-to-GDP ratio

Legend: Govt Deficit to GDP Ratio (Excluding grants) — Govt Deficit to GDP Ratio (Including grants) — Three-year average (Excluding grants) — Three-year average (Including grants)

Source: Monthly Report on Fiscal Position, Government of Bangladesh (GoB), March'2019 and various prior issues.
Notes: Because of unavailability of half yearly data of both government deficit and GDP, government deficit-to-GDP ratio is shown for fiscal years only. Actual figures of government deficit are used here.

Government deficit-to-GDP ratio, both including and excluding grants, increased in FY19 compared to the preceding fiscal year.

1.6 Household debt-to-gross disposable national income ratio

Legend: Household Debt to Gross Disposable National Income — Three-period average
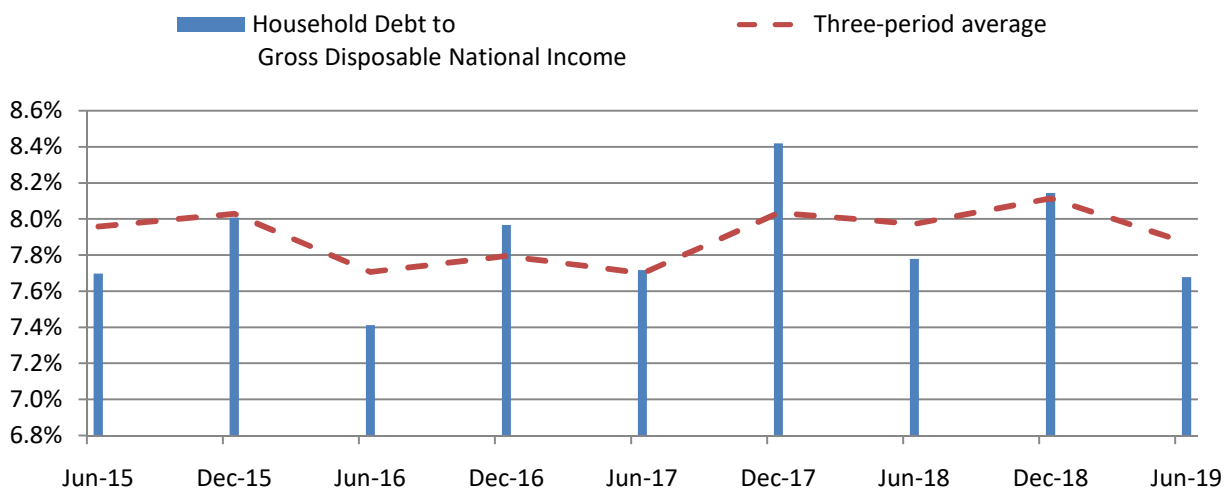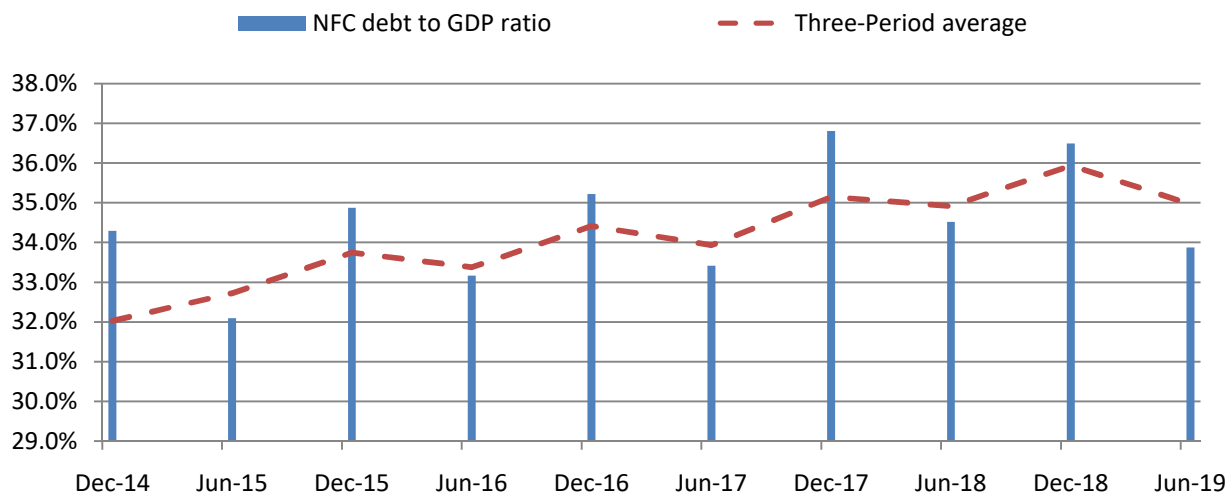
Sources: Monthly Economic Trends, BB (various issues).
Notes: As half yearly gross disposable national income is not calculated in Bangladesh, June based data of gross disposable national income is used for both June and December in calculating household debt-to-gross disposable national income ratio.

Household debt-to-gross disposable national income increased in June 2019 compared to that of December 2018. However, compared to June 2018 the ratio slightly decreased.

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1. Macro risk–Cont'd.

## 1.7 Non-financial Corporation (NFC) debt-to-GDP ratio

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

Notes: NFC debt includes debts of both public and private NFCs. As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating the ratio.

Private non-financial corporations' (NFCs) debt comprises major portion of aggregate NFCs' debt. NFCs' debt-to-GDP ratio decreased by 2.6 percentage points in end-June 2019 compared to the end-December 2018 position and decreased by 0.65 percentage point from that of end-June 2018.

2. Credit risk

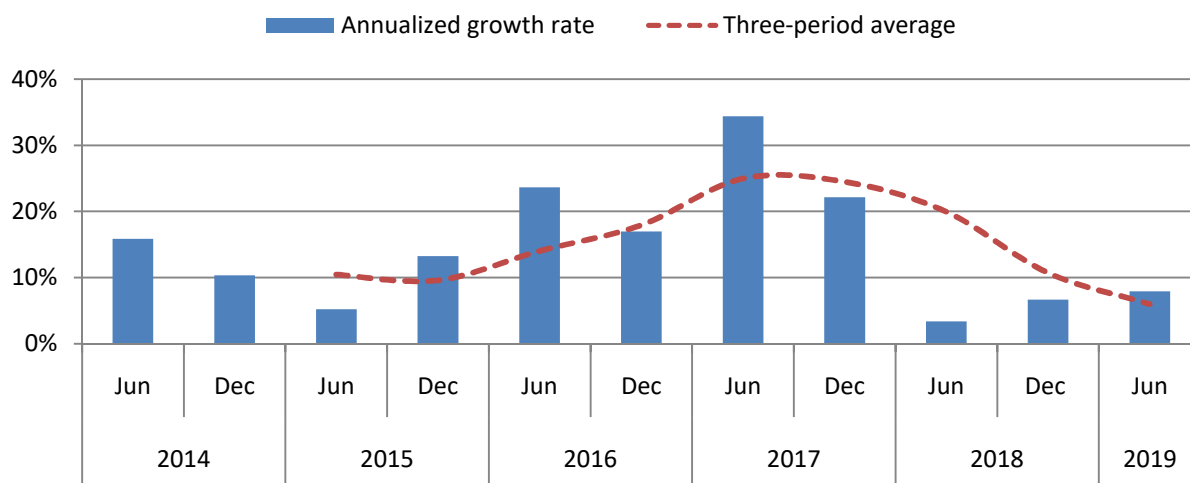## 2.1 Growth of banks' loans to households
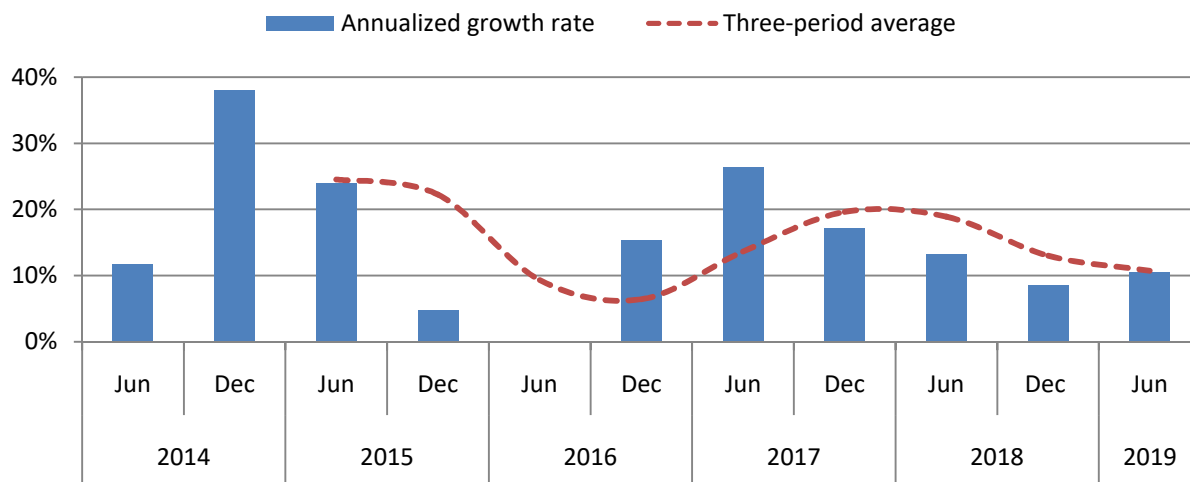
Source: Statistics Department, BB.
Notes: Data for June 2019 are provisional. Loans refer to outstanding loans and advances extended to domestic households (individuals) excluding bills.

An overall downward trend in growth of household loans is observed since June 2017; however, a slight increase was recorded at end-June 2019 compared to end-December 2018.

2.2 Growth of NBDCs' loans to households
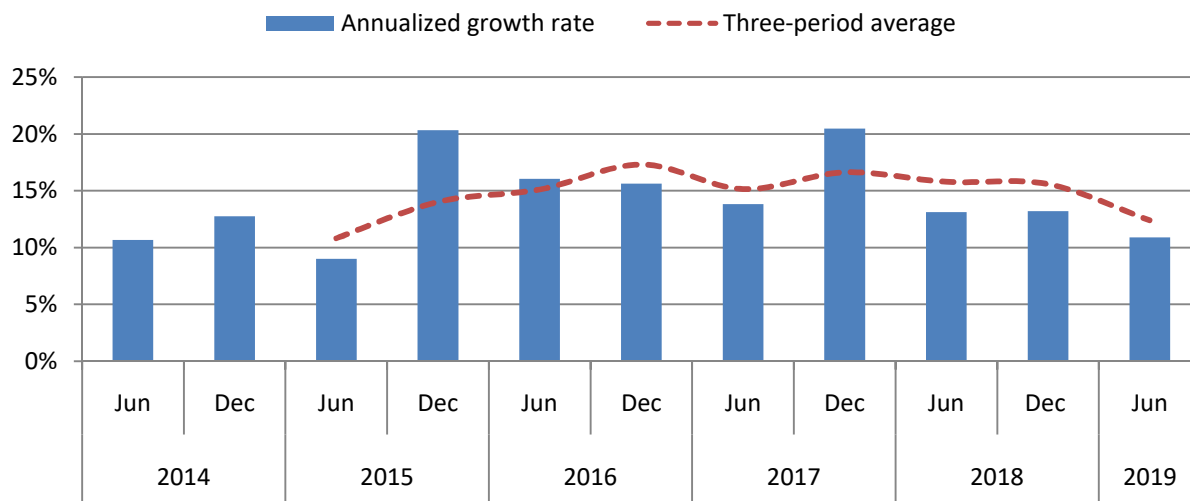

Source: Statistics Department, BB.
Notes: NBDCs include deposit taking FIs[2], Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

Non-bank depository corporations' (NBDC) loan growth to household sector, though remained low since June 2017, increased marginally at end-June 2019 compared to that of end-December 2018.

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[2] FIs refer to non-bank financial institutions. Out of 34 FIs, 29 are deposit taking FIs.

2. Credit risk–Cont'd.

2.3 Growth of banks' loans to private non-financial corporation (NFC)

**Annualized growth rate** ---- **Three-period average**

Source: Statistics Department, BB.
Notes: Data for June 2019 are provisional. Loans refer to outstanding loans and advances extended to private NFCs excluding bills.

Banks' loan growth to private NFCs recorded further slowdown at the end of June 2019 compared to that of the preceding period.

2.4 Growth of NBDCs' loans to private non-financial corporation (NFC)

Annualized growth rate ---- **Three-period average**
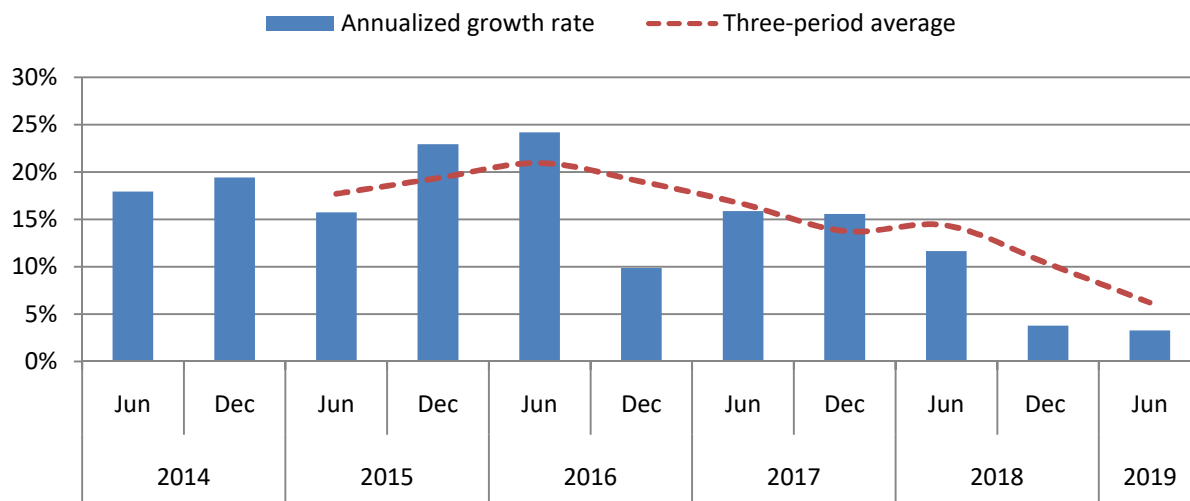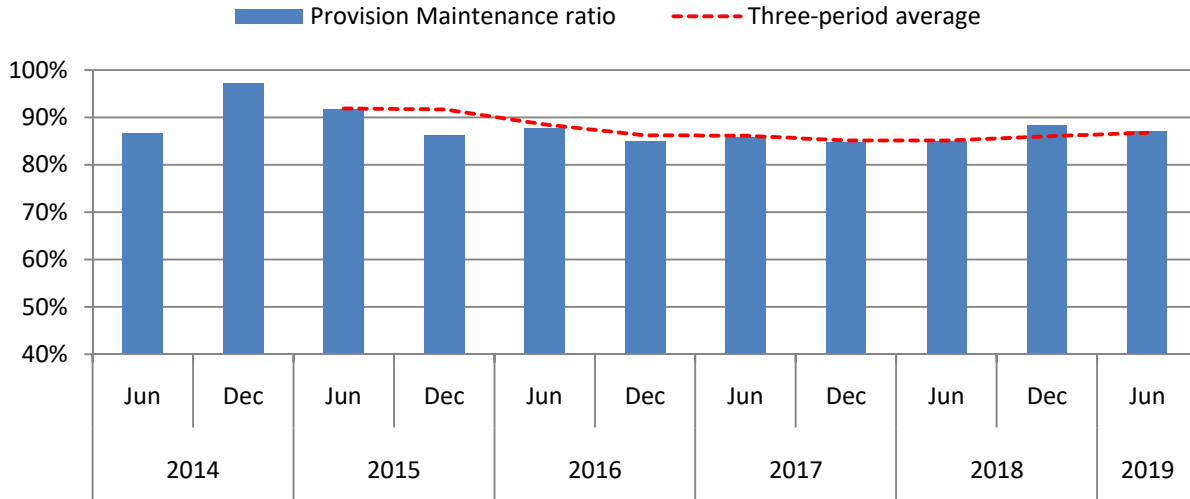

Source: Statistics Department, BB.
Notes: NFC refers to private NFCs only. NBDCs include deposit taking FIs, Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

NBDCs' loan growth to private NFCs also remained subdued in the first half of 2019.

2. Credit risk–Cont'd.
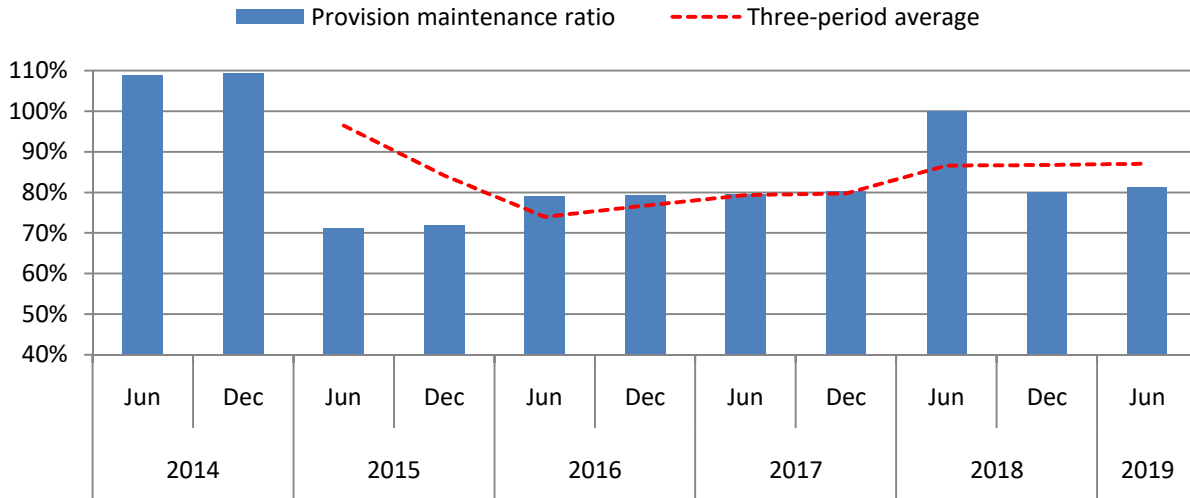
2.5 Provision maintenance ratio of banks

Source: BRPD, BB.
Notes: Provision maintenance ratio refers to maintained provision as a percentage of required provision.

Banks' provision maintenance ratio recorded a decline at end-June 2019 compared to that of end-December 2018.

2.6 Provision maintenance ratio of FIs


Source: DFIM, BB.
Notes: Due to NBDCs' data unavailability, data of FIs were used which include both deposit takers and non-deposit takers.

FIs' provision maintenance ratio registered an increase at end-June 2019 compared to the position of the preceding period.
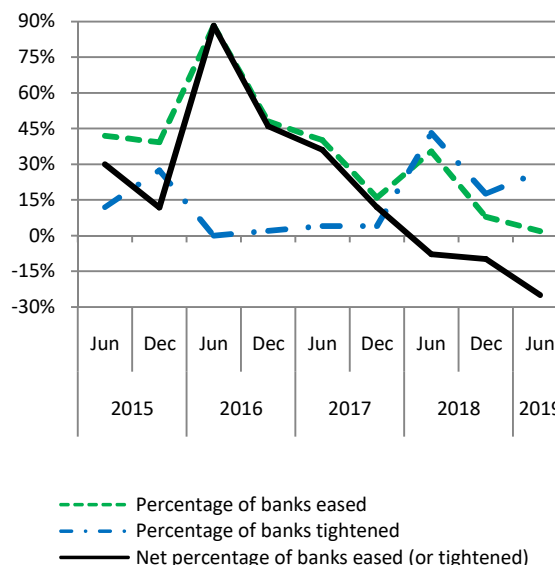
2. Credit risk–Cont'd.

2.7 Changes in banks' interest rates for housing loans

a. No. of banks having changes in their interest rates for housing loans
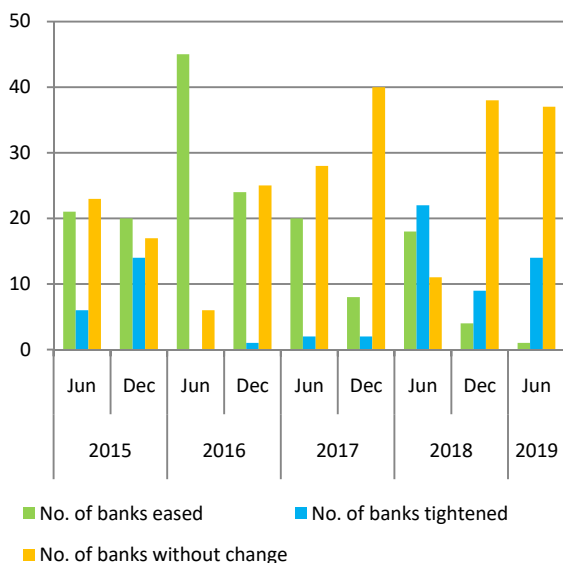
**b. Percentage of banks having changes in their interest rates for housing loans**

Source: Scheduled bank lending rate, Bangladesh Bank website (https://www.bb.org.bd/fnansys/interestlending.php).

Notes: Changes in banks' announced interest rate for housing loans have been used as a proxy for changes in banks' credit standards. Net percentage change is the difference between the share of banks reporting that interest rates have been eased (decreased) and the share of banks reporting that they have been tightened (increased). A positive net percentage change indicates that a larger proportion of banks have eased credit standards ("net easing"), whereas a negative net percentage change indicates that a larger proportion of banks have tightened credit standards ("net tightening").

In June 2019, 1.9 percent banks eased the interest rates of housing loans while 26.9 percent banks tightened the same; the remaining banks kept their rates unchanged during the same period. Hence, after netting off the impacts of easing, an overall net tightening is observed during this period.

3. Funding and liquidity risk

## 3.1 Bangladesh Bank's liquidity support to banks
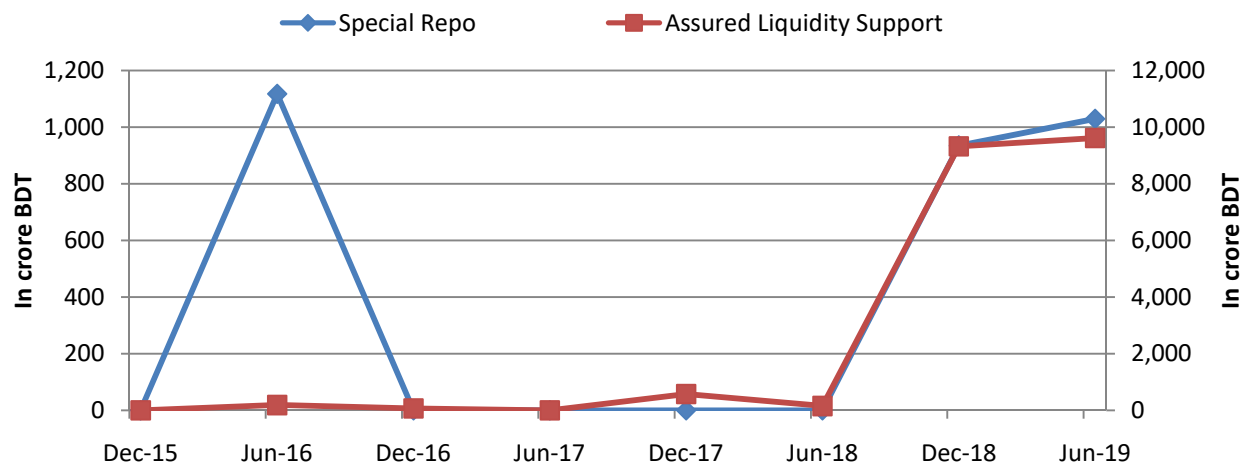
Source: DMD, BB.
Note: LHS represents Assured Liquidity Support and RHS represents Special Repo.

Both assured liquidity support and special repo to banks increased during the first half of 2019 compared to the preceding period as well as the corresponding period of 2018. Besides, amount of repo during the review period was BDT 88,250.crore, which also increased significantly from the previous period.

3.2 Banks' advance-to-deposit ratio
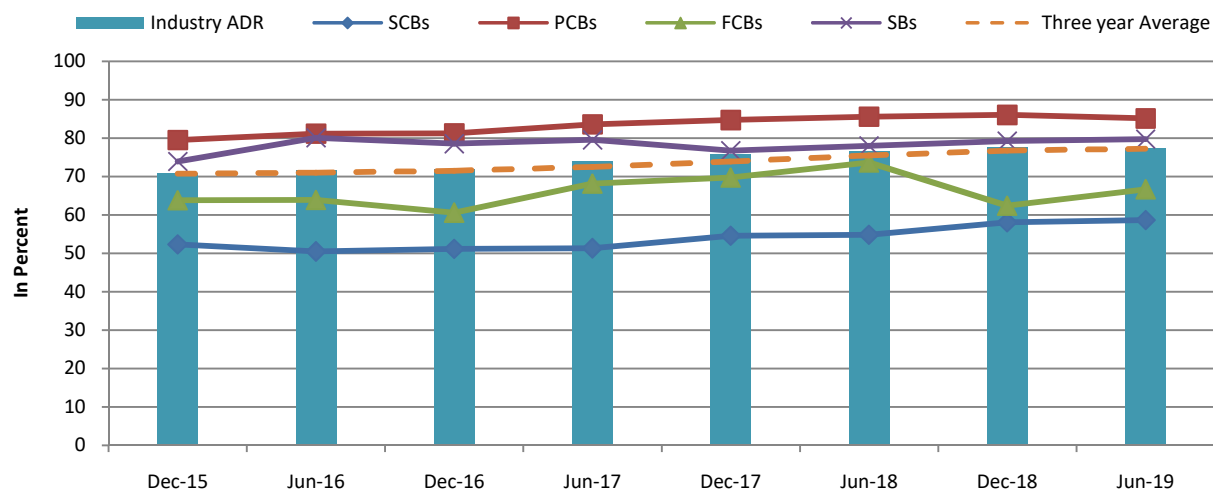
Source: DOS, BB.
Note: SCBs, PCBs, FCBs and SBs refer to state-owned commercial banks, private commercial banks, foreign commercial banks and specialized banks respectively.

Advance-to-deposit ratio (ADR) of the banking industry decreased slightly in June 2019 compared to that of December 2018. ADRs of PCBs and SBs were higher than the industry average whereas ADRs of FCBs and SCBs were lower.

3. Funding and liquidity risk–cont'd.

3.3 Maturity profile of banks' outstanding debt securities
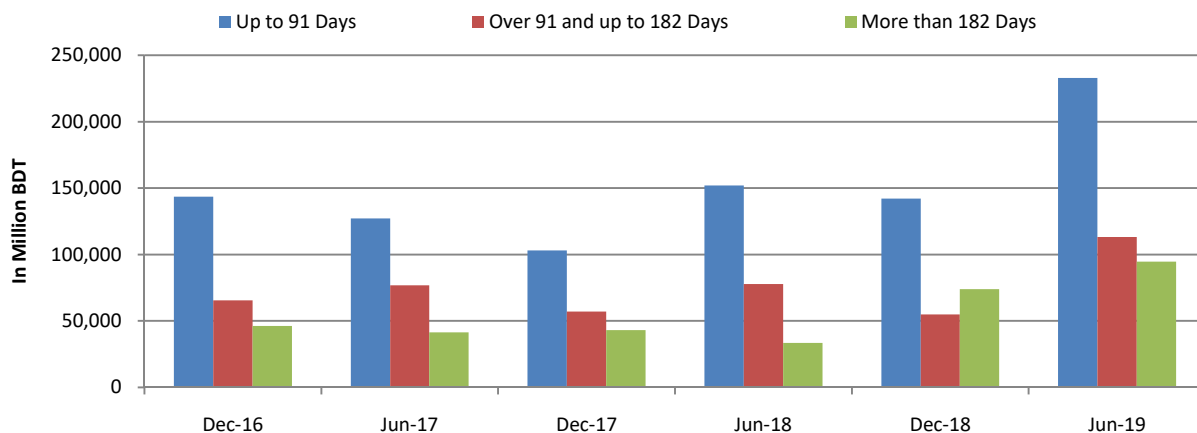
a. Treasury Bond
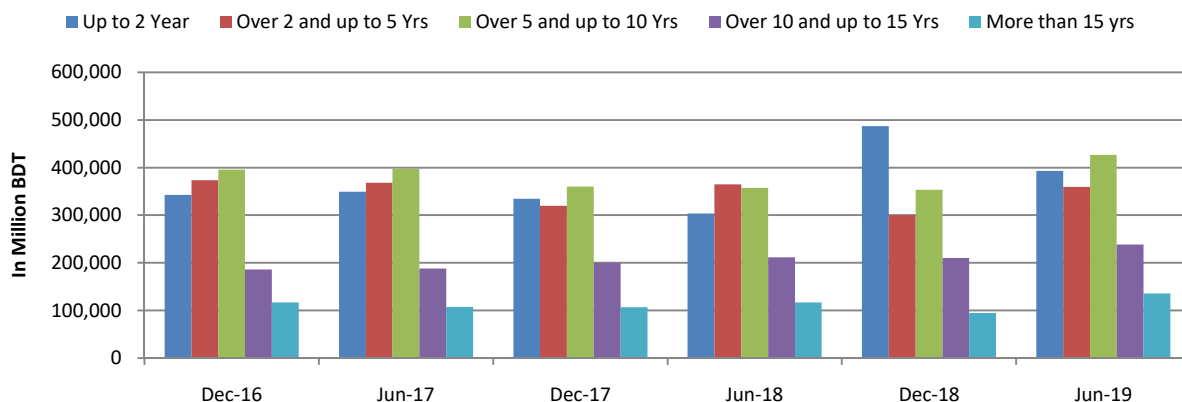
Source: DMD, BB.

Notes: The maturity profile refers to the residual maturity of long-term and short-term debt securities issued by Government of Bangladesh. Banks' investment in long-term debt securities include government treasury bonds with a maturity of more than 12 months. Data are based on amounts outstanding at the end of the corresponding year or month.

Banks' investment in treasury bonds with remaining maturity over 5 and up to 10 years remained the largest in terms of volume whereas the ones with remaining maturity of more than 15 years remained the smallest at end-June 2019. All types of treasury bonds except the ones with remaining maturities up to 2 years increased in June 2019 compared to December 2018. Besides, there are also special purpose treasury bonds (SPTB) of different maturities amounting to BDT 107,996.7 million as of end-June 2019.

b. Treasury Bill

Source: DMD, BB.

Notes: Banks' investment in short-term debt securities include government treasury bills with a maximum maturity of 12 months. Data are based on amounts outstanding at the end of the corresponding year or month.

Banks' investment in treasury bills with remaining maturity of up to 91 days are the largest in terms of volume and recorded increase from December 2018. The same with remaining maturity of over 182 days are the smallest and increased from both December 2018 and June 2018. However, treasury bills with remaining maturity over 91 and up to 182 days increased significantly from December 2018 and June 2018.

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3. Funding and liquidity risk–cont'd.

## 3.4 Subordinated debt
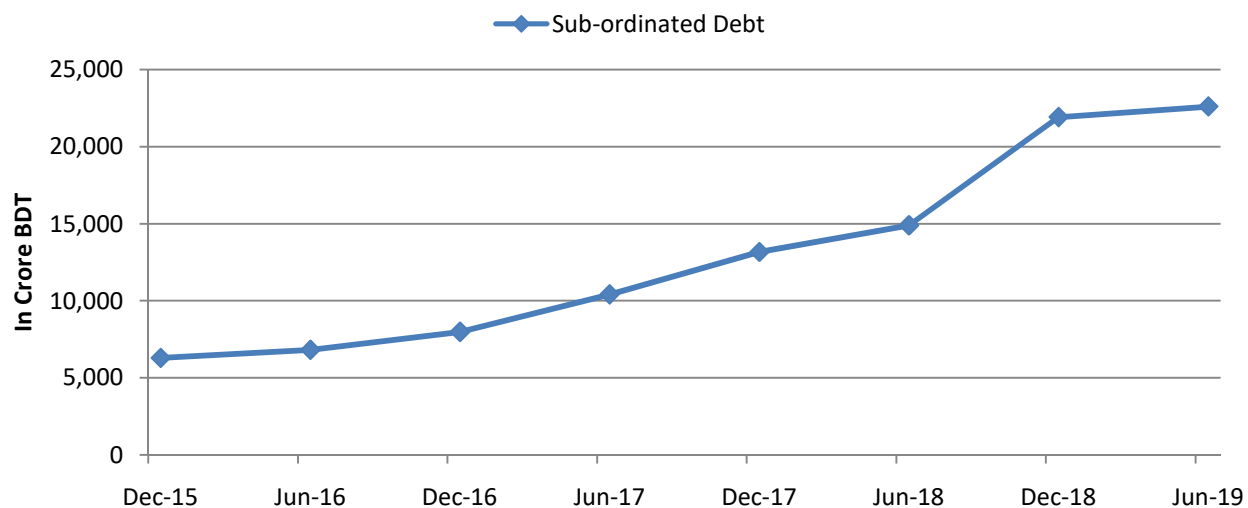
Source: DOS, BB.
Note: Subordinated debts are eligible to be included as Tier 2 Capital for calculating the regulatory capital as per BASEL III Capital Framework.

Subordinated debt, issued by banks, showed an increasing trend since 2015 and increased slightly in June 2019 compared to December 2018. Such increase contributes to the overall capital base of the banking sector.

4. Market risk

4.1 Equity indices
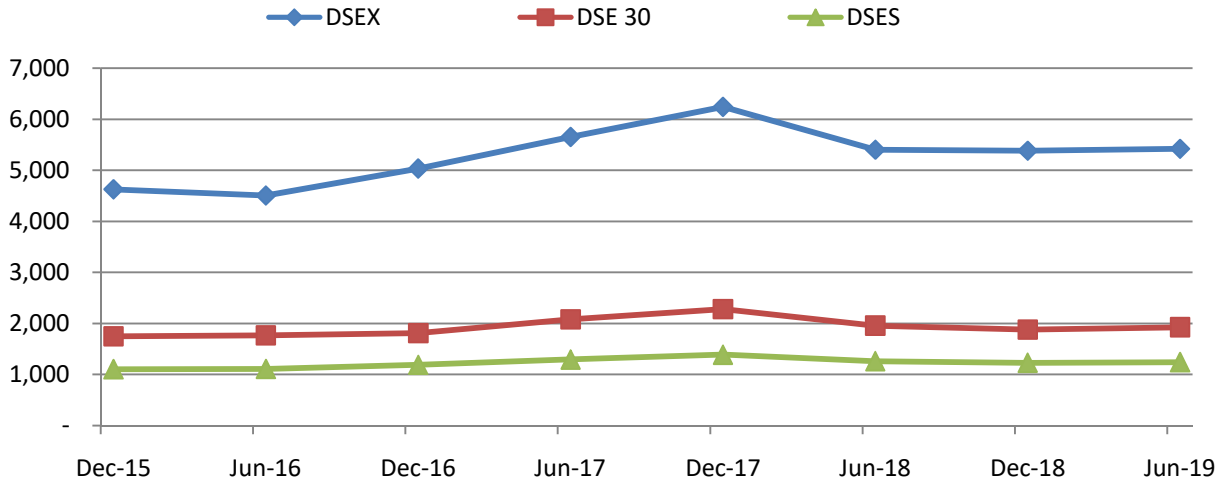
Source: DSE Website.

DSE Broad Index, DSEX, increased slightly at end-June 2019 compared to that of end-December 2018. Other equity indices also increased slightly compared to December 2018.

4.2 Price/earnings (P/E) ratio
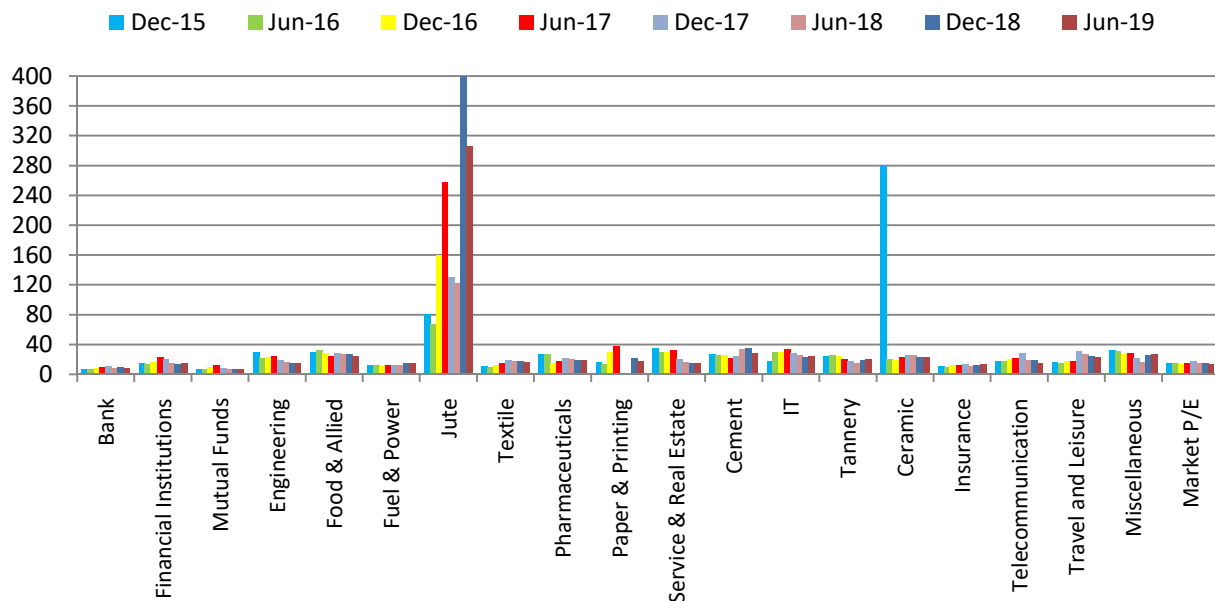
Source: DSE Website.

P/E ratio of all listed sectors remained broadly stable except the jute sector. Market P/E ratio slightly declined at end-June 2019 compared to that of end-December 2018.

4. Market risk–cont'd.

4.3 Weighted average call money market rates

Highest — Lowest — Average
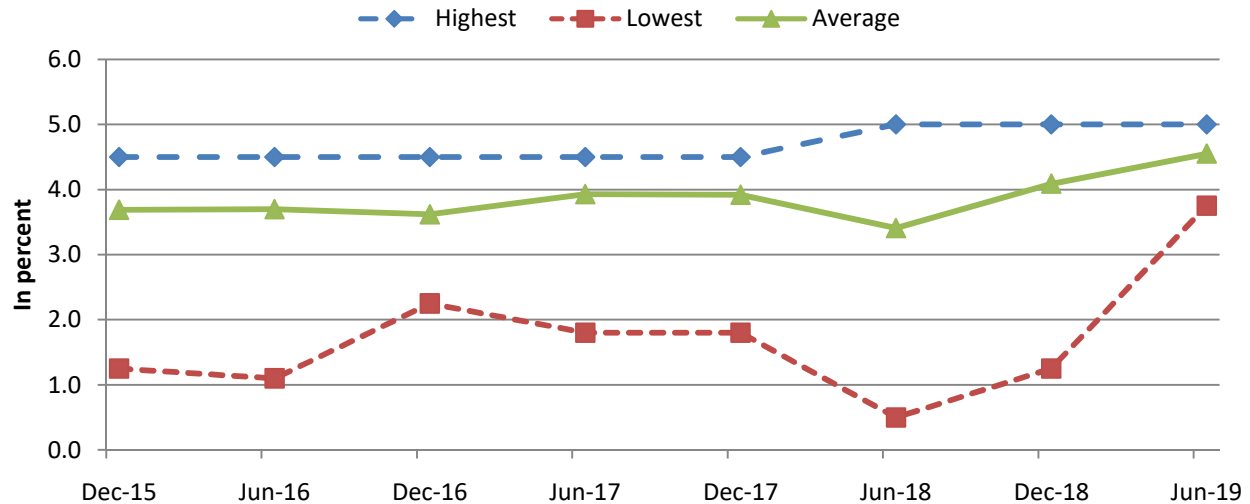
Source: Statistics Department, BB.

Weighted average call money borrowing rate increased slightly at end-June 2019 compared to that of end- December 2018.

4.4 Scheduled banks' weighted average interest rate on deposits and advances

Deposits — Advances — Spread
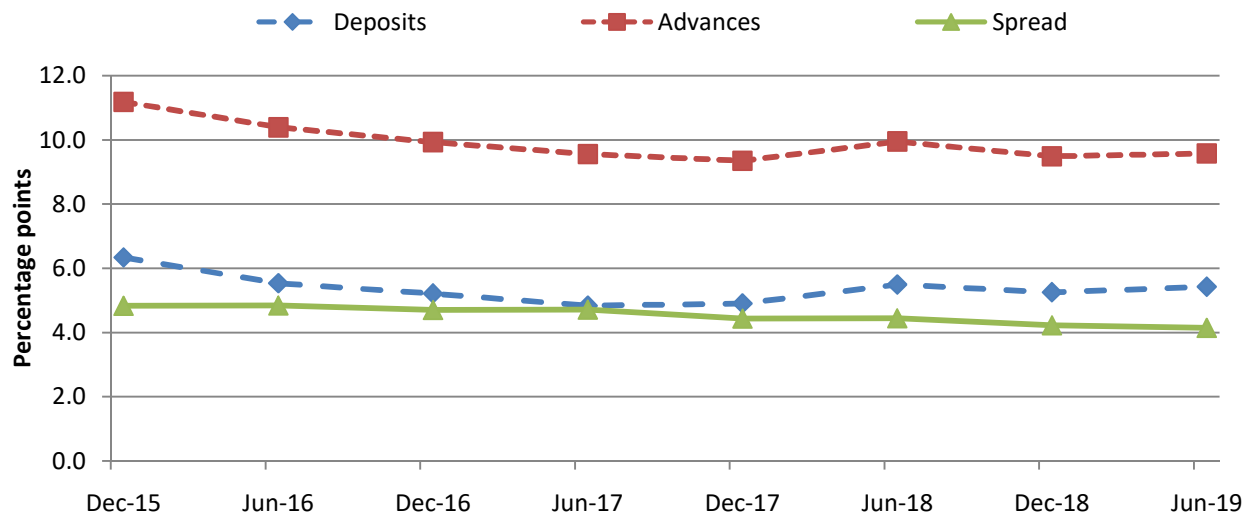
Source: Statistics Department, BB.

Weighted average interest rates on advances and deposits increased at the end of June 2019 compared to those of end-December 2018. However, the spread continued its declining trend.

4. Market risk–cont'd.

4.5 Weighted average exchange rate (BDT/USD)

Source: Statistics Department, BB.

The nominal exchange rate (BDT per USD) recorded further depreciation at end-June 2019.

5. Profitability and solvency risk

5.1 Banks' profitability indicators

a. Return on equity (ROE)

Legend: ROE — Three period average

Source: DOS, BB; Computation: FSD, BB.

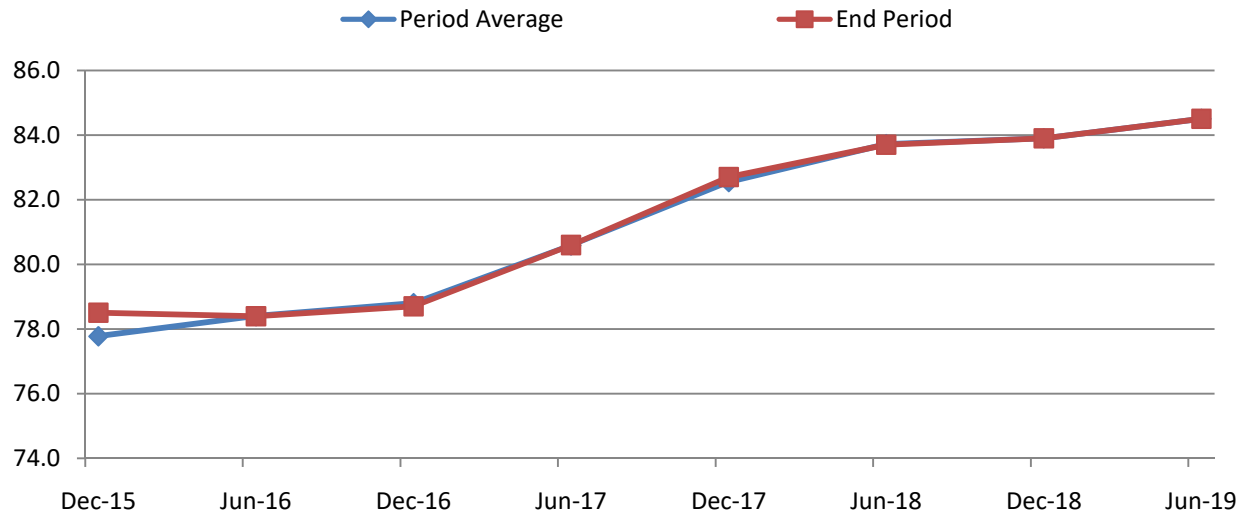### b. Return on assets (ROA)

Legend: ROA — Three period average
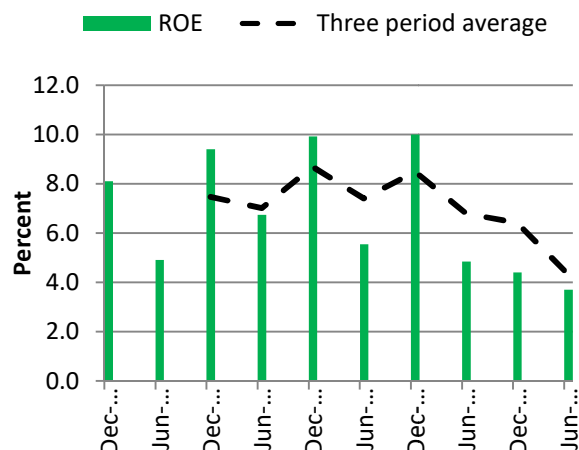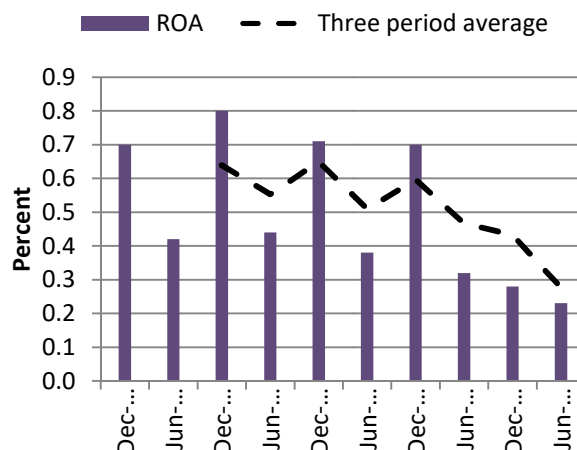
Both ROE and ROA declined slightly during the first half of 2019 compared to the positions of the preceding period.

c. Cost-to-income ratio
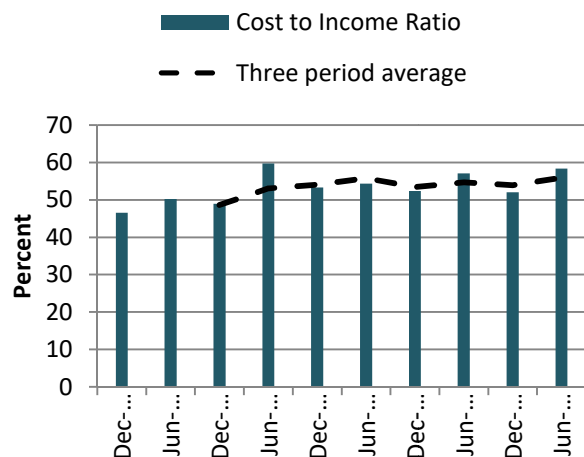
Legend: Cost to Income Ratio — Three period average
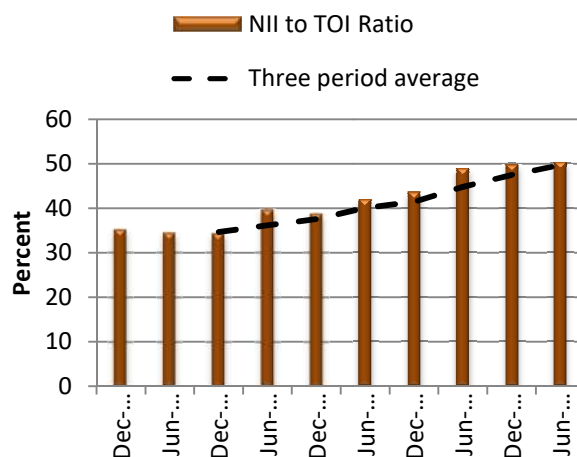
Source: DOS, BB; Computation: FSD, BB.
Note: Ratio between operating expenses and total (operating) income.

d. Net interest income to total operating income ratio

Legend: NII to TOI Ratio — Three period average

Source: DOS, BB; Computation: FSD, BB.

Compared to the positions of July-December 2018, banks' cost-to-income ratio increased during January-June 2019. Banks' net interest income to total operating income ratio also recorded an increase during the same period.

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5. Profitability and solvency risk–cont'd.

5.2 Banks' solvency indicators

a. Tier-1 to RWA ratio

T-1 to RWA Ratio — — **Three period average**
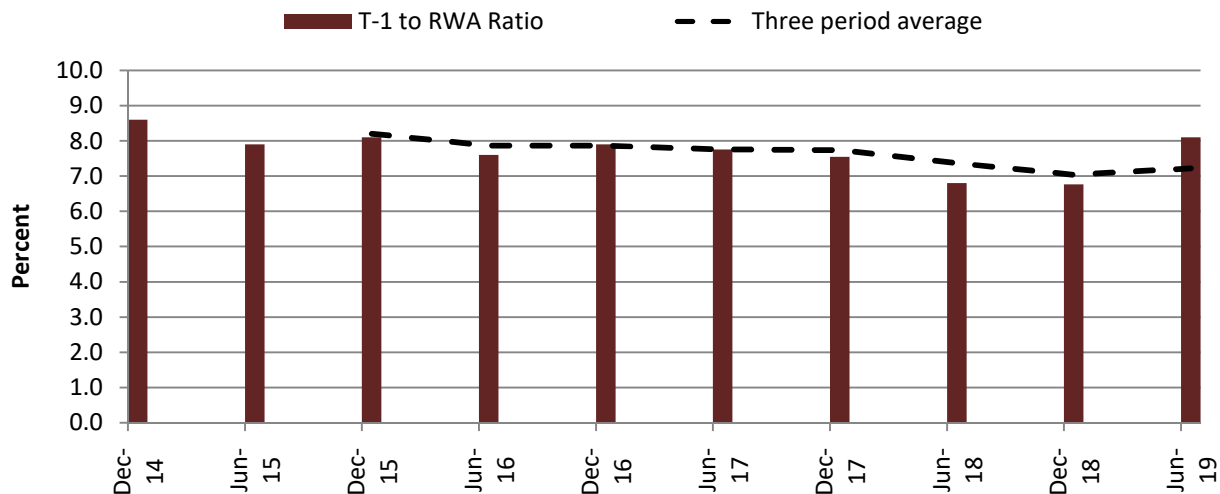
Source: DOS, BB.
Note: Ratio of Tier-1 capital to total risk-weighted assets.

Banks' tier-1 capital ratio increased at the end of June 2019 from the position of end-December 2018, and remained well above the regulatory requirement.

b. Gross non-performing loan (NPL) ratio

NPL Ratio — — **Three period average**
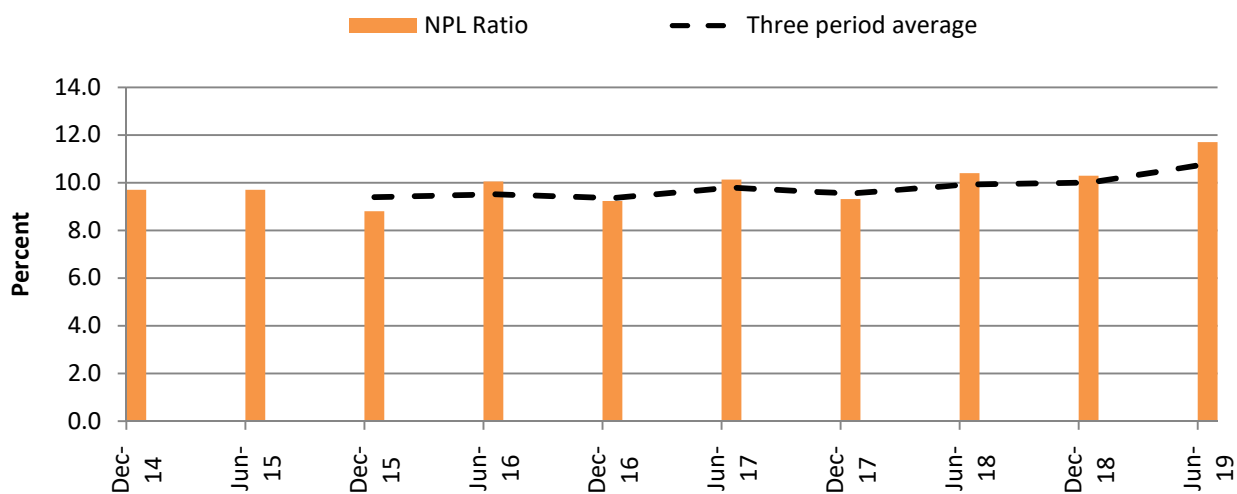
Source: BRPD, BB.
Note: Ratio of total non-performing loans & advances to total loans & advances.

The gross NPL ratio increased at end-June 2019 compared to that of end-December 2018.

5. Profitability and solvency risk–cont'd.

5.3 FIs' profitability indicators

a. Return on equity (ROE)
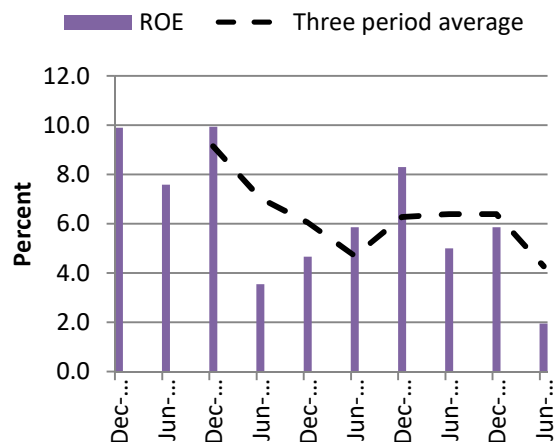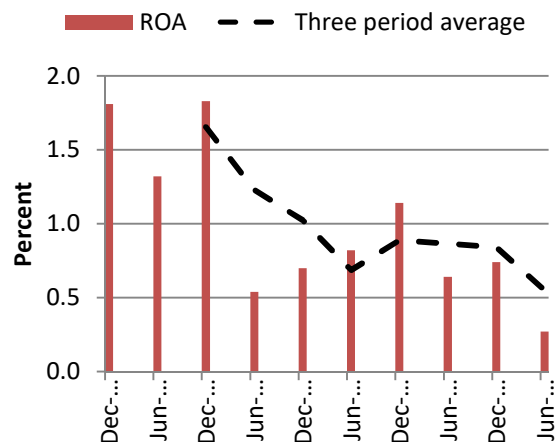
Source: DFIM, BB.

FIs' ROE and ROA both decreased during January-June 2019 compared to the corresponding values of July-December 2018.

b. Return on assets (ROA)

c. Cost-to-income ratio
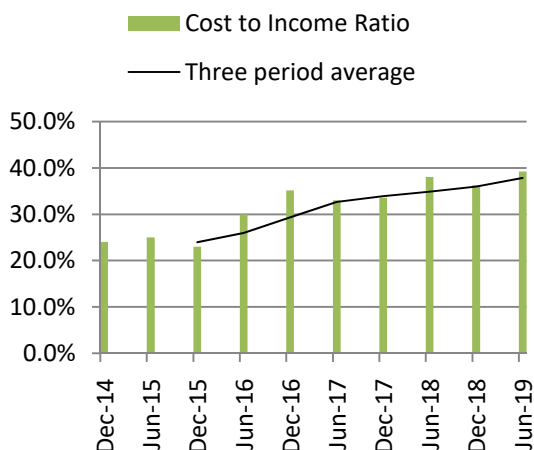
Source: DFIM, BB.
Note: Ratio between operating expenses and total income.

d. Net interest income to total operating income ratio

Source: DFIM, BB.

FIs' cost-to-income ratio increased slightly during January-June 2019 compared to that of the previous period. Net interest income to total operating income ratio also increased during the same period.
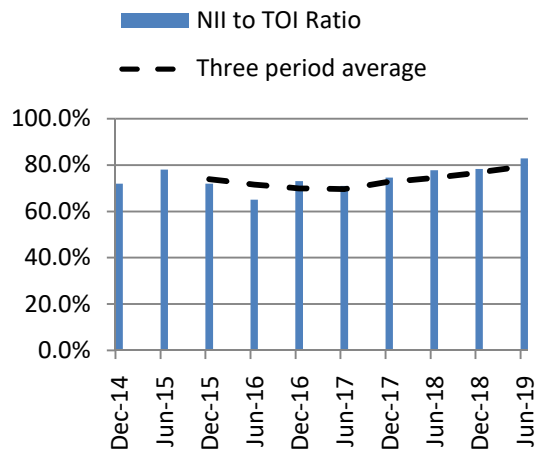
5. Profitability and solvency risk–cont'd.

## 5.4 FIs' solvency indicators

a. Tier-1 to RWA ratio
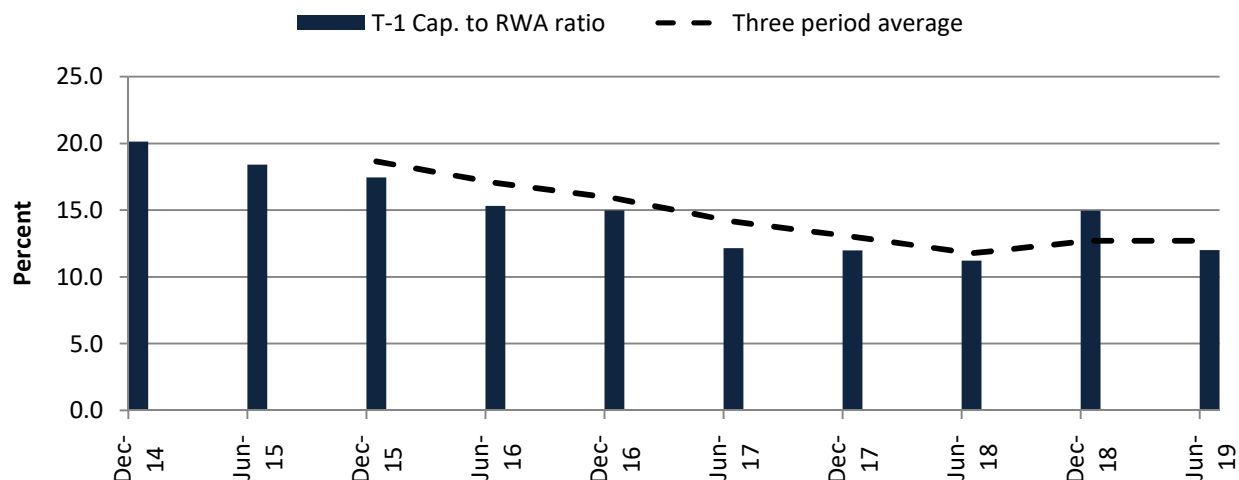
Source: DFIM, BB.
Note: Ratio of Tier-1 capital to total risk-weighted assets.

Though the ratio decreased moderately at end-June 2019 compared to that of end-December 2018, it was well above the regulatory requirement.

### b. Gross non-performing loan (NPL) ratio
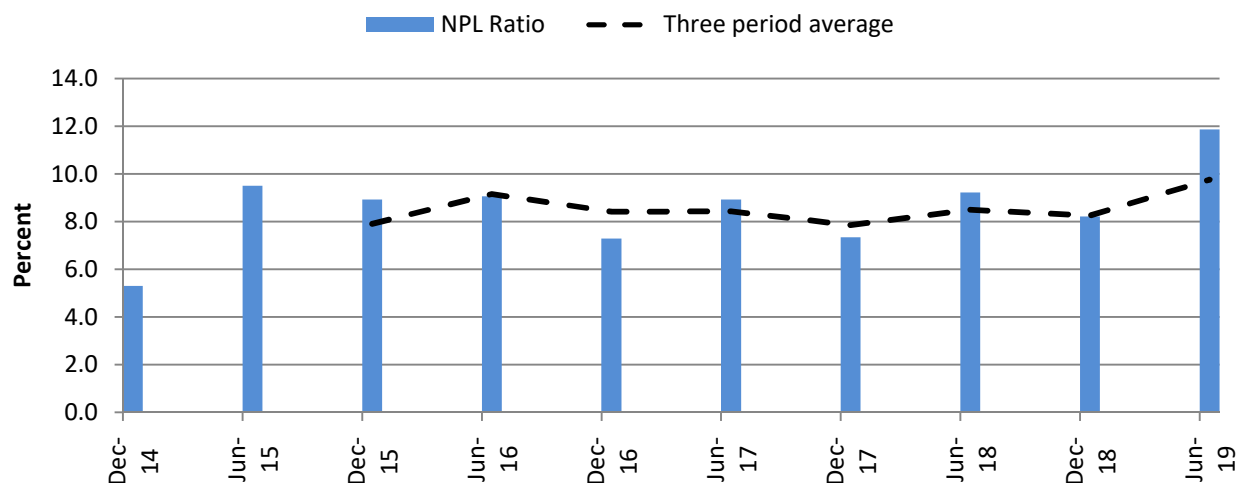
Source: DFIM, BB
Note: Ratio of non-performing loans & leases to total loans &leases.

An increase in the gross NPL ratio of FIs was observed at end-June 2019 compared to end-December 2018 position.

6. Inter-linkages

6.1 Growth of banks' credit (gross) to government

Annualized growth rate ------ **Three-period average**
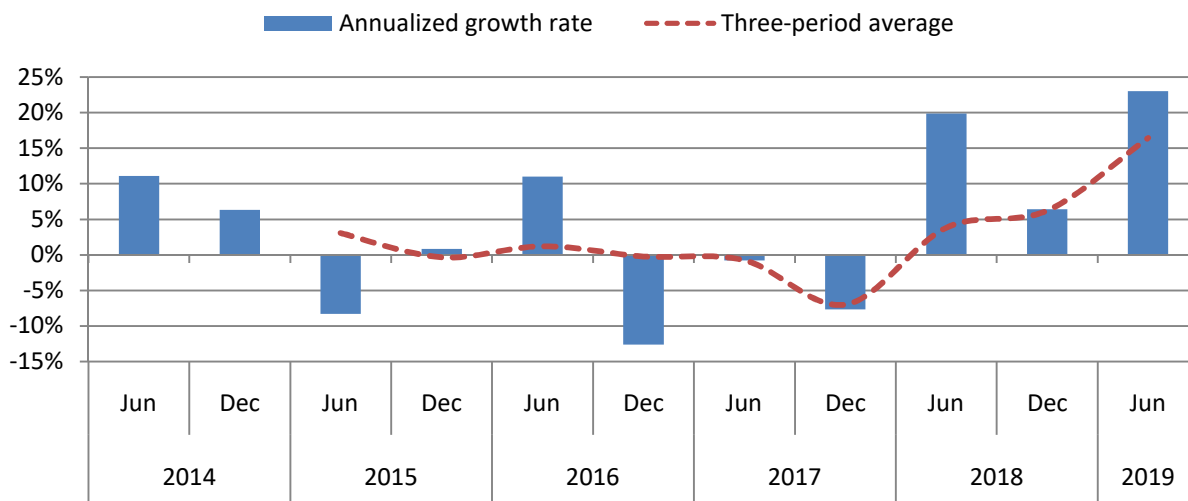
Source: Statistics Department, Bangladesh Bank.
Notes: Credit extended to the government refers to gross amount.

Government borrowings from the banking sector registered a sharp increase at end-June 2019 compared to the end-December 2018 position.

6.2 Growth of NBDCs' credit (gross) to government

Annualized growth rate ------ **Three-period average**
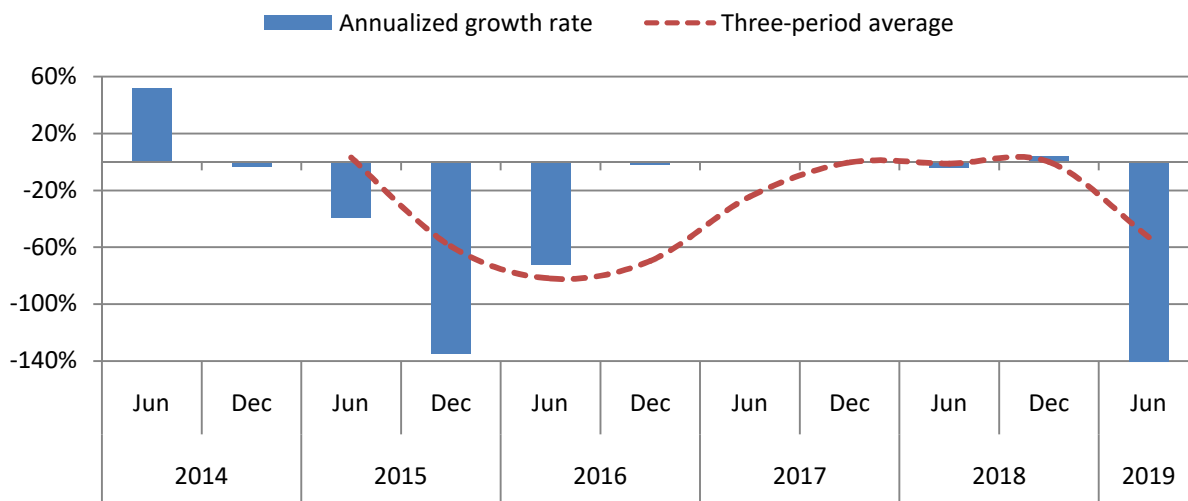
Source: Statistics Department, Bangladesh Bank.
Notes: NBDCs include deposit taking FIs, Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

Government borrowings from the NBDCs remained negligible at end-June 2019.

6. Inter-linkages– Cont'd.

6.3 Growth of banks' loans to housing sector

a. Loans to residential housing
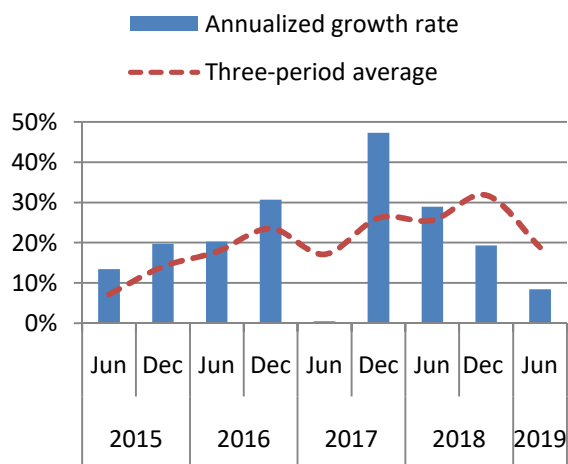
b. Loans to commercial housing
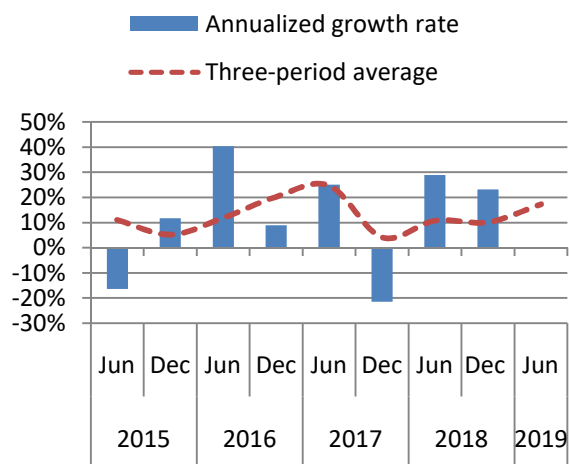
Source: Statistics Department, Bangladesh Bank.

Notes: Data for June 2019 are provisional. Loans refer to outstanding loans and advances excluding bills. Loans to residential housing refer to loans extended to domestic households for house/flat/land purchase and repair/renovation/extension. Loans to commercial housing refer to loans extended to commercial developers/contractors.

Loan growth in residential housing sector demonstrated a slowdown since December 2017. Loan growth in commercial housing sector also showed a declining trend.

6.4 Growth of FIs' loans to housing sector
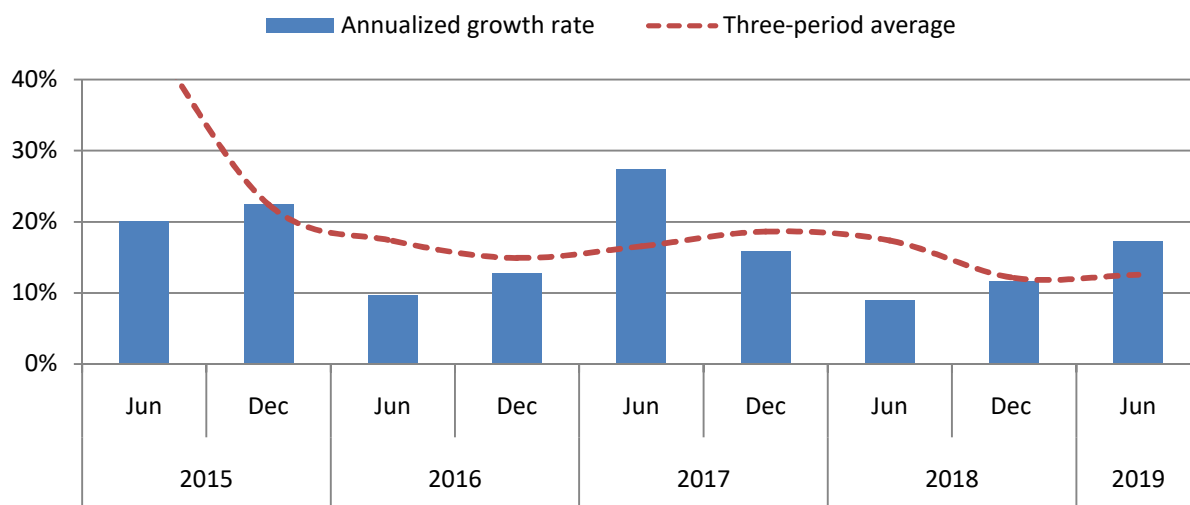
Source: DFIM, Bangladesh Bank.

Notes: Due to NBDCs' data unavailability, data of FIs were used which include both deposit takers and non-deposit takers.

Growth of FIs' loans to housing sector showed a gradually increasing trend since June 2018.

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6. Inter-linkages– Cont'd.

6.5 Banks' loans to counterpart sectors

Households **NFCs** **Government**
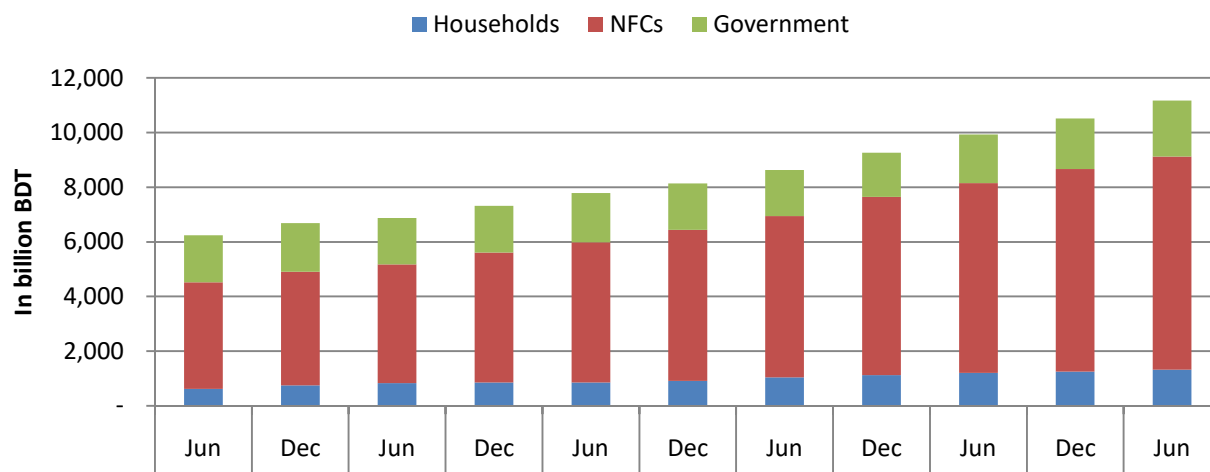
Source: Statistics Department, Bangladesh Bank.

Notes: Data of households and NFCs for June 2019 are provisional. Loans extended to households and NFCs refer to outstanding loans and advances excluding bills. Loans to government refer to gross amount.

Banks' exposures to its major public and private counterparts, led largely by private NFCs, continued its increasing trend.

6.6 NBDCs' loans to counterpart sectors

Households **NFCs** **Government**
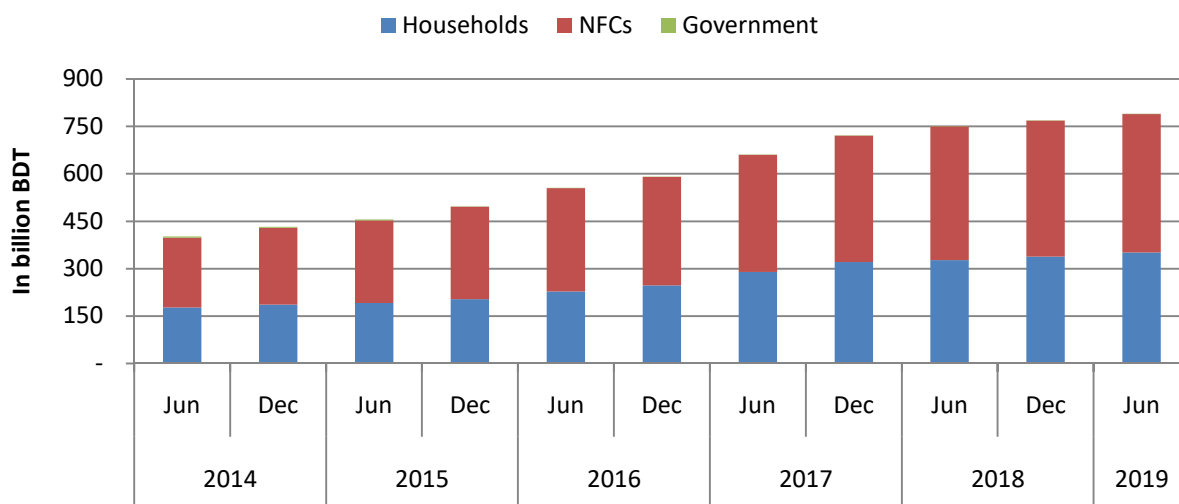
Source: Statistics Department, Bangladesh Bank.

Notes: Loans to government refer to gross amount. NBDCs include deposit taking FIs, Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

NBDCs' loan portfolio continued the increasing trend in which NFCs and households accounted for the lion's share.

6. Inter-linkages– Cont'd.

6.7 Banks' cross-border claims

Amount (LHS) — Annualized growth rate (RHS)
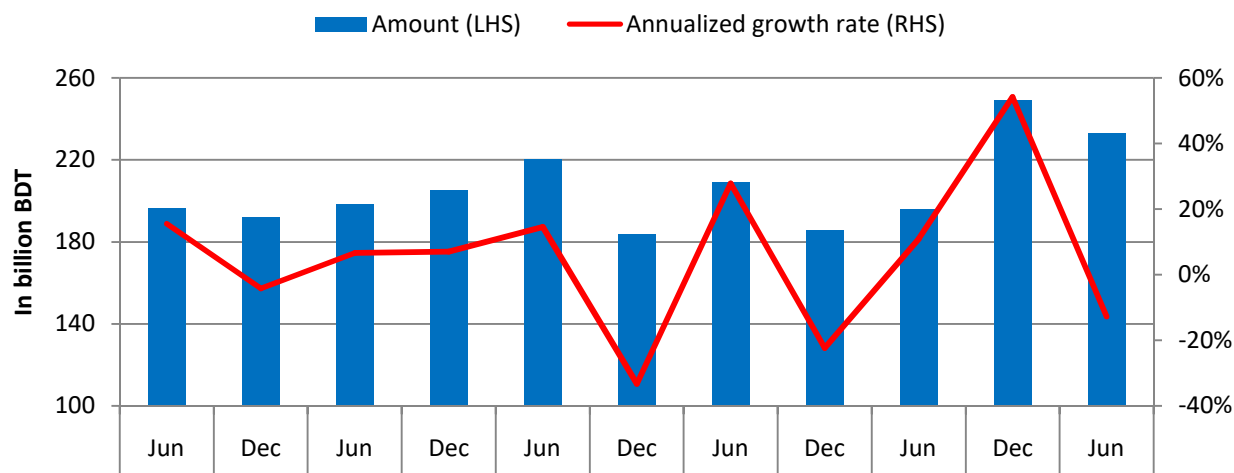
Source: Statistics Department, Bangladesh Bank.

Notes: Cross-border claims include foreign currency notes in hand, balances with banks abroad, bilateral trade credits, wage earners' balance abroad, foreign bills, foreign direct investment, portfolio investment.

Banks' cross-border claims remained low accounting for less than one percent of total assets of the banking sector.

6.8 NBDCs' cross-border claims
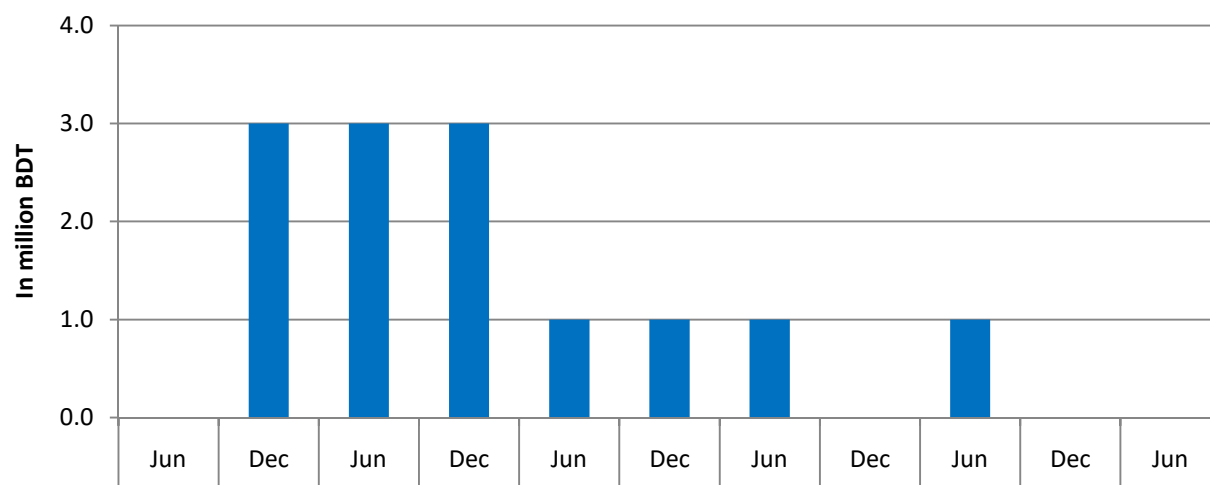
Source: Statistics Department, Bangladesh Bank.

Notes: Claims include only foreign currency notes in hand. No other claims have been generated yet. NBDCs include deposit taking FIs, Ansar-VDP Unnayan Bank, Karma Sangsthan Bank, Grameen Bank and cooperative banks.

NBDCs' cross-border claims remained almost non-existent at the end of June 2019.

7. Structural risk

7.1 Banking sector size

a. Domestic Banks

Asset to Nominal GDP ——— **Three Period Average** — · —
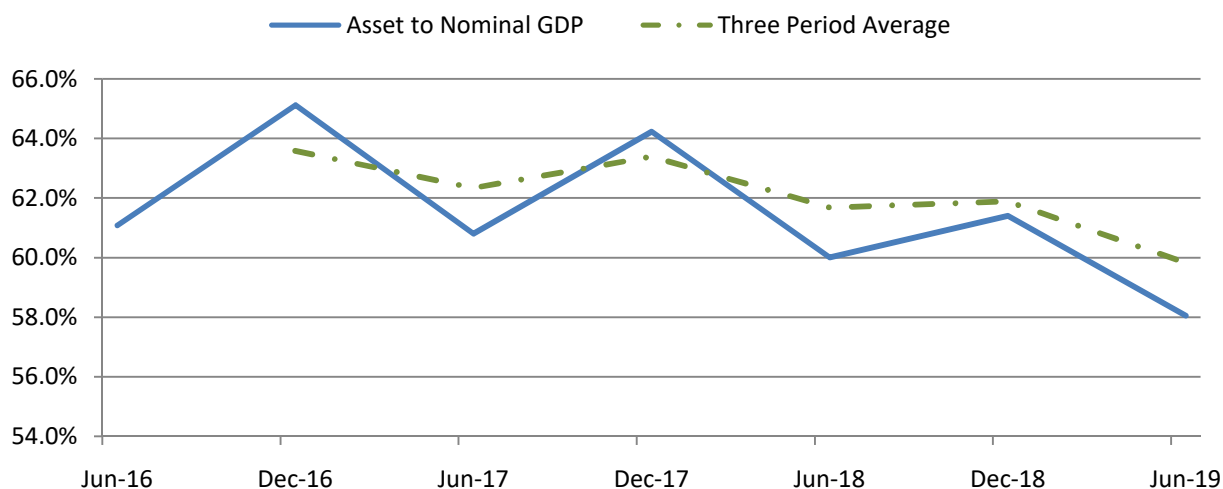
Source: DOS, BB and Monthly Economic Trends, BB; computation: FSD, BB.
Note: Ratio of domestic banks' total assets to Nominal GDP. As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating this ratio.

Domestic banks' total assets to nominal GDP ratio, fluctuating over time, decreased moderately in June 2019 compared to that of December 2018.

b. Foreign Banks

Asset to Nominal GDP ——— **Three Period Average** — · —
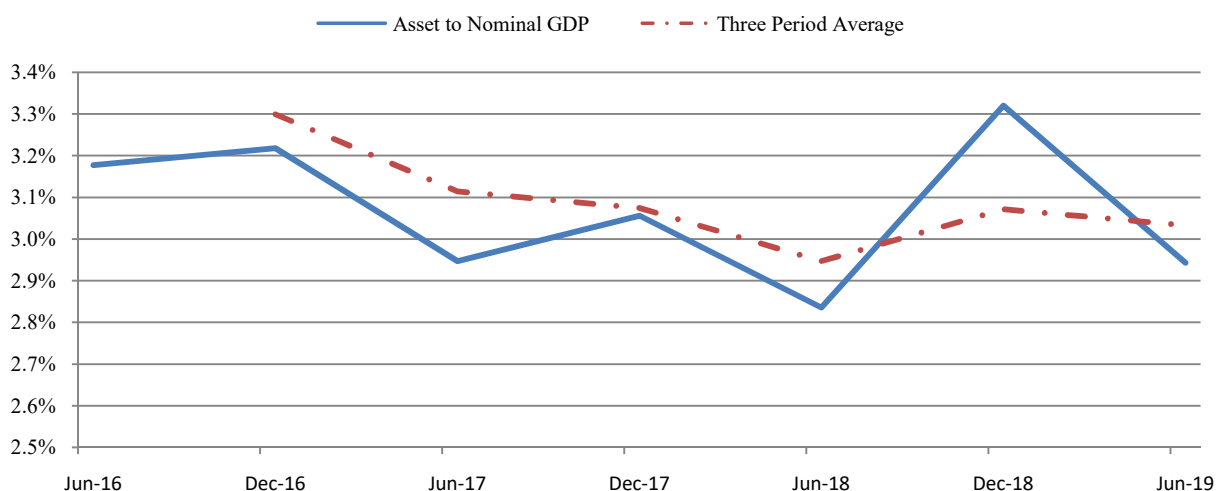
Source: DOS, BB and Monthly Economic Trends, BB; computation: FSD, BB.
Note: Ratio of foreign banks' total assets to Nominal GDP. As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating this ratio.

Foreign banks' total assets to nominal GDP ratio also decreased slightly in June 2019 compared to that of December 2018.

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7. Structural risk–cont'd.

7.2 Banking sector leverage
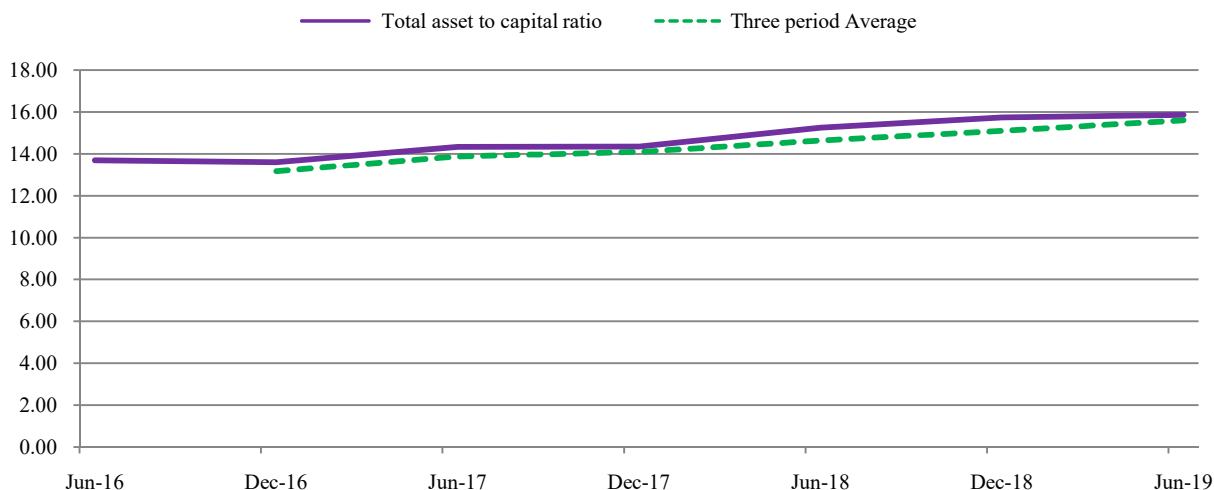
Source: DOS, BB; computation: FSD, BB.
Note: Leverage ratio is defined as total asset of the banking sector to capital ratio.

Banking sector's total assets to capital ratio showed increasing trend during the last few years; the ratio increased slightly in June 2019 compared to that of December 2018.

7.3 Financial institutions (FIs) sector size

FIs' assets to nominal GDP
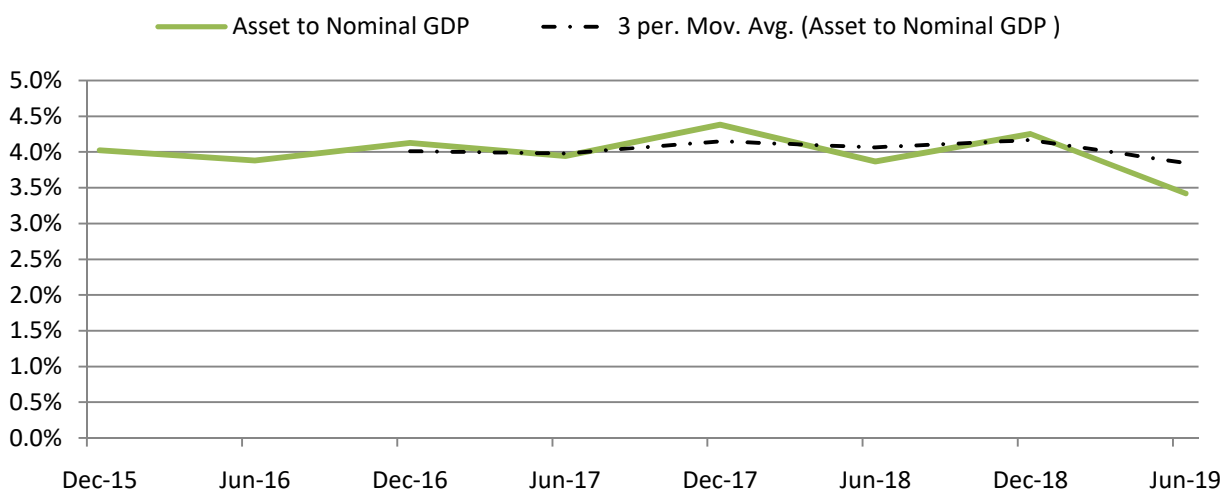
Source: DFIM, BB and Monthly Economic Trends, BB; computation: FSD, BB.
Note: Ratio of total asset of financial institutions to nominal GDP. As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating this indicator. Data of 33 FIs included in June 2019.

Financial institutions' assets to nominal GDP ratio decreased slightly in June 2019 compared to December 2018 position.

7. Structural risk–cont'd.

7.4 Financial institutions (FIs) sector leverage
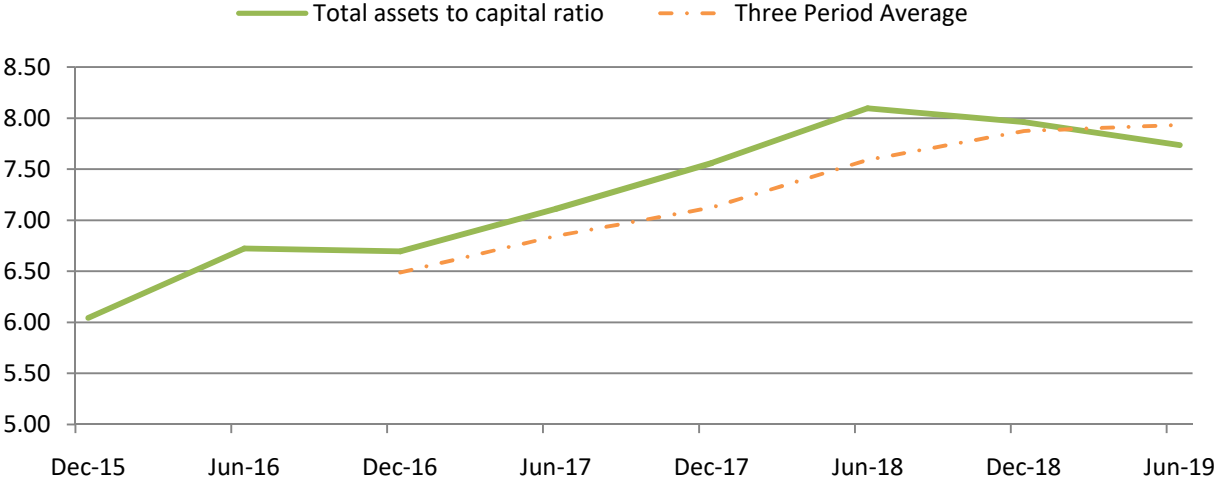
Source: DFIM, BB; Computation: FSD, BB.
Note: Leverage ratio is defined as the total asset of the FIs sector to capital ratio. Data of 33 FIs included in June 2019.

Financial institutions' total assets to capital ratio showed a rising trend over the last couple of years with exception in June 2019 and December 2018.

1. Macro risk:

1.1 Current and forecasted real GDP growth

Sources: Statistics Department, Bangladesh Bank and IMF World Economic Outlook Update, April 2018.

Current real GDP growth is the latest actual financial year-on-year growth at constant market price. Average of three periods is the three-year moving average of GDP growth rate. Forecasted real GDP growth rate is taken from IMF's World Economic Outlook Update, April 2018.

1.2 Current account balance-to-GDP ratio

Sources: Monthly Economic Trends, BB.

Current account balance represents the sum of the 6 months' current account balances. GDP is at current market price. Average of three periods is the three-period moving average of current account balance-to-GDP ratio.

1.3 Aggregate Debt-to-GDP ratio

Sources: ERD, Ministry of Finance and Monthly Economic Trends of BB (various issues).

The aggregate debt as percentage of GDP represents the sum of the debt-to-GDP ratio of Financial, Non-Financial Corporations, Government, as well as households sectors (other resident sector).

1.4 Government debt-to-GDP ratio

Sources: ERD, Ministry of Finance; and Monthly Economic Trends of BB (various issues).

Government debt includes both domestic government debt and local authorities and external debt. Local authorities include City Corporations, Zilla Parisad, Municipalities, Thana/Upazila Parishad, Union Parishad, Gram Parishad and Other Local Bodies. The dotted line represents three-period moving average of the government debt-to-GDP ratio.

1.5 Government deficit-to-GDP ratio

Sources: Monthly Report on Fiscal Position (various issues), Ministry of Finance, Government of Bangladesh.

The government deficit-to-GDP ratio is shown as both deficits excluding grants and including grants to nominal GDP.

1.6 Household debt-to-gross disposable income ratio

Sources: Monthly Economic Trends, BB.

Claims on other resident sector has been classified as Household's debts. The resident sector has been classified according to the IMF's Monetary and Financial Statistics Manual (MFSM). Claims on resident sector exclude BB and ODCs (other depository corporations). Household debt-to-gross disposable income ratio represents resident sector loans as a ratio of gross disposable income over the financial year.

1.7 NFC debt-to-GDP ratio

Sources: Monthly Economic Trends, BB.

Debts of both public non-financial corporations and private non-financial corporations are considered for deriving non-financial corporations' debt. Public non-financial corporations are corporations owned or controlled by the Government that produce goods or services for sale to the public at a significant market price whereas private non-financial corporations encompass corporations and quasi corporations engaging primarily in the production of goods and non-financial services for sale to the public at a significant market price (profit motive).

2. Credit Risk:

2.1 Annual growth rate of banks' loans to households

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by banks to domestic households (individual customers); it excludes bills purchased and discounted.

2.2 Annual growth rate of NBDCs' loans to households

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by non-bank depository corporations (NBDCs) to domestic households; NBDCs include depository financial institutions (FIs), Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

2.3 Annual growth rate of banks' loans to NFCs

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by banks to private non-financial corporations (NFCs); it excludes bills discounted and purchased.

2.4 Annual growth rate of NBDCs' loans to NFCs

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by NBDCs to private NFCs.

2.5 Provision maintenance ratio of banks

Source: Banking Regulation and Policy Department, Bangladesh Bank.

It refers to the ratio of loan-loss provision maintained by banks against their required provision. Mentionable that this ratio is calculated on yearly basis.

2.6 Provision maintenance ratio of FIs

Source: Department of Financial Institutions and Market, Bangladesh Bank.

It refers to the ratio of loan-loss provision, maintained by FIs, against their required provision; due to unavailability of data of all NBDCs, provision maintenance ratio of FIs was used as FIs constitute the majority of NBDCs.

2.7 Changes in banks' interest rates for housing loans

Source: Bangladesh Bank website (https://www.bb.org.bd/fnansys/interestlending.php).

It refers to the net percentage change in credit standards for housing loans by banks; changes in banks' announced interest rate for housing loans have been used as a proxy for changes in banks' credit standards; net percentage change is the difference between the share of banks reporting that interest rates have been tightened (increased) and the share of banks reporting that they have been eased (decreased).

3. Funding and liquidity risk:

3.1 Bangladesh Bank's liquidity support to banks

Sources: Debt Management Department, BB.

Bangladesh Bank's liquidity support comprises assured liquidity support and special repo. Assured liquidity support is given against the government securities holding by the banks issued within last 60 days. Special repo is given upon request to BB when there is a possibility of shortfall in CRR.

3.2 Advance-to-deposit ratio

Sources: Department of Off-site Supervision, BB.

It refers to the ratio between total outstanding loans and total deposits of bank clusters/banking industry.

3.3 Maturity profile of banks' outstanding debt securities (treasury bills, treasury bonds)

Sources: Debt Management Department, BB.

The maturity profile refers to the residual maturity of long-term and short-term debt securities issued by the Government of Bangladesh. Banks' long-term debt includes government Treasury bond with a maturity of more than 12 months. Banks' short-term debt includes government Treasury bill with a maximum maturity of 12 months. Data are based on amounts outstanding at the end of the corresponding year or month.

3.4 Subordinated debt

Sources: Department of Off-site Supervision, BB.

The subordinated debt refers to the debt instruments which will be subordinated to deposits and other liabilities of the bank. It implies that the claims of the subordinated debt holders will be junior to the claims of the depositors and the other creditors.

4. Market risk:

4.1 Price/earnings ratio of equity indices

Sources: Dhaka Stock Exchange Website (http://www.dsebd.org).

The indices used are for Banks, Financial Institutions, Mutual Funds, Engineering, Food & Allied, Fuel & Power, Jute, Textile, Pharmaceuticals, Paper & Printing, Service & Real Estate, Cement, IT, Tannery, Ceramic, Insurance, Telecommunication, Travel and Leisure, Miscellaneous and Market P/E.

4.2 Equity indices

Sources: Dhaka Stock Exchange Website (http://www.dsebd.org)

The equity indices displayed are DSEX, DSE30 and DSES. DSEX is considered as the benchmark general index of the market as it shows the exact price movement of the listed companies. As for DSE30, 30 companies based on profitability, market capitalization and share size were selected, with the companies changed every six months on the basis of performance. DSES index is launched for people and institutions willing to invest in Shari'ah-compliant securities and products.

4.3 Weighted average call money market rates

Source: Statistics Department, BB.

The indicators reflect the nature of money market and include rate charged against exposures of scheduled banks and FIs with one another.

4.4 Scheduled banks' weighted average interest rate on deposits and advances

Source: Statistics Department, BB.

The indicators reflect the condition of scheduled banks and show the difference between average yields received from advances and average rate paid on deposits.

4.5 Weighted average exchange rate (BDT/USD)

Source: Statistics Department, BB.

The indicator reflects the exchange rate movement in BDT per US Dollar.

5. Profitability and solvency risk:

5.1 Banks' profitability indicators

a. Return on equity (ROE)

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio between profit/loss for the period and total equity. End-June ratios are annualised.

b. Return on assets (ROA)

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on ratio between profit/loss for the year and total assets. End-June ratios are annualised.

c. Cost to income ratio

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio between operating expenses and total income. End-June ratios are annualised.

d. Net interest income to total operating income ratio

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio between net interest income and total operating income. End-June ratios are annualised.

5.2 Banks' solvency indicators

a. Tier-1 capital to risk-weighted assets ratio

Source: Department of Off-site Supervision, BB.

The indicator is based on the ratio between Tier-1 capital and total risk exposure amount.

b. Gross non-performing loan (NPL) ratio

Source: Banking Regulation and Policy Department, BB.

The indicator is based on the ratio between non-performing loans and advances to total outstanding loans and advances.

5.3 FIs' profitability indicators

a. Return on equity (ROE)

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between profit/loss after tax and provision for the period and total equity. End-June ratios are annualised.

b. Return on assets (ROA)

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on ratio between profit/loss after tax and provision for the year and total assets. End-June ratios are annualised.

c. Cost to income ratio

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between operating expenses and total income. End-June ratios are annualised.

d. Net interest income to total operating income ratio

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between net interest income and total operating income. End-June ratios are annualised.

5.4 FIs' solvency indicators

a. Tier-1 capital to risk-weighted assets ratio

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between Tier-1 capital and total risk exposure amount.

b. Gross non-performing loan (NPL) ratio

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between non-performing loans and advances to total loans and advances.

6. Inter-linkages:

6.1 Annual growth rate of banks' credit (gross) to Government

Source: Statistics Department, Bangladesh Bank.

It refers to gross loan amount extended by banks to the Government.

6.2 Annual growth rate of NBDCs' credit (gross) to Government

Source: Statistics Department, Bangladesh Bank.

It refers to gross loan amount extended by NBDCs to the Government sector.

6.3 Annual growth rate of banks' loans to housing sector

Source: Statistics Department, Bangladesh Bank.

Loans to residential housing refers to loans extended by banks for residential housing in urban and rural areas, house renovation/repairing/extension, flat and land purchase; loans to commercial housing refers to loans extended by banks for commercial building and housing by developers/contractors.

6.4 Annual growth rate of FIs' loans to housing sector

Source: Department of Financial Institutions and Markets, Bangladesh Bank.

It refers to loans extended by FIs for both residential and commercial purposes; due to unavailability of data of all NBDCs, FIs' loans to housing sector was used as FIs constitute the majority of the NBDCs.

6.5 Banks' loans to counterpart sector

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by banks to their three major institutional counterparts namely NFCs (both private and public), households and government; it excludes bills discounted and purchased.

6.6 NBDCs' loans to counterpart sector

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by NBDCs to their three major institutional counterparts namely NFCs (both private and public), households and government.

6.7 Banks' cross-border claims

Source: Statistics Department, Bangladesh Bank.

Cross-border claims of banks include foreign currency notes in hand, balances with banks abroad, bilateral trade credits, wage earners' balance abroad, foreign bills, foreign direct investments, portfolio investments and advances to non-residents; claims that are granted or extended to non-residents are referred to as cross-border claims on an "immediate borrower" basis i.e. claims allocated to the actual non-resident borrowers with whom the original risk lies; it differs from "ultimate risk" basis which refers

to claims allocated to the non-resident guarantors (of the non-resident borrower) with whom the final risk lies. For more details, see "Guidelines to the international consolidated banking statistics" available at http://www.bis.org/statistics/consbankstatsguide_old.pdf.

6.8 NBDCs' cross-border claims

Source: Statistics Department, Bangladesh Bank.

Cross-border claims of NBDCs include only foreign currency notes in hand.

7. Structural risk:

7.1 Banking sector size

a. Domestic Bank

Source: Department of Off-site Supervision, BB and Monthly Economic Trends, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio of total assets of domestic scheduled banks to nominal GDP; domestic scheduled banks include all scheduled banks except foreign commercial banks.

b. Foreign Bank

Source: Department of Off-site Supervision, BB and Monthly Economic Trends, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio of total assets of foreign commercial banks to nominal GDP.

7.2 Banking sector leverage

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio of total assets of the banking sector over its capital.

7.3 FI sector size

Source: Department of Financial Institutions and Markets, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio of total assets of financial institutions (FIs) to nominal GDP.

7.4 FI sector leverage

Source: Department of Financial Institutions and Markets, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio of total assets of the FIs sector over its capital.

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