Risk Management in Bank and Concept of ALM & Foreign Exchange Risk

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RISK & RISK MANAGEMENT

- What is Risk ?

➢ Uncertainty of future outcome.

➢ Alternatively, probability of adverse outcome.

- What is Risk Management ?

➢ Risk Management is the process of assessing risk and then developing strategies to mitigate it.

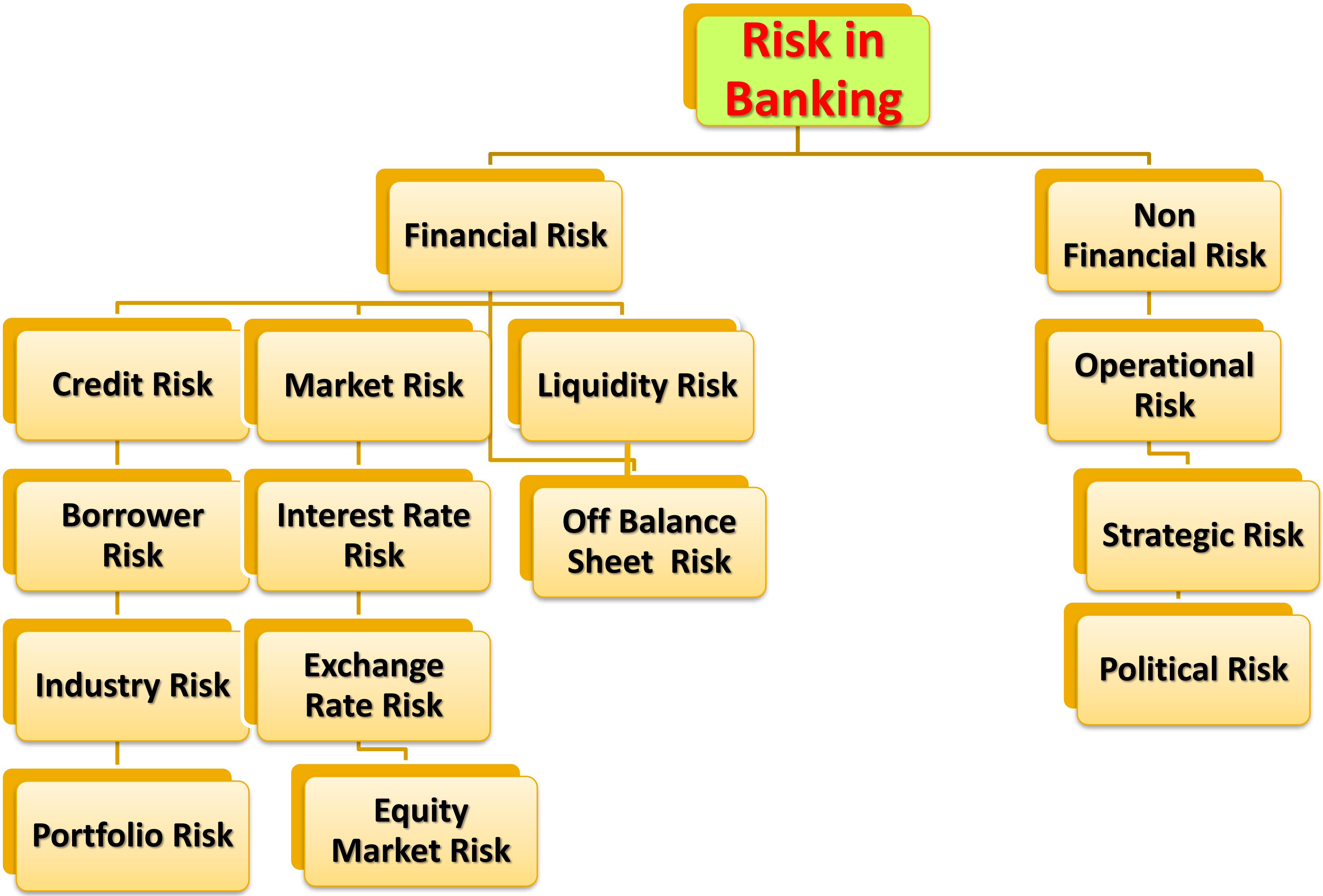
RISK ASSESSMENT

- It is the process of identifying and analyzing relevant risks to the achievement of the entity's objectives and determining the appropriate response.

- It implies :
  1. Risk identification
  2. Risk evaluation & quantification
  3. Development of responses to risk.

Risk Management Framework

- Risk Management Governance.
- Risk Culture.
- Risk Appetite.
- Risk Management Architecture.
- Risk Treatment:
- Risk Avoidance.
- Risk reduction.
- Risk Transfer.
- Risk Retention.


Risk in Banking
Financial Risk
Non Financial Risk
Credit Risk
Market Risk
Liquidity Risk
Operational Risk
Borrower Risk
Interest Rate Risk
Off Balance Sheet Risk
Strategic Risk
Industry Risk
Exchange Rate Risk
Political Risk
Portfolio Risk
Equity Market Risk

Credit Risk

(1) Borrower Risk: Default Risk, Bankruptcy Risk, Down Grade Risk and Settlement Risk.

(2) Industry Risk

(3) Portfolio Risk

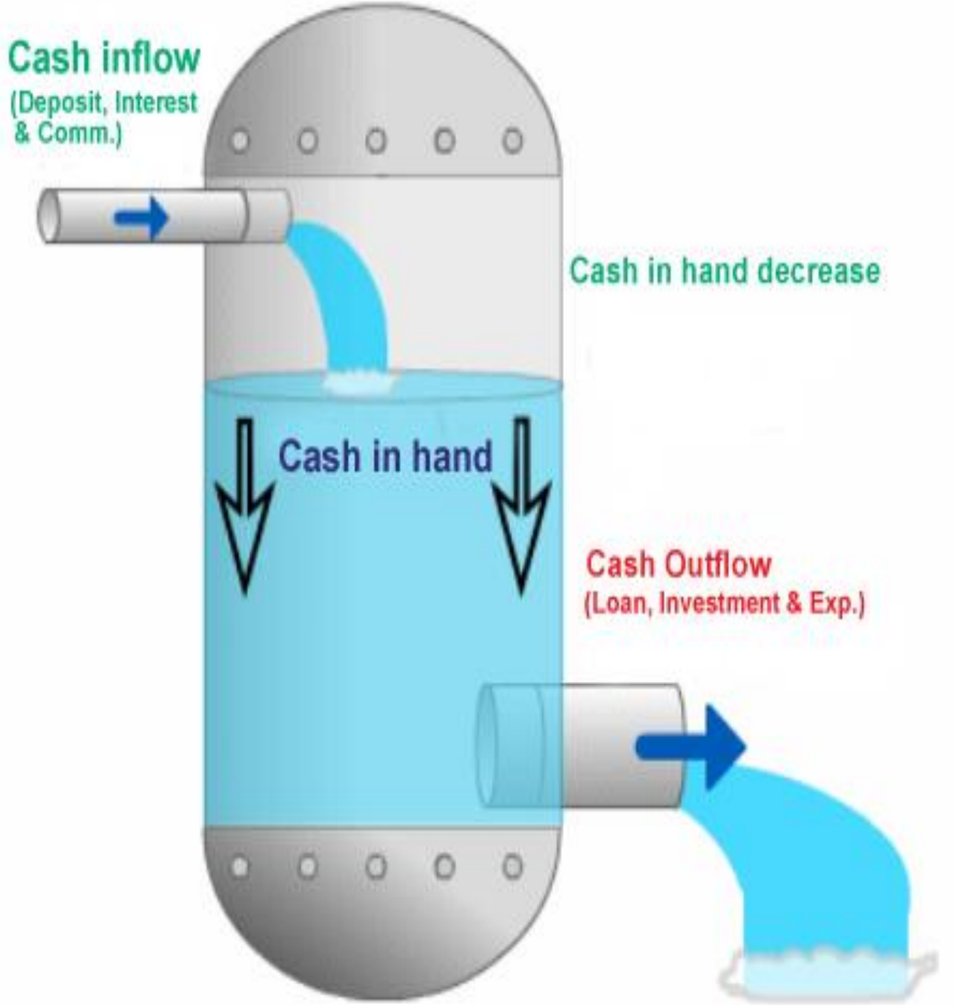
Market Risk

Results From Adverse Movements In Market Prices

(1) Interest Rate Risk
(2) Equity Market Risk
(3) Exchange Rate Risk
(4) Commodity Price Risk

Liability		BANKS		Assets
Deposits Borrowings	→		→	Lending Investments

Liquidity Risk



(1) Maturity mismatch

(2) Bank unable to meet short term financial demands

(3) Caused due to inability to convert a security or hard asset to cash.

(4) Asset liability Mismatch

Sell-off Asset at higher discount → **Insolvency** → **Bankruptcy**

Operational Risk : Arises as a result of failure of operating system in the bank – like fraudulent activities, natural disaster, human error, omission or sabotage etc.

Systematic Risk : Failure of one financial institution spreads as chain reaction to financial system as a whole.

Reputation Risk : Potential loss that negative publicity regarding an institution's business practices, will cause a decline in the customer base, costly litigation, or revenue reduction.

Asset Liability Management

- Components of a Bank's Balance Sheet
  - Liabilities:
    - Capital
    - Reserve and Surplus (Retained Earnings)
    - Deposits
    - Borrowings from other banks/Central bank
    - Other Liabilities and Provisions
    - Contingent Liabilities.

Asset Liability Management

- Components of a Bank's Balance Sheet
  - Assets:
    - Cash and Balances with Bangladesh Bank
    - Balances with Banks and NBFIs
    - Money at Call and Short Notice
    - Investments
    - Loan and Advances
    - Fixed Assets
    - Other Assets.

Treasury Activities

Treasury activities can normally be categorized into four areas:

Money Market

This refers to the day-to-day activities where the Bank addresses its short-term cash requirements, by either lending/investing its excess liquidity or borrowing to cover liquidity short-falls.

Fixed Income

This refers to a sub-set of the investment universe where instruments with fixed pricing are the traded commodities. Govt. securities and other securities eligible for SLR and subordinated bonds.

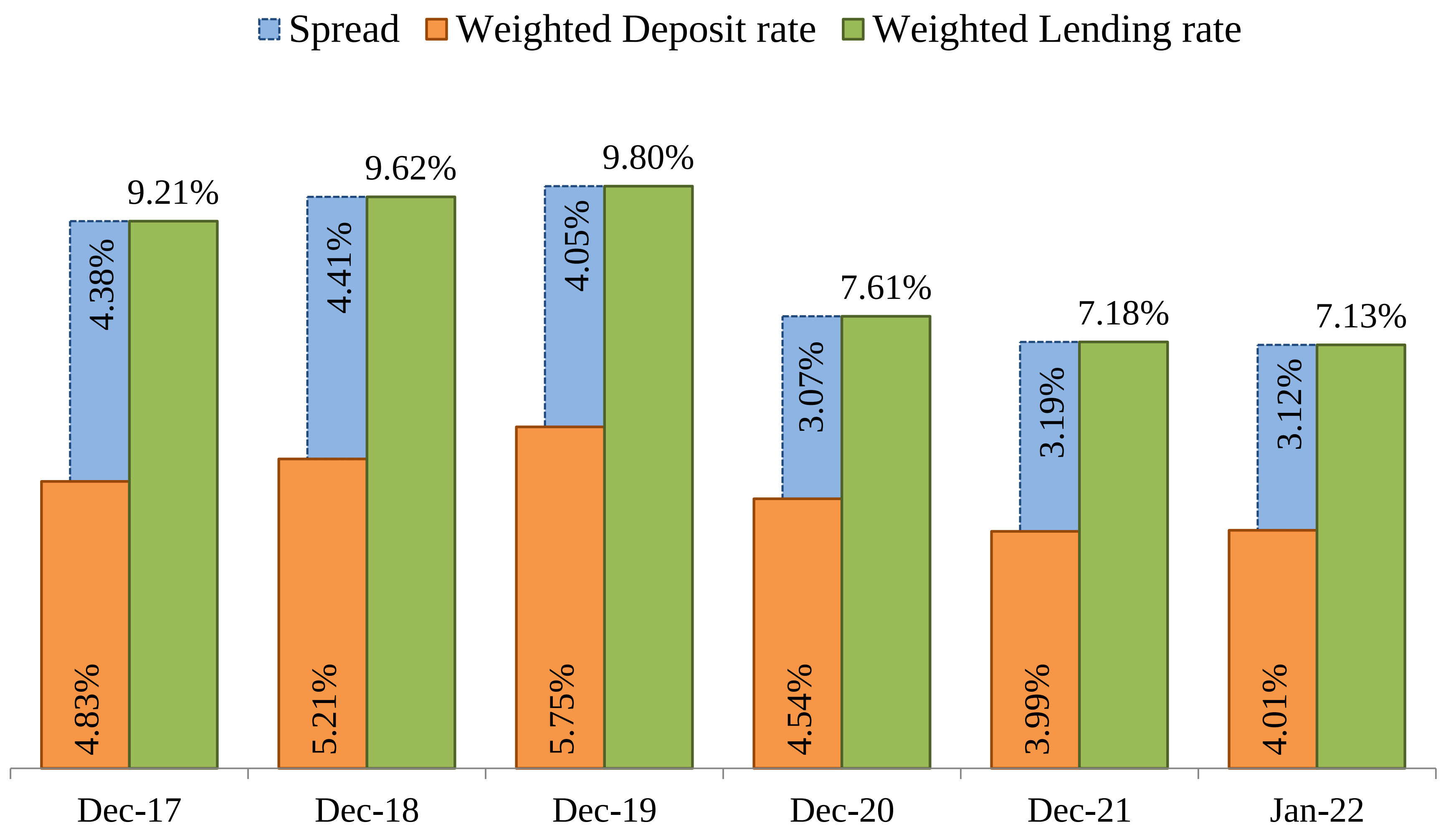
Foreign Exchange

This refers to the buying and selling of funds denominated in various currencies, where the Bank may dispose of its excess stock or purchase its operational requirements (e.g., to settle L/C transactions).

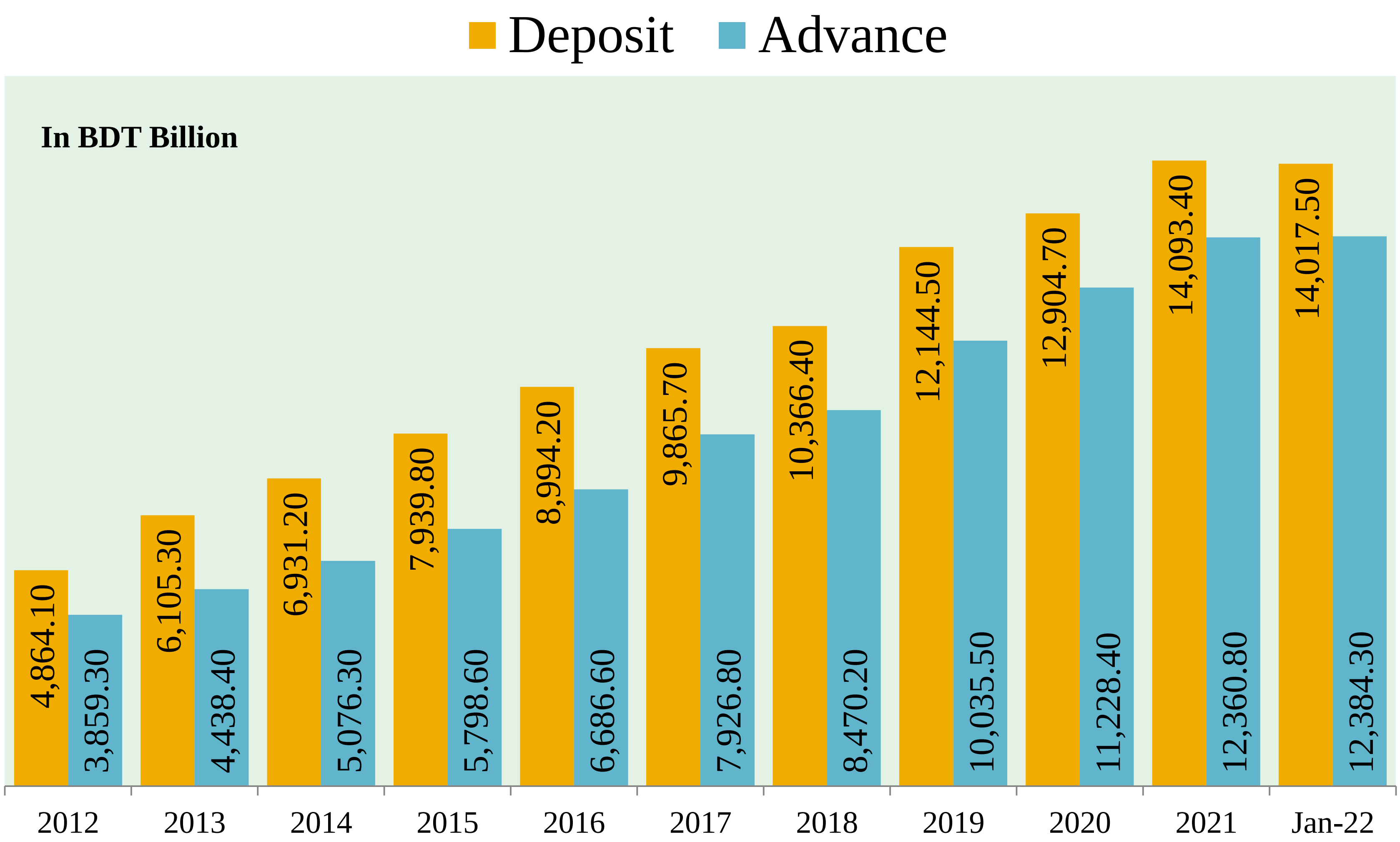
Asset-Liability Management

This refers to the Treasury functions that are associated with the execution of ALM strategies.

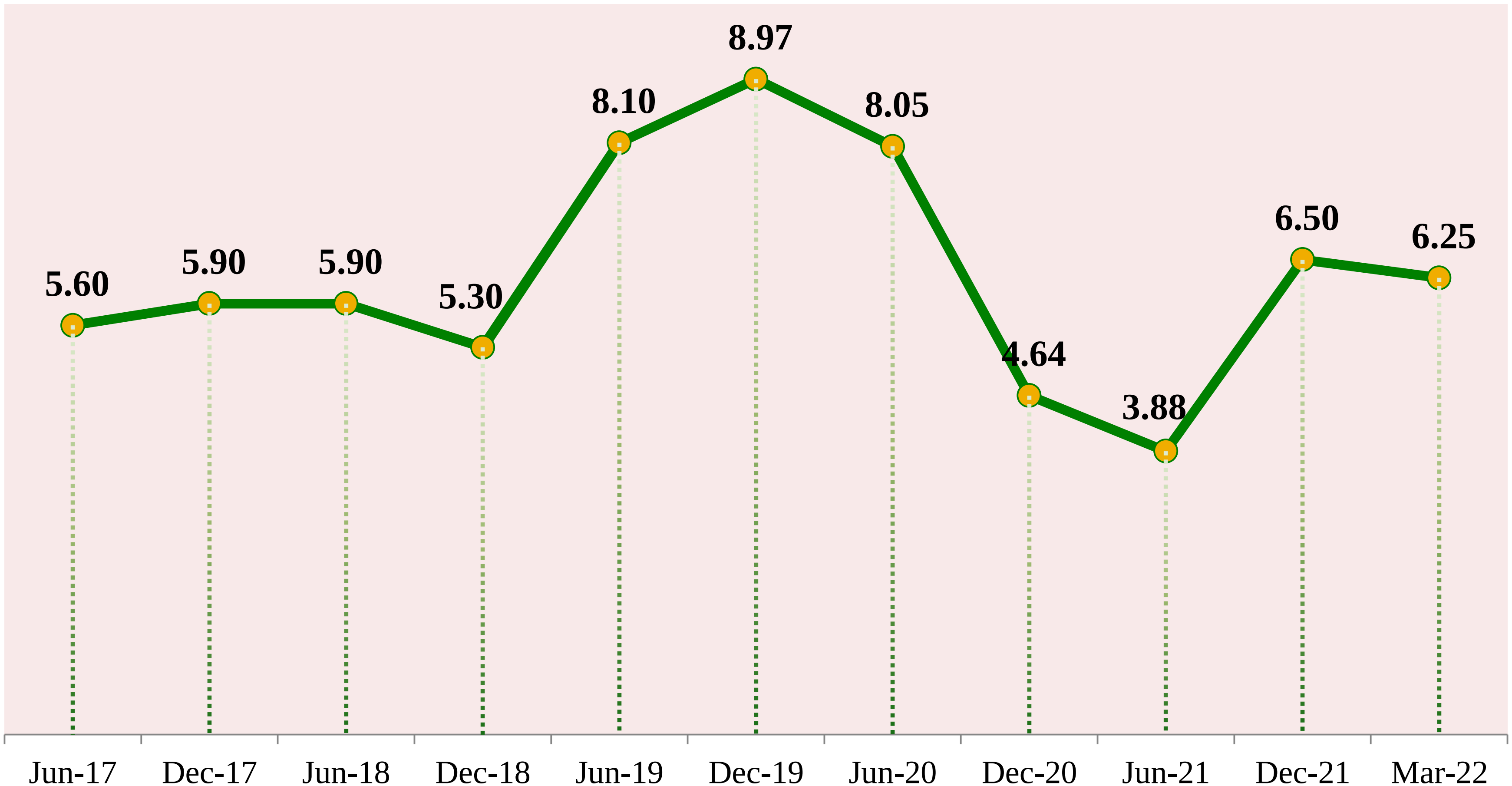
Historical Data of Deposit and Lending Rates



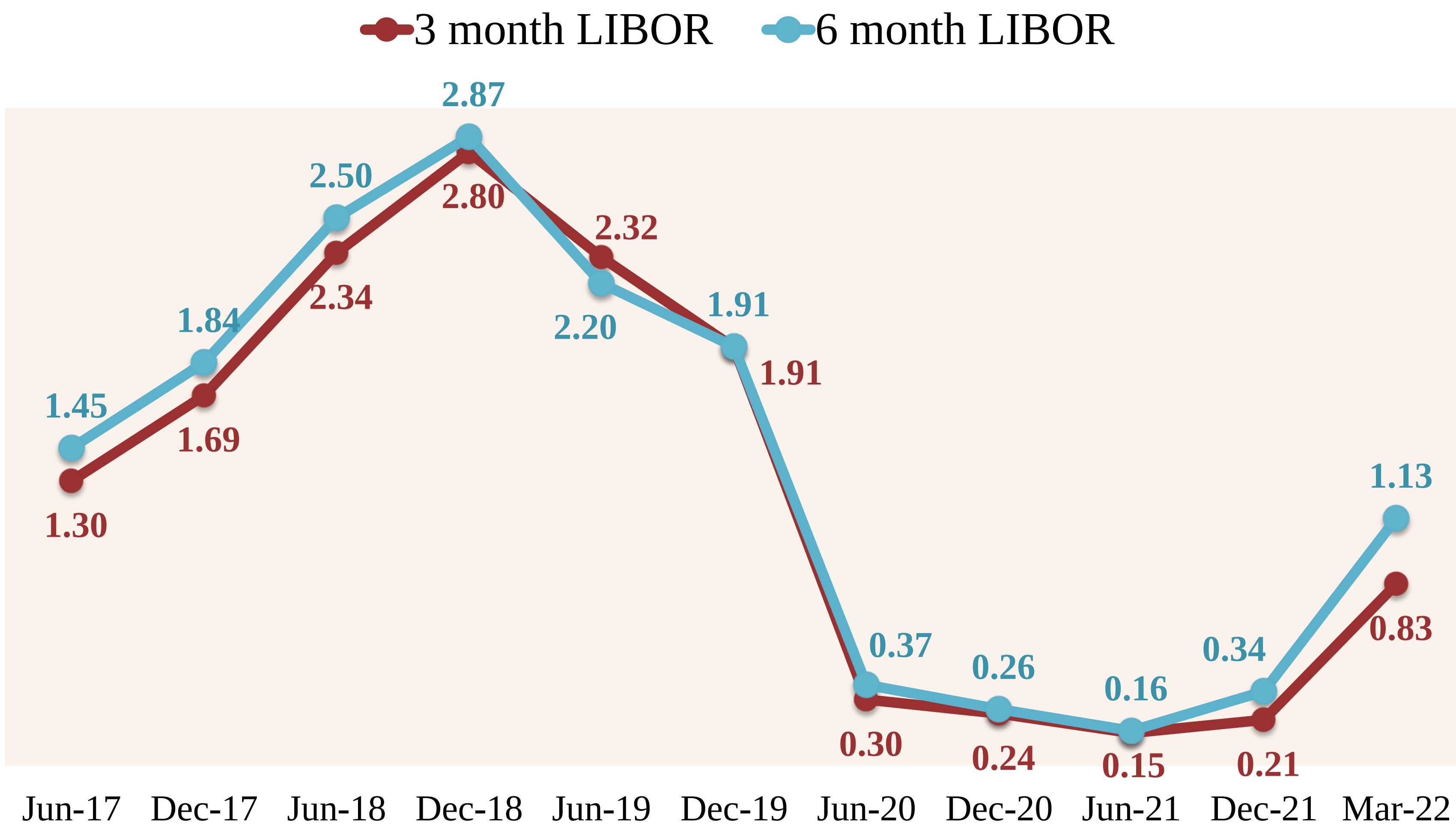
Trend of Deposit and Advances



Cut off yield on 5 Years T-Bond

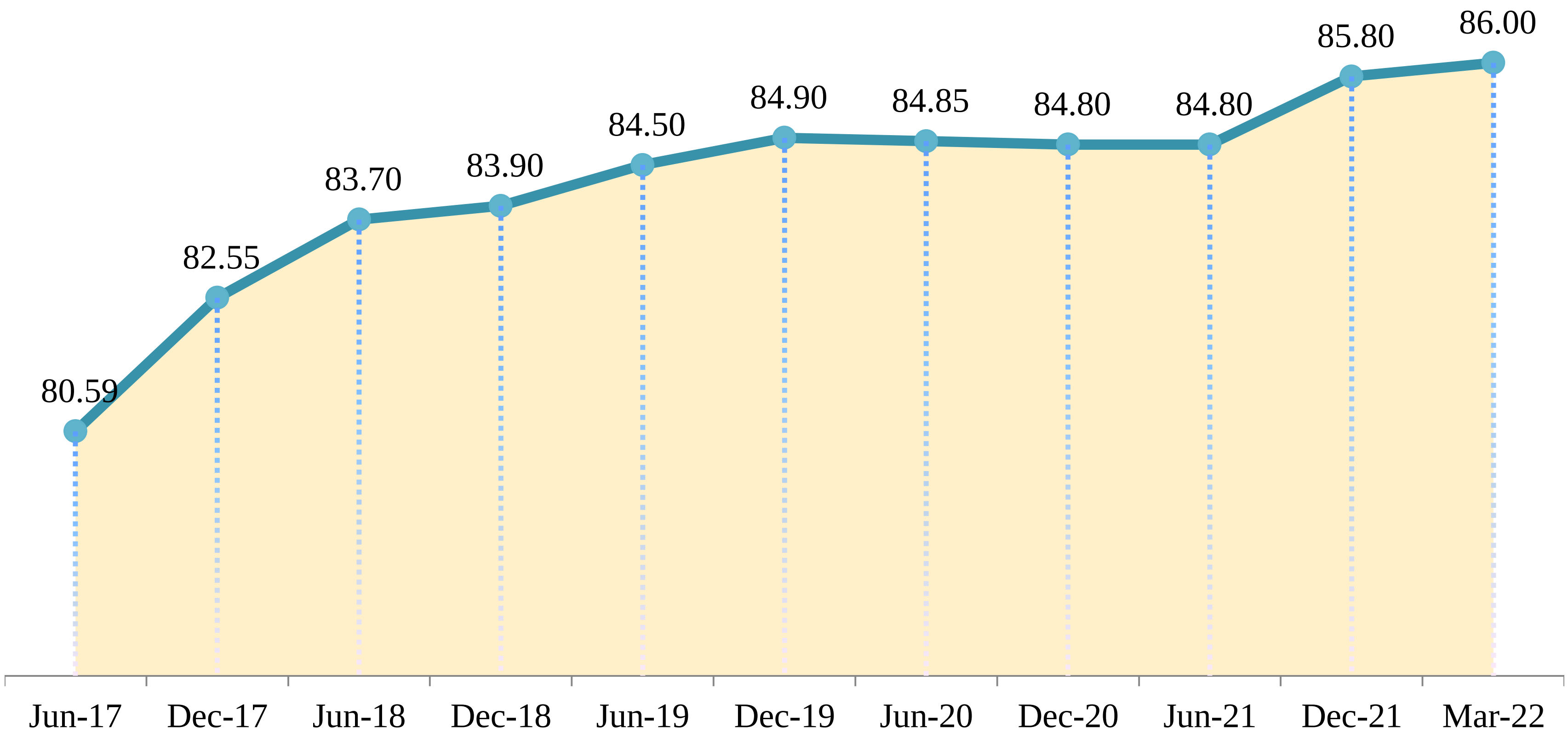


Historical Data of LIBOR

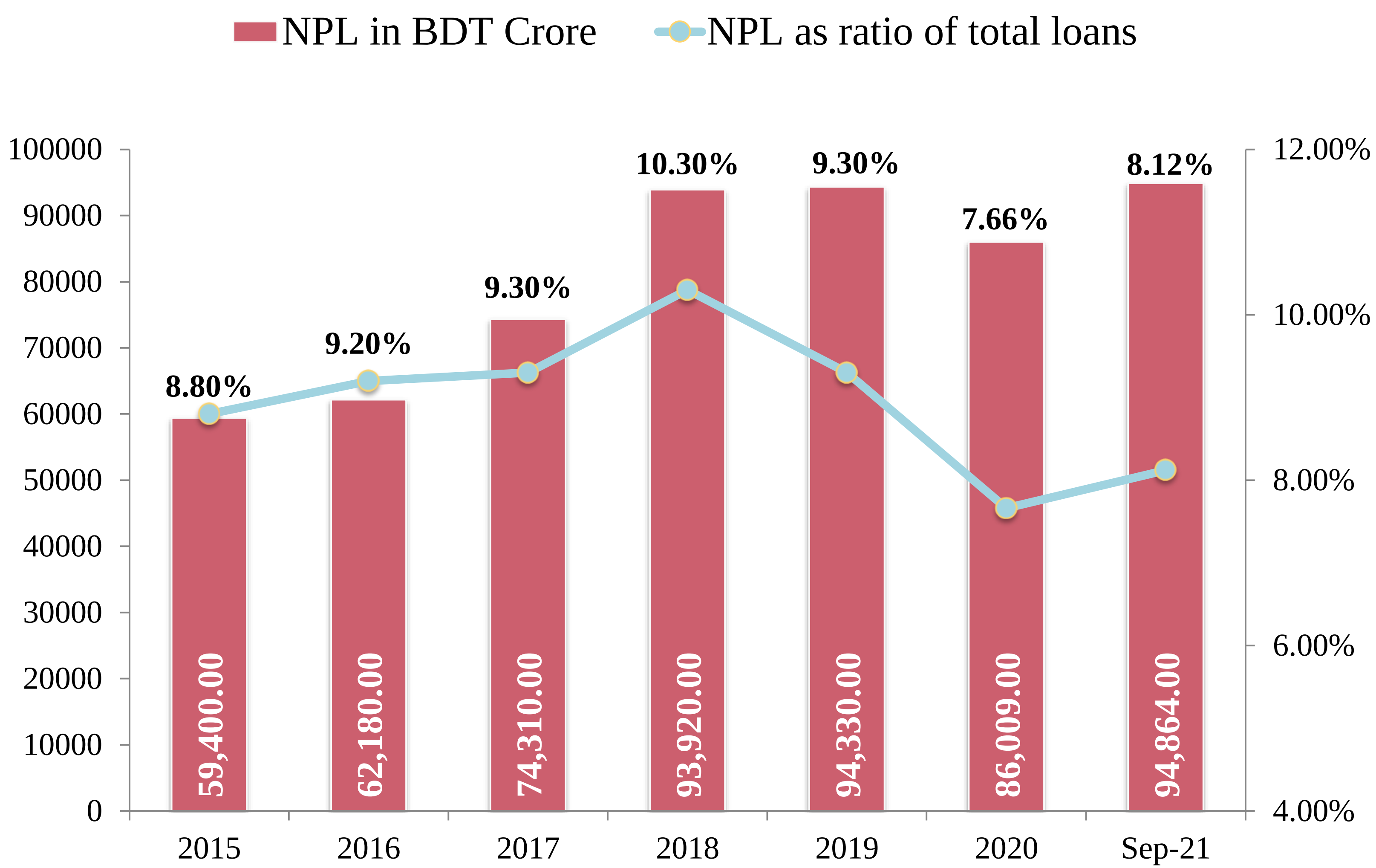


Exchange Rate Movement

Exchange Rate of BDT per USD

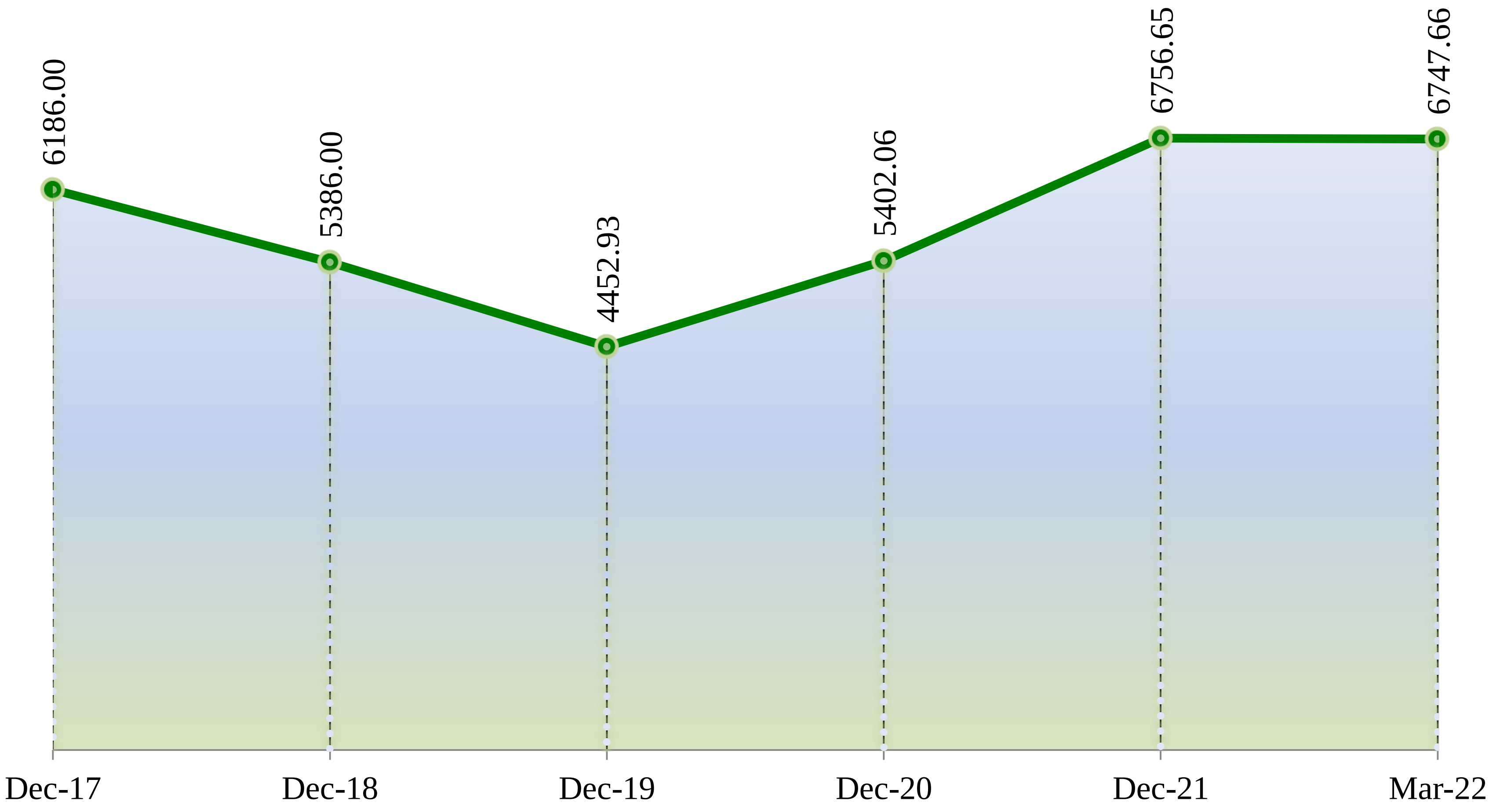


Trend of NPL



NPL in BDT Crore
NPL as ratio of total loans
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
12.00%
10.00%
8.00%
6.00%
4.00%
8.80%
9.20%
9.30%
10.30%
9.30%
7.66%
8.12%
59,400.00
62,180.00
74,310.00
93,920.00
94,330.00
86,009.00
94,864.00
2015
2016
2017
2018
2019
2020
Sep-21

DSEX Index Movement



Significance of ALM

- Why does a bank need ALM?
- A bank or f/I must have enough assets to pay off its liabilities(Liquidity).
- But what happens if 50% of the liabilities are maturing within 1(one) year as against only 10% of the assets are maturing within the same period (Maturity Transformation).
- Though the bank has enough assets, it may become temporarily insolvent due to severe liquidity crisis(Large loan default, rescheduling of large loan with long grace period , ADR/IDR exceeds limit).
- Weakness in analyzing Balance Sheet and other operations.
- Absence of proper analysis of interest rate risk and liquidity risk.
- Absence of contingency plan for unforeseen or unexpected change in interest rate, exchange rate, competitive market condition, economic development etc.
- Absence of proper counterparty limits.

KEY MANAGEMENT INDICATORS

CRR	SLR	Rest	Remarks
4.00% of DTL	13.00% of DTL	100%-4%-13%=83%	CRR and SLR are subject to change time to time by BB

Ideally Banks have to maintain 80-85% AD Ratio (Exception BKB and Islamic Banks).ADR/IDR Increased by 2% to 87% and 92% during Covid-19 for conventional and Islamic banks.

$$\text{ADR} = \frac{\text{Total Loans and Advances or Investment}}{\text{Total Time and Demand Liabilities} + \text{InterBank Deposit surplus}}$$

KEY MANAGEMENT INDICATORS

LCR or Liquidity Coverage Ratio is a liquidity standard for Banks. This standard is built on the methodologies of traditional liquidity coverage ratio used by banks to assess exposure to contingent liquidity events. The minimum acceptable value of this ratio is 100 percent.

$$\mathrm{LCR} = \frac{\text{Stock of high quality assets}}{\text{Total net cash out flows over the next 30 calender days}} > 100\%$$

High Quality Assets: That consists of cash or assets that can be converted into cash at little or no loss of value in markets.

KEY MANAGEMENT INDICATORS

NSFR or Net Stable Funding Ratio is another new standard introduced by the BCBS. The NSFR aims to limit over-reliance on short-term wholesale funding during times of abundant market liquidity and encourage better assessment of liquidity risk across all on- and off-balance sheet items. The minimum acceptable value of this ratio is 100 percent, indicating that available stable funding (ASF) should be at least equal to required stable funding (RSF).

$$\text{NSFR} = \frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} > 100\%$$

Stable Funding: Non reliance of short term wholesale funding.

BASEL III Implementation in Bangladesh.

rticulars	2015	2016	2017	2018	20
inimum Common Equity Tier 1 Capital Ratio	4.5%	4.5%	4.5%	4.5%	4.
pital Conservation Buffer (CCB)	-	0.625%	1.25%	1.875%	2.
inimum CET1 plus CCB	4.5%	5.125%	5.75%	6.375%	7.
inimum T-1 Capital Ratio	5.5%	5.5%	6.0%	6.0%	6.
inimum Total Capital Ratio	10.0%	10.0%	10.0%	10.0%	10
inimum Total Capital + CCB	10.0%	10.625%	11.25%	11.875%	12
ase-in deduction from CET1					
cess Inv. Over10% of equity of bank's equity in uity of Banking, Finance and Insurance entities.	20%	40%	60%	80%	10
ase-in deduction from T-2 Revaluation Reserve					
for Fixed Assets, Securities and Equity Securities	20%	40%	60%	80%	10

Pillars under BASEL accord.

BASEL-I	BASEL-II			BASEL-III		
Pillar-I	Pillar-I	Pillar-II	Pillar-III	Pillar-I	Pillar-II	Pillar-III
Minimum Capital for Credit Risk.	Minimum Capital for Credit Risk, Market Risk and Operational Risk.	Supervisory Review process	Disclosure	Enhanced Minimum Capital & Liquidity Requirements.	Enhanced SRP for entity wide Risk Mgt. and Capital Planning.	Enhanced Risk Discipline and Market discipline.

KEY MANAGEMENT INDICATORS

- **Whole sale borrowing (WB) Guidelines:**

The aim of wholesale borrowing(WB) guideline is to set a limit for borrowed fund. The limit should be set in absolute amount based on bank's eligible capital (Tier-1 plus Tier-2) and considering liquidity needs due to maturity mismatch, borrowing capacity of the Bank and historic market liquidity.

KEY MANAGEMENT INDICATORS

- **Commitment:**

  Absolute amount not exceeding 200% of unused wholesale borrowing capacity of the last 12 months.

- The commitment limit is fixed considering three important ratios. These are: i) Total Commitments to Total Assets (less than 50%),
- ii) Total Commitments to Total Eligible Capital (less than 500%)and
- iii) Total Commitments to Total High Quality Liquid Assets (less than 250%).
- The commitment limit will be the lowest amount of the three ratios mentioned above.

- **Maximum Cumulative Outflow (MCO):**

  Ideally no single monthly bucket should exceed 20% of total balance sheet.

Constitution of ALCO

- Managing Director & CEO (Chairperson)
- Head of BSUCD
- Head of Treasury (Member Secretary)
- Head of Credit
- Head of CAD/Chief Financial Officer (CFO)
- Head of International Trade
- Chief Risk Officer
- Head of ALM Desk.

KEY AGENDA OF ALM COMMITTEE

- The key agenda of ALCO meetings should be at least, but not limited to, the following:
- (i) Overall fund position including loanable fund, maintenance of CRR and SLR, LCR and NSFR position, Structural Liquidity Profile, etc.
- (ii) Assets and Liability position.
- (iii) Foreign exchange related asset and liability position.

KEY AGENDA OF ALM COMMITTEE

(iv) Economic and Market Status and Outlook.

(v) Liquidity Risk related to the Balance Sheet.

(vi) Review of the price / interest rate structure.

(vii) Off-balance position.

(viii) Capital Market Investment position.

(ix)) Investment in associates.

(x) Investment in Govt. Securities.

(xi) Leverage ratio etc.

Operational & Performance Objectives

- Compliance with Foreign Exchange Regulations
- Liquidity
- Transactions
- Monitoring
- Reconciliation

Objectives of F/EX Risk Management

- Measurement of capital requirement.
- Periodical evaluation of un-hedged exposures.
- Adopt appropriate hedging strategies.
- Periodic review of interest rate.

2. Foreign Exchange-based Operations

Risk Associated with Foreign Exchange Operations

The key risk areas are broadly categorized as follows:

1. **Credit Risk**

   This is defined as the failure of an obligor or counter-party to perform as agreed in accordance with exchange/settlement arrangements on a stipulated/value date.

2. **Liquidity Risk**

   It is defined as the inability to meet obligations in any currency when due, owing to either lack of funds by either of the contracting parties or to systemic problems in markets that make it difficult to purchase the amounts needed for settlement. Accordingly, there is a close relationship between liquidity and credit risks.

3. **Market Risk**

   It is defined as the potentially adverse change in the current economic value of a position (i.e., its market value) due to changes in the associated underlying market risk factors.

Organizational structure of Treasury

- Organizational Structure:
- Organizational structure to ensure that there exists a clear and effective segregation of duties between the treasury people.

- Front Office.
- Back Office.
- Mid Office.

Mitigation of Foreign Exchange Risk

- Policy Guidelines:
  - Setting of dealing limits.
  - Setting of counterparty limits.
  - Foreign currency position reconciliation.
  - Nostro A/C reconciliation.
  - Mandatory leave.
  - Maintaining Net Open Position (NOP) Limit.
  - Internal audit.

Mitigation of Foreign Exchange Risk

- Hedging:
- Foreign exchange risk is mitigated by using different hedging techniques. Hedging is a way by using which a bank minimizes its risk exposure. A commercial bank may uses following derivatives to hedge foreign exchange risk:

    1. Forward Exchange Contract.
    2. Option Forward Contract.
    3. Currency SWAP.
    4. Foreign Currency Option.

Forward Exchange Contract

- A Forward Exchange Contract (or forward contract) is a binding obligation to buy or sell a certain amount of foreign currency at a pre-agreed rate of exchange, on a specified date.
- It is the contract under which exchange rate negotiated today between a bank and a client agreeing to buy or sell some amount of foreign currency in future.
- With a forward contract one can lock in an exchange rate for the future.
- Since delivery of the currency takes place in a fixed future date it is also termed as **Fixed Forward Contract**.

Option Forward Contract

- An option forward contract is defined as a forward contract where the delivery date is at the customer's option.
- In a foreign exchange option forward contract, the deal is done, and the rate is fixed. The option applied only to the delivery date.
- So a contract may be "option from spot until December 30" or "option between November and December, 2014".
- For fixing the rate under option forward contract, the bank will bear in mind the possibility that the customer may deliver at the worst possible time, and the rate will have to be quoted by the bank accordingly.

Swap

- Swap is the simultaneous sale and buy of identical amounts of one currency against another, for different maturities.
- A combination of spot and forward transaction is called a Swap.
- Buying USD with BDT in the spot market and selling the same amount of USD in forward market or vice versa, constitute a USD/BDT Swap.
- The swap is generally used for funding requirements, but there is also a profit opportunity from interest rate arbitrage.

Foreign Currency Option

- A foreign exchange option is a contract for future delivery of a currency in exchange for another, where the holder of the option has the right to buy (or sell) the currency at an agreed price, but is not required to do so.

- These enables an entity to purchase or sell foreign currency under a contract that allows for the right but not the obligation to undertake the transaction at an agreed future date.

Foreign Currency Option

- The right to buy is a **call** (*Call option*); the right to sell is a **put** (*Put option*).

- For such a right he pays a price called the option **premium**.

- The option seller receives the premium and is obliged to make (or take) delivery at the agreed-upon price if the buyer exercise his option.

Balance of Payments

(In million USD)

Year	Export	Import	Trade Balance	Remittance	(Export+ Remittance -Import)	Overall BOP
2015-16	34,257.18	43,122.50	**-8,865.32**	14,931.15	**6065.83**	**4649.18**
2016-17	34,655.90	47,005.20	**-12,349.30**	12,769.45	**420.15**	**-5320.93**
2017-18	36,668.17	58,865.30	**-22,197.13**	14,978.86	**-7218.27**	**-885.00**
2018-19	39,604.00	55439.00	**-15835.00**	16419.63	**584.63**	**179.00**
2019-20	32121.00	50690.00	**-18569.00**	18205.00	-364.00	**3169.00**
2020-21(P)	36903.00	60681.00	**-23778.00**	24778.00	1000	**9274.00**

BOP Major Items

Fig in USD Billion

ITEMS	JULY TO DEC FY 23	JULY TO DEC FY 22
Import (Incl EPZ)	38.13	38.97
Export (Incl EPZ)	25.83	23.26
Workers Remittance	10.49	10.24
Trade Balance	(12.30)	(15.70)
Current Account Balance	(5.270)	(8.297)

Compliance Ahead for Banks

- (1) Guidelines on Interest Rate Risk in the Banking Book (IRRBB). BRPD Circular No.06 dated 13 April 2021. To be implemented by June 2024.

- (2) Recovery Plan for Banks, BRPD Circular No: 03 dated 24 February 2022.

Thank You