

GUIDELINES ON ASSET LIABILITY RISK MANAGEMENT POLICY: 2019



Bangladesh Krishi Bank

Treasury Management Department

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Compiled

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PART -A: POLICY STATEMENT

Overview

Asset Liability Risk Management (ALM) is a key financial and risk management discipline. As one of the core risk areas identified by the Bangladesh Bank, ALM requires senior management responsibility of Bank (BKB) in order to control both inherent and acquired risks in the balance sheet and in day-to-day operations.

ALM is a balancing act, involving the continuous rearrangement of the two sides of the balance sheet to obtain reasonable returns- while providing adequate capital, liquidity and responsiveness to both internal and external factors to attain the Bank's objectives consistent with prudential limits and risks. These risks are categorized into financial, credit, liquidity, interest rate (or pricing), currency, business and operations. In short, it involves planning, directing and controlling the sources and usage of the funds of the Bank.

This section of the Bank's risk management policy discusses the significant risks related to the balance sheet, and prescribes a comprehensive ALM risk management policy framework that is established to allow management to inform business strategy and guide day-to-day operations. In addition, core ALM topics and a glossary of terms have been incorporated in the appendices for further reading and training purposes.

Finally, due to the evolving nature of ALM practices and the attendant regulation that follows the introduction of new financial instruments and transactions, this policy requires updating from time to time.

This policy is the exclusive property of the BKB. Accordingly, its circulation and use is strictly limited to authorized personnel in the course of bank-related operations and administration.

The following policies are set by BB for compliance by the commercial banks:

1.1 Basel III Liquidity Ratios:

Though Bangladesh Bank has issued separate Guidance note on LCR and NSFR under Basel III. The ratios represent the way forward in ALM through liquidity measurement and management. BKB also measure the ratios along with the liquidity gap should be central to liquidity measurement and management. The Basel Committee introduced liquidity standards as a part of the Basel III capital regime, including the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). Bangladesh Bank (BB) has also issued separate guidance on LCR and NSFR under Basel III. The aim was to increase bank's short and long-time resilience. The LCR addresses whether banks have adequate high quality liquid assets to survive stressed liquidity conditions over a 30-day period, while the NSFR guides banks to adopt more stable sources of funding over the long time. BKB also measures these ratios that are central to liquidity measurement and management.

1.1.1 Liquidity Coverage Ratio (LCR):

LCR or Liquidity Coverage Ratio is a new liquidity standard introduced by the BCBS (Basel Committee for Banking Supervision). 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. Liquidity Coverage Ratio of the bank is set at 150% to 200%. The standard for LCR is more than or equal to 100%. To attain the target level, the bank will improve ADR by increasing quality lending and shifting short term investment into relatively longer term bucket.

1.1.1.1 Definition for the LCR:

The calculation of the LCR requires three important quantities to be defined:

- A. Total value of stock of high quality liquid assets
- B. Total cash outflows of next 30 days (stressed scenario)
- C. Total cash inflows of next 30 days (stressed scenario)

LCR requirement is met if A is greater than B – C; i.e. if high quality liquid assets exceed net cash outflows under the stressed scenario. (To make the metric even more conservative, C is capped at 75 percent of B.)

1.1.1.2 The Equation:

$$\text{LCR} = \frac{\text{Stock of high quality liquid assets}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$$

Here, Stock of high quality assets = A and

Total net cash outflow over the next 30 calendar days= B–C, where C is maximum 75% of B.

1.1.2 Net Stable Funding Ratio (NSFR):

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).

1.1.2.1 Definitions of the NSFR:

The calculation of the NSFR requires two quantities to be defined:

- A. available stable funding (ASF) and
- B. required stable funding (RSF).

NSFR is met if ASF exceeds RSF, i.e. if $ASF/RSF > 1$ or 100%.

1.1.2.2 The Equation:

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

The NSFR of the bank is set at 100% to 110%.

1.2 Leverage Ratio:

The Basel committee considered it convenient to introduce a ratio to complement the traditional capital ratios, capable of offering a measure of an Institutions capital quality. This was how the leverage ratio came about. A minimum Tier 1 leverage ratio of 3% is being prescribed by BB both at solo and consolidated level. Banks have to maintain leverage ratio on quarterly basis. The ratio is defined as-

$$\text{Leverage Ratio} = \frac{\text{Tier 1 Capital}}{\text{Total Exposure}}$$

[*after related deductions]

(*related deductions will be as per "Guidelines on Risk Based Capital Adequacy: Revised Regulatory Capital Framework for banks in line with Basel III" issued by BB in December 2014)

1.3 Other significant policy statements:

To facilitate the ALM process, the Board of the Bank has set other policy statements (keeping in mind the minimum requirements of LCR, NSFR and Leverage ratio) for the followings and conduct an annual review (at least) taking into consideration the changes in the balance sheet and market dynamics.

1.3.1 Advance to Deposit Ratio (ADR):

Although commonly known as Advance to Deposit Ratio, actually the ratio is determined by putting Advance in numerator and Liabilities (excluding capital) in denominator. The ratio should be fixed in such a manner so that there will be no unnecessary liquidity pressure on the Bank in any point of time. Considering the regulatory liquidity requirements (CRR and SLR), the maximum value of the ratio shall be derived using the formula $[100\% - \text{CRR}^*]$. Depending upon the capital base, liquidity condition, NPL status etc. and above all the maintenance of LCR & NSFR, the board may decide adding highest 4.5% and 2%^{**} (for conventional banks and Shariah based banks respectively) with the result of the above formula to fix a suitable AD ratio. As per present liquidity position ADR for conventional banking of the bank is set at 82.5%.

To keep ADR of BKB at 90% to 95%, BKB will take up the following strategies:

- Increasing quality lending
- Decreasing lending rate
- Introducing new loan products

1.3.1.1 The Equation:

The formula for calculating AD ratio is as follows-

ADR = Total Loans and Advances / (Total Time and Demand Liabilities + Interbank deposit surplus)

Interbank deposit surplus = Deposit from other banks - Deposit with other banks (if negative then 0) Bank has to follow the instruction of BB regarding deduction of some items to calculate total loans and advances while calculating ADR. Total demand and time liabilities to be calculated according to DOS Circular No.01/2014.

1.3.1.2 ADR for Islamic banking operation of the bank:

As the bank has no Islami banking business, the bank has not to calculate and maintain ADR separately for Islami Banking Unit according to the Islamic Shariah based banking regulation. But in case of new Islamic Banking unit Bank has to calculate ADR separately for Islamic Banking Unit.

1.3.1.3 Adjustment of the AD ratio limit:

It is important to adjust AD ratio limit with changing condition of the Banks' assets and liabilities. The Management of the bank has to inform the board regarding AD ratio in every meeting. So that the board will take quick decision necessary to adjust the ratio.

[Note:

- 1.* CRR = bi-weekly rate as decided by BB from time to time (Current CRR is 5.50%)

1.3.2 Wholesale Borrowing Guidelines (WBG):

The aim of wholesale borrowing (WB) guidelines 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) capital and considering liquidity needs due to maturity mismatch, borrowing capacity of the Bank and historic market liquidity.

1.3.2.1 WB Limit:

WB covers call borrowing, Short Notice Deposit from banks and financial institutions, placement received with maturity less than 12 months, commercial papers/similar instruments and overdrawn Nostro accounts. Primary Dealer bank WB Limit will be capped at 100% of bank's eligible capital on fortnightly average basis with maximum two deviations (not more than 110% of the eligible capital of the bank) in a particular fortnight. The eligible capital determined under Basel III for any quarter will be applicable as eligible capital until it is determined for the next quarter.

1.3.2.2 Scope of WB Limit:

The above limit is considered as an aggregate limit for banks having dual businesses (i.e. both conventional and Islamic banking operation). The detail WB guidelines of the bank is shown as **Appendix -I**.

1.3.3 Commitments:

Total Commitments include undrawn portions of continuous loan including interest thereon and undrawn portions of term loans, outstanding irrevocable letters of credit and similar instruments, letters of guarantee, acceptances and similar instruments. Counter guarantee provided by foreign banks with BB rating grade 1 or similar, awarded by recognized (by BB) international credit rating agencies against any guarantee, FC held against Back to Back LC and Margin on LC or guarantee shall be deducted from the total commitment amount.

1.3.3.1 Commitment Limit:

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

Provisional Total Asset of the bank as on 30/12/2018 was Tk. 25348.95 crore, Total Eligible Capital was Tk. (8447.55) crore & Total High Quality Total Asset (HQLA) was Tk. 2801.57 crore on 31/12/2018. As per BB guidelines the bank's commitment limit is set up to Tk. 500 crore.

1.3.3.2 Scope of Commitment Limit:

The above limit is considered as an aggregate limit.

1.3.4 Structural Liquidity Profile (SLP):

The structural liquidity profile of the Bank provides information regarding maturity transformation of assets and liabilities in a simple manner. The negative liquidity GAP (if exist), derived by considering assets and liabilities both in local and foreign currencies, can be taken as a preliminary signal for the need of maturity adjustment of assets and liabilities in different time buckets. The Maximum Cumulative Outflow ratio will be considered as an important benchmark in this regard.

1.3.4.1 Maximum Cumulative Outflow (MCO):

MCO reflects the maximum cumulative outflow against total assets in a maturity bucket. MCO up to one month bucket will not be greater than the sum of daily minimum CRR. For example, at the present rate of CRR, the MCO should be 5.5% for BKB. The board of the bank will take utmost care in setting these ratios as they have significant impact on bank's business strategy.

If the set limit breaches the bank will manage MCO in the following manner:

- a) Campaign for deposit mobilization
- b) Sale of securities
- c) Sanction of large Loan may be restricted
- d) Request to BB for Demand Loan.

This liquidity risk measurement system not only helps the Bank in managing liquidity in times of crisis but also optimize return through efficient utilization of available funds. The Bank will institute systems that enable them to capture liquidity risk ahead of time, so that appropriate remedial measures could be prompted to avoid any significant losses.

1.3.4.2 Maximum Cumulative Outflow (MCO) Report

To prepare a liquidity gap report of the Bank, the sequence of activities that need to be performed is as follows:

- Segregate assets and liabilities into deferent time buckets based on their remaining maturities;
- Place all assets and liabilities in their appropriate time buckets;
- Identify the number of time buckets;
- Subtract maturing liabilities from maturing assets in order to determine the Liquidity gap, under each bucket;
- Compute the cumulative liquidity gap.

1.3.4.3 The Equation:

The formula for determining maximum cumulative outflow in one month bucket is-

$$\text{MCO} = \frac{\text{Total outflow up to one month} + \text{Total OBS up to one month}}{\text{Total inflow} + \text{Net Nostro account balance} + \text{Available foreign currency balance with BB}}$$

1.3.5 Interest Rate Risk Management

Interest rate risk (IRR) can be defined as decline in earning or in the Bank's portfolio value due to interest rate fluctuations. Most of the balance sheet items generate revenues and costs which are indexed to interest rates; since these rates are unstable over time, so are earnings. While assuming IRR risk is a key part of its business activity, taking on excessive IRR can potentially threaten earnings and the Bank's capital base.

1.3.5.1 Types of interest rate risk

IRR can be roughly decomposed into four categories:

Re-pricing risk

This refers to fluctuations in interest rate levels that have different impacts on bank assets & liabilities. For example, a portfolio of long-term, fixed-rate loans funded with short-term deposits (i.e. a case of duration mismatch) could significantly decrease in value when rates increase, since the loan payments are fixed and funding costs have increased.

Yield curve risk

This refers to changes in the portfolio values caused by unanticipated shifts in the slope and shape of the yield curve; for example, short-term rates might rise faster than long-term rates, thereby clearly affecting the profitability of funding long-term loans with short-term deposits.

Basis risk

This refers to the imperfect correlation between index rates across different interest rate markets for similar maturities; for example, a bank funding loans whose payments are based on treasury bills with deposits priced on a different basis is exposed to the risk of unexpected changes in the spread between these two indexes.

Optionally

This refers to risks arising from interest rate options embedded in assets, liabilities and off-balance sheet positions. Such options can be explicitly purchased from established markets for interest rate derivatives or included as terms within a loan contract, such as the prepayment options included in many types of loans and mortgages.

1.3.5.2 IRR Management

IRR management is one of the key strategic and policy issues for the Bank's management. If, for example, the Bank has more rate-sensitive liabilities than assets, a rise in interest rates would reduce profitability, while a decline in interest rates will raise Bank's profits.

The principal objectives in managing interest rate risk are: to ensure an optimal and stable income stream while controlling risks within tolerable parameters; and to manage the level of the exposure to adverse movements of interest rate in order to limit the potential impact thereof.

a) Key Indicators

- Net Interest Income (earning perspective).
- Market Value of Equity (economic value perspective).

b) Sources of Interest Rate Risk

- The regulatory environment
- Government policy related to economic growth indicators
- The size and sources of interest-bearing assets and liabilities
- Liquidity risk
- Market and operational risk
- Credit risk

1.3.5.3 Analytical Tools

The following analytical tools are associated with addressing the interest rate risk issues:

a) Gap Analysis

The sensitivity of Bank profitability to changes in interest rates can be more directly measured using gap analysis, in which the amount of rate-sensitive liabilities is subtracted from rate-sensitive assets. The “gap” is the difference for a given maturity. For example, profit declines with the increase of interest rates and, on the other hand, increases with the decline of these rates.

b) Duration Analysis

Duration analysis is a useful concept because it provides a good approximation of the sensitivity of a security's market value to a change in interest rates over time, where % change in market value of security = % change in interest rate x duration in years. For example, if the average duration of a Bank's assets is 5 years, and the average duration of its liabilities is 3 years, a 5 percentage point increase in interest rates will cause the market value of the its assets to fall by 25% (5% x 5 Years) and the market value of the liabilities to decline by 15% (5% x 3 years). The net result is that the net worth has declined by 10% of the total original assets value. Similarly, 5 percentage point decline in interest rate increases the net worth by 10% of the total asset value. There are generally two approaches to assess aggregate IRR exposures across various business lines and portfolios. The traditional earnings approach and the more challenging economic value approach. Earning approach focuses on how interest rate changes the Bank's overall earnings, which are typically measured as net interest income (i.e. the difference between total interest income and total interest expenses).

This is calculated by the following formula:

$$\frac{\text{Interest Earnings} - \text{Interest Expenses}}{\text{Earning Assets}}$$

The economic value approach takes a broader perspective on IRR management by focusing on how interest rate changes affect total expected net cash flow from all of the Bank's operations. Thus this approach examines expected cash flows from assets minus expected payments on liabilities plus the expected net cash flows from off-balance sheet positions (e.g. fees). This approach is more challenging to conduct since, at a minimum, it requires collecting and aggregating more data; at the same time, however, it provides greater insight into a bank's aggregate IRR exposure.

In addition to aggregate IRR management approaches, there are also more focused measurement techniques used for derivatives and other instruments with more complex risk profiles (e.g. mortgage-backed securities). These techniques explicitly use mathematical models of interest rate dynamics with respect to various index rates and their yield curves.

1.3.5.4 Stress Testing

Stress testing techniques provide a way to qualify the impact of changes in a number of risk factors on the assets and liabilities portfolio of the institution. An effective management information that ensures flow of information to the senior management to take proper measures to avoid certain extreme conditions.

As a starting point the scope of the stress test is limited to simple sensitivity analysis and it carried out assuming three different hypothetical scenarios:

Minor Level shocks: These represent small shocks to risk factors.

Moderate shocks: It envisages medium level of shocks and the level defined in each risk factor separately.

Major level shocks: It involves big shocks to all risk factors and also depends separately for each risk factor.

Stress testing was issued to ensure the soundness and sustainability of the banking industry and make the bank more shock resilient.

These guidelines enable institutions to accurately assess risk and define the "risk appetite" of the organization and also provide critical information to senior management for decision around capital allocation and contingency planning.

1.3.5.5 Interest Rate Risk Limit:

The BODs of the bank will set a limit on the interest rate risk in the banking book. The limit should be set according to the risk appetite of the bank. The BODs will also set the management action plan to reduce interest rate risk, if the situation wants. Both NII (Net Interest Income) and MVE (Market Value of Equity) limits and action plan should be set so that management can act promptly. The detail of interest rate risk limit is shown in Appendix-III.

1.3.6 Swapped Funds Limit:

Swapped fund is the difference between assets and liabilities including capital denominated in the same currency. Assets and liabilities will not always in the same currencies. The Bank exposed to the risk that may not meet by its currency-wise obligations as they fall due. Swapped funds position results from reliance on foreign exchange markets and therefore needs to be controlled. Swapped funds limits are established on the maximum amount that may be swapped out of foreign currency into local currency and swapped out of local currency into foreign currency. Swapped fund limit for Buy-Sell or Sell-Buy SWAP is set for the bank for USD 10.00 million.

1.3.7 Contingency Funding Plan (CFP):

The Bank has to maintain a liquidity contingency plan to address unforeseen circumstances in its operations and in the environment. This needs to be approved by the BODs and reviewed at least annually to take care of changes in the balance composition. Detail Contingency Funding Plan (CFP) is included in **Appendix-II**.

PART-B: ORGANIZATION OF THE ALCO

ORGANIZATION OF THE ALCO

The Asset-Liability Management Committee (ALCOM), at the apex of the diagram, guides the ALM process within the parameters set forth by the Board. As such, its outlook is holistic and long-term i.e. strategic and its planning role is geared to achieving an optimum equilibrium between balance sheet stability and yields. On the other hand, day-to-day treasury operations revolve around tactical/short-term actions (mainly investments and trading) within the risk parameters dictated by the ALCOM of Bank.

2.1 Organizational structure of ALCO: The structure of ALCO will be as follows:

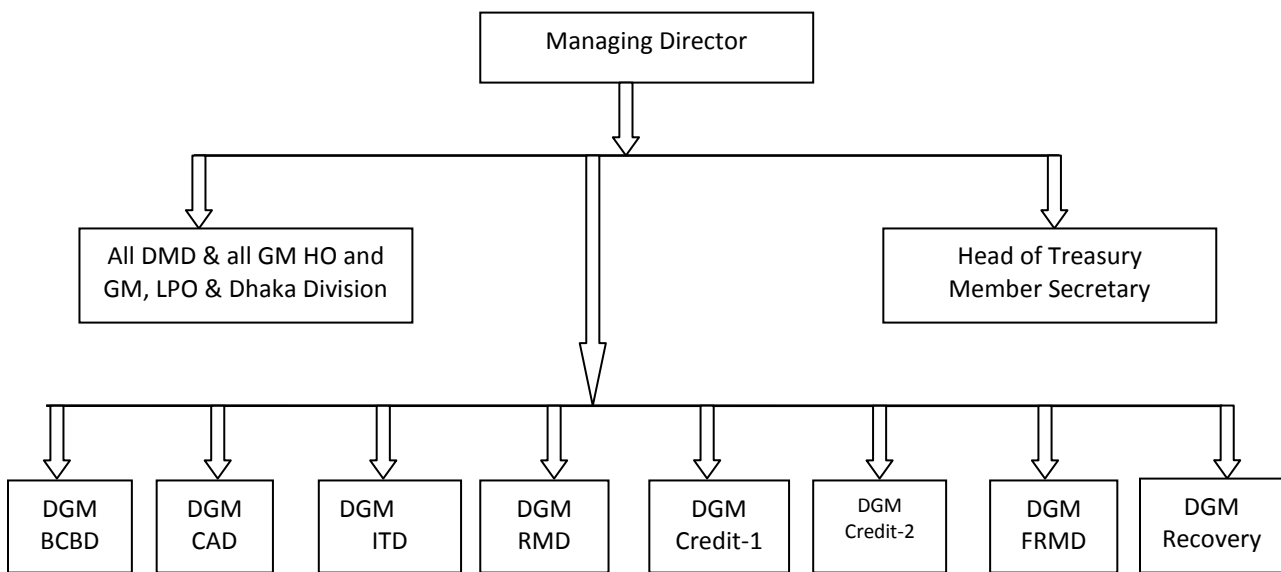


Fig. Organizational Structure of ALCO

2.1.1 Key Roles and Responsibilities of the Treasury Division:

"Treasury Division" unless otherwise stated, essentially means the "Treasury Front Office" and "Head of Treasury" refers the head of this department of Bank. The prime responsibility of Asset and Liability Management (ALM) is on this division specifically its ALM investment desk, Treasury Front Office, Back Office and Mid Office is well established with separate reporting lines within the bank.

2.1.2 Clearance regarding availability of funds from the Treasury Department:

The Treasury Division is solely responsible for maintaining the liquidity position of Bank. There may be a specific policy approved by the BODs of the bank requiring other divisions/ branches have to take necessary clearance in black and white from the Treasury Division regarding availability of fund before sanctioning of any new funded and non-funded facility to a customer as per following slabs:

Name of Currency	Slab for Permission	Slab for Requisition	Minimum No. of WD before have to inform
BDT	1.00 crore & above	1.00 crore & above	07 days
USD	1.00 lac & above	50,000.00 & above	07 days
Other FC & ACU\$	1.00 lac & above	10,000.00 & above	07 days

2.1.3 Key Roles and Responsibilities of the ALM Desk:

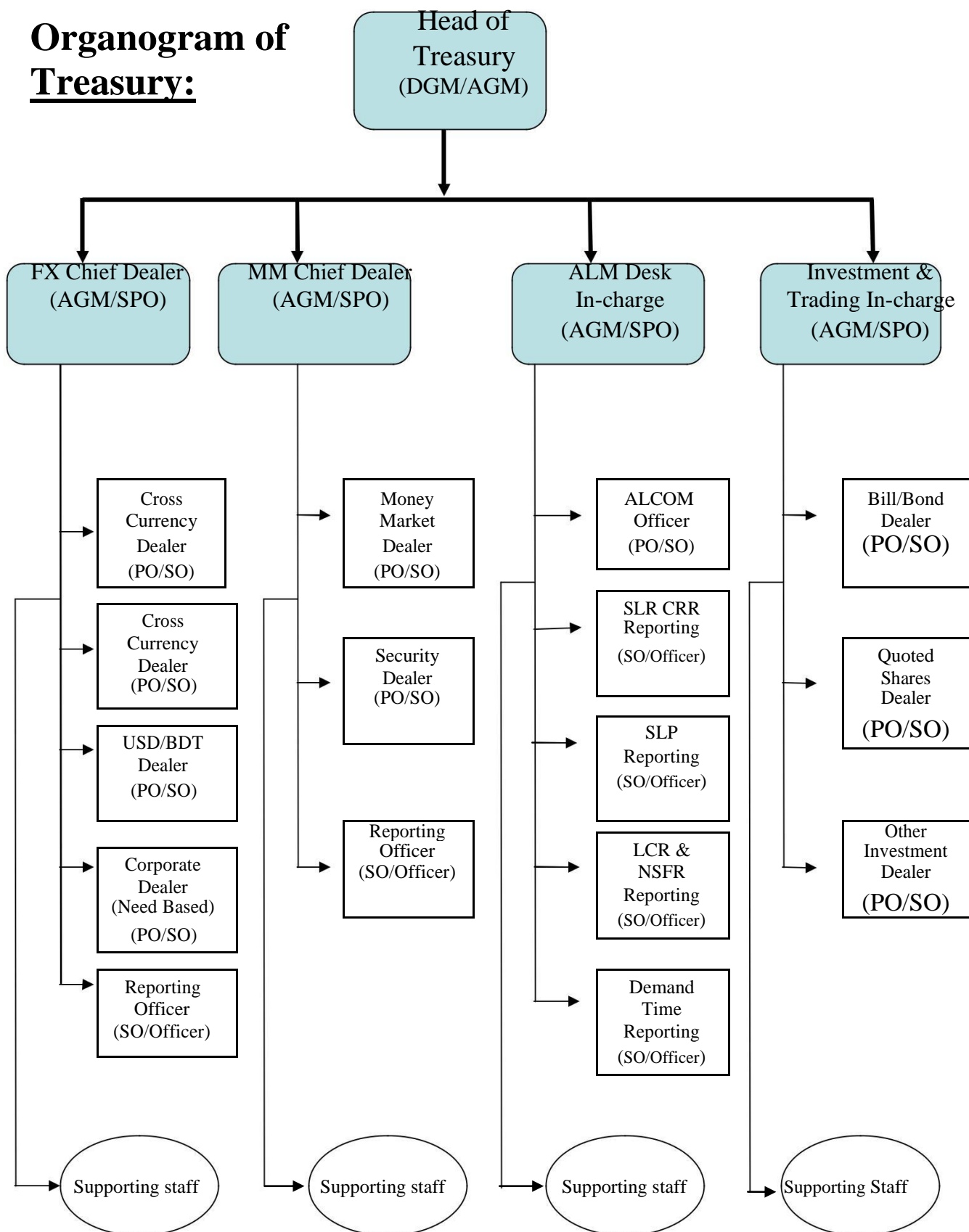
The ALM desk is responsible for day to day measure and mitigates the market risk and liquidity risk of Bank. The broad responsibilities of the ALM desk are as follows:

- ✓ To oversee the growth and sustainability of assets and the liabilities
- ✓ To manage and oversee the overall activities of Money Market
- ✓ To manage liquidity and market risk of the bank
- ✓ To understand the market dynamics i.e. competition, potential target markets etc. for expansion of the business
- ✓ To provide inputs regarding market views and to suggest proper balance sheet movement (expand or shrink) to cope with the changing situation in the market or in the economy
- ✓ To prepare and keep records of ALCO meetings, to monitor the implementation status of the decision taken in ALCO meetings

2.1.4 Head of Treasury: Experience, responsibilities and reporting line:

The Head of Treasury should have 15 (fifteen) years of working experience in the bank and within it minimum 05 years in different levels of Treasury related departments (Front office, Mid office or Back office). The Head of Treasury is the member secretary of ALCO. Head of treasury places the results of balance sheet analysis, along with recommendations in the ALCO meeting. To avoid any conflict or contradiction the head of treasury directly report to the Managing Director of the bank. The Head of Treasury will not in charge of any credit relate major departments(e.g. corporate/retail/consumer/general) or Risk Management Division.

Organogram of Treasury:



2.2 Role of Treasury

Bank's Treasury Division is responsible for executing the balance sheet strategies outlined by the ALCOM. Its day-to-day activities will involve:

- 2.2.1 Cash management
- 2.2.2 Working capital management
- 2.2.3 Statutory liquidity management
- 2.2.4 Interest rate risk management

Furthermore, an Asset-Liability Management (ALM) Desk within the treasury unit will provide the Treasury officer with updated inputs concerning:

- Regulatory compliance requirements
- Changes in balance sheet composition and the risks components thereof; and
- Market dynamics (e.g. competition, potential customers and trends in rates)

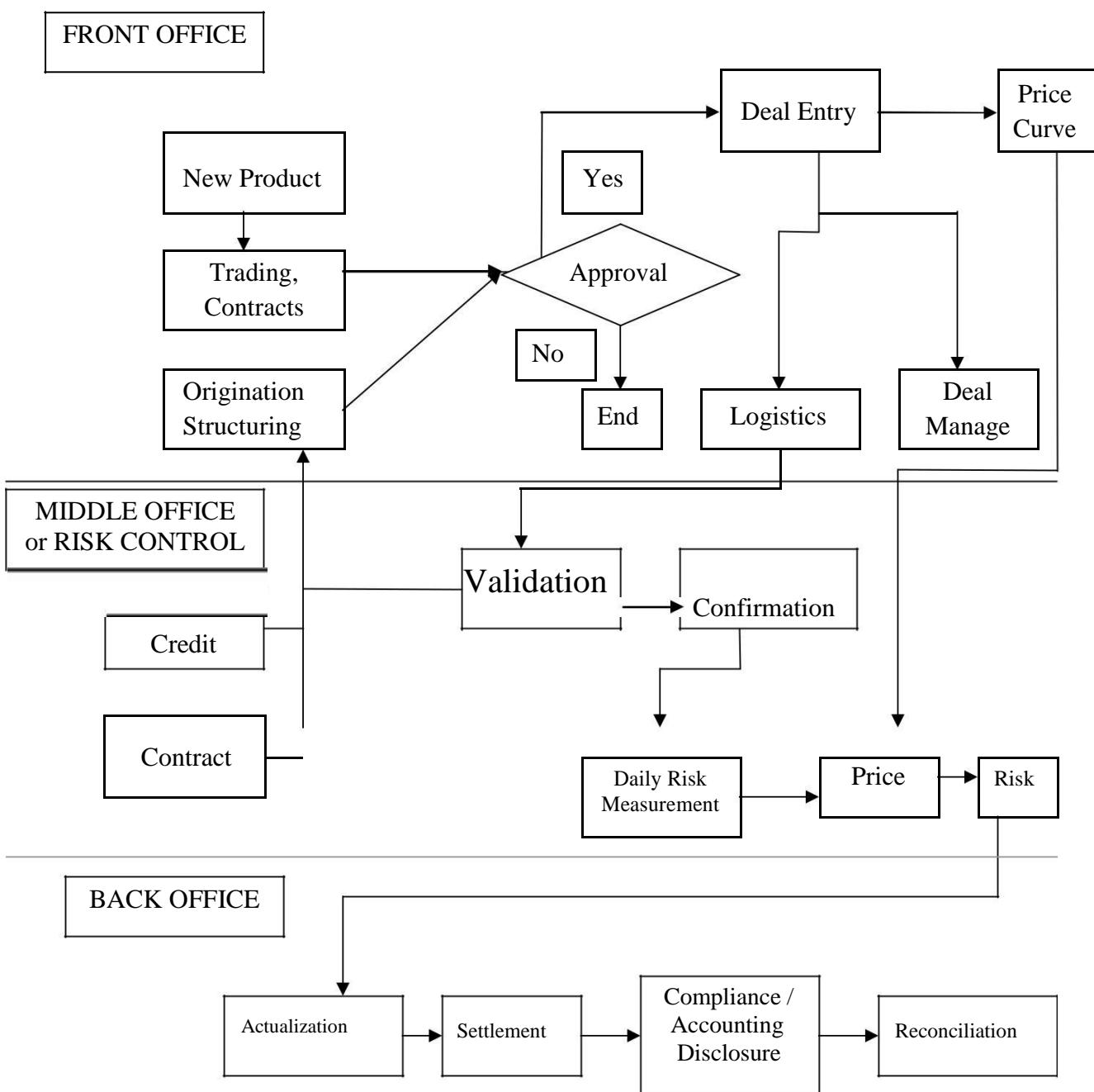
2.3 Segregation of Functions:

Bank shall strictly enforce the segregation of front-office risk-taking activities from middle-office monitoring and back-office settlements, as a matter of operational control over the investment of liquid funds.

2.4 Process Flow:

A transaction normally starts with a dealer striking a transaction/deal in the market, maintaining his/her own record for monitoring the exchange position. Within a reasonable time, he/she passes on the detailed information of the deal to the Treasury back office through the middle office. The mid-office first checks the deal slip and transfers the same to the back-office. The back office, after confirming arrangements with the counterparty, will pass the accounting entries/vouchers, make the settlement, reconcile positions and then inform the Treasury Head of the accurate position through the middle office. The back office runs valuations on a periodic basis and checks the day-to-day treasury activities.

This process, within a segregated functional structure, is shown in the high-level process flow chart below:



Detailed operating procedures for these various functions are described in Appendix-V.

2.5 Operational Risk Policies

2.5.1 Risk Limits

For prudential reasons, bank will impose limits on amounts that will be prudently transacted by front-office traders or with counterparties.

- Dealing Limits – these refer to trigger points indicating transaction amounts, positions and/or trading volumes that need to be referred to higher management before further processing or transactions will proceed. These are discussed in Appendix 2.
- Counterparty Limits – these refer to the total amount of exposure that Bank will prudently maintain with other banks or financial institutions (e.g. short and long-term deposits, placements, etc.). The process for setting these limits is discussed in Appendix III.

2.5.2 Monitoring of Transactions, Outstanding Positions, and Profitability the treasury unit, through its **ALM desk**, shall report on all its activities on a periodic basis in accordance with prescribed formats which are shown in Appendix IV. As a corollary function, the ALM Desk shall maintain updated records of movements in the balance sheet as these are impacted upon by treasury transactions, and report the same to the ALCOM through the Managing Director.

2.5.3 After-Hours Dealing:

After-hours dealing refers to transactions initiated when the dealer's own trading room is scheduled to be closed. Locally, **business hours are from 10.00 A.M. to 6:00 P.M** and it may change as per central bank's instruction. This will require specific authorization from the ALCOM to conduct any after-hours dealing.

2.5.4 Off-Premises Dealings:

A transaction done by a dealer who is not physically located in the dealing premises (irrespective of the time of day) is referred to as an “off- premises” deal. This type of deal needs to be treated separately from a deal done within the dealing room, as it utilizes communication tools that are not as special as those of the dealing room. For example, an off-premises deal done on the phone is generally not recorded and thus there is no record in case of any future dispute. The back office is not in a position to take immediate action (confirmation, settlement, etc.) in case of off-premises deals.

Important Note: The current infrastructure of Bank does not support this kind of activity. Moreover, this sort of dealing contains a high level risk and should be avoided at all costs. For this reason, the Bank's Management has decided that such activity should not be encouraged. Off-premises dealing in the future may only be undertaken upon satisfaction of the following conditions:

- a) They must be authorized by the Board of Directors of Bank; and
- b) An extensive and comprehensive procedure is to be implemented to support these kinds of activities, incorporating:
 - Laid down procedures of accounting on a case-by-case basis;
 - Management designation procedures to authorize, in writing, particular dealer(s) with the authority for such transactions; and
 - The availability of necessary tools/facilities are available for recording

2.5.5 Mandatory leave:

Dealing is very sensitive and it involves different types of risk due to adverse or volatile market movements. There is also risk of mistakes not being unearthed. Thus, all dealers are required to be away from their desks by turn at a stretch for some days during a given year. During this period, the dealer's functions are to be run by other dealers and he is not expected to be in contact with his treasury colleagues. This type of leave is called a "Mandatory Leave". Management has decided to allow a leave period of 15 days in 3 years interval for each dealer. Dealers are at liberty to avail of such leave at any time, upon sanctioning by proper authority and adjustment of duty schedules; however, management reserves the right to specify the mandatory leave roster in the interest of ensuring appropriate controls on trading activities.

2.6 Internal Audit:

In view of the complexities of both trading and foreign exchange businesses, internal audit is a significant activity that serves to review and check the adequacy of the key control issues. This function should include:

- Checking for adherence to the various risk exposure limits;
- Checking for compliance with internal & regulatory requirements;
- Adequacy of statutory management

For additional safety, a concurrent audit process can be put in place by the Treasury's mid and back-offices to ensure the day-to-day functioning is conducted in a safe manner. Each office would develop and maintain a **departmental function control checklist (DCFCL)** as a guide for ensuring that all control activities are being effectively carried out.

PART C: THE ALCO PROCESS

3.1. Constitution of the ALCO:

The Managing Director of the bank shall be the chairman of ALCO. Head of Treasury shall work as the member secretary of ALCO. The committee shall be constituted as follows:

1. Managing Director (Chairman)
2. All Deputy Managing Director(s)
3. All General Managers of Head Office
4. General Manager of LPO
5. General Manager of Dhaka Division
6. Head of Central Accounts
7. Head of International Department (ITD)
8. Head of Risk Management Department (RMD)
9. Head of BCBD
10. Head of Credit-1
11. Head of Credit-2
12. Head of Recovery
13. Head of FRMD
14. Head of Treasury (Member Secretary)

More than this the Chairperson of ALCO can invite any other related person(s) in any meeting.

3.1.1 Meeting of the committee:

The ALCOM of Bank has to sit at least once in a month to discuss various aspects of ALM. The presence of all the members or his/her representative (in case of the absence of the member) is mandatory in every meeting.

3.1.2 Key Agenda

The key agenda of ALCO meetings is as below, but not limited to, the following:

- (i) Confirmation of minutes of previous meeting
- (ii) Review of actions taken in previous ALCO and the status of implementation
- (iii) Review of monthly changes in various key parameters
- (iv) Overall fund position including loan able funds, maintenance of CRR, LCR and NSFR position, Structural Liquidity Profile, etc.
- (v) Asset position:
 - Concentration
 - Quality
- (vi) Liability position:
 - Deposit mix
 - Market situation
 - Concentration
 - Cost of fund

- (vii) Foreign exchange related asset and liability position:
 - Forward agreement
 - Net Foreign exchange liability
 - SWAP position
 - Sight L/C
- (viii) Economic and Market Status and Outlook
- (ix) Liquidity Risk related to the Balance Sheet
- (x) Review of the price / interest rate structure:
 - Interest rate risk in banking book
 - Interest rate risk in trading book
 - Equity price risk
- (xi) Off-balance sheet position:
 - Unused portion of lines of credit (undrawn commitments)
 - Acceptances
 - Guarantees
 - Maturity profile of other L/Cs
- (xii) Leverage Ratio
- (xiii) Status of Deposit, Recovery, Import, Export, Remittance and Loan & Advances
- (xiv) Treasury Performance Analysis
- (xv) Liquidity Position:
 - Foreign Currency
 - Local Currency
 - Projected Cash Inflow & Cash Outflow
 - Balance Sheet Analysis

Action will be taken by whom and when would be mentioned in minutes.

3.1.3 ALCO Paper:

An ALCO paper, covering all the above issues presented in every meeting of ALCO. The Treasury Division is responsible to present the paper incorporating all necessary information, analysis and suggestions from the related Divisions including own opinion, if necessary, on the related issues. A separate observation from RMD regarding market and liquidity risk also be included in the ALCO paper. The decision taken against each issue should be carefully noted and preserved for not less than 2 years.

3.1.3.1 Contents of the ALCO Paper:

The following items are the key elements that an ALCO paper contain and need ALCO's oversight on.

3.1.3.1.1 Confirmation of Minutes of last meeting:

This is formal confirmation of the last ALCO meeting minutes.

3.1.3.1.2 Review of the action items of the previous meetings:

This means detailed discussion on the progress on the action item and review deadline if appropriate.

3.1.3.1.3 Review of Economy and Markets:

This section starts with the review of key National & Global economic developments. Specific reference to countries whose economies have direct bearing on Bangladesh's economy (exports, imports, remittances, etc.) is important.

It also added on with an update of the local economy and interbank market. On the economic items that must include GDP growth, inflation, credit growth, govt. borrowing, export, import, remittance, FX Reserve and current account balance. On market items it must include movement of interbank market liquidity, call money rates, term money rates, govt. securities yield and a comparison of interest rate offered by comparable banks is important. The idea of this section is to identify the key elements in the context of global and local economy and the impact likely to have on the business of the bank in Bangladesh. ALCO uses this information for making decision regarding the BKB's business.

3.1.3.1.4 Review of Balance Sheet and Liquidity Limits:

This part produces the analysis of balance sheet, structural balance sheet limits and their utilization- AD ratio, Commitments, LCR, NSFR, Loan and Deposit Concentrations, etc. It is important to observe the last few months' trends to get a better perspective. Items which are not at acceptable levels are reviewed further in details and corrective actions proposed. It also presents the short term liquidity management limits and their utilization – Wholesale Borrowing Limits etc.

3.1.3.1.5 Review of the Status of Regulatory Compliance:

This section lists the various regulatory liquidity requirements like as CRR, Capital Adequacy, etc. and compliance with those.

3.1.3.1.6 Top 10 Depositors List:

This section lists the top 10 depositors of Bank and their share of the total deposits. The data examined at currency wise, tenor-wise, and the share of each of the depositors as percentage of total deposits of the bank. The trend of the past few months will give important perspective. Maturity bucketing for each of the depositors (call, 1 week, 1 month, etc.) will be helpful. This helps the bank to have a greater visibility on where the deposit concentrations are coming from. It is important to track the behavior of these deposits and take measures so as to avoid any untoward liquidity issues.

3.1.3.1.7 Top 10 Borrowers List:

This section lists the top 10 borrowers of Bank and looks using the same set of parameters as for the top 10 depositors.

3.1.3.1.8 Capital Maintenance:

This section includes details and composition of the capital maintained by the bank in relation to the minimum capital requirement. This must be compared to future expected capital requirement due to forecasted asset growth. It is also important to look at the Return on Risk Weighted Assets of the bank – again the trend of the past few months give good perspective-so as to understand how efficiently the bank is deploying its capital.

3.1.3.1.9 Details of Loans and Deposits Movement:

This section of Bank will produce details of loan and deposits. It must be segment-wise (retail, corporate, etc.), product-wise (current account, savings, SND, etc.) and currency wise. AD ratio movements for the last few periods also included in this section.

3.1.3.1.10 Loans and Deposit Projections:

Monthly projections of loans and deposits of the bank for the next 3-6 month and whole year are presented to ALCO by the respective divisions. The information is used by ALCO to understand future liquidity requirements and strategies accordingly. In this respect, it should be careful to review the historical projection accuracy to understand the level of adjustments that can be qualitatively applied to the current projections. The projections should be given both for Foreign Currency & Local Currency as this is more meaningful. If deemed important, ALCO can also seek segment-wise projections (e.g. retail, corporate, etc.) in addition to total loans deposit projections from the respective divisions.

3.1.3.1.11 Trend of Lending Rates and Deposit Rates:

This section includes the trend of the lending and deposit rates. Product-wise, segment wise and currency-wise breakdown of the rates before ALCO for review.

3.1.4 Responsibility of related divisions:

All the divisions should be likeable to provide necessary information, analysis and suggestions regarding the issues related with them to the Treasury Division.

3.2 Major Issues:

Following are the major issues regarding asset and liability management within the scope of ALM policy of Bank.

3.2.1 Market Risk:

The risk arising from market risk factors such as interest rates, foreign exchange rates, equity prices and the roles and responsibilities of board and senior management of the bank have been discussed in the **Appendix-III**. The ALCO of the Bank works out on various limits [explicitly, maximum allowable funding gap to achieve desired level of NIM (Net interest margin) and NII (Net interest income) maximum trading loss limit by a dealer, daily loss limit in a portfolio (securities and equities), Stop Loss Limit, interbank transaction limit which must be approved by the board and ensure proper and effective implementation of the same.

3.2.2 Liquidity Risk:

Liquidity risk arises from either the bank's inability to meet its obligations as they fall due or to fund increases in assets without incurring unacceptable cost or losses. The Liquidity Risk Management Policy (**Appendix-IV**) of the Bank provided a detailed view regarding the roles and responsibilities of board and senior management of the bank as well as liquidity risk detection and mitigation techniques. Moreover, LCR and NSFR recently introduced by Risk Management Division to cover a wider aspect of liquidity risk detection and monitoring by the banks under stress situation. The ALCO closely monitor the developments around various liquidity issues in each and every meeting. The effectiveness of the Contingency Funding Plan must be verified in the meetings. It is also mandatory for the Treasury Department to inform the management regarding various liquidity issues like as CRR, LCR, NSFR, ADR in every board/ALCO meeting of the bank.

Appendix-I: Wholesale Borrowing Guidelines

4.1 Wholesale Borrowing Guidelines:

Wholesale Borrowing is the Bank's historic market liquidity & borrowing capacity from the whole sale market i.e. Inter-bank market. It indicates the dependence on wholesale markets for funding. Sometimes Bank raise fund from Inter-bank market but ALCO should analyze & decide of its optimum profitable use.

The bank's capacity to borrow from the external wholesale market depends on:

- The size and turnover of the local market, market share of the respective banks.
- The existing/previous counterparty limits imposed by the counter parts for the respective bank

Besides the following factors are also considered for setting the wholesale borrowing guideline (WBG):

- Balance sheet size of the bank
- Historical trend of market liquidity
- Credit rating of the bank (to understand counter party bank's limit on the concerned bank)
- Stability of liquidity and interest rates of the market

Wholesale borrowing guidelines will be set as an absolute amount bearing in mind the depth of the local market and counterparties' perceived credit appetite for the bank.

4.2 Products:

a) For local currency, the following products are available in the market-

- Call Money
- Short Notice Deposit from banks and financial institutions
- Term Deposit (Less than 12 months)
- Commercial papers/similar instruments

b) For Foreign currency, the following products are available in the market-

- Overdrawn Nostro-accounts (credit line)
- Term Deposit
- SWAP
- Overseas loan (FC loan from overseas sources)

4.3 Access to:

The bank has access to Banks and Financial Institutions of the market. The bank can borrow both local currency and foreign currencies from conventional and Islamic banks.

4.4 Fund concentration:

- (i) Institutional concentration: The bank can use the borrowing windows of both Banks and Financial Institutions.
As a State Owned Bank, the main focus for borrowing will be the peer banks i.e. other State Owned Commercial Banks (SOCBs) and Private Commercial Banks (PCBs) rather than the Foreign Commercial Banks (FCBs) for their limited exposure to the market.
- (ii) Geographical concentration: For local currency the bank will try to borrow from local commercial banks and Financial Institutions and for foreign currency it may also depend on foreign banks.

4.5 Capacity:

The capacity of wholesale borrowing depends on the bank's current financial state and eligible capital.

4.6 Limit:

Wholesale Borrowing covers call borrowing, Short Notice Deposit from banks and financial institutions, placement received with maturity less than 12 months, commercial papers/similar instruments and overdrawn Nostro-accounts or any kind of foreign currency borrowing. WB Limit should be capped at 100% of bank's capital.

4.7 Scope of WB Limit:

The above limit shall be considered as an aggregate limit for bank.

4.8 Roles & Responsibility of WB Manager:

Monitor the liquidity position of the Bank and liquidity management activities undertaken by the Bank including wholesale funding activities. The bank's Head of Treasury will act as WB Manager. The Money Market and FX dealers will analyze the liquidity, historical trend, demand and forecast future trend of the market and report to Head of Treasury. Head of Treasury evaluate the report and make decision for borrowing within the limit.

4.9 Risk involved:

If the banks total lending and investment dominates on total deposit and equity, the bank has to maintain liquidity by borrowing from the market. In that case the following risks will be involved:

- (i) **Liquidity risk** : It is a financial risk that for a certain period of time a marketable security cannot be traded quickly enough in the market without impacting the market price.
- (ii) **Market risk** : It is the possibility for the bank to experience losses due to factors that affects the overall performance of the financial market.
- (iii) **Matching risk** : This kind of risk involves when the maturity of assets of the bank do not match with the maturity of liabilities.

So, for the prudent liquidity management and treasury management the treasury manager would follow the WBG strictly. To keep intact the bank's interest the treasury manager should keep touch with the market and take decision promptly as per situation demand.

Appendix-II: Contingency Funding Plan

5.1 Contingency Funding Plan

A Contingency Funding Plan (or the Liquidity Contingency Plan) is a cash flow projection and comprehensive funding plan that forecasts funding needs and funding sources at stress situation under market scenarios including aggressive asset growth or rapid liability erosion. It is a set of policies and procedures that serves as a blueprint for the bank to meet its funding needs in a timely manner and at a reasonable cost. Such plan should be commensurate with the bank's complexity, risk exposure, activities, products, and organizational structure. In this sense, a contingency funding plan is an extension of ongoing liquidity management and formalizes the objectives of liquidity management by ensuring:

- Maintenance of an appropriate amount of liquid assets
- Measurement and projection of funding requirements during various scenarios
- Management of access to funding sources

General objective of the plan is to establish a framework for management of liquidity risk that will assure that the bank will have sufficient liquidity resources to;

- Meet its regulatory obligations
- Meet the requests of depositors for withdrawal of their funds from the bank
- Repay loans to creditors in a timely manner, and
- Provide funding to customers who have firm commitments from the bank

Other objectives:

- To maintain liquidity at a prudent manner
- To reduce cash-consuming activities as much as possible
- To maintain confidence and
- To continue as a going concern

The Treasury, ALM Desk should anticipate all of the institution's funding and liquidity needs by:

- Analyzing and making quantitative projections of all significant on and off-balance sheet funds flows and their related effects
- Matching potential cash flow sources and uses of funds
- establishing indicators

5.2 Contingency Action Plan to Manage Stressed Liquidity

5.2.1 Scope

To establish an action plan to manage a stressed liquidity situation created by liquidity crisis in the market policy change by central bank, a name problem of the bank etc.

5.2.2 Purpose of the plan

To provide a framework within which an effective response to manage a liquidity crisis. Stressed Liquidity is defined as a condition that arises from a sudden deterioration of the perceived safety and credibility of the Bank, resulting in substantial withdrawal of funds by depositors.

5.2.3 Trigger point

Plan to be activated when 5 (Five) or more of the following conditions exist:

- i. Bangladesh Bank has declined to open Demand loan window at bank's request
- ii. Call money market rates have exceeded 15% for more than 15 consecutive days
- iii. Call facilities have been declined by the market or a premium over market rates has been imposed on BKB call borrowing
- iv. Consolidated AD ratio has exceeded 95% for more than 15 days
- v. Wholesale borrowing has exceeded capital or Tk. 1,000.00 crore whichever is greater.
- vi. The overall economy is experiencing tight liquidity position
- vii. Low cost/no cost Deposit of BKB has fallen below 35% of Total Deposit Mix
- viii. Percentage of net deposit withdrawal growth (12 month moving average) has been 5% or more for the last 3 consecutive months
- ix. Correspondent banks or other Banks decreased their credit line limit or call limit.

5.3 Contingency Management Team (CMT)

5.3.1 There is contingency management team consisting of ALCO members. The MD may include any other relevant personnel as deemed appropriate.

15. Managing Director (Chairman)
16. All Deputy Managing Director(s)
17. All General Managers of Head Office
18. General Manager of LPO
19. General Manager of Dhaka Division
20. Head of Central Accounts
21. Head of International Department (ITD)
22. Head of Risk Management Department (RMD)
23. Head of BCBD
24. Head of Credit-1
25. Head of Credit-2
26. Head of Recovery
27. Head of FRMD
28. Head of Treasury (Member Secretary)

5.3.2 Purpose of the Contingency Management team

The purpose of the CMT is to investigate cause and magnitude of the crisis, assess steps to prevent occurrence/ escalation, understand expected duration of the crisis, assess market sentiment, and decide on remedial action to mitigate effects of the crisis.

5.4 PHASE 1 – IMPENDING CRISIS

5.4.1 Details of Action Points 1. Investigate the underlying cause about the crisis to establish: <ul style="list-style-type: none">- Extend and timing of the crisis- Duration of the crisis- Remedial action to avoid the crisis, agree any external/internal communications statement etc.	<u>ACTION TAKEN BY</u> Managing Director (MD)
2. Advise all Divisional Heads about the crisis and cancel leave commitments of key personnel (if necessary)	Managing Director (MD)
3. Review liquid and market assets portfolio by maturity and prepare a liquidation strategy	Head of Treasury
4. Liquidate any long FX positions and reduce FX open position to a minimum	Head of Treasury

5.5 PHASE 2 - CRISIS SITUATION

5.5.1 Details of Action Points <u>5.5.1.1.Communication</u> Treasury will call for an urgent meeting of the ALCO chaired by the MD & CEO in order to review and discuss the situation and its impact on the Bank and assess how liquidity crisis can be resolved.	<u>ACTION TAKEN BY</u> Head of Treasury
1. Inform Bangladesh Bank of crisis and proposed remedial action, if deemed necessary	Managing Director
2. Brief Dealers	Head of Treasury
3. Brief Head of Division, Head of Corporate Branches, Regional Heads and Branch Managers	Head of BCBD/Head of Treasury

5.5.1.2 Assessment and Action

1. Confirm the liquid and Market Asset portfolio for initial selective liquidation	Head of Treasury
2. Assess the level of interbank borrowing capacity and raise funds to meet liquidity from the most reliable sources	Head of Treasury
3. Approach Bangladesh Bank for Demand Loan	Head of Treasury
4. Not to approve early withdrawal of deposits without specific approval of the Head of Treasury	Head of Corporate Branches, Regional Heads
5. Assess overall Advance portfolio and activate plan contract/recall/seek repayment from customers	Head of Credit
6. Provide regular reports to ALCO members on daily liquidity status of the bank and changes therein	Head of Treasury
7. Communicate with major fund suppliers in an effort to assure continued availability	Head of Treasury/Corporate Branch Heads, Regional Heads
8. Monitor large deposit accounts of corporate and individuals	Head of Treasury
9. Selling FCY from FX open position limit to generate LCY liquidity	Head of Treasury
10. Assess overall level of loans and ensure no incremental drawdown. No excess to be allowed	Head of Credit
11. Monitor closely withdrawal patterns and report to Head of Treasury	Dealers
12. Intensify deposit campaign	Head of Corporate Branches/Regional Heads
13. Arrange for liquidation of saleable assets	Head of Treasury
14. Securitization of assets if allowed by regulators	Head of Treasury
15. Review deposit and lending rates	Head of Treasury

5.7 Brief Summary of Regulations, and Contingency Liquidity Sources & Funding Plan:

5.7.1 Regulations, and Contingency Liquidity Sources:

Regulation	Parameter/Formula	Liquidity Sources
Cash Reserve Ratio (CRR)	<ul style="list-style-type: none">▪ Daily minimum 5.00%▪ Bi-weekly minimum 5.50%	Cash Local currency at central bank

5.7.2 Money Market Instruments Comprising Marketable Securities and Reserve Liquidity

Instrument	Features/Restrictions	Included in Marketable (M) Or Reserve (R)
Treasury bills	Issued by Central Bank weekly auction at discount Tenors are 91, 182, 364 days.	M & R
Treasury Bond	Issued by Central Bank weekly auction at par tenors are 2 years, 5 years, 10 years, 15 years and 20 years.	M & R

5.7.3 Products for borrowing:

5.7.3.1 LCY Book	Money Market	<ul style="list-style-type: none"> • Term Deposit • Call Money • Repo • SWAP
	Central Bank (Marketable Securities and Reserve Portfolio)	<ul style="list-style-type: none"> • Repo of Treasury bills/bonds. • Encashment of surplus balance with Central Bank
5.7.3.2 FCY Book	Money Market	<ul style="list-style-type: none"> • Term Deposit • Utilization of surplus Nostro balances

5.7.3.3 Quantification of Amount of Contingency Funds- Local Currency (BDT In crore)

Sources of contingency funds During stressed liquidity	Estimated Maximum Available Funds	Cost of BKB
Money Market Term Deposit		
Central Bank (Marketable Securities and Reserve Portfolio) <ul style="list-style-type: none"> ✓ Repo facility for Treasury Bills ✓ Rediscounting window ✓ Balance with Central Bank (Excess of CRR) 		
Other LCY Cash in hand		

5.7.3.4. Quantification of Amount of Contingency Funds Foreign Currency

Sources of contingency funds during stressed liquidity	Formula/Parameters For basis of calculation	Estimated Maximum Available Funds	Cost of BKB
<ul style="list-style-type: none"> ¹ Money Market (Marketable Securities) ¹ Interbank Deposit ¹ Reserve 	1 monthly Libor + spread		

Appendix-III : Market Risk Management

6.1 Market risk management

It is the risk of potential losses in the on-balance sheet and off-balance sheet positions of the bank, stems from adverse movements in market rates or prices such as interest rates, foreign exchange rates, equity prices, credit spreads and commodity prices.

Bank exposed to market risk in a variety of ways as below:

- a) Market risk explicated in portfolios of securities, equities and other instruments that are actively traded.
- b) Market risk implicated such as interest rate risk due to mismatch of assets and liabilities.
- c) Market risk may arise from activities categorized as off-balance sheet items.

The risk arising from market risk factors have been discussed below.

6.2 Interest rate risk

Interest rate risk is the potential impact on bank's net asset values due to changes in market interest rates. Interest rate risk arises when a bank's principal and interest cash flows (including final maturities), both on and off balance sheet, have mismatched re-pricing dates. The amount at risk is a function of the magnitude and direction of interest rate changes and the size and maturity structure of the mismatch position.

6.2.1 Effects of interest rate risk

The immediate impact of a variation in interest rates is on the bank's net interest income, while a long term impact is on the bank's net worth since the economic value of bank's assets, liabilities and off-balance sheet exposures are affected.

There are two common perspectives for the assessment of interest rate risk.

- a) **Earning perspective:** In the earning perspective, the focus of analysis is the impact of variation in interest rates on accrual or reported earnings. This is a traditional approach to interest rate risk assessment and obtained by measuring the changes in the net interest income (NII), the difference between the total interest income and the total interest expense or net interest margin (NIM) i.e. net interest income to gross interest-earning assets.
- b) **Economic value perspective:** Variations in market interest rates can also affect the economic value of the bank's assets, liabilities, and OBS positions. The economic value of the bank can be viewed as the present value of the bank's expected net cash flows, defined as the expected cash flows on assets minus the expected cash flows on liabilities plus the expected net cash flows on OBS positions.

- c) **Embedded losses/gains:** Bank also considers that past interest rates have some impact on future performance. In particular, products & instruments that are not marked to market may already contain embedded gains or losses due to past rate movements. These gains or losses must be reflected over time in the bank's earnings.

6.2.2 Sources of interest rate risks

The sources of interest rate risk are:

- a) **Re-pricing risk:** This risk arises from the timing difference's in the maturity (for fixed-rate) and re-pricing (for floating-rate) of the bank assets, liabilities, and OBS positions. Usually BKB funded in long term credit with short term deposit. So, there have a chance of interest rate risk due to increase of deposit rate in the market. It may causes declines in both the future income arising from the position and its underlying value if interest rates increase. These declines arise because the cash flows on the credit are fixed over its lifetime, while the interest paid on the funding is variable, and increases after the short-term deposit matures.
- b) **Yield curve risk:** Yield curve risk arises when unanticipated shifts of the yield curve have adverse effects on the bank's income or underlying economic value. The underlying economic value of a long position in 10-year Treasury bond hedged by a short position in 5-year Treasury bond could decline sharply if the yield curve steepens, even if the position is hedged against parallel movements in the yield curve.
- c) **Basis risk:** Basis risk arises from the changing rate relationships among different yield curves affecting the bank activities. It arises from imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar re-pricing characteristics. When interest rates change, these differences can give rise to unexpected changes in the cash flows and earnings spread between assets, liabilities and OBS instruments of similar maturities or re-pricing frequencies.
- d) **Optionality:** An additional and increasingly important source of interest rate risk arises from the options embedded in many bank assets, liabilities, and OBU portfolios. Formally, an option provides the holder the right, but not the obligation, to buy, sell, or in some manner alter the cash flow of an instrument or financial contract. Options may be stand-alone instruments such as exchange-traded options and over-the-counter (OTC) contracts, or they may be embedded within otherwise standard instruments. While banks use exchange-traded and OTC options in both trading and non-trading accounts, instruments with embedded options are generally more important in non-trading activities.

6.2.3 Sound interest rate risk management practices

Sound interest rate risk management involves the application of following basic elements in the management of assets, liabilities, and OBS instruments that Bank maintains:

- a) Appropriate board and senior management oversight;
- b) Adequate risk management policies and procedures;
- c) Appropriate risk measurement, monitoring, and control functions.
- d) Comprehensive internal controls and independent audits.

6.2.4 Measurement of interest rate risk

Managing interest rate risk requires a clear understanding of the amount at risk and the impact of changes in interest rates on this risk position. To make these determinations, Bank. gather sufficient information readily to permit appropriate action to be taken within acceptable, often very short, time periods. It takes the bank to eliminate or reverse an unwanted exposure, the greater the possibility of loss. Bank uses risk measurement techniques that accurately and frequently measure the impact of potential interest rate changes on the bank. In choosing appropriate rate scenarios to measure the effect of rate changes, bank considers the potential volatility of rates and the time period within which the bank could realistically react to close the position.

6.2.4.1 Maturity/re-pricing schedules

Techniques for measuring the bank's interest rate risk exposure begin with a maturity/re-pricing schedule that distributes interest-sensitive assets, liabilities, and OBS positions into a certain number of predefined time bands according to their maturity (if fixed-rate) or time remaining to their next re-pricing (if floating-rate). Those liabilities lacking definitive re-pricing intervals (e.g. sight deposits or savings accounts) are assigned to re-pricing time bands according to the judgment and past experience of the bank.

i) Gap analysis

Simple maturity and re-pricing schedules are used to generate simple indicators of the interest rate risk sensitivity of both earnings and economic value to changing interest rates. When this approach is used to assess the interest rate risk of current earnings, it is typically called as gap analysis.

To evaluate earnings exposure, interest rate-sensitive liabilities (ISL) in each time band are subtracted from the corresponding interest rate-sensitive assets (ISA) to produce a re-pricing "gap" for that time band.

Negative or liability-sensitive gap occurs when interest -bearing liabilities exceed interest-earning assets (including OBU positions) in a given time band, that is more interest-bearing liabilities re-price than interest-earning assets. This gap implies that an increase in market

interest rates could cause a decline in net interest income. In this situation, a decrease in interest rates should improve the net interest rate spread in the short term, as deposits are rolled over at lower rates before the corresponding assets. An increase in interest rates lowers earnings by narrowing or eliminating the interest spread. Conversely, a positive or asset-sensitive gap occurs when interest-earning assets exceed interest-bearing liabilities (including OBS positions) in a given time band, that is, more interest earning assets re-prices than interest-bearing liabilities. The theory is:

$$\text{Relative IS GAP} = \text{IS GAP} / \text{Bank's Total Asset}$$

Also an ISA to ISL ratio of bank for particular time band could be a useful estimation of a bank's position. The theory is:

$$\text{Interest Sensitive Ratio} = \text{ISA} / \text{ISL}$$

ii) Measuring risk to net interest income (NII)

Gap analysis provide an estimate of changes in bank's net interest income given changes in interest rates. The gap for particular time band multiplied by a hypothetical change in interest rate to obtain an approximate change in net interest income. The formula to translate gaps into the amount of net interest income at risk, measuring exposure over several periods is:

$$\Delta \text{NII} = \Delta i \times \text{Periodic Gap} \times \text{Maturity Bucket}$$

Where,

$$\Delta \text{NII} = \text{Change in net interest income}$$

$$\Delta i = \text{Change in interest rate}$$

$$\text{Periodic Gap} = (\text{RSA} - \text{RSL})$$

Maturity Buckets = 1 day, 2-7 days, 8 days to 1 month, 1-3 months, 3-12 months, 1-5 years, and 5+ years.

The gap reports are important to an interest rate risk management program because they indicate how much net interest income is at risk, and, to some extent, the timing of the risk. However, gap analysis has a number of shortcomings like as below:

- a) Gap analysis provides an objective measure of risk associated with current positions only; it does not incorporate future growth or changes in the mix of business;
- b) Gap analysis does not capture basis risk or investment risk, is generally based on parallel shifts in the yield curve;
- c) Gap analysis does not take account of variation in the characteristics of different positions within a time band;

- d) Gap analysis does not account for the time value of money;
- e) Gap does not take into account any changes in the timing of payments that might occur as a result of changes in the interest rate environment; and
- f) Most gap analyses fail to capture variability in non-interest revenue and expenses, which is potentially an important source of risk to current income.

The use of gap reports complemented with present-value sensitivity systems, such as duration analysis or simulation models.

iii) Duration analysis:

Duration is the time-weighted average maturity of the present value of the cash flows from assets, liabilities and off-balance sheet items. It measures the relative sensitivity of the value of these instruments to changing interest rates (the average term to re-pricing), and therefore reflects how changes in interest rates will affect the bank's economic value, that is, the present value of equity. In this context, the maturity of an investment is used to provide an indication of interest rate risk. The longer the term to maturity (next re-pricing date) of an investment and the smaller the payments that occur before maturity (e.g. coupon payments), the higher the duration (in absolute value). Higher duration implies that a given change in the level of interest rates will have a larger impact on economic value.

Duration-based weights can be used in combination with a maturity/re-pricing schedule to provide a rough approximation of the change in a bank's economic value that could occur given a particular set of changes in market interest rates.

An "average" duration is assumed for the positions that fall into each time band. The average durations are then multiplied by an assumed change in interest rates to construct a weight for each time band. In some cases, different weights are used for different positions that fall within a time band, reflecting broad differences in the coupon rates and maturities (for instance, one weight for assets, and another for liabilities). In addition, different interest rate changes are sometimes used for different time bands, generally to reflect differences in the volatility of interest rates along the yield curve. The weighted gaps are aggregated across time bands to produce an estimate of the change in economic value of the bank that would result from the assumed changes in interest rates.

Properties of duration

Duration exhibits the following characteristics:

- a) As maturity increases, duration increases and the bond's price becomes more sensitive to interest rate changes;
- b) For two instruments with the same maturity, a high-coupon instrument will have a lower duration than a low-coupon instrument and will also be less price-sensitive. A larger portion of a high coupon's cash flows will be received sooner and thus the average time to receipt of the cash flows will be less;

- c) A given fixed income instrument will have a higher duration in a low interest rate environment than in a high interest rate environment;
- d) Duration may be positive or negative. A fixed rate instrument would have a positive duration, and an increase in interest rates would generally decrease the market value of the instrument. Mortgage servicing rights and interest only (IO) mortgage-backed securities generally have a negative duration, since an increase in interest rates would decrease the prepayment speed of the underlying mortgages, increasing the market value of the instruments and
- e) Durations are additive when weighted by the amount of the contract. For example, if a portfolio consists of two bonds of equal market value, one with duration of six and the other with duration of two, the duration of the portfolio would be four.

Duration of equity

The duration of equity is derived from the duration of all assets, liabilities, and off-balance-sheet contracts.

To understand how the duration of equity measures risk, the economic value of portfolio equity viewed as a net bond position. Assets are analogous to long bond positions with positive durations, and liabilities are analogous to short bond positions with negative durations. Duration indicates whether the economic value of the net bond position or portfolio equity will increase or decrease with a change in rates.

Modified duration

Modified duration is standard duration divided by $1 + r$, where r is the level of current market interest rates. It reflects the percentage change in the economic value of the instrument for a given percentage change in $1 + r$. As with simple duration, it assumes a linear relationship between percentage changes in value and percentage changes in interest rates.

Effective duration

Effective duration (sometimes called option-adjusted duration) further refines the modified duration calculation and is particularly useful when a portfolio contains callable securities. Effective duration is derived by using simulation techniques to calculate the change in price of an instrument for a given change in interest rates. Duration incorporates a bond's yield, coupon, final maturity and call features into one number that indicates how price-sensitive a bond or portfolio is to change in interest rates. For assets with variable cash flows, it is appropriate to calculate the effective duration rather than the modified duration.

Duration of single instrument

To measure the duration of a single instrument, the bank has to calculate the weighted average of each cash flow at time t by the following formula:

$$W_t = \frac{CF_t (1+y)^t}{\text{Bond price}}$$

These weighted averages are then summed to get duration by using the following formula:

$$\text{Duration} = \sum_{t=1}^T t \times W_t$$

Here,

W_t = Weighted average of cash flow at time t

CF_t = Cash flow at time t

Y = Yield to maturity

T = Number of cash flow periods

Duration of a portfolio of instruments

The duration of a portfolio of assets or liabilities is the market value of weighted average of the individual duration of each asset or liability on the bank's balance sheet. The calculation of duration depends on three factors:

- a) The final maturity of the financial instruments
- b) The size and timing of cash flows (coupon payments)
- c) The yield to maturity (YTM)

The duration of a portfolio of assets can be calculated by computing the weighted average maturity of all the cash flows in the portfolio individually. Banks can estimate the duration of a portfolio of contracts by weighting the durations of the individual contracts and summing them.

Measuring duration gap

To measure duration gap and the impact of net changes in the market value of equity, the bank should:

- a) Estimate the market value of each on-balance sheet rate sensitive assets and liabilities of the bank to arrive at market value of equity;
- b) Calculate the durations of each asset and liability of the on-balance sheet portfolio arrive at the aggregate weighted average duration of assets and liabilities;

- c) Calculate the duration GAP by subtracting aggregate duration of liabilities from that of assets;
- d) Estimate the changes in the economic value of equity due to change in interest rates on balance sheet positions based on the three interest rate changes i.e. 1%, 2%, and 3%;
- e) Calculate surplus/(deficit) on off-balance sheet items under the assumption of three different interest rate changes i.e. 1%, 2%, and 3%; and
- f) Estimate the impact of net change (both for on-balance sheet and off-balance sheet) in the market value of equity.

Formula:

$$\text{Weighted average duration of assets, } (D_A) = \sum_{i=1}^n W_A \times D_A$$

$$\text{Weighted average duration of Liabilities, } (D_L) = \sum_{i=1}^n W_L \times D_L$$

$$\text{Duration gap: } DGAP = D_A - [MVL/MVA]D_L$$

$$\Delta MVE = (-DGAP) \times [\Delta i / (1+y)] \times \text{Total Assets}$$

Where,

$$y = \text{YTM}$$

Total Assets = Market value of total assets

iv) Simulation models

Simulation models are sophisticated models and a valuable complement to gap and duration analysis. In *static simulations*, the cash flows arising solely from the bank's current on-balance sheet and off-balance sheet positions are assessed. In a *dynamic simulation* approach, the simulation builds in more detailed assumptions about the future course of interest rates and expected changes in the bank's business activity over that time. Simulation models are useful tools for strategic planning; they permit banks to effectively integrate risk management and control into the planning process.

Their forecasts are based on a number of assumptions as below:

- a) Future levels and directional changes of interest rates;
- b) The slope of the yield curve and the relationship between the various indices that the bank uses to price credits and deposit;
- c) Pricing strategies for assets and liabilities as they mature; and
- d) The growth, volume and mix of future business. Simulation is usually used to measure interest rate risk by estimating what effect changes in interest rates, business strategies, and other factors will have on net interest income, net income and interest rate risk positions. Simulation models can also be used to calculate the present value and durations of assets and liabilities.

6.2.5 Interest rate risk management program

It seems to Bank that significant factors in managing interest rate risk include the frequency, volatility and direction of rate changes, the slope of the interest rate yield curve, the size of the interest-sensitive position and the basis for re-pricing at rollover dates. The bank will follow a comprehensive interest rate risk management program by:

- a) Establishing and implementing sound and prudent interest rate risk policies
- b) Developing and implementing appropriate interest rate risk measurement techniques
- c) To developing and implementing effective interest rate risk management and control procedures

6.2.6 Interest rate risk management policies

For sound and prudent interest rate risk management the bank should have clear established policies which need to include:

- a) An interest rate risk philosophy governing the extent to which the bank is willing to assume interest rate risk; and
- b) Explicit and prudent limits on the bank's rate risk exposure.

a) Interest rate risk philosophy

The capacity of the bank to assume interest rate risk will vary with the extent of other risks (e.g., liquidity, credit risk, foreign exchange risk, investment risk) and ability to absorb potential losses. The objective of interest rate risk management need not necessarily be the complete elimination of exposure to changes in interest rates. Rather, to manage the impact of interest rate changes within self imposed limits set after careful consideration of a range of possible interest rate environments.

b) Interest rate risk limits

Bank established an explicit and prudent interest rate risk limit and ensures that the level of interest rate risk exposure does not exceed these limits.

Interest rate risk limits has been set within the bank's overall risk profile, which reflects the factors such as its capital adequacy, liquidity, credit quality, investment risk and foreign exchange risk. Interest rate positions also be managed within the bank's ability to offset such positions if necessary.

It needs to reassess on a regular basis to reflect potential changes in interest rate volatility, the institution's overall risk philosophy and risk profile.

Risk limits are usually defined in terms of earnings or in terms of the present value of equity at risk and are normally expressed in terms of the allowable amounts of mismatched positions for specified or cumulative maturity periods. Earnings are the reported net income before taxes. Changes in interest rates may affect earnings by following factors:

- Affecting the interest income or expenses relating to assets, liabilities and off-balance sheet items.
- Affecting the value of fixed-rate assets, liabilities and off-balance sheet items that are carried on a market valuation basis. Present value of equity is the present value of assets and off-balance sheet items generating cash inflows, less the present value of liabilities and off-balance sheet items generating cash outflows. Changes in interest rates affect the present value of the cash flows from the value of these items and therefore the economic value of shareholders' equity.

Limits may also appropriately be defined in terms of regulatory capital, shareholders' equity and earning assets.

c) Calculation of Interest Rate Risk Limit :

Tk. in crore

Assets	Amount	Liabilities	Amount
Rate Sensitive Assets: Money at call & short notice: Govt. Securities Performing Loan:		Rate Sensitive Liabilities: Borrowing from other banks & FIs: Savings Deposit: SND: Fixed Deposit: Others Deposit Schemes:	
Sub-Total:		Sub-Total:	
Non-Rate Sensitive Assets: Cash: Balance with other banks & FIs: Other Investment: Non-performing Loan: Fixed Assets: Other Assets:		Non-Rate Sensitive Liabilities: Current Deposit: Bills Payable: Sundry, Call & Other Deposit: Other Liabilities: Capital/Shareholders' Equity:	
Sub-Total:		Sub-Total:	
Total		Total	

According to the provisional balance sheet of the bank, the Funding Gap of the bank can be calculated as, $FGAP = RSA - RSL$

If Interest rate changes in $\pm 1.00\%$ (Δi), then changes of Net Interest Income will be:

$$\Delta NII = FGAP \times \Delta i$$

If Interest rate changes in $\pm 2.00\%$ (Δi), then changes of Net Interest Income will be:

$$\Delta NII = FGAP \times \Delta i$$

If Interest rate changes in $\pm 3.00\%$ (Δi), then changes of Net Interest Income will be:

$$\Delta NII = FGAP \times \Delta i$$

6.2.7 Interest rate risk management and control procedures

Bank developed and implements effective and comprehensive procedures and information systems to manage and control interest rate risk in accordance with its interest rate risk policies. These procedures are appropriate to the size and complexity of the bank's interest rate risk-taking activities.

Internal inspections and audits are key element in managing and controlling the bank's interest rate risk management program. Bank uses them to ensure compliance with, and the integrity of, the interest rate risk policies and procedures. Internal inspections and audits at a minimum randomly test all aspects of interest rate risk management activities in order to:

- a) Ensure interest rate risk management policies and procedures are being adhere to
- b) Ensure effective management controls over interest rate risk positions
- c) To verify the adequacy and accuracy of management information reports and
- d) Ensure that personnel involved in interest rate risk management fully understand the bank's interest rate risk policies and risk limits and have the expertise required to make effective decisions consistent with the interest rate risk policies. Assessments of the interest rate risk operations should be presented to the board on regular basis for review.

6.3 Equity price risk

Equity price risk is the risk of losses caused by changes in equity prices. These losses could arise because of changes in the value of listed shares held directly by the bank; changes in the value of listed shares held by a bank subsidiary; changes in the value of listed shares used as collateral for loans from a bank or a bank subsidiary, whether or not the loan was made for the purpose of buying the shares; and changes in the value of unlisted shares. Equity price risk associated with equities could be systematic or unsystematic. The former refers to sensitivity of portfolio's value to changes in overall level of equity prices, while the later is associated with price volatility that is determined by firm specific characteristics.

The equity risk of Bank is "one-sided" – equity securities must be held at the lower of cost or market value. If market value drops below cost, banks are required to form loss allowances or "provisions" on the liability side of the balance sheet, by means of an expense on the profit and loss statement. However, if market values rise above cost, there is no corresponding income recorded unless the security is sold. Even though the one-sided risk is purely in an accounting sense, it will have a real implication for banks that fall below required levels of regulatory capital because of declines in the market value of securities they hold. Accordingly, it is vitally important for banks to measure, monitor, and control their equity market risk.

6.3.1 Effective equity price risk management

Bank has an effective equity risk management system with following criteria:

- a) Policies for equity investments reflect the board's risk appetite and provide clear authorities, conservative limits and assigned responsibilities.
- b) These policies permit risk-taking authority consistent with the expertise of bank personnel;
- c) Senior management has broad capital markets experience, established strong policy controls and risk limits.
- d) Policy exceptions properly approved. There are formal procedures to report how and why exceptions have occurred and how they have been resolved.
- e) Trading and sales personnel have broad experience in the products traded, technically competent and comfortable with the bank's culture.
- f) Risk management personnel have depth understanding of equity market risk and risk management principles, including VAR.

- g) Equity investments in companies that the bank have never before invested in are subject to a formal review program, with all relevant bank units participating in risk assessment and control procedures.
- h) The firms in whose shares the bank or its subsidiary is considering investing is analyzed rigorously and by reviewing as much or even more financial information, as would be reviewed in a credit decision.
- i) Management reports are prepared independently of the investing, trading function and provide a comprehensive and accurate summary of investing and trading activity. Reports should assess compliance with policy limits, measure loss potential in both normal and stressed markets and produced in time. Management at all levels has to understand and monitor equity market risk.
- j) Incompatible duties must be properly segregated. Risk monitoring, valuation and control functions are independent of the trading and investing functions.
- k) The banks have to conduct stress tests regularly and a precise understanding and measurement of how much and why profitability, balance sheet capital, and regulatory capital will be affected by major declines in the equity market overall, or in the value of individual shares.
- l) As bank has a subsidiary that invests in shares directly or lends to customers for the purchase of shares, it closely monitors the financial condition and performance of the subsidiary, and calculates its risk-adjusted return on the invested capital in that subsidiary. The bank also redeploys that capital away from its subsidiary if the risk-adjusted returns are low.
- m) As the bank has shares in unlisted companies, the bank has to consider these investments as extremely high-risk and devote significant staff resources to obtain, verify and analyze financial information on these companies.
- n) As the bank have given the illiquidity of investments in unlisted companies, must have detailed exit strategy for disposing of these investments in the event that of they no longer fit into the bank's desired business strategy, are prohibited by regulatory requirements, or suffer significant losses in value.

6.3.2 Securities portfolio management program

The securities portfolio management of Bank involves prudently managing the risk relationship and controlling and minimizing securities portfolio risks across a variety of dimensions, such as quality, portfolio diversification, maturity, volatility, marketability, type of security, and the need to maintain adequate liquidity.

Securities portfolio management program requires:

- a) Establishing and implementing sound and prudent policies to effectively manage the securities portfolio, securities activities and position risk.
- b) Developing and implementing effective securities portfolio management processes governing securities investment decision making and authority.
- c) Developing and implementing comprehensive procedures to effectively monitor and control the nature, characteristics and quality of the securities portfolio and the extent of position risk assumed.

a) Securities portfolio management policies

Bank have an effective securities portfolio management program which of clearly defined policies, formally established in written that set out the securities portfolio management objectives of the bank and the parameters under which securities activities are to be undertaken and controlled.

The bank will established explicit and prudent securities portfolio management objectives governing like as below:

- i. The extent to which Bangladesh Krishi Bank is willing to assume position risk.
- ii. A general area of securities activities in which the bank is prepared to engage or is restricted from engaging, including its policy with respect to acquiring securities of related parties.
- iii. Minimum quality and rate of return expectations for the securities portfolio.
- iv. Securities portfolio concentration and exposure limits.

b) Securities portfolio management process

To develop and maintain a sound securities portfolio, the bank must have:

- i. An effective formal evaluation process that provides for an objective analysis and assessment of securities investment proposals; and
- ii. Clearly defined, prudent and appropriate levels of delegation of securities transaction approval authority, formally established in writing.

c) Securities portfolio monitoring and control procedures

Bank will develop and implement effective and comprehensive procedures, accounting policies and information systems to monitor and manage the characteristics and quality of its securities portfolio. These procedures are appropriate to the size and complexity of the bank's securities activities.

Minimum will include:

- i. Systems to measure and monitor securities positions.
- ii. Controls governing the management of the securities portfolio.
- iii. Independent inspections or audits.

i) Systems to measure and monitor

Managing securities activities needs a clear understanding of the nature and characteristics of the securities portfolio and securities positions. To make these determinations the bank ensures that:

- a) Effective information systems are developed and used to appropriately record, regularly monitor and evaluate the securities portfolio.
- b) Effective, appropriate quality and performance criteria are developed and implemented and that portfolio is regularly assessed against these criteria.
- c) Appropriate and conservative accounting policies and procedures are developed, documented and implemented to properly classify and carry securities on the books of account of the bank and recognize income related to such securities.

Regular evaluations of the securities portfolio are carried out so as to provide an effective means of ensuring that portfolio performance and quality is meeting the bank's securities portfolio management policies and objectives, and that the portfolio is not unduly concentrated by types of security, and by single and associated groups of issuers, particularly issuers connected to the bank.

ii) Securities portfolio management controls

Effective procedures and controls ensure that securities activities are in compliance with the bank's securities portfolio management policies and provide safeguards to protect the bank from potential losses by ensuring that unauthorized exposure does not occur from improper or uncontrolled securities activities.

Although the controls over securities activities will vary among banks depending upon the nature and extent of their activities, the key elements of any securities portfolio management control program are well-defined as below:

- a) organizational controls to ensure that there exists a clear and effective segregation of duties between those persons who authorize, initiate or supervise securities activities and those persons who are responsible for operational functions such as the physical custody of securities or arranging prompt and accurate settlement of securities transactions or account for securities activities.
- b) procedural controls to ensure that securities are properly recorded and accounted for by the bank, transactions are settled in a timely and accurate manner and unauthorized securities activities are quickly identified and reported to the management and
- c) Control to ensure that securities activities are monitored frequently against the bank's securities portfolio management policies and risk limits.

Moreover the bank ensures that employees conducting securities trading activities on behalf of the bank do so with a written code of conduct or guideline governing securities dealing. This guideline or code of conduct provides guidance respecting trading with related parties and transactions in which potential conflicts of interest exist. These also include trading with affiliated entities, personal trading and investment activities of securities portfolio management personnel, including trading on insider information and taking personal gain from one's position, and trading relationships with securities dealers with whom the bank deals.

iii) Independent inspection/audit

The bank have an independent inspections/audits division that provides assessment of the securities portfolios' existence, quality and value, the integrity of the securities portfolio management process and they promote the detection of problems relating thereto. Bank use these to ensure compliance with and the integrity of the securities portfolio management policies and procedures. The independent inspection/audit team of the bank at a minimum and over a reasonable period of time test the bank's securities portfolio management, activities in order to:

- a) To ensure that securities activities are in compliance with the bank's securities portfolio management policies and procedures and with the laws and regulations to which these activities are subject.
- b) To ensure that securities transactions are duly authorized and accurately and completely recorded on the books of the bank.
- c) To ensure that recorded securities are conservatively valued on the books of the bank.

- d) To confirm that securities held by depositories to the order of the bank conform to the records of the bank
- e) To ensure that the bank management has established suitably designed controls over securities positions and such controls operate effectively.
- f) Ensure the adequacy and accuracy of management information reports regarding the bank's securities portfolio management activities; and
- g) To ensure that personnel involved in securities portfolio management are provided with accurate and complete information on the bank's securities portfolio management policies and risk limits and have the expertise required to make effective decisions consistent with these policies.

6.3.3 Securities portfolio concentration limits

The bank is in under process to develop clearly defined and documented securities portfolio concentration limits that ensure the nature and level of a bank's exposure in the form of securities position is appropriately diversified and does not exceed sound and prudent limits.

Securities portfolio concentration occurs when the bank's securities portfolio contains an excessive level of exposure to one type or class of security or a single or group of associated issuers of securities. At a minimum, securities portfolio diversification policies must place sound and prudent aggregate and individual exposure limits for each type or class of security, and for single issuers and groups of associated issuers in which the bank is permitted to invest. Usually, limits by class of security include limits for how much of the portfolio should be made up of specific types of securities such as equities and the portfolio concentration by industrial sector. Such limits need to be established in the context of the bank's aggregate exposure to a single issuer or group of associated issuers in terms of both securities and credit exposures. The management of such aggregate exposures is usually done by a senior level securities trader and lending personnel so as to ensure that appropriate "firewalls" are maintained between the securities portfolio and credit risk management areas of the bank. Securities concentrations by single or associated issuer need to be reviewed regularly.

6.3.4 Securities analysis and assessment

Bank made decisions to investment securities only after careful examination and consideration of several areas including:

- a) The bank's securities portfolio management policies, other corporate objectives and policies, such as the nature of the bank's liabilities and the need to maintain adequate liquidity.

- b) Potential risks and returns related to a particular security within the overall context of the bank's securities portfolio management policies, the composition of the securities portfolio and the reasonable expectation of a fair return or appreciation given the nature of the security, and the risk of loss or impairment.
- c) Current, projected regulatory and financial environment under which securities transactions are occurred.
- d) Investment alternatives.

6.3.5 Securities transaction approval authorities

Bank have a clearly defined and appropriate level of securities transaction authority to ensure that the bank's securities activities are appropriately undertaken and that securities positions do not exceed the limits established under its securities portfolio management policies. Approval limits will relate to type of security, size, maturity, or other criteria, such as the retention or delegation of voting rights acquired through securities. Authorities will be absolute, incremental or a combination thereof and also be pooled or shared within a committee. The delegation of authority is clearly documented and includes.

- a) The absolute and incremental securities transaction approval being delegated.
- b) The units, individuals, positions or committees to whom securities transaction authority is being delegated.
- c) The ability of recipients to further delegate approval authority.
- d) The restrictions placed on the use of delegated authority.

The degree of delegation of securities transaction authority will depend on a number of variables including:

- i. The bank's securities portfolio management objectives and overall risk philosophy.
- ii. The quality of the securities portfolio.
- iii. The ability of the bank to absorb losses.
- iv. The size and types of securities and the complexities of risks being assessed.
- v. The experience and ability of the individuals responsible for carrying out the securities portfolio management activities.

Assessments of the securities portfolio management activities should be presented to the bank's board on a timely basis for review.

6.3.6 Measuring equity price risk

Value at risk (VaR)

Value at Risk (VaR) is generally accepted and very much popular tool for measuring market risk inherent in trading portfolios. VaR summarizes the predicted maximum loss over a target horizon within a given confidence level. It is a statistical estimate of expected potential loss that is derived by translating the riskiness of any financial instrument into a common standard. The bank use a 99% or a 95% confidence level, and each day return on its trading portfolios. That means about once (with 99% confidence) or five (with 95% confidence) in every one hundred days the trading position are expected to lose more than the VaR estimate. An inherent limitation of VaR is that it gives no information about how much losses could exceed their expected levels. Generally there are three methods of computing VaR:

- a) Parametric or variance-covariance method.
- b) Historical simulation method.
- c) Monte Carlo simulation method.

Among these methods, the historical simulation method is simple to apply and fairly straightforward to explain. Data sets used for this method are easily available. Therefore the banks are encouraged to calculate VaR for secondary market shares that are held for trading using historical simulation method. However, to calculate the VaR for overall investment portfolio of the bank generally uses the variance - covariance method.

Variance-covariance method

The following formula can be used to assess the VaR of a portfolio consisting more than two stocks:

Portfolio VaR= Total Portfolio X SD of Portfolio

Where,

$$\text{Standard Deviation, SD} = [S_1^2 + S_2^2 + S_3^2 + 2S_1S_2P(1, 2) + 2S_1S_3P(1, 3) + 2S_2S_3P(2, 3)]^{1/2}$$

Here,

S_1 = the standard deviation or volatility of the first asset

S_2 = the standard deviation or volatility of the second asset

S_3 = the standard deviation or volatility of the third asset

P = Correlation

Historical simulation method

Let us assume Bank has a portfolio of three stocks of one unit each. To calculate VaR of that portfolio the bank needs to collect the historical market price of each of the stocks in the portfolio for last 100 days. Then the following formulas are to be applied:

$$\text{a) Weight}_A = \frac{\text{Closing Market Price of Stock A}}{\text{Closing Market Price of Stock (A+B+C)}}$$

$$\text{b) Total weighted return portfolio market price} = \frac{\text{Total weighted return}}{\text{Closing Market Price of Stock (A+B+C)}} \times 100$$

Then, the 99th percentile will be the VaR at 99% confidence level.

6.4 Managing market risk

The Bank put in place a set of systems and procedures appropriate to its size and complexity of its operations for identifying, measuring monitoring and controlling market risk. The risk appetite in relation to market risk assessed keeping in view the capital of the bank as well as exposure to other risks. Once the market risk appetite is determined, the bank have to develop a strategy for market risk-taking in order to maximize returns while keeping exposure to market risk at or below the predetermined level.

6.5 Stress testing

The risk measurement system of Bank supports a meaningful evaluation of the effect of stressful market conditions on the bank. Stress testing designed to provide information on the kinds of conditions under which strategies or positions would be most vulnerable and thus be tailored to the risk characteristics of the bank. The stress scenarios include:

- a) Abrupt changes in the general level of market rates
- b) Changes in the relationships among key market rates
- c) Changes in the slope and the shape of the yield curve
- d) Changes in the liquidity of key financial markets or changes in the volatility of market rates.
- e) Conditions under which key business assumptions and parameters break down.

In conducting stress tests, special consideration given to instruments or markets where concentrations exist as such positions more difficult to liquidate or offset in stressful situations. The bank will consider "worst case" scenarios in addition to more probable events. Management and the board of directors periodically review both the design and the results of such stress tests and ensure that appropriate contingency plans are in place.

Appendix-IV : Liquidity Management

7.1 Liquidity risk indicators

The following indicators have potential to ignite liquidity problem for the bank. The bank management needs to monitor carefully such indicators and exercise careful scrutiny wherever it deems appropriate.

- a) A negative trend or significantly increased risk in any area or product line.
- b) Concentrations in either assets or liabilities.
- c) Deterioration in quality of credit portfolio.
- d) A decline in earnings performance or projections.
- e) Rapid asset growth funded by volatile large deposit.
- f) A large size of off-balance sheet exposure.
- g) Deteriorating third party evaluation about the bank and negative publicity.
- h) Unwarranted competitive pricing that potentially stresses the banks.

7.2 Managing liquidity risk

The formality and sophistication of risk management processes established to manage liquidity risk should reflect the nature, size and complexity of a bank's activities. Sound liquidity risk management employed in measuring, monitoring and controlling liquidity risk is critical to the viability of the bank. Bank has a thorough understanding of the factors that could give rise to liquidity risk and put in place mitigating controls.

A liquidity risk management involves not only analyzing banks on and off-balance sheet positions to forecast future cash flows but also how the funding requirement would be met. The later involves identifying the funding market the bank has access, understanding the nature of those markets, valuating banks current and future use of the market and monitor signs of confidence erosion.

Liquidity risk management procedures of Bank are comprehensive and holistic. At the minimum it will cover formulation of overall liquidity strategy, risk identification, measurement, and monitoring and control process.

7.3 Board oversight

The effective liquidity risk management body of Bank includes an informed board, capable management, and staff having relevant expertise and efficient systems and procedures.

The duty of board of directors is to understand the liquidity risk profile of the bank and the tools used to manage liquidity risk. The board has to ensure that the bank has necessary liquidity risk management framework and is capable of dealing with uneven liquidity scenarios. The board approves the strategy and significant policies related to the management of liquidity. The responsibilities of the board of directors are:

- a) Providing guidance on the level of appetite for liquidity risk.
- b) Appointing senior managers who have ability to manage liquidity risk and delegate to them the required authority to accomplish the job.
- c) Continuously monitoring the bank's performance and overall liquidity risk profile through reviewing various reports.
- d) To ensure that senior management takes the steps necessary to identify, measure, monitor and control liquidity risk.

7.4 Senior management oversight

Senior management is responsible for the implementation of sound policies and procedures keeping in view the strategic direction and risk appetite specified by the board. To effectively oversee the daily and long-term management of liquidity risk, senior management should at least:

- a) To develop and implement procedures and practices that translate the board's goals, objectives, and risk appetite into operating standards that are well understood by bank personnel and consistent with the board's intent.
- b) To adhere to the lines of authority and responsibility that the board has approved for managing liquidity risk.
- c) To oversee the implementation and maintenance of management information and other systems that identify, measure, monitor, and control the bank's liquidity risk.
- d) To develop and recommend liquidity and funding policies for approval by the board and implement the liquidity and funding policies.
- e) To develop lines of communication to ensure the timely, dissemination of the liquidity and funding policies and procedures to all individuals involved in the liquidity management and funding risk management process;

- f) To ensure that liquidity is managed and controlled within the liquidity management and funding management programs.
- g) To ensure the development and implementation of appropriate reporting systems with respect to the content, format and frequency of information concerning the bank's liquidity position, in order to permit the effective analysis and the sound and prudent management and control of existing and potential liquidity needs;
- h) projected future liquidity,
- i) To monitor economic and other operating conditions to forecast potential liquidity needs.
- j) To ensure that an internal inspection/audit function reviews and assesses the liquidity management program.
- k) To report comprehensively on the liquidity management program to the board at least once a year.

7.5 Liquidity risk strategy

Bank has an agreed liquidity strategy for the day-to-day management of liquidity. This strategy addresses the bank's goal of protecting financial strength and the ability to withstand stressful events in the market place.

The liquidity risk strategy of Bank is defined by the board enunciate specific policies on particular aspects of liquidity risk management as below.

a) Composition of assets and liabilities:

The strategy outlines the mix of assets and liabilities to maintain liquidity. Liquidity risk management and asset/liability management have integrated to avoid high costs associated with having to rapidly reconfigure the asset liability profile from maximum profitability to increased liquidity.

b) Diversification and stability of liabilities:

The funding concentration exists when a single decision or a single factor has the potential to result in a significant and sudden withdrawal of funds. As such situation may lead to an increased risk; the board and senior management specify guidance relating to funding sources and ensure that the bank has diversified sources of funding day-to-day liquidity requirements. The bank is more resilient to tight market liquidity conditions if its liabilities were derived from more stable sources. To comprehensively analyze the stability of liabilities/funding sources the bank needs to identify.

- i. Liabilities that stay with the bank under any circumstances.

- ii. Liabilities that run-off gradually if problems arise.
- iii. Liabilities that run-off immediately at the first sign of problems.

Bank has explicit and prudent policies that ensure funding is not unduly concentrated with respect to:

- i. Individual depositor.
- ii. Type of deposit instrument.
- iii. Market source of deposit.
- iv. Term to maturity.
- v. Currency of deposit, as bank has liabilities (both on- and off-balance sheet) in foreign currencies.

c) Managing liquidity in different currencies:

The bank has a strategy on how to manage liquidity in different currencies. Normally limits are set in equivalent US dollar. A dealer can take position in any currency.

- d) Dealing with liquidity disruptions:** Bank putted in place a strategy on how to deal with the potential for both temporary and long-term liquidity disruptions. The interbank market can be important source of liquidity. However, the strategy should take into account the fact that in crisis situations access to interbank market could be difficult as well as costly. The bank's liquidity strategy must be documented in the liquidity policies, and communicated throughout the bank. The strategy also evaluated periodically to ensure that it remains valid.

7.6 Liquidity Policies:

For sound and prudent liquidity policies Bank set out the sources and amount of liquidity required to ensure that the liquidity is adequate for the continuation of operations and to meet all applicable regulatory requirements. These policies must be supported by effective procedures to measure, achieve and maintain liquidity. Operating liquidity is the level of liquidity required to meet a bank's day-to-day cash outflow commitments. Factors influencing bank's operating liquidity include:

- i. Cash flows and the extent to which expected cash flows from maturing assets and liabilities match; and

- ii. The diversity, reliability and stability of funding sources, the ability to renew or replace deposits and the capacity to borrow. For regulatory purposes a bank is required to hold a specific amount of assets classed as "liquid", based on its liabilities. Generally, undue reliance should not be placed on these assets, or those formally pledged, for operating purposes other than as a temporary measure, as legally they may not be available for encashment if needed. In assessing the adequacy of liquidity, bank accurately and frequently measure. Such as:
 - a) The term profile of current and approaching cash flows generated by assets and liabilities, both on- and off-balance sheet;
 - b) The extent to which potential cash outflows are supported by cash inflows over a specified period of time, maturing or liquefiable assets, and cash on hand;
 - c) The extent to which potential cash outflows may be supported by the bank's ability to borrow or to access discretionary funding sources; and
 - d) The level of statutory liquidity and reserves required and to be maintained.

The Bank formulated liquidity policies, which are recommended by senior management/ ALCO and approved by the Board. Bank has specific liquidity risk management polices details vary across banks according to the nature of its business, which include:

- i. Bank's a statement of liquidity risk appetite;
- ii. It is bank's general liquidity strategy of short- and long-term, specific goals and objectives in relation to liquidity risk management, process for strategy formulation and the level within the bank it is approved;
- iii. The roles and responsibilities of individuals performing liquidity risk management functions, including structural balance sheet management, pricing, marketing, contingency planning, management reporting, lines of authority and responsibility for liquidity decisions;
- iv. It is the liquidity risk management structure for monitoring, reporting and reviewing liquidity;
- v. Bank's liquidity risk management tools for identifying, measuring, monitoring and controlling liquidity risk (including the types of liquidity limits and ratios in place and rationale for establishing limits and ratios);
- vi. It is the mechanisms for dealing with deviations from the policy and the restrictions it imposes; and

- vii. Bank's contingency plan for handling liquidity crises. To be effective the liquidity policy must be communicated down the line throughout the bank.

To be effective the liquidity policy must be communicated with the down line throughout the bank. It is important that the board and senior management ensure that policies are reviewed on a regular basis (at least annually) and when there are any material changes in the bank's current and prospective liquidity risk profile. Such changes could stem from internal circumstances (e.g. changes in business focus) or external circumstances (e.g. changes in economic conditions).

Reviews provide the opportunity to fine-tune the bank's liquidity policies in light of the bank's liquidity management experience and development of business. Any significant or frequent exception to the policy is an important barometer to gauge its effectiveness and any potential impact on bank's liquidity risk profile.

7.7 Procedures and limits

In liquidity management, the bank to the risk approval process for market risk limits is the Funding and Liquidity Plan. At least once annually, the treasurer presents the business plan that will include the request for liquidity limits from the ALCOM, for final approval and ratification by the Board of Directors.

To effectively manage liquidity risk, it is imperative to understand the internal and external risk drivers which are discussed below:

a) Factors Responsible for Increase/Decline in Liquidity Risks

The quantum of liquidity in a Bank may be attributed to a number of factors which are enumerated as follows:

Liquidity Risks increase	Liquidity Risks decline
Growth of deposits	Payment of deposits
Receipt of bills receivable	Payment of bills payable
Issuance of Bank Drafts, TT, MT	Increase in Loan, Cash Credit, Overdraft Bill purchased/discounted
Receipt of interest in Cash	Acquisition of fixed assets
Repayment of Loan, Cash Credit, Overdraft etc	Payment of salaries and other expenses in cash
Investment of Capital	Payment of Interest and borrowings
Sale of Investments	Increase in investments

Key elements of an effective risk management process include an efficient MIS to measure, monitor and control existing as well as future liquidity risks and reporting them to senior management and the Board of directors.

7.8 Liquidity management structure

The responsibility for managing the overall liquidity of the bank, Bank delegated to a specific, identified group within the bank. This may be in the form of an Asset Liability Committee (ALCOM). Since liquidity management is a technical job requiring specialized knowledge and expertise, Responsible officers not only have relevant expertise but also have a good understanding of the nature and level of liquidity risk assumed by the bank and the means to manage that risk. It is important that there should be close links between those individuals responsible for liquidity and those monitoring market conditions, as well as other individuals with access to critical information.

7.9 Liquidity risk management process

The liquidity risk management process of Bank includes systems to identify measure, monitor and control its liquidity exposures. Management is able to accurately identify and quantify the primary sources of the bank's liquidity risk in a timely manner. To properly identify the sources, management should understand both existing as well as future risk that the bank can be exposed to management always be alert for new sources of liquidity risk at both the transaction and portfolio levels. Key elements of risk management process include an efficient MIS to measure, monitor and control existing as well as future liquidity risks and reporting them to senior management and the board of directors.

7.10 Management Information System (MIS)

For the sound liquidity risk management decisions Bank enacted an effective management information system (MIS).To collect the required data from the respective sources, to analyze the data and for reporting it to appropriate authority for reviewing the policy of liquidity risk. Information should be readily available for day-to-day liquidity management and risk control, as well as during times of stress. Data should be appropriately consolidated, comprehensive yet succinct, focused, and a available in a timely manner. Ideally, the regular reports a bank generates will enable it to monitor liquidity during a crisis; managers would simply have to prepare the reports more frequently. Managers should keep crisis monitoring in mind when developing liquidity MIS. Besides other types of information important for managing day-to-day activities and for understanding the bank's inherent liquidity risk profile should include:

- a) Asset quality and its trends to be prepared and collected by Recovery Division of H.O. on monthly basis.
- b) Earnings projections to be reflected in cash flow statement on monthly basis.
- c) Bank's general reputation in the market and the condition of the market itself a report in this regard to be prepared by Treasury Division on monthly basis.
- d) The type and composition of the overall balance sheet structure to be prepared by Central Accounts Division on periodically.

- e) The type of new deposits being obtained, as well as its source, maturity, and price to be collected, processed and reported by Treasury Division.
- f) Daily Liquidity Position, Interbank Lending/Borrowing Position Foreign Currency Trading and buying and selling position etc. to be reported to the Management at prescribed from. Besides that interest sensitive deposit, deposit mixture, market scenario balance sheet analysis and other reported information to be informed periodically.
- g) ALCO will submit liquidity position of the bank in every board meeting.
- h) Overall ALCO activities will be reported to the board at least quarterly.

As far as information system is concerned, various units of Bank related to treasury activities, the dealing, the treasury operation and risk management department are be integrated. Furthermore, management should ensure proper and timely flow of information among front office, back office and middle office in an integrated manner; however, reporting lines kept separate to ensure independence of these functions.

7.11 Periodic reviews

Bank conducts Periodic reviews to determine whether the bank complies with its liquidity risk policies and procedures. Positions that exceed established limits should receive prompt attention of appropriate management and should be resolved according to the process described in approved policies. Periodic reviews of the liquidity management process should also address any significant changes in the nature of instruments acquired, limits, and internal controls that have occurred since the last review.

7.12 Measurement of liquidity risk

Effective liquidity risk measurement system helps in managing liquidity in times of crisis and also optimizes return through efficient utilization of available be funds. Bank also trying to develop systems that enable to capture liquidity risk ahead of time, so that appropriate remedial measures could be prompted to avoid any significant losses.

In the bank liquidity measurement involves assessing all of the Bank's cash inflows against its outflows to identify the potential for any net shortfalls going forward. This calculation includes funding requirements for off-balance sheet commitments. A core measurement tool of liquidity is the Maximum Cumulative Outflow (MCO), which estimates the amount of prospective funding that the Bank will require at pre-specified future dates in normal operating environments. This monetary amount is a measure of the liquidity gap between the maturing liabilities and assets at specified time periods.

The measurement of the Bank's net funding requirements, however also requires qualitative assessments. Some cash flows are easily calculated or predicted, but liquidity managers must also make (and document) assumptions about future liquidity needs, both in the very short-term and over longer time periods.

The financial condition of the bank in relation to regulatory requirements (i.e., capital, liquidity, loan-to-deposit ratios,) and performance relative to business plans and budgets (i.e., growth, profitability), focusing on the components of the balance sheet and P&L statements that influence key operational parameters (e.g., deposits, cost of funds, interest margins, administrative costs, capital outlays, etc.). Under optimal conditions the n operational figures should be not more than one month old, and should be presented in relation to previous periodic positions (e.g., previous month/quarter, previous year) in order for the body to discern emerging trends. The information systems of the bank have to developed to ensure timeliness and reliability of all data pre send to the ALCOM, with a designated officer/desk which will ensure orderly collation and appropriate analysis of all material presented to the body.

In the arena of measuring liquidity risk Bank is making assumptions about future funding needs. While certain cash inflows and outflows can be easily calculated or predicted, banks must also make assumptions about future liquidity needs, both in the very short-term and for longer time periods. The bank's reputation plays in its ability to access funds readily and at reasonable terms. For that reason, staff of the bank responsible for managing overall liquidity be aware of any information (such as an announcement of a decline in earnings or a downgrading by a rating agency) that could have an impact on market and public perceptions about the soundness of the bank. Some commonly used liquidity measurement and monitoring techniques that are adopted by the bank are:

7.13 Maturity Ladder:

Bank utilizes flow measures to determine its cash position. Maturity ladder estimates the bank's cash inflows and outflows and thus net deficit or surplus (GAP) both on Day-to-day basis and over a series of specified time periods. Banks need to focus on the maturity of its assets and liabilities in different tenors. Mismatch is accompanied by liquidity risk and excessive longer tenor lending against shorter-term borrowing can put a bank's balance sheet in a very critical and risky position. To address this risk and to make sure a bank does not expose itself in excessive mismatch, a bucket-wise (e.g. call, 2-7 days, 8 days-1 month, 1-3 months, 3-12 months, 1-5 years, over 5 years) maturity profile of the assets and liabilities to prepare to understand mismatch in every bucket. Further, such an analysis for distant periods will maximize the opportunity for the bank to manage the gap well in advance before it crystallizes. While making an estimate of cash flows, Bank considers the following aspects:

- a) The funding requirement arising out of off-balance sheet commitments also needs to be accounted for;
- b) Many cash flows associated with various products are influenced by interest rates or customer behavior. Banks need to take into account behavioral aspects along with contractual maturity. In this respect past experiences could give important guidance to make any assumption;
- c) Some cash flows may be seasonal or cyclical; and

- d) Management should also consider increases or decreases in liquidity that typically occur during various phases of an economic cycle.

Bank has to maintain sufficient liquidity to meet fluctuations in loans and deposits. As a safety measure bank also maintains a margin of excess liquidity. To ensure that this level of liquidity is maintained, management estimate liquidity needs in a variety of scenarios.

7.14 Liquidity ratios and limits

The Bank uses a variety of ratios to quantify liquidity. These ratios can also be used to create limits for liquidity management. However, such ratios would be meaningless unless used regularly and interpreted taking into account qualitative factors. Ratios always used in conjunction with more qualitative information about borrowing capacity, such as the likelihood of increased requests for early withdrawals, decreases in credit lines, decreases in transaction size, or shortening of term funds available to the bank. To the extent that any asset-liability management decisions are based on financial ratios, bank's asset-liability managers understand how a ratio is constructed, the range of alternative information that can be placed in the numerator or denominator, and the scope of conclusions that can be drawn from ratios and limits those are:

- a) **Cash flow ratios and limits:** One of the most serious sources of liquidity risk comes from a bank's failure to "roll over" a maturing liability. Cash flow ratios and limits attempt to measure and control the volume of liabilities maturing during a specified period of time. Banks earn money from mismatches, i.e. by borrowing short term and lending long term. Bank has to find out the right combination for longer term mismatch. The medium term funding (MTF) ratio is based on the amount of liabilities with a contractual maturity of more than one year to assets with a contractual maturity of more than one year.
- b) **Liability concentration ratios and limits:** Liability concentration ratios and limits help the bank to prevent from relying on too few providers or funding sources. Limits are usually expressed either as a percentage of liquid assets or absolute amount. Sometimes they are more indirectly expressed as a percentage of deposits, purchased funds, or total liabilities.
- c) **Other balance sheet ratios:**

Bank uses the following ratio's to monitor current and potential funding levels are:

 - i. Total credit to total deposits.
 - ii. Liquid assets to total deposits.
 - iii. Liquid assets to short-term liabilities.
 - iv. Borrowed funds to total assets; etc.

In addition to the statutory liquidity requirement and cash reserve requirement, the board and senior management should establish limits on the nature and amount of liquidity risk they are willing to assume. The limits are periodically reviewed and adjusted when conditions or risk tolerances change. When limiting risk exposure, senior management consider the nature of the bank's strategies and activities, its past performance, the level of earnings, capital available to absorb potential losses, and the board's risk appetite. Balance sheet complexity will determine how much and what types of limits the bank establishes over daily and long term horizons. While limits will not prevent a liquidity crisis, limit exceptions can be early indicators of excessive risk or inadequate liquidity risk management.

7.15 Foreign currency liquidity management

Bank has a measurement, monitoring and control system for its liquidity positions in the major foreign currencies in which it is active. In addition to assessing its aggregate foreign currency liquidity needs and the acceptable mismatch in combination with its domestic currency commitments, Bank also conducts separate analysis of its strategy for each currency individually.

7.16 Internal controls

Bank has adequate internal controls to ensure the integrity of their liquidity risk management process. This internal control is an integral part of the bank's overall system of internal control. The bank promotes effective and efficient operations, reliable financial and regulatory reporting and compliance with relevant laws, regulations and internal policies. The effective system of internal control of Bank for liquidity risk management is:

- a) A strong controlled environment.
- b) An adequate process for identifying and evaluating liquidity risk.
- c) To establish of control activities such as policies and procedures.
- d) Adequate information systems.
- e) Continuous review of adherence to established policies and procedures.

With regard to control policies and procedures, attention is given to appropriate approval processes, limits, reviews and other mechanisms designed to provide a reasonable assurance that the bank's liquidity risk management objectives are achieved. Many attributes of a sound risk management process, including risk measurement, monitoring and control functions, are key aspects of an effective system of internal control. Bank ensures that all aspects of the internal control system are effective, including those aspects that are not directly part of the risk management process. In addition, an important element of the bank is internal control system over its liquidity risk management process is regular evaluation and review. This includes ensuring that personnel are following established policies and procedures, as well as ensuring that the procedures that were established actually accomplish the intended objectives. Such reviews and evaluations also address any significant change that impact on the effectiveness of controls.

7.17 Monitoring and reporting risk exposures

Senior management and the board, or a committee thereof, Bank receives reports on the level and trend of the bank's liquidity risk at least quarterly. From these reports, senior management and the board should learn how much liquidity risk the bank is assuming, whether management is complying with risk limits and whether management's strategies are consistent with the board's expressed risk appetite. The sophistication or detail of the reports is commensurate with the complexity of the bank.

Appendix-V : Methodology for Setting

Limits 8.1 Methodology for Setting Limits

The issue of counterparty limits arises from the risk that a customer (the counterparty) with whom the Bank has a reciprocal agreement is unable to perform its obligation/s in a financial transaction (for example, a term placement or a deposit). As a good practice, all banking organizations must have appropriate counterparty limits in place for their treasuries. The limit structure depends on each organization's credit risk appetite based on their credit risk policies as well as target market criteria. All such credit risk limits should be set by the organization's credit risk approving unit, which is independent of the treasury dealing function. However, these may be altered according to changing circumstances revealed either in periodic reviews (at least annually) or real-time credit or market risk assessments.

To ensure that a systematic application of the foregoing principles is established for the Bank, the following methodology should be followed for setting counter party limits:

8.1.1 For prudential reasons, the Bank has to set a maximum single exposure limit to banking as well as non-banking financial institutions. Excesses over this limit will be permitted only upon the following conditions:

- a) The excess exposure shall be of limited duration only, preferably on over-night call basis and in no case exceeding a term of one year;
- b) The counterparty shall have a minimum rating as determined by the methodology described in the next section; and
- c) The Board shall be informed of these cases at its meeting immediately following the event of over-the-limit exposure.

8.1.2 To facilitate such evaluation, the Bank shall obtain the latest audited financial statements of all potential counterparty banks, which should not be older than one year reckoned from the date of the analysis.

It would be preferable to conduct the analysis of all the banks at the same time, in order to derive their comparative standings and the statistical mean for each of the approved quantifiable measures.

8.2 Procedures and limits:

Bank already established appropriate procedures, processes and limits to implement their liquidity policies. The procedural manual explicitly narrates the necessary operational steps and processes to execute the relevant liquidity risk controls.

8.2.1 Limits for local currency:

In order to determine the counterparty limit for each schedule Bank, a systematic appraisal shall be undertaken in a manner as to determine the quality of counterparties and the corresponding prudential exposure limit and pricing/terms.

8.2.1.1 COUNTER PARTY LIMIT FOR BANKS

Particulars	Score	
Capital Adequacy Ratio	20	Up to 100%-15, for over every 10%-1, Max-20
Equity to Total Asset Ratio	10	>25%-10, 21-25%-8, 16-20%-6, 11-15%-4, 6-10%-2, <6%-0
Age of the Bank	15	10 years and above 15, less than 10 years 5
Advance to Total Assets Ratio	5	<50%-5, 54%-4.29, 55-59%-3.57, 60-64%-2.86, 65-69%-2.14, 70-74%-1.43, 75-79%-0.71, >79%-0
Credit Deposit Ratio	20	<60%-20, 61-65%-18, 66-70%-16, 71-75%-13, 76-80%-12, 81-85%-11, 86-90%-10, 91-95%-8, More than 95- 0
Classified Loan	15	0%-15, 1-3%-12.22, 3-6%-9.44, 6-9%-6.67, >9-12%3.89, 12-30%2.00, >30%-0
Credit Rating	5	1-5, 2-4, 3-3, 4-2, 5-1 & above -0
Qualitative Judgment	10	
Total Score	100	

Sl. No.	Score	Limit (Tk. Crore)
01	80-100	200.00
02	75-79	175.00
03	70-74	150.00
04	65-69	120.00
05	60-64	100.00
06	55-59	80.00
07	50-54	70.00
08	45-49	60.00
09	40-44	50.00
10	Below 40	0.00

** For state owned commercial bank i.e., Sonali Bank Limited, Agrani Bank Limited and Janata Bank Limited the limit will be TK 300.00 crore. For Rupali Bank Limited the limit will be TK 250.00 crore. Bank may review this counter party limit in ALCO meeting.

8.3.1 Limit for foreign exchange dealing:

The limits for foreign exchange dealing have set by the management as follows:

Our dealing room is allocated with specific dealing limit of USD 10.00 million details as under:

Particulars	Designation	Currency
Dealing room limit	BKB	USD 10.00 million or equivalent FC
Counter Party Limit	BKB	For NCBs USD 5.00 million or equivalent FC For FCBs USD 3.00 million or equivalent FC For PCBs USD 3.00 million or equivalent FC
Currency wise maximum deal size	Dealer (SPO/PO) Dealer (SO)	USD 2.00 million or equivalent FC USD 1.00 million or equivalent FC
maximum dealing limit per day	Dealer (SPO/PO) Dealer (SO)	USD 5.00 million or equivalent FC USD 3.00 million or equivalent FC
Maximum stop-loss limit per deal	Dealer (SPO/PO) Dealer (SO)	USD 1,200.00 or equivalent FC USD 1,000.00 or equivalent FC
Maximum stop-loss limit per day	Dealer (SPO/PO) Dealer (SO)	USD 2,000.00 or equivalent FC USD 1,500.00 or equivalent FC
Overnight/after hour trading limit	Dealer (SPO/PO) Dealer (SO)	USD 1.00 million or equivalent FC USD 1.00 million or equivalent FC

Table 2: Dealing room limit

Triggers:

A trigger is a level of position at which an organization decides that the management should be informed with regard to either a market value of a position or an unusual trading volume etc. This is a predetermined level given by the management which may be changed with the changing circumstances. If the trigger point is reached, the management should be informed.

Designation	Trigger Level
Head of Treasury/ Chief Dealer	USD 1,500
Senior Principal Officer	USD 1,200
Principal Officer	USD 1,000
Senior Officer	USD 1,000

Table 3: Trigger Level

N.B: For the time being overnight limit to be kept in abeyance until further order.

- 1) The overall dealing room limits should also be monitored by the back office and the dealing room supervisor should be notified immediately upon any breach of the limits by the back office in charge.
- 2) A reporting format prepared to report overall daily trading activities to be submitted to the FX dealing room supervisor at the end of each day including positions taken and squared, profit/losses and outstanding open positions.
- 3) The dealing room supervisor will have the discretion to allow trading during holidays and any site dealing activities.
- 4) All transactions should be conducted through the dealing room by using the dealing room phones.
- 5) Voice recorder for the dealing room, telephone lines should be in place.
- 6) The mid office/back office should cross verify the open position statement to the dealing room supervisor on a daily basis.

For requirement based deals the dealers can be dealt as per requirement of the customer. In that case the dealers have to follow counter party limits set in Foreign Exchange Risk Management Manual.

Appendix-VI : Interest Rate Policy

9.1 Interest Rate Policy

The bank earns a spread on the money it lends out from the money it takes in as a deposit. The net interest margin (NIM), which most banks report quarterly, represents this spread, which is simply the difference between what it earns on loans versus what it pays out as interest on deposits. This, of course, gets much more complicated given the dizzying array of credit products and interest rates used to determine the rate eventually charged for loans.

Below is an overview of how the bank will determine the interest rate for consumers and business loans.

Banks are generally free to determine the interest rate they will pay for deposits and charge for loans, but they must take the competition into account, as well as the market levels for numerous interest rates and Bangladesh Bank policies. Bangladesh Bank influences interest rates by setting certain rates, stipulating bank reserve requirements, and buying and selling “risk-free” (a term used to indicate that these are among the safest bonds in existence) Bangladesh Government Treasury Bills, bonds to affect the deposits that banks hold at the central bank. This is referred to as monetary policy and is intended to influence economic activity, as well as the health and safety of the overall banking system. Most market-based countries employ a similar type of monetary policy in their economies.

A primary vehicle Bangladesh Bank uses to influence monetary policy is setting the, Repo & Reverse-Repo rate which is simply the rate at which banks borrow and lend with BB. Many other interest rates, including the DIBOR (Dhaka Interbank officer Rate), 91 days BCR (Bangladesh Compounded Rate), 182 days Treasury Bills rate which is a rate that banks use for the ideal customer with a solid credit rating and payment history. Other considerations that banks may take into account are expectations for inflation levels, the demand and velocity for money throughout the country and, internationally, stock market levels and other factors discussed below.

9.2 Market-based Factors

Generally, the bank will look to borrow, or pay short-term rates to depositors, and lend, through making loans, at the longer-term. By doing this successfully, it will make money and please stakeholders. An inverted yield curve, which means that interest rates on the left, or short-term spectrum, are higher than long-term rates, makes it quite difficult for a bank to lend profitably. Fortunately, inverted yield curves occurs infrequently and generally don't last very long.

9.3 Economic Factor

At the time of Setting Banks Interest Rates, banks base the rates they charge on economic factors including the level and growth in Gross Domestic Product (GDP) and inflation. It also cites interest rate volatility – the ups and downs in market rates – as an important factor the bank will look at. These factors all affect the demand for loans, which can help push rates higher or lower. When demand is low, such as during an economic recession, banks can increase deposit rates to encourage customers to lend, or lower loan rates to incentivize customers to take on debt.

Local market considerations are also important. Smaller markets may have higher rates due to less competition, as well as the fact that loan markets are less liquid and have lower overall loan volume.

9.4 Client Inputs

As mentioned above, the bank's prime rate – the rate banks charge to the most credit-worthy customers – is the best rate they offer and assumes a very high likelihood of the loan being paid back in full and on time. But as any consumer who has tried to take out a loan knows, a number of other factors come into play. For instance, how much a customer borrows, what his or her credit rating is, and the overall relationship with the bank (e.g. the number of products the client uses, how long he or she has been a customer, what credit score he or she has) all come into play.

Collateral, or putting one's other assets (land, building, home, car, other real estate) into the loan terms, also influences skin in the game. The loan duration, or how long to maturity, is also important. With a longer duration comes a higher risk that the loan will not be repaid. This is generally why long-term rates are higher than short-term ones. The bank will also look at the overall capacity for customers to take on debt. For instance, the debt service ratio attempts to fit this discussion into one convenient formula that the bank uses to set the interest rate it will charge for a loan, or that it is able to pay on a deposit.

9.5 A Summary of Different Interest Rates

We covered the Repo & Reverse Repo rate, prime rate and related interest rates above. There are many other types of interest rates and loan products. When it comes to setting loan rates, certain loans e.g. trading loan, Project loan, SME loans, cash credit & other continuous loans the bank will follow NIM, other commercial banks' & other state owned commercial banks' rates as well.

Other loans and rates include government-backed loans, student loans and small business loan rates will be determined at a considerable level. When the government has our back, loan rates tend to be lower and are used as the basis for other loans made to consumers and businesses. Of course, this can lead to reckless lending and moral hazard when borrowers assume the government will bail them out when a loan goes bad.

9.6 The Bottom Line

The Bank uses an array of factors to set interest rates. The truth is, the bank is looking to maximize profits, through the NIM, for their shareholders. On the flip side, consumers and businesses seek the lowest rate possible. A commonsense approach for getting a good rate would be to turn the above discussion on its head, or look at the opposite factors from what the bank might be looking for.

Appendix-VII : Investment Policy

10.1 Investment Policy

Before discussing the investment policy, it is instructive to distinguish between a loan and an investment because the usual practice is to regard the two as synonymous. The bank gives a loan to a customer for a short period on condition of repayment.

The bank plays the role of an intermediary by taking money from the depositors and advance loans to the customers and makes investment as well. An investment by the bank, on the other hand, is the outlay of its funds for a long period without creating any credit. A bank makes investments in government securities and in the stocks of large reputed industrial concerns, while in the case of a loan the bank advances money against securities/collaterals. However, the goal of both is to increase its earnings.

The investment policy of the bank consists of earning high returns on its surplus funds. But it has to keep in view the safety and liquidity of its resources so as to meet the potential demand of its customers.

As a commercial bank the financial position of the bank is reflected in its balance sheet. The balance sheet is a statement of the assets and liabilities of the bank. The assets of the bank are distributed in accordance with certain guiding principles. These principles underline the investment policy of the bank. They are discussed below:

10.2 Liquidity

In the context of the balance sheet of the bank the term liquidity has two interpretations. First, it refers to the ability of the bank to honor the claims of the depositors. Second, it predicts the ability of the bank to convert its non-cash assets into cash easily and without loss.

It is a well-known fact that a bank deals in funds belonging to the public. Hence, the bank should always be on its guard in handling these funds. The bank should always have enough cash to meet the demands of the depositors.

In fact, the success of a bank depends to a considerable extent upon the degree of confidence it can instill in the minds of its depositors.

If the depositors lose confidence in the integrity of the bank, the very existence of the bank will be at stake. So, the bank should always be prepared to meet the claims of the depositors by having enough cash.

Among the various items on the assets side of the balance sheet, cash on hand represents the most liquid asset. Next come cash with other banks and the central bank. The order of liquidity goes on descending.

Liquidity also means the ability of the bank to convert its non-cash assets into cash easily and without loss. The bank cannot have all its assets in the form of cash because cash is an idle asset which does not fetch any return to the bank.

So some of the assets of the bank, money at call and short notice, bills discounted, etc. could be made liquid easily and without loss.

10.3 Profitability

As a commercial bank by definition, BKB is a profit hunting institution. The bank has to earn profit to earn income to pay salaries to the staff, interest to the depositors, dividend to the shareholders and to meet the day-to-day expenditure.

Since cash is the least profitable asset to the bank, there is no point in keeping all the assets in the form of cash on hand. The bank has got to earn income. Hence, some of the items on the assets side are profit yielding assets.

They include money at call and short notice, bills discounted, investments, loans and advances, etc. Loans and advances, though the least liquid asset, constitute the most profitable asset to the bank.

Much of the income of the bank accrues by way of interest charged on loans and advances. But, the bank has to be highly discreet while advancing loans.

10.4 Safety or Security

Apart from liquidity and profitability, the bank should look to the principle of safety of its funds also for its smooth working. While advancing loans, it is necessary that the bank should consider the three 'C's of credit character, capacity and the collateral of the borrower.

The bank cannot afford to invest its funds recklessly without considering the principle of safety. The loans and investments made by the bank should be adequately secured. For this purpose, the bank should always insist on security of the borrower.

10.5 Diversity

The bank should invest its funds in such a way as to secure for itself an adequate and permanent return. And while investing its funds, the bank should not keep all its eggs in the same basket. Diversification of investment is necessary to avoid the dangerous consequences of investing in one or two channels.

If the bank invest its funds in different types of securities or makes loans and advances to different objectives and enterprises, it shall ensure for itself a regular flow of income.

10.6 Marketability of Securities

Further, the bank should invest its funds in such types of securities as can be easily marketed at a time of emergency. The bank cannot afford to invest its funds in very long term securities or those securities which are unsalable.

It is necessary for the bank to invest its funds in government or in first class securities or in debentures of reputed firms. It should also advance loans highly rated company/farms.

10.7 Stability in the Value of Investments

The bank should invest its funds in those stocks and securities the prices of which are more or less stable. The bank cannot afford to invest its funds in securities, the prices of which are subject to frequent fluctuations.

10.8 Principles of Tax-Exemption of Investments

Finally, the investment policy of the bank should be based on the principle of tax exemption of investments. The bank should invest in those government securities which are exempted from income and other taxes. This will help the bank to increase its profits. Of late, there has been a controversy regarding the relative importance of the various principles influencing the investment policy of the bank particularly between liquidity and profitability.

Appendix-VIII : Trading of Government Securities

11.1 Trading of Government Securities

Bank have a clearly defined and appropriate level of securities transaction authority to ensure that the bank's securities activities are appropriately undertaken and that securities positions do not exceed the limits established under its securities portfolio management policies. Approval limits may relate to type of security, size, maturity, or other criteria, such as the retention or delegation of voting rights acquired through securities. Authorities will be absolute, incremental or a combination thereof and also be individual, pooled, or shared within a committee. The delegation of authority is clearly documented and includes.

- a) The absolute and incremental securities transaction approval being delegated.
- b) The units, individuals, positions or committees to whom securities transaction authority is being delegated.
- c) The ability of recipients to further delegate approval authority.
- d) The restrictions placed on the use of delegated authority.

The degree of delegation of securities transaction authority will depend on a number of variables including:

- i. The bank's securities portfolio management objectives and overall risk philosophy.
- ii. The quality of the securities portfolio.
- iii. The ability of the bank to absorb losses.
- iv. The size and types of securities and the complexities of risks being assessed.
- v. The experience and ability of the individuals responsible for carrying out the securities portfolio management activities.

Assessments of the securities portfolio management activities to be presented to the bank's board on a timely basis for review.

11.2 Trading of G. Sec

11.2.1 Primary Auction

As a member of Primary Dealer the bank has obligation to purchase government securities from primary auction. The dealers have to take prior approval for participation in primary auction of Treasury Bills, Bonds, Bangladesh Bank Bills. Auction amount, obligations if any, yield, liquidity and market forecasting should be mentioned in notes.

11.2.2 Secondary Trading of G. Sec

The bank has a trading portfolio in government securities. The scope of selling securities in secondary market is limited. The bank has an opportunity to earn money by high yielding securities in liquid market. It can also make money from purchasing high yielding securities in decreasing trend of yield forecasting future liquid market.

G. Sec is considered as cash assets. Government securities can be liquidated at the time of liquidity crisis. The dealers are authorized to sale securities 0.01% loss compared to market price. For all transactions the dealers have to get prior approval from MD & CEO through line management case to case basis.

- a) In case of sale of Govt. Securities, the dealers (Dealing Room) should follow the under mentioned limits:

Fig. Taka Crore

Dealers Designation	Per day Trading Limit	Per day Stop/Loss Limit	Per deal limit	Per deal stop-loss limit
SPO	10.00	0.10	5.00	0.05
PO	5.00	0.05	2.00	0.03
SO	5.00	0.03	2.00	0.03
Officer	3.00	0.03	1.00	0.01

- b) In case of purchase of Govt. Securities, the dealers (Dealing Room) should follow the under mentioned limits:

Fig. Taka crore

Dealers Designation	Per day Trading Limit	Per deal limit	Remarks
SPO	10.00	5.00	purchase should be at market value or at discount
PO	5.00	3.00	purchase should be at market value or at discount
SO	4.00	2.00	purchase should be at market value or at discount
Officer	2.00	1.00	purchase should be at market value or at discount

Appendix-IX: Form & Format

FUND POSITION (PROVISIONAL) AS ON

Figure in Crore Tk.

[illegible]

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka

STATEMENT OF CALL LOANS TO BFIs

S.I. No.	Name of Institution	(Date)		(Date)		(Date)	
		Amount	Rate	Amount	Rate	Amount	Rate
Local Private Commercial Banks							
Foreign Commercial Banks							
Nationalized Commercial Banks							
Specialized Banks							
Totals							
Totals Weighted Average (%)							
Minimum (%)							
Maximum (%)							
Estimated Income (in Lac Taka)							

(Specimen)

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka

STATEMENT OF CALL LOANS BORROWINGS FROM OTHER BANKS
(Specimen)

SL No.	Name of Institution	(Date)		(Date)		(Date)	
		Amount	Rate	Amount	Rate	Amount	Rate

Totals Weighted Average (%)

Minimum (%)

Maximum (%)

Expense for call loan(s) availed (Lac Taka)

Today's profit from borrowing

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka

TERM PLACEMENTS as of _____
(Specimen)

S.I. No.	Name of Institution	(Date)		(Date)		(Date)	
		Amount	Rate	Amount	Rate	Amount	Rate
Banks							
Total:							
Non-Banks							
Total:							
Grand total:							

Summary:

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka
Structural Liquidity Profile

	Date.....							(In crore Tk.)
	CALL	2 - 7 Days	8 Days - 1 month	1 - 3 months	3 -12 months	1 - 5 years	more than 5 years	Total
ASSETS (INFLOW)								
Cash in hand (Lcy+Fcy)								
Balance with Bangladesh Bank (Lcy)								
Balance with B.B (Fcy)								
Balance with other banks and financial Institutions								
Money at call short notice								
Investment in G-SEC								
Other Investment(Share, Debenture & bond, MFU and others)								
Loans and Advances								
Bills Purchased & discounted								
Reverse Repo with Bangladesh Bank								
Reverse Repo with others								
Fixed assets including premises, furniture and fixtures								
Other assets								
Non-banking assets								
Other receives BKB								
Total Inflows								
Liabilities: (OUTFLOW)								
Borrowing from Bangladesh Bank (Refinances , etc)								
Repo/LS with Bangladesh Bank								
Repo with other banks & Fls								
Borrowing from other banks & Fls								
Money at call short notice								
Demand Deposit								
Savings bank deposit								
Fixed Deposit								
Bills Payable								
Provision and other liabilities								
Capital & Reserve								
Total Outflows								
Letter of Credit/Guarantees (Net of margin)								
Other OBS Items (Net of margin)								
Available Balance with BB (Fcy)								
Net Nostro a/c balance								
NET MISMATCH								
CUMULATIVE NET MISMATCH								

Medium Term Funding Ratio (MTF):

Maximum Cumulative Outflow (MCO):

Trends	%					
	CA LL	2 - 7 Days	8 Days - 1 month	1 - 3 months	3 -12 months	1 - 5 years
Demand Deposits withdrawal						
Savings bank Deposits withdrawal						
Letter of Credit/Guarantees (non-funded to funded)						
Other OBS Items (non-funded to funded)						

Signature

Name

Designation

Phone

MTF = (Total Liabilities one year and above)/(Total one year and above)

MCO = (Total outflows up to one month and Total OBS up to one month)/(Total Inflows+ Total Nostro a/c balance (Net) + Total availBKB Fcy with BB)

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka

MONTH-WISE INFLOW-OUTFLOW OF FOREIGN CURRENCY

1. For the Year _____
(Specimen)

Month	Inflow								Outflow								Net flow	
	Purchase		SWAP						Sale		SWAP							
	From BB	From IB	Buy/ Sale	Sale/ Buy	OD/TD	Overse as Remitt ance	Export Proceeds	Total	To BB	To IB	Buy/ Sale	Sale /Buy	OD/ TD	L/C s of BPC	L/C s other than BPC	servi ces Paym ent/R emitt ance		Total
Jan																		
Feb																		
Mar																		
Apr																		
May																		
Jun																		
Jul																		
Aug																		
Sep																		
Oct																		
Nov																		
Dec																		
Total																		

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka

TREASURY PERFORMANCE ANALYSIS (LOCAL CURRENCY)

SL No.	ITEMS	Y1	Y2	Y3	Y4	Y5	year to date
1	NET INCOME (2						
	- 3) Amount						
2	HEAD WISE INCOME						
	A. Bonds, Shares & Debentures						
	i. a) Sale of securities (Bills & Bonds)						
	b) Sale of shares						
	ii. BGTB (2 Years)						
	iii. BGTB (5 Years)						
	iv. BGTB (10 Years)						
	v. BGTB (15 Years)						
	vi. BGTB (20 Years)						
	vii. Govt. Securities (Others)						
	viii. Other Bonds						
	ix. Debentures						
	x. Dividend Warrant						
	xi. Others						
	Sub -Total						
	B. Treasury Bill						
	i. 30 days Bangladesh Bank Bill						
	ii. 91 days Bangladesh Bank Bill						
	iii. 28 days Treasury Bill						
	iv. 30 days Treasury Bill						
	v. 91 days Treasury Bill						
	vi. 182 days Treasury Bill						
	vii. 1 year Treasury Bill						
	viii. 364 days term Treasury Bill						
	ix. Reverse Repo (BB)						
	x. Inter Bank Repo						
	Sub -Total						
	C. Underwriting Comm.						
	D. Call Loan/Other Bank Deposit						
	i. Call Loan						
	ii. Other Bank Deposit						
	(FDR) Sub -Total						
	Grand Total						
3	HEAD WISE EXPENDITURE						
	i. Revaluation Loss						
	ii. Interest paid to B. Bank (Repo)						
	iii. Interest paid to other Bank (Repo)						
	iv. Interest. on Coupon Bearing Bond (Repo)						
	v. Call Loan						
	vi. Interest on purchase of securities						
	vii. Exp. A/C loss on sale of securities						
	viii. Loss on Amortization on HTM securities						
	Sub -Total						
4	NET INCOME {2(A+B+C+D) - 3}						
5	Monthly Average						

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka

Calculation of Loanable Fund

(Figure in crore)

Fund Inflow			Fund Outflow									Application s : Increase (+)/Decrease (-)
Sources : Increase (+) /Decrease (-)			Lending (Credit)	Cash in tills (Lcy+Fcy)	Balance e with Other Banks	Govt. Securities	Other Investment	Acquisi tions of Fixed Assets	Balance with BB		Net Nostro a/c Balance	Avail BKB Loan BKB Fund
Deposits Excluding Overnight Borrowing	Equity excluding non-funded Revaluation Reserves	Specific Provisions							FC CLG A/C	Tk. Current A/C		
												1

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka
Net Stable Funding ratio (NSFR)
Position: as on -----

SL	COMPONENTS :	Amount (in thousand Tk)
1	Regulatory Capital (Consolidated) :	
2	Customer Deposit (Excluding Financial Institutions) :	
a	Current (including 10% savings)	
b	Savings (90%)	
c	Fixed (1 month or less)	
d	Fixed (more than 1 month to less than 1 year)	
3	Deposit from financial institutions :	
a	Current	
b	Fixed (1 month or less)	
c	Fixed (more than 1 month to less than 1 year)	
4	Liabilities with a remaining maturity of one year or more (excluding those mentioned in 2 and 3)	
5	All other monetary liabilities (excluding those mentioned in 2, 3,4 above and amounts owed to financial institutions)	
6	Amount owed to financial institutions	
7	Residential Mortgages ,regardless of maturity, that qualify for the 50% RW under Basel II Standardized Approach	
8	Loans to non-financial client other than natural persons or small businesses with a residual maturity of less than a year	
9	Other loans to non-financial clients with remaining maturity of one year or more, that qualify for the 50% RW under Basel II Standardized Approach	
10	Loans to natural persons or small businesses with a residual maturity of less than one year	
11	All loans (excluding those mentioned from 7 to 10) and cost price of debt securities (excluding those issued by other Fis) with a residual maturity of one year or more	
12	Cost price of debt securities (excluding those issued by other Fis) with a residual maturity of less than one year	
13	Undrawn portion of lines of credit (continuous loans)	
14	Undrawn portion of lines of credit (term loans)	
15	Amounts outstanding of commercial letters of credit (settlement date within the next 30 days)	
16	Amounts outstanding of guarantees ,standby letter of credit, performance bonds, bid bonds, and similar instruments	
17	Debt securities ,regardless of maturity ,issued by other financial institutions (cost price)	
18	Fixed assets (Cost price)	
19	Other investments :	
a	Non-traded equity securities (cost price)	
b	Mutual unit fund (cost price)	
c	Capital provided to own subsidiaries	
d	Publicly traded equity securities (cost price)	
20	Loans to and deposits in other financial institutions in Bangladesh	
21	Loans to and deposits in other financial institutions outside Bangladesh	
22	Claims on Bangladesh Bank	
23	Cash in hand (Lcy+Fcy)	
24	All other assets not mentioned above	

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka
Liquidity Coverage ratio (LCR)
Position: as on-----

SL #	COMPONENTS :	Amount (in thousand Tk)
1	Customer Deposit (Excluding Financial Institutions) :	
	Current (including 10% savings)	
	Savings (90%)	
	Fixed (1 month or less)	
	Fixed (more than 1 month)	
2	Deposit from financial institutions :	
	Current	
	Fixed (1 month or less)	
	Fixed (more than 1 month)	
3		
4	Other borrowings and placement received	
5	All other monetary liabilities issued by the bank that do not fit into one of the above categories	
6	Undrawn portion of lines of credit (continuous loans)	
7	Undrawn portion of lines of credit (Term loans)	
8	Amounts outstanding of commercial letters of credit (Settlement date within the next 30 days)	
9	Amounts outstanding of guarantees, standby letters of credit, performance bonds ,bid bonds ,and similar instruments	
10	All contractual cash outflows within the next 30 days	
11	Loans to financial institutions, such as reverse repos, backed by assets that are considered high -liquid	
12	Loans to financial institutions backed by assets that are not considered high -liquid	
13	Principal and interest receive BKBs, on performing Term Loans, from all non-financial customers within the next 30 days	
14	Cash on hand(Lcy+Fcy)	
15	Balance with Bangladesh Bank :	
	a) Local Currency Total	
	Lien with BB as Capital	
	Lien with BB for other purposes	
	b) Foreign Currency Total	
	Lien with BB as Capital	
16	Value of unencumbered eligible Govt. Securities in HTM portfolio (T bill & T bond)	
	Value of securities marked as capital with BB	
17	Value of other unencumbered eligible Govt. Securities in HTM portfolio	
18	Market Value of unencumbered eligible Govt. Securities in HFT portfolio (T bill & T bond)	
	Market Value of securities acquired under Reverse repo	

Bangladesh Krishi Bank
Treasury Management Department
Head Office, Dhaka

Short Term dynamic Liquidity

	OUTFLOWS	Next Day	1-7 Days	8-29 Days	30-90 Days
1.	Net increase in loans and advances				
2.	Net increase in investments:				
	-Approved securities				
	-Bonds/Debentures/Shares				
	-Others				
3.	Inter-bank Obligations				
4.	Off balance sheet items Repos, swaps, bills discounted)				
5.	Others				
A	TOTAL OUTFLOWS				
	INFLOWS				
1.	Net cash position				
2.	Net increase in deposits(less CRR obligations)				
3.	Interest on investments				
4.	Interbank claims				
5.	Off balance sheet items (Reverse repos, swaps, bills discounted etc.)				
6.	Others				
B	TOTAL INFLOWS				
C	MISMATCH (B-A)				
D	CUMULATIVE MISMATCH				
E	CAS OF TOTAL OUTFLOWS				

Appendix X : GLOSSARY OF FINANCIAL TERMS

Asset-liability management

The task of managing the funds of a financial institution to accomplish the two goals: (1) to earn an adequate return on funds invested; and (2) to maintain a comfortable surplus of assets over liabilities; also referred to as surplus management.

Arbitrage

The act of taking advantage of a state of imbalance between two or more markets, wherein a combination of matching deals are struck to exploit the imbalance with the profit being the difference between the market prices

At par

A price equal to the nominal or face value of a security

Bad debt

A debt that is deemed uncollectible or is written off

Balance sheet

Also called the statement of financial condition, is a summary of a company's assets, liabilities and owner's equity.

Bank for International Settlements (BIS)

An international bank headquartered in Basel, Switzerland, which serves as a forum for monetary cooperation among several European central banks, the Bank of Japan, and the U.S. Federal Reserve System. Founded in 1930 to handle the German payment of World War I reparations, it now monitors and collects data on international banking activity and promulgates rules concerning international bank regulation.

Base rate

Interest rate charged by banks to their best corporate customers in Great Britain; it is the British equivalent of the prime rate in the United States.

Basis point

In the bond market, the smallest measure used for quoting yields is a basis point. Each percentage point of yield equals 100 basis points. Basis points are also used for interest rates. A bond's yield that increases from 7.00% to 7.50% would be said to have raised 50 basis points.

Blue-chip Company

Used in the context of general equities, it refers to a large and credit-worthy enterprise that has a long record of profit growth and dividend payment, and a reputation for quality management and wide acceptance of its products or services as well as its ability to make money and pay dividends. A blue chip stock is typically high-priced and has moderate dividend yields.

Bond

Any interest-bearing or discounted government or corporate security that obligates the issuer to pay the bondholder a specified sum of money, usually at specific intervals, and to repay the principal amount of the loan at maturity. When an investor buys bonds, he or she is lending money. Bondholders have an I.O.U. from the issuer but no corporate ownership privileges as stockholders do.

Bond discount

This is the amount by which the market price of a bond is lower than its face value. When opposite conditions exist and the market price is higher than face value, the difference is termed a bond premium.

Capital market

The market for trading long-term debt instruments, i.e., those that mature in more than one year ⁵⁷

Central bank

A country's main bank whose responsibilities include: the issue of currency; the administration of monetary policy including open market operations; holds deposits representing the reserves of other banks; and engages in transactions designed to facilitate the conduct of business and protect the public interest. In the U.S., central banking is a function of the Federal Reserve System.

Certificate of deposit (CD)

Also known as a time deposit, this is a certificate issued by a bank that indicates a specified sum of money has been deposited. A CD has a maturity date and a specified interest rate, and can be issued in any denomination. Maturities range from a few weeks to several years. Interest rates are set by competitive forces in the market place.

Commercial loan

A short-term (typically 90 days) renewable loan used by a company to finance seasonal working capital needs, such as purchase of inventory or production and distribution of goods.

Common stock

This refers to securities that represent equity ownership in a company. Common shares let an investor vote on such matters as the election of directors. They also give the holder a share in the company's profits via dividend payments or the capital appreciation of the security. These units of ownership of a public corporation have a junior status to the claims of secured/unsecured creditors, bondholders and preferred shareholders in the event of liquidation.

Consumer Price Index (CPI)

This is a measure of prices of a fixed basket of goods bought by a typical consumer, including food, transportation, shelter, utilities, clothing, medical care, entertainment and other items.

Cost of capital

This refers to the required rate of return that a business could earn if it chose another investment with equivalent risk – in other words, the opportunity cost of funds employed as a result of an investment decision. Cost of capital is also calculated using a weighted average of a firm's cost of debt and classes of equity.

Coupon bond

A bond featuring coupons that must be presented to the issuer in order to receive interest payments

Coupon rate

In bonds, notes, or other fixed income securities, this is the stated percentage rate of interest usually paid periodically in a year

Credit rating

Formal evaluation of an individual (or company's) credit history and capability of repaying loans and other obligations.

Credit risk

This is the risk that an issuer of debt securities or a borrower may default on its obligations, or that the payment may not be made on a negotiable instrument

Debt-equity ratio

This is an indicator of financial leverage, which compares assets provided by creditors to assets provided by shareholders.

Debt ratio

Total debt divided by total assets

Debt securities

Security representing money borrowed that must be repaid, and having a fixed amount, a specific maturity or maturities, and usually a specific rate of interest or an original purchase discount. Examples are bills, bonds, and commercial paper.

Dilution

This refers to the effect on earnings per share (EPS) and book value per share, if all convertible securities were converted, or all warrants or stock options were exercised.

Discount bond

Debt sold for less than its principal value; if a discount bond pays no coupon, it is called a zero coupon bond.

Discount yield

The yield or annual interest rate on a security sold to an investor at a discount. A bond that is sold at \$4875 that matures to \$5000 has a discount of \$125. To calculate the discount yield: <discount divided by the face value of the security> multiplied by <the number of days in the year divided by the number of days to maturity>.

Discounted cash flow (DCF)

Future cash flows multiplied by discount factors to obtain present values

Discounting

Calculating the present value of a future amount, discounting is the opposite of compounding.

Dividend payout ratio

Percentage of earnings paid out as dividends. In general, the higher the payout ratio, the more mature the company. In western economies, electric and telephone utilities tend to have the highest payout ratios, whereas fast-growing companies usually reinvest all earnings and pay no dividends.

Dividend policy

Standards by which a firm determines the amount of money it will pay as dividends

Dividend yield (stocks)

Indicated yield which represents annual dividends divided by the current stock price

DuPont system of financial control

The expression of return on assets (RoA) in terms of profit margin and asset turnover

Duration

A common gauge of price sensitivity of a fixed income asset or portfolio to a change in interest rates

Earnings per share (EPS)

This is an indicator of profitability, where a company's profit is divided by its number of outstanding shares. If a company earning \$2 million in one year had 2 million share of stock outstanding, EPS would be \$1 per share. Note: company's usually use a weighted average number of shares outstanding over the reporting term, especially if it issues new stocks during the period.

Earnings yield

This is the ratio of earnings per share, after allowing for tax and interest payments on fixed interest debt, to the current share price. This is the inverse of the price-earnings ratio, it is the total 12-months earnings divided by the number of outstanding shares, divided by the recent price multiplied by 100. The end result is shown in percentage terms. This ratio is used because it avoids the problem of zero earnings in the denominator of the price-earnings ratio.

Economic assumptions

General market environment parameters a firm expects to operate in over the life of a financial plan

Economic growth rate

The annual percent rate of change in the gross national product (GNP)

Economic income

Cash flow plus change in present value

Economic indicators

The key statistics of the economy that reveal the direction the economy is headed; for example, the unemployment rate and the inflation rate

Equity

Ownership interest in a firm Also, the residual monetary value of a futures trading account, assuming its liquidation is at the going trade price. In real estate, this is the monetary difference between what properties could be sold for and debt claimed against it. In a brokerage account, equity equals the value of the account's securities minus any debit balance in a margin account. Equity is also the shorthand for stock market investments.

European Central Bank (ECB)

The bank created to monitor the monetary policy of the 12 countries that have converted to the Euro from their local currencies, namely: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

Financial leverage

The use of debt to increase the expected return on equity, measured by the ratio of debt to debt plus equity

Financial leverage ratios

Common ratios are debt divided by equity, debt divided by the sum of debt plus equity. Related Capitalization ratios

Gearing

Financial leverage

Government securities (GS)

Negotiable securities, e.g., treasury bill s, bonds and notes, and savings bonds issued by government, which are considered among the safest instruments available as they are backed by the government

Gross Domestic Product (GDP)

The market value of goods and services produced by labor and property over time, GDP is made up of consumer and government purchases, private domestic investments, and net exports of goods and services.

Hedge/hedging

A strategy to reduce the risk of an investment a perfect hedge is one eliminating the possibility of future gain or loss.

Index

Statistical composite that measures changes in the economy or in financial markets, often expressed in percentage changes from a base year or from the previous period. Indices measure the ups and downs of stock, bond, and some commodities markets, in terms of prices and weighting of companies in the index

Inflation

The rate at which the general level of prices for goods and services is rising

Interbank rate

(See LIBOR)

Interest

The price paid for borrowing money. It is expressed as a percentage rate over a period of time and reflects the rate of exchange of present consumption for future consumption; also the share or title in property.

Interest rate risk

The chance that a security's value will change due to a change in interest rates (for example, a bond's price drops as interest rates rise). For a depository institution, this is also called a funding risk, i.e., the risk that spread income will suffer because of a change in interest rates.

Interest rate swap

This is a binding agreement between counterparties to exchange periodic interest payment on some predetermined principal amount, which is called the notional principal. For example, one party will pay fixed and receive variable.

Inverted yield curve

When short-term interest rates are higher than long-term rates, this is the anti-thesis of a positive yield curve.

Investment bank

A financial intermediary that will perform a variety of services, including aiding in the sale of securities, facilitating mergers and other corporate reorganizations, acting as brokers to both individual and institutional clients, and trading for their own accounts.

Lender of last resort

Characterization of a central bank's role in bolstering a bank that faces large withdrawals of funds, thereby maintaining the stability of the banking system which could be threatened if major banks were to fail.

LCR**Letter of credit (L/C)**

A form of guarantee of payment issued by a bank on behalf of a borrower

Leverage

This commonly refers to the use of debt financing. In investment banking, this may refer to any property of rising or falling prices at a proportionally greater amount than comparable investments; for example, an option is said to have high leverage compared to the underlying stock because a given price change in the stock may result in a greater increase or decrease in the value of the option.

Leverage ratios

Measures the relative value of stockholders, capitalization and creditors obligations, and of a firm's ability to pay financing charges; also, the value of a firm's debt to the total value of the firm (debt plus stockholder capitalization).

Liability swap

An interest rate swap used to alter the cash flow characteristics of an institution's liabilities, so as to provide a better match with its assets

Line of credit (LOC)

An informal or formal arrangement between a bank and a customer, allowing the customer to borrow up to a specified maximum during a specified period, usually one year

Liquidity

A high level of trading activity, allowing buying and selling with minimum price disturbance; also, a market characterized by the ability to buy and sell with relative ease

Liquidity ratios

Ratios that measure a firm's ability to meet its short-term financial obligations on time, such as the ratios of current assets to current liabilities

London Interbank Offered Rate (LIBOR)

This is the rate of interest that major international banks in London charge each other for borrowings. Many variable interest rates in the U.S. are based on spreads off LIBOR. By contrast with the bid rate LIBID quoted by banks seeking such deposits.

Macroeconomics

Analysis of a country's economy as a whole

Mark-to-market

Adjustment of the book value or collateral value of a security to reflect current market value

Market-book ratio

Market price of a share divided by its book value per share

Market capitalization

A measure of corporate size, this is the total value of all outstanding shares, computed as shares times' current market price.

Market value

- (a) The price at which a security is trading and could presumably be purchased or sold; or
- (b) What investors believe a firm is worth, calculated by multiplying the number of shares outstanding by the current market price.

Maturity

For a bond, the date on which the principal is required to be repaid; in an interest rate swap, the date that the swap stops accruing interest.

Merchant bank

A British term for a bank that specializes not in lending its own funds but in providing various financial services such as accepting bills arising out of trade, underwriting new issues, and providing advice on acquisitions, mergers, foreign exchange, or portfolio management

Microeconomics

Analysis of the behavior of individual economic units such as companies, industries, or households

Monetary policy

Actions taken by the Board of Governors of the Federal Reserve System, the European Central Bank and the Bank of England, to influence the money supply or interest rates

Money supply

- MI-A - Currency plus demand deposits
- MI-B - MI-A plus checkable deposit
- M2 - MI-B plus overnight repos, money market funds, savings and small (less than (\$100) time deposits
- M3 - M-2 plus large time deposits and term repos
- L - M-3 plus other liquid assets

Mortgage

A loan secured by the collateral of some specified real estate property that obliges the borrower to make a predetermined series of payments

Mortgage-backed securities (MBS)

Investment instruments backed by a pool of mortgage loans

Mortgage rate

The interest rate on a mortgage loan

Negative yield curve

When the yield on a short-term security is higher than the yield on a long-term security, partially because high interest rates are creating greater demand for short-term borrowing

Negotiated certificate of deposit

A large -denomination CD, generally \$100 million or more, that can be sold but cannot be cashed in before maturity

Net income

A company's total earnings, reflecting revenues adjusted for costs of doing business, depreciation, interest, taxes and other expenses

Net present value (NPV)

The present value of expected future cash flows minus the cost

Net worth

Common stockholders' equity which consists of common stock, surplus and retained earnings

Nominal interest rate

The interest rate unadjusted for inflation

Nominal yield

The income received from a fixed income security in one year divided by its par value. See also: Coupon rate

Non-performing asset

An asset that is not effectively producing income, such as an overdue loan

Notes to financial statements

A detailed set of notes immediately following the financial statements in an annual report that explains and expands on the information in the financial statements

NSFR

LCR or Liquidity Coverage Ratio is a new liquidity standard introduced by the BCBS (Basel Committee for Banking Supervision). 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.

Obligor

A person or party who has an obligation to pay off a debt.

Off-balance sheet financing

Financing that is not shown as a liability on a company's balance sheet

Open repo

A repurchase agreement with no definite repayment term, made on a day-to-day basis, and either the borrower or the lender may choose to terminate. The rate paid is higher than on an overnight repo and is subject to adjustment if rates move.

Ordinary shares

Apply mainly to international equities. Shares of non-U.S. companies traded in their individual home markets usually cannot be delivered in the U.S.

Overnight repo

A repurchase agreement with a term of one day

Par

Equal to the nominal or face value of a security; or a bond selling at par is worth an amount equivalent to its original issue value or its value upon redemption at maturity

Par bond

A bond trading at its face value

Par value

Also called the maturity value or face value; the amount that an issuer agrees to pay at the maturity date

Parallel shift in the yield curve

A shift in economic conditions in which the change in the interest rate on all maturities is the same number of basis points; In other words, if the 3-month T-Bill increases 100 basis points (1%), then the 6-month, 1-year, 5-year, 10-year, 20-year, and 30-year rates all increase by 100 basis points as well

Payout ratio

Generally, the proportion of earnings paid out to the common stockholders as cash dividends; more specifically, the firm's cash dividend divided by the firm's earnings in the same reporting period.

Peak

The high point at the end of an economic expansion until the start of a contraction

Portfolio

A collection of investments, real and/or financial

Positive yield curve

When long-term debt interest rates are higher than short-term debt rates (because of the increased risk involved with long-term debt securities)

Present value (PV)

The amount of cash today that is equivalent in value to a payment, or to a stream of payments, to be received in the future; to determine the PV, each future cash flow is multiplied by a present value factor. For example, if the opportunity cost of funds is 10%, the present value of \$100 to be received in one year is $\$100 \times [1 / (1 + 0.10)] = \91 .

Present value factor

Factor used to calculate an estimate of the present value of an amount to be received in a future period. If the opportunity cost of funds is 10% over the next year, the factor is $[1 / (1 + 0.10)]$.

Present value of growth opportunities

Net present value (NPV) of investment a firm is expected to make in the future

Price-book ratio

Compares a stock's market value to the value of total assets less total liabilities (book value); determined by dividing current stock price by common stockholder equity per share, adjusted for stock splits. Also called Market-to-Book

Price/Earnings ratio (PE ratio)

Current stock price divided by trailing annual earnings per share or expected annual earnings per share. Assume XYZ Co. sells for \$25.50 per share and has earned \$2.55 per share this year; $\$25.50 = 10 \text{ times } \2.55 . XYZ stock therefore sells for 10 x earnings. The PE ratio, known as the multiple, gives investors an idea of how much money they are paying for a company's earning power. The higher the PE, the more investors are paying, and therefore the more earnings growth they are expecting. High PE stocks those with multiples over 20, for example – are typically young, fast-growing companies. They are far riskier to trade than low PE stocks, since it is easier to miss high growth expectations than low-growth predictions. Low PE stock tend to be in low growth or mature industries, in stock groups that have fallen out of favor, or in old, established, blue- chip companies with long records of earnings stability and regular dividends. In general, low PE stocks have higher yields than high PE stocks, which often pay no dividends at all.

Prime rate

The interest rate at which bank lend to their best (prime) customers; more often than not, a bank's most creditworthy customers borrow at rates below the prime rate.

Rate of interest

The rate, as a proportion of the principal, at which interest is computed

Rate of return

Calculate as the <value now> minus <value at time of purchase> divided by the <value at the time of purchase>. For equities, dividends are often included with the value now.

Ratings

An evaluation of the credit quality of a company's debt issue by Moody's, S&P, and Fitch Investors Service; investors and analysts use ratings to assess the riskiness of an investment.

Ratio analysis

A way of expressing relationships between firms' accounting numbers and their trends over time that analysts use to establish values and evaluate risks

Real interest rate

The rate of interest excluding the effect of expected inflation i.e., the rate that is earned in terms of constant- purchasing-power. Also the interest rate expressed in terms of real goods, i.e., nominal interest rate adjusted for expected inflation

Realized profit (or loss)

A capital gain or loss on securities held in a portfolio that has become actual by the sale or other type of surrender of one or many securities

Real rate of return

The percentage return on some investments that has been adjusted for inflation

Redemption date

The date on which a bond matures or is redeemed

Reference rate

A bench mark interest rate (such as LIBOR) used to specify conditions of an interest rate swap or an interest rate agreement

Repo

This refers to an agreement in which one party sells a security to another party and agrees to repurchase it on a specified date for a specified price. See also: repurchase agreement

Required return

The minimum expected return one would need in order to purchase an asset, i.e., to make an investment

Retail credit

Credit granted by a firm to consumers for the purchase of goods or services

Retained earnings

Accounting earnings that are retained by a firms for reinvestment in its operations; earnings that are not paid out as dividends

Return on assets (RoA)

This is an indicator of profitability, determined by dividing net income for the past 12 months by total average assets. RoA, a percentage, can be decomposed into return on sales (net income/sales) multiplied by asset utilization (sales/assets).

Return on equity (RoE)

An indicator of profitability, determined by dividing net income for the past 12 months by common stockholder equity; also used as a measure of how a company is using its money. RoE may be decomposed into return on assets (RoA) multiplied by financial leverage (total assets/total equity).

Return on investment (RoI)

Generally, book income as a proportion of net book value

Reverse repo

In essence, this refers to a repurchase agreement. From the customer's perspective, the customer provides a collateralized loan to the seller.

Revolving line of credit (LOC)

A bank line of credit on which the customer pays a commitment fee and can take and repay funds at will. Normally, a revolving LOC involves a firm commitment from the bank for a period of several years.

Riding the Yield Curve

Buying long-term bonds in anticipation of capital gains as yields fall with the declining maturity of the bonds

Risk

Often defined as the standard deviation of the return on total investment, or the degree of uncertainty of return on an asset

Risk-averse

Describes an investor who, when faced with two investments with the same expected return but different risks, prefers the one with the lower risk

Risk-based capital ratio

This is a bank requirement that there be a minimum ratio of estimated total capital to estimated risk weighted assets.

Risk-free rate of return

The rate earned on a risk-free asset (e.g., T-bill)

Risk management

The process of identifying and evaluating risks, and selecting and managing techniques to adapt to risk exposures

Risk premium

The reward for holding the risky equity market portfolio rather than the risk-free asset; the spread between Treasury and non-Treasury bonds of comparable maturity

Risk-return trade-off

The basic concept that higher expected returns accompany greater risk, and vice versa

Risk-adjusted return

Return earned on an asset normalized for the amount of risk associated with that asset

Risk-free asset

An asset whose future normal return is known today with certainty, the risk-free asset is commonly defined as short-term obligations of the government

Savings deposits

Accounts that pay interest, typically at below-market interest rates, that do not have a specific maturity and that usually can be withdrawn upon demand

Secondary market

This is the market in which securities are traded after they are initially offered in the primary market. Most trading occurs in the secondary market. The New York Stock Exchange, as well as all other stock exchanges and the bond markets, are secondary markets. Seasoned securities are traded in the secondary market.

Securitization

The act of creating a more-or -less standard investment instrument, such as a mortgage pass-through security, by pooling assets to back the instrument; also refers to the replacement of non-marketable loans and/or cash flows provided by financial intermediaries with negotiable securities issued in the public capital markets

Shareholder's equity

This is a company's total assets minus total liabilities; also known as net worth

Short-term

Any investment with a maturity of one year or less

Soft landing

A term describing a growth rate high enough to keep the economy out of recession, but also low enough to prevent high inflation and interest rates

Sovereign risk

The risk that a central bank will impose foreign exchange regulations that will reduce or negate the value of foreign exchange contracts; also refs to the risk of government default on a loan made to a country to guaranteed by it

Spot interest rates

Interest rates fixed today on a loan that is made today

Spot rate

The theoretical yield on a zero-coupon Treasury security

Spread income

Also called margin income, this is the difference between income and cost. For a depository institution, this is the difference between the assets it invests in (loans and securities) and the cost of its funds (deposits and other sources)

Stakeholders

All parties that have an interest (financial or otherwise) in a firm – stockholders, creditors, bondholders, employees, customers, management, the community and the government

Standard deviation

The square root of the variance; a measure of dispersion of a set of data from its mean

Steepening of the yield curve

A change in the yield curve, where the spread between the yield on a long-term and short-term Treasury has increased; it can also be compared to flattening of the yield curve

Subordinated debt

Debt over which senior debt takes priority; in the event of bankruptcy, subordinated debt holders receive payment only after all senior debt claims are paid in full

Sustainable growth rate

Maximum rate of growth a firm can sustain without increasing financial leverage

Swap

An agreement in which two entities lend to each other on different terms, e.g., in different currencies, and/or at different interest rates (e.g., fixed and floating)

Term structure of interest rates

Relationship between interest rates on bonds of different maturities, usually depicted in the form of a graph often called a yield curve.

Time value of money

The concept that money today is worth more than in the future, because money received today can earn interest up until the time the future money is received.

Total debt-to-equity ratio

A capitalization ratio comparing current liabilities plus long-term debt to shareholder's equity

Treasury

Internationally, the U.S. Department of the Treasury which issues all Treasury bonds, notes and bills, as well overseeing agencies; also , the department within a company/bank that oversees its financial operations including the issuance of new shares

Treasury bills

Debt obligations of a government's treasury, that have maturities of one year or less (i.e., 91, 182, 182 days or 52 weeks)

Treasury bonds

Debt obligations of a government's treasury, that have maturities longer than 1 year and can be up to 10 years or more

Underwrite

To bring securities to the market; or to guarantee (as to guarantee the issuer of securities a specified price by entering into purchase and sale agreement)

Underwriter

A firm, usually an investment bank, which buys an issue of securities from a company and resells it to investors; or in general, a party that guarantees the proceeds to the firm from a security sale, thereby in effect taking ownership of the securities

Underwriting

Acting as the underwrite in the issue of new securities for a firm

Underwriting fee

The portion of the gross underwriting spread that compensates the securities firm for its services in underwriting a public offering

Underwriting syndicate

A group of investment banks that work together to sell new security offerings to investors; the underwriting syndicate is led by the lead underwriter

Unmatched book

If the average maturity of a bank's liabilities is shorter than that of its assets, it is said to be running an unmatched book. The term is commonly used with the Euro-market. It also refers to entering into over the- counter (OTC) derivative contracts and not hedging by making trades in the opposite direction to another financial intermediary; in this case, the firm with an unmatched book usually hedges its net market risk with futures and options.

U.S. Treasury bill

U.S. government debt with a maturity of less than a year

U.S. Treasury bond

U.S. government debt with a maturity of more than 10 years

U.S. Treasury note

U.S. government debt with a maturity of 1 to 10 years

Variable-rate loan

Loan made at an interest rate that fluctuates depending on a base interest rate, such as the prime rate or LIBOR

Weighted average cost of capital (WACC)

Expected return on a portfolio of all a firm's securities, used as a hurdle rate for capital investment. Often the weighted average of the cost of equity and the cost of debt; the weights are determined by the relative proportions of equity and debt in a firm's capital structure.

Yield

The percentage rate of return paid on a stock in the form of dividends, or the effective rate of interest paid on a bond or note

Yield curve

This is the graphic depiction of the relationship between the yield on bonds of the same credit quality but different maturities; also known as the term structure of interest rates. The yield curve can accurately forecast the turning points of the business cycle.

Yield curve strategies

Investments that position a portfolio to capitalize on expected changes in the shape of the Treasury yield curve

Yield to maturity (YTM)

The percentage rate of return paid on a bond, note or other fixed income security if the investor buys and holds it to its maturity date. The calculation for YTM is based on the coupon rate, length of time to maturity, and market price. It assumes that coupon interest paid over the life of the bond will be reinvested at the same rate.

Zero-coupon bond

A zero-coupon bond, also known as an "accrual bond," is a debt security that doesn't pay interest (a coupon) but is traded at a deep discount, rendering profit at maturity when the bond is redeemed for its full face value.

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