

## Open Market Operation and Bangladesh Bank Role for Financial Development

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### Abstract

*Central bank is a natural place of research. Mostly Bangladesh Banks (BB) data is used to resolve the solution related to open market operation (OMO) and debt management tools. OMO is pursued by the BB to maintain the orderly situation of liquidity arising from assets and liabilities of banks. Excess liquidity distorts the price stability and makes availability of local currency against foreign currency depreciating Taka. Liquidity shortage rise inter-bank call money rate and interest rate. BB has ability to dry up the market mopping up excess liquidity using OMO tools creating demand for Taka and fixing the desired exchange rate, interest rate and inflation. Excess reserves arise from banks balance of local currency in the BB deducting cash reserve requirement (CRR). Total liquidity calculated summing cash in tills includes Taka balances with Sonali bank plus balances with BB and unencumbered approved securities. Excess liquidity resulted deducting required liquidity (SLR) from total liquid assets. Central banks own instrument Repo, Reverse repo, BB Bills and foreign exchange sale/purchase are the tools of OMO. Debt management deals with auction of government treasury bills and Bangladesh government treasury bonds (BGTB) for deficit financing from the banking system to implement the annual development plan (ADP). Bills and bonds transactions are based on market yields and leaving little room for financial repression. BB uses its own instruments allowing separation of budgetary and monetary policy objectives. OMOs commonly get plenty of advantages for maintaining financial stability as policy variable.*

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## Prologue

This article expressed critical and burning OMO issues in a lucid manner. According to quantity theory money is a function of price assuming GDP and velocity as constant. Money multiplier (MM) arise dividing broad money (M2) by Reserve Money. BB control M2 through MM. Reserve money consists with Reserves of banks with BB and currency in circulation. In this respect our main concern is to impact Excess Reserves, which arrives deducting CRR from DMBs balance with BB. Excess Reserves to manage MM is influenced by autonomous factors and policy factors. Autonomous or random factors consist with change in net foreign assets (NFA), change in currency in circulation, change in government assets and liabilities position, and change in other item. Change in NFA increases the liquidity. Decrease of currency outside banks increase the liquidity and increase of currency outside banks decrease the liquidity. Government receipt decreases the liquidity and payment increases the liquidity of banks. Policy factors include Repo, Reverse repo, foreign exchange sale/purchase and BB bills. Foreign exchange purchase from the banks, repo and loan to banks increases the liquidity. Foreign exchange sale, BB bills and reverse repo decrease the liquidity of banks.

Primary auction of securitised product bills and bonds of the government in secondary trading provides momentum to BB to develop the financial market. BB as lender of last resort first allows the money market to mobilize liquidity. The needy banks try to acquire liquidity from the inter-bank market. BB invites authorised dealers to participate in the tender in order to maintain the market rate. BB participates in the primary market on residual amounts, not accepted by market participants, to meet the government's budgetary need. BB fixes the rate like the US Fed to develop the yield curve applying discretion and encouraging inter-bank transaction. In the secondary market BB gradually increases the amount of securities holdings. There is a pool of securities held by banks for buying and selling in the secondary market. Implicitly government utilize the time cycle to finance the government's non development budget (revenue budget). Altogether Bangladesh foreign exchange dealers association (BAFEDA) has recently introduced DIBOR (Dhaka inter bank offered rate) in the credit market of Bangladesh for investment decision. Bank rate, yield curve, overnight and NSC rates are already in shape. **These rates are used to create capital assets in the country.** BB is responsible to conduct monetary policy, which is recognised by law. The primary function of BB is to judiciously regulate the money supply, which has the ability to impact all macroeconomic variables with a certain time lag. For instance, if BB wants to rouse the market it may follow an expansionary

monetary policy. By lowering the bank rate, BB can stimulate the demand for credit by the private sector. A rise in employment and income in the private sector will influence the price level. Banks take notes and coins from BB against individual deposits. To meet the transaction demand banks hold excess reserves with BB. A private company is also capable of issuing bonds allowing the market variability. Liquidity, information and agency problem impact their investment decision to create capital assets. As a result, moral hazard, hidden action and asymmetric information have a role in increasing classified loans in the credit market. Accordingly a crucial objective of monetary policy is to pursue price stability and real GDP growth.

A brief survey of the available literature on monetary policy stance is presented in section-I. Section-II deals with monetary base and Open Market Operation (OMO). BB, European Central Bank (ECB) and Fed policies are discussed in section III. Some functions of the BB compared to Fed are elaborated in section IV. The Monetary Policy Framework of Bangladesh can be found in section V. A brief conclusion appears in section VI.

## **Section-I**

### **A brief survey of the literature on monetary policy stance**

Over last two decades BB has been able to contain the inflation rate contributing private capital movement. Monetary policy and credit management are crucial specially to address the issue relating to financial innovations, leverage, risk-reward feature of credit market and moral hazard due to asymmetric information. As a result, a question arises - do central banks work independently? For this reason even the most important function of Central Bank as a lender of last resort (LOLR) is not straight forward to address. The implicit guarantee to the commercial banks is another criticism of central bank because it may provide large banks an unfair advantage over their competitors.

The LOLR, among others, allows the deposit money banks (DMBs) and financial institutions to operate with the desired equity ratio in their balance sheet. Central banks usually determine the interest rates considering business cycle and inter-bank market. The central bank provides credit only to the needy banks. This is how the central bank truly acts as a lender of last resort for the development of the financial sector. To get the BB facility the commercial banks are required to maintain some reserves. Cash reserve requirements (CRR) are taxing for the DMBs, and hence, banks may increase the spread between lending and deposit

rates resulting in adverse selection in loans and advances and high financial intermediation cost. For that reason, paying interest on reserves or reducing the amount of CRR is another challenge of the BB ensuring financial deepening. Banks' portfolio comprises earning and non-earning assets considering the risk due to uncertainty.

Cyrill Monnet and Warner E. Webber in their article 'Money and Interest Rates'<sup>2</sup> have shown that money growth and interest rates move in opposite direction as long as the inflation target remains unchanged. To accommodate this problem Central Banks may concentrate in asset pricing because, according to Dr. Peter Warburton (City Economist London), unplanned monetary growth may lead to excess purchasing power which drives forward markets based on underlying property and financial assets (where the opportunities for capital appreciation are usually the most obvious) and spill over to goods, services, labour and physical capital markets in varying degrees. From a critical point of view this may again raise the question about central bank's capability in crises management- but who causes them<sup>3</sup>? In light of all these, an attempt is made in this article to shed light on the monetary policy of Bangladesh Bank.

According to the Bank of England's 'transmissions mechanism of monetary policy'<sup>4</sup> in essence, the Bank believes that monetary policy is involved in fixing short-term interest rate which then gives signal to the rest of the economy through market determined rates, such as mortgage rates, asset prices, business and consumer confidence, and the exchange rate. These in turn, affect home demand and net exports, with the price level ultimately being determined by unit labour costs, the ratio of total demand to potential supply, i.e., the 'output gap', and the price of imports.

In UK banks protect the depositor through insurance, for example the Federal Deposit Insurance Corporation Improvement Act (FDICA) 1991<sup>5</sup>. It is generally argued that 'Too Big to Fail' (TBTF) encourages moral hazard for large banks assuming greater risk in maintaining portfolio. In this regard a former Deputy Governor of Bank of England Howard Davis argued that if the state guarantees the existence of individual banks, it can encourage irresponsible behaviour. The

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<sup>2</sup> Published in Federal Reserve Bank of Minneapolis Quarterly Review Fall 2001

<sup>3</sup> Dr. Peter Warburton- 'The ambiguous role of central banks in the global financial system'

<sup>4</sup> Published in quarterly bulletin May 1999

<sup>5</sup> Financial Stability and Central Banks- 'Selected Issues For Financial Safety Nets And Market Discipline' Liisa Halme, Christian Hawkesby, Julliette Healey, Indrek Saapar and Farouk Soussa, Bank of England 2000.

prize for taking excessive risk may – if things go well – be excess returns, while if things turn out badly, the state steps in and picks up the tab. This is known as a one-way bet. Furthermore, the managers at big banks may prefer riskier portfolio than small banks *ceteris paribus*, but it does not necessarily imply that big banks in practice have greater portfolio risk than small banks. This is because big banks, by virtue of their size, benefit from factors that reduce the level of their portfolio risk vis-à-vis small banks. Big banks benefit from better investment opportunity. New generation banks, with limited funds to invest, may have investment opportunities that are limited to small businesses and individuals. Since such lending is typically more risky than that to larger corporations (which big banks have the funds to lend to), this suggests that new generation banks may have less diversified portfolio. If central banks regulate price risk so that the greater risk is reflected in higher capital for example, the incentive to take greater risk may be reduced. Monitoring of risk by the authorities also limits the ability of banks to take greater risk (Financial Stability and Central Bank- Bank of England 2000).

This has changed with the adoption of inflation targeting by central banks, which BB is trying to implement. Note also that Adam Posen casts doubt on whether causality runs from central bank independence to improve macroeconomic performance in central bank. (Independence and Disinflationary Credibility: A Missing Link?, NY Fed Staff Report, May 1995). Granting central banks independence is widely assumed to decrease inflation by increasing the credibility of commitments to price stability.

## Section -II

### Monetary base and OMO

Monetary base or Reserve Money (RM) from liabilities side consists (1) deposit money banks' (DMBs) balance at BB, (2) foreign currency clearing accounts balance and (3) local currency, including bank notes and coins. RM of Bangladesh is shown in **Table 1**. DMBs (banks) maintain accounts at BB for check clearing requirement arising from inter-bank transfer of deposits. Debit and credit cards are also used with respect to intra-bank transaction. Securities transfer of the stock market like money market also results money transfer under clearing system. Consequently, each bank holds reserves against deposit at BB to cover the checks written by the depositors. Considering overall liquidity BB implements OMO. Normally inter-bank lending market serves to redistribute bank reserves from creditor to debtor. When aggregate bank lending increases (dried up of liquidity) the central bank adds reserves in order to maintain the inter-

bank rate within target. BB does so by buying Treasury securities from the banks using repo. The reverse repo is the synonymous of selling treasury bills and bonds from the BB. More effectively BB uses its own Bangladesh Bank bill for liquidity management. BB uses Foreign exchange sale/purchase prudently in order to monitor the excess reserves of banks. Shortfall of excess reserves increases the inter-bank call money rate. Control of the short-term interest rate is the primary monetary policy target of the BB. Cut-off rate is the price of bills and bonds which BB gets from the auction.

Local currency account is the largest component of RM. The amount of currency in circulation depends on how the public chooses to divide its money between bank deposits and cash. Cash is non interest-bearing and is normally held for transaction purpose. As the economy grows, there is an increasing demand for cash along with plastic money. Withdrawals of cash reduce a bank's reserves at BB, which forces the central bank to freshen those reserves in order to preserve its interest rate target. In effect, when banks need more cash, it sells some treasury securities to the BB.

BB controls the clearing system and influences the economy in greater extent through policy. BB intervenes in money markets with certain intervals facilitating transactions. In terms of effective clearing mechanism and the role of lender of last resort BB has the ability to lower the share of banks notes and coin in reserve money (RM) over time. Furthermore, RM comprises currency in circulation, local currency balance with BB, including CRR and statutory liquidity requirement (SLR), and foreign currency in the FC clearing account. Money balance with BB exceeding CRR is excess reserves (**Table-1**). Growth of currency in circulation by BB is broadly balanced with Net international Reserve (NIR) policy variable (Table 2).

Table 1 : Reserve Money Excess/ Short fall

(In billion Tk.)

	Notes a	Notes and coins b	in circulation I= (a+b)	Curre A/C II	clearing A/C III	IV=(I+I I+ III)	V	shortfal of CRR VI=(II- V)
29/10/09	410.7	4.9	415.6	212.3	58.5	<b>686.5</b>	141.7	70.5
30/11/09	489.6	4.9	494.5	174.8	59.3	<b>728.5</b>	143.7	31.0
01/12/09	486.4	4.9	491.3	180.9	59.8	<b>732.0</b>	146.2	34.6
14/12/09	457.6	4.9	462.6	182.7	60.7	<b>706.0</b>	146.2	36.4

**Source:** Key monetary indicator, Monetary Policy Department, BB.

Table 2 : Movement of NIR, NDA and Reserve Money

(in billion Tk.)

Particulars	30/06/08	30/06/09	30/09/09
Net International Reserves (NIR)	<b>278.0</b>	<b>354.5</b>	<b>442.1</b>
Net Domestic Assets (NDA)	<b>197.6</b>	<b>273.0</b>	<b>237.0</b>
Domestic Credit	312.7	332.1	273.7
Claims on Govt. (net)	245.4	270.6	213.3
Claims on non-fin Public enterprise	0.5	0.5	0.5
Claims on DMB	66.8	61.0	59.8
Other items (net)	-115.1	-59.1	-36.6
Reserve Money <sup>1/</sup>	<b>475.6</b>	<b>627.4</b>	<b>679.1</b>
Currency	356.5	394.5	447.2
Reserves	119.1	233.0	231.9

**Source:** Key monetary indicator, Monetary Policy Department, BB

1/Excluding Foreign Currency clear accounts liabilities of Tk. **59.82** billion, government on lending fund and other public deposits with BB.

BB's recent measures for strengthening government domestic debt management among others are as follows:

- a. Cash and debt management committee (CDMC) formation comprising Ministry of Finance and Bangladesh Bank high officials.
- b. Separation of cash management and debt management of government.
- c. Enhancement of government borrowing limit from BB at Tk.1000.00 crore from Tk. 64.00 crore and introduction of overdraft facility of government in case of excess cash borrowings.
- d. Financing of budget deficit through treasury bonds, issuing of treasury bills and treasury bonds according to the pre-announced amount and schedule.
- e. Introduction of 15 and 20-year term treasury bond (BGTB) through auction along with 5 and 10-year bonds from FY 2007-08 to attract fund from insurance company, provident fund and other long term depository institutions.
- f. Advance tax cutback on government securities and introduction of trading window of BB. Introduction of amended guideline for bank companies' securities holdings (Treasury bill and bond) revaluation. "Debt Management Department" has been established at BB for maintaining operation of government debt and development of secondary market.

Moreover, formation of Primary Dealers Association and determination of underwriting obligation through auction for Primary Dealers from July 2007 and payment of underwriting commission against the same has been introduced.

### **The rationale and extent of BB's participation in the primary and secondary markets in treasury bills and bonds**

Bangladesh Bank's role as banker and debt manager of the government is based on Article 20 of Bangladesh Bank Order 1972, agreement between Ministry of Finance (MOF) and Bangladesh Bank (BB) on 10 September 1985 and Article 3 of Treasury rule appendix 1.

Key features of regulation of primary market and potential secondary market prevailing in Bangladesh for securities (government bills and bonds) transaction are as follows:

#### **Primary Market**

Government bills and bonds are tendered through regular auction. This primary market comprises, among others, 15 Authorized Primary Dealers. Dealers and others participate in the auction on a competitive basis, fixing price or yield rate based on face value (par value). BB participates in this market for maintaining the desired yield curve on residual amount not accepted by the market participants.

#### **Secondary Market**

BB's holding can be increased by using buying and selling mechanism of the existing level of holding of securities of the total assets, compared to other central banks in this region. BB works closely with other money market participants for pricing the bonds and trading mechanism. To facilitate secondary market BB broadly considers reserve money growth, liquidity position and economic cycle.

Introduction of debt buybacks is an important new tool for treasury management of public debt. Debt buybacks have several advantages. They enhance liquidity of treasury benchmark securities, which promote overall market liquidity and help reduce the government's interest cost, preventing potentially costly and unjustified increase in debt.

#### **Bangladesh Bank's debt management strategy largely focuses on**

- Ensuring funds to meet the government budgetary operations accommodating short term and long term objectives.



- Risk maintenance of debt securities, balancing bills and bonds rates in portfolio selection of the government treasury.
- Framing long term fund base with respect to fixed and floating rates bearing in mind cost minimization and liquidity.
- Easing market rigidity fostering technological and manufacturing industry capital base as development concern of the country.
- While deriving yield curve BB also considers concavity and convexity of time path arising from interest rate risk.

### Section-III

#### **BB, European Central Bank (ECB) and Fed policy coherence**

BB uses its own security (Bangladesh Bank bill) allowing separation of budgetary and monetary policy objectives. OMOs commonly get plenty of advantages for maintaining financial stability as policy variable. This policy is flexible in terms of amount and market timing. It enhances the repurchase agreement (repo) and reverse repo operations. Transactions are based on market yields and leaving little room for financial repression. Consequently, BB develops secondary market to create orderly situation in the financial market.

Monetary policy would be immaterial if real GDP growth and prices behaved accordingly. Causal effects demonstrate that to promote GDP and control prices monetary policy has an important role. Description of monetary policy using Tobin's argument called *grease effect* and the term 'sand' refers to Friedman's characterization of the effects of inflation. In our analysis real GDP growth is substitute of labour market due to rigidities. Favourable change in wage and real GDP in terms of inflation creates grease effect. If the GDP or wage doesn't absorb the shock of inflation then sand effect occurs. Monetary policy moves with both nominal rigidities and economic shocks are described in **Table 3**.

Monetary policy will be costly if the change is inelastic accommodating sand effect. Differences in the type of shocks and rigidities built into the country's price and real GDP influence the optimal policy. Without shocks and rigidities in the economy monetary policy is irrelevant. As a result economists put efforts to learn from rigidities and shocks. BB depresses the growth of high-powered money (RM) increasing the interest rate for the welfare of the economy. A change in the bank rate works with a certain time lag and does not impact the net domestic

Table 3 : Sand and grease effects

	Sand	Grease
Rigidities	Symmetric: menu cost; Forecast disagreement (uncertainty); timing rigidities	Asymmetric: downward nominal rigidity (money illusion, nominal contracts, fairness)
Shocks	Nominal, aggregate price Movements	Real GDP, relative wage/price shocks
Inflation's welfare effects	Disruptive-distorts relative wages and prices, misdirecting resources	Beneficial-speeds wage and price adjustments, redirecting resources quickly
Limits of welfare effects	Non or cost of indexation	Size of real shocks
Price or wage differentials affected	Intra-market (within products/skill-groups, across companies)	Inter- market (across products, inputs or skill groups)

**Source:** National Bureau of Economic Research, Inc USA Working Paper 7482

assets (NDA) in an exact manner. Moreover, if the commercial banks change their excess reserves substantially, then broad money (M2) changes not merely through a change in the amount of seed money but due to the change in money multiplier (M2/RM).

To maintain favourable terms of trade monetary authority intervenes in the foreign exchange market according to the need. In general BB timely intervenes protecting the exchange rate as well as the par value of Taka. Foreign exchange reserves are also maintained by timely decision taken by the monetary authority, which influences the export and import of the country. The growth in exports and import substitution led the current account balance less vulnerable from external shocks.

Higher amount of foreign exchange reserves and low levels of inflation maintained by the BB raises public confidence for investment. Deregulation and qualitative change in policy relating to convertibility of money contributes to the development of financial innovation and dropping down the interest rates. These contribute to industrial development and raise competitiveness in global markets.

In addition to analysing the usefulness of central bank we may look into the ECB's monetary policy<sup>6</sup>, which consists of two 'pillars'. The first 'pillar' is a prominent role of money, signalled by the announcement of a quantitative

<sup>6</sup> This analysis is extensively based on excerpts from the publication 'The Monetary Policy of the ECB', European Central Bank, 2001.

reference value for the growth of the broad monetary aggregate M3. This quantitative value is not a monetary target, but a reference value that allows for the close analysis of monetary developments in the euro area in the context of other economic data and the monetary policy response intended to address the threats to price stability identified by such analysis. The first ‘pillar’ comprises also the regular analysis of other monetary and financial variables, namely the developments in the components of M3 (for example, cash circulation) that may offer an insight into the overall change in M3.

The second ‘Pillar’ refers to the assessment of a wide range of other economic and financial variables, in order to understand relevant factors that may affect price developments in the shorter term. Under the second ‘pillar’, the ECB regularly reviews developments in overall output, demand and labour market conditions, in a broad range of price and cost indicators, and fiscal policy, as well as the balance of payments for the euro area. Also, developments in financial market indicators and asset prices, and the exchange rate, are monitored. The second ‘pillar’ comprises, moreover, the preparation of macroeconomic projections that help to underpin the forward-looking monetary policy, and provide a platform for the integration of economic analysis in a coherent and internally consistent way.

### Central bank and money market equilibrium

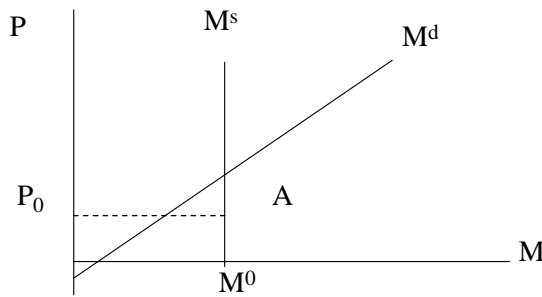
We can try to address the issue using equations (Sachs- Larrain 1993, Part III Monetary Economics) mentioned below:

$$D^g - D^g_{-1} = (Mh - Mh_{-1}) + (D^g_p - D^g_{p-1}) - E(B^*_c - B^*_{c-1})$$

This equation says that there are essentially three ways to finance **budget deficit** (annual development program minus revenue surplus),  $D^g - D^g_{-1}$  (a) by an increase in **reserve money**,  $Mh - Mh_{-1}$ ; (current – previous) (b) by an increase in the **public holdings** of Treasury bonds,  $D^g_p - D^g_{p-1}$ ; or (c) by a **loss of foreign exchange reserves** at the central bank,  $E(B^*_c - B^*_{c-1})$ . We now have **budget line** consolidated public sector because it puts together the borrowing from the domestic (bank and non-bank) and international sources. In the United States, the treasury pays interest to the Fed on the debt that the Fed holds. Thus, the treasury really pays interest only on the debt held by the public. Additionally, the Fed transfers to the Treasury the interest on bonds, including foreign exchange reserves earnings. In Bangladesh BB assumes government liabilities above of set limit and gradually offload to the financial institution and ultimately to the public. Simply, interest amount on bonds and bills is government paid and BB’s profits are credited to the government account.

Elaborately if BB makes an open market purchase of bonds, it in turn increases the high powered money (RM) as was the result of the US central bank Accord of 1951 mentioned next. At primary stage of income, interest rates and prices, there would be an excess supply of money. How would the money market reequilibrate? This is a complex factor and could be reached by at least four different means: (i) a rise in prices, which would raise the demand for money to equal the higher money supply (ii) a fall in interest rates, which would also raise money demand by declining income velocity of money (GDP/M2) (iii) a rise in income, which would raise the money demand or (iv) an endogenous fall in money supply, which would bring the money supply back down in line with demand for money. At final stage, some combination of these events could occur, with combined effects, partly raising demand for money and partly lowering money supply back toward its original level (**Figure 1**).

Figure 1 : A Representation of Equilibrium in the Money Market



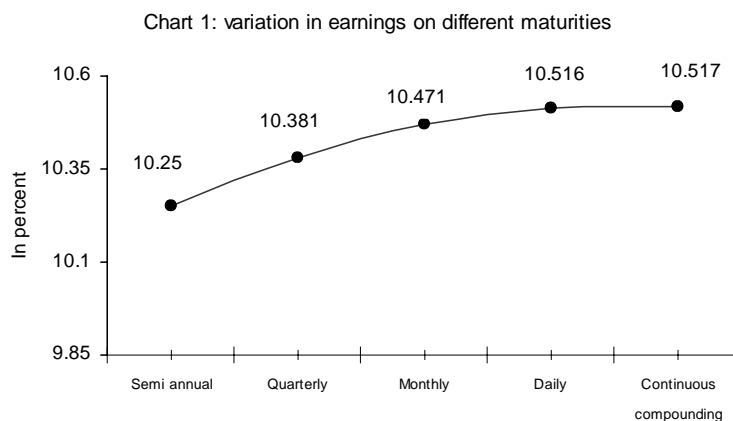
**Numbering effect in interest rate calculation and graph under monetary framework**

In money supply interest rate calculation impact need to be illustrated. Interest rate represents time value (t) + inflation + opportunity cost of money includes administrative cost (**Table 4**). Calculated rates (**Chart 1**) relating to different maturities in terms of time period can be illustrated as:

Principal amount =Tk.100  
 Interest Rate 10 percent  
 Time = t

Table 4

Semi annual	Quarterl	Monthl	Daily	Continuous compounding
$100*(1+(0.1/2)^2)$ Tk.110.25	$100*(1+0.1/4)^4$ Tk.110.3813	$100*(1+0.1/12)^{12}$ Tk.110.4713	$100*(1+0.1/360)^{360}$ Tk.110.5156	$100*e^{(0.1)}$ Tk.110.5171



#### Section-IV

##### Some functions of the BB as compared with the Fed

In USA the Fed lends to the banks for short-term through **discount window**. One of the pricing mechanisms is that the discount rate is set 100 basis points above the targeted Fed funds rate. Banks can generally borrow at a lower rate from the money market and hence they use the discount window cautiously. **Target rate:** the Open Market Committee of the Federal Reserve (FOMC) sets the target rate for Fed funds. This is the only effective means for controlling the demand for credit, and the rate of growth of money supply. **Money balances:** the US Treasury maintains accounts with the Fed and with the commercial banks for transactions. According to Accord 1951 the Fed bought whatever securities the Treasury could not sell to the public at a pegged rate of interest. The accord ended the inflationary pressure resulting from the creation of excess reserves of the banking system, which BB is experiencing now. **Notes and coins:** Federal Reserves notes in various denominations up to a maximum amount of \$100 are the only form of paper money. Banks purchase notes and coins at face value from the Fed and issue them to customers in exchange for debits against their deposits for bringing momentum in the financial sector.

For clarity we may discuss the role of Fed, for example, for smoothing financial mismanagement and asset pricing bubble. The Fed controls the **fund rates** through its open market operations, buying or selling short term securities. This adds or mops banking system resources as needed to balance supply and demand at its chosen target rate. Banks temporarily short of resources may borrow directly from the Fed's discount window.

### **Defining and measuring money as asset and liability to conduct monetary policy**

There are misconceptions in identifying and measuring money. Besides the definitional problem, one has to face the operational problem relating to complexity of business as well as financial development. For instance, if we include the Post Office deposit in M3 then we need perfect balance sheet of that institution. Otherwise, the monetary aggregates will not be accountable. We may discuss the basics of this agenda in the next sections in a straightforward manner.

For clarity we can highlight extensively the Fed's approach in defining money. Money is the token that is broadly established as a medium of exchange. The token can be physical like a coin or a note, or intangible like credit. If the token is exchangeable on demand into a commodity like an ounce of gold or a bushel of rice, the token is recognized as **commodity money**. An expensive metal coin is a token convertible into the bullion that comprises it. This means that the intrinsic value of the token coincides with its value as a commodity. **Fiat money** is identified as inconvertible. It must depend on some other mechanism to maintain a positive exchange value if the intrinsic value is not there. All modern money systems occupy fiat money. To understand modern money one must therefore avoid thinking of money in terms of a commodity. The viability of a fiat money system depends on the policy and actions of the issuer, normally the **central bank** of a country. It is not only a conceptual issue but the financial innovation is also challenging in defining the status of money.

Based on conceptual considerations and empirical studies, and in line with international practice, BB has defined a narrow aggregate (M1), an "intermediate" aggregate (M2) and a broad aggregate (M3) following the Euro system. These aggregates differ with regard to the degree of moneyness of the assets included. **Table 5** shows the definitions of BB monetary aggregates in terms of liabilities.

**Table 5**

	<b>Definitions of monetary aggregates in terms of liabilities</b>		
	<b>M1</b>	<b>M2</b>	<b>M3</b>
Currency outside banks, including cash in tills	*	*	*
Net position of deposit money banks (DMBs)		*	*
Statement of affairs of BB supplemented by government transaction with the IMF		*	*
Net of non-bank depository corporations (NBDCs) and National Savings Schemes			*

Source: Monthly Economic Trends, November 2009

\* = includes

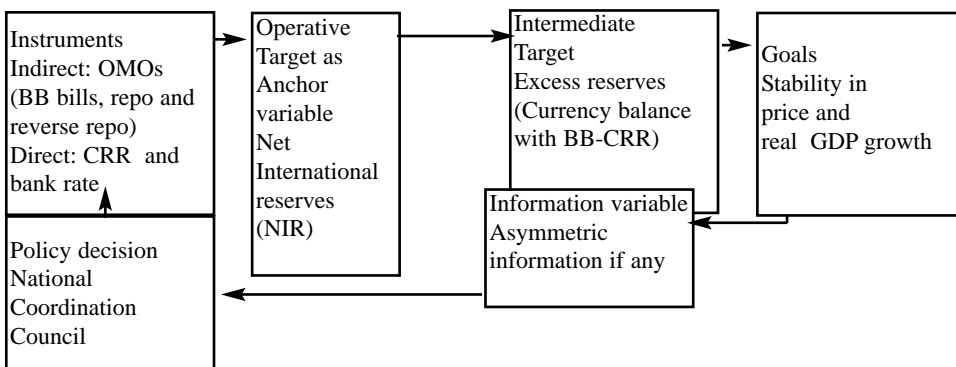
Narrow money (M1) includes banknotes and coins issued, demand deposit and balances, which can immediately be converted into currency. Broad money (M2) comprises narrow money (M1) and time deposits of commercial banks. Depending on their degree of moneyness, such deposits can be converted into components of narrow money, but in some cases there may be restrictions involved, such as the need for advance notification, delays, penalties or fees.

Broad money (M3) qualifies liabilities and assets of Deposit Money Banks (DMBs), Non-bank Depository Corporation (NBDCs) and national savings scheme. Considering liquidity and certainty in returns, this money is included in M3 base. It is categorically a substitute of deposit and possesses the inherent quality of liquidity of certain degree.

### Section V

#### The Monetary Policy Framework of Bangladesh

Monetary policy framework refers to a logical and sequential set of actions that a central bank has to design. BB wants to achieve certain goals but cannot directly influence the goals. BB has a set of tools at its disposal that can affect the goals with time lags. BB waits to see the effect of the tools on the goals and sometimes it is highly likely to be too late to make any corrections in the policy. That is why it targets some variables that lie between tools and goals which it can influence and monitor very closely. Thus a central bank needs to carefully decide its strategy for conducting monetary policy. In the **flow chart**, instruments and goals are on the two ends and the targets are in between. The targets are further classified as operational and intermediate targets. The central bank also keeps an eye on information variables to make policy decision.



An instrumental variable is one that can be directly controlled by the BB. After deciding goals BB chooses a set of variables called operational target (NIR) as anchor variable and intermediate targets (excess reserves), which can affect the ultimate objectives (goals). Monetary instruments that affect operating targets are generally classified as direct and indirect. Direct instruments function according to regulation that directly affects either interest rate or the volume of credit. BB uses bank rate or rediscount rate for refinance to DMBs as direct instrument. Indirect instruments are known as market-based instruments. BB's OMO includes auction of Bangladesh Bank bills, repo, reverse repo and sale/purchase of foreign exchange. Due to financial complexity and credit market expansion, the information variable is crucial from policy decision perspective. National coordination council has a role in cointegration policy action. The following discussion will provide an overview of the monetary policy framework that Bangladesh has been following since 1972.

### **Price stability as monetary policy objective**

The objectives of monetary policy in Bangladesh are embodied in the Bangladesh Bank Order, 1972. These objectives are complementary, but of particular importance is price stability. In Bangladesh, however, other objectives got priority over price stability, especially during the 1970s. Thereafter until mid-1990s Bangladesh was under different structural reform programmes supported by the IMF and World Bank, and as part of these programmes the BB aimed at macroeconomic stability through low and steady inflation. However, some changes have been brought about in the objectives of monetary policy through the Bangladesh Bank (Amendment) Act, 2003. The objectives, as stated in the Act, are to manage the monetary and credit system of Bangladesh with a view to stabilizing domestic value of the Taka and maintain a competitive external par value of the Bangladesh currency fostering growth and development of the country's productive resources in the best national interest. Again there are the two objectives but it seems that price stability got priority. External frontier (BOP) also experienced structural adjustment programs (SAPs) ensuring current account and partial capital account convertibility. It may be mentioned that Bangladesh is currently implementing IMF's poverty reduction and strategy paper (PRSP) using medium term budgetary framework (MTBF) for the period 2009-11.

### ***Targets of monetary policy***

Under the nominal anchor approach there are three strategies to conduct monetary policy such as **exchange rate targeting, monetary targeting and inflation**



**targeting.** Bangladesh chose exchange rate as nominal anchor and remained under fixed exchange rate until 1979, and thereafter switched over to a pegged exchange rate system. In May 2003 Bangladesh abandoned the pegged exchange rate system and moved to partial account convertibility. Inflation was high and unstable during the 1970s and the 1980s. Though decelerated, the inflation rate remained unstable in the 1990s. Frequent adjustments in nominal exchange rate were not based on price to comply with the movement of real exchange rate. In this regard, an analyst noted that “it appears that the monetary authorities were also not keen to maintain the exchange rate peg at any particular level because price stability was not the overriding objective of monetary policy. Insofar as price stability is concerned, it remained subordinate to economic growth and/or sustainability in the current account of the balance-of-payments” (A. Hossain, 2002 ). However, from 2000 inflation started to show a declining trend.

#### **Is monetary policy accommodating a high growth strategy?**

Like other developing countries monetary policy of Bangladesh is accommodative in nature. **Budget deficit** ensuring high real growth according to the demand of the economy is the main source of expansionary monetary policy.

During 1972-1975 a rapid growth of money supply took place to meet the borrowing requirements of the government and the nationalized sectors. Inflation reached a high level following the accommodating rehabilitation program. Nominal exchange rate rose sharply. High inflation prevailed during the second half of the 1970s and throughout 1980s except 1975-1976. This period was characterized by excessive borrowings by the government (including public sector) resulting in an increase in money supply and depreciation of the domestic currency, but the GDP growth continued to remain sluggish.

#### **Overall Monetary Policy of Bangladesh, objectives, instruments and performance.**

Overall monetary policy refers to logical and sequential set of actions that Bangladesh Bank follows. Throughout the 1970s and 1980s both selective and quantitative control measures were adopted to provide adequate credit to the state-owned enterprises and other priority sectors to achieve government's development objectives. Banks were given soft loans under refinance facility to extent lending operation to priority sectors. In general agriculture, small scale industries, housing and the export sector were given preferential treatment. Directed credit control policy was abundant in early 1990. However, prior to 1990, the policy was based on direct control of the volume and direction of credit

and interest rates. Since the adoption of Financial Sector Reform Programme in 1990, the policy stance has been shifted towards indirect control. BB has a set of tools at its disposal that can affect operating target net international reserves, intermediate targets excess reserves and the goals price stability and GDP growth with certain degree of time lag.

#### **Formulation of Monetary policy**

While formulating monetary policy BB considers real GDP growth, rate of inflation and income velocity of money. Like other developing countries monetary policy of Bangladesh is generally accommodative in nature. Growth in private sector and budget deficit ensures real growth in money supply. Monetary policy instruments are as follows:

#### **Open market operation (OMO)**

OMO as policy instrument was not that effective until 1990. In 1990 Bangladesh Bank introduced its own security called “91-Day Bangladesh Bank Bill”. Later “30-Day Bangladesh Bank Bill” was also introduced in 1995. Until 1997 Bangladesh Bank bills were bought and sold through auctions promoting liquidity control. The process of auction through market based interest rates was also extended to government treasury bills from early 1990s. In 1997 auction of Bangladesh Bank Bills was discontinued and revived again in August 2009.

To facilitate liquidity management, BB introduced repo in 2002 and Reverse-repo in 2003. Repo auction enables banks to place bids for funds collateralized by treasury bills. BB accepts the bids at cut-off rate considering the norms of market. Reverse repo auction is the opposite of repo auction, in which the banks submit offers of their excess funds, which BB accepts to the extent needed to maintain the liquidity.

#### **Bank Rate**

Bangladesh Bank has been deploying this instrument to influence the deposit and lending rates of banking system to accelerate the pace of economic activities by channelizing flow of credit through the banking system as a whole.

#### **Rediscount policy**

BB provides discount facilities and makes loan to the banks. But the presence of liberal refinance facility at a rate below the bank rate had created an environment where bank rate lost its effectiveness as a monetary policy instrument. Under the

new interest policy introduced in 1990, refinance facilities for the priority sectors were replaced by general rediscount window facility at the bank rate. Such facility is meant to assist the borrowing bank to maintain an adequate short term liquidity not to be a permanent source of funds. Refinance facility is now available for some priority sectors only.

### **Required Reserve**

The policy of changing required reserve is being followed rational as a monetary policy tool when indispensable. Banks were required to maintain 5 percent of their total time and demand deposits as CRR and 25 percent of time and demand deposits as SLR until mid 1980s. In 1987 CRR was raised to 10 percent and continued until 1990. Thereafter prescribed liquidity ratio of DMBs was gradually reduced to 20 percent of which 5 percent was the CRR. The CRR was lowered to 4 percent in late 1999. The SLR was fixed at 16 percent on November 2003. Effective from October 2008, the SLR was 18 percent, of which CRR was 5 percent.

**Performance:** The dynamism seen in growth initiatives is largely in the private sector promptly utilizing the stimulus package and facilitation measures provided by government of Bangladesh (subsidies and increased EDF lending for input import by manufacturer-exporters, agricultural and SME loans supported by refinance, etc.) Real GDP growth outlook could have been brighter with government's timelier utilization of development expenditure allocations. Given the current trends of internal and external prices, both food and non-food point-to-point CPI inflation in Bangladesh looks set to continue over the coming months fluctuating with some upward bias.

## **Section VI**

### **Conclusion**

OMO of BB identifies budgetary and monetary policy need. Government bills and bonds are using in terms of budgetary needs. Auction of BB bill, repo, reverse repo and foreign exchange sale/purchase serves the need of monetary policy. During the liquidity crisis of September 2001 central banks like Bank of England, Swiss National Bank came forward to maintain liquidity of the global financial system and to shield the forward value of assets stabilizing credit market without creating any sort of panic. We can infer that operational efficiency of the Fed that facilitated Government spending via the Treasury does not increase the supply of money. All of its spending is financed with funds recycled from the public through

taxes and or bond sales. The government could print money to cover its spending, but that has not happened since the Accord of 1951 in the USA. There are essentially three ways to finance **budget deficit** (a) by an increase in reserve money (b) by an increase in the public holdings of Treasury bills or (c) by a depletion of foreign exchange reserves of BB. In reserve money and broad money, from asset point of view, net foreign assets (NFA) and credit to public sector, including government, is deterministic, taking into account the macroeconomic situation. In broad money, credit to private sector is stochastic. BB considers all these variables in monetary and credit programming and these are reflected in the balance sheet. Central banks, including BB, maintain appropriate liquidity preserving the par value of their respective currency and try to smooth the flow of funds to meet the need of the government with respect to OMO.

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One-way bet’ (Davis 1997) is mentioned in the article “Too big to fail: moral hazard and unfair completion”. F Soussa - Financial Stability and Central Banks, 2000 - fmlc.org.... Page 21. 19 **prize for taking excessive risk may—if things go well—be excess returns (and telephone number bonuses) while, if things turn out badly, the state steps in and picks up the tab.** This is known as a one-way bet”(Davies, 1997).
9. **Explanation of reference: Akhter Hossain, 2002**  
Hossain, Akhter (2002) “An Examination of some Issues in the conduct of Monetary Policy in Bangladesh” is a working paper prepared for the strengthening of Research Department of Bangladesh Bank, which is funded by the World Bank.