2   Banker & advisor to government

2.1   Learning outcomes

After studying this text the learner should / should be able to:

1. List the categories of central bank functions.
2. Elucidate the interbank markets.
3. Explain the central bank's role in bank liquidity management.
4. Describe the central bank function "banker to government".
5. Explain the context of "Tax and Loan Accounts".
6. Expound on the significance of the central bank's role in public debt management.
7. Explicate the central bank's role in the administration of exchange controls.

2.2   Introduction

Formulation and implementation of monetary policy (aimed at achieving and maintaining price stability)
Formulation of monetary policy framework
Influence on level of interest rates (through bank liquidity management)
Open market operations
Banker and advisor to government
Banker to government
Public debt management
Administration of exchange controls
Management of the money and banking system
Lender of last resort (note: not a monetary policy function)
Currency management (notes and coins)
Banker to private sector banks
Settlement of interbank claims
Bank supervision
Supervision of payments system
Management of gold and foreign exchange reserves
Development of debt market
Provision of economic and statistical services
Provision of internal corporate support services and systems

Table 1: Functions of central banks

In the previous section we presented Table 1 which listed the functions of central banks. As can be seen, in its role of as *banker and advisor to government* the CB has three responsibilities. In order to fully appreciate them and the sections which follow, we need to introduce the interbank markets more fully here, as well as the role of the CB in bank liquidity management. In this section we present the following subsections:

- The interbank markets.
- Bank liquidity management.
- Banker to government.
- Tax and Loan Accounts.
- Public debt management.
- Administration of exchange controls.

2.3   The interbank markets

2.3.1   Introduction

There are three interbank markets:

- Bank-to-central bank interbank market.
- Central bank-to-bank interbank market.
- Bank-to-bank interbank market.

We again present the balance sheets of the CB and the banks. The highlighted items are the accounts through which the interbank markets (IBMs) function.

BALANCE SHEET 1: CENTRAL BANK (LCC BILLIONS)			
Assets		**Liabilities**	
D. Foreign assets	1 000	A. Notes and coins	1 000
		B. Deposits	
E. Loans to government	1 100	1. Government	900
		2. Banks' reserve accounts (TR)	500
F. Loans to banks (borrowed reserves – BR) @ KIR	400	a. Required reserves (RR = 500)	
		b. Excess reserves (ER = 0)	
		C. Foreign loans	100
Total	2 500	Total	2 500

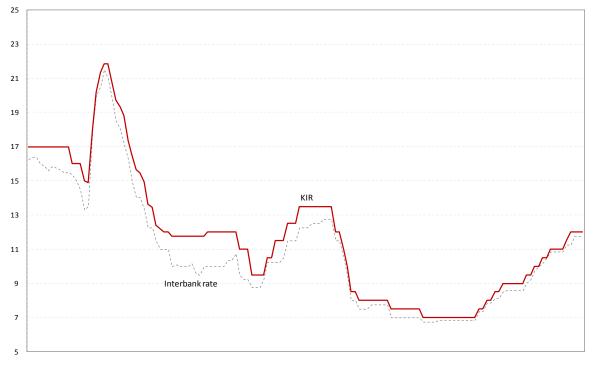| BALANCE SHEET 2: BANKS (LCC BILLIONS)				
Assets			**Liabilities**	
C. Notes and coins	100			
D. Reserves with central bank (TR)	500	A. Deposits of NBPS (BD)		5 000
1. Required reserves (RR = 500)				
2. Excess reserves (ER = 0)		B. Loans from central bank (BR) @ KIR		400
F. Loans to government	1 000			
G. Loans to private sector	3 800			
Total	5 400		Total	5 400

The IBMs are where the settlement of interbank claims take place and where monetary policy begins. In some countries banks have two accounts with the central bank: a *reserve account* in which required reserves (RR) are held and a *settlement account* (SA) over which the settlement of interbank claims takes place. In some other countries banks have one account with the central bank it has many names: reserve account, settlement account, cash reserve account, and so on. Here we refer to it as *reserve account*. On these accounts the banks hold their required RR and (if any) their excess reserves (ER). The total of the two amounts we call total reserves (TR). Thus:

$$TR = RR + ER.$$

As we shall see in detail later, only one of the three IBMs is a true market: the bank-to-bank IBM. The IBM rate is shown with the KIR in Figure 2[8]. The KIR, as we know, is determined administratively by the MPC. It exerts a powerful impact on the IBM rate; note that it is below the KIR.

Figure 1: interbank rate & KIR

1.3.2 The bank-to-central bank interbank market

The first IBM to be discussed is the bank-to-central bank interbank "market", or *b2cb IBM*. It is an "administrative" market in which the flow is one-way: from the banks to the central bank in the form of the cash reserve requirement. As mentioned earlier we will refer to the cash reserve requirement *amount* as required reserves (RR). The banks' RR are held on their reserve accounts with the central bank. In the vast majority of countries the RR balances earn no interest, which is an essential element in monetary policy (as we will elucidate later). Another important element of monetary policy in most countries is that banks are kept chronically short of reserves by the central bank (see later), such that ER for the banking system does not exist.

To elucidate the RR further: in most countries banks are required by statute to hold a certain ratio of their deposits in an account with the central bank. It has its origin in the gold coin reserves held by the goldsmith-bankers from the seventeenth century and later in voluntary note and deposit holdings with the Bank of England. In our accompanying balance sheets (1 and 2) the banks have deposits (BD) of LCC 5 000 billion, an assumed statutory RR ratio (r) of 10% of deposits, and RR with the central bank of LCC 500 billion. They therefore are holding the minimum required (TR = RR), and they do so because, as noted, the central bank does not pay interest[9] on reserves. Note also in this example that the banks are borrowing LCC 400 billion from the central bank, so they will not have ER. In summary, as regards the b2cb IBM:

> BD × r = RR = TR.
> LCC 5 000 billion × 0.10 = LCC 500 billion = TR.
> ER = 0.

1.3.3   The central bank-to-bank interbank market

The second IBM we discuss is the central bank-to-bank interbank "market", or *cb2b IBM*. It is also an "administrative" market, and it is *at the centre of the vast majority of countries' monetary policy*. It represents loans from the central bank to the banks (also called borrowed reserves – BR). The central bank provides these reserves at its KIR. As seen in the balance sheets above:

> BR   = LCC 400 billion.

In most countries monetary policy is aimed at ensuring that the banks are indebted to the central bank *at all times* so that the KIR is applied and therefore is "made effective" on part of the liabilities of the banks (recall that bank liabilities = BD + BR). The KIR has a major influence on the banks' deposit rates and, via the more or less static bank margin, on the banks' prime rate[10]. This, as we will show later in some detail, is an extremely successful policy protocol.

1.3.4   The bank-to-bank interbank market

The third interbank market is a true market: the bank-to-bank interbank market, or *b2b IBM*. This market operates during the banking day but particularly at the close of business each day (banks "close off their books" every day). Allow us present an example: a large corporate customer (Company A) withdraws LCC 100 billion of its call money deposits from Bank A and deposits it with Bank B – because Bank B offered a higher call money rate.

How does the settlement of these transactions take place between the two banks? It takes place over the banks' reserve accounts: item B2 in Balance Sheet 1, and item D in the Balance Sheet 2. Balance Sheets 3–6 elucidate the story.

BALANCE SHEET 3: COMPANY A (LCC BILLIONS)			
Assets		**Liabilities**	
Deposit at Bank A Deposit at Bank B	-100 +100		
Total	0	Total	0

BALANCE SHEET 4: BANK A (LCC BILLIONS)			
Assets		**Liabilities**	
Reserve account at CB	-100	Deposits (Company A)	-100
Total	-100	Total	-100

BALANCE SHEET 5: BANK B (LCC BILLIONS)			
Assets		**Liabilities**	
Reserve account at CB	+100	Deposits (Company A)	+100
Total	+100	Total	+100

BALANCE SHEET 6: CENTRAL BANK (LCC BILLIONS)			
Assets		**Liabilities**	

		Reserve accounts:
		    Bank A
		    Bank B
			
			 -100
			 +100

Total	0	Total	0

Assuming that at the close of business yesterday the two banks were not borrowing from the central bank (BR = 0) and they did not have any surpluses with the central bank (TR = RR; ER = 0):

- Bank A is now short of RR by LCC 100 billion, and therefore does not comply with the RR (TR < RR).
- Bank B now has surplus reserves (TR > RR or TR – RR = ER = LCC 100 billion).

BALANCE SHEET 7: BANK A (LCC BILLIONS)			
Assets		**Liabilities**	
		Deposits (Company A) Loan (Bank B)	-100 +100
Total	0	Total	0

BALANCE SHEET 8: BANK B (LCC BILLIONS)			
Assets		**Liabilities**	
Loan to Bank A	+100	Deposits (Company A)	+100
Total	+100	Total	+100

We assume this is the only transaction that takes place during the day, and that bank B does not have outstanding borrowings from the central bank. We are now at the close of business. The electronic interbank settlement system presents the two banks with the above information that pertains to each of them. Bank A needs to borrow LCC 100 billion and Bank B would like to place its ER somewhere at a rate of interest. The *somewhere* at the end of the business day is only the other banks (in this case Bank A).

The final interbank clearing process at the end of the business day takes place over these same reserve accounts with the central bank. In this b2b IBM the surplus bank, Bank B, will place its ER of LCC 100 billion with Bank A, and this will take place at the IBM rate (after some haggling). Bank B will instruct the central bank to debit its reserve account and credit Bank A's reserve account. The central bank's balance sheet will be unchanged, and the banks' balance sheets appear as in Balance Sheets 7 and 8.

Thus, in the b2b IBM, banks place funds with or receive funds from other banks depending on the outcome of the clearing. Surpluses are placed at the IBM rate. A critical issue here is that this rate is closely related to the KIR (as shown in Figure 1) because banks endeavour to satisfy their liquidity needs in this market before last resort borrowing from the central bank at the KIR. In this example it was possible. Later we will show that when the central bank does a deal in the open market (= open market operations or OMO) it affects bank liquidity. And, as you now know, when one speaks of bank liquidity one makes reference to the state of balances on the banks' reserve accounts: the status of TR, RR, ER and BR. As we will demonstrate later, the central bank has total control over bank liquidity, and therefore over interest rates.
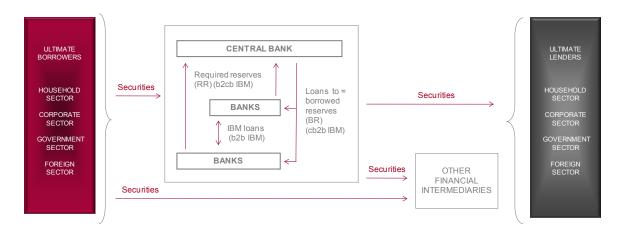

Figure 2: interbank markets

In the b2b IBM no new funds are created; existing funds are merely shifted around. New funds (reserves) are created in the cb2b IBM (in the long term). The latter is a function of the ability of banks to create money in the form of deposit money[11]. This they are able to do without restraint[12] and the central bank supports this by the creation of the additional RR (a function of deposit growth). Is it as simple as this? We will answer this essential question later.

We portray the interbank markets in Figure 2.

2.4   Bank liquidity management

Balance Sheet 9 presents the balance sheet of the central bank in simplified form (we have left out unimportant items such as *other assets*, *other liabilities* and *capital and reserves*). From this balance sheet we can create what can be called a *money market identity* as follows.

On the left of the identity we have the net excess reserves (NER) of the banking sector, an indicator of bank liquidity. It is made up of the ER of the banks (item B2b)[13] less the extent of CB loans to the banking sector (at the KIR), i.e. the LS (item G):

NER = B2b – G.

| BALANCE SHEET 9: CENTRAL BANK (LCC MILLIONS) ||
Assets	Liabilities

E. Foreign assets
 	
F. Loans to government (government securities)
 	
G. Loans to banks (borrowed reserves – BR)
	A. Notes and coins
	B. Deposits
	    1. Government
	    2. Banks (TR)
	      a. RR
	      b. ER
	C. Foreign loans
	D. Central bank securities

On the right hand side of the identity we have all the remaining liability and asset items; thus:

$$NER = B2b - G = (E + F) - (A + B1 + B2a + C + D).$$

If we group the related liability and asset items we have:

$$NER = B2b - G = (E - C) + (F - B1) - A - B2a - D.$$

It will also be evident that (Δ = change):

$$\Delta NER = \Delta(E - C) + \Delta(F - B1) - \Delta A - \Delta B2a - \Delta D.$$

Thus, a change in the NER (and the LS which is its main component) of the banking system is *caused* by changes in the other appropriately grouped balance sheet items (which can be called *balance sheet sources of change* – BSSoC):

ΔNER =

Δ(E – C)	= net foreign assets (NFA)
+ Δ(F – B1)	= net loans to government (NLG)
– ΔA	= notes and coins in circulation
– ΔB2a	= RR
– ΔD	= central bank securities (CBS).

The actual causes of change are the transactions that underlie the BSSoC. It will be apparent that the instruments of OMO are NFA (usually forex swaps), NLG (purchases / sales of government securities and changes in government deposits) and CBS (issues), and that RR can also be used (and is at infrequent times) to manipulate bank liquidity (NER). For example, the sale of forex to a bank (a forex swap) will decrease NER (increase the LS); the BSSoC is a decrease in NFA. Similarly the sale of TBs to the banks will decrease NER (increase the LS). The BSSoC is a decrease in NLG. Thus, the CB has total control over bank liquidity (assuming efficient markets).

With the above as the backdrop, we are now able to proceed with the CB function of banker to government.

2.5 Banker to government

When central banks emerged in the first part of the 20th century they all took on the role of sole banker to government. In most countries the CB remains the sole banker to government. The two accounts maintained for government in most countries are the *Exchequer Account* and the *Paymaster General Account*. The former is the general account into which all receipts are placed, and the latter the account into which department allocations are placed prior to disbursement. Generally, the CB does not provide banking services to provincial governments, local authorities or state enterprises.

In some countries, government maintains accounts, styled *Tax and Loan Accounts* (TLAs), with banks that qualify to hold these accounts (the large commercial banks). This structure is usually put in place to assist in the management of banking liquidity.

The payment of taxes and loan receipts into the Exchequer Account amounts to a loss of funds (reserves) to the private banking sector, which necessitates the assistance (provision of BR) by the CB to the same extent.
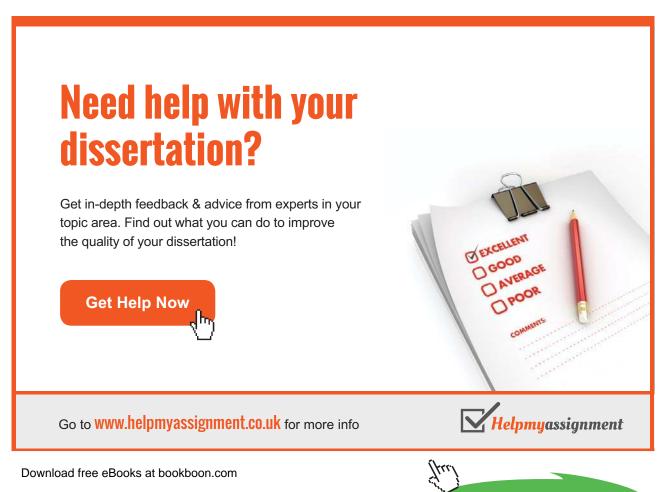
With the TLAs in place, the movement of tax and loan funds from the private sector to the government sector does not disrupt the smooth functioning of the money market. It will be evident that this structure also represents a powerful monetary policy tool. The CB, with the concurrence of the government, is able to shift funds between the Exchequer account and the TLAs in order to influence money market conditions, i.e. the extent of BR. This important aspect of *banker to government* is given more attention in the next section.

2.6   Tax and loan accounts

2.6.1   Introduction

It will be apparent that, when government banks with the CB only, funds received by the government represent funds lost to the private banking sector, and government disbursements represent funds gained by the private banking sector. There are many sources of government receipts and many destinations of government disbursements. Examples of the former are individual income tax, company tax, value added tax, customs and excise duties, and sales of government securities. The latter includes maturities of and interest on government securities, payment of salaries to employees, and procurement of goods.

It will also be evident that there are timing differences between government receipts and disbursements and that the amounts involved are large. The effect of these flows on changes in government's balance at the CB over a ten-year period (month-end data) is shown in Figure 3 for a particular country before it introduced a TLA system (monetary unit changed to LCC).
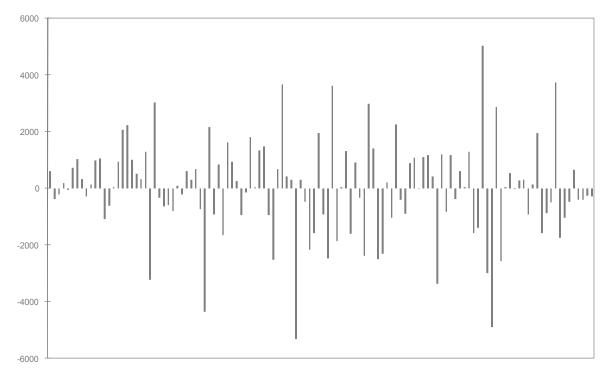

Figure 3: change in government deposits with central bank (LLC millions)

These flows have an equivalent bearing on bank liquidity. In this section we present a few examples, and discuss the problem from the point of view of the CB, government and the banks. We then present the solution (the TLA system), and give attention to the employment of the TLA system in monetary policy. The following are the sections:

- Tax payments.
- Receipts of loan issues.
- Problem from perspective of central bank.
- Problem from perspective of government.
- Problem from perspective of banks.
- Monetary policy tool.

2.6.2   Tax payments

The first example: flow of funds to government resulting from tax payments of LCC 100 million. The following steps may be identified:

Step 1:

- Taxpayers (NBPS) draw cheques on their bankers and deliver them to the revenue authority (RA).
- The RA deposits the cheques at the CB.
- The cheques are cleared and the taxpayers' accounts at their banks are debited; the banks' accounts at the CB are debited (see Balance Sheets 10–11).
- The CB credits the Exchequer account and debits the banks on which the cheques were drawn (see Balance Sheet 12) (note: the CB is the only bank which does not maintain bank accounts elsewhere; the receipt of a bank cheque will thus result in that bank being *debited* in the books of the CB).
- Note: we ignore the effect of a change in deposits on the RR for the sake of simplicity.

BALANCE SHEET 10: NBPS (LCC MILLIONS)			
Assets		**Liabilities**	
Bank deposits	-100	Tax liability	-100
Total	-100	Total	-100

BALANCE SHEET 11: BANKS (LCC MILLIONS)			
Assets		**Liabilities**	
Reserves at CB (TR) (RR = -100)	-100	NBPS deposits	-100
Total	-100	Total	-100

BALANCE SHEET 12: CENTRAL BANK (LCC MILLIONS)			
Assets		**Liabilities**	
		Government deposits Bank reserves (TR) (RR = -100)	+100 -100
Total	0	Total	0

Step 2:

- The bank concerned, which does not hold ER with the CB, is now in contravention of the reserve requirement
- The bank requests an overnight loan from the CB, which is granted automatically (see balance Sheets 13–14).

BALANCE SHEET 13: CENTRAL BANK (LCC MILLIONS)			
Assets		**Liabilities**	
Loan to banks (BR) @ KIR	+100	Bank reserves (TR) (RR = +100)	+100
Total	+100	Total	+100

BALANCE SHEET 14: BANKS (LCC MILLIONS)			
Assets		**Liabilities**	
Reserves at CB (TR) (RR = +100)	+100	Loans from CB (BR) @ KIR	+100
Total	+100	Total	+100

Net effect:

- NBPS: decrease in tax liability and bank deposits (see Balance Sheet 15).
- Banks: decrease in NBPS deposits and increase in loans from CB (see Balance Sheet 16).
- CB: increase in government deposits and in loans to banks, i.e. decrease in bank liquidity = NER = increase in BR; BSSoC = decrease in NLG (see Balance Sheet 17).

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BALANCE SHEET 15: NBPS (LCC MILLIONS)			
Assets		**Liabilities**	
Bank deposits	-100	Tax liability	-100
Total	-100	Total	-100

BALANCE SHEET 16: BANKS (LCC MILLIONS)			
Assets		**Liabilities**	
		NBPS deposits Loans from CB (BR) @ KIR	-100 +100
Total	0	Total	0

BALANCE SHEET 17: CENTRAL BANK (LCC MILLIONS)			
Assets		**Liabilities**	
Loans to banks (BR) @ KIR	+100	Government deposits	+100
Total	+100	Total	+100

2.6.3 Receipts of loan issues

The second example: flow of funds to government resulting from the issue of LCC 100 million bonds which are bought by the banks. Here we cut out the steps and fast-forward to the net effect. From Balance Sheets 18–20 we see that:

- Government: increases deposits and bonds in issue.
- Banks: increase in bond holdings and loans from CB.
- CB: increase in government deposits and in loans to banks, i.e. decrease in bank liquidity = NER = increase in BR; BSSoC = decrease in NLG.

BALANCE SHEET 18: GOVERNMENT (LCC MILLIONS)			
Assets		**Liabilities**	
Deposits at CB	+100	Bonds	+100
Total	+100	Total	+100

BALANCE SHEET 19: BANKS (LCC MILLIONS)			
Assets		**Liabilities**	
Bonds	+100	Loans from CB (BR) @ KIR	+100
Total	+100	Total	+100

BALANCE SHEET 20: CENTRAL BANK (LCC MILLIONS)			
Assets		**Liabilities**	
Loans to banks (BR) @ KIR	+100	Government deposits	+100
Total	+100	Total	+100

Clearly, when government spends the funds the money market situation will return to normal, except that there is an influence on RR.

2.6.4 Problem from perspective of central bank

Ideally, central banks would like to use bank liquidity (NER and the liquidity shortage – LS) as a strong signal to the market in respect of monetary policy. Some central banks use the LS as the cutting edge of monetary / interest rate policy. It will be evident that, given the large and frequent changes in government deposits at central banks, this is not possible.

It is notable that the solution to the problem, as outlined below, not only makes the central bank's task in terms of using the LS as a signal easier, but it also represents an additional tool of monetary policy. This will become clear later.

2.6.5 Problem from perspective of government

The disruptive effect on the money market and short-term interest rates of the flow of funds to and from the government sector are also of concern to Treasury. Firstly, volatile interest rates have a bearing on the timing and success of government securities issues and the rates it is able to negotiate.

Secondly, Treasury is closely involved in monetary policy and would like to see such policy implemented smoothly. Thirdly, a banking system without TLAs makes efficient cash flow management difficult, for example the Paymaster General account is funded in advance of payments. This often requires Treasury to make securities issues earlier, with cost consequences.

2.6.6 Problem from perspective of banks

We know that the flows of funds to and from the government sector lead to commensurate, but opposite, effects on the private banking system. This produces a number of disorders:

- Banks are obligated to hold larger amounts of eligible (for accommodation) government paper, which could be said to "crowd out" the private sector.
- Interest rates are influenced which reflect seasonal flows; such changes could give the wrong signal to lenders and borrowers.
- There are unnecessary administrative problems created (associated with acquiring frequent accommodation and the repayment thereof).
- The flows generally disrupt the intermediation process.

26.7   The solution

The problem of the flows of funds to and from the government sector arises from the fact that the CB has the function of "banker to the government." The solution is therefore straightforward: the implementation of a system whereby government also "banks" with the private banking system. A broad outline of the system follows:

- The government opens TLAs at the head offices of the participating banks (there are criteria).
- Revenue authorities deposit receipts of funds on a same-day-basis in the TLAs.
- The proceeds of securities issues are also deposited in the TLAs.
- The PMG account remains at the CB and all government disbursements are made from this account. As payments are made, the PMG account is funded from the TLAs.

In order to ensure that no balance remains on the PMG account, this account is operated on an "imprest" or debit basis. This means that the PMG account is not funded in advance, and that when government warrant vouchers / cheques are presented, they are debited to the PMG account.

Thus, after the interbank clearing, the PMG account is in debit, and the exact amount of the debit is known. At this time (under the same date) funds are transferred from the TLAs at the banks to the Exchequer account and from the Exchequer account to the PMG account. It will be clear that the balance on the PMG account is thus always zero.

The process described above means that the government's balances effectively never leave the private banking system. Thus, there is no money market effect, i.e. no effect on the reserves of the banks and therefore on BR. Relevant examples follow:

Tax payments by individuals

The NBPS pays LCC 100 million in taxes (see Balance Sheets 21–22).

BALANCE SHEET 21: NBPS (LCC MILLIONS)			
Assets		**Liabilities**	
Bank deposits	-100	Tax liability	-100
Total	-100	Total	-100

BALANCE SHEET 22: BANKS (LCC MILLIONS)			
Assets		**Liabilities**	
		NBPS deposits TLAs	-100 +100
Total	0	Total	0

Issues of government securities

We assume LCC 100 million bonds are purchased by the NBPS (see Balance Sheets 23–25).

BALANCE SHEET 23: GOVERNMENT (LCC MILLIONS)			
Assets		**Liabilities**	
Bank deposits (TLAs)	+100	Bonds	+100
Total	+100	Total	+100

BALANCE SHEET 24: NBPS (LCC MILLIONS)			
Assets		**Liabilities**	
Bank deposits Bonds	-100 +100		
Total	0	Total	0

BALANCE SHEET 25: BANKS (LCC MILLIONS)			
Assets		**Liabilities**	
		NBPS deposits TLAs	-100 +100
Total	0	Total	0

Disbursement of funds (for procurement of goods from NBPS)

Government purchases LCC 100 million goods from the NBPS (see Balance Sheets 26–28).

BALANCE SHEET 26: GOVERNMENT (LCC MILLIONS)			
Assets		**Liabilities**	
Goods Bank deposits (TLAs)	+100 -100		
Total	0	Total	0

BALANCE SHEET 27: NBPS (LCC MILLIONS)			
Assets		**Liabilities**	
Bank deposits Goods	+100 -100		
Total	0	Total	0

BALANCE SHEET 28: BANKS (LCC MILLIONS)			
Assets		**Liabilities**	
		NBPS deposits TLAs	+100 -100
Total	0	Total	0

2.6.8   Monetary policy tool

It should be clear that the TLAs represent a powerful tool of monetary policy. An example: the CB decides to increase the LS by LCC 100 million (= decrease NER by same). It simply shifts LCC 100 million from the TLAs to the Exchequer account. This is shown in Balance Sheets 29–31. Note that this time we have not ignored the effect on RR of the change in bank deposits; assumption: $r = 10\%$ of deposits.

BALANCE SHEET 29: GOVERNMENT (LCC MILLIONS)			
Assets		**Liabilities**	
Deposits at CB (Exchequer account) TLAs	+100 -100		
Total	0	Total	0

BALANCE SHEET 30: BANKS (LCC MILLIONS)			
Assets		**Liabilities**	
Reserves at CB (TR) (RR = -10)	-10	TLAs Loans from CB (BR) @ KIR	-100 +90
Total	-10	Total	-10

BALANCE SHEET 31: CENTRAL BANK (LCC MILLIONS)			
Assets		**Liabilities**	
Loans to banks (BR) @ KIR	+90	Government deposits Bank reserves (TR) (RR = -10)	+100 -10
Total	+90	Total	+90

2.7   Public debt management

2.7.1   Introduction

Some central banks manage the public debt on behalf of government, and some participate in a small but meaningful way. Before discussing the central bank's involvement in public debt management, it may be useful to be reminded of the issues surrounding the public debt. The following are the sections to be covered:

- The public debt.
- The central bank public debt management.

2.7.2   The public debt[14]

2.7.2.1 Introduction

Most central governments run an annual budget deficit, which means they need to borrow in the domestic and foreign debt markets. This they do in terms of a statute, usually called Public Finance Act or Public Finance Management Act. The statute spells out the details and the constraints (deference to Parliament), but it generally permits central government to:

- Finance the budget deficit (i.e. the difference when revenue < expenditure) by incurring debt.
- Borrow by issuing debt instruments: bonds and treasury bills, locally and internationally.
- Refinance maturing debt or a debt redeemed before maturity date (for example it can buy up existing debt and cancel it).
- Issue debt instruments in order to assist the CB in controlling the domestic monetary situation (this is rarely implemented).

Clearly, the total public debt outstanding reflects accumulation of the budget deficits of the past. Issues involved in public debt management include:

- Domestic versus foreign debt.
- Term structure of debt.
- Relationship with monetary policy.
- In-progress debt management.
- Debt to GDP ratio.

2.7.2.2 Domestic versus foreign debt

Assuming government debt has an investment-grade credit rating, it is able to issue debt domestically and in international markets. Local debt is treasury bills and bonds of various types [plain vanilla (fixed-coupon and fixed-term), inflation-linked, zero-coupon, floating rate and so on]. They are denominated in LCC.

Foreign debt issues are made only in bonds, and they are usually of the plain vanilla type. These bonds are either:

- *Foreign bonds* (issued in the currency of the investors – e.g. USD).
- *Eurobonds* (issued in countries other than the country of the currency in which they are denominated). For example, the Kenyan government could issue a USD-denominated bond in the UK. Another example is a *Euro-LCC bond*, i.e. a bond that is denominated in LCC and is issued in another country.

- *Global bonds* (issued in two or more markets but are denominated in the currency of one of the markets. An example: Local Country issues a global bond denominated in USD in both the US bond market (in which case it is a foreign bond and called a *Yankee bond*), as well as in the Eurobond market (in which case it is called a *Eurodollar bond*).

The constraint on domestic issues lies in "crowding out" the private sector, resulting in higher interest rates. The constraint on foreign issues is a balance of payments-related one: foreign exchange reserves must be available to repay the debt on maturity. Failure to do so will result in a default-status credit rating, and the non-availability of foreign investors and foreign exchange from this source.

2.7.2.3 Term structure of debt

As seen, locally-registered government debt is made up of bonds (maturity > one year) and treasury bills (maturity < one year). In this discussion we assume the plain vanilla bond is the bond of choice (which it is in real life).

The choice of term of an issue is largely a function of the interest rate view of government. If rates are expected to rise and remain high for an extended period, the appropriated term of financing is long-term. The converse also applies. The objective is to minimise the interest burden.

Another consideration is the maturity profile of debt: it is essential to avoid the bunching of debt redemptions for certain periods, i.e. to create "smooth" maturity structure. This ensures the ease of refinancing, with positive implications for the interest burden.

2.7.2.4 Relationship with monetary policy

At the core of monetary policy is the creation by the CB of a LS and its accommodation at the KIR. The method of CB accommodation is usually either overnight loans or repos. In both cases treasury bills and short-term government bonds (usually < three years) are utilised by the banks. This means that central government is required to ensure that sufficiency of supply of treasury bills and short-term government bonds is taken into account in decisions on the term to maturity of new issues.

2.7.2.5 In-progress debt management

Once a debt is issued it does not mean that it cannot be repurchased by government. The considerations in this respect are:

- Cash flow management (e.g. repurchase debt when cash flush).
- Term structure management (e.g. if government would like to smooth the debt maturity structure: repurchase relevant debt and finance this with relevant new debt).
- Minimise interest burden (e.g. repurchase long-term debt if rates are expected to fall for an extended period).

2.7.2.6 Ratio to gross domestic product

The ratio *government debt (GD) / GDP* is used internationally as a measure of fiscal discipline. In most countries a ratio in excess of 60 per cent is deemed to be excessive. The ratio has a bearing on the credit rating of the country and therefore on the availability of foreign funds and the level of interest rate.

2.7.3   The central bank and public debt management

Public debt management is part of fiscal policy. Fiscal policy and monetary policy co-ordination is an essential part of economic policy. Apart from this obvious macro relationship, the CB plays a role in micro public debt management, as follows:

The CB acts as an agent for Treasury in the placing of treasury bills and government bonds in the debt market. It conducts regular (usually weekly) treasury bill tenders as well as other special tenders of bills when required. It conducts tenders for government bonds when required. Where a primary dealership system is in place, the CB organises it, appoints the dealers and conducts the tenders as well. Usually the primary dealers are obliged to tender for a certain minimum amount. The bonds on offer are allocated in ascending order of yields bid.

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The CB participates in Treasury's debt management meetings, and acts an advisor in decisions on the timing, size, type of security, and the maturity structure of bond issues. It also advises Treasury in respect of foreign issues of bonds.

2.8 Administration of exchange controls

Exchange controls, detailed in the Exchange Control Regulations, are instituted under the relevant statute, and are the responsibility of the Ministry of Finance / Treasury. The Minister of Finance / Treasury delegates the administration and execution of exchange controls to the governor of the CB in terms of the Exchange Control Regulations. The governor creates an Exchange Control Department, which is responsible for the day-to-day administration of exchange controls.

The Minister of Finance / Treasury, also under the Exchange Control Regulations, appoints certain banks as Authorised Dealers in foreign exchange (forex). The appointment affords the banks the right to buy and sell forex, subject to certain conditions and within limits prescribed by the Exchange Control Regulations. Authorised Dealers are not agents for the Exchange Control Department but act on behalf of their customers within the Regulations.

The Exchange Control Regulations are designed to restrict the free movement of forex in order to protect the domestic economy from large and disruptive fluctuations in capital movements and other economic shocks, such as spikes in commodity prices. It is also designed to preserve scarce forex reserves for crucial purposes.

There are few advantages to exchange control; some would say there are none, only disadvantages such as:

- They negatively affect the image of the country.
- They impede price discovery. The "official" forex market price is fixed under some regimes. This creates a "black market" in forex (which discovers the true price = exchange rate).
- They "make" criminals of certain members of the public (usually the wealthy and the businessmen / women). It is normal to endeavour to hedge wealth.
- They encourage businesses to move to a country which does not have exchange controls.
- They encourage the best human capital to make a home elsewhere.
- They enable incompetent governments to remain in power for longer than otherwise.
- By restricting their expansion to other countries, they hinder the development of local companies.
- They discourage inward foreign investment.
- They are expensive and time consuming to the CB, the authorised dealers in forex, business and the public.
- They cause major frustrations for the authorised dealers, business and the public, which contributes to many of the abovementioned disadvantages, such as encouraging the best human capital to make a home elsewhere.

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