

## 2 The financial system

### 2.1 Learning outcomes

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

- Elucidate the categories of investments.
- Describe the six elements that make up the financial system.
- Describe the financial instruments / investments in a broad sense.
- Know of the existence of the allied non-principal participants in the financial system.

### 2.2 Introduction

This section on “The financial system” follows the section “Four phases of the life-cycle” and precedes the sections:

- Investment instruments.
- Investment principles.



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The reason for this stand-alone main section is that 70–80% of most portfolios are comprised of financial assets, i.e. these assets are delivered by the financial system. As will be seen, the majority of financial assets held are shares. The reason is simple: return, compared with other asset classes.

One of the reasons for the general disinterest in investments, which leads to the majority not achieving their FSG, is that potential investors are confronted with a maze of terms relating to investments: hedge funds, alternative investments, money market investments, investment policies, bills, bonds, notes, ETFs, SUTs, PUTs, real assets, shares / stocks / equities, fixed-income / fixed-term assets, derivatives, collective investment schemes, and so on and so forth. Most people are confused by these examples of terminology and feel intimidated by the subject matter.

The confusing terminology will be demystified as we progress in this text. The first step is to outline the categories and subcategories of the *ultimate* investments. By *ultimate* is meant the *actual* investments that exist, i.e. investors invest in these either directly or indirectly via financial intermediaries. The *ultimate* investments are straightforward:

- Financial investment instruments:
  - Debt instruments.
  - Share (aka stock and equity) instruments.
- Real investments:
  - Property (aka real estate).
  - Commodities.
  - Other real investments (art, rare coins, antique furniture, etc.).

As will be seen in more detail later, financial investments are issued by *ultimate borrowers*. It will also be seen that financial intermediaries exist to facilitate financing in various forms. There are various types and they all hold *ultimate investments* and issue *indirect investments*, such as deposits and participation units (or interests), in order to finance the holding of the *ultimate* investment instruments. There are three categories of financial intermediaries and they issue *indirect securities* as indicated:

- Banks: deposit instruments (certificates).
- Quasi-financial intermediaries (QFIs): debt instruments.
- Investment vehicles: participation interests (PIs).

In summary, we have the following investments:

- Ultimate investments:
  - Financial investments instruments (issued by ultimate borrowers):
    - Debt instruments.
    - Share (aka stock and equity) instruments.
  - Real investments:
    - Property (also called real estate).
    - Commodities.
    - Other real investments (art, rare coins, antique furniture, etc.).
- Indirect investment instruments (issued by financial intermediaries):
  - Issued by banks: deposit instruments.
  - Issued by quasi-financial intermediaries: debt instruments.
  - Issued by investment vehicles: participation interests.

As we will see below, the *ultimate lenders* hold the ultimate investment instruments directly or indirectly via financial intermediaries. Also, some financial intermediaries hold the financial liabilities of other financial intermediaries. In what follows, keep in mind that we use the terms *investments* and *assets* interchangeably, and that these terms apply to financial and real assets. The terms *instruments* and *securities* apply to financial assets only. Keep in mind also that *asset* means “I own”, and that *financial assets* are the *financial obligations / liabilities* (liability = “I owe”) of ultimate borrowers and financial intermediaries, which may also be termed financial *claims on borrowers*.

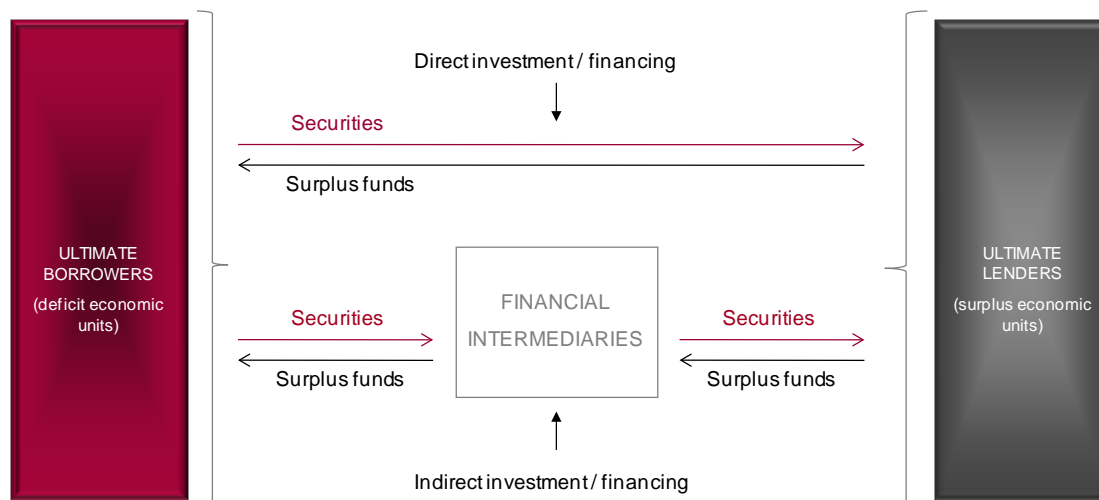
The above may be a little confusing to those unfamiliar with the financial system and investments. These terms will be well understood as we progress in this text.

Generally speaking investment portfolios do not contain a large proportion of real investments. The reason is that real investments do not generate returns in the form of regular cash flows (the exception is one section of the property market = rental properties). Financial investments, on the other hand, generate interest and dividend income. All investments generate capital gains (small, though, in the case of the money market).

For these reasons, the majority of large portfolios (such as retirement funds) are comprised of financial assets – to the extent of around 90%. Individuals’ portfolios generally have a smaller proportion of financial assets, mainly because of the need to have a dwelling (property). Because of the dominance of financial assets in portfolios, we need to spend some time on the system that delivers financial assets: the financial system.

## 2.3 Six elements of the financial system

The financial system is primarily concerned with borrowing (issuing of debt and share securities) and lending and may be depicted simply as in Figure 1.



**Figure 1:** financial system (simplified)

The financial system has six essential elements:

- First: the *ultimate lenders* (= surplus economic units) and *borrowers* (= deficit economic units), i.e. the non-financial economic units that undertake the lending and borrowing process. The ultimate lenders lend to borrowers either directly or indirectly via financial intermediaries, by buying the securities they issue.
- Second: the *financial intermediaries* which intermediate the lending and borrowing process. They interpose themselves between the lenders and borrowers, and earn a margin for the benefits of intermediation (including lower risk for the lender). They buy the securities of the borrowers and issue their own to fund these (and thereby become intermediaries).
- Third: *financial instruments* (or *assets*), which are created/issued by the ultimate borrowers and financial intermediaries to satisfy the financial requirements of the various participants. These instruments may be marketable (e.g. treasury bills) or non-marketable (e.g. retirement annuities).
- Fourth: the *creation of money* (= bank deposits) by banks when they satisfy the demand for new bank credit. This is a unique feature of banks. Central banks have the tools to curb money growth.
- Fifth: *financial markets*, i.e. the institutional arrangements and conventions that exist for the issue and trading (dealing) of the financial instruments.
- Sixth: *price discovery*, i.e. the establishment in the financial markets of the price of money, i.e. the *rates of interest* on debt (and deposit) instruments and the *prices* of share instruments.

Each of these is given attention below.

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## 2.4 Element 1: lenders and borrowers

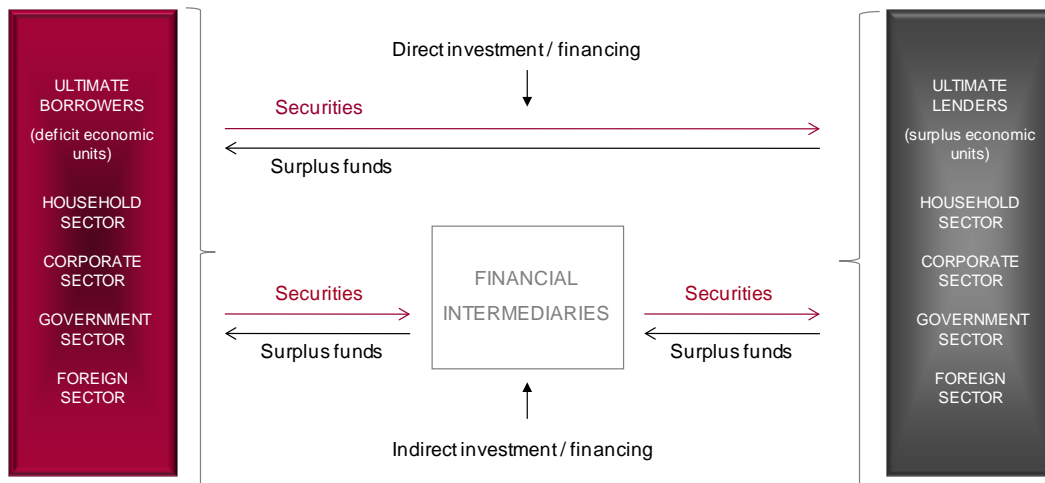


Figure 2: sectors of lenders & borrowers

The *ultimate borrowers* comprise the four broad sectors of the economy (see Figure 2):

- Household sector.
- Corporate (or business) sector.
- Government sector.
- Foreign sector.

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The same non-financial economic sectors appear on the other side of the financial system as *ultimate lenders*. The members of the four sectors are either lenders or borrowers or both at the same time. An example of the latter is government: the governments of most countries are permanent borrowers (usually long-term), while at the same time having short-term funds in their accounts at the central bank (and the private banks in some cases), pending spending. As noted before, borrowing and lending takes place either directly or indirectly via the financial intermediaries.

## 2.5 Element 2: financial intermediaries

Financial intermediaries exist because there is a conflict between lenders and borrowers in terms of their financial requirements (term, risk, volume, etc.). For example, members of the household sector as lenders generally have a need for current account deposits (i.e. essentially 1-day deposits), while government's borrowing needs range from 3 months to 30 years. Another example: a surplus company may wish to lend for 3 months, while a deficit company may wish to borrow for 2 years.

The financial intermediaries solve these divergent requirements by (for example) investing in the instruments of debt of government with the short-term funds of the household sector invested with them. They also perform many other functions such as lessening of risk for lenders, creating a payments system, the efficacy of monetary policy, and so on.

<p><b>MAINSTREAM FINANCIAL INTERMEDIARIES</b></p> <p><b>DEPOSIT INTERMEDIARIES</b></p> <ul style="list-style-type: none"> <li>Central bank</li> <li>Private sector banks</li> </ul> <p><b>NON-DEPOSIT INTERMEDIARIES</b></p> <p><b>Contractual intermediaries (CIs)</b></p> <ul style="list-style-type: none"> <li>Short-term insurers</li> <li>Long-term insurers</li> <li>Retirement funds</li> </ul> <p><b>Collective investment schemes (CISs)</b></p> <ul style="list-style-type: none"> <li>Securities unit trusts (SUTs)</li> <li>Property unit trusts (PUTs)</li> <li>Exchange traded funds (ETFs)</li> </ul> <p><b>Alternative investments (AIs)</b></p> <ul style="list-style-type: none"> <li>Hedge funds (HFs)</li> <li>Private equity funds (PEFs)</li> </ul> <p><b>QUASI-FINANCIAL INTERMEDIARIES (QFIs)</b></p> <ul style="list-style-type: none"> <li>Securitisation / special purpose vehicles (SPVs)</li> <li>Development Finance Intermediaries (DFIs)</li> <li>Investment trusts / companies</li> <li>Finance companies</li> <li>Savings and credit cooperatives</li> <li>Micro lenders</li> <li>Buying associations</li> </ul>
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**Table 1:** Financial intermediaries

Financial intermediaries may be classified in many ways. A list of the financial intermediaries that are found in most countries, according to our categorisation preference, is as shown in Table 1. There are two broad categories: mainstream financial intermediaries and quasi-financial intermediaries. The former are straightforward: they have financial liabilities and assets (with the exception of PUTs), while the latter border on being financial intermediaries. A good example is the SPV (special purpose vehicle); it generally is created for a specific purpose (usually a specific activity such as securitising mortgages), and after this transaction is completed it is closed to further business.

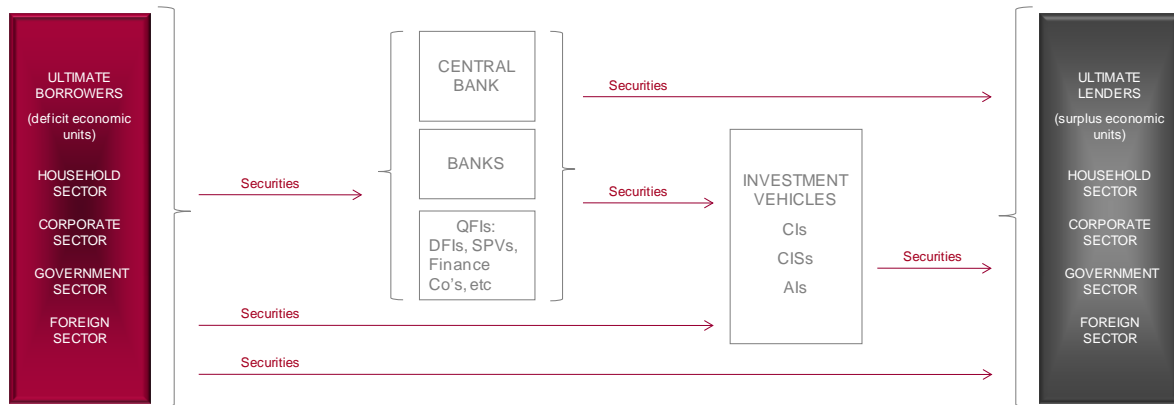


Figure 3: financial intermediaries

The main financial intermediaries (or categories) and their relationship to one another may be depicted as in Figure 3.

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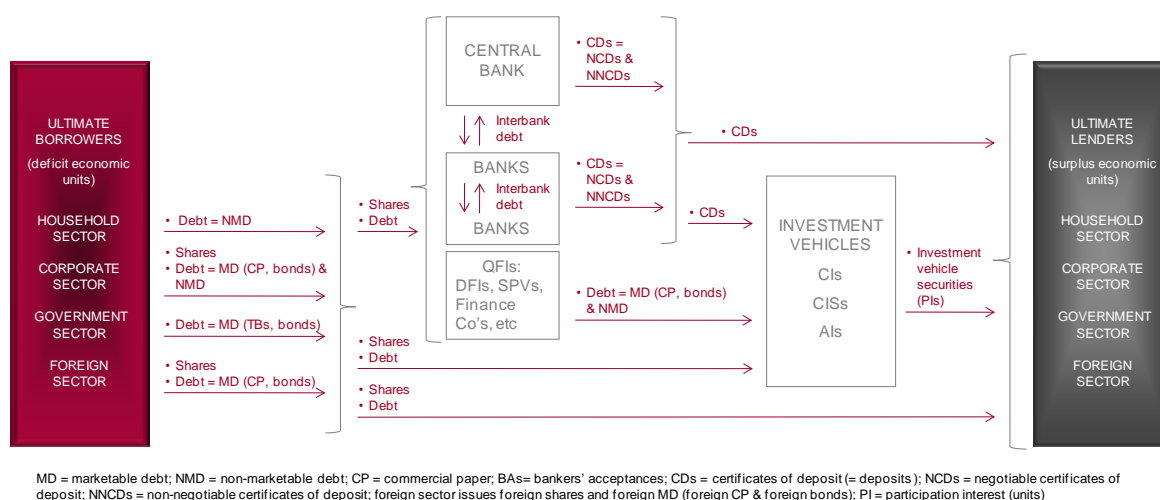




## 2.6 Element 3: financial instruments

### 2.6.1 Introduction

As a result of the process of financial intermediation, and in order to satisfy the investment requirements of the ultimate lenders and the financial intermediaries (in their capacity as borrowers and lenders), a wide array of financial instruments exist. The instruments are either non-marketable (e.g. retirement annuities, insurance policies), which means that their markets are only primary markets (see later), or marketable (e.g. treasury bills, bonds), which means that they are issued in their primary markets and traded in their secondary markets (detailed later).



**Figure 4:** financial intermediaries & instruments / securities

As indicated in Figure 3, the instruments issued by borrowers are in a broad sense called securities (aka instruments and assets). They represent claims on the issuers / borrowers. Figure 4 presents the detail. As we have seen, the instruments issued by the ultimate borrowers (the ultimate investments) are twofold:

- Debt instruments.
- Share (aka equity and stock) instruments.

Debt and share instruments represent permanent or semi-permanent funds (aka capital) for the borrowers. Generally, debt instruments have a fixed term to maturity and thus represent semi-permanent capital for the borrower, and there are two classes of shares: ordinary shares which are shares in the capital of companies which have no maturity date (= permanent capital) and preference shares which generally have a fixed term to maturity (= semi-permanent capital).

There are variations on the themes, such as perpetual debt and perpetual preference shares (they both have no fixed maturity date) but, as they are rare, we will not cover them in this text. In summary, financial investments are:

- Debt instruments (fixed-term = semi-permanent capital).
- Share instruments:
  - Ordinary shares (no fixed-term = permanent capital).
  - Preference shares (fixed-term = semi-permanent capital).

Below we present the detail of the financial instruments issued by the ultimate borrowers and the financial intermediaries. Note that here we introduce the concepts marketable debt (MD) and non-marketable debt (NMD) (shares, whether listed or non-listed, are marketable).

### 2.6.2 The instruments (ultimate investments) of the ultimate borrowers

The instruments of debt and shares (ultimate investments) of the financial system and their issuers (the ultimate borrowers) are as follows:

The *household sector* issues:

- Non-marketable debt (NMD) securities:
  - Examples: overdraft loan from a bank; mortgage loan from a bank.

The *corporate sector* issues:

- Share securities:
  - Ordinary shares (aka common shares).
  - Preference shares (aka preferred shares).
- Debt securities:
  - Non-marketable debt (NMD).
  - Marketable debt (MD)
    - Usually only corporate bonds and commercial paper (CP).

The *government sector* issues:

- Marketable debt securities (in most countries MD only)
  - Treasury bills (aka TBs and T-bills).
  - Bonds (aka T-bonds).

The *foreign sector* issues (into the local markets):

- Foreign share securities (inward listings).
- Foreign debt securities (inward listings: usually bonds only).

### 2.6.3 The instruments of the financial intermediaries

As we have seen, there are three groups of financial intermediaries:

- Banks.
- Quasi-financial intermediaries (QFIs).
- Investment vehicles.

The *deposit financial intermediaries* (*central and private sector banks*) issue deposit securities:

- Deposit securities:
  - Central bank:
    - Non-negotiable certificates of deposit (NNCDs).
    - Negotiable certificates of deposit (NCDs) (central bank securities<sup>21</sup>).
    - Notes and coins<sup>22</sup>.
  - Private sector banks:
    - NNCDs.
    - NCDs.



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The *quasi-financial intermediaries* issue debt securities:

- Debt securities:
  - Non-marketable debt (NMD):
    - Example: utilised overdraft facility.
  - Marketable debt (MD):
    - Bonds, commercial paper (CP).

The *investment vehicles* issue securities to investors as follows:

- Contractual intermediaries (CIs):
  - Retirement funds (membership or participation interests – PIs).
  - Life insurers (endowment policies & annuities – they are actually PIs in the underlying insurer endowment and annuity funds of the insurers).
- Collective investment schemes (CISs):
  - Securities unit trusts (units, which we call PIs).
  - Property unit trusts (units, which we call PIs)
  - Exchange traded funds (PIs).
- Alternative investments (AIs):
  - Hedge funds (PIs).
  - Private equity funds (PIs).

Most individual investors do not invest in the ultimate financial instruments (the exceptions is shares). Rather, they invest in these ultimate financial instruments via the *investment vehicles*.

#### 2.6.4 Summary

The above may be summarized as in Table 2.

ULTIMATE BORROWERS			
	Non-marketable debt (NMD)	Marketable debt (MD)	Shares (marketable)
Household sector	Loans from banks		
Corporate sector	Loans from banks	<ul style="list-style-type: none"> <li>• Corporate bonds</li> <li>• Commercial paper</li> </ul>	<ul style="list-style-type: none"> <li>• Non-listed ordinary shares*</li> <li>• Listed ordinary shares</li> <li>• Listed preference shares</li> </ul>
Government sector	Loans from banks	<ul style="list-style-type: none"> <li>• Govt bonds</li> <li>• Treasury bills</li> </ul>	
Foreign sector		Foreign bonds	Foreign shares (inward listing)
FINANCIAL INTERMEDIARIES			
	Non-marketable	Marketable	
Central bank (deposits)	Non-negotiable certificates of deposit	<ul style="list-style-type: none"> <li>• Negotiable certificates of deposit **</li> <li>• Notes &amp; coins</li> </ul>	
Private sector banks (deposits)	Non-negotiable certificates of deposit	Negotiable certificates of deposit	
Quasi-financial intermediaries (debt)	Loans from banks	<ul style="list-style-type: none"> <li>• Corporate bonds</li> <li>• Commercial paper</li> </ul>	
Investment vehicles	Participation interests		
OD = overdraft); CP = commercial paper; BAs = bankers' acceptances; PNs = promissory notes; Corp = corporate; NNCDs = non-negotiable certificates of deposit; NCDs = negotiable certificates of deposit. * Non-listed preference shares do exist but are rare. ** Central bank (CB) securities, which are akin to NCDs (we call them NCDs for the sake of simplicity).			

**Table 2:** Financial instruments / securities

As seen, these investment vehicle securities are referred to by various names but, in the interests of simplicity, we call all of them *participation interests* (PIs). As stated, generally, individual investors (lenders) don't buy TBs, CP or bonds, and the majority don't buy shares, directly. Rather, they buy PIs in the investment vehicles, which in turn invest in these (and other) instruments. In fact the investment vehicles (excluding most of the AIs) specialise in providing investments products for individuals.

## 2.7 Element 4: financial markets

### 2.7.1 Primary and secondary markets

All the instruments mentioned above are issued in so-called *primary markets*, and the already-issued marketable instruments of debt (including deposits) and shares are traded in *secondary markets*. Thus, as depicted in Figure 5, when a primary issue is made the issuer (= borrower) acquires new funds, whereas in the secondary market the seller gets the funds (not the issuer).

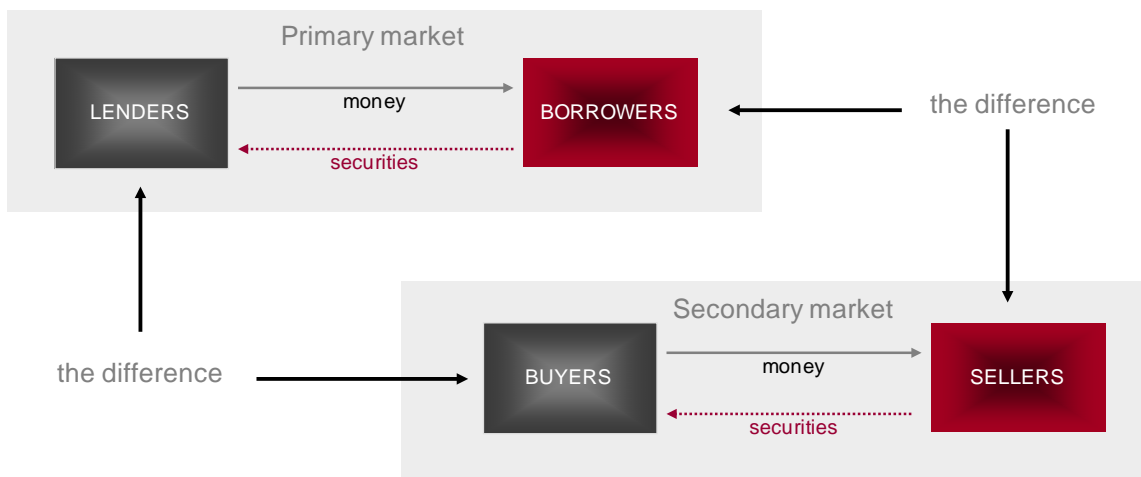


Figure 5: Primary and secondary markets

2.7.2 OTC and exchange-driven markets

Secondary financial markets evolved to satisfy the needs of lenders (investors) to buy and sell (exchange) securities when the need arises. Some markets naturally exist in a safe (i.e. low risk) environment, while for others a safe environment has been created. The former markets are called over-the-counter (OTC) markets, and the latter the formalised (or exchange-driven) markets.

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By and large, the foreign exchange and money markets of the world are OTC markets, and they essentially are the domain of the well-capitalised banks, while the share and bond<sup>23</sup> markets are exchange-driven markets. Derivative instruments fall under both categories.

### 2.7.3 Debt market

The debt market is the market in which debt instruments are issued and exchanged for funds. Interest is paid on debt instruments (hence the other name: interest-bearing market), as opposed to dividends that are paid on shares. The debt markets are also called the fixed-interest markets, but this is a misnomer because interest may be floating, i.e. reset during the life of the instruments. The debt market is comprised of:

- Short-term debt market (STDM, which is a major part of the money market, the other part being deposits).
- Long-term debt market (LTDM, the marketable part of which is called the *bond market*).

The dividing line between the STDM (money market) and the LTDM is determined according to the term to maturity of the debt instruments, and is arbitrarily set at one year. Thus, the STDM (money market) is defined as the market for the issue and trading of securities with maturities of less than one year, and the LTDM as the market for the issue and trading of securities with maturities of longer than one year.

The securities referred to are marketable (e.g. a treasury bill and bond) or non-marketable (e.g. a non-negotiable certificate of deposit – NNCD – of a bank), and the markets are wholesale markets (i.e. large denomination securities) or retail markets (i.e. small denomination securities). In this respect the money market differs from the bond market.

Thus the money market is the entire STDM (plus the deposit market) and can be defined as follows:

*The primary market for the issue of short-term retail and wholesale securities, and the secondary market for the trading of short-term wholesale marketable securities.*

The definition of the bond market is:

*The primary market for the issue, and the secondary market for the trading, of long-term wholesale marketable securities.*

The reason for including retail and non-marketable securities in the definition of the money market is that the retail money market is as large as the wholesale money market, and that it also encompasses large markets such as the call money (i.e. on-day term) deposit markets (which do not have secondary markets). It also includes the significant *interbank market*, which encompasses the bank-to bank interbank market, the short-term lending operations of the central bank to the banks at the repo rate for monetary policy purposes, and the reserve requirement (bank deposits with the central bank).

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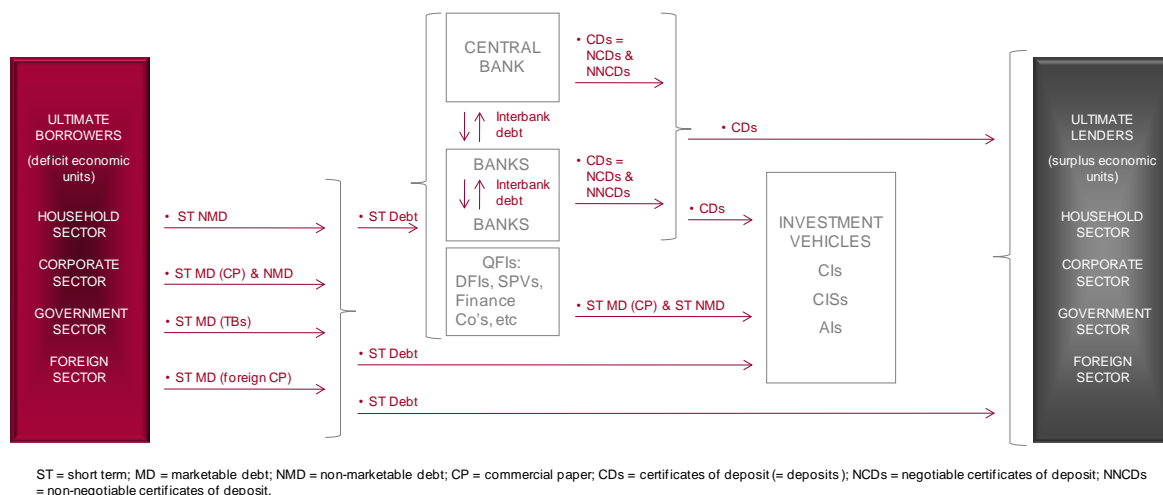


Figure 6: money market

The latter sentence informs that monetary policy is played out in the money market. The essence of monetary policy is that the central bank undertakes transactions in this market in the form of open market operations (OMO) in order to establish a certain desired “liquidity shortage”. This is a managed level of “borrowed reserves” (i.e. short-term central bank loans to the banks). These borrowed reserves are provided at the central bank’s *accommodation rate*, called the *repo rate* in many countries and other names in others (bank rate, base rate, key interest rate, discount rate and so on).

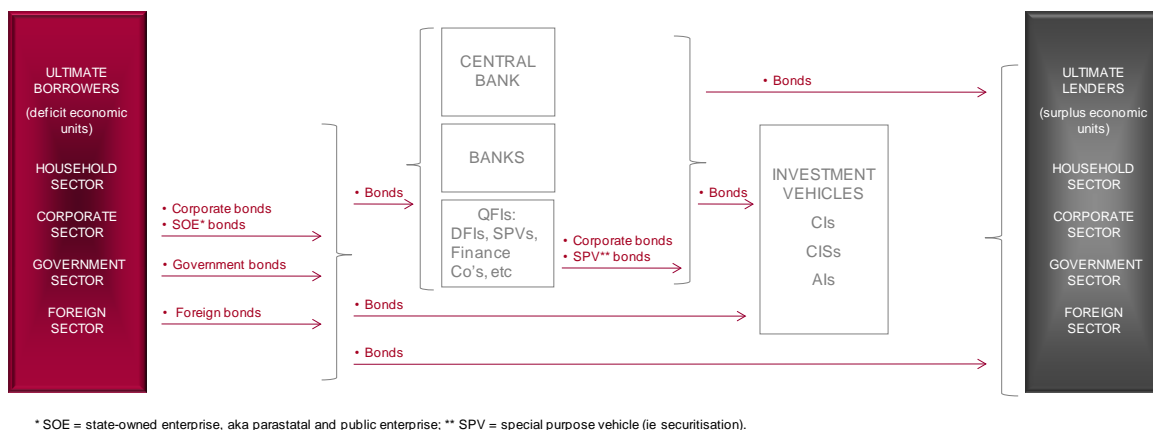


Figure 7: bond market

In summary, the money market encompasses the following markets (ignoring the money market derivative markets):

- Markets in the short-term securities of ultimate borrowers.
- Markets in the short-term securities of financial intermediaries (mainly bank deposits).
- Interbank markets between private sector banks and between the central bank and private sector banks.



This detail on the money market is mentioned here because of the critical importance of money creation and monetary policy which play out in the money market. Also, money market rates, as we shall see, form the foundation of all other financial markets. The money market is depicted in Figure 6 and the bond market in Figure 7.

#### 2.7.4 Share market

The share market (also called stock market and equity market) is the market for the issue and trading of shares. As we have seen, there are two varieties of *shares*:

- Ordinary shares, the outstanding amount of which makes up the permanent capital of a company, because this instrument has no maturity date.
- Preference shares, the outstanding amount of which makes up the long-term capital of a company, because this instrument usually has a maturity date, i.e. is redeemable.<sup>24</sup>

The share market and the long-term debt market (of which the bond market is a part) together are often referred to as the *capital market*, because these markets provide for the long-term capital needs of the corporate sector (and government – bonds only in this case). The share market is depicted in Figure 8.

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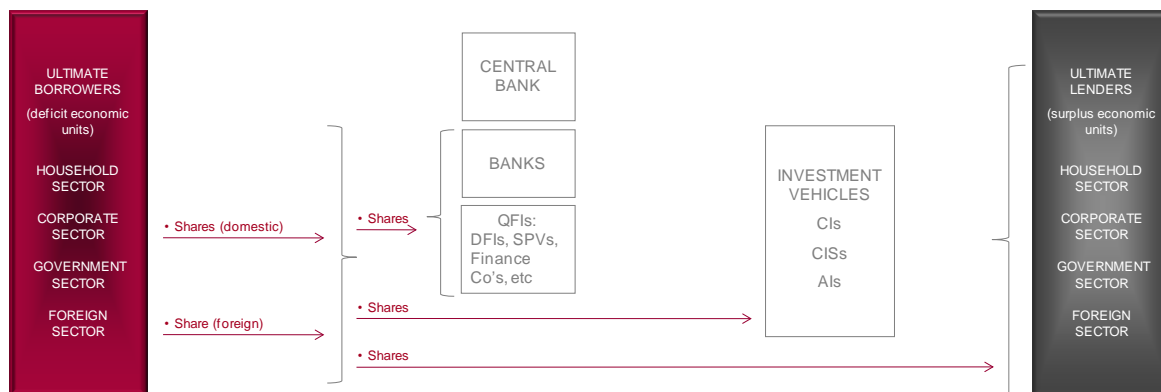


Figure 8: share market

Ordinary shares are permanent capital also in the sense that they represent a share in the ownership of a company (meaning they don't actually represent borrowing – but we, for the sake of simplicity, regard them as representing borrowing). Preference shares are named as such because, in the event of the liquidation of the company, they enjoy preference over ordinary shares [and creditors (e.g. bond holders) enjoy preference over preference shares], in terms of ownership of the assets of the company.

### 2.7.5 Foreign exchange market

The foreign exchange (forex) market is the market for the exchange of one currency (e.g. corona or LCC<sup>25</sup>) for another (e.g. US dollar or USD). An example of an exchange rate is USD / LCC 7.35. Almost all currencies are referenced against the USD (for the sake of convenience), and in an exchange rate the USD is the *base or vehicle currency* (= 1 unit) and the other is the *variable currency* (= number of units per 1 USD).

The exchange of one currency for another is effected in central bank *notes* at bureaux de change or in *bank deposits* (which is why the forex market is often termed the *international money market*). The latter is the wholesale forex market, and the former the retail forex market, and the latter dwarfs the former.

Box 1: LC exporter (LCC millions)			
Assets		Liabilities	
Goods (exported)	-100		
US bank deposit (USD 10) (earns)	+100		
US bank deposit (USD 10) (sells in fx mkt)	-100		
LC bank deposit (receives)	+100		
Total change	0		

<b>Box 2: US banking system (USD millions)</b>			
<b>Assets</b>		<b>Liabilities</b>	
		US importer deposit (pays for imports)	-10
		LC exporter deposit (earns)	+10
		LC exporter deposit (sells in fx mkt)	-10
		LC importer deposit (buys in fx mkt)	+10
		LC importer deposit (pays US exporter)	-10
		US exporter deposit (earns)	+10
		Total change	0

<b>Box 3: LC importer (LCC millions)</b>			
<b>Assets</b>		<b>Liabilities</b>	
Goods (imported)	+100		
US bank deposit (USD 10) (buys in fx mkt)	+100		
LC bank deposit (pays for fx)	-100		
US bank deposit (USD 10) (pays)	-100		
Total change	0		

<b>Box 4: LC banking system (LCC millions)</b>			
<b>Assets</b>		<b>Liabilities</b>	
		LC exporter deposit (earns)	+100
		LC importer deposit (pays)	-100
		Total change	0

<b>Box 5: US importer (USD millions)</b>			
<b>Assets</b>		<b>Liabilities</b>	
Goods (imported)	+10		
US bank deposits (pays)	-10		
Total change	0		

<b>Box 6: US exporter (USD millions)</b>			
<b>Assets</b>		<b>Liabilities</b>	
Goods (exported)	-10		
US bank deposits (earns)	+10		
Total change	0		

An example will make this clear (see boxes 1–6; assumption USD / LCC 10.0). A Local Country (LC) exporter sells goods to a US importer and is paid USD 10 million by a deposit in its name at a US bank. At the same time a LC importer receives goods from a US exporter and needs to pay the US exporter USD 10 million. The LC exporter sells the USD 10 million deposit in the forex market (made by the large banks) in exchange for LCC 100 million, while the LC importer buys USD 10 million in the forex market, and pays LCC 100 million for the USD 10 million. He then pays the US exporter USD 10 million.

In this example the supply of and the demand for forex are equal, and the exchange rate will not have changed. There are other sources of supply and demand. You will recall from our depiction of the financial system shown earlier that one of the four sectors that make up the ultimate lenders and borrowers is the *foreign sector*. This is where the other part of the forex market fits in. The foreign sector is able to supply funds to LC, domestic institutions are able to lend to the foreign sector, and the foreign sector is able to borrow funds in the local market (i.e. issue securities in the local market).

Thus the forex market, essentially (it is more complex, but this is the essence), is made up of the:

- *supply* of forex forthcoming from:
  - foreign lenders (as depicted) (i.e. foreign investors),
  - local institutions borrowing offshore, and
  - exporters, and the
- *demand* for forex forthcoming from:
  - foreign borrowers issuing foreign securities locally,
  - local institutions lending / investing offshore, and
  - importers.

Thus, it will be apparent that in order for a forex market to function there needs to be a demand for and a supply of forex. *Demand* is the demand for, say, USD, the counterpart of which is the *supply* of LCC. This cannot be satisfied without a *supply* of USD, the counterpart of which is a *demand* for LCC. The forex market brings these *demanders* and *suppliers* together, and the exchange rates of the LCC against foreign currencies (the USD and others via the cross rates), is the outcome of these forces of supply and demand.

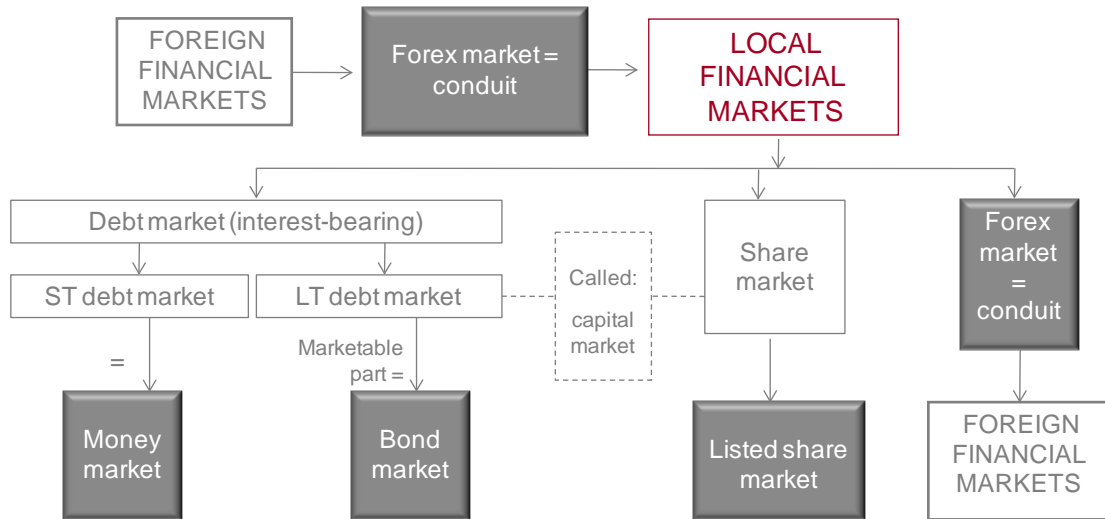


Figure 9: financial markets

In terms of investments, the forex market should be seen as a conduit for foreigners to the local financial markets and for locals to the foreign financial markets. The markets discussed thus far may be depicted as in Figure 9.

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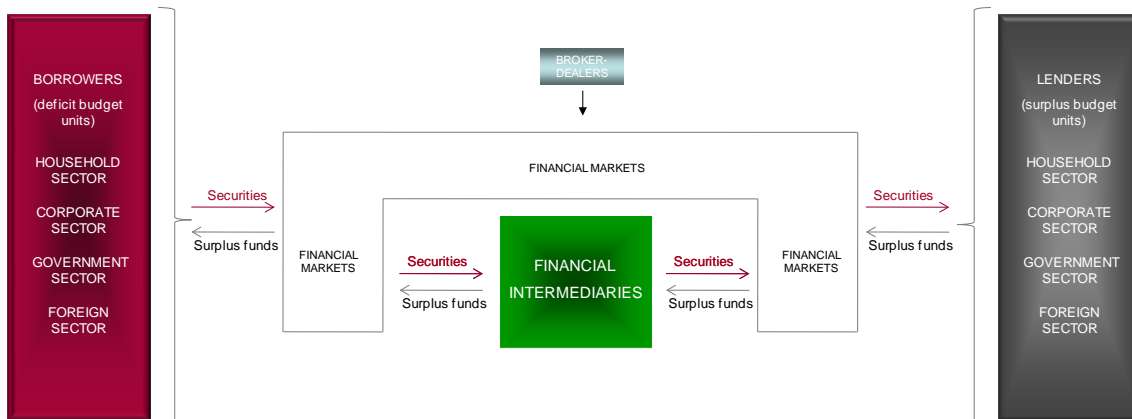


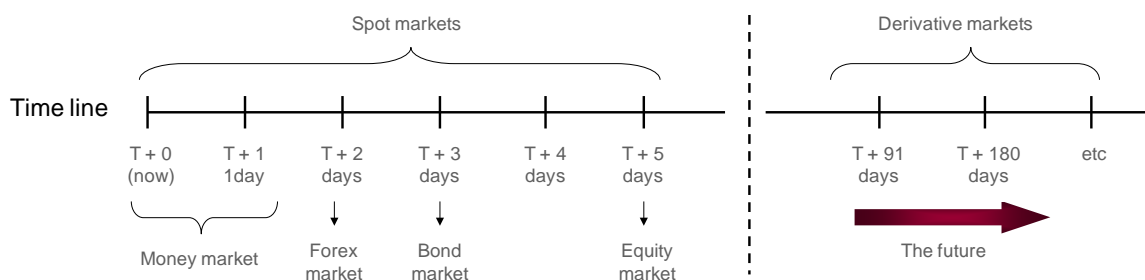
Figure 10: financial markets

In terms of the lending and borrowing process, the financial markets (spot) can be depicted as in Figure 10. All lending and borrowing (and forex transactions) takes place via financial markets.

### 2.7.6 Spot and derivative markets

When a financial market transaction is effected today (T+0) and settled asap, it is settled on T+0 or T+ a few days from T+0. For example, in the money market deals are settled on the day of the transaction (T+0), or the next day (T+1). In the bond market settlement takes place on T+3 and in the share market on T+5 (some on T+3). These are termed *spot market* or *cash market* deals (see Figure 11).

Spot deals, which are settled asap (T+0 to T+5), are differentiated from *derivative market* deals. They are deals done on T+0 and settled on specific days in the future *other than on spot settlement days* (T+0 to T+5). Derivative markets are also sometimes called *forward markets* (even though there are *forwards* as part of the derivatives group). The derivative markets are depicted in Figure 12.



Spot market = cash market = deal settled asap

Derivative markets = deal settled in future at prices determined NOW

Figure 11: settlement in spot / cash markets & derivative markets

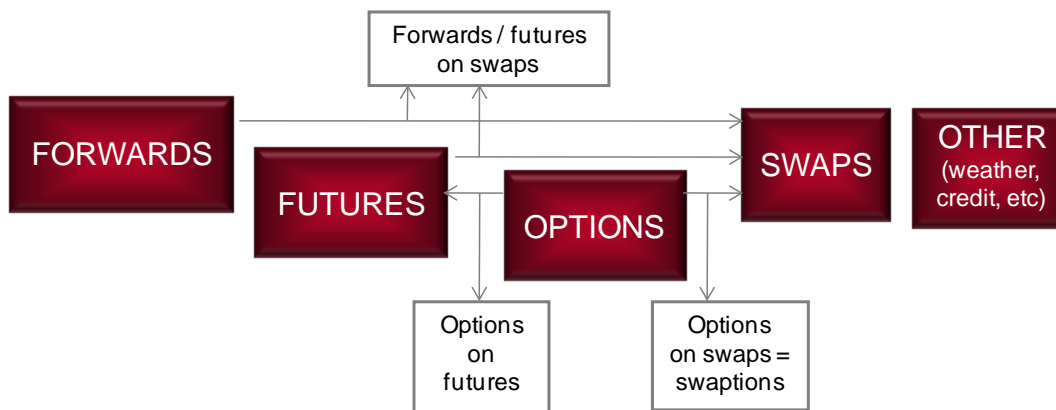


Figure 12: derivative instruments / markets

The derivative markets are mentioned here for the sake of completeness and also because two of the group, futures and options, can be used, and are used, as substitutes for the instruments of debt and shares. We will return to this issue.

## 2.8 Element 5: money creation

Money creation is an integral part of the financial system, and a significant part of the investment environment in terms of new financial instrument (debt) creation, inflation and interest rates. Interest rates are important for many reasons, including being a target / reflection of monetary policy actions and the valuation of financial instrument (debt and shares) and income-property assets.

Money is *anything that is generally accepted as a means of payment*. In the distant past money has been many different objects, but stuck in our financial psyches are gold and silver coins. Today, money has two components:

- central bank notes and coins (N&C) and
- bank deposits (BD)

held by the local non-bank private sector (NBPS). The outstanding amount of these (measured monthly in most countries) is therefore the amount of money in circulation (AMIC or just M, also called the money stock<sup>26</sup>). There are many different measures of money; for the sake of simplicity we use M3, which encompasses all deposits of the NBPS plus its holdings of notes and coins (but from hereon we call it M):

$$M = \text{N\&C} + \text{BD of the NBPS.}$$

One of the oldest theories in economics is the quantity theory of money of Irving Fisher. In slightly amended form it can be expressed as:

$$\Delta M \times \Delta V = \Delta P \times \Delta \text{RGPD}$$

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where  $\Delta$  denotes change over a period,  $M$  = money,  $V$  = velocity of circulation of  $M$ ,  $P$  = price level,  $RGDP$  = GDP in real terms (i.e. after adjusting for  $P$ ). It will also be evident that  $P \times RGDP$  = nominal GDP (NGDP).

Given that  $V$  is stable in the long-term,  $\Delta M$  translates approximately into  $\Delta RGDP$  and  $\Delta P$ . In a particular country<sup>27</sup>, for example, over the past 40 years (roughly):

$$\begin{aligned}\Delta M &= +14\% \\ &= \Delta P (9\%) + \Delta RGDP (5\%).\end{aligned}$$

It is argued that an increase in  $RGDP$  cannot take place without an increase in  $M$ , and that if  $M$  growth is higher than the economy's ability to adjust to the increased demand underlying the change in  $M$ , inflation results and growth suffers. In other words, if the growth rate in  $M$  is kept to a level consistent with the economy's ability to adjust to the increased demand for goods and services, growth will increase with little impact on  $P$ . Thus, monetary policy endeavours to "control" the increase in  $M$  to a level consistent with the economy's ability to accommodate increased demand.

What makes up GDP? It is:

$$\begin{aligned}C + I &= GDE \\ GDE + X - M &= GDP \text{ (expenditure on)}\end{aligned}$$





where  $C$  = consumption expenditure of the private and government sectors,  $I$  = investment of the private and government sectors,  $X$  = exports,  $M$  = imports. It may also be seen as follows:

$$C + I = \text{GDE} = \text{domestic expenditure} = \text{domestic demand.}$$

$$X - M = \text{trade account balance (TAB)} = \text{net foreign demand.}$$

In many countries  $C + I$  = about 70–80% of GDP. How does this fit with money creation? It fits with how money is created. New money = a new bank deposit held by the NBPS (we’ll ignore N&C because it is a minor part of  $M$ ), is created by a bank making a new loan to the NBPS or government. Allow us to present an example.

Company B borrows LCC100 million from a bank through the issue to it of LCC100 million securities (debt instruments such as bonds) with the purpose of purchasing LCC100 million goods from Company L. The bank credits Company B’s current account with LCC100 million and Company B pays Company L LCC100 million by internet transfer (i.e. electronic funds transfer – EFT). Company L thus becomes a surplus economic unit (new bank deposit), while Company B becomes a deficit economic unit (bank loan via the issue of bonds to the bank).

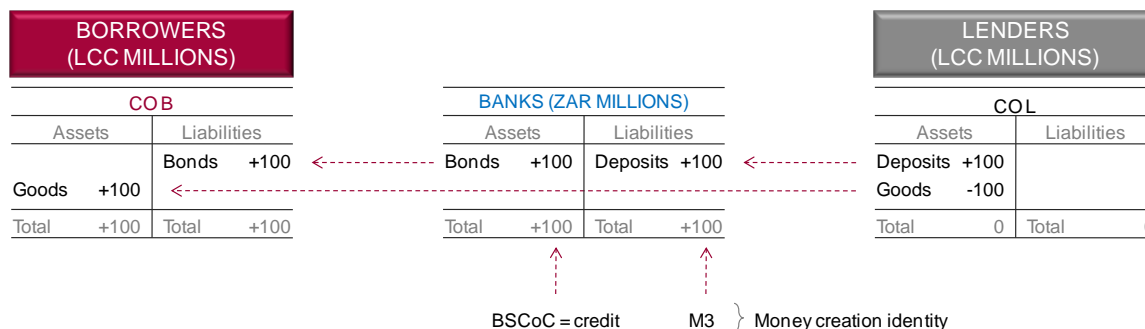
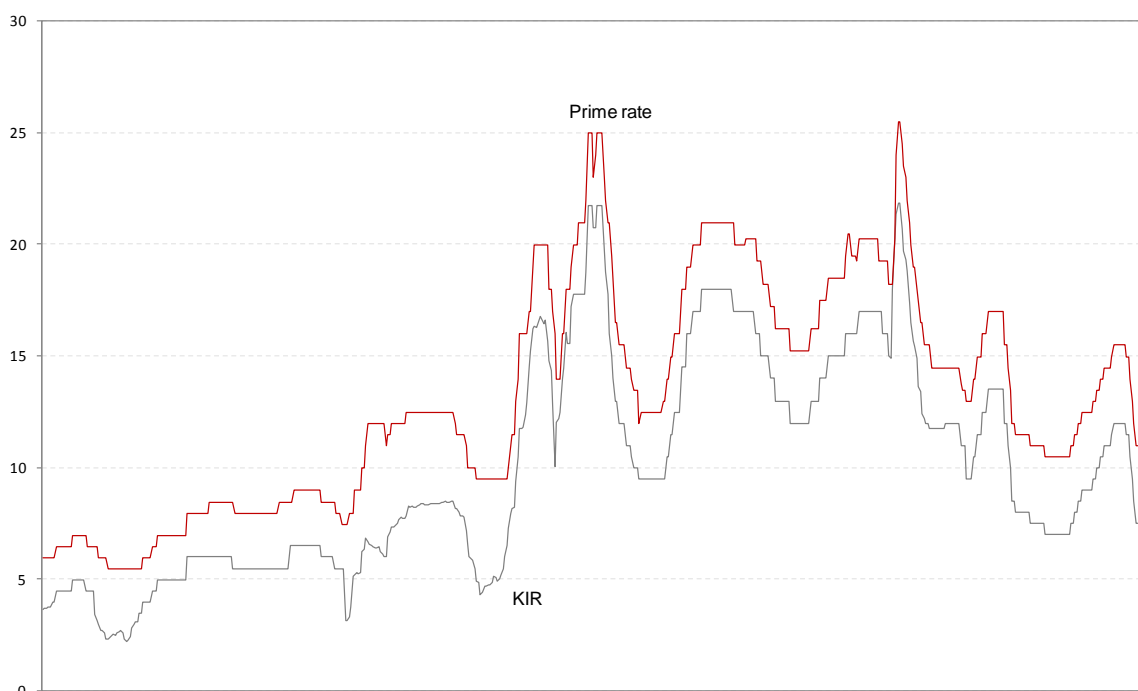


Figure 13: money creation

As shown in Figure 13, the banking sector has a new asset (+LCC100 million bonds of Company B = a new loan) and a new deposit liability (+LCC100 million deposits of Company L = new money). Thus,  $M$  has increased by LCC100 million and the *balance sheet cause of change* (BSCoC) in  $M$  is the *loan by the bank* (in the form of the purchase of new bonds issued by Company B and purchased by it). The purchase by the bank of bonds is new credit (loan) creation.

Money was created by balance sheet entries, but, and this is crucial knowledge, underlying it was a “demand” for bank credit (loan), and underlying the demand for credit was an economic activity = a demand for goods / services. If the “goods” are a new factory to be built, investment ( $I$ ) increases; if the “goods” are consumption goods,  $C$  increases. It was made possible by money creation.<sup>28</sup>

In the light of this revelation, what is monetary policy? It is about controlling the growth rate in  $M$  creation. As we saw, underlying money creation is the increased demand for goods and services ( $\Delta C + I$ ). How does the central bank (CB) do this? It implements monetary policy by creating a permanent liquidity shortage (LS). This means that it forces, via open market operations (OMO), the banks to borrow from it on an overnight but permanent basis an amount of money (called *reserves* –  $R$ ) at the CB's Key Interest Rate (KIR) (also called repo rate, basis rate, discount rate, and so on). This KIR directly influences the interbank lending rate, the call deposit and other deposit rates of the banks, and, via the bank margin (the margin that the banks endeavour to earn between what they pay for deposits and what they earn on assets = credit extended), bank lending rates. The bank lending rate best known is the prime rate (PR); it is a benchmark rate, i.e. some borrowers will pay, for example,  $PR - 2\%$  while others will pay  $PR + 1\%$ .



**Figure 14:** KIR & prime rate (month-ends over 50 years)

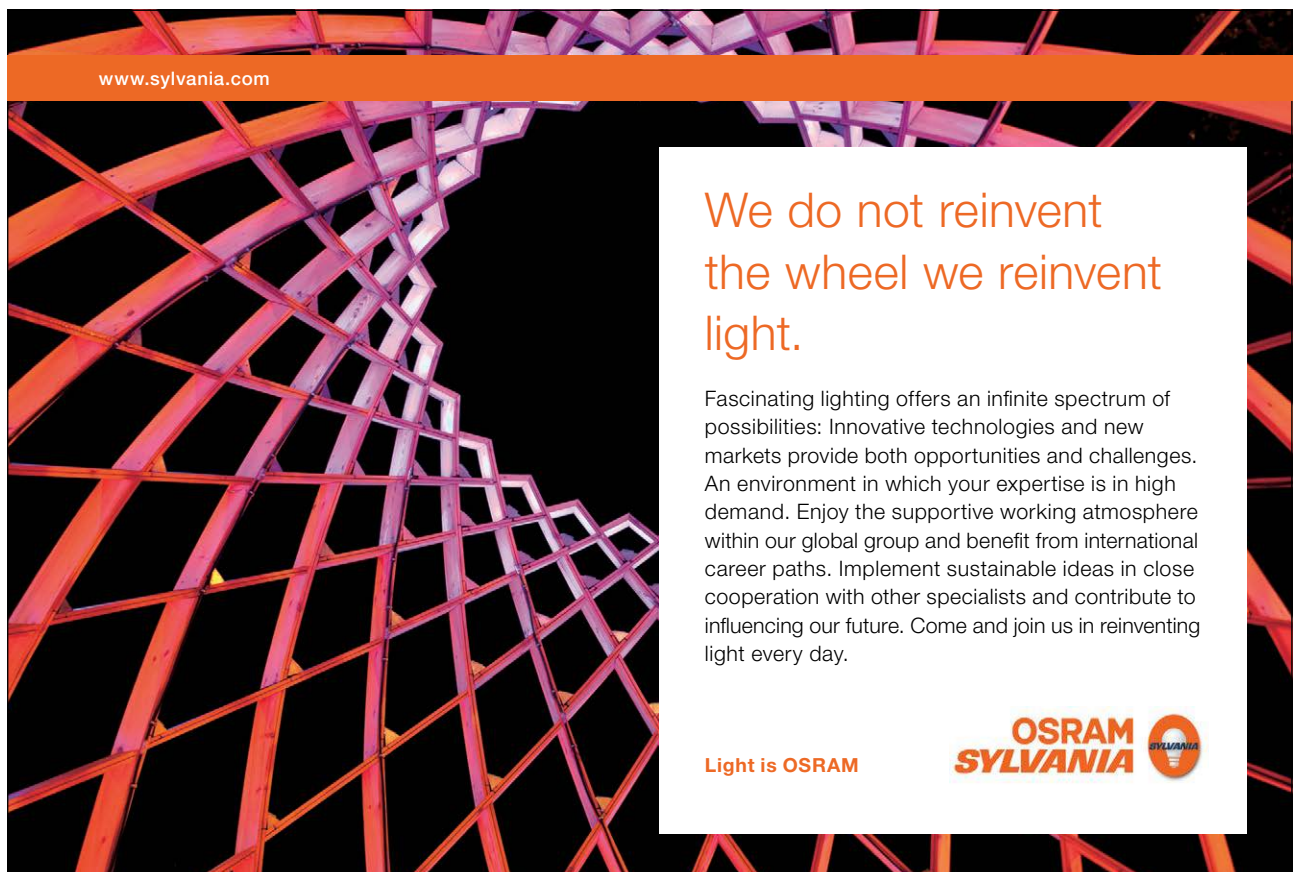
The ultimate aim of the policy is to influence the growth rate in bank lending, i.e. the demand for credit. As you now know, additional bank lending is the counterpart of money growth and underlying bank credit growth is increased demand for goods and services ( $\Delta C + I$ ). It will be evident that purpose is to harmonise the additional demand for goods and services with the economy's ability to satisfy the additional demand.

Figure 14 shows the relationship between the banks' PR and the KIR over a period of almost 50 years for a particular country. It will be seen that in this case a change in the KIR is immediately translated into an equal change in PR. This can only be achieved if the CB has control over bank liquidity, and makes the KIR effective by engineering a permanent LS.

## 2.9 Element 6: price discovery

The prices of debt (= interest rates, from which prices are derived) and shares (= prices, influenced by interest rates) are discovered in the financial markets, by the interplay of demand and supply. Or are they – when the supply of credit is unlimited (in the sense that credit is supplied if the individual borrower is creditworthy or the corporate project is viable)?

Given such a monetary system, it is evident that a referee (a CB) is required and that interest rates cannot be “free to find their own levels”. The reason is clear: because the CB uses interest rates to influence the growth rate in the demand for loans / credit and therefore in  $M$ . Thus, the CB in essence “sets” the lower point of the yield curve<sup>29</sup> (see Figure 14) and this point becomes the reference point for all interest rates. Even rates for 20 to 30-year investments are affected by the short-term rates.




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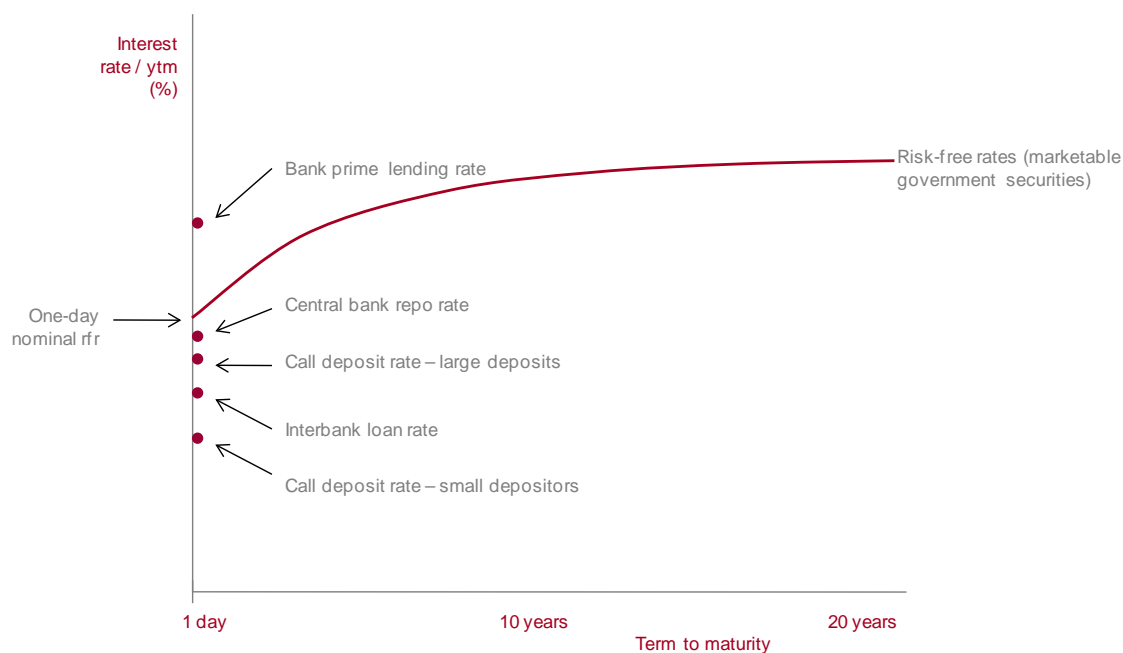
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**Figure 14:** short-term banking rates & yield curve for government securities

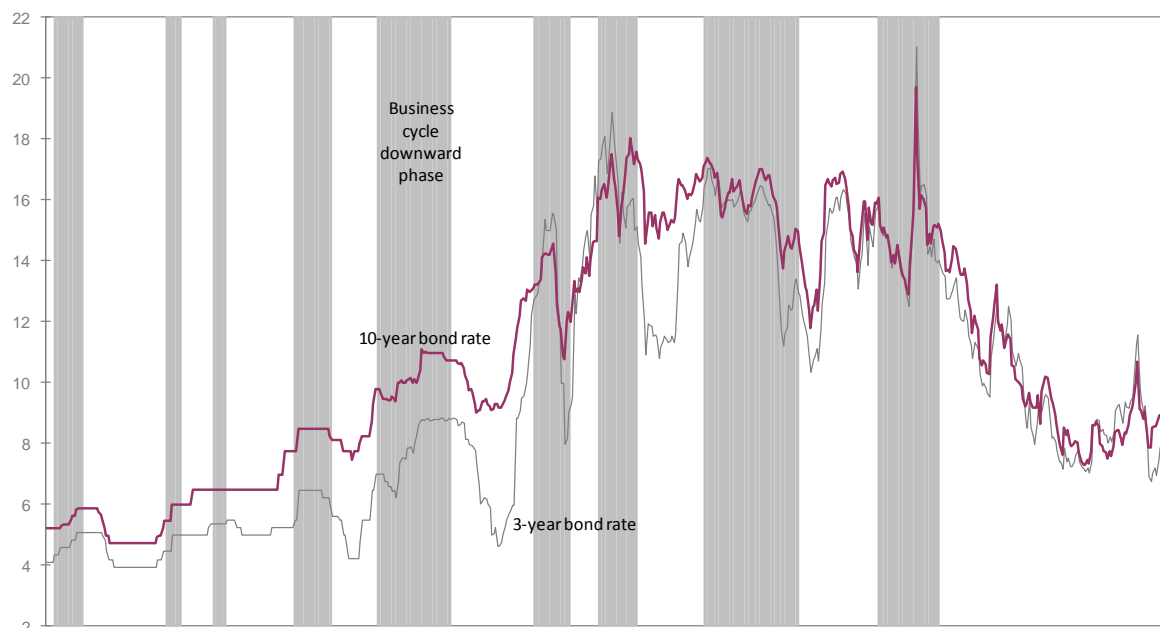
A yield curve is a snapshot” of interest rates and is differentiated from a time series of interest rates, which is a specific rate/s / prices over a period of time. Figure 15 is an example of the latter [in this case rates (ytm) over a period of 50 years].

Interest rates are also a major input into the valuation of shares as we shall see later. While interest rates and share prices are fundamentally tied to the KIR, in the share market the outcome of supply and demand (share prices) can be different, and substantially so, from the fair value prices (FVP) dictated by interest rates and company profits. This vital issue later is taken further later.

## 2.10 Allied participants in the financial system

From the above discussion it will be evident that there are a number of allied participants on the financial system. By this we mean participants other than the *principals* (those who have financial liabilities or assets or both). As we now know, the principals are:

- Lenders.
- Borrowers.
- Financial intermediaries.



**Figure 15:** 3-year and 10-year bond rates

The allied participants, who play a major role in terms of facilitating the lending and borrowing process (the primary market) and the secondary markets, are the financial exchanges and their members. Also we need to mention the fund managers, who are actively involved in sophisticated financial market research and therefore play a major role in price discovery, and the regulators of the financial markets. Thus, the allied non-principal participants in the financial markets are:

- Financial exchanges.
- Broker-dealers.
- Rating agencies.
- Fund managers.
- Regulators.

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