

Chapter 1

Introduction to the financial system

1.1 Introduction

We begin our study of the UK financial system with an introduction to the role of a financial system in an economy. The financial system is at the heart of the economy, supplying finance, enabling transfers of payments and enabling agents to manage risk. In the UK economy, which has an international financial system, that system also provides many jobs, and makes a significant contribution to the output of the country and the balance of payments. We start the introduction with a very simple model of an economy and then extend the analysis throughout the rest of this and the next chapter. A second objective is to establish some of the basic financial concepts which will be drawn upon throughout this book

1.2 The role of the financial system

To help us to understand the role played by a financial system in a mature economy such as that of the UK we start by constructing a simplified model of an economy. In this model the economy is divided into two distinct groups or sectors. The first is the household sector, which is assumed to be the ultimate owner of all the resources of the economy. In the early stages of development of an economy the household unit would have undertaken production of any goods consumed. As economies have developed, a form of specialisation has generally taken place so that the proximate ownership and control of much of the productive resources of the economy, such as land, buildings and machinery, have been vested in units making up the second sector, which we call the firms sector. We will examine the financial relationships between these two sectors later. In our simple model it is the firms sector which organises the production of goods and services in the economy. In exchange for these goods and services, households hire out their resources of land, labour and so on. At this stage we ignore the role of the government and we assume that the economy is closed, so that there

2 Introduction to the financial system

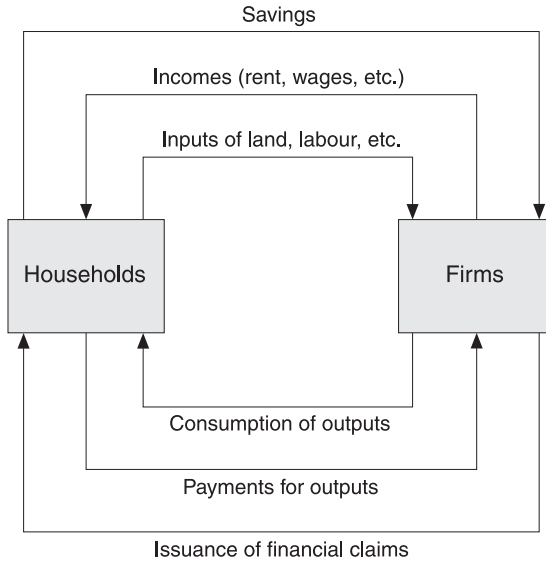


Figure 1.1 The circular flow of income, expenditure and finance

is no exchange of goods and services with other economies. The real flows in this simple economy are set out in the inner loop of figure 1.1.

In this simple economy it would not be an easy task for households to attempt to satisfy their wants. The greater the number of commodities available in the economy, the greater would be the task. This can be seen by considering the choices open to households. Households can consume the commodities they own, they can exchange these commodities for commodities owned by other households, or they can use these commodities as inputs to create new commodities. In the last situation the household would have to hire out the commodities to an existing firm in exchange for the firm's output or alternatively create a new firm. In the case of exchanging commodities with other households there would clearly be many difficulties. For a successful transaction to take place between two parties in such a barter economy, it is necessary for each of the two parties to want simultaneously that which the other party is offering to exchange. This requirement is termed 'double coincidence of wants'. There would be considerable costs involved both in searching for a suitable party with which to trade and also in reaching an agreement over the terms of the trade. Such costs would limit the amount of trade taking place and would eventually lead to pressure for general agreement to use a single commodity as a standard unit of exchange, into which all other commodities can be converted. The

commodity used as the unit of exchange is known as money and various commodities have been used as money over time, including cowrie shells, cattle, gold, silver and cigarettes. The main criterion for the development of a commodity as money is that it is generally acceptable in exchange for other commodities. With the development of money, the act of sale can be separated from the act of purchase.

We can now introduce money into our simple economy so that households are paid in money for the resources they hire out to firms and in turn households use that money to purchase the outputs of firms. The middle circuit in figure 1.1 denotes these monetary flows and are the flows corresponding to the real flows of goods and services occurring in the opposite direction. We should note that by aggregating all firms into one sector we are considering flows taking place only between firms and households and are therefore ignoring the considerable flows which take place between firms. That is to say, we are considering only inter-sector flows and ignoring intra-sector flows.

In this simple economy any expenditure in excess of current income by a household or a firm could occur only if the household or firm had accumulated money balances by not spending all of its income received in past periods. This is clearly a constraint on economic development, since firms need to invest, that is, replace, maintain or add to existing real assets such as buildings and machinery. As the economy becomes more sophisticated, investment requires larger amounts of accumulated funds. Various expedients were developed to enable firms to overcome such constraints. For example, partnerships were formed so that accumulated savings could be pooled. The next major stage in the development of financing arrangements came with borrowing. Those households which did not spend all of their current income on consumption, that is, saved some of their income, could lend these funds to firms, which in turn could use these funds to finance investment. In exchange for these funds, firms would issue claims, which are effectively sophisticated IOUs, which promise some benefits to the lender of funds at some date or dates in the future. The nature of financial claims and the various types of claims in existence are discussed in the next section.

The ability to finance investment through borrowing undoubtedly encourages economic development and the existence of financial claims also stimulates household saving. The investment and saving flows in our simple economy are represented by the outer loop of figure 1.1. The non-spending of income (or saving) by households can be regarded as a leakage of funds from the circular flow of income and expenditure captured in the middle loop of figure 1.1. This household saving, though, finds its way into firms' investment and firms' investment involves the purchase of capital equipment from other firms, so the leaked funds are injected back into the circuit.

We can now see one of the main roles of a financial system, which is to provide the mechanisms by which funds can be transferred from those with surplus funds to those who wish to borrow. In other words, the financial system acts as an intermediary between surplus and deficit units. In terms of figure 1.1, this function is represented by the outer loop. It is clear therefore that the financial system plays an important role in the allocation of funds to their most efficient use among competing demands. In a market system such as the UK financial system, this allocation is achieved through the price mechanism, with the various prices being set within the relevant financial markets, which are themselves part of the financial system. The existence of financial markets also enables wealth holders to alter the composition of their portfolios. A second role for a financial system is to provide the mechanisms for the middle money flows, that is, the payments mechanism. Further functions of a financial system, which will be explored throughout this book, are the provision of risk management services through insurance and derivatives, as well as the provision of special financial services such as pension services.

We examine in the next section the nature of the financial claims which underlie these flows.

1.3 Financial claims

A financial claim can be defined as a claim to the payment of a sum of money at some future date or dates. A borrower of funds issues a financial claim in return for the funds. The lender of funds holds the borrower's financial claim and is said to hold a financial asset. The issuer of the claim is said to have a financial liability. By definition therefore the sum of financial assets in existence will exactly equal the sum of liabilities in this closed economy. To take an example, a bank deposit is a sum of money lent by an individual or company to a bank. The deposit is therefore a liability of the borrower of funds, which is the bank. The depositor holds a financial asset, that is, a financial claim on the bank. Another term commonly used to denote a financial claim is a financial instrument.

The existence of a wide variety of financial instruments in a mature financial system, such as the UK system, can be explained by reference to consumer theory. Traditional consumer theory explains the demand for a commodity in terms of utility and a budget constraint, with the implication that a particular good can be identified as separate from other goods. In contrast Lancaster (1966) argues that:

- (i) all goods possess objective characteristics, properties or attributes;
- (ii) these characteristics form the object of consumer choice.

In the same way, a financial instrument can be considered to be a 'bundle' of different characteristics. Because individual agents place different

emphasis on the various characteristics, a wide range of financial instruments is supplied. It is now necessary to examine the different characteristics possessed by financial instruments. The most important of these are risk, liquidity, real value certainty, expected return, term to maturity, currency denomination and divisibility.

1.3.1 *Characteristics of financial claims*

Risk

Risk is a fundamental concept in finance and it is one to which we will return many times throughout the book. What follows is a brief introduction to the nature of financial risk.

When we talk about risk in relation to a financial instrument we are referring to the fact that some future outcome affecting that instrument is not known with certainty. The uncertain outcome may, for example, be changes in the price of the security, or default with respect to repayment of capital or income stream. Although such outcomes are uncertain, an individual may have some view about the likelihood of particular outcomes occurring. Another way of stating this is that the individual will view some outcomes as more likely than others. Such views are likely to be formed on the basis of past experience of such outcomes occurring, although other relevant information may also be used.

The next step in assessing the particular risk of the financial instrument is to assign subjective probabilities to the different outcomes that may occur. The resulting probability distribution provides us with the individual's view as to the most likely outcome, that is, the expected value of the distribution. The spread of the distribution indicates the degree to which the outcome will be much greater or much less than expected. The greater the spread, the greater is the risk that an outcome far removed from that expected will occur. The most common measure of risk is in fact the standard deviation of the probability distribution, a measure which increases as the spread widens.

To take an example, a person invests £1,000 in the ordinary shares of a company. The value of the shares in one year's time, that is, the price of those shares plus any income received from them in the form of dividends, is uncertain. The value may have risen or fallen; however, this person will believe some range of values is more likely than others. For example, he or she may believe that there is a 50% chance that the value of the shares in one year's time will be in the range £1,000 to £1,200. Figure 1.2 illustrates one possible distribution of values.

The expected value of this distribution is £1,090 and the standard deviation, or measure of risk, is £161. A larger spread, that is, a larger standard deviation, would indicate the potential for a larger reward and, conversely, the potential for a larger loss around a particular expected value; that is, the level of risk is higher.

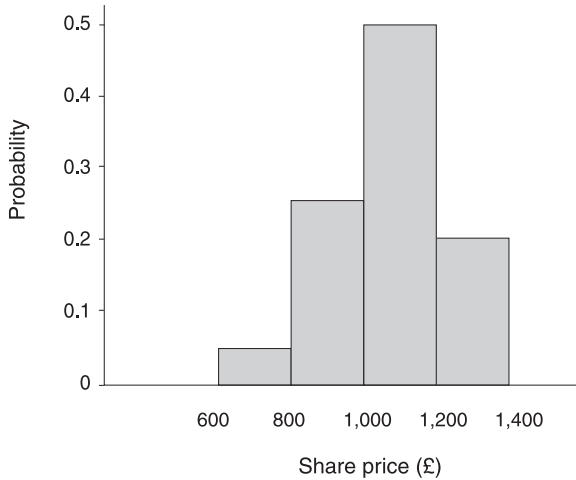


Figure 1.2 Hypothetical probabilities of a share price in one year's time

In these introductory remarks on the nature of risk, two types of risk were mentioned, namely price risk (or market risk, i.e. the risk that the price of the security will change) and the risk of not being repaid the sum lent or any interest promised in the claim, known as default risk. During the course of this book we will consider many other types of financial risk.

Liquidity

Liquidity refers to the ease and speed with which a financial instrument can be turned into cash without loss. This will depend upon on the asset being redeemable or marketable on an organised market. Thus, for example, a bank sight deposit can be withdrawn or redeemed on demand and is therefore very liquid. In contrast, listed shares can be sold on a stock exchange but the precise amount of cash obtained will depend on the market valuation at the time of sale. Hence listed shares are less liquid than sight deposits. As a final example, a bank loan is an agreement between two parties, the bank and the borrower, and there is unlikely to be a third party willing to purchase the loan from the bank before it matures. That is to say, the bank loan is not marketable.¹ The existence of an organised market for an instrument and the ability to deal at short notice enhances the instrument's liquidity. It is

¹ Note, though, that since the 1980s there has been a growing trend towards packaging loan-type assets, such as mortgages, to make them marketable so that they can be sold on; this process is part of a larger phenomenon termed securitisation – for further discussion see section 3.8.

possible to devise a spectrum of liquidity along which different financial instruments can be positioned. Such an analysis is crude and subject to a number of exceptions but is still illustrative. At the very liquid end we would find short-term deposits, moving through longer-term deposits, where funds are tied up for longer periods, through bonds and shares, where their marketability provides some degree of liquidity, to long-term loans, life policies and pension rights. Life policies and pension rights are considered to be very illiquid when they are held to maturity, although it has become increasingly easier to turn them into cash at short notice, albeit at considerable financial penalty, the further the date of encashment is from the maturity date.

Real value certainty

A third distinguishing characteristic of financial instruments is real value certainty, which refers to their susceptibility to loss due to a rise in the general level of prices. The maintenance of the real value of an asset is likely to be an important consideration for those who are lending funds over a long period. An individual acquiring assets to draw upon in retirement will want to ensure that the purchasing power of those assets is at least as great in retirement as when the assets were acquired. Financial instruments whose values are fixed in money terms, for example a bank deposit, will find their real value eroded when the rate of inflation exceeds the rate of interest earned. Over most of the 1970s (and for some of the period since the 2007–8 financial crisis), inflation exceeded the interest rate earned on bank and building society deposits in the UK and as a consequence the real value of such deposits was eroded. Ordinary shares are an instrument which, if held over a few years, have tended to increase in value in line with or above the rise in the general price level. The asset which has tended to provide the best protection against erosion in value by inflation is not a financial asset but the physical asset of property. This is not to say that there are not times when the real value of property does decrease, and an example of this is the decline in the real value of residential property in the late 1980s and early 1990s. Also, the years leading up to 2010 saw significant falls in property prices. Rather, it is to say that over a number of years property has tended to increase in value by more than inflation. This, as we shall see in chapter 4, explains why the long-term investment institutions are significant holders of property in their portfolios.

Expected return

Most financial instruments offer an explicit cash return to their holders. This return takes the form of a rate of interest or dividend and, for those instruments subject to changes in their market price, there is an additional element of return in the form of an appreciation in their value. Instruments subject to changes in price are termed capital uncertain and include bonds

and equities. For such capital uncertain instruments it will be the expected return (see above section on risk) that is used to determine whether to purchase or hold on to the instrument. *Ceteris paribus*, the higher the expected return the greater will be the demand for the instrument. In practice, however, a high return on an asset may also indicate that there is a premium component to the return to compensate the holder for some disadvantage, such as illiquidity or high risk.

Term to maturity

Financial instruments vary widely according to the characteristic of term to maturity. Sight deposits at banks have zero term to maturity, as they can be withdrawn on demand. At the other end of the spectrum 'consols' (a type of government bond) and equity have no redemption date and therefore possess an infinite term to maturity. Between these two extremes, financial instruments are issued with a wide range of maturities. In general, returns on instruments identical except for their term to maturity will reflect both expectations of future interest rate changes and the loss of liquidity in holding long-term as opposed to short-term instruments. This is examined in more detail in chapter 8.

Currency denomination

With the general reduction in restrictions on the movement of capital across national boundaries, the currency denomination of a financial instrument has assumed greater importance. This adds a further component to the return on non-domestic instruments, in the form of the appreciation or depreciation of the relevant exchange rate.

Divisibility

This characteristic reflects the degree to which the instrument can be subdivided into small units for transaction purposes. For example, a sight deposit is fully divisible whereas Treasury bills are sold in minimum denominations and hence are not divisible. The degree of divisibility is therefore an additional determinant of an instrument's liquidity.

The characteristics approach to analysing financial instruments can also provide some indication of why an economic agent, such as an individual or company, will desire to hold more than one type of financial asset. It is likely that economic agents will hold their wealth in different forms so as to meet a number of different financial objectives. For example, individuals may be uncertain about their level of income or consumption in the near future and so can meet this uncertainty by holding wealth in a form which can be drawn on at short notice. That is, some wealth will be held as liquid assets such as bank deposits. Individuals may also have the objective of

holding wealth over a long period, for the purpose of providing income in retirement, say, and will want these funds to keep their purchasing power. This may lead to the holding of some funds in the form of ordinary shares. From this analysis we can see that an economic agent is likely to hold a collection or portfolio of assets, where the mix of characteristics underlying the assets in the portfolio will satisfy the various objectives of the agent.

We have referred to some specific types of financial instruments in this section, such as a bank deposit and an ordinary share. These are examples of the two general types of claim, namely debt and equity, which dominate the types of financial instruments in existence. We shall finish this section with a look at the characteristics of these two general types of claim.

1.3.2 *Types of financial claim*

Debt

Debt is a financial claim which is normally due to be repaid on a specified future date, with interest being paid at regular intervals until repayment. Examples of debt instruments are deposits, loans, bills and bonds.

A deposit is a claim which records the liability of a financial institution to repay a sum of money in the future to the depositor (the lender of funds to the institution). A variety of deposit types exist, differing mainly in the arrangements for repayment; so, for example, a sight deposit with a bank would be repayable on demand while a time deposit is repayable after a given period of notice. Deposits are generally considered to be at the liquid end of the spectrum, although there are some exceptions to this where a deposit may have a repayment date of up to five years from the date of issue. Deposits are susceptible to default risk, albeit such risk is considered to be relatively low, as financial institutions rarely default – though exceptions do occur, as in the case of BCCI (the Bank of Credit and Commerce International, which failed in 1991).² Deposits can also be classified according to their size: retail deposits are small and wholesale deposits are large. Financial institutions have also issued certificates of deposit (CDs), which are instruments acknowledging the existence of a deposit for a fixed period but which can be sold in the money markets (i.e. they possess the characteristic of marketability – see chapter 9 for further discussion).

The majority of loans are made by financial institutions and usually specify a fixed date for repayment. The term to maturity of the loan generally varies according to the purpose for which the finance is required, and may be up to 30 years hence in the case of a mortgage. Most bank loans, though, have a repayment date of less than 10 years from the date they are issued. Loans are susceptible to default risk, though, as we shall see in section 3.9,

2 Note also that deposits are insured against default to a limited extent – see chapter 15 for further details.

financial institutions attempt to minimise such risks through a variety of methods. Loans which are secured, such as a mortgage on property, have a lower default risk than unsecured loans, as in the event of non-repayment the holder of the claim can sell the security to recover the debt. Loans are generally considered to be illiquid, as they are agreements between two parties and therefore not marketable except by way of securitisation.

Bills of exchange can be considered to be promises to pay a certain sum of money at a fixed date and are analogous to postdated cheques. Commercial bills are used to finance trade and help to reconcile the competing interests of the buyer of the goods, who wishes to delay payment, and the seller, who desires prompt payments. The buyer issues a bill which promises to pay in the future, but the seller receives a financial instrument which can be resold in the money markets (i.e. it is negotiable). The price received from the sale is less than the face value of the bill on maturity and so the bill is said to be discounted. For example, if a £1,000 bill due for redemption in three months' time is sold for £950, the rate of discount over three months is 5.3% $((50/950) \times 100)$, or approximately 21% per annum. Bills are also issued by central government (Treasury bills) and local authorities.

Deposits and loans are claims which generally pay variable rates of interest. In contrast, a bond is a claim which pays a fixed rate of interest, known as a 'coupon payment', at regular intervals. The bond may have a known repayment date, at which time the bond's par value, which is generally £100, is repaid. Some bonds, though, have no definite repayment date and are known as undated bonds, for example 2.5% consolidated stock (consols) issued by the UK government in 1888. In the UK, central government, local government, public boards and companies issue bonds. Bonds issued by the UK government are commonly known as 'gilts' (abbreviation of gilt edged), as the risk of default on such stocks is as close to zero as is possible on a financial instrument. Bonds issued by companies, known as debentures or loan stocks, do carry some risk of default, as do bonds issued by some foreign governments. Another type of bond traded in London is eurobonds. These are issued by international companies, governments and government agencies and are distinguished by not being subject to the tax and other regulations of the country in whose currency they are issued. This freedom from restrictions has led to many innovations in the characteristics of eurobonds and so there exists a wide variety of interest, currency denomination and repayment terms for these bonds (see chapter 11 for further detail on this). All bonds have the characteristic of marketability, which enhances their liquidity. The yield to maturity on a bond can be defined as the rate of discount, which equates the current market price of the bond with the future coupon payments and the repayment of the principal. Thus, for example, the yield to maturity on a five-year £100 bond with a coupon of 10% paid once a year can be calculated by solving for i (the yield to maturity) in the following formula:

$$\text{Market price of bond} = \frac{10}{(1+i)} + \frac{10}{(1+i)^2} + \frac{10}{(1+i)^3} + \frac{10}{(1+i)^4} + \frac{10}{(1+i)^5} + \frac{100}{(1+i)^5}$$

The price at which bonds trade in a market will change as yields on other financial instruments change. It can be seen from the above formula that there is an inverse relationship between the price of a bond and its yield to maturity. This is more easily seen by examining the behaviour of the price of a non-redeemable bond such as a consol. This is equivalent to a perpetuity (a regular payment received without any time limit, i.e. forever). Thus the price of a consol paying a coupon value of £2.50 will be $2.5/i$, assuming that the coupon is paid once per year. Thus, if the market rate of interest on similar securities (i) is 10% per annum, the price of the consol will be £25. However, if the market rate falls to 5% per annum, the price of the consol will rise to £50. If yields on competing financial instruments change, then, given that the coupon is fixed, changes in the market price of a bond keep its yield in line with that of similar financial instruments. Consequently, if a bond is not held to maturity, there is a risk that the price at which the bond is sold will be less than the price at which the bond was bought; that is, bonds are subject to price risk.

A final point about the characteristics of debt instruments is that they are normally susceptible to a reduction in real value due to general price inflation (when the nominal rate of interest is less than the rate of general price inflation). There are some exceptions to this, where debt instruments have been issued with yields that are linked to the retail price index. In the UK two examples of such instruments are index-linked government bonds and index-linked savings certificates.

The final form of debt considered here is a 'repo'. Repo stands for 'sale and repurchase agreement', where one party sells securities to another party for cash, with an agreement to repurchase those securities at an agreed future date and price. In effect it is a way of borrowing securities, with the seller (or borrower) obtaining better terms than would normally be obtained if they simply borrowed cash. The opposite side of the transaction involves the purchase of a security and its subsequent resale and is termed a reverse repo. The buyer of the repo (i.e. the lender of money) should be less concerned about the possibility of default by the borrower since, if default does occur, the lender has the security. Normally, the total money lent will be less than the security purchased. This 'hair cut' provides a safety margin for the lender.

Equity

Equities differ from the types of financial instruments so far described in that they represent a claim to a share in the ownership of a company, rather than evidence of debts. The principal type of equity instrument is the ordinary share issued by limited companies. The main characteristic of

ordinary shares is that the income to be received from them is not fixed in any way. This income payment, known as dividends, constitutes a share in the profits earned by the company. The amount of the total profits earned by the company which is distributed to shareholders is determined by the company's management. The factors determining the dividend payment will include the financial performance of the company and the extent to which the company wishes to retain profits to finance investment. In addition to uncertainty about the income payments on ordinary shares, known as income risk, ordinary shares are also subject to price risk. Ordinary shares are marketable, though it is easier to trade listed shares in larger, well known companies than it is in small companies. The liquidity of the particular ordinary share will therefore depend on its degree of marketability. In times of panic in share markets, for example October 1987,³ it may not be possible to sell a share without incurring a significant loss. One characteristic of ordinary shares which is highly valued is their real value certainty – when held over a sufficiently long period of time the value of shares has generally increased at a rate in excess of the rate of inflation.

1.4 Sectoral analysis of the financial system

1.4.1 Introduction

In the simple circular flow model of the economy introduced in section 1.1 the economy was assumed to comprise two separate groups of decision makers, or sectors, namely households and firms. To take our analysis of the financial system further, we need to consider both a disaggregation of these two sectors and an extension of the economy, to introduce a government and trade with overseas economies. The disaggregation involves splitting the firms sector into industrial firms and firms whose primary activity is financial. The other changes introduce a public sector and an overseas sector. We have now achieved a sectoral breakdown of the economy which roughly corresponds to that used by the Office for National Statistics for the UK economy. The Office for National Statistics in fact identifies five main sectors of the UK economy, with a further breakdown of three of these sectors:

- (i) households;
- (ii) non-financial corporations –
 - (a) private non-financial corporations,
 - (b) public non-financial corporations;
- (iii) financial corporations –
 - (a) monetary financial institutions,
 - (b) insurance corporations and pension funds,
 - (c) other financial intermediaries and auxiliaries;

3 A global stock market crash occurred in October 1987 – see chapter 7 for further details.

- (iv) general government
 - (a) central government,
 - (b) local government;
- (v) rest of the world.

The household sector consists mainly of households, but also includes some other groups such as charities, universities and so on, which the statisticians find difficult to separate out. Ideally, we would like data relating solely to households; however, it is not thought that these other groups distort the overall picture of household behaviour to any significant degree. As described above, the firms sector is split into non-financial and financial corporations. The Office for National Statistics then disaggregates further each of these groups in the construction of sector financial accounts. The general government sector represents government institutions and in most analysis by the Office for National Statistics this is further split into central government and local government. The public sector is composed of general government and public non-financial corporations.

Three sets of national accounts are relevant to the analysis of the financial sector. These are (i) national wealth, (ii) financial wealth and (iii) flow-of-funds accounts. These are discussed in the following sections.

1.4.2 *National wealth*

The first assessment of wealth relating to the UK was the Domesday Book, which, nearly 1,000 years ago and using a census approach, set out the value of the land, animals and mills of England. Over the last 40 years or so government statisticians and academics have adopted statistical techniques to provide an assessment of the nation's wealth today.

The tangible wealth of a nation consists of its national resources and its stocks of goods (which include buildings), durable equipment (which provides services to consumers and producers), stocks of finished goods, raw materials and work in progress. This component is termed 'produced non-financial assets' in the UK statistics. In addition, a nation also possesses intangible wealth, which includes the skill, knowledge and character of its people, otherwise described by economists as human capital. This component is titled 'non-produced non-financial assets'. The final component of a nation's wealth is its claims on wealth in other countries, net of other countries' claims on its own wealth.

The UK national balance sheet at the end of 2013 is summarised in table 1.1. It can be seen that the overall net worth (assets – liabilities) of the UK economy was approximately £7,550 billion, which was equal to 4.4 times gross domestic product (GDP) for the same period.

In addition, balance sheets are prepared for the individual sectors.

We now move on to consider the financial wealth of the nation and flow-of-funds accounts in sections 1.4.3 and 1.4.4 respectively.

Table 1.1 UK national balance sheet, year end 2013 (at current prices)

Category	£billion	£billion
Total produced non-financial assets		7,786.8
Total non-produced non-financial assets		27.2
Total financial assets	2,8729.8	
Total financial liabilities	2,8996.3	
Financial net worth		-266.5
Net worth		7,547.5

Source: Blue Book, table 10.2.

1.4.3 *Financial wealth*

We use the household sector as an example to illustrate the general principles underlying the financial wealth balance sheets. Any reader who is interested in the full detail is referred to chapter 14 of the national accounts Blue Book.⁴

A summary⁵ version of financial wealth of the household sector is presented in table 1.2. It should be noticed that the household sector has a positive financial net worth. This contrasts with the position of other sectors, such as the ‘private non-financial companies’ sector, which in aggregate was a large borrower of funds, so that its financial net worth at year end 2013 was -£2983.2. A notable feature of the accounts is the role of the pension funds and insurance companies in the provision of finance, as the positive asset figure indicates the acquisition of insurance and pension fund securities. The household sector saves via these institutions, which, in their turn, lend to the final borrower; that is, they act as financial intermediaries. Also, the connection between the financial accounts is illustrated by the fact that financial net worth for the UK appears as a component of wealth in tables 1.1 and 1.2.

1.4.4 *Flow-of-funds accounts*

Changes in the values of assets and liabilities in the financial balance sheet between successive periods show the flow of funds into or out of a particular security. Thus, for example, if the value of a sector’s bank deposits at the end of one period was £1,000 but only £500 at the end of the previous period, this means that sector had increased its holdings of bank deposits

4 The Blue Book is produced annually by the Office for National Statistics (ONS) and is available on its website, <https://www.ons.gov.uk>.

5 The original Blue Book table contains far more detail. For example, the category ‘Debt securities’ has nine sub-categories according to the type of debt and the issuer.

Table 1.2 Financial wealth of the household sector,^a year end 2013 (at current prices)

Financial instrument	Asset (£billion)	Liability (£billion)	Balance (£billion)
Currency and deposits	1,356.8		
Debt securities	47.3	1.7	
Loans	18.7	1,519.2	
Equity and investment fund shares/units	610.1		
Insurance, pension and standardised guarantee schemes	3,050.9	50	
Financial derivatives and employee stock options	8.6	4.2	
Other accounts payable/receivable	178.5	75.5	
Total	5,270.9	1,650.6	
Financial net worth			3,620.3

^a Includes non-profit institutions serving households.

Source: Blue Book 2014, table 14.2.

by £500 or equivalently £500 had flowed into bank deposits; hence the term ‘flow of funds’.

The flow-of-funds account for the UK household sector is shown in table 1.3. It should be noted that the structure of the flow-of-funds accounts is the same as that of the financial wealth account described in the previous section, so that again we present a highly summarised version of the Blue Book table. The information is recorded in normal tabular form so a plus sign indicates an increase and a minus sign a reduction, irrespective of whether the category is an asset or liability. As an aid to interpretation of the accounts, consider the item ‘Loans’ in table 1.3. The negative figure for assets shows that borrowers decreased their debt to the household sector by £9,391 million during 2013. On the other hand, the positive value for liabilities indicates the household sector also borrowed £44,357 million during 2013, thus increasing the total indebtedness of the sector. The net effect was an increase of total debt of the household sector, indicating a flow of funds from lenders in other sectors to borrowers within the household sector.

The item ‘Statistical discrepancy between the financial and non-financial accounts’ requires explanation. An alternative measure of net borrowing/net lending can be obtained from the capital account. Starting with saving and deducting investment⁶ and adding the net value of capital transfers

6 Broadly defined to include fixed capital formation, changes in inventories and net acquisitions.

Table 1.3 Flow of funds: household sector,^a 2013

Financial instrument	Assets (£million)	Liabilities (£million)	Balance (£million)
Currency and deposits	52,558		
Debt securities	-33,027	270	
Loans	-9,391	44,357	
Equity and investment fund shares/units	-6133		
Insurance, pension and standardised guarantee schemes	49,919	565	
Financial derivatives and employee stock options	2,496		
Other accounts payable/receivable	4,588	4,225	
Total	61,010	49,417	
Net lending(+)/borrowing(-) from the financial account			11,593
Statistical discrepancy between the financial and non-financial accounts			-11,685
Net borrowing(+)/lending(-) from non-financial accounts			-92

^a Includes non-profit institutions serving households.

Source: Blue Book 2014, table 14.1.

provides a figure for net lending if positive and net borrowing if negative. In principle, the two measures of the net totals of lending (i.e. from the financial and non-financial accounts) by the household sector should be equal but, because of difficulties of measurement and collection of data from a variety of sources, they do not in practice equal each other. The statistical discrepancy represents the gap between the two estimates.

Role of flow-of-funds accounts

There are problems with the data used to construct both national income and financial accounts. The figures making up these accounts are recorded with varying degrees of error. A sector's overall financial position, after calculating all income, expenditure and capital flows, is shown in its financial balance. As noted above, if these flows were accurately recorded and if the sector's financial transactions were likewise identified in full, then the net lending/borrowing from the financial account should equal net lending/borrowing from the non-financial accounts. The errors and omissions in the flows lead to a difference between the financial balance and the sum of financial transactions. This difference is recorded in the summary accounts as the statistical discrepancy. For the public sector and financial institutions,

where most transactions have to be accurately recorded for policy or supervisory purposes, the statistical discrepancy tends to be small – the figures for 2013 for central government, local government and monetary financial institutions were £925 million, –£71 million and £2,739 million, respectively. For the other sectors, where there is less direct collection of statistics, the balancing items are often quite large. In 2013 for the household sector the statistical discrepancy was £11,865 million and for insurance companies, pension funds etc. the large figure of –£34,286 million.

However, despite this drawback there are still many interesting points that can be drawn from a study of a financial account. One fundamental thing that the accounts show is that those people who save in an economy are not the same as those people who invest in physical assets. The financial account thus demonstrates one of the reasons for the existence of financial institutions, which is to channel funds from savers to investors, and it shows the various routes by which the funds flow. This will be considered in more detail in the next chapter. The financial account, by setting the flows for each sector together in a consistent framework, also allows us to obtain a more complete picture of financial relationships when compared with looking at each sector's flows individually. To illustrate this point we show in table 1.4 a summary of the item 'Loans' extracted from table 14.1 of the national income Blue Book. This table shows a net reduction in the loan totals for the domestic economy achieved through a reduction in loans extended (a negative value) but an increase in loans borrowed (a positive value). Similarly, though there was a reduction in loans extended by agents within the household sector, lending by the insurance sector actually increased during 2013. As noted above, table 1.4 is a summary and

Table 1.4 Flow of funds: loans, 2013

	Assets (£million)	Liabilities (£million)
UK	–70,865	18,973
<i>Individual sectors</i>		
Public corporations	–146	–776
Private non-finance corporations	–25,373	–52,930
Monetary financial institutions	–35,853	84
Other financial institutions	–30,441	18,994
Insurance companies	28,664	7,830
Central government	47	488
Local government	1,628	927
Households	–9,391	44,357

Source: Blue Book 2014, table 14.1.

the actual published accounts also contain detail for the various financial instruments, so the flow-of-funds accounts provide much more detail than is recorded here.

1.5 Conclusion

In this chapter we have started our examination of the role of a financial system in an economy, established some fundamental concepts of finance, have introduced data on wealth and financial transactions in the UK and shown the relationship between these. The plan for the rest of the book is that part I, consisting of chapters 2–5, will be concerned with the institutions operating in the UK financial system, before part II, chapters 6–13, proceeds to examine the various financial markets in the UK. Regulation of the financial system is dealt with in chapters 14–16, which comprise part III, and our conclusions are presented in part IV, chapter 17.

We now proceed to chapter 2, where we build on the analysis contained in this chapter and examine further the role of a financial system in mediating between savers and investors before looking at how financial systems evolve.

Self-assessment questions

- (1) What is the role of the financial system?
- (2) Discuss the different characteristics of financial claims.
- (3) What is a 'repo'?
- (4) What do you understand by the term 'flow-of-funds accounts'?