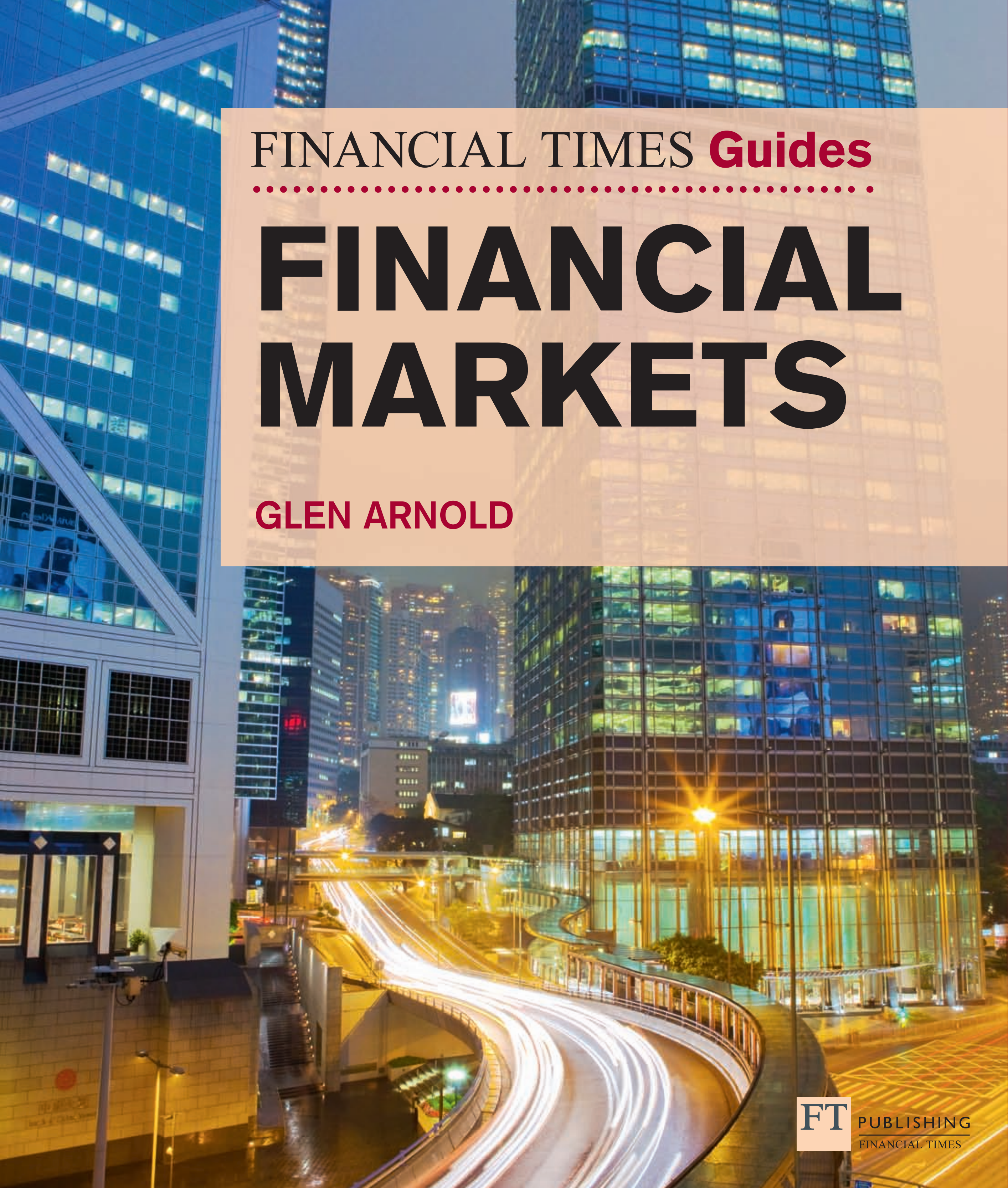
FINANCIAL TIMES **Guides**

FINANCIAL MARKETS

GLEN ARNOLD



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The Financial Times Guide to the Financial Markets

Glen Arnold

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Preface

This book is designed to be an easy-to-read introduction to the financial markets, describing the main financial instruments, markets and institutions. It is written for those who need an authoritative, comprehensive, but not too burdensome, run-down of the workings of modern financial systems.

The target readers include many people working in finance and banking who require a guide to the wide range of markets and instruments. It will also assist business students attempting to gain a good grounding in the activities undertaken by the financial services sector. Then there are investors who wish to understand better the array of financial securities available to them and the way in which these securities are issued and traded.

The way I see it, these readers are looking for a good, up-to-date, jargon-busting book that does not over-load them with academic finance theory and calculations, but does describe how the markets work, what securities are traded and how they impact on all our lives.

I have attempted to make the book international in its outlook, with frequent comparisons of the workings of the major financial centres. However, given that London is the leading international financial centre in the world and that the majority of the expected readership needs to understand the European context, there will be a special focus on the City.

There is a reinvigorated interest in finance following the recent crisis, which originated in the banking world and spread to engulf the wider financial markets and then devastated people's lives through unemployment and lost investments. There is now a recognition like never before of the importance of financial markets, and that has produced a hunger to understand how they function. This book should make a contribution to satisfying that hunger.

I hope you enjoy it.

Glen Arnold

An extensive glossary appears on the free website linked to this book. You can access it at www.pearson-books.com/financialmarkets

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The purpose of financial markets

The financial markets are incredibly exciting places. Every day there is a financial event that deserves reporting to the wider community in TV news broadcasts or newspapers. While not always as dramatic as the collapse of Lehman Brothers or the slashing of interest rates to less than 1 per cent, nevertheless the daily reporting of billions raised for a company to invest in mines in South America, or of one company taking over another, builds up to a picture that tells us that the sector is vital to us all. When the markets fail to work properly we all notice how important they are. For example, take the excessive lending to home buyers in the US in 2004–07 based on poorly thought-through models of the likelihood of default. This was banking at its worst, caused by bad leadership and perverse incentives in the system, which were compounded by idiotic ideas on the distribution of risk through the financial system using complex derivatives deals.

The extent of the power of the financial markets can be amply illustrated by the fear of a bad market reaction expressed in the faces of our political leaders when they announce their economic strategies. If the markets come to believe that there is a risk that a government is pursuing a policy that will result in rising inflation or an inability of the state to finance itself many years from now, they will refuse to buy the bonds that the government is selling to cover the gap between what it raises in taxes and what it spends. To start with they might merely shun the bonds until the interest rate offered has been raised by the government, for example Spain in 2011 had to pay over 3 per cent more to borrow than Germany, despite borrowing in the same currency, the euro. If things get worse the markets will refuse to lend to the country at almost any interest rate (e.g. Greece in 2011).

So you do not need me to tell you of the power and the excitement of the financial markets, from the ups and downs of the bond markets to the mood swings of the share markets, from the frenetic pace of the hedge funds and investment bank traders to the thrills and disasters of private equity investments. What you might need me to explain is how it is that movements in financial markets flow through the system to impact on you and others. What are the mechanisms at play? What are the different types of financial instruments that people put their money into? What do all the bankers and other financial service workers do with their time?

This book is designed to answer questions such as these. This chapter starts that process by explaining in everyday terms why we need financial markets and institutions, and begins to unravel the complexity present in modern markets by looking at their roots.

Why create financial markets and institutions?

To appreciate the importance of finance and financial markets in our lives, try this mental exercise: envisage a world without them. In such a world there are numerous problems that cannot be overcome. So, if we imagine that we are transported back in time to the dawn of history, perhaps we arrive at a small trading settlement at the heart of an agricultural society. Once a week, farmers from the surrounding villages gather to trade by barter. Also, travelling hawkers bring exotic items from hundreds of miles away. Barter trading makes sense because one farmer might produce beef and needs to exchange some of that for grain, cloth and wood. Such trades make each party better off – both sides enjoy a higher standard of living.

Money

But they could have an even higher standard of living if they could solve a problem. How can a beef farmer exchange his 50 bullocks in the much bigger market 120 miles away, where he could obtain a much better price, and then manage to organise the home journey of five cart loads of grain, two of cloth and four of wood received in return? While it can be done, barter is obviously not the best way of going about things. Wouldn't it be far better if the cattle could be exchanged for something that was generally accepted by traders up and down the country as being of value, and that something was small, portable and maintained its value over long periods? Then he could drive his cattle to the market and come home with the value received in his pocket, and not have to deal with 11 carts. Of course, I'm referring to money as a useful **means of exchange**.

Over the years, many varied items have been used as a means of exchange, ranging from cowry shells to cigarettes (in prisons particularly), but gold or silver became the norm. In present times, of course, money is generally represented by paper (bank notes, cheques, etc.), plastic (debit and credit cards) or electronic means. The barter system is inefficient in that it requires the buyer and seller to have mutual and simultaneous wants, a *double coincidence of wants*. The invention of tokens or coins and later paper[1] and electronic transfers as a means of exchange has revolutionised the world. It has enabled people and companies from diverse parts of the globe to conduct business with each other safe in the knowledge that each party will receive what they are due. Individuals and corporations are able to trade their goods and services for a universally accepted means of exchange – money.

In addition to being a convenient means of exchange, money is useful as a **store of value**. Thus our farmer may not want to obtain grain, cloth and wood this month. He might need these items in six months, and so he saves the money until then. This money must be capable of being stored, and keep its value until retrieved – it must not rot, tarnish or depreciate in value through inflation. Money may also be saved as a precaution to get the farmer through a bad patch, or for when he reaches old age.

A third useful thing money does for us is to act as a **unit of account**. It is important that each unit of coinage represents a particular asset value, is identical to units of the same denomination, and that units representing large amounts can be divided into smaller units. In the UK, for example, the **unit of account** is the pound sterling (£) with 100 sub-units. To have a standard unit of account is very important for business and personal decisions. Take a business with two subsidiaries, operating in different markets; it is very useful to observe their relative performances in terms of a common measuring stick.

Banking

Having money introduced to the system leads on to all sorts of wonderful opportunities for enhancing people's lives. What if our farmer has a plan to establish a second farm further up the valley. For this he will need considerable investment: the land has to be purchased, trees removed and oxen bought. If he achieves all of this then a great deal of additional food will be grown, three more families employed, there will be fewer deaths and raised living standards. He has 100 pieces of gold, but he needs 280 to complete the task. From our modern perspective some of the possible answers seem obvious:

- borrow the money
- invite neighbours into a partnership
- set up a company and sell shares in it, thereby offering capital providers a share of the profits.

[1] The Chinese were the first to issue paper banks notes, about 650 AD; the earliest in Europe were issued in Sweden in the seventeenth century.

This book will examine these solutions, as well as many more, in the modern financial era, but to the farmer it is not at all obvious that these are solutions. This is because society has not yet developed rules and systems to allow them to happen. People are afraid to enter into lending or profit-sharing contracts. Imagine you were one of the people the farmer comes to for a loan. What would stop you from lending your family's modest savings of gold pieces, despite the promise of an annual 10 per cent interest and the return of the principal amount at the end of five years? What is worrying you?

Trust, lack of specialised knowledge and poor diversification lie at the heart of the issue. Will the farmer simply run off with the money? Will he prove to be incompetent and incapable of repaying? Is his business plan flawed? You are just a simple farmer yourself, untrained in estimating these risks. Wouldn't it make sense if there was a specialist organisation that has staff dealing with loan applications on a daily basis? They could gather information on the failure rates of different types of business. Over time they gain experience in assessing the character and capability of potential borrowers. They also develop processes for taking other assets as security to protect themselves in the event of default. Very importantly, they can diversify away a large part of the risk because over the course of a year the organisation might lend to hundreds of such ventures. It might have to accept that a handful will fail to repay loans, but, so long as the interest rate charged to all borrowers is high enough to more than cover this, it will not be a problem.

Widespread knowledge of the existence of such an organisation would solve another difficulty for the entrepreneur/farmer. That is, finding people/organisations with capital and willing to place it in a business. He does not have to search far and wide to encounter dozens of people willing to contribute gold pieces to make up the full 180 needed. **Search costs** are reduced because there is an organisation letting the whole community know it is open for business lending.

Of course, what I am describing is banking. Banks (and other complex financial institutions) can only arise in pretty special circumstances. Society has to be sufficiently stable and well-ordered for there to be enforceable property and business rights. There must be a sophisticated legal environment that protects people from rogues and incompetents, by establishing contracts where both sides understand the terms and conditions, and the courts will enforce them. There also needs to be a high-quality social infrastructure. In particular, there needs to be a culture of decency, honesty and integrity. Even today, there are parts of the world that have not made the transition from primitive finance to the more sophisticated. There the law is frequently not obeyed, either in the letter (the rich and powerful can get around the legal system) or in its spirit, because the cultural norms are such that there is little social penalty for bad behaviour.

The terms of business deals are not enforced fairly by the organs of State or the judiciary. Property rights are not upheld and the unscrupulous can oppress the honest businessman or woman.

Depositors

So, bankers with expertise in lending combined with diversification benefits create a valuable component of a society looking to grow its output. But, where is the bank going to get its money from? Initially this might come from a few wealthy owners who each put in, say, 200 pieces of gold. This will allow some lending, but after a while, the bank will run short of cash and so lending stops. However, the bankers will be aware of a need among the savers in society for a safe place to keep their hard-earned money. If they keep it at home there is the danger of theft. Also the savers would like to obtain a rate of return on that money. It makes sense for them to deposit the money in a bank that could offer complete reassurance that it will be returned to them whenever they demand it, and that could earn some interest. Banks are able to offer such a deal by lending out only a proportion of the deposited money. Even as late as the 1840s banks would generally keep one-half of all deposits in the vaults so that (some) customers could withdraw money at any time. In order to be able to offer interest, the other half was lent out to households and businesses at a rate of interest considerably higher than that offered to the depositors. Today the proportion of deposits held back as cash is much less than 50 per cent, with the banks relying on the assumption that the pattern will continue of only a very small fraction of customers withdrawing cash each day; and, anyway, most withdrawals are offset by new deposits or borrowing from other banks.

A payments system

A further advantage of a bank is that money can be transferred between accounts. This saves the hassle of a bank customer withdrawing large sums of cash to hand over to another person in payment for goods received. Instead one account is credited while one is debited, even if the accounts are held at different banks.

Business partnerships and limited liability companies

We are running ahead of the story, so let us go back to our cattle farmer, who has already seen the introduction of money and banking in his lifetime (in reality this took thousands of years). These are important breakthroughs in the development of civilisation, but they are clearly not sufficient to solve a number of other problems. For example, banks might be unwilling to provide more than one-half of the funds needed for a project, because of the possibility that the business venture will lose money and assets used as collateral will fall in value to below the amount of loans outstanding.

The rest of the funds will have to come from the owners. The farmer does not have 140 gold pieces (one-half of the capital required) and so has to think of alternative sources of money. We have already mentioned the possibility of financing a venture by a group of investors each being willing to take a profit share. If it does not perform well then they will not be entitled to any annual return or capital sum at the end of a number of years. This is a different deal to that of lenders who can still claim interest and principal payments as set out in the lending agreement, even when the business is making losses.

One option is to form a partnership. Say there are 10 investors (other than the farmer) each willing to supply gold pieces. In return the profits are to be split in proportion to the finance supplied. If one of the partners also takes on a full-time managerial role he would be entitled to an extra income. There are two difficulties with partnerships. First, each partner is liable for the debts of the business. Thus each of 11 partners has to accept that if the business incurs liabilities it cannot satisfy then the creditors can come after their personal assets, houses, farms, etc. Second, if one of the partners wishes to leave (or dies) then they are generally entitled to a fair share of the value of the partnership. This can be very disruptive to the business, as assets have to be sold to pay the partner. Indeed, partnerships tend to be dissolved if one member leaves, and then a new partnership is created to carry on the business thereafter.

To solve these two problems society developed the idea of a company or corporation established as a 'separate person' under the law. It is the company that enters legal agreements such as bank loan contracts, not the owners of the company shares. The company can have a *perpetual life*. So, if investors wish to cash in their chips they do not have the right to insist that the company liquidate its assets and pay them their share. The company continues but the investors sell their share in the company to another investor. This is great – it gives managers the opportunity to plan ahead, knowing the resources of the business will not be withdrawn; it gives other shareholders the reassurance that the company can achieve its goals without disruption.

One of the most important breakthroughs in the development of capitalism and economic progress was the introduction of **limited liability** (1855 in the UK). There were strong voices heard against the change in the law. It was argued that it was only fair that **creditors** to a business could call on the shareholders in that business to bear the responsibility of failure. However, a stronger argument triumphed. This is that it is better for society as a whole if we encourage individuals to place their savings at the disposal of entrepreneurial managers for use in a business enterprise. Thus factories, ships, shops, houses and railways will be built and society will have more goods and services.

Insisting on *un*limited liability for investors made them hesitant to invest and thus reduced overall wealth. Limited liability companies are what (for the most part) we have today, and we should be very grateful for it. Creditors quickly adjusted to the new reality of lending without a guarantee other than from the company. They became more expert and thorough in assessing the risk of the loan going bad (**credit risk**) and they called for more information; legislators helped by insisting that companies publish key information.

Share (equity) markets

Having got to this point, it became obvious that to go any further and mobilise even more savings for investment, more problems had to be solved. For example, if you own shares (also called **equity** and **stock**) in a company for a long while you might be content receiving regular dividends as a distribution of the profits made. But, there might come a time when you would like to sell your shares. Perhaps you are retired and need to sell to finance consumption, or you would like to invest in other business opportunities. The problem is that with **ordinary shares** (**common stock** in the US) the company is under no obligation to purchase shares from you. When you bought the shares you signed up to a deal whereby you would receive a return if the managers were smart enough to produce one, but understood that the deal is a perpetual one – no promise of a fixed receipt of money in the future.

One option is for the shareholders to get together and agree to liquidate the company. That is, sell all the assets, pay off the liabilities, gather a pile of cash and distribute the proceeds to shareholders in proportion to their percentage holding. As you can imagine, this is not a very efficient way of running an economy. Thus, we clearly need a forum in which investors can buy and sell shares between themselves. This is where the share (equity) markets come in. They provide a regulated environment to minimise the risk of fraud, incompetence, etc., where shares can be traded in a market with numerous buyers and sellers every day allowing an investor to sell quickly and at low cost.

Corporate advisers – investment banks, etc.

For a company to undertake a once-in-a-lifetime event, like obtaining a quotation on a stock market for its shares, the managers usually need the help of people who specialise in bringing a company to market. A number of specialists might be involved, from brokers to accountants, but the key people often work for investment banks. They are skilled at organising fund raising for companies, both at the initial launch on the market and later in the company's development. They can also help in a host of other ways, including advising on a takeover of another firm, assisting with managing risk and helping invest short-term money held by the company (for a few days or weeks).

Bond markets

Banks often pay little or no interest on money deposited with them, while, at the same time, charging high interest rates to borrowers. Wouldn't it be better for both depositors and borrowers if the bank was bypassed and there was a market that directly connected savers to borrowers? Such markets have existed for hundreds of years. They are called bond markets, in which a contract to lend is accepted by each side, with the borrower agreeing to pay sums of money in the future.

This is only the beginning

Money, banking, shares, share markets and bond markets are just the start of it. There are many other institutions and markets that provide a vast number of social benefits connecting savers with investment opportunities and reducing risk. People need help saving for old age (pension funds) and to protect themselves against adverse events (insurance). They often decide to club together to invest money in shares, bonds, property, etc. through collective investment funds such as unit trusts, private equity or hedge funds. Then there is the need to obtain foreign exchange or to hedge against adverse movements in currency, in interest rates or in commodities.

The remainder of this chapter and much of Chapter 2 provide a brief outline of the role and importance of the main types of financial instruments, markets and institutions. The rest of the book looks at them in much more depth.

The impact of the modern financial markets on our lives

Here we jump forward to the modern era by looking at a number of financial markets and illustrate the impact they have on ordinary people's lives. The markets are:

- the share markets;
- the money markets;
- the bond markets;

- the foreign exchange markets;
- the derivative and commodity markets.

We will also look at the impact of banking.

Share (equity) markets

As a result of limited liability, millions of us now own shares in companies and are thereby entitled to receive dividends that might flow from the profits that the firm generates. We are owners of the company and can vote directors on or off the Board to try to appoint a team that will act in our best interests. These days most of these shares are not actually held directly by individuals, but through various savings schemes, such as pension funds and insurance savings schemes (e.g. endowments linked to mortgages).

Exhibit 1.1 shows that the market value of UK and US shares has been on something of a roller-coaster ride over the past 20 years (UK shares are represented by the FTSE 100 index comprising the largest 100 companies on the market; US shares by the S&P 500 index, representing the largest 500). Market prices shot up in the late 1990s as investors became excited by the new economy shares of the

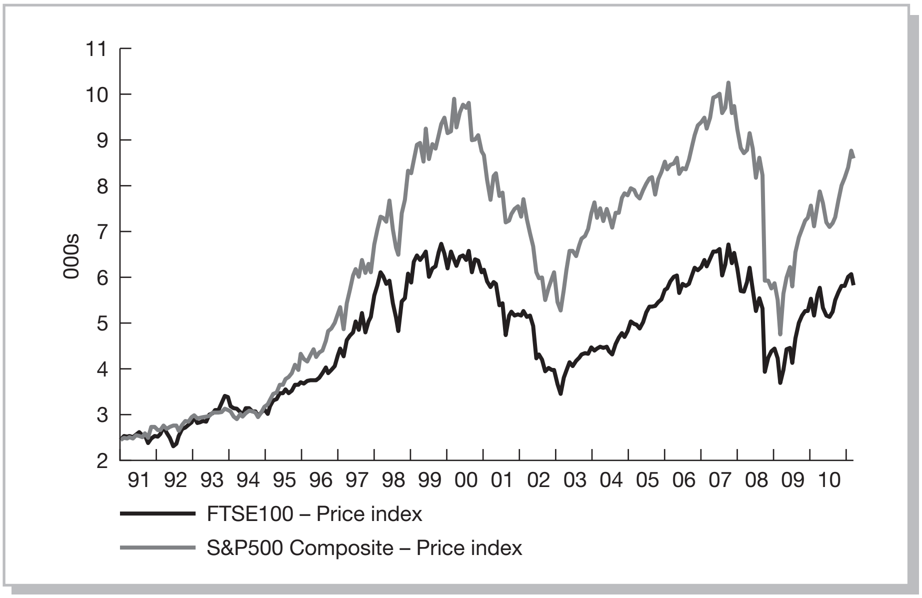


Exhibit 1.1 **UK and US share market price movements, 1990–2011 (with the US S&P 500 index rebased to the UK FTSE 100 in 1991)**

Source: Datastream

dot.com revolution. When equity markets are booming it can have an effect on people's confidence: they go out and spend more; they invest more in factories, machinery, etc. Thus the economy can get a lift. Conversely, when people feel poorer because their investments are down and they are told that their pensions will not have enough value left in them to support them in their old age they become more cautious spenders and investors, resulting in declining demand – as was the case in 2011. While stock market movements are not the only cause of economic fluctuations they are contributors.

Money markets

You and I might, from time to time, have the need to borrow money for a short while, say on a credit card or via an overdraft. Similarly, large organisations such as companies, governments and banks often need to borrow money for a period of a few days or weeks. They tend not to borrow on credit cards and may find overdrafts inconvenient or relatively expensive. This is where the **money markets** come in; they allow companies, etc. to issue instruments that promise to pay a sum of money after, say, 30 days if the buyer pays an amount now for owning that right. Obviously the amount the lender puts down at the beginning of the 30 days is less than what they collect at the end; thus an effective interest rate is charged. We say that the money markets are **wholesale markets** because they involve large transactions each time – £500,000/€1,000,000 or more. They enable borrowing for less than one year. Banks are particularly active in this market – both as lenders and as borrowers. Large corporations, local government bodies and non-banking financial institutions also lend when they have surplus cash and borrow when short of money.

The largest borrowers in these markets are usually governments. They issue **Treasury bills**, which do not carry an explicit interest but merely promise to pay a sum of money after a period. The most popular length to maturity is three months. The UK government is the biggest issuer in Europe, with billions of pounds worth of these sold almost every week of the year. The US government also sells a tremendous volume of these instruments, much of which has been bought by the Chinese government as it invests its savings around the world – it is poorly diversified because it has put such a high proportion of its portfolio in US Treasuries.

Exhibit 1.2 shows the interest rates that the UK government had to offer investors to induce them to buy a 91-day (three-month) promise. That is a promise that in 91 days a fixed amount of money will be paid to the holder of the security. These are rates the government paid for fresh issues in each of the weeks going back 20 years. Note that even though the bills last for a mere three months the interest rates shown are annualised up (given as an annual rate). So, if an investor

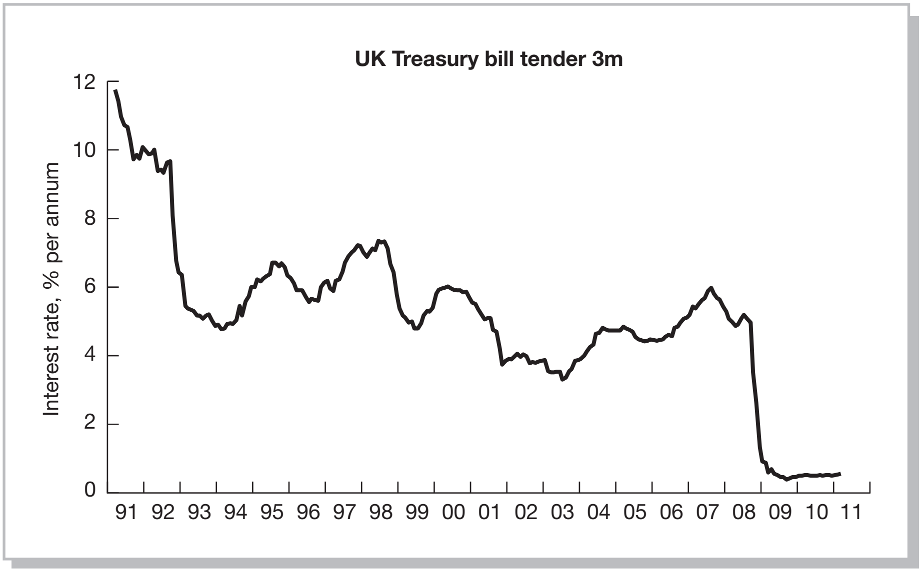


Exhibit 1.2 **The interest rate the UK government offered investors in its various three-month Treasury bills issued each week 1991–2011**

Source: Datastream

receives 0.2 per cent for lending for 91 days the chart will show a figure of 0.8 per cent. You can see that normally the government pays around 4–6 per cent per year to borrow using three-month loans. In an economy where inflation is around 1.5–3 per cent this allows the lender to the UK government to obtain a real return (above inflation) of around 1–3 per cent. (In the early 1990s the UK had much higher inflation rates.) However, in the wake of the financial crisis the Bank of England significantly reduced interest rates for short-term borrowing for all sorts of instruments, and this had a knock-on effect on the interest rate the government had to pay to borrow for three months – it has come all the way down to around 0.5 per cent (around 0.125 per cent for three months). This lowered the borrowing cost for the government, which is just as well given that it borrowed so much.

On the other hand, the extremely low interest rates throughout the financial system, including bank account savings rates, produced howls of complaint from savers, who received interest significantly less than inflation. Much of this saving is done through pension funds and so people's pension pots also became smaller.

Bond markets

Companies often need to borrow money so that they can build useful things such as factories and research establishments (e.g. stem cell or cancer drug laboratories).

One way for them to borrow is to produce a legally binding document, a bond, that states that the company will pay interest for, say 10 years, and a capital sum at the end to whoever buys the bond. This is an attractive way for people, pension funds and others to obtain a return on their savings. It is made even more attractive by the fact that the lender does not have to keep their money tied up in the bond for the full 10 years, but can sell it to other investors in an active market for bonds. The buyer of the bond may be willing to pay the same as the sum paid by the original owner to obtain the promise of future interest, or they may be willing to pay more or less – much depends on the current going rates of return for that type of bond given its risk and anticipated inflation.

Thus a **bond** is merely a document that sets out the borrower's promise to pay sums of money in the future – usually regular interest plus a capital amount upon the maturity of the bond. Many European bond markets are over three centuries old and during that time they have developed very large and sophisticated sub-markets encompassing government bonds (UK government bonds are called **gilts**), **corporate bonds** (issued by companies), local authority bonds and international bonds, amongst others.

Exhibit 1.3 shows the rates of interest typical, but relatively safe, corporate bond issuers had to pay over the period 2001–11. It shows the interest rates payable

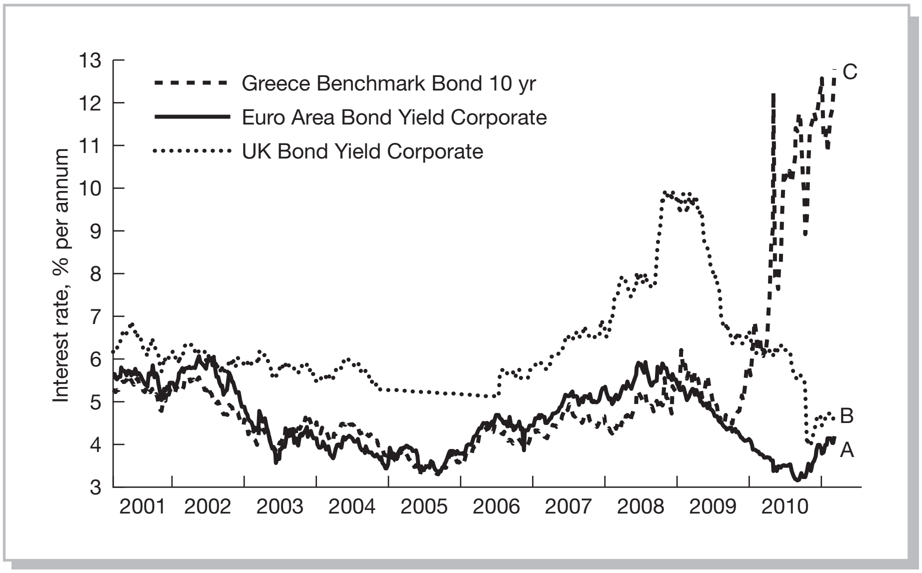


Exhibit 1.3 **Yields on corporate bonds issued in pounds and euros, and yields on Greek government debt, 2001–11**

Source: Datastream

if the promises to pay regular interest and the capital sum were in euros: the black line (A). The dotted line (B) shows the rate of return if the borrowing (and payments of interest and capital) was done in pounds. Notably, the sterling borrowers paid higher interest rates than the eurozone borrowers – this is mostly because of higher UK inflation expectations at the time of issue than for eurozone countries. The chart also shows the interest rates payable by the Greek government when it sold bonds denominated in euros – the dashed line (C). In most years it paid lower interest rates than the typical low-risk euro corporate borrower, but in 2011 we see a dramatic spike in interest rates demanded by lenders to induce them to place their hard-earned savings into Greek government debt. Many Greek companies had to pay more than the government to borrow because they were seen as even more of a risk. This meant that they could not afford to borrow to finance many of the investment projects that they would normally undertake, which contributed to a deep recession and rioting on the streets.

In the UK case, bond investors were very worried in 2008 and 2009 that a high proportion of borrowing companies were going to go bust, and as a result demanded interest rates as high as 10 per cent. Note that these are the rates for the most highly-respected (relatively-safe) companies; more risky borrowers had to pay much more. As a result of this high cost of finance many plans to build factories, offices, shops, etc. were shelved and thousands of people were made redundant.

Foreign exchange markets

Individuals and businesses often have the need to exchange foreign currency, sometimes purely for pleasure, a holiday say, but mostly for business. For example, a French company building a manufacturing plant in the US exchanges euros for dollars. Today the foreign exchange markets are enormous, with transactions worth $4,000 billion taking place every day. The movements of exchange rates can make a big difference to ordinary people and businesses alike. Consider Maria, who borrowed €300,000 to buy an apartment in London early in 2006. At that time she could get £1 for every €1.50 – see Exhibit 1.4 – and so she could buy a £200,000 apartment. Unfortunately, in 2009 she needed to sell her apartment to raise cash to support her Spanish business. Not only is Maria hit by the UK recession, but she is doubly unfortunate, because at 2009 exchange rates (€1.10 to £1) she can obtain only €220,000 even if she sells the apartment for £200,000. Maria has made an €80,000 loss simply because currency rates shifted. As you can see from the chart they do this quite a lot. The markets and institutions have devised various tools to help individuals like Maria as well as large organisations like Unilever reduce the impact of foreign exchange shifts.

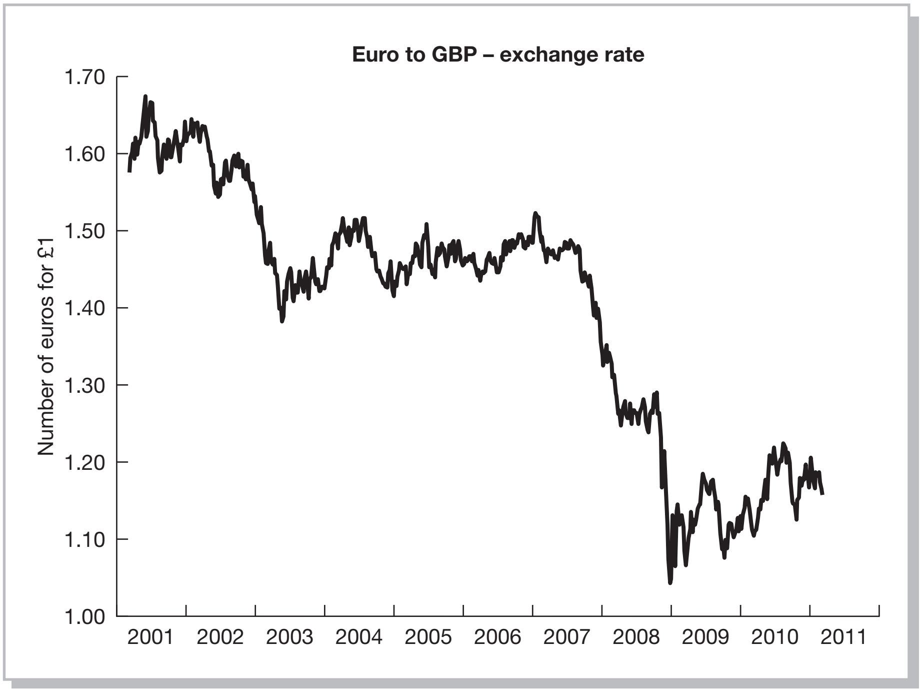


Exhibit 1.4 **The exchange rate between euros and UK pounds, 2001–11**

Source: Datastream

Foreign exchange (forex, FX) markets are simply markets in which one currency is exchanged for another. They include the **spot market** where currencies are bought and sold for 'immediate' delivery (in reality, one or two days later) and the **forward markets**, where the deal is agreed now to exchange currencies at some fixed point in the future. Also currency futures and options and other forex derivatives are employed to hedge (manage) risk and to speculate.

Derivative and commodity markets

Imagine you are a cocoa farmer in Ghana. You would like to have certainty on the price you will receive for your cocoa when you harvest it six months from now. On the other hand, an organisation such as Cadbury would like to know the cost of its cocoa six months from now so that it, like the farmer, can plan ahead and avoid the risk of the spot price at that time being dramatically different to what it is now.

Fortunately financial markets have evolved to help both the farmer and the chocolate maker. Perhaps the farmer could sell a **future** in cocoa at, say, $3,800 per tonne. A future is a contract to undertake a transaction (e.g. sell cocoa) at a point – days, weeks or years from now – at a price agreed now.

If the farmer sells a future this guarantees that if he delivers the cocoa in six months he will get the price agreed. Perhaps the chocolate maker could also enter the futures markets on one of the organised exchanges to give it certainty over the price that it will pay. Each side is legally obliged to go through with the deals they signed up to – and just to make sure the exchange requires that each of them leaves money at the exchange so that if the futures price should move against them they will not be tempted to walk away from the deal: if they did they would lose this 'margin' they have at the exchange.

You can see from Exhibit 1.5 that the futures price of cocoa fluctuates over time and therefore you can understand why buyers and sellers might be concerned about the price moving to an unprofitable level for them, and so why they lock in a futures price in one of the futures markets.

A **derivative** is a financial instrument whose value is derived from the value of other financial securities or some other underlying asset because it grants a

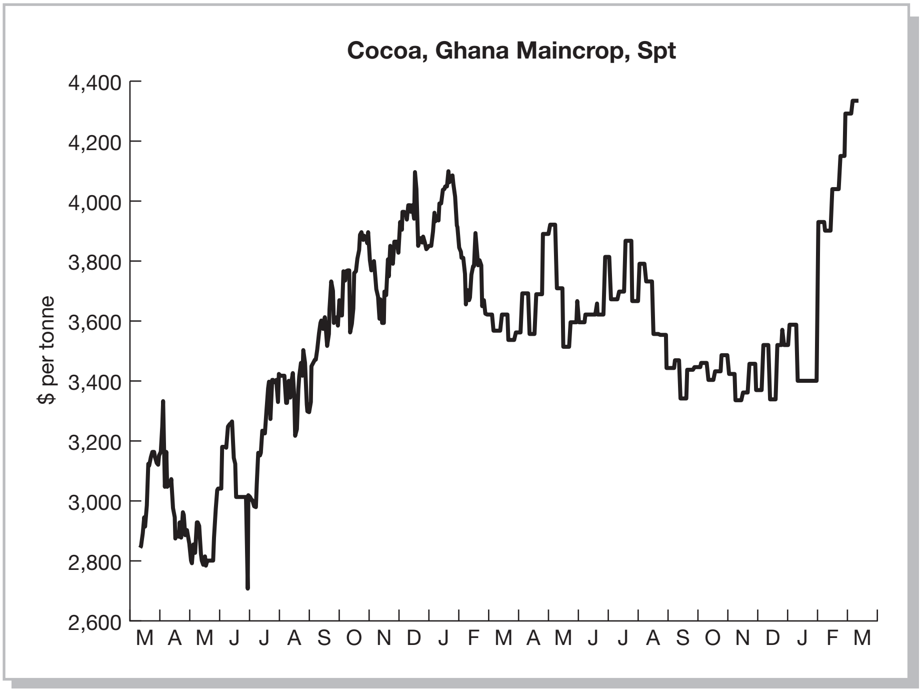


Exhibit 1.5 **The futures price of cocoa, March 2009 to March 2011**

Source: Datastream

right to undertake a transaction. This right becomes a saleable derived financial instrument. Futures have been illustrated but there are other derivatives. For example, an option gives the purchaser the right, but not the obligation, to buy or sell something at some point in the future, at a price agreed now. The performance of the derivative depends on the behaviour of the underlying asset. Companies can use these markets for the management and transfer of risk. They can be used to reduce risk (hedging) or to speculate. We will look at these possibilities in Chapters 14 and 15.

Banking

The interest rates banks charge can have a profound effect on people's lives. The rate that the borrower pays is often linked to the bank base rate. Some borrowers may pose a low risk to the bank and so may be charged, say, 2 per cent over the base rate. More risky borrowers pay base rate plus, say, 7 per cent. Exhibit 1.6 shows that the average base rate set by UK banks over the 10 years to 2011 has been subject to significant fluctuations. In 2009 the base rate fell to an all-time low of 0.5 per cent and so we had remarkably low interest rates charged by the banks. The actions by central banks around the world to lower interest rates

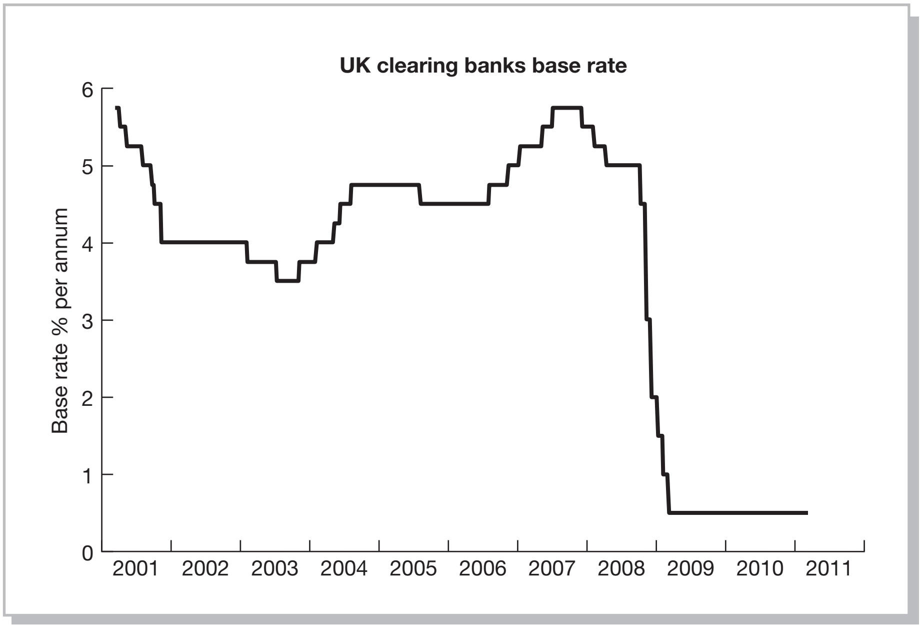


Exhibit 1.6 **UK bank base rates, 2001–11**

Source: Datastream

had the desired effect, as many families with mortgages or businesses with loans were saved when base rates were pushed down. If base rates had remained at 5 per cent we would have seen much higher house repossession rates, widespread business failure and mass unemployment.

2

An overview of the markets and institutions

This chapter describes the main financial centres, which have become increasingly important in every continent. It also provides a quick run-through of the different types of financial institution, and some ideas on how financial institutions and markets improve the flow of funds in a modern society. In a well-functioning financial system funds can flow easily and at low cost from savers to those with a productive use for the money. The increases in wealth we have seen over the past 100 years in most parts of the globe are in no small part due to the development of highly effective financial markets and institutions. Indeed, we can go so far as to say that one of the major reasons that some countries failed to grow out of poverty is that they have not yet created a properly functioning mechanism for mobilising the savings of their citizens so that they can be used for investment in productive assets, such as factories, within their country.

Importance of different financial centres

People and institutions involved in financial market activity tend to be concentrated in a few major centres around the world. Every six months the largest 75 financial centres are rated and ranked by drawing on both statistical data and assessments by finance service professionals in an online survey. The results are published in the *Global Financial Centres Report*, sponsored by Qatar Financial Centre Authority, and produced by the think-tank Z/Yen Group.

The five groups of factors considered are shown in Exhibit 2.1. As you can see, the centres are rated not simply by volume of business (such as share turnover) and other quantitative data, but for a number of other factors. So, for example, evidence about a fair and just business environment is drawn from a corruption perception index and an opacity index (e.g. is trading open and are the prices of deals published?). In all, over 70 indicators have been used including office rental rates, airport satisfaction and transport. Around 33,000 financial services professionals (e.g. bankers, asset managers, insurers, lawyers) respond to the online questionnaire in which they are asked to rate those centres with

People	The availability of skilled personnel, the flexibility of the labour market, business education and the development of 'human capital'.
Business environment	This is regarded as the most important factor in judging the competitiveness of a financial centre. It covers regulation and tax rates, levels of corruption, economic freedom and the ease of doing business. Fair and just business environment. Government support for the finance sector. Transparency and predictability of regulation.
Market access	Access to international financial markets. Volume and value of trading in equities and bonds as well as the clustering effect of having many firms involved in the financial services sector together in one centre.
Infrastructure	IT and transport infrastructure. The cost and availability of buildings and office space. Access to suppliers of professional services such as legal services.
General competitiveness	The concept that the whole is 'greater than the sum of the parts' considers overall competitiveness levels of cities and how cities are perceived as places to live. Culture and language.

Exhibit 2.1 The five groups of instrumental factors for judging the quality of a financial centre

which they are most familiar on a number of factors. To ensure that there is no bias towards their home base, the assessments given on their own centre are excluded from the calculations.

The map in Exhibit 2.2 shows the ranking of the top 20 financial centres. There is very little difference in the ratings for London and New York. The respondents to the survey believe that these two centres work together for mutual benefit; a gain for one not meaning a loss for the other. The position of Hong Kong has improved immensely in recent years so that it is now a mere 10 points (out of 1,000) behind London. It is one of only a handful of genuine global financial

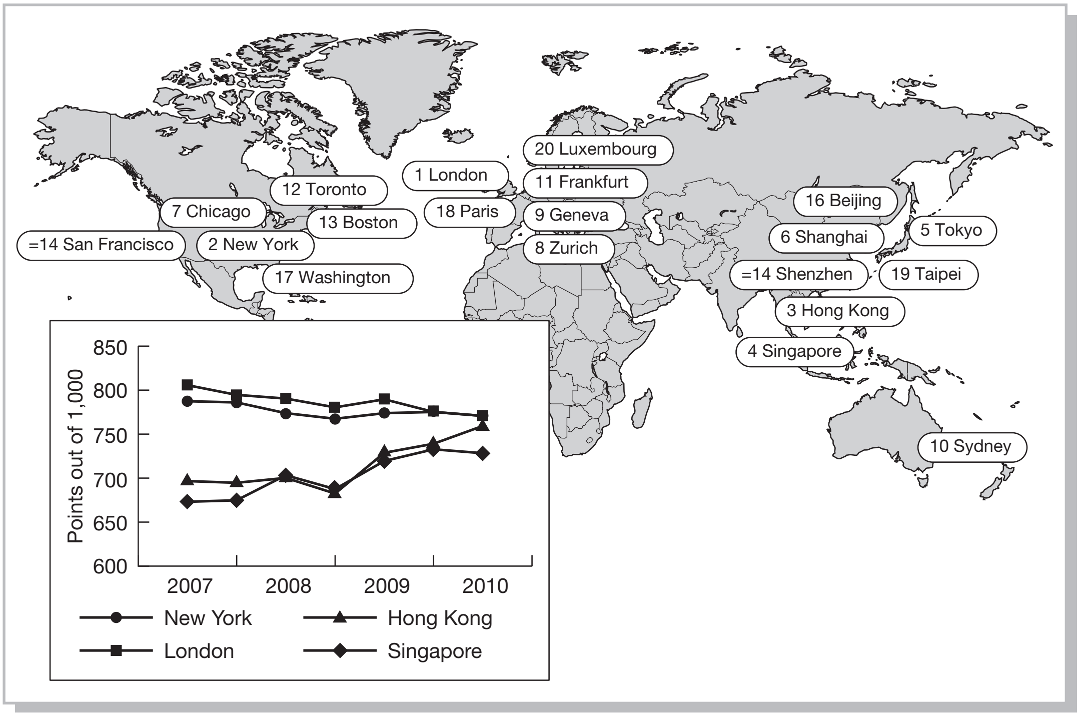


Exhibit 2.2 **The top 20 global financial centres**

Source: *Global Financial Centres Report*, sponsored by Qatar Financial Centre Authority and produced by Z/Yen Group

centres. Singapore is expected to join this trio soon. Between them the top four centres account for 70 per cent of all equity trading, for example.

Remarkably, Shanghai has now entered the top 10; and when financial professionals were questioned about which financial centres are likely to become more significant in the next few years, the top five centres mentioned were all Asian – Shenzhen, Shanghai, Singapore, Seoul and Beijing.

Exhibit 2.3 describes the relative importance of Hong Kong and Shanghai as places for companies to raise money from shareholders by issuing shares on the Hong Kong or Shanghai stock markets for the first time. This is called an **initial public offering (IPO)**. The article illustrates how international the raising of finance is these days, with Mongolian, French and Italian companies listing alongside a great number of mainland Chinese firms.

If we focus on Europe we find that while London dominates, Zurich and Frankfurt are also regarded as global leaders, with rich environments for different types of financial services. Geneva is a specialist in asset management (running funds

HK eclipses rivals as the place to list

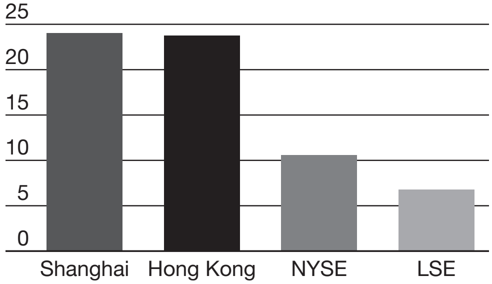
Robert Cookson

The up-to-$20.5bn initial public offering of AIG's prized Asian business is the talk of the town in Hong Kong, but alongside that juggernaut there are dozens of other companies flocking to list in the city.

So great is the wave of listings that Hong Kong is on track for the second year in a row to eclipse its rivals Shanghai, London, and New York as the world's biggest centre for IPOs.

IPOs

Value of new listings, year to date ($bn)



Source: *Thomson Reuters Datastream; Dealogic*

So far this year some 53 companies have raised a combined $23.9bn from IPOs in Hong Kong, according to data from Dealogic. That figure dwarfs the $10.7bn raised in New York and $7bn in London.

With AIG alone set to raise at least $13.9bn from the listing of AIA, its Asian business, Hong Kong is now on track to trump its rivals Shanghai and Shenzhen in terms of deal volume in 2010.

"Hong Kong is now firmly established as a major global listing venue – it's the place any issuer has to seriously look at," Mr Lam says [Ed Lam, Citigroup's co-head of global banking for Hong Kong].

International companies are being attracted by the prospect of selling shares at higher prices than could be achieved in either their home markets or the traditional capital-raising centres of London or New York.

Prada, the Italian luxury goods company, is considering a possible listing in Hong Kong next year, following hard on the heels of French perfume house L'Occitane, which raised more than $700m there in April.

On Tuesday, the first Mongolian company to sell shares in Hong Kong completed a $650m offering.

Yet Mongolian Mining Corp and other foreign issuers still make up only a fraction of the deals on the HK stock exchange. Mainland Chinese companies remain the dominant force and are attracting strong – and at times frenzied – demand from both international fund managers and Hong Kong retail investors.

Companies that would benefit from the rise of the Chinese consumer were selling like hotcakes.

Boshiwa, a children's clothing retailer likened to Mothercare of the UK, is a good example. The Chinese company, which raised $320m in Hong Kong in September, saw its shares rocket 41 per cent on their trading debut last week. On Wednesday, shares in Boshiwa were trading at a price of 72 times last year's earnings.

"China is clearly rebalancing the economy away from one that is predominantly export and manufacturing-driven towards a more domestic consumption-driven one," said Kester Ng, JPMorgan's co-head of equity capital and derivatives markets for Asia. "Companies that are linked to the Chinese consumption theme have done really well." This point has not been lost on Chinese companies themselves.

Last week, China Medical System, which makes pharmaceutical products, listed in Hong Kong having raised $129m in an IPO that priced at the top of the target range. On the same day as its Hong Kong debut, it de-listed its shares from London's junior Aim market.

The company is not alone. West China Cement, a cement producer that has long complained that its shares were undervalued in London, made the same jump to Hong Kong from Aim in August. And in yet another case, Sihuan Pharmaceutical Holdings, a Chinese drugmaker that de-listed from the Singapore stock exchange last year, is seeking to raise up to $700m in a Hong Kong IPO.

Source: *Financial Times*, 7 October 2010, p. 34.

Exhibit 2.3 **HK eclipses rivals as the place to list**

invested in shares, etc. for individuals and institutions) but is not a fully diversified centre, lacking a number of financial services. Amsterdam, Dublin and Paris have strong international connections but lack the depth to be global leaders.

If we break down the overall results to specific aspects of financial services then the following are the top financial centres in order of size:

- Asset management (e.g. mutual funds, unit trusts, pension funds):
  1. London
  2. New York
  3. Hong Kong
  4. Singapore.
- Banking:
  1. New York
  2. Hong Kong
  3. London
  4. Singapore.
- Professional services (e.g. legal, accounting):
  1. London
  2. New York
  3. Hong Kong
  4. Singapore.
- Wealth management (advice and investing for wealthy people):
  1. London
  2. Geneva
  3. New York
  4. Toronto.

Following the financial crisis caused by the financial sector (especially the banks) the UK Chancellor of the Exchequer imposed a 50 per cent super-tax on bank bonuses. Some feared that this might cause mass relocation of financial services providers to other centres, such as New York, Zurich or Hong Kong. But many of the governments in these other centres also plan to crack down on bankers and so we have not, to date, seen an exodus. Besides which, choosing a place to work, live and raise a family is about much more than tax rates.

In the US, financial market activity is split between a number of centres. New York is dominant in equity and bond trading as well as investment banking, Chicago is big in derivatives and commodities, with Boston and San Francisco enjoying high reputations for asset management. While the US centres are particularly strong on domestic security issuance – for example the largest corporate and government bond markets in the world – the US is often outshone by London on international financial services. London, being the dominant centre in the European time-zone, has kept its position as a principal centre in international financial markets, as can be seen from Exhibit 2.4.

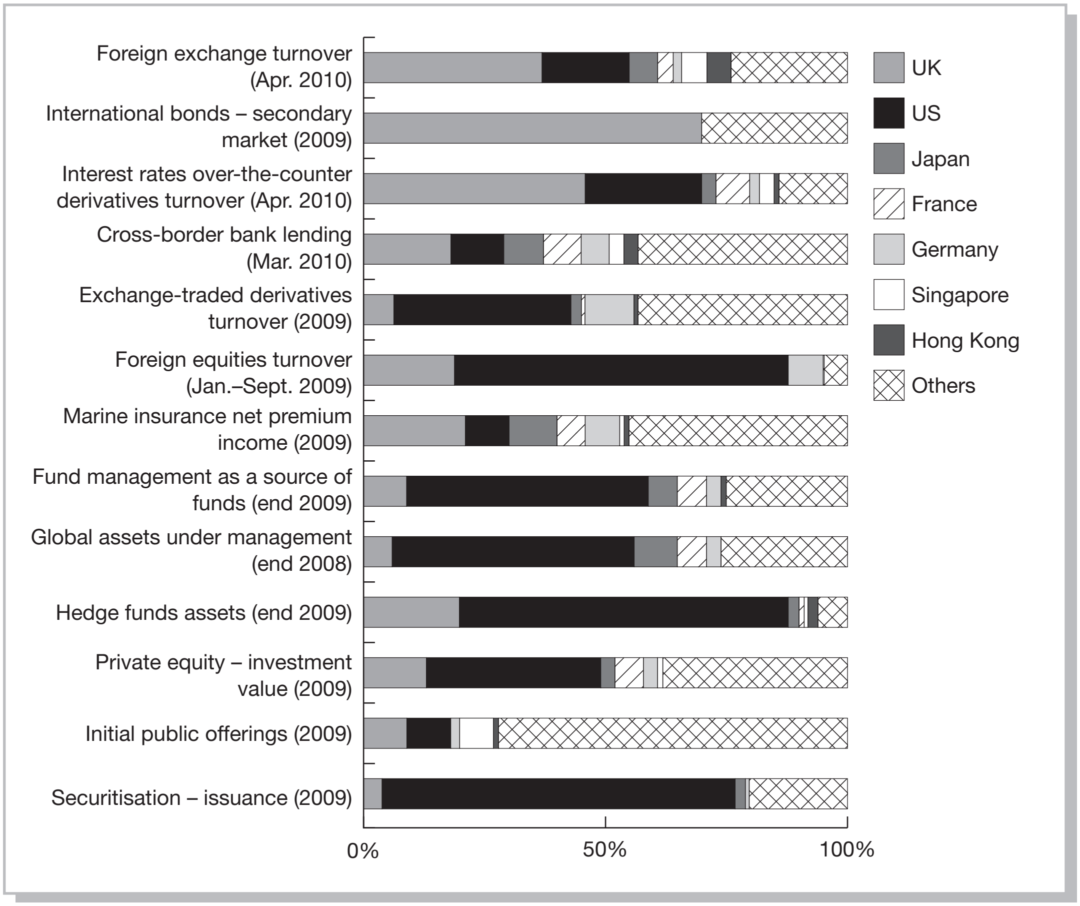


Exhibit 2.4 **Share of world financial market activity**

Source: *TheCityUK* estimates

Note that while Hong Kong and Singapore are highly ranked in terms of having the right infrastructure and attractiveness for financial services to grow (as we saw in the Z/Yen survey) they still have a relatively small share of world activity in most categories. France and Germany have more activity than the Asian centres in a number of segments. However, the potential of Hong Kong and Singapore, as China and other Asian countries grow, is enormous.

Growth in the financial services sector

The financial services sector has grown rapidly in the post-war period. It now represents a significant proportion of total economic activity, not just in the UK, but across the world. Firms operating in this sector have, arguably, been the most dynamic, innovative and adaptable companies in the world over the past 40 years.

Some reasons for the growth of financial services in the UK

London has historically been the most important financial centre, ideally positioned at the heart of the British Empire and the industrialised world. London is open for business when the rest of Europe is active and when the Asian markets are still operating at the end of their trading day and America is starting its working day. There are a number of reasons for the growth of the financial services sector in the UK. These include:

- *High income elasticity*. As consumers have become increasingly wealthy the demand for financial services has grown by a disproportionate amount. Thus a larger share of national income is devoted to paying this sector fees, etc. to provide services because people desire the benefits offered. Firms have also bought an ever-widening range of financial services from the institutions, which have been able to respond quickly to the needs of corporations.
- *International comparative advantage*. One of the reasons that London maintains dominance in a number of areas is that it possesses a comparative advantage in providing global financial services. This advantage stems, not least, from the critical mass of collective expertise which it is difficult for rivals to emulate. In some industries once a cluster of firms and personnel is established, their proximity allows them to be more efficient and learn from each other to improve their skills, deepen knowledge and specialise in tasks. This has happened in Silicon Valley with hi-tech and in the City with financial services. And, of course, London also has the prerequisites of a stable political and trustworthy legal system, no barriers to the flow of money and the English language.

Forty years of innovation

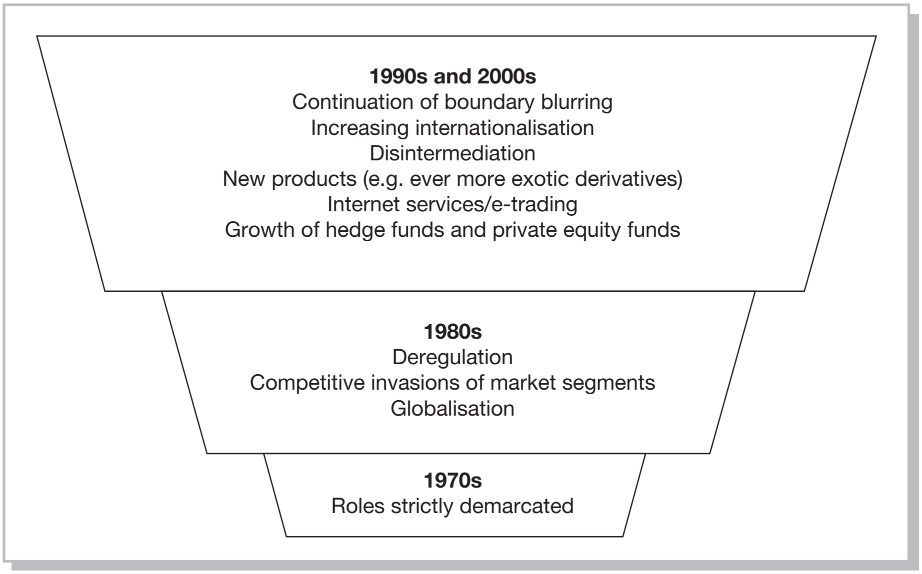
Since the 1970s there has been a remarkably proactive response by the financial sector to changes in the market environment. New financial instruments, techniques of intermediation and markets have been developed with impressive speed. Instruments, which even in the 1990s did not exist, have sprung to prominence to create multi-billion-pound markets, with thousands of employees serving these markets.

There has been a general trend towards deregulation and liberalisation for institutional investors, while recognising that individual investors need protection. Until the mid-1970s there were clearly delineated roles for different types of financial institutions. Banks did banking, insurance firms provided insurance, building societies granted mortgages and so on. There was little competition between the different sectors, and cartel-like arrangements meant that there was only limited competition within each sector. Some effort was made in the 1970s to increase the competitive pressures, particularly for banks. The arrival of large numbers of foreign banks in London helped the process of reform in the UK but the system remained firmly bound by restrictions, particularly in defining the activities firms could undertake.

The real breakthrough came in the 1980s. The guiding political philosophy of achieving efficiency through competition led to large-scale deregulation of activities and pricing. There was widespread competitive invasion of market segments. Banks became much more active in the mortgage market and set up insurance operations, stockbroking arms, unit trusts and many other services. Building societies, on the other hand, started to invade the territory of the banks and offered personal loans, credit cards and cheque accounts. They even went into estate agency, stockbroking and insurance underwriting.

The London Stock Exchange was deregulated in 1986 (in what is known as the **Big bang**) and this move enabled it to compete more effectively on a global scale and reduce the costs of dealing in shares, particularly for the large institutional investors. The City had become insular and comfortable in its ways, much like a gentlemen's club. Then in 1986 in the face of serious competition from abroad, it became necessary to make the City more competitive and transparent if it was to continue to service the world's economy as it had done for many years. The introduction of electronic trading, along with the end of fixed commission trading (an 'accepted rate' to charge rather than one competitively arrived at) and face-to-face dealing, and the sanctioning of foreign ownership of UK brokers successfully pushed the City into the modern era.

The 1970s and early 1980s were periods of volatile interest rates and exchange rates. This resulted in greater uncertainty for businesses. New financial instruments were developed to help manage risk, e.g. new derivatives. Many derivatives are traded on LIFFE (the London International Financial Futures and Options Exchange) which has seen volumes rocket since it was opened in 1982. LIFFE, now called NYSE.Liffe, handles around €2 trillion worth of derivatives business every day. Likewise the volume of swaps, options, futures, etc. traded in the informal 'over-the-counter' market (i.e. not on a regulated exchange) – discussed later in the chapter – has grown exponentially.



Through the 1980s the trend towards globalisation in financial product trading and services continued apace. Increasingly, a worldwide market was established. It became unexceptional for a company to have its shares quoted in New York, London, Frankfurt and Tokyo as well as on its home exchange in Africa. Bond selling and trading became global and currencies were traded 24 hours a day. International banking took on an increasingly high profile, not least because the multinational corporations demanded that their banks provide multifaceted services across the globe, ranging from borrowing in a foreign currency to helping manage cash.

Vast investments have been made in computing and telecommunications systems to cut costs and provide improved services. Automated teller machines

(ATMs), banking by telephone and internet, and payment by EFTPOS (electronic funds transfer at point of sale) are now commonplace. A more advanced use of technological innovation is in the global trading of the ever-expanding range of financial instruments. It became possible to sit on a beach in the Caribbean and trade pork belly futures in Chicago, interest rate futures in London and shares in Singapore. In the 1990s there was a continuation of the blurring of the boundaries between different types of financial institutions to the point where organisations such as JPMorgan Chase and Barclays are referred to as **financial supermarkets** (or universal banks or financial services companies) offering a wide range of services. The irony is that just as this title was being bandied about, the food supermarket giants such as Sainsbury's and Tesco set up banking services, following a path trodden by a number of other non-banking corporations. Marks and Spencer provides credit cards, personal loans and even pensions. Virgin Money sells life insurance, pensions and Individual Savings Accounts (ISAs) over the telephone. The internet has provided a new means of supplying financial services and lowered the barrier to entry into the industry. New banking, stockbroking and insurance services have sprung up. The internet allows people to trade millions of shares at the touch of a button from the comfort of their homes, to transfer the proceeds between bank accounts and to search websites for data, company reports, newspaper reports, insurance quotations and so on – all much more cheaply than ever before.

The globalisation of business and investment decisions has continued, making national economies increasingly interdependent. Borrowers use the international financial markets to seek the cheapest funds, and investors look in all parts of the globe for the highest returns. Some idea of the extent of global financial flows can be gained by contrasting the *daily* turnover of foreign exchange (approximately $4 trillion) with the *annual* output of all the goods and services produced by people in the UK of $2.15 trillion (Exhibit 2.5). Another effect of technological change is the increased mobility of activities within firms. For example, banks have transferred a high proportion of their operations to India, as have insurance companies and other financial firms.

Another feature of recent years has been the development of **disintermediation** – in other words, cutting out the middleman. So, for instance, firms wishing to borrow can bypass the banks and obtain debt finance directly by selling debt securities in the market. The purchasers can be individuals, but are more usually the large savings institutions such as pension funds, insurance funds and hedge funds. Banks, having lost some interest income from lending to these large firms, have been raising the proportion of their income derived from fees gained by arranging the sale and distribution of these securities as well as **underwriting** their issue (guaranteeing to buy if no one else will). Hedge funds (free

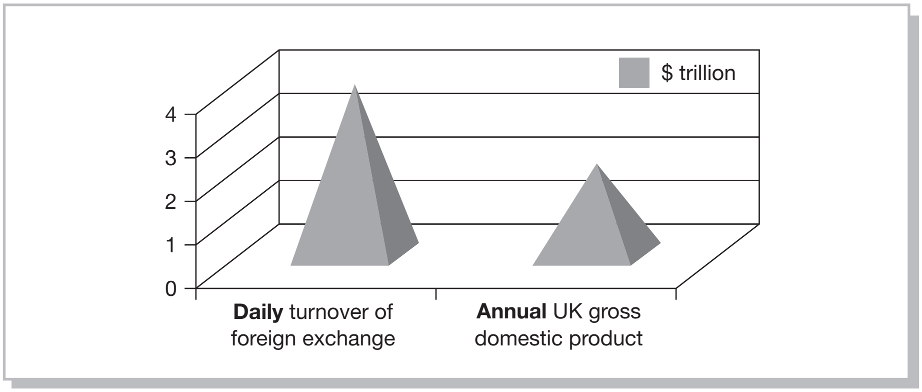


Exhibit 2.5 **Daily turnover of foreign exchange v UK GDP**

Source: BIS and CIA World Factbook

from most regulatory control) now account for a high proportion of financial market trading whereas they were barely heard of 15 years ago. Private equity funds too, which invest in shares and other securities of companies outside a stock exchange, have grown tremendously over the past 20 years.

The flow of money

A simple way to look at the way money flows between investors and companies is shown in Exhibit 2.6. Households generally place the largest proportion of their savings with financial institutions. These organisations then put that money to work. Some of it is lent back to members of the household sector in the form of, say, a mortgage to purchase a house, or as a personal loan. Some of the money is used to buy securities (e.g. bonds, shares) issued by the business sector. The institutions will expect a return on these loans and shares, which flows back in the form of interest and dividends. However, they are often prepared for businesses to retain profit within the firm for further investment in the hope of greater returns in the future. The government sector enters into the financial system in a number of ways. For example, taxes are taken from individuals and businesses, and secondly governments usually fail to match their revenues with their expenditure and therefore borrow significant sums from the financial institutions, with a need to return that money with interest. The diagram in Exhibit 2.6 remains a gross simplification; it has not allowed for overseas financial transactions, for example, but it does demonstrate a crucial role for financial institutions in an advanced market economy.

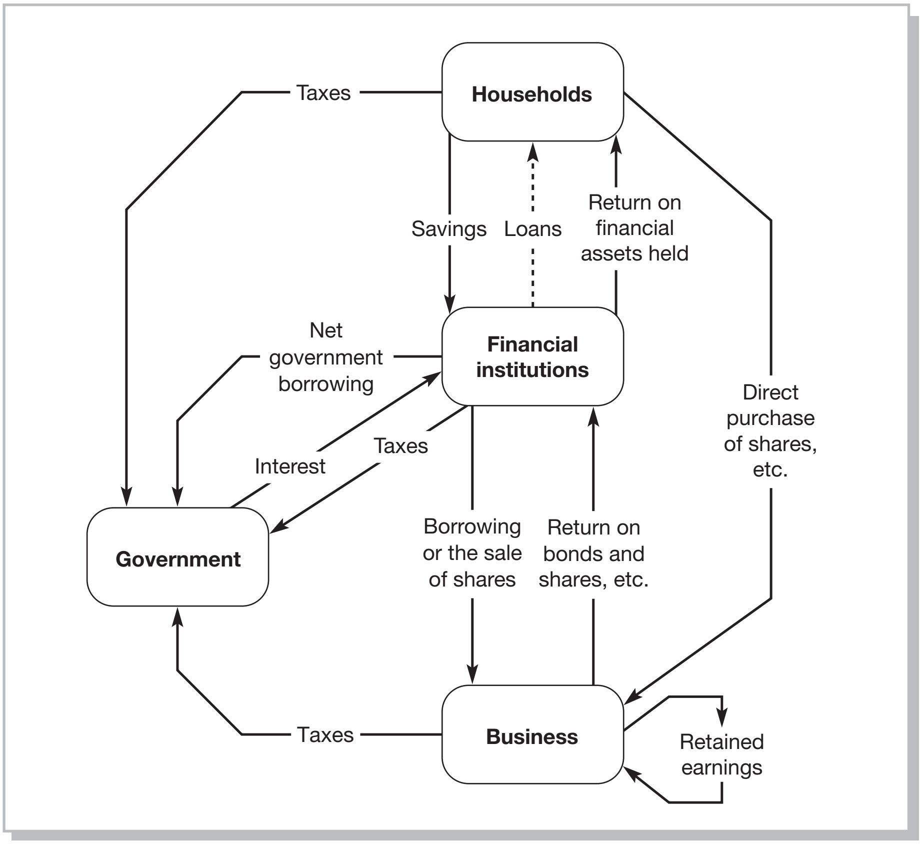


Exhibit 2.6 **The flow of funds and financial intermediation**

Primary investors

Typically the household sector is in financial surplus. This sector contains the savers of society. It is these individuals who become the main providers of funds used for investment in the business sector. **Primary investors** tend to prefer to exchange their cash for financial assets which (a) allow them to get their money back quickly should they need to with low transaction costs and (b) have a high degree of certainty over the amount they will receive back. In other words, primary investors like high liquidity and low risk. Lending directly to a firm with a project proposal to build a North Sea oil platform which will not be sold until five years have passed is not a high-liquidity and low-risk investment. However, putting money into a sock under the bed is (if we exclude the possibility of the risk of sock theft).

Ultimate borrowers

In our simplified model the **ultimate borrowers** are in the business sector. These firms are trying to maximise the wealth generated by their activities. To do this companies need to invest in capital equipment, in real plant and other assets, often for long periods of time. The firms, in order to serve their social function, need to attract funds for use over many years. Also these funds will be at risk, sometimes very high risk. (Here we are using the term 'borrower' broadly to include all forms of finance, even 'borrowing' by selling shares.)

Conflict of preferences

We have a **conflict of preferences** between the primary investors wanting low-cost liquidity and certainty, and the ultimate borrowers wanting long-term risk-bearing capital. A further complicating factor is that savers usually save on a small scale, £100 here or €200 there, whereas businesses are likely to need large sums of money. Imagine some of the problems that would occur in a society which did not have any financial intermediaries. Here lending and share buying will occur only as a result of direct contact and negotiation between two parties. If there were no organised market where financial securities could be sold on to other investors then the fund provider, once committed, would be trapped in an illiquid investment. Also the costs that the two parties might incur in searching to find each other in the first place might be considerable. Following contact a thorough agreement would need to be drawn up to safeguard the investor, and additional expense would be incurred obtaining information to monitor the firm and its progress. In sum, the obstacles to putting saved funds to productive use would lead many to give up and to retain their cash. Those that do persevere will demand exceptionally high rates of return from the borrowers to compensate them for poor liquidity, risk, search costs, agreement costs and monitoring costs. This will mean that few firms will be able to justify investments because they cannot obtain those high levels of return when the funds are invested in real assets. As a result, few investments take place and the wealth of society fails to grow. Exhibit 2.7 shows (by the top arrow) little money flowing from saving into investment.

The introduction of financial intermediaries

The problem of under-investment can be alleviated greatly by the introduction of financial institutions (e.g. banks) and financial markets (e.g. a stock exchange). Their role is to facilitate the flow of funds from primary investors to ultimate borrowers at a low cost. They do this by solving the conflict of preferences.

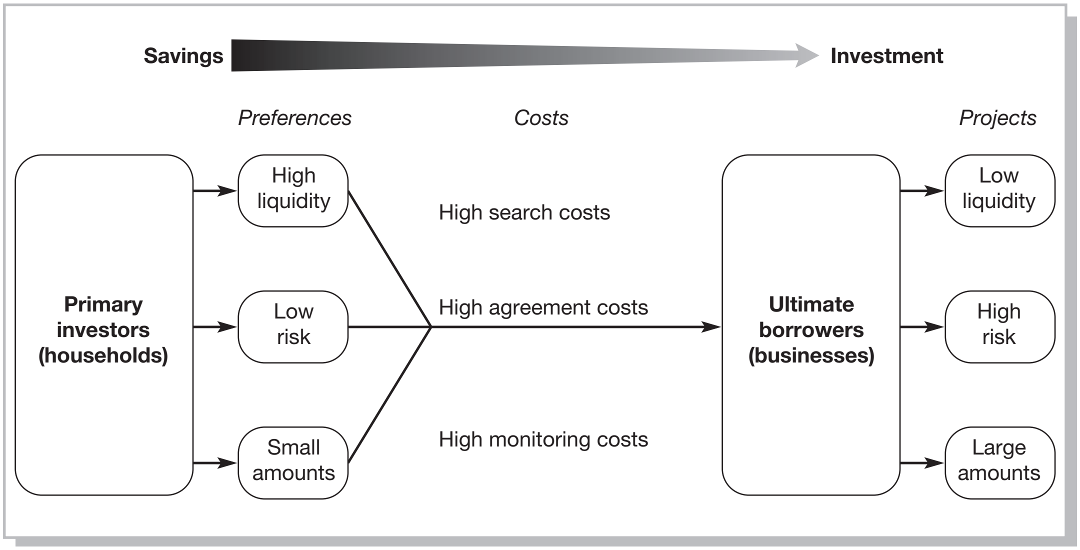


Exhibit 2.7 Savings into investment in an economy without financial intermediaries

There are two types of financial intermediation; the first is an agency or brokerage type operation which brings together lenders and firms, the second is an asset-transforming type of intermediation, in which the conflict is resolved by the creation of intermediate securities that have the risk, liquidity and volume characteristics which investors prefer. The financial institution raises money by offering these securities for sale, and then uses the acquired funds to purchase primary securities issued by firms.

Brokers

At its simplest an intermediary is a 'go-between', someone who matches up a provider of finance with a user of funds. This type of intermediary is particularly useful for reducing the search costs for both parties. Stockbrokers, for example, make it easy for investors wanting to buy shares in a newly floated company. Brokers may also have some skill at collecting information on a firm and monitoring its activities, saving the investor time. They also act as middlemen when an investor wishes to sell to another, thus enhancing the liquidity of the fund providers. Another example is the Post Office, which enables individuals to lend to the UK government in a convenient and cheap manner by buying National Savings certificates or Premium Bonds.

Asset transformers

In **asset transformation**, intermediaries, by creating a completely new security, the **intermediate security**, increase the opportunities available to savers, encouraging them to invest and thus reducing the cost of finance for the productive sector. The transformation function can act in a number of different ways:

- *Risk transformation*. For example, instead of an individual lending directly to a business with a great idea, such as exploring for oil in the South Atlantic, a bank creates a deposit or current account with relatively low risk for the investor's savings. Lending directly to the firm the saver would demand compensation for the probability of default on the loan and therefore the business would have to pay a very high rate of interest which would inhibit investment. The bank acting as an intermediary creates a special kind of security called a bank account agreement. The bank intermediary then uses the funds attracted by the new financial asset to buy a security issued by the oil company (the **primary security**), allowing the oil company to obtain long-term debt capital. Because of the extra security that a lender has by holding a bank account as a financial asset rather than by making a loan direct to a firm, the lender is prepared to accept a lower rate of interest and the ultimate borrower obtains funds at a relatively low cost. The bank reduces its risk exposure to any one project by diversifying its loan portfolio amongst a number of firms. It can also reduce risk by building up expertise in assessing and monitoring firms and their associated risk. Another example of risk transformation is when unit or investment companies (see later in this chapter) take savers' funds and spread these over a wide range of company shares.
- *Maturity (liquidity) transformation*. The fact that a bank lends long term for a risky venture does not mean that the primary lender is subjected to illiquidity. Liquidity is not a problem because banks maintain sufficient liquid funds to meet their liabilities when they arise. You can walk into a bank and take the money from your account at short notice because the bank, given its size, exploits economies of scale and anticipates that only a small fraction of its customers will withdraw their money on any one day. Banks and building societies play an important role in borrowing 'short' and lending 'long'.
- *Volume transformation*. Many institutions gather small amounts of money from numerous savers and re-package these sums into larger bundles for investment in the business sector. Apart from the banks and building societies, unit trusts are important here. It is uneconomic for an investor with, say,

£50 per month, who wants to invest in shares, to buy small quantities periodically, due to the charges and commissions levied. Unit trusts gather together hundreds of individuals' monthly savings and invest them in a broad range of shares, thereby exploiting economies in transaction costs.

Intermediaries' economies of scale

An intermediary, such as a bank, is able to accept lending to (and investing in shares of) companies at a relatively low rate of return because of the economies of scale enjoyed compared with the primary investor. These economies of scale include:

- *Efficiencies in gathering information on the riskiness of lending to a particular firm*. Individuals do not have access to the same data sources or expert analysis.
- *Risk spreading*. Intermediaries are able to spread funds across a large number of borrowers and thereby reduce overall risk. Individual investors may be unable to do this.
- *Transaction costs*. They are able to reduce the search, agreement and monitoring costs that would be incurred by savers and borrowers in a direct transaction. Banks, for example, are convenient, safe locations with standardised types of securities. Savers do not have to spend time examining the contract they are entering upon when, say, they open a bank account. How many of us read the small print when we opened a bank account?

The reduced information costs, convenience and passed-on benefits from the economies of operating on a large scale mean that primary investors are motivated to place their savings with intermediaries. The effects of the financial intermediaries and markets are shown in Exhibit 2.8 where the flow of funds from savings to investment is increased.

Financial markets

Financial markets exert enormous influence over modern life; every country has some sort of financial market, from Afghanistan to Zimbabwe. A financial market, such as a stock exchange, has two aspects; there is the primary market where funds are raised from investors by the firm, and there is the secondary market in which investors buy and sell securities, such as shares and bonds, between each other. In addition a well-regulated exchange encourages investment by reducing search, agreement and monitoring costs – see Exhibit 2.8.

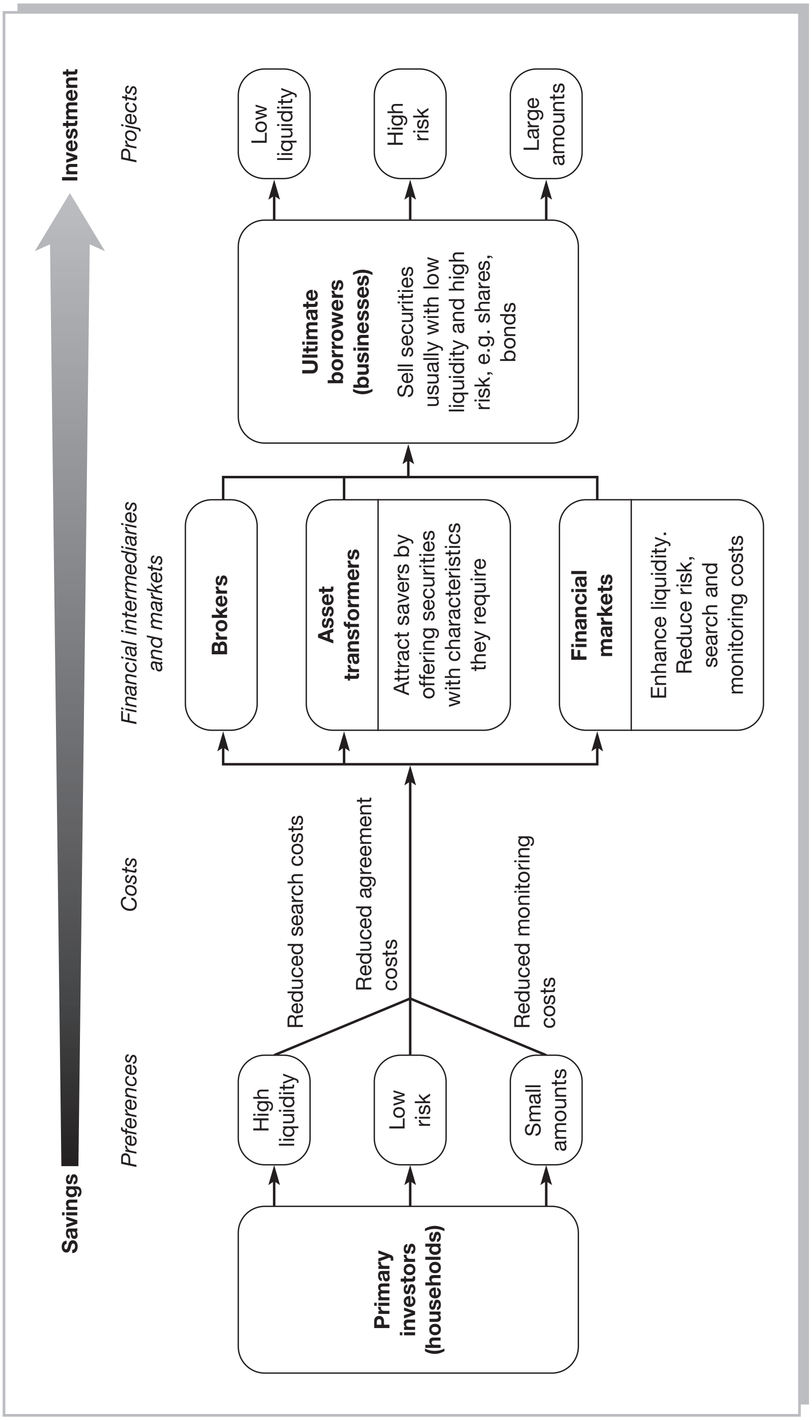


Exhibit 2.8 Savings into investment in an economy with financial intermediaries and financial markets

Primary market

When shares, bonds or other financial instruments are issued for the first time and sold directly to investors (the primary market) the sales are managed by financial institutions such as investment banks that help decide the initial price and oversee its sale to the public. When a company sells its shares on a regulated exchange for the first time, this is known as the **new issue market (NIM).** The most common issue in the primary market is the **initial public offering (IPO).** When it is shares that are sold this is known as a **flotation**, where they are offered for sale to the public in new, young companies or well-established private companies, wishing to obtain funding for their company in the form of equity capital. Companies already listed on a stock exchange can also raise capital in this way by issuing, say, a **rights issue** – issuing further shares in their company to their current shareholders. The world's largest IPO was the 2010 floating on the Shanghai and Hong Kong stock markets of the Agricultural Bank of China, which raised $22.1 billion, and generated fees of nearly $250 million for the coordinating group of banks, including Goldman Sachs, Morgan Stanley and Deutsche Bank.

Secondary market

Secondary trading enables the shareholder, bondholder, etc. to liquidate their shares (exchange them for cash) quickly taking a profit (or loss), while the company's holdings of assets are not diminished because it is not forced to pay the security owners for their shares or bonds. The existence of the secondary market is clearly a positive factor for potential investors in a company raising money in the primary market, and so funds are supplied at a lower cost than if there was no secondary market.

Exchange-traded and OTC markets

Exchange trading takes place on the myriad regulated share markets and other security exchanges round the world. There are regulated exchanges in bonds, derivatives, commodities, currencies and other securities. The exchanges create an environment that allows the pricing of securities through the actions of numerous buyers and sellers. The exchanges publish the transacted prices and make them available for wide dissemination. The exchanges are funded by a mixture of commission on trades (maybe 10p per share), admission fees and annual charges for listings, and selling their information to interested parties. All companies listed on share exchanges have to fulfil a number of statutory requirements and make public their financial reports. These rules are enforced by the exchange and other regulators to reassure investors about the quality of the issuer and the financial instrument.

The **over-the-counter (OTC) markets**, also known as the **off-exchange markets**, trade in securities between two parties on a private basis, not on the recognised formal exchanges such as the London Stock Exchange, New York Stock Exchange, etc. The trades can be in shares, bonds, commodities or any other security. A major part of the derivatives market is traded off-exchange, where the flexibility of the OTC market allows the creation of tailor-made derivatives to suit a client's risk situation. Some shares, called unlisted stock, are traded OTC because the company is small and unable to meet stock exchange requirements. OTC trading can be a more risky activity than exchange trading, and there is little transparency in traded prices. For example, bond dealers, who stand ready to buy or to sell company bonds in the secondary market, have the benefit of good knowledge about the trades taking place, but their customers (investors) usually do not know what deals were arranged with other customers, and so do not know if the prices they are paying or receiving are fair.

The financial institutions

To help orientate the reader within the financial system and to carry out more jargon busting, a brief outline of the main financial services sectors and markets is given here. Entire chapters are devoted to them later in the book.

The banking sector

Retail and wholesale banking

Put at its simplest, the **retail banks** take (small) deposits from the public which are re-packaged and lent to businesses and households. They also provide payment services. They are generally engaged in high-volume and low-value business which contrasts with **wholesale** banking which is low volume but each transaction is for a high value. For example, wholesale banks obtain a great deal of the money they use from the sale of financial instruments in values of tens or hundreds of millions of pounds, euros, etc. The distinction between retail and wholesale banks has become blurred over recent years as the large institutions have diversified their operations. The retail banks operate nationwide branch networks and a subset of banks provides a cheque and electronic clearance system – transferring money from one account to another – these are the **clearing banks**. Loans, overdrafts and mortgages are the main forms of retail bank lending. The trend up until 2009 was for retail banks to reduce their reliance on retail deposits and raise more wholesale funds from the financial markets. But this has since been reversed as banks found wholesale funding less reliable than obtaining funds to lend from deposits in current or deposit accounts. Northern Rock is an example of a bank that became over-reliant on wholesale funding. When those short-term loans became due for payment in 2008 it found it could not obtain replacement funding. This caused its collapse.

Investment banks

Investment banks concentrate on dealing with other large organisations, corporations, institutional investors and governments. While they undertake some lending their main focus is on generating fee and commission income by providing advice and facilitating deals. This sphere is dominated by US, Swiss, UK and German banks, see Exhibit 2.9.

Investment bank	*Revenue (in $bn)*	*Net earnings (in $bn)*	*Assets under management (in $bn)*
Goldman Sachs	45.2	13.4	871
JPMorgan Chase	100.4	11.8	1219
Morgan Stanley	24.7	1.7	779
Citigroup	80.3	–1.6	556
Bank of America	121.0	6.3	523
Barclays	31.8	10.3	1379
Credit Suisse	31.0	7.9	384
Deutsche Bank	25.3	4.96	181
UBS	24.0	–1.9	159

Source: Balance sheets of respective banks (2009)

Exhibit 2.9 **List of top investment banks worldwide**

There are five main areas of activity:

1 *Raising external finance for companies*. Providing advice and arranging finance for corporate clients. Sometimes they provide loans themselves, but more often they assist the setting up of a bank syndicate to make a joint loan or make arrangements with other institutions. They will advise and assist a

firm issuing a bond; they have expertise in helping firms float their shares on stock exchanges and make rights issues; they may 'underwrite' a bond or share issue (this means that they will buy any part of the issue not taken up by other investors), thus assuring the corporation that it will receive the funds it needs for its investment programme.

2 *Broking and dealing*. Acting as agents for the buying and selling of securities on the financial markets, including shares and bonds. Some also have market-making arms that quote prices they are willing to buy from or sell to, say, a shareholder or a bondholder, thereby assisting the operation of secondary markets. They also trade in the markets on their own account and assist companies with export finance.

3 *Fund (asset) management*. Offering services to rich individuals who lack the time or expertise to deal with their own investment strategies. They also manage unit and investment trusts (see below and Chapter 7) as well as the portfolios of some pension funds and insurance companies. In addition corporations often have short-term cash flows which need managing efficiently (treasury management).

4 *Assistance in corporate restructuring*. Investment banks earn large fees from advising acquirers on mergers and assisting with the merger process. They also gain by helping target firms avoid being taken over too cheaply. Corporate disposal programmes, such as selling off a division, may also need the services of an investment bank.

5 *Assisting risk management using derivatives*. Risk can be reduced through hedging strategies using futures, options, swaps and the like. However, this is a complex area with large room for error and draconian penalties if a mistake is made. The banks may have specialist knowledge to offer in this area.

International banks

There are two main types of international banking:

1 *Foreign banking*. Concerns transactions (lending/borrowing, etc.) carried out in the domestic currency (e.g. euros in France) with non-residents (e.g. a Japanese company raising money in France).

2 *Eurocurrency banking*. Concerns transactions in a currency outside the jurisdiction of the country of that currency, e.g. Japanese yen transactions in Canada are outside of the control of the Japanese authorities. For UK banks and overseas banks operating out of London this involves transactions in a variety of currencies with both residents and non-residents.

There are about 250 non-UK banks operating in London, the most prominent of which are American, German and Japanese. Their initial function was mainly to provide services for their own nationals, for example for export and import transactions, but nowadays their main emphasis is in the Eurocurrency market and international securities (shares, bonds, etc.) trading. Often funds are held in the UK for the purpose of trading and speculation on the foreign exchange market.

The mutuals

Building societies are mutual organisations owned by their members. They collect funds from millions of savers by enticing them to put their money in interest-bearing accounts. The vast majority of that deposited money is then lent to people wishing to buy a home – in the form of a mortgage. Thus, they take in short-term deposits (although they also borrow on the wholesale financial markets) and they lend money for long periods, usually for 25 years. The number of building societies has declined with a trend by the biggest societies to move away from mutual status and convert to companies with shareholders, offering general banking services.

Many countries have **savings banks** that, like building societies, do not have outside shareholders, but are 'mutually' owned by their members (which generally means customers). There are also **savings and loans** and **cooperative banks** constituted along similar lines. Some of these have grown very large and now offer a very wide range of services beyond mortgages and the acceptance of deposits.

Finance houses[1]

Finance houses are responsible for the financing of hire-purchase agreements and other instalment credit, for example, leasing. If you buy a large durable good such as a car or a washing machine, you often find that the sales assistant also tries to get you interested in taking the item on credit, so you pay for it over a period of, say, three years. It is not (usually) the retailer that provides the finance for the credit. The retailer usually works with a finance house which pays the retailer the full purchase price of the good and therefore becomes the owner. You, the customer, get to use the good, but in return you have to make regular payments to the finance house, including interest. Under a **hire-purchase** agreement, when you have made enough payments you will become

[1] The term 'finance house' is also used for broadly-based financial service companies carrying out a wide variety of financial activities from share dealing to corporate broking. However, we will confine the term to instalment credit and related services.

the owner. Under **leasing** the finance house retains ownership. Finance houses also provide **factoring** services – providing cash to firms in return for the right to receive income from the firms' debtors when they pay up. Most of the large finance houses are subsidiaries of the major conglomerate banks.

Long-term savings institutions

Pension funds

Pension funds are set up to provide pensions for members. They usually take a portion (say 6 per cent) of working members' salaries each month and put it into the fund. In addition the employing organisation pays money into the scheme. When a member retires they will receive a pension. Between the time of making a contribution and receiving payments in retirement, which may be decades, the pension trustees oversee the management of the fund. They may place some or all of the fund with specialist investment managers. This is a particularly attractive form of saving because of the generous tax reliefs provided. The long time horizon of the pension business means that large sums are built up and available for investment – currently around £800 billion in the UK funds, for example. Roughly one-half of this money is invested in UK and overseas shares, with some going to buy bonds and other assets such as money market instruments and property.

Insurance funds

Insurance companies engage in two types of activities:

1. *General insurance*. This is insurance against specific contingencies such as fire, theft, accident, generally for a one-year period. The money collected in premiums is mostly held in financial assets that are relatively short term and liquid so that short-term commitments can be met.

2. *Life assurance*. With life insurance your life is insured. If you die your beneficiaries get a payout. **Endowment policies** are more interesting from a financial systems perspective because they act as a savings vehicle as well as cover against death. The monthly premium will be larger but after a number of years have passed the insurance company pays a substantial sum of money even if you are still alive – if premiums have been invested wisely.

   Life assurance companies also provide **annuities**. Here a policyholder pays an initial lump sum and in return receives regular payments in subsequent years. They have also moved into personal pensions in the UK. Life assurance companies have over £900 billion under management.

The risk spreaders

These institutions allow small savers a stake in a large diversified portfolio. Thus investors can contribute a small amount each month to an investment fund alongside thousands of other investors, and then the pooled fund is professionally managed.

Unit trusts

Unit trusts are **'open-ended' funds**, which means that the size of the fund and the number of units depends on the amount of money investors put into the fund. If a fund of one million units suddenly doubled in size because of an inflow of investor funds it would become a fund of two million units through the creation and selling of more units. The buying and selling prices of the units are determined by the value of the fund. So if a two-million unit fund is invested in £2 million worth of shares in the UK stock market the value of each unit will be £1. If over a period the value of the shares rises to £3 million, the units will be worth £1.50 each. Unitholders sell units back to the managers of the unit trust if they want to liquidate their holding. The manager would then either sell the units to another investor or sell some of the underlying investments to raise cash to pay the unitholder. The units are usually quoted at two prices depending on whether you are buying (higher) or selling (lower). There is also an ongoing management charge for running the fund.

There is a wide choice of unit trusts specialising in different types of investments ranging from Japanese equities to privatised European companies. Of the £220 billion invested in unit trusts, 50–60 per cent is devoted to UK company securities, with the remainder mostly devoted to overseas company securities. Instruments similar to unit trusts are often called mutual funds in other countries.

Mutual funds

Mutual funds comprise a major portion of the US and Canadian investment market, where the greater part of the population own some mutual fund shares. They are attractive to individual investors because they offer investment diversification and professional fund management. Not many people have the time or expertise to devote to poring over financial statistics in an attempt to pick a good (i.e. profitable) investment. For these people mutual funds provide a satisfactory solution, but they will have to pay charges for investing in a fund.

Investment trusts (investment companies)

Investment trusts differ from unit trusts; they are companies able to issue shares and other securities rather than units. Investors can purchase these securities when the investment company is first launched or purchase shares in the secondary market from other investors. These are known as **closed-end funds** because the company itself is closed to new investors – if you wished to invest your money you would go to an existing investor to buy shares and not buy from the company. Investment companies usually spread their funds across a range of other companies' shares. They are also more inclined to invest in a broader range of assets than unit trusts – even property, or shares not listed on a stock market. Approximately one-half of the money devoted to the 400 or so UK investment companies (£100 billion) is put into UK securities, with the remainder placed in overseas securities. The managers of these funds are able to borrow in order to invest. This has the effect of increasing returns to shareholders when things go well. Correspondingly, if the value of the underlying investments falls, the return to shareholders falls even more, because of the obligation to meet interest charges.

Open-ended investment companies (OEICs)

Open-ended investment companies are hybrid risk-spreading instruments that allow an investment in an open-ended fund. Designed to be more flexible and transparent than either investment trusts or unit trusts, OEICs have just one price and a lower commission and charges. However, as with unit trusts, OEICs can issue more shares, in line with demand from investors, and they can borrow. Investors may invest in one particular OEIC, or in a variety of separate sub-funds under the same management structure.

The risk takers

Private equity funds

These are funds that invest in companies that do not have a stock market trading quote for their shares. The firms are often young and on a rapid growth trajectory, but private equity funds also supply finance to well-established companies. The funds usually buy shares in these companies and occasionally supply debt finance. Frequently the private equity funds are themselves funded by other financial institutions, such as a group of pension funds. Private equity has grown tremendously over the past 20 years to the point where now over one-fifth of non-government UK workers are employed by a firm financed by private equity.

Hedge funds

Hedge funds gather together investors' money and invest it in a wide variety of financial strategies largely outside the control of the regulators, being created either outside the major financial centres or as private investment partnerships. The investors include wealthy individuals as well as institutions, such as pension funds, insurance funds and banks. Being outside normal regulatory control hedge funds are not confined to investing in particular types of security, or to using particular investment methods. For example, they have far more freedom than unit trusts in **going short**, i.e. selling a security first and then buying it later, hopefully at a lower price. They can also borrow many times the size of the fund to punt on a small movement of currency rates, or share movements, orange juice futures or whatever they judge will go up (or go down). If the punt (or rather, a series of punts over the year) goes well the fund managers earn million-pound bonuses (often on the basis of 2 per cent of funds under management fee plus 20 per cent of the profit made for client investors).

Originally, the term 'hedge' made some sense when applied to these funds. They would, through a combination of investments, including derivatives, try to **hedge** (lower or eliminate) risk while seeking a high absolute return (rather than a return relative to an index). Today the word 'hedge' is misapplied to most of these funds because they generally take aggressive bets on the movements of currencies, equities, interest rates, bonds, etc. around the world. For example, one fund, Amaranth, bet on the movement of the price of natural gas, and lost $6 billion in a matter of days. Hedge funds' activities would not be a concern if they had remained a relatively small part of the investment scene. However, today they command enormous power and billions more are being placed in these funds every week. Already over £1,300 billion is invested in these funds. Add to that the borrowed money – sometimes 10 times the fund's base capital – and you can see why they are to be taken very seriously. Up to 50 per cent of the share trades on a typical day in London or New York is said to be due to hedge funds, for example.

Websites

Websites for statistics

www.afme.eu	Association for Financial Markets in Europe
www.abi.org.uk	Association of British Insurers
www.theaic.co.uk	Association of Investment Companies
www.bis.org	Bank for International Settlements
www.bsa.org.uk	Building Societies Association

www.cia.gov	CIA World Factbook
www.cityoflondon.gov.uk	Financial and business information on City of London
www.cmegroup.com	Chicago Mercantile Exchange
www.imf.org	International Monetary Fund
www.londonstockexchange.com	London Stock Exchange
www.oecd.org	Organisation for Economic Co-operation and Development
www.world-exchanges.org	World Federation of Exchanges
www.wto.org	World Trade Organisation

Websites for information

www.aima.org	Alternative Investment Management Association: the hedge fund industry's not-for-profit trade association
www.bvca.co.uk	British Private Equity & Venture Capital Association (BVCA)
www.fla.org.uk	The Finance & Leasing Association
www.ft.com	Financial Times
www.frc.org.uk	Financial Reporting Council: UK accounting regulator
www.ifslearning.ac.uk	Institute of Financial Services
www.investmentfunds.org.uk	Investment Management Association
www.napf.co.uk	National Association of Pension Funds
www.sifma.org	Securities Industry and Financial Markets Association
www.thebanker.com	*The Banker*: provides global financial information

3

Banking: retail and corporate

Banks provide very important services for us. We open bank accounts to deposit money to keep it somewhere safe, perhaps earning interest. That money, once deposited, does not sit in a bank vault – at least not most of it – it is lent out to people wanting to, say, buy a house or set up a business. Thus the money is put to good use and economic benefits flow from that. We also appreciate being able to make payments to others through the banking system.

While deposit facilities, lending and payments are the three core functions of banks they have branched out into a wide range of activities, from assisting with overseas trade to advising companies on interest risk management. When we look at the modern investment bank we see a fantastic array of services that our forebears would not have dreamed of, from acting as prime brokers for hedge funds to trading in commodity derivatives in dozens of currencies.

The term 'bank' has been stretched so we need to be flexible in what we regard as a banking service. In addition to those institutions that have 'bank' in their name such as Bank of Santander or Barclays Bank, this chapter and the next two discuss many other institutions that conduct banking activity, such as building societies and savings and loan associations, collectively known as **depository institutions** or **deposit-taking institutions (DTIs)**.

What is banking?

Banks started out as fairly straightforward businesses, taking in deposits, making loans and providing a payments mechanism. But they grew. They now conduct a much wider range of activities, and it can be difficult to define banking activity in the modern world. Exhibit 3.1 groups the activities into four different types of banking. Some organisations concentrate on providing services in just one, or perhaps two, of the segments, others are **universal banks** offering a full range of banking. This classification is not perfect – there are many banks that do not neatly fit into these groups, and there are other 'banking' activities not listed here

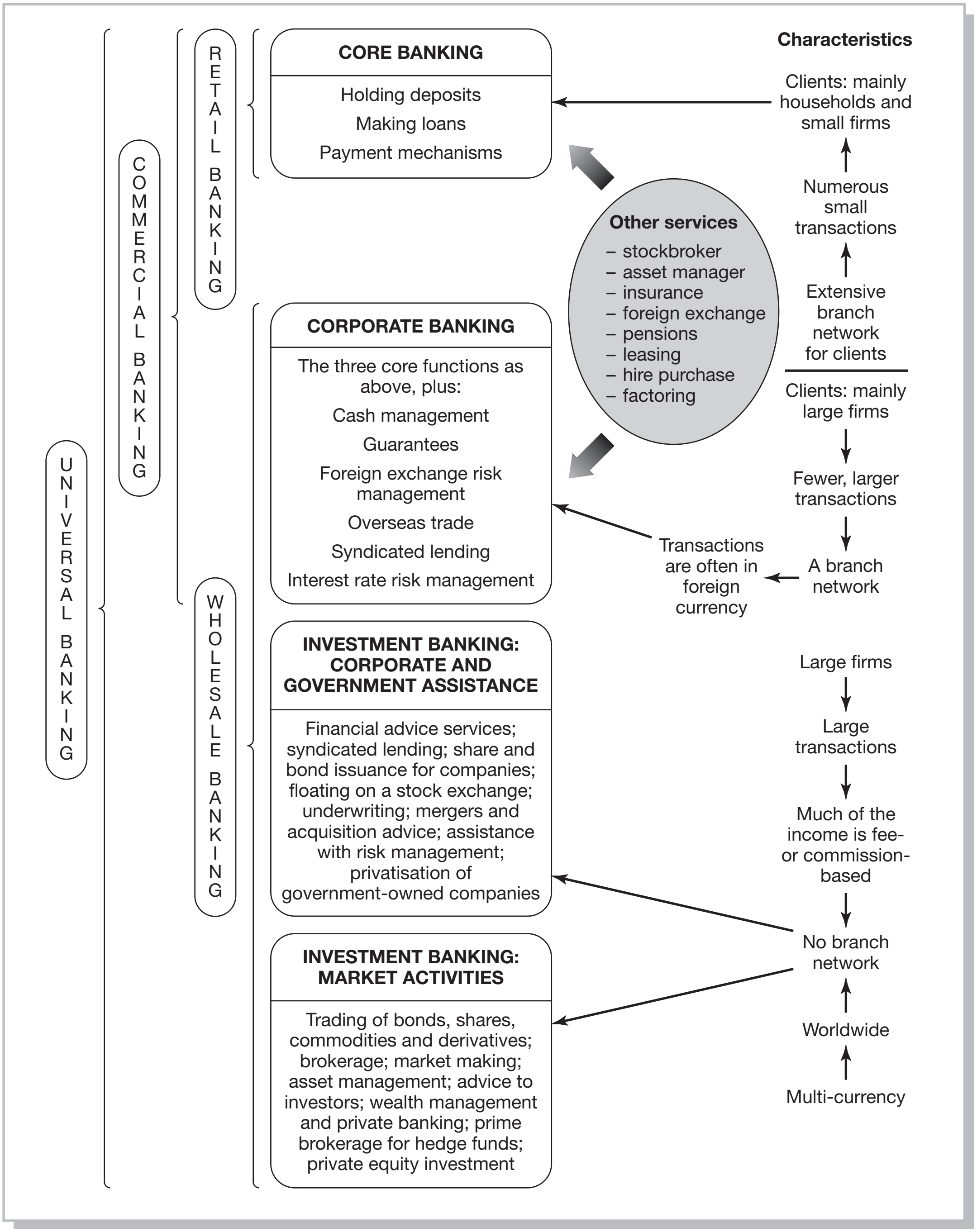


Exhibit 3.1 An overview of the different aspects of banking

– but it does allow us some tractability in understanding what it is that banks do. This classification will be used to structure this chapter and the next two.

German, French and Japanese banks tend to be universal banks offering a very wide range of services. The UK has universal banks such as Barclays, but other banks such as Lloyds are not heavily committed to investment banking, and there remain many smaller banks that concentrate on commercial banking. The US has thousands of small commercial banks often restricted to operating only in particular States, and a handful of universal banks, although currently the breadth of their activities is being curtailed by angry politicians and regulators in the wake of the financial crisis, which is largely blamed on investment bankers. We frequently find that banks focus on both retail and wholesale commercial banking back home in their domestic markets while focusing on wholesale markets in their international operations. We also find organisations that concentrate exclusively on investment banking (e.g. Goldman Sachs).

Core banking

At the heart of banking is the acceptance of deposits, the making of loans and enabling customers to make payments. The main source of funds for banks is deposits as shown in Exhibit 3.2 which provides a very crude breakdown of the source of funds for banks. The proportions vary from bank to bank depending

	Proportion of assets (%)
Current accounts, also called sight deposits	10–40
Time deposits, also called savings accounts	10–40
Money market borrowing (repos, interbank, certificates of deposit[1])	10–40
Bank capital	8–12

Exhibit 3.2 **The typical liabilities of banks – a rough breakdown**

[1] Money market instruments are described in Chapter 9.