

# **International and comparative bank regulation**

**Section A: Risk, banks and the principles of bank regulation**

**P. Rawlings**

This Study Guide was prepared for the University of London International Programmes by:

- Philip Rawlings LLB, PhD, ACIB, Professor of the Law of Finance and deputy director of the Centre for Commercial Law, University College London.

This is one of a series of Study Guides published by the University. We regret that owing to pressure of work the authors are unable to enter into any correspondence relating to, or arising from, the Guide.

If you have any comments on this Study Guide, favourable or unfavourable, please use the form at the back of this Guide.

University of London International Programmes  
Publications Office  
Stewart House  
32 Russell Square  
London WC1B 5DN  
United Kingdom

[www.londoninternational.ac.uk](http://www.londoninternational.ac.uk)

Published by the University of London Press  
© University of London International Academy 2011  
Printed by Central Printing Service, University of London

All rights reserved. No part of this work may be reproduced in any form, or by any means, without permission in writing from the publisher.

# Contents

<b>Chapter 1: Introduction .....</b>	<b>1</b>
1.1 International and comparative bank regulation .....	1
1.2 Introduction to Section A .....	3
1.3 How to use this Study Guide.....	3
<b>Chapter 2: Banks and risk.....</b>	<b>7</b>
2.1 What is a bank? .....	7
2.2 Why are banks important? .....	14
2.3 Risk.....	15
2.4 Risk and banks .....	18
Summary.....	22
<b>Chapter 3: Theories and general principles of regulation.....</b>	<b>25</b>
3.1 Regulation and its origins .....	26
3.2 The free market .....	27
3.3 State intervention .....	29
3.4 Striking a balance.....	32
3.5 Themes in bank regulation .....	33
3.6 Principles of bank regulation.....	37
Summary.....	42

## Chapter 2: Banks and risk

The willingness of governments around the world to pour funds into the banking sector during the crisis that began in 2007 has dramatically highlighted the importance of the industry. Furthermore, the announcement by these same governments of the reform of laws relating to bank regulation and their enthusiasm for international cooperation in this area suggest a strong belief in the power of regulation. To appreciate the role and objectives of bank regulation and what governments hope to achieve, it is important to understand what banks are, what they do, what risks they face and why they are regarded as worthy of such concern. These issues determine the way banks are regulated. In this chapter, the discussion of risk in relation to banks will be introduced by a general look at the issue of risk, risk analysis and risk management. Since this is a law course, expertise in the mysteries of economic theory is not expected, and this chapter seeks to provide only a basic knowledge that will allow you to understand the ideas that underpin the legal regulation of banking.

---

### Learning outcomes

Having studied this chapter and the relevant readings, you should be able to:

- ☐ discuss what a bank does and the difficulties of defining a bank
- ☐ explain why banks are regarded as important enough to prompt state intervention
- ☐ define 'risk' and explain how it is managed
- ☐ outline the risks involved in banking.

---

### Essential reading

- ☐ Casu, B., C. Girardone and P. Molyneux *Introduction to banking*. (Harlow: Pearson Education Ltd, 2006) [ISBN 9780273693024], pp.4–19, 21–25, 50–74 and 258–77.
- ☐ Edwards, F.R. and F.S. Mishkin 'The decline of traditional banking: implications for financial stability and regulatory policy', (1995) 1 *Economic Policy Review* 27. Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1029618](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1029618)
- ☐ Heffernan, S. *Modern banking*. (Chichester, John Wiley, 2005) [ISBN 9780470095003], pp.1–39 and 101–13.
- ☐ KPMG *Never again? Risk management in banking beyond the credit crisis*. (KPMG International, 2009). Available at: <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Pages/Risk-management-banking-beyond-credit-crisis.aspx>
- ☐ The Independent Banking Commission, *Issues Paper* (September 2010), particularly, Annex I. Available at: <http://tinyurl.com/2wcqn timer>
- ☐ Thompson, G.J. 'The many faces of risk in banking', [1997] *Reserve Bank of Australia Bulletin*, July, 11. Available at: [www.rba.gov.au](http://www.rba.gov.au) (search by article title).
- ☐ *United Dominions Trust Ltd v Kirkwood* [1966] 2 QB 431 (CA).

---

## 2.1 What is a bank?

### 2.1.1 Banks as financial intermediaries

At its most basic level, a bank acts as an intermediary between those with spare funds (depositors) and those with a shortage of funds (borrowers). People with spare funds which they wish to invest could lend direct to borrowers in exchange for regular payments of interest and eventual

repayment of principal, but this would involve resources and costs that might remove any advantage. It would be necessary to obtain – and understand – information about the borrower so as to assess the likelihood of the loan being repaid. The lender might also want to monitor the borrower during the term of the loan to check on the security of the investment. Prospective lenders may not have these skills or resources, or the time required for such work. Furthermore, they may wish to invest funds so that they can be obtained when needed: for example, an employee who is paid monthly will need rapid access to this money so as to pay bills as they arise. On the other side of the equation, a borrower may want a larger loan than a single investor can provide and may want the money for a longer term than the investor wishes to commit their funds.

A bank offers a means of overcoming these difficulties by placing itself between the depositor and the borrower. It undertakes an asset transformation function. It takes in funds on deposit which are repayable on short notice: for example, funds in a current account are typically repayable on demand. To the bank these deposits are liabilities, that is, they are debts owed to depositors. The bank lends these funds. These loans are assets of the bank, that is, they are debts owed to the bank by borrowers. In at least part of its business, the bank will be ‘borrowing short and lending long’, that is, it will be taking in funds on terms requiring repayment sooner than the date on which loans are due to mature.<sup>1</sup> It overcomes this mismatch because it constantly takes in new deposits and because, although depositors have the right to withdraw, many will not do so.

The intervention of a bank avoids the problem of investors and borrowers having to match their requirements. Moreover, it removes the need for the depositor to monitor – or indeed know anything about – the ultimate borrower because it is the bank and not the depositor that lends to the borrower; the depositor’s contract is with the bank, and the borrower’s contract is with the bank. Banks also offer advantages to borrowers. Most obviously, the borrower does not have to approach several (or even thousands of) small investors in order to obtain the desired funds and can borrow for longer periods than small investors might be willing to grant. The roles played by banks carry benefits for individual depositors and borrowers, but they also serve a broader social function in that they improve economic efficiency by making spare funds available for business. (For a scheme that overcomes some of these difficulties without involving a bank, see Zopa: <http://uk.zopa.com/ZopaWeb/>).

Depositors typically have the power to decide how much to deposit and how much to withdraw, so bank deposits are referred to as discretionary. This contrasts with other types of financial institutions where control over funds is determined by contract: for example, under an insurance policy contributions and claims are governed by contract, so an insured agrees to pay a fixed sum at specified intervals and can only withdraw funds on the occurrence of an event set out in the terms of the policy. The distinction may appear to give more predictability to the insurance company than the bank, but this is not necessarily true because the flow of funds out of the insurer depends on events that may or may not happen, such as theft of luggage that is covered by a travel insurance policy, or events that will certainly happen, but at a time that cannot be known in advance, such as the death of someone who is covered by a life insurance contract. The insurer must – like the banker – estimate the funds it needs to meet claims.

<sup>1</sup> By mature is meant the time when a loan is due for repayment: for example, if a loan is due to be repaid on 1 January it is said to be due to mature on that date.

The bank generates earnings by channelling funds from depositors to borrowers: any interest paid on customers' accounts and the costs involved in running those accounts are set against the interest received from borrowers less any bad debts.<sup>2</sup> A bank can reduce its risk by filtering out those borrowers who appear to be least able to make the payments required, and by diversification. The bank lends to many borrowers, so if one defaults the effect on the bank – and therefore on the safety of the depositors' money – is likely to be less devastating than would be the case if a single person with spare funds lent directly to the borrower. A bank may also improve its position by establishing a relationship with its borrowers that will give it an information advantage over a single person with spare funds, and over competitor banks. Among other things, this should help to ensure that the bank lends money to borrowers who are able to repay.

<sup>2</sup> A debt becomes a bad debt when the time for its payment has passed; however, the term 'bad debt' is normally used more colloquially in relation to a debt which is unlikely to be paid.

Two further points are worth making. First, there has been an enormous growth in the practice of banks acting as arrangers of finance that is supplied by others for a company or government: for example, a bank may advise a company that wishes to raise money through the issue of shares, or may organise a syndicate of lenders to lend to the borrower. These banks may also participate in lending, but much of their income derives from the fees earned for arranging the finance. Second, banks do not rely solely on deposit taking as the source for their funds; they also obtain them from the money markets, which allow banks and other institutions to lend to, and borrow from, one another (the interbank market). This enables banks to bridge any gap between the liquid (deposit accounts) or short-term (money market) liabilities of the bank and its illiquid assets (long-term loans).

To take a simple example: if on one particular day the customers of Toytown Bank withdraw £1 million more than is received in the form of deposits or the repayment of loans, Toytown could make up the difference by going to the money markets and borrowing £1 million. On other days it may receive more in deposits than it is required to pay out, in which case it can lend that surplus to other banks through the money markets. This lending tends to be short term (often less than three months).

It was the freezing up of interbank lending in 2007 and 2008 that placed banks and other financial institutions in such great difficulties. Northern Rock was at that time a bank that concentrated on lending to house buyers, and it financed this business to a large extent through the money markets. This strategy depended on the bank being able to replace loans as they fell due. When the money markets froze up because banks became unwilling to lend to one another, Northern Rock could not obtain funds, which meant it was unable to pay off the short-term loans it had obtained through the money markets and which were reaching maturity. This led it to seek assistance from the Bank of England, causing panic among depositors and a 'run on the bank', that is, a rush by depositors to withdraw funds.

That episode draws attention to another potential source of funds for the bank, namely, the central bank as lender of last resort, but, as the case of Northern Rock shows, drawing on the central bank (always assuming it is willing to assist) may cause panic among the depositors because it signals that the bank is in some difficulty meeting its current liabilities and cannot raise funds from other banks.

## 2.1.2 Other banking services

Beyond deposit taking and lending, banks have traditionally been defined by their provision of payment services. The most familiar methods of payment are cheques, credit cards, debit cards, standing orders (an instruction from the payer to their bank to pay a stipulated amount to a payee at regular intervals), direct debits (an instruction to the payer's bank, which is initiated by the payee under the general authority of the payer, to pay to the payee's bank account an amount determined by the payee) and credit transfers (the transfer of funds by the payer to the payee's bank account). On the significance of payment services (and therefore access to bank accounts) to the economy, see HM Treasury/FSA/ Bank of England *Banking reform – protecting depositors: a discussion paper* (London: HMSO, 2007), p.11.

The large commercial banks also offer a broad range of financial services, for example, financial and investment advice, foreign exchange, leasing (purchase and hiring out of equipment to businesses), international trade finance, factoring (purchase of trade debts from businesses) and corporate finance (assisting companies to raise funds through loans, share issues and other methods). In addition, associated companies within the same group may offer other financial services, such as insurance and securities<sup>3</sup> trading (sometimes known as financial conglomerates). This shift towards financial conglomerates has been facilitated by legislation. In the UK, restrictions on banks engaging in certain types of securities transactions or investment banking were relaxed by the Financial Services Act 1986, and the current legislation, the Financial Services and Markets Act 2000, allows banks to undertake a wide range of financial activities. The UK is a member of the European Union, and the Second Banking Directive 1988 (implemented in 1992) introduced the universal banking model, which freed banks in Member States from various restrictions on the services they were allowed to offer and the methods of delivering them. In the USA, restrictions imposed by the Glass–Steagall Act 1933 on the activities a bank could undertake were significantly eased by the Riegle–Neal Interstate Banking and Branching Efficiency Act 1994, which removed obstacles to banks opening branches in more than one state, and the Gramm–Leach–Bliley Act 1999, which allowed banking groups to engage in securities and insurance business.

Banking services may be provided through a range of platforms: branches, which allow face-to-face transactions, electronic machines (e.g. ATM – automated teller machines), the post, telephone or the internet.

<sup>3</sup> 'Securities' is a broad term used to describe a range of financial instruments, such as equities (e.g. shares in a company), banknotes, bonds (debt instruments issued by companies, which are like a loan and involve a promise to pay the holder interest and repay capital), and derivative contracts (a financial instrument whose performance is linked to another asset, such as the future price of a commodity or currency exchange rates).

---

### Activity 2.1

- What is the economic function of a financial intermediary, such as a bank?
- What is meant by the phrase 'borrowing short and lending long'? What problems do you think might arise from this practice?

*Feedback: page 22.*

---

## 2.1.3 Types of bank in the United Kingdom

For some idea of the great variety of banks that may be found in a well-developed financial system, it is worth briefly looking at the types of banks that operate in the United Kingdom.

### **Commercial banks**

These are the so-called 'High Street banks' with which most people have their personal accounts. The largest are Barclays, Lloyds Banking Group (which comprises Lloyds TSB and Halifax/Bank of Scotland (HBOS)), HSBC and Royal Bank of Scotland (including NatWest). These super-banks have been formed by mergers and takeovers of banks, building societies and other financial services providers, which over the last 50 years has drastically reduced the number of High Street banks and building societies (see below). The litany of vanished banks is extraordinary: until relatively recently, depending on where in the UK one lived, names such as Martin's (which became part of Barclays), Williams Deacons (became Williams & Glyn's; now disappeared within the Royal Bank of Scotland), National Provincial, District, Westminster (together became National Westminster, now NatWest, which was taken over by the Royal Bank of Scotland) and Midland (which became part of HSBC) were familiar, but all have now disappeared.

As has been mentioned, commercial banks engage in activities beyond the traditional lines of banking business, providing their customers with a whole range of financial services, such as insurance, investment and pensions. They have branches in other countries or relationships with foreign banks in order to facilitate their business in a global banking market. Some are truly enormous, such as HSBC, which boasts more than 10,000 offices in over 80 countries, and has over 120 million customers and, as at 2006, assets of almost \$2,400 billion. Some believe that the splitting-up of one of the largest banks in the world, Citigroup, as a result of the banking crisis may signal the end of these enormous universal banks.

### **Investment banks**

These were formerly called merchant banks in the UK because they emerged out of trading companies in the eighteenth and nineteenth centuries. They provide wholesale banking services for companies and governments, including corporate finance (advising companies on the issue of shares, acquisitions, mergers, etc), securities trading (shares, bonds (a form of debt instrument), etc), fund management (managing pension funds, investment firms, etc), foreign exchange and international trade services. Investment banks do not provide deposit-taking facilities or most of the services that would be expected from a commercial bank and so fall outside what an economist (and some lawyers – see section 2.1.4 below) would see as a bank. Nevertheless, the commercial world recognises them as banks and they fall within those statutes that cover the regulation of banks.

The independent UK investment banks were swallowed up by commercial banks, particularly after restrictions on securities trading were relaxed in the 1980s and the commercial banks swooped in to acquire investment banks and stockbrokers.

### **British overseas banks**

These are British banks whose main presence was abroad, typically in countries that were British colonial territories, such as Standard Chartered and Hong Kong and Shanghai Banking Corporation (now HSBC). Many have either expanded, like HSBC, or been taken over by commercial banks. See: [www.standardchartered.com/about-us/en/index.html](http://www.standardchartered.com/about-us/en/index.html)

### **Foreign banks**

London is host to subsidiaries, branches or representative offices of foreign banks. A presence in one of the world's leading financial capitals is



essential for an international bank. See the Association of Foreign Banks: [www.foreignbanks.org.uk/committee\\_members.asp](http://www.foreignbanks.org.uk/committee_members.asp)

### **Finance houses**

These provide loans and other types of finance to individuals and companies. Some specialise in hire purchase where goods are owned by the finance house but are in the possession of the person raising the finance, who pays a fixed regular amount, and at the end of the hire period ownership of the goods transfers to the possessor. The finance houses raise money by borrowing in the money markets rather than deposit taking. Many of the major finance houses are owned by commercial banks.

### **Retail banks**

These offer limited personal banking services, such as savings and current accounts, payment facilities, lending and so on. Many were set up by supermarkets, which, led by Tesco, seem likely to take advantage of the deterioration in the reputations of the High Street banks by opening branches in their shops (previously, they operated through telephone and the internet), and by insurance companies, and now offer a wide range of other services to customers. See, for instance:

- ☐ [www.sainsburysbank.co.uk/](http://www.sainsburysbank.co.uk/)
- ☐ [www.tescofinance.com/personal/finance/home.jsp](http://www.tescofinance.com/personal/finance/home.jsp)
- ☐ <http://new.egg.com>

### **Building societies**

Building societies were established for savers and for lending to residential property buyers, but they are now permitted to provide a variety of personal banking facilities, although there remain restrictions on their activities in relation to lending and the raising of finance. Most were able to survive the recent banking crisis because they depended more on savers than on the money markets for their funds. Another important difference between banks and building societies is that the former are owned by their shareholders, while the latter are owned by their members (account holders and borrowers). Most countries have institutions similar to building societies. In the USA, there are well over 1,000 Savings and Loans Associations (known as 'S&L' or 'thrift') and around 9,000 credit unions, which are deposit-taking and lending institutions run on a not-for-profit basis and owned by their members. See the website of the Building Societies Association: [www.bsa.org.uk/](http://www.bsa.org.uk/)

### **Bank of England**

This is the central bank for the UK and as such its roles include controlling the issue of notes and coins, controlling interest rates and the supply of money, acting as the government's banker, which involves managing the national debt and the government's gold and foreign exchange reserves, and acting as the lender-of-last-resort (subject to approval by the Chancellor of the Exchequer, who is the British finance minister) in the event that a banking crisis requires the injection of funds into failing banks unable to access other sources: see Northern Rock for a recent example of this activity (section 2.1.1 above). On the Bank of England generally, see its website: <http://www.bankofengland.co.uk/about/index.htm>

### **Payment institutions**

One of the aims of the European Union is to establish a single market that allows the free movement of goods, services and people throughout the Member States. This single market requires a reliable and coherent cross-border payment system within the EU. Efforts to establish this have led to

the Payment Services Directive (2007/64/EC), which Member States were required to transpose into national law by November 2009. In the UK, the Directive has been implemented by the Payment Service Regulations 2009 (SI 2009/209) and by Treasury Rules which came into effect on 1 November 2009. Part of this Directive concerns the authorisation and regulation of payment institutions, which will compete for business with the traditional providers – credit institutions (e.g. banks), which do not require special authorisation to perform these services. Where such an institution is established in a Member State of the EU, it will be allowed to operate in other Member States without obtaining fresh authorisation.

### 2.1.4 Legal definitions of ‘bank’, ‘banker’ and ‘banking’ in the United Kingdom

The variety in the banking sector makes it extremely difficult to formulate a clear definition of a bank and some law textbook writers have therefore shunned the attempt, but this is hardly helpful. Economists are less unsure, identifying financial intermediation – that is, deposit-taking and lending – as the key characteristic of a bank. A number of judges have also adopted this approach. Issacs J in the High Court of Australia in *Commissioners of the State Savings Bank of Victoria v Permewan, Wright & Co Ltd* (1915) 19 CLR 457, 470, 471 said:

The essential characteristics of the business of banking are... the collection of money by receiving deposits upon loan, repayable when and as expressly or impliedly agreed upon, and the utilization of the money so collected by lending it again in such sums as are required.

In *United Dominions Trust Ltd v Kirkwood* [1966] 2 QB 431 (CA), Lord Denning MR referred to that definition, but he emphasised the deposit-taking aspect when he suggested that normally a firm would only constitute a bank if it undertook certain activities:

- the acceptance of money from, and the collection of cheques<sup>4</sup> for, customers and the placing of the funds to the customers’ credit
- honouring cheques (see below) or orders drawn on the bank by its customers when presented for payment and debiting the customer’s account accordingly
- keeping some form of current or running accounts for the entries of customers’ credits and debits.

Professor (now Sir) Ross Cranston has argued<sup>5</sup> that tying the definition of banking to the running of current accounts excludes investment banks.

Lord Denning did, however, go on to identify other characteristics, notably, stability, soundness and probity, and reputation among other bankers. ‘Like many other beings, a banker is easier to recognise than to define. In case of doubt, it is, I think, permissible to look at the reputation of the firm amongst ordinary intelligent commercial men.’ He suggested that when a business is running well as a bank, judges should be reluctant to hold that it is not a bank. Unashamedly, Lord Denning was influenced by the consequence of finding that the business at issue in the case, UDT, was not a bank, which was that the credit contracts it had entered into would have been unenforceable.

There are some statutory definitions of ‘bank’. These tend to focus on the services offered. The Banking Act 1979 was, for instance, designed to regulate deposit-taking institutions. The Banking Act 2008 has a more

<sup>4</sup> A cheque is an unconditional order which is payable on demand and is addressed to a banker, signed by the person giving it (the account holder), requiring the banker to pay on demand a sum of money to or to the order of a specified person, or to the bearer of the cheque: ss.3 and 73 of the Bills of Exchange Act 1882.

<sup>5</sup> In *Principles of banking law* (Oxford: Oxford University Press, 2002).

restricted definition of ‘bank’, which excludes building societies (s.2). EU law sees banks – or ‘credit institutions’, as it calls them – in terms of both deposit-taking and lending: ‘an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits for its own account.’ (2006/48/EC, Article 4 (1)). But the definition encompasses a range of other services (Annex 1). The text of 2006/48/EC is available at: <http://eur-lex.europa.eu/> See also Case C-366/97 *Paolo and Massimo Romanelli* (1999) ECR I-855.

In *Bank of Chettinad Ltd of Colombo v Commissioner of Income Tax, Colombo* [1948] AC 378, 383 (PC), the Privy Council observed:

[The Income Tax Board] referred to a number of authorities on the meaning of the words ‘banking’ and ‘banker’. Their Lordships recognize that these words may bear different shades of meaning at different periods of history, and that their meaning may not be uniform today in countries of different habits of life and different degrees of civilization.

The courts will define a bank according to the question asked and its context, so it is possible that what is a bank in one situation might not be a bank in another context. In theory, then, a bank may not always be a bank, although the courts are likely to be alive to the difficulties this might cause.

One of the issues exposed by the banking crisis that emerged in 2007–08 was that most regulators operated on the basis of a narrow definition of banking which focused on deposit-taking and ignored other methods of raising funds from investors. In particular, it did not cover what became known as the ‘shadow banking’ system, which lay at the root of many of the problems that led to the banking crisis. The shadow banking system grew rapidly between 2000 and 2008 to rival the conventional banking system. It comprised entities which, like banks, borrowed short and lent long, but were not regulated as banks (although often created by banks) because they did not accept deposits. Their funds were raised from the issue of debt securities known as commercial paper<sup>6</sup> which was sold to investors such as pension funds. These funds were invested in long-term loans, such as mortgages. There was thus a mismatch between their liabilities and their assets, which led to their collapse when investors became unwilling to invest. This sector was largely unregulated because of the belief that those who invested in such entities were sophisticated and did not require protection. This ignored the dangers for the whole banking system because banks were among the largest investors and the losses incurred threatened their continued existence, and therefore the stability of financial systems.

<sup>6</sup> A promise to repay a stipulated amount of money plus interest at a specified date in the near future (usually no more than a few months).

---

### Activity 2.2

Read *United Dominions Trust Ltd v Kirkwood* [1966] 2 QB 431 (CA). Did all the judges agree with Lord Denning’s reasoning?

Feedback: page 23.

---

## 2.2 Why are banks important?

In most countries banks have acquired a unique role in the economy, as has been demonstrated by the rush of governments to rescue them during the banking crisis.

- ☐ In developed economies, the vast majority of individuals and firms have bank accounts and use them to make payments. This gives banks

a significant role in modern economies that depend upon non-cash payments: it would be impossible to run an economy unless people and firms had confidence in the security of the payments system and, because payments go through banks, that requires confidence in banks.

- A large proportion of savings is placed in bank accounts.
- Banks play a major part in providing loans to individuals and businesses, which gives them a key role in the economy: put simply, since companies commonly depend on loans, who does what business is at least partly determined by the ability to persuade a bank to provide the funds. The banking crisis has shown how a disruption in the availability of credit has a significant impact on business – on the ability to trade and on the ability of customers to buy.
- Although many firms engage in financial intermediation, what distinguishes banks is their impact on the supply of money that results from the deposit-taking and lending functions. The following is a simple illustration of how banks increase money:

Alex arranges for his salary of £1,000 to be transferred by his employer into his bank account at Toytown Bank. Toytown keeps £200 in its reserves to meet withdrawals that Alex might make and lends out the remaining £800 to a merchant. The merchant buys goods from John with the money and £800 is transferred to John's account at Acme Bank. Acme Bank keeps £160 in reserve and lends out the remaining £640.

	Toytown Bank	Acme Bank	Total
Reserve	£200	£160	£360
Loans	£800	£640	£1,440

An initial deposit of £1,000 has become reserves of £360 and loans of £1,440, which comes to £1,800. For those still confused by this apparently magical ability of banks to increase money, it should be pointed out that money is not just cash, it is also credits in bank accounts. The amount of money in the economy will exceed the amount of cash.

See Schwarz, A.J. 'The concise encyclopedia of economics: money supply'; available at: [www.econlib.org/library/Enc/MoneySupply.html](http://www.econlib.org/library/Enc/MoneySupply.html)

- Many modern banks are important providers of non-banking services, such as insurance and investment; they are significant employers; they are also among the largest and most profitable companies and so generate enormous tax revenues, foreign earnings and so on.

---

### Activity 2.3

What is the distinction between a deposit-taking and a non-deposit taking financial firm? Give some examples of non-deposit taking firms.

*Feedback: page 23.*

---

## 2.3 Risk

Banks are important to an economy, but this alone does not make them worthy of state regulation. It is their importance combined with the peculiar risks they face that supposedly justifies regulation. This section outlines what risk is and how it is assessed and managed, and Section 2.4 looks at the nature of the particular risks confronting banks.

### 2.3.1 What is risk?

Risk involves a calculation of the probability that a particular event which leads to loss will occur and the impact in terms of the loss that will be suffered if that event occurs. The study of risk is the study of the possibility of loss, although it is important to note (but too often forgotten) that risk-taking activity can bring gain: the risk of incurring a loss is often taken in order to make a gain. Risk is at the heart of commerce because it is almost inevitable that for a business to make profits it must engage in activities which may bring losses. The trader buys goods and hopes to sell at a profit, but there is a risk that a decline in demand may mean the goods will not sell, or that the goods will be destroyed by fire before they can be sold. Similarly, when a bank lends money it takes a risk that the borrower will not repay the loan with interest, but it does so in order to make money, which it will do if the borrower pays. Some risks may not be deliberately taken: the risk that a bank employee will steal money from the bank; the risk that an earthquake will destroy assets. But these are also risks for any business and must be factored into the planning.

Through the use of risk analysis and risk management it is possible to calculate the likely extent of loss and, if necessary, to devise and implement a strategy that minimises those losses. The problem is that risk analysis and risk management involve the attempt to quantify and manage something that is uncertain. Should I take my umbrella with me when I go out? Should I invest in the shares of a particular company? How can I quantify the likelihood that it will rain, or that the shares will go up or down in value? Clearly, we make risk assessments all the time: I check the weather forecast or look up at the sky before I go out, and I look at company accounts or the opinions of experts on the prospects for a company before I buy its shares. Similarly, a bank will look at the person or firm to which it is thinking of lending money and consider whether or not their prospects are such (salary or future profits) that the bank is likely to get its money back. Often, even if the risk comes about, the loss suffered is insignificant: if I do not take my umbrella and I get wet, the consequences are likely to be insignificant. On the other hand, some decisions carry the potential for much greater losses: if I invest all my savings in a company's shares and the company goes into liquidation, I will almost certainly lose my money.

At the heart of risk analysis is, therefore, the issue of uncertainty. This uncertainty may come from various sources, such as a lack of knowledge or skill, which means plans cannot be made on the basis of a clear understanding of the risks, or a lack of control over things such as consumer demand for a product or the strategies of rival firms. It may be possible to reduce the level of uncertainty: a manufacturer could use market research to estimate the likely demand for a particular product and so reduce the risk of lower than expected sales. Finally, a distinction must be made between the risk of loss and its impact. The future exchange rate of the US dollar is uncertain for everyone, but the risk of loss is particular to individuals or firms. If I am holding US \$1,000 and the exchange rate falls from \$2 for £1 to \$4 for £1 just before I change those dollars into UK pounds sterling, I will only receive £250, whereas before the change it would have been £500. If, on the other hand, I am holding £500, I will receive \$2,000 instead of \$1,000.

### 2.3.2 Identifying risks

Potential causes of loss include:

- ☐ personnel: inefficient employees, shortage of employees, etc
- ☐ operational: breakdowns in the running of the business (e.g. failure in supplying customers)
- ☐ internal procedures: failures of internal control systems
- ☐ reputation: the risk of loss arising from damage to reputation, which has an impact on customer confidence in the business and which may arise from inefficiencies within the firm or actions by others outside the firm (e.g. misuse of the firm's logo in spam email)
- ☐ business strategy: the production of poor quality goods or services
- ☐ market: adverse changes in interest rates, currency exchange rates, stock market prices and so on
- ☐ technology: changes in technology rendering products or services obsolete or those of a competitor cheaper; and failures in technology (e.g. computer breakdown)
- ☐ political and legal: for example, changes in law rendering the firm's activities illegal, changes in taxation, changes in government policy (e.g. leading to the loss of subsidies)
- ☐ environmental: losses caused by natural disasters (e.g. weather, earthquake).

### 2.3.3 Risk analysis and risk management

Humans take all sorts of risks without engaging in particularly sophisticated calculations: we might hope for the best or toss a coin. Businesses being run by humans are equally guilty of such casual calculation. The problem is that humans have fairly poor judgement when it comes to risk analysis: we tend to overestimate or underestimate. Quantitative risk analysis is an attempt to devise a more accurate methodology for calculating the price of the risk so that a firm can determine whether it needs to engage in risk management, that is, to take action (or not to take action) to avoid or minimise risk.

Risk analysis involves the use of models to explore possible outcomes (outcomes include things such as profits or losses) through simulation, which is an attempt to imitate real life, including its randomness. The skill lies in the ability to simplify reality by leaving out things that are not significant. The most sophisticated risk analysis will involve thousands of experiments being run through computers to see the likely range of outcomes that can be expected. This will enable the firm to identify those uncertain inputs that have the greatest impact on outcomes and so take risk management decisions.

Managing risk is typically problematic because it is difficult to quantify the risk of an event occurring: it may be foreseeable that a fire will disrupt a business, but how likely is it to happen and how much damage might it cause if it did happen? Risk management is therefore about choosing a cost-effective approach to risk which results in the benefits of such a strategy outweighing the costs. Once sources of risk have been identified (see section 2.3.2 above) and a calculation has been made as to the probability of the risk occurring and its impact, managing that risk can take a number of different forms. The risk of the event occurring – or at least its severity for the firm, or the losses that would be suffered if it does occur – could be dealt with in a number of ways:

- Accepted: nothing is done. It may be that the likelihood of the event occurring is so remote or its consequences so small that the costs of preventing it are not justified.
- Transferred to someone else, for example, by insurance or hedging,<sup>7</sup> which are methods by which risk can be shifted outside the firm. These involve costs, such as paying a premium to an insurance company which agrees to take on the risk of loss occurring through theft, fire, or a debtor failing to pay.
- Reduced or eliminated: strategies that prevent the loss, or reduce the likelihood of its occurring, or mitigate the losses that will be suffered. These may involve a more efficient use of the firm's resources through redeployment or restructuring of existing systems, such as improving internal controls on the behaviour of staff to minimise the likelihood of the risk materialising, or planning for contingencies so that people and systems respond rapidly in the event that the risk does materialise.

<sup>7</sup> Hedging involves offsetting the risk of future price movements: the risk that a farmer's next-year crop or a share which an investor has bought may fall in price can be offset by entering into a contract under which the farmer or investor promises to sell at a set price.

Good risk management will also involve a system of regular reviews of risks and audits of risk management systems, so that whatever the firm determines the best strategy to be at a particular time, that decision is kept under review.

---

## 2.4 Risk and banks

The taking of risk is what banking is all about: it is how banks generate earnings and it is one of their most important contributions to the economy. But banks are regarded as more vulnerable than most other companies because the nature of many of the risks involved is different. In this context it is worth noting the danger that the recent banking crisis might make the banks too cautious. This is hardly surprising in view of the criticism of banks for failing to exercise sufficient caution in the past, but being overly cautious merely lengthens and deepens a crisis. For this reason, governments pressed forward with programmes to secure the banks and encourage them to lend to each other, to business and to consumers and home-buyers.

### 2.4.1 Liquidity risk

Liquid assets are those that can be converted into cash rapidly, as opposed to illiquid assets which cannot be rapidly converted into cash. Deposits are liquid assets to the depositors because they are repayable on demand or at short notice, so that, in theory, all the bank's customers could demand withdrawal of their funds at the same time. Loans are illiquid where they are made for a fixed period and cannot therefore be realised to meet the demands of depositors. Liquid assets tend to produce lower returns than illiquid assets: the bank will earn nothing if it simply holds deposits in cash. On the other hand, a bank that is unable to meet its obligations as they fall due has a liquidity problem. It is therefore important for the bank to be able to predict the demand for withdrawals and yet hold no more liquid assets than is needed to meet that demand.

The bank may be able to meet demands from depositors through the repayment of loans and by attracting new deposits, or banks can borrow funds in the money market to meet any shortfall. If demand from depositors exceeds expectations, this may indicate a problem at the bank, which may make it difficult to obtain funds from depositors or the money market, or may mean it has to pay higher rates of interest to obtain such funds. So, while the demand from depositors can be predicted

by reference to past demand, such predictions may be upset by a loss of confidence among depositors in a particular bank or, worse, in the banking system as a whole.

Liquidity is different from solvency. Two rather oversimplified examples will illustrate the difference:

- Toytown Bank has demand deposits of £1 million (liabilities). It lends out £900,000 and keeps £100,000 in reserves. Let us assume that the loans are fully performing and the bank takes in no further deposits. If its depositors require withdrawals of £100,001 it has a liquidity problem, but it is still solvent because it has assets that match its liabilities. It may be able to solve this liquidity problem if depositors are willing to wait for their money or, more realistically, if Toytown borrows from other banks or institutions in the interbank market, or through repo (the usual term for a repurchase or sale-and-repurchase agreement involving the sale of securities on terms that allow the seller to buy them back) or open market operations (e.g. Toytown sells assets such as government securities to the central bank for cash on the understanding that it will buy them back at a future date, usually in two weeks; note that such operations can be reversed, that is, the central bank can take cash from the bank in exchange for securities, which are redeemed by the central bank at a future date).
- Take a different scenario. Toytown makes a loan of £200,000 to a borrower, but the borrower's business fails and has no assets. It cannot repay the loan. Now Toytown Bank is insolvent: it has assets of only £800,000 (£700,000 in loans and £100,000 in reserves), but it has liabilities of £1 million.

For a useful discussion of the subtleties of the definitions of liquidity risk, and the relationship between liquidity risk and other types of risk, see: Committee of European Banking Supervisors (CEBS) *Second part of CEBS's technical advice to the European Commission on liquidity risk management* (September 2008); available at: [www.c-ebs.org/getdoc/9474df47-8e3f-4130-b3d7.../CP19\\_Liquidity.aspx](http://www.c-ebs.org/getdoc/9474df47-8e3f-4130-b3d7.../CP19_Liquidity.aspx)

## 2.4.2 Credit risk and counterparty risk

Credit risk is the risk that an asset does not perform or becomes irrecoverable. Counterparty risk is the risk that a party will not perform according to the terms of the contract. Typically, credit risk is a type of counterparty risk because it involves a failure by the borrower to repay a loan on time (see also discussion of settlement risk below). This risk can alter: for example, the creditworthiness of a counterparty may deteriorate after the loan has been made. As well as loans, modern banks will encounter credit risks in relation to other financial instruments, such as derivatives,<sup>8</sup> and indeed the idea of counterparty risk is more commonly used in this context, while credit risk is usually used to refer to the risk of loan default.

Credit risk may be managed through various strategies:

- Selecting those to whom the bank lends with care, which, in turn, requires the bank to have a good understanding of the borrower in order to be able to calculate the risk involved in the loan.
- Limiting the bank's exposure to any single borrower or related group of borrowers, or to any single industry, or to any single country or region, and having a strategy for identifying appropriate credit limits for its borrower. This requires careful monitoring systems.

<sup>8</sup> Derivatives are contracts by which parties take on rights and obligations relating to the purchase and sale of underlying assets, such as cocoa, gold, silver, shares, or obligations to make payments according to the movement of indices, such as the index known as the London FTSE100, which is the index of share prices of the 100 leading companies quoted on the London Stock Exchange. The original purpose of such contracts was to allow manufacturers to fix future costs: a chocolate maker could agree to buy next year's crop of cocoa beans at a fixed price. Of course, having entered into such a contract, the chocolate maker could sell on the contract and this led to trading among people who were not chocolate makers, and to derivatives based on all sorts of assets.



- Diversifying credit risk, which is the consequence of limiting exposure and involves spreading lending across different borrowers, industries and regions to avoid risk concentration. Again, diversification requires careful monitoring systems.
- Having efficient systems for collecting debt and for identifying and dealing as quickly as possible with problems encountered by borrowers in meeting their obligations.
- Holding sufficient resources to cope with risks that do arise and having those resources in a form that is sufficiently liquid and carries negligible risk, such as government bonds and cash.

A bank's ability to assess credit risk is assisted by credit rating agencies, which vary from companies such as Experian ([www.experian.co.uk](http://www.experian.co.uk)) which check personal and business credit records to firms such as Standard & Poor's, Moody's and Fitch which rate the creditworthiness of governments, banks and other companies. On rating agencies, see:

- [www.fitchratings.com/](http://www.fitchratings.com/)
- [www2.standardandpoors.com/](http://www2.standardandpoors.com/)
- [www.moody.com/moodys/](http://www.moody.com/moodys/)

### 2.4.3 Settlement risk

This is the risk that a contracting party defaults by failing to pay or to deliver assets, or that there is failure of a system through which settlement is made: for example, payment is made through a bank and the bank becomes insolvent after it receives funds but before it has transferred those funds to the payee.

### 2.4.4 Market risk (or trading or price risk)

This is where there are adverse changes in the value of assets because of price movements: for example, the prices of shares or commodities fall. As banks moved outside their traditional source of earnings (lending) and traded in securities (such as shares and bonds), they ran the risk of losing money because of changes in the price of those securities. As well as price movements, market risk includes:

- **Interest rate risk.** If a loan has been made at a fixed rate of interest, the bank runs the risk of interest rates rising. Loans are usually longer term than deposits, so the bank runs the risk that interest rates will rise and so to finance the loans it may be obliged to pay higher rates of interest to depositors or to institutions from which it has itself borrowed the money (through the money markets) than it receives from its borrowers. Similarly, a bank may suffer a loss in the market value of bonds if interest rates rise causing a fall in the value of the bonds.
- **Foreign exchange risk** (or currency risk): the risk that rates will change adversely: for example, where a loan obligation in one currency is repayable in another currency.

### 2.4.5 Operational risk

This is the risk of loss being caused by:

- external events, such as bank robbery, fraud, terrorism, earthquake, or fire resulting in loss or disrupting business
- inadequate, negligent or corrupt employees leading to losses through employee theft or poor quality advice

- inadequate internal systems or management, such as the failure to have appropriate risk control systems or an adequate loan policy
- technology problems, such as a computer system that fails to deliver expected cost savings, increases costs unexpectedly, or malfunctions causing business disruption.

#### **2.4.6 Country risk**

Country risk is the risk that the conditions prevailing in a country may change in a way that causes loss to the bank: for example, the government decides to nationalise the bank's assets, or changes law in ways that make it difficult to compete with domestic banks or to transfer to the parent bank a subsidiary's earnings or capital; or the economic situation in a country deteriorates, affecting the ability of local companies to repay loans made by the bank.

#### **2.4.7 Sovereign risk**

This is the risk of a government defaulting on a loan from the bank. Governments can be difficult to sue. As has been mentioned above, credit rating agencies rate the creditworthiness of governments.

#### **2.4.8 Legal risk**

Legal risk is the risk that the bank cannot enforce contracts because, for instance, they have not been properly drawn up or they are illegal, or after the transaction has been entered into there are changes in the law, including changes in regulatory and tax laws, affecting its legality, viability or enforceability.

#### **2.4.9 Reputation risk**

This is the danger of damage to the bank's reputation affecting its business. Such damage may result from internal actions, such as incompetence which leads customers to lose confidence in the bank, or from external actions, such as the unauthorised use of the bank's logo by fraudsters.

#### **2.4.10 Capital risk**

Separating out the risks already discussed gives the false impression that they are somehow self-contained, whereas they are related: for example, excessive credit risk or liquidity problems may result from management failures. To reduce one type of risk exposure, a bank may develop a strategy or enter into an obligation that exposes it to other risks. Capital risk is the consequence of the bank's risks because taken together those risks may mean the bank has insufficient capital. The bank's capital is the value of its assets less the value of its liabilities. A bank needs to maintain a level of capital to act as protection against risk. In theory, the amount of capital a bank must hold is related to the level of the risks it runs, so that a bank with low levels of risk requires less capital than a bank with high levels of risk. The calculation of what level of capital is required is difficult because banks are typically more highly 'geared' (or 'leveraged') than other types of business: in other words, they have low levels of capital compared to assets. The other problem is that capital is held in safe but low-yield investments, which means it is expensive for banks to have large amounts of capital since the money could be more profitably invested.

There may be a tension between regulatory capital, which is the amount of capital a regulator regards as adequate to cover the risks that a bank is undertaking, and economic capital, which is the amount that the bank itself regards as adequate for the operation of its business.

### 2.4.11 Systemic risk

Finally, there is a risk that a bank will collapse because the banking system has failed. This failure may be caused by the collapse of one bank which affects others because of the way banks are connected through interbank lending (money market) and through payment systems, or the failure of one bank may mean depositors lose confidence in other banks because, having limited ability to judge the solvency of a bank, depositors take such matters on trust and the collapse of a bank can lead to a general loss of trust in banks. To some extent both of these problems affected banks across the world and prompted government support during the banking crisis of 2007 and after.

---

#### Activity 2.4

Why is liquidity risk so important to banks?

*Feedback: page 23.*

---

## Summary

Banks play various important roles in the economy – channelling funds from depositors to borrowers, affecting the supply of money and so on – but these functions make them vulnerable. It is generally argued that the importance of banking to the economy, coupled with the particular types of risk run by banks, means they should be regulated. The banking crisis that emerged in 2007 together with the reaction of governments to the crisis provides evidence of the perception of the significance of banking to the economy and might seem to support arguments for its regulation.

---

#### Reminder of learning outcomes

By this stage, you should be able to:

- ☐ discuss what a bank does and the difficulties of defining a bank
- ☐ explain why banks are regarded as important enough to prompt state intervention
- ☐ define 'risk' and explain how it is managed
- ☐ outline the risks involved in banking.

---

#### Feedback to activities

##### Activity 2.1

- a. *A financial intermediary such as a bank acts as a channel between depositors and borrowers, which means there are separate relationships between the bank and depositors and the bank and borrowers. This offers significant benefits to depositors and borrowers, and also increases economic efficiency.*
- b. *This is the practice of banks taking deposits (that is, borrowing from customers) under terms that oblige repayment on demand or short notice ('borrowing short'), and lending for longer periods ('lending long'). As will be seen later in this chapter and also in the next chapter, this gives rise to problems for banks. The most obvious of these is a mismatch between liabilities (deposits), which are highly liquid, and assets (loans), which are illiquid. This is **liquidity risk**: there is a risk that customers will withdraw deposits and the bank will not be able to meet that demand because the deposited funds have been lent out.*

**Activity 2.2**

*Harman LJ took the view that the key element of a bank was the maintenance of current accounts, which included accounts where there was a requirement to provide notice before withdrawal of funds, commonly called deposit or savings accounts. The collection of cheques (that is, where an account holder pays into their account cheques drawn on another person's bank account) was, he said, 'an additional requirement' and not an essential feature. He took the view that on the evidence presented at the trial, UDT did not operate current accounts. Although he was impressed by the reputation enjoyed by UDT among bankers and in commercial circles, he thought this was insufficient to make it a bank, arguing that 'there must be some performance behind it.' Diplock LJ took a similar view of the essential characteristic of a bank: 'What I think is common to all modern definitions and essential to the carrying on of the business of banking is that the banker should accept from his customers loans of money on "deposit," that is to say, loans for an indefinite period upon running account, repayable as to the whole or any part thereof upon demand by the customer either without notice or upon an agreed period of notice.' He also agreed with Harman LJ that an account called a deposit account, which carried interest and had a notice period, was an account for this purpose. For him, UDT did not operate accounts for its customers, but like Lord Denning he thought its reputation among bankers and commercial people was sufficient for it to be a bank.*

**Activity 2.3**

*A deposit-taking firm takes deposits in circumstances that leave control over decisions about depositing and withdrawal with the depositor and not the firm. A non-deposit taking institution enters into a contract with its customers under which both parties' obligations are set out. The customer is required to make payments in the amounts and at the times stipulated, and the firm must pay in the circumstances set out in the contract. For example, an insurance contract sets out the amounts and timing of payments of premiums by the insured and the circumstances in which payment is to be made by the insurance company.*

**Activity 2.4**

*The transformation of liquid assets (e.g. deposits repayable on demand or short notice) into illiquid assets (e.g. loans) carries with it the danger that the bank will not be able to meet the demand from depositors wishing to withdraw their funds. The bank is reluctant to hold excessive levels of assets that can be easily turned into cash (such as government securities) because they tend to produce lower returns. The bank must therefore accurately predict the level of future withdrawals, maintain customer confidence so that depositors do not seek to move funds out beyond normal levels, generate new deposits and be able to borrow cheaply on the interbank market to meet any shortfall. A liquidity crisis is likely to turn into a solvency crisis because the bank will lose deposits and will find problems in attracting new deposits or borrowing on the interbank market, which will in turn make it difficult for it to meet its short-term obligations and force it to raid its capital reserves, thereby depleting them to the point at which the bank's solvency may come into doubt.*