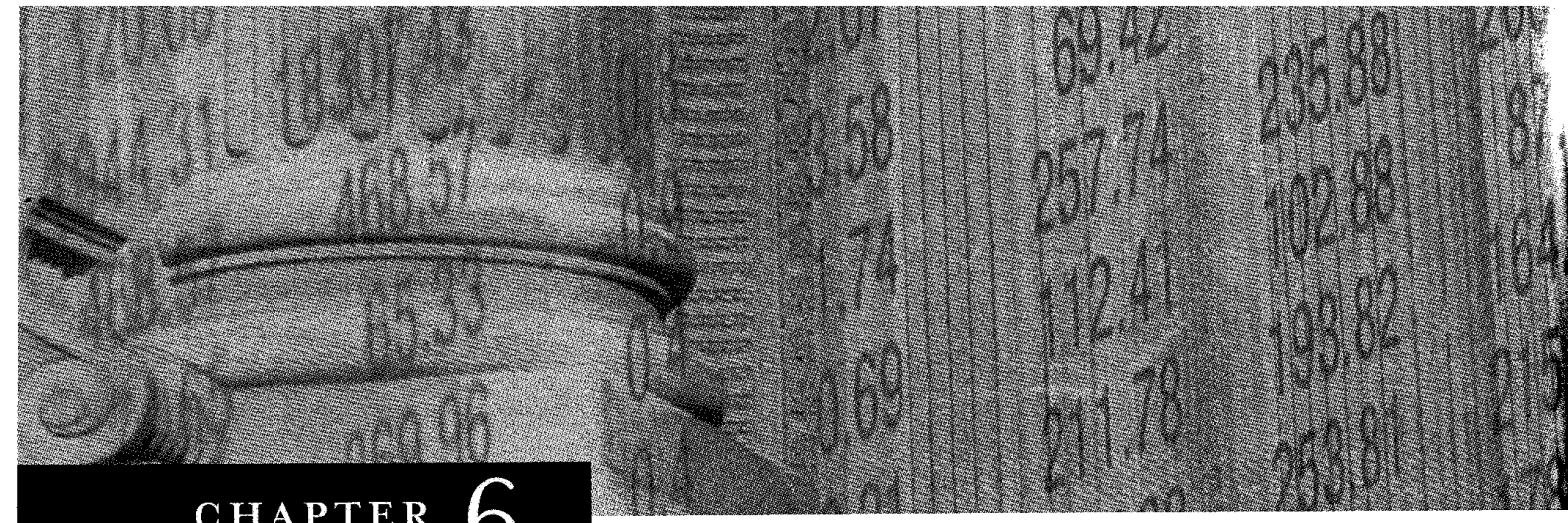
Meir Kohn: *Financial Institutions and Markets*, 2nd edition, Oxford University Press, 2004, chapter 6, pp. 128–168.



CHAPTER 6

What Is a Bank?

When you finish this chapter you will understand:

- The types of institution from which banks have evolved in the past and from which future banks are likely to evolve
- How and why bank assets and bank liabilities have changed and are continuing to change
- How and why banks are constantly expanding into new lines of business

Commercial banking is changing rapidly. Both the nature of the business and the structure of the industry have changed dramatically in the last quarter century. While commercial banks remain the single most important intermediary in the United States, their relative importance seems to have declined. In many other countries, commercial banks seem more important and the business they do and the structure of the industry are very different. What accounts for these changes and for these differences? In this chapter, we begin a two-chapter exploration of commercial banking: its purpose is to answer this question and to prepare you for the changes yet to come.

In this chapter we focus on the business of commercial banking. What is a commercial bank, and what does it do? In Chapter 7 we will focus on the banking industry. What is its structure? How well does it perform? Some aspects of commercial banking are so important that they merit separate chapters of their own: we discuss the payment system and foreign exchange in Chapter 8, bank management in Chapter 18, and bank safety and deposit insurance in Chapter 19.

The basic business of banking is a combination of two functions—payments and financial intermediation. However, that business has changed and continues to change along three dimensions:

- The entry of new types of institution into banking
- The evolution of the intermediation function as banks develop new types of lending and new types of borrowing
- The addition of other, related, functions to the basic ones of payments and financial intermediation

To understand these three dimensions of change, we take a look at how banking has evolved. The past is a laboratory where we will see the forces of change at work—the same forces that are at work today. We begin by tracing the evolution of the commercial bank into its modern form. We then look at the evolution of the banking business. First we see how bank intermediation has changed by looking at the evolution of bank assets and liabilities. Then we look at activities other than financial intermediation. In the final section, we see how all these changes are reflected in bank balance sheets and in bank income statements.

THE EVOLUTION OF THE MODERN BANK

Banks combine payment services and lending. They combine the two to achieve economies of scope. An institution that offers one of the two services is soon tempted by complementarities to offer the other. As a result, banks have evolved both from institutions that began with payments and from those that began with lending.

We will look at the evolution of banking more or less chronologically. Exhibit 6.1 provides a time frame to help you keep track of the different types of bank and when and where they developed.

Banking in Europe

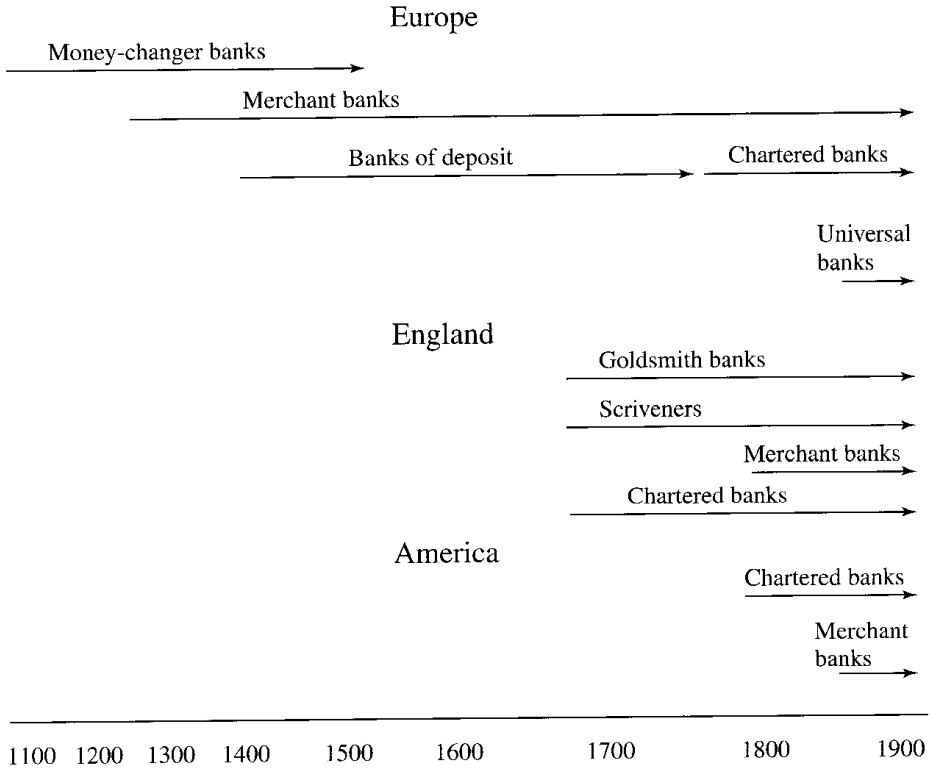
Money-Changer Banks. Modern banking originated in Europe. The earliest known references to banking are found in Genoese notarial records of the twelfth and thirteenth centuries. In Genoa *bancherius* meant money changer—the name referring to the table or bench at which the money changer conducted his business. Money changers weighed, tested, and sorted coins and exchanged foreign coins for more acceptable local ones. By the thirteenth century, Genoese bankers were accepting time and demand deposits, extending credit, and participating in business partnerships.

money-changer banks
Banks that began as money changers.

These **money-changer banks** began as *warehouse banks.*[1] Their customers made payments by transferring ownership of deposits. Warehouse banking in Genoa and elsewhere gradually developed into *fractional reserve banking*. Reserve ratios of about 30% were typical. It was well understood at the time that such fractional reserve banks created money. In fifteenth-century Venice these transferable deposits were called "bank money" to distinguish them from specie (gold or silver coin).

[1] They were much like the fictitious Ruthenian banks of Chapter 2.

EXHIBIT 6.1 The Evolution of The Commercial Bank



overdraft
A line of credit that allows a depositor to borrow automatically to cover uncovered payments.

usury
The charging of (excessive) interest on a loan.

remittance
The service of making payment at a distance.

merchant banks
Banks that began as merchants.

Lending was usually in the form of an **overdraft**. For example, Luigi owes Alessandro 2,000 ducats, but he has only 1,000 ducats in his deposit. He nonetheless orders his bank to pay Alessandro the 2,000 ducats, and the bank honors the order. The bank credits Alessandro's deposit with 2,000 ducats, debits Luigi's with 1,000, and accepts an IOU from Luigi for 1,000 to cover the remainder. (In many countries, overdrafts remain the principal form of bank lending to households.)

Some deposits paid a fixed rate of interest; more usually, however, deposits paid a dividend based on the bank's profits. This was a way around the church's ban on **usury**, which then meant the earning of risk-free interest. Since profits were uncertain, the payment of dividends was not considered to be usury.

Widespread failures of money-changer banks in the fifteenth century destroyed public confidence in them and led to increasingly restrictive regulation. As a result, money-changer banks declined in importance, and by the sixteenth century they had largely disappeared.

Merchant Banks. The disappearance of the money-changer banks left an unfilled demand for payments services. Other types of institution soon stepped in to fill the gap. Money changers had provided the *local* means of payment. However, the making of payments at a distance—**remittance**—had largely been in the hands of merchants. As the money-changer banks declined, **merchant banks** extended their business to provide local

means of payment too. Like the money-changer banks, the merchant banks accepted deposits and made loans.

The typical merchant banker was primarily a merchant. His principal business was international or interregional trade. However, his business connections in other cities allowed him to offer remittance services as a profitable sideline (another example of the economies of scope). For some merchants, this sideline became their main activity; for most, however, their main activity remained trade.

From the thirteenth to the seventeenth century, merchant banking grew to become the predominant form of banking in continental Europe. The Italians, especially the Florentines, dominated the business.

Banks of Deposit. The increasing problems of the money-changer banks were a major concern for governments. Trade was an important source of revenue in the form of customs and excise taxes. Problems with the payments system were a serious impediment to trade and hence a threat to government revenue.

banks of deposit Government-sponsored warehouse banks.

As a result, cities began to set up **banks of deposit** to perform essentially the same payments function as the money changer banks. The first bank of deposit was the *Taula*, or "table," established in Barcelona in 1401. The most famous was the Bank of Amsterdam, established in 1609. Banks of deposit began as warehouse banks. Just like the money changers, they accepted deposits of coin, which they weighed and sorted, and they allowed depositors to make payments by transferring the ownership of deposits.

Also like the money-changer banks, the banks of deposit soon discovered the attractions of fractional reserve banking. However, rather than lending to merchants, they lent exclusively or primarily to the government. As with the money changers, excessive lending frequently led to problems. However, because they were government institutions, they were able to avoid failure, or at least delay it, by resorting to a **suspension of convertibility**. They refused to allow withdrawals of cash while continuing to process deposit transfers.

suspension of convertibility A refusal to allow cash withdrawals, while continuing to process check payments.

Universal Banks. English and American commercial banks financed the working capital of industrial firms by discounting bills. Generally, however, they did not finance their fixed capital. In England, early industrial development was gradual and the need for fixed capital modest—early machinery was simple and inexpensive. Therefore fixed capital was largely financed out of internal funds. In the United States, industrial development came later—in the late nineteenth century—and it was faster and more capital intensive. It was largely financed by the growing securities market. As we shall see, the banking system provided funds to the securities market in the form of *call loans*.

In continental Europe too, industrial development came later. So European governments, feeling that their countries' industrial development was held back by the shortage of long-term finance, set up special-purpose "industrial banks" to provide it. The prototype for these industrial banks was the Crédit Mobilier, sponsored by the French government, and founded in 1852.[2] The Crédit Mobilier combined traditional commercial banking with long-term lending to finance industrial and urban development. It financed these long-term

[2] Actually, the first bank of this type was the Belgian Société Générale, founded in 1822.

loans by issuing long-term bonds and equity shares. In addition to its own long-term lending, it underwrote public issues for its customers. The Crédit Mobilier was initially a spectacular success, but it soon got into difficulties, and it failed in 1867 (it continued in restructured form until 1902). The source of its problems was the illiquidity of its portfolio and poor diversification.

universal bank A form of bank free to engage in any form of financial activity.

Despite its difficulties, the Crédit Mobilier provided a model for numerous industrial banks in Europe and Asia. Its best known modern descendants are the **universal banks** of Germany and Japan. In Germany, the railroad construction boom of the 1840s and 1850s drew private merchant banks into railroad finance. By the 1890s these banks were playing an active role in financing industrial companies—underwriting issues of securities for their customers as well as providing them with loans. In addition, the banks would often retain a block of stock on their own account and play an active role on the board of the companies that they financed. From the 1920s banks in Japan began to adopt a similar role—combining long-term financing and ownership with short-term financing. In many cases, the Japanese banks were associated with the great family-controlled groups of industrial companies known as *zaibatsu*.

Banking in England

Up to the seventeenth century, banking in England was relatively undeveloped. Only a few foreign merchant banks—Italian, then Dutch—had branches there. Then there came an amazing wave of financial innovation.

The London Goldsmiths. The money-changer banks that had long since vanished in continental Europe reappeared in late seventeenth century London in the form of goldsmith banks. The London goldsmiths combined money changing with other related activities. They had long accepted jewelry and plate for safekeeping (jewelry and plate being the nobility's main form of liquid asset). They also accepted deposits of coin. Coins of the same nominal value varied greatly in weight because many had been clipped or "sweated" to remove some of the gold. The goldsmiths sorted through the coins deposited with them for the ones nearest full weight. They then melted these down and exported them as gold bullion. Since this activity was quite profitable, they were happy to pay interest on deposits of coin.

By 1660, the receipts that goldsmiths issued for deposits of coin had become transferable, and they began to circulate informally as money. The goldsmiths took advantage of this and started to issue receipts with the express intention that they circulate. These receipts were the origin of the modern **banknote**. Checks also emerged at about this time. The goldsmith bankers soon made the transition from warehouse to fractional reserve banking. They began to issue new receipts through lending rather than against actual deposits of coin.[3]

banknote Promissory note issued by a bank and payable to bearer on demand.

The Scriveners. The goldsmiths' principal rivals in accepting deposit were the scriveners. Originally public letter writers and copyists, they evolved into legal practitioners who specialized in drawing up documents, including loan contracts. This work natu-

[3] The ban on usury had been abolished in England by Henry VIII, and a 1571 statute allowed interest of up to 10%.

MERRILL LYNCH'S CASH MANAGEMENT ACCOUNT

Investors usually keep a cash account with their brokers. They use it to pay for securities when they buy and to hold the proceeds when they sell. We saw earlier that generations of securities firms, over the centuries, have made such accounts their stepping-stones into banking. Merrill Lynch followed in this tradition when it began offering its Cash Management Account (CMA) in 1977. Under this arrangement, excess cash is automatically swept out of the cash account each week and into a money market mutual fund. Unlike the cash account, the money fund pays a market rate of interest. Funds needed to pay for a purchase of securities are taken out of the money market mutual fund automatically. The investor may write checks against the CMA. These are debited first against any cash in the cash account and then, if necessary, against the money market mutual fund. If the balance in the latter proves insufficient, credit is automatically extended, up to a limit of 50% of the value of the investor's stock portfolio.* The investor also receives a bank credit card that may be used to access the same line of credit.

Not being a bank, Merrill Lynch may not itself offer either a checking account or a bank credit card. So both are actually provided by BancOne of Columbus, Ohio, which receives a fee from Merrill for this service. Most other brokerage houses now offer their own versions of the CMA.

*This is the maximum amount of lending allowed against collateral of securities. Such margin lending is regulated by the Fed.

rally led them into brokering loans, especially mortgages. As part of this business, clients would deposit money with them until they found a suitable investment. So the scriveners evolved from brokers into intermediaries who paid interest on their clients' deposits and reinvested the funds at a profit. This evolution from broker into banker been repeated recently by U.S. securities firms (see " Merrill Lynch's Cash Management Account").

The Chartered Bank. The British government, ever watchful for new ways to finance its frequent wars, followed with great interest the success of the Bank of Amsterdam. In 1694, it decided to set up a bank in London along similar lines—the Bank of England.

chartered bank A bank established through the granting of a public charter.

The Bank of England was the first of a new breed of banks that we shall call **chartered banks**. The Bank of England, unlike other banks before it, was set up from the very beginning with the explicit purpose of being a fractional reserve bank. It was not operated directly by the government, but rather by private individuals acting under a government charter. The charter granted them certain rights and privileges in exchange for services to the Crown. The rights and privileges included preferential legal treatment and later a

monopoly on note issue. The services to the Crown consisted initially of lending to the government—at a preferential rate. Later they came to include acting as a central bank.[4]

Merchant Banks. Merchant banking developed in England only with the onset of the Industrial Revolution. Trade grew rapidly between London and the provinces, where industry was developing. Provincial merchants who provided remittance to London and collected payments there for their customers evolved into the "country bankers" of the eighteenth and nineteenth centuries. They provided local means of payment in the form of banknotes (sometimes bearing interest).

Banking in America

Banking in America developed relatively late. Economic circumstances were at first unfavorable. Because banking developed late, America had the English and European models to imitate.

The largely agricultural colonial economy provided little potential business for a private bank. Farmers bought on credit from the local store, the local store bought on credit from merchants in Boston or Philadelphia; and they in turn bought on credit from their suppliers in England. At harvest time, the whole chain of credit was paid off by shipping the farmers' crops to England. Because the economy relied so heavily on trade credit originating in England, there was little local demand for banking services, and merchant banking did not develop.

The Colonial Land Banks. Because of the absence of banks, credit other than trade credit was scarce. In particular, wealthy, but illiquid, landowners found it hard to finance the development of their properties and to pay their taxes. To meet their needs, several of the colonies established land banks. These issued banknotes to make loans against land. Almost immediately, the land banks had problems with overissue and the depreciation of their notes. The few that did not fail were closed in 1741 by the British colonial administration.

The Bank of the United States. The demand for indigenous banks was given a boost when British credit was cut off during the Revolutionary War. Several states chartered banks to help pay for the war—the first being the Bank of North America, founded in Philadelphia in 1781.

In 1791, at the urging of Alexander Hamilton, the federal government chartered a bank modeled on the Bank of England. The **Bank of the United States** was to serve the Treasury's needs for short-term credit and to provide it with payments services. It was not intended to finance the national debt, and its charter expressly prohibited it from doing so. The Bank of the United States eventually fell victim to politics and its charter lapsed in 1811. A Second Bank of the United States was established in 1816, but it too fell a victim to politics and the renewal of its charter was vetoed by President Jackson in 1836.[5]

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[4] See Chapter 3 for an explanation of the functions of a central bank.

[5] We shall hear more about the Bank of the United States in Chapters 7 and 19.

State-Chartered Banks. From 1836 to the Civil War, banking was largely in the hands of state-chartered banks. These were given the right to issue banknotes. Typically, they were expected in exchange to lend to state governments or to state-sponsored projects such as canals or railroads.

free banking
Granting of bank charter to any qualified applicant, without individual legislation.

Towards the end of this period, there was a movement towards "**free banking**." Under this arrangement, bank charters were no longer a special favor of the state, each one requiring a special act of legislation. Instead, anyone meeting minimum requirements of honesty and capital could receive a charter from the state banking commissioner.

National Banking. The difficulties of financing the Civil War prompted passage of the National Bank Acts of 1863 and 1864, which reinstated the federal government's power to charter banks. National banks were effectively given the exclusive right to issue banknotes. Such banknotes were to be issued to purchase federal debt.

Deprived of the right of note issue, state banks initially declined. However, after they turned to deposits as their principal form of liability, they soon recovered.

Private Banks. The merchant bank also emerged as an important institution in the United States in this period—just as it was dying out in Europe. Merchant banks—called **private banks** in the United States—developed in much the same way they had in Europe. Merchants with commercial connections in distant cities, at home and abroad, offered remittance services to others. Other banking functions, such as accepting deposits and making loans, naturally followed. As long as they did not issue banknotes, private banks did not require a charter.

private bank
An American merchant bank.

The most famous American private bankers were the Morgans. Junius Morgan, a successful New England merchant, moved to London in 1854. There he conducted a mixed business in trade and finance. Morgan financed American exports of cotton and wheat and American imports of iron for the booming railroad industry. He also traded in commodities on his own account. Morgan accepted deposits, made payments, bought securities in London for his American clients, and arranged for the sale there of his clients' securities.

Near Banks

Banks originally evolved to serve the needs of commerce. Their customers were primarily merchants. Until well into the twentieth century, banks showed little interest in the business of ordinary households. Small deposits and small loans seemed to them to be more trouble than they were worth. This attitude left open a market niche for other institutions to fill, and a variety of institutions grew up to serve the needs of small savers and borrowers. They included savings banks, savings and loans (S&Ls), and credit unions—institutions known collectively as thrifts—as well as finance companies and pawnshops. In terms of financial intermediation, these institutions worked quite a lot like banks; they generally were not involved, however, in payments. We shall therefore call these institutions collectively **near banks**.

near bank
Financial institution with similar intermediation function to bank, but usually without the payment function.

Savings Banks. Savings banks had their origins in the welfare problems of the late eighteenth and early nineteenth centuries. "Poor relief" was then the responsibility of local

governments and of charities. Its increasing cost made the idea of self-help attractive to local taxpayers.

Promoters of savings banks believed that the poor should be encouraged to save, so that in times of need they would be better able to help themselves. Municipalities (in Germany) and private philanthropists (in Scotland and England) set up special savings institutions with this purpose in mind. The idea soon spread to other countries, including the United States. The early savings banks were essentially charitable institutions, intended to provide a safe repository for the savings of the poor. They were therefore very conservative with their funds, placing them with commercial banks, or investing in government securities; they did not make loans. Subsidies from the city or from private philanthropists often allowed savings banks to pay interest rates on their deposits that were above market level. To prevent the more well-to-do from taking advantage of this subsidy, there was typically a maximum on the amount that could be deposited.

In the United Kingdom and in Canada, tight regulation froze savings banks in their original form until quite recently. Consequently, they remained small relative to other intermediaries.[6] In Germany and in the United States, however, regulatory constraints were soon eased and the savings banks rapidly evolved into a much broader type of institution. In both countries, they came to rival commercial banks in importance. In Germany, by the end of the nineteenth century, savings banks had become the main savings vehicle of the middle class and an important source of mortgage and municipal finance. In the United States, savings banks rapidly lost their association with the poor and became simply a safe place for the savings of all classes. In the period before the Civil War, they were the fastest-growing financial institution. At their peak, they accounted for 40% of all long-term lending. Their assets included mortgages, government and corporate securities, and business loans, as well as deposits at commercial banks. However, despite their growth in size, they never really spread much beyond the cities of the Northeast.

Savings and Loans. While savings banks began purely as safe repositories for household savings, not lending to households at all, S&Ls were created from the very outset to provide households with credit.

The nineteenth and early twentieth centuries saw rapid urbanization, both in Europe and in America. The growth of cities created a tremendous need for mortgage finance. To fill this need, various private groups began to organize building and loan associations (called building societies in England and Canada).

A building and loan association might work as follows. A group of families, say 50, would each commit to buying a $100,000 "share" in the association. Each family pays for its share with 100 consecutive monthly contributions of $1,000, paid into a common fund. Once the fund has accumulated $100,000, it makes its first loan. The recipient is chosen by lot from among the members.[7] As more money accumulates, more loans are made in the same fashion. Loan recipients continue to pay in their $1,000 a month and, in addition,

[6] In the United Kingdom, most restrictions on trustee savings banks were removed in the 1970s, and in 1986 the remaining institutions were combined and floated as a single joint-stock bank, the Trustee Savings Bank. In Canada too, regulations were eased in the 1980s.

[7] Sometimes the recipient of the loan was chosen by predetermined order; sometimes, by auction—the loan going to whoever offered to pay the highest rate of interest. The loan was called an "advance" on the share.

pay interest on the loan. The interest on outstanding loans is paid out as dividends to all members. Once all the shares have been paid in (after 100 months), the association is terminated. Each member receives the value of a share—$100,000. Those who have received loans, receive the $100,000 in the form of forgiveness of the loan. Those who have not yet received loans are paid the $100,000 in cash.

There is an obvious incentive problem with this arrangement. Those who receive loans—especially those who receive them early—can gain by quitting the arrangement while they are ahead. In fact, this rarely happened. Good behavior was assured by social pressure. Members of an association typically knew each other well, often being members of the same church or of some other affinity group.[8]

This form of organization—the "terminating building and loan"—was quite successful, but it had its limitations. First, because of the incentive problems, such associations had to remain small. Second, shares were highly illiquid: there were substantial penalties for failure to make the monthly contribution or for early withdrawal. Third, those wishing to continue to save beyond the life of the association had to find somewhere else to invest their money.

In the United States, a new form of association which remedied these disadvantages—the "permanent plan association"—became increasingly popular from the 1880s. Under the permanent plan, members could add to their savings and withdraw them as they wished. And loans could be made to nonmembers. These permanent associations came to be known as "savings and loans."

Credit Unions. **Credit unions** have their origins in the credit cooperatives of mid-nineteenth-century Germany. Groups of artisans, peasants, and small businessmen, finding it impossible to borrow from banks as individuals, set up credit cooperatives. The cooperative would borrow from a bank on the joint credit of all the members, each with unlimited liability. The cooperative used the funds to lend to individual members. Because the members knew each other well, they could judge who was and who was not a good credit risk. Initially, these cooperatives did not accept deposits.

Credit cooperatives came to North America in 1900 when Alphonse Desjardins founded the *caisse populaire* movement in Québec. Unlike the German cooperatives, the *caisses populaires* were intended to be self-sufficient, relying on members' savings for funds rather than on outside borrowing. They also specialized in consumer rather than producer loans. In most cases, the community on which the *caisse populaire* was based was the church parish. In 1909, Desjardins helped to establish the first credit union in the United States, in St. Marie Parish, Manchester, New Hampshire. In the same year he helped Massachusetts lawmakers formulate the first credit union legislation in the United States.

The Massachusetts, and subsequent, legislation required that members of a credit union share a "common bond." The common bond may be one of employment (the most common form), religion, or community. The requirement of a common bond generally

[8] The terminating building and loan is an example of *rotating credit*, a common arrangement in many countries. Members of a group pay fixed contributions into a pool each month. The monthly pool is paid out to each of the members in turn. The arrangement ends, or a new round begins, when everyone has had his turn.

keeps credit unions small.[9] The small size makes it easier for members to control management. As a result, credit unions seem to be less inefficient than other types of nonprofit financial institution.

Finance Companies. The near banks we have looked at so far, thrifts, are similar to banks in that they accept deposits. Our next subject, the **finance company**, does not accept deposits. Its similarity to banks lies on the other side of the balance sheet, in its lending.

finance company An institution set up to provide credit to households or firms, usually to finance the purchase of appliances or equipment.

Firms that sell durable goods to consumers (cars, appliances, furniture) or to businesses (trucks, airplanes, machinery, computers) have a particular interest in the availability of credit. It is much easier to sell a car or a computer if the customer can finance the purchase at a reasonable cost. Because banks originally had little interest in providing this sort of finance, retailers and manufacturers began to provide it themselves.

The first known example in the United States of a retailer providing installment credit to its customers was the New York furniture company of Cowperwait & Sons, which began this practice in 1807. The practice soon spread throughout the furniture business. It was later taken up by the manufacturers of the major household appliances of the nineteenth century—sewing machines and pianos (Singer began offering installment credit in 1850).

However, installment credit really took off only with the beginning of the mass marketing of automobiles from about 1915. Automobile companies set up specialized subsidiaries called finance companies to provide installment credit to car buyers and to finance the inventories of dealers ("floor-plan financing") and suppliers. The automobile companies were soon followed by retailers and manufacturers of consumer and producer durables.[10] The idea spread from the United States to many other countries.

The funds for installment credit initially came largely from banks. Finance companies borrowed from banks to relend to their customers. Or they discounted their installment loan contracts with banks. When bank lending proved insufficient—as it did for the automobile industry—finance companies began to issue commercial paper in the money market. So, in a reversal of the practice of most intermediaries, finance companies borrowed in large amounts, which they broke down into much smaller loans.[11]

Pawnshops. Pawnbroking developed in the Middle Ages at about the same time as money-changer and merchant banking. Pawnbrokers in Northern Europe were mostly Italians; in Italy, they were mostly Jews. In the fifteenth century, cities began to sponsor charitable pawnshops, known as *monts-de-piété*, to provide credit to artisans and tradesmen. Through the eighteenth century, pawnshops proved an important source of credit to small retailers and craftsmen who could not borrow from banks.

pawnshop A financial institution that makes small loans to consumers against a pledge.

Pawnshops continue to operate today. In Europe and Latin America, they are generally nonprofit institutions, sponsored by local governments and charities. In Britain and the United States, they are private and operated for profit. Today, pawnshops in the United States generally serve poor, high-risk borrowers who have no other source of credit. Their

[9] Some, however, are quite large. The largest is Navy Federal. The common bond in this case is employment by the U.S. Navy. In 1989, Navy Federal had a million members and some $4 billion in assets.

[10] Sears, Roebuck & Company had already begun to offer installment credit in 1911.

[11] See Chapter 14 for a discussion of the important role of finance companies in the money market.

clientele is perhaps 10% of the adult population. The industry has grown since the beginning of the century, spreading from the Northeast to the South and to the Mountain states.

In 1988, there were some 6,900 pawnshops in the United States, with about $700 million in loans outstanding (about 0.1% of total consumer credit). The average loan was for $50 and took less than 10 minutes to execute. There is no credit check: the lender relies entirely on the value of the pledge. Typical pledges include jewelry, electronic and photographic equipment, musical instruments, and firearms. Default rates are high. Pawnshops are typically financed with the owners' equity and bank credit.

Near Banks in Other Countries. The development of near banks in other countries parallels their development in the United States. In other countries too, near banks much like our own have developed for much the same reason—to fill market niches left open by commercial banks.

Many countries have near banks that are owned or sponsored by the government. Some are much like private intermediaries: German savings banks (discussed earlier) are an example. However, the most common form of government savings institution is the **post office savings bank**, usually run out of regular post office branches as part of normal service.

post office savings bank
A government owned savings intermediary operated out of post office branches.

The United States set up a post office savings bank in 1911. It grew rapidly during the Depression, being more secure than private institutions. It continued to grow during World War II, when it offered better interest rates than its private competitors. At its peak in 1947, its deposits were about one-third those of the S&Ls. It then began a decline that ended with its closing in 1967. With bank deposits insured, and with banks offering equivalent or better rates, there was no longer much demand for its services. Canada closed its post office savings bank in 1968 for similar reasons.

In many other countries, however, post office savings banks continue to thrive. The most successful is Japan's postal savings system. The single largest savings institution in the world, it had $2.2 trillion of deposits in 2000, 34% of total household deposits in Japan. Because of the banking crisis in Japan, depositors have moved large amounts of deposits out of the banks and into the postal savings system. The Japanese postal savings system channels its funds to the Ministry of Finance, which uses them to fund government borrowing and government-sponsored development projects.

Near Banks and Commercial Banks Converge. In the early twentieth century, the success of near banks showed commercial banks that doing business with ordinary households—**retail banking**—could be profitable. As a result, commercial banks themselves began to compete for that business.[12] Faced with this competition, near banks have expanded the range of their own activities—to capture economies of scale and scope—and became more like commercial banks themselves. Today most near banks in the United States offer transactions deposits and payments services, lend to businesses, or do both. In

retail banking
Provision of banking services (payments and lending) to households.

[12] A pioneer in retail banking was the Bank of Italy, founded in San Francisco in 1904 by Amadeo Giannini and others. Giannini sought out the business of small retailers and artisans, particularly among immigrant and minority groups, accepting their deposits and making them business and installment loans. To extend its customer base, it built up a substantial branch network across the state. In 1930, the name of the bank was changed to Bank of America.

other countries too, near banks have evolved into forms that today closely resemble that of a commercial bank.

In 1908, German savings banks were allowed to offer payments services and were instrumental in setting up the German giro system of payments (equivalent to checking).[13] They soon began to accept transactions deposits and to make short-term loans. By the 1930s, except for their ownership, which was still municipal, they were indistinguishable from commercial banks.

The British building society began in much the same way as S&Ls in the United States, but its history has been much less turbulent. Building societies have grown steadily, and today their total assets are about equal to those of Britain's commercial banks. In the 1980s, they were given permission to offer checking deposits, and they now offer a range of services almost indistinguishable from those of commercial banks.[14]

The process of convergence has sometimes been delayed by regulations that restricted the activities of different types of financial institution and kept them distinct. An example of a regulation that hindered convergence was the one that prohibited U.S. thrifts from offering checking deposits. The story of how they overcame this obstacle is interesting because it illustrates how financial institutions are sometimes able to circumvent obstructive regulation through innovation.

Thrifts and Checking Deposits. As we saw in Chapter 3, part of the regulatory package enacted during the Great Depression was a section of the Glass–Steagall Act that prohibited banks from paying interest on checking deposits. For many years, however, this regulation was irrelevant. As long as market interest rates remained low, the sacrifice involved in leaving money in a zero-interest checking deposit was small, and the restriction did not matter. However, by the late 1960s inflation had driven up interest rates to the point where the sacrifice had become substantial.[15] Depositors responded by taking their money out of bank checking accounts to earn more elsewhere.

This created a tremendous opportunity for nonbank financial institutions to take business away from commercial banks if they could find a way to offer interest-bearing checking deposits. The problem was that regulation prohibited thrifts from offering checking deposits at all. However, in 1970, the Consumer Savings Bank of Worcester, Massachusetts, found a way around this regulation by inventing the **negotiated order of withdrawal (NOW) account**.

negotiated order of withdrawal (NOW) account
A time deposit on which checks may be written.

The idea is simple. Suppose you need to pay Acme Furniture $100. Before the NOW account, if you had a deposit at a savings bank you had to fill out a withdrawal slip for $100, take it to the savings bank, and then take the cash to Acme. The NOW account allows you instead to simply sign over the withdrawal slip to Acme. Acme can then go to your savings bank to withdraw the cash, or, even easier, it can sign over the slip to its own bank for collection.

[13] We shall discuss giro payments, and how they differ from checks, in Chapter 8.

[14] The British equivalent of our mutual savings banks, consolidated in the 1980s into a single institution, the Trustee Savings Bank (TSB), was converted into corporate form. The TSB was chartered as a commercial bank and merged with Lloyds Bank to form Lloyds TSB.

[15] See Chapter 4 for an explanation of the connection between inflation and nominal interest rates.

Although, the negotiated order of withdrawal looks like a check and works like a check, the courts decided that legally it was not a check. Consequently, savings banks were not offering a checking deposit and they were therefore not breaking the law. The NOW account was soon authorized for other savings banks in Massachusetts and then throughout New England.

Credit unions followed much the same path. Their version of the checking deposit that wasn't was the *share draft*, which first appeared in 1974. A credit union customer who writes a share draft on his "checking deposit" is actually writing a check on a deposit held by the credit union at a correspondent commercial bank. The share draft clears through the regular clearing system and details of the transaction are conveyed electronically to the credit union (the check is not returned to the payer).[16] Section 11 of the Glass–Steagall Act does not specifically mention credit unions, and the credit unions have exploited this loophole to offer interest-bearing checking deposits to businesses.

NOW accounts and share drafts provided thrifts with a competitive advantage over commercial banks, because they could offer interest on their checking deposits. The banks fought for the right to do the same, and the banking legislation of 1980 allowed them too to offer NOW accounts.

The Pattern of Bank Evolution

The evolution of banking exhibits some fairly clear patterns. Commercial banks, combining payments functions and financial intermediation, have developed from five main types of institution—payments processors, merchant banks, securities firms, near banks, and chartered banks. Examples of each type are listed in Exhibit 6.2.

Payments processors and merchant banks began with payments functions, but economies of scope led into intermediation. Customers naturally held their liquid reserves

[16] Credit union also use deposits at commercial bank correspondents to cover member withdrawals from bank ATMs.

EXHIBIT 6.2 Institutions That Became Commercial Banks

Type of Institution	Examples	Origin
Payments processors	Medieval money changers, English goldsmiths, public banks of deposit	Payments
Merchant banks	Florentine banks, English country banks, U.S. private banks	Remittance, securities business
Securities firms	Scriveners, industrial and universal banks	Securities business and intermediation
Chartered banks	Bank of England, U.S. commercial banks	Created as banks
Near banks	Savings banks, savings and loans, credit unions	Intermediation

with their payments processors and merchant banks as deposits. Pooling these deposits and netting demands for payment provided investible funds. Lending was a natural adjunct to providing payments services. The typical customer of a payments processor or commercial bank was a merchant. Merchants need to borrow to finance trade. The payments processor had the funds available to lend.

The second evolutionary path began with intermediation and added payment functions. This was the case with securities firms and near banks. Part of the business of securities firms is to find investments for their customers. Customers keep funds with them waiting to be invested. Offering payments services out of these deposits is a natural extension of their business. Merrill Lynch's CMA is a classic example of this process. Thrifts find themselves in much the same position as securities firms. Customers keep funds with them in nontransaction deposits; it is natural to offer these customers transactions services. Recent deregulation—in the United States and elsewhere—has removed the regulatory obstacles to their doing so.

In contrast to these stories of evolution, chartered bank were set up from the very beginning as full-fledged fractional reserve banks. Governments set them up initially as an instrument of public finance. They used them both to finance direct government expenditure—often on wars—and to finance government-favored development. Commercial banks remain to this day important purchasers of government debt.

THE EVOLUTION OF BANK ASSETS

We have seen how the commercial bank evolved as an institution. Our next task is to see how its business has evolved. We divide the discussion into three parts—assets, liabilities, and activities other than intermediation.

Commercial Lending

Commercial Bills and the Commercial Bills Doctrine. Early banks lent mainly to two classes of borrower—merchants and governments. Lending to merchants usually took the form of **discounting** commercial bills. The commercial bill was the standard IOU used by merchants (see "The Commercial Bill: An Early Financial Innovation"). For example, suppose a merchant held an IOU from another merchant for £100, due in 3 months. The first merchant could turn this bill into immediate cash by selling it to his banker. The banker would buy the bill for the present value of the promised payment, say, £95. That is, the banker would buy the bill at a discount or "discount" it.

discounting The making of a loan through the purchase of an IOU at the present value of its face value.

In addition to lending to merchants, early banks frequently lent to governments. Governments were always in need of credit. They induced early merchant banks to lend to them by offering them in exchange trading rights. Or they made such lending a condition for opening a branch. Later, governments themselves chartered banks as sources of credit. Lending to the government or to causes supported by the government was generally made a condition of the charter.

Lending to governments was the most common source of banking problems. Lending to governments was unsafe: defaulting governments brought down many a bank. Government

THE COMMERCIAL BILL: AN EARLY FINANCIAL INNOVATION

The standard medieval security was the bond. This was a legal document that publicly recognized a debt. It carried the debtor's personal seal and was sworn before a court or a public notary. Collecting the debt in court was easy. The only possible defense would have been that the bond was not genuine. However, since the bond had already been recognized in public, that defense was ruled out.

The disadvantage of the bond was its high transactions cost. A bond had to be drawn up by a legal professional—a scrivener—who often kept a record of the bond himself as additional evidence. It then had to be sworn in public. The process took time, and all those involved expected to be paid.

Merchants found this instrument too cumbersome and expensive for the debts that routinely arose in trade. Before A would ship goods to B, he would require B's promise of payment. Since shipment took time, often many months, the date of payment was deferred until the goods arrived.

The commercial bill developed as a less expensive way of dealing with such promises of payment. The bill was a private and informal document, written by the parties themselves. It constituted a private, rather than a public, acknowledgment of debt. While the use of a bill greatly reduced transactions costs, it did have a major disadvantage. Because the proper legal procedures were not followed, a bill was not enforceable in court.

This disadvantage was not a big problem for commercial debts. The debts were usually short term and relatively small. Moreover, debtors had a strong incentive to pay. The merchant community was small and merchants dealt repeatedly with one another. A reputation for honesty was essential: the merchant's motto was "My word is my bond." A merchant who reneged on a bill would soon find no one willing to trade with him.

Moreover, lacking the status of a legal document did give the bill some advantages. Because the legal system was not involved, a bill was more readily *assignable* than a bond. The debt of A to B is assignable if B can endorse it—sign it over—to a third party, C. The debt then becomes a debt of A to C. With a bond, assignment had to be registered with the court and it required A's consent (mainly to protect C). Neither registration nor consent was required with a bill.

Ready assignability was useful. If, having shipped goods to A, B did not want to wait months to be paid, he could obtain cash immediately by assigning A's bill to C (typically a banker).

The usefulness of bills was further enhanced when, beginning in the sixteenth century, they became *negotiable*. If B has assigned A's debt to C, then A's failure to pay is C's problem alone. However, if the debt is negotiable, and A fails to pay, then C can collect from B. If the debt has been endorsed more than once, then all

Continued . . .

the endorsers are liable, in order of their signatures, for the debt. A negotiable bill is easier to sell because it is essentially guaranteed by all who have endorsed it.

At the turn of the eighteenth century, England passed a series of laws that gave the bill full legal status. These laws gave England an important advantage in financial development over its economic competitors who did not give legal recognition to the commercial bill. The bill became the principal vehicle of commercial and industrial credit and the key instrument in the development of the banking system.

loans were also illiquid. Unlike commercial loans, they were not tied to an economic transaction that would provide the funds to pay off the loan.

commercial bills doctrine
An eighteenth-century doctrine of banking that held that bank should lend only by discounting commercial bills.

Based on this experience, economists in the eighteenth century developed a doctrine of banking that came to be known as the **commercial bills doctrine**. This doctrine asserted that bank lending should be limited to the discounting of short-term bills based on *bona fide* commercial transactions. Such lending was safe and liquid. It was backed by the goods involved in the transaction, the imminent sale of which would provide the funds to pay the bank. The commercial bills doctrine was specifically intended to preclude lending to governments.[17] By the nineteenth century the commercial bills doctrine was widely accepted as the basis of sound banking. However, in the face of new profit opportunities, it was honored more in the breach than in the observance.

The commercial bills doctrine never really worked in America. Since most American merchants relied on credit from England, the supply of commercial bills to American banks was limited. On the other hand, there was a strong demand for loans to finance development. So commercial lending in the United States took the form of "advances"—direct loans from banks to their customers. During the twentieth century this form of commercial lending came to predominate in all countries.

commercial paper
Unsecured short-term commercial security.

The Revival of the Commercial Paper Market. Since the 1970s, however, the commercial bill—in the slightly modified modern form of **commercial paper**—has seen a considerable revival.[18] The driving force initially was the combination of rising market interest rates and Depression era limits on the rates that banks could pay on their deposits

[17] It was believed, too, that limiting bank lending in this way would prevent the inflationary overexpansion of bank lending. The demand for commercial credit was supposedly limited by the "needs of trade." Government demand for credit, on the other hand was insatiable. Satisfying that demand could only lead to inflation. Economists today do not generally accept the "needs of trade" argument. Commercial lending to satisfy the "needs of trade" can lead to overissue just as easily as lending to a government.

[18] Commercial paper differs from the traditional commercial bill in that it is "single-name paper" backed by the credit of the issuer only. A commercial bill was an IOU generated in trade, used by a purchaser of goods to acknowledge his debt to pay for them at an agreed time in the future. The creditor who received the bill commonly endorsed it and sold it, for a discount, to a bank or to someone else. If the original debtor defaulted, the creditor who had endorsed and resold the bill was then liable. Such a bill was "two-name paper."

(the same combination that we have seen brought thrifts into banking).[19] The increasing gap between bank lending rates and bank borrowing rates created an incentive to bring borrowers and lenders together in ways that did *not* involve banks. For example, suppose banks pay 5% on deposits and charge 20% on loans. If you can find a different way of getting borrowers and lenders together, you can offer lenders 10%, charge borrowers 15%, and still be left with a healthy profit; and you should get plenty of business.

The commercial paper market, dormant since the 1930s, took on new life as various borrowers turned to it as a cheaper alternative to borrowing from banks. Finance companies had borrowed mainly from banks but had sold some commercial paper. From the 1960s on, they began to reverse these proportions. New types of issuer, including nonfinancial corporations, also began to sell commercial paper. The lenders who purchased the commercial paper could earn a much better return than that offered by regulated bank deposits.

The Continuing Cost Advantage of Commercial Paper. While the limits on bank deposit rates were the reason for the revival of the commercial paper market, when those limits were phased out in the 1980s, the market did not disappear. This was because commercial paper provides a way to avoid a number of **regulatory costs** that regulation continues to impose on banks:

regulatory costs Costs that a bank incurs in complying with regulations.

- Banks must hold reserves against their deposits.
- Banks must pay deposit insurance premiums.
- Banks must maintain a required equity-to-loan ratio.

These requirements add to the cost of making a loan. To see why, let us look at an example.

United Computer needs to raise $1 million in working capital, so it approaches its bank, Valley National, for a loan. The way the loan is funded is shown in Exhibit 6.3.

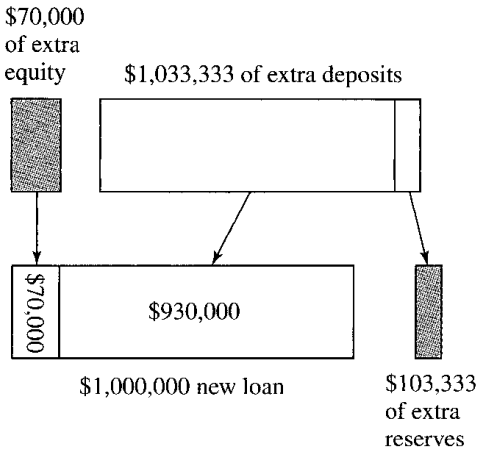
Suppose Valley National must maintain an equity-to-loan ratio of 7%. This means that if it adds $1 million to its loans, it must add $70,000 to its equity. So $70,000 of the $1 million needed to fund the loan must come from additional equity.

The remaining $930,000 will come from additional deposits—say negotiable certificates of deposit (NCDs: see later in this chapter). Suppose Valley National must maintain a reserve ratio of 10% on these NCDs. Then 10% of the funds it raises from additional deposits must go into reserves (must be deposited at the Fed). Therefore, to obtain net the $930,000 it needs, it must take in a larger amount of deposits. The amount of additional deposits it requires is

$$\frac{\$930{,}000}{0.90} = \$1{,}033{,}333$$

[19] Section 11 of the Glass–Steagall Act of 1933 prohibited payment of interest on checking deposits. In addition the act granted the Fed the authority to regulate interest rates on time deposits. The Fed did this under its Regulation Q, which set a ceiling on permitted rates.

EXHIBIT 6.3 Funding a Bank Loan



Of this amount, 10%, or $103,333, will be added to reserves. The remaining 90%, $930,000, will go to fund the loan. Although the bank can lend only $930,000, it must pay interest on the whole $1,033,333 of additional deposits.

Suppose Valley National's target rate of return on equity is 20%[20]; the interest rate on additional deposits is 5%; and Valley National must pay a 0.23% premium for deposit insurance. Then the cost of funding the loan is

Equity	$70,000 × 0.20	=	$14,000
Deposits			
Interest	$1,033,333 × 0.05	=	51,666
Deposit insurance	$1,033,333 × 0.0023	=	2,377
Total			$68,043

Therefore, for the loan to be worthwhile, Valley National will require an expected return of at least 6.8% on the loan.[21] In this example, regulation imposes a margin of at least 180 basis points over the bank's borrowing rate.

Of course, even without regulation, there would still be a margin. Valley National would still maintain a certain equity-to-loan ratio and it would still hold reserves. However, in the absence of regulation, its equity-to-loan ratio and its reserve ratio would be much lower. While the deposit insurance premium adds to the cost, deposit insurance lowers the risk of a bank's deposits and so the interest rate it must pay on them. This is a good deal for a small bank, which, being less safe, might have to pay a large risk premium on its deposits. For a sound large bank, the deal is much less favorable, and deposit insurance therefore adds to the cost of funding a loan.

[20] If Valley National earns less than this on the equity in the new loan, it will lower the average return on its equity.

[21] In reality, the whole calculation is more complicated than this because of tax considerations and because of other costs. Moreover, this is just the required *realized* rate. If there is a risk of default, the rate charged United Computer (the contractual rate) must be higher to take this into account (see Chapter 5, Equation 5.2, on the relationship between the realized and contractual rates).

The relative importance of the different regulatory costs has fluctuated over time. Between 1983 and 1990, the 3% reserve requirement on NCDs was a significant cost. When the reserve requirement was lifted, this cost disappeared. However, in 1989 required equity-to-loan ratios were raised dramatically and became a major problem. Deposit insurance premiums rose with the banking crisis of the early 1990s, but later fell.

Lending through the money market avoids all the regulatory costs. There are no required reserves, no required equity-to-asset ratio, and no deposit insurance premiums. Consequently, the costs of bringing borrower and lender together through the money market are often lower than they are for bank intermediation.

However, since commercial paper is unsecured, the market is open only to the largest and most creditworthy borrowers. Moreover, as with any public issue, selling commercial paper involves substantial fixed costs. It is therefore only the banks' largest and most creditworthy commercial borrowers that find the commercial paper market attractive.

Banks have lost a lot of commercial loan business to the commercial paper market. However, the business they have lost is not particularly profitable: the margin on loans to such borrowers is small. Moreover, banks have been able to replace some of the loan income they have lost with income from services they provide to the issuers of commercial paper. Banks earn fee income from underwriting commercial paper—from helping their customers place commercial paper with lenders. And, as we shall see, they also earn fee income from guaranteeing commercial paper.

Syndications and Participations. Some loans to very large business borrowers cannot be shifted to the commercial paper market because they are too risky.[22] Moreover, a bank will be reluctant to make a very large risky loan itself out of considerations of diversification. A way to solve this problem is for a group of banks to get together to make the loan through a syndication or participation.

syndication
A bank loan that is broken up among a number of banks with each lending independently.

In a **syndication**, there is a joint loan agreement between the borrower and a number of banks, but each of the banks lends separately to the borrower. In a **participation**, a lead bank enters into a loan agreement with the borrower and into separate participation agreement with each of a group of other banks. The other banks provide funds and obtain in exchange a claim on a part of the loan *through* the lead bank.

participation
A number of banks lending to a single borrower through a lead bank.

Small-Business Lending and IT. As we saw in Chapter 2, there is a large fixed element in the cost of making a loan. The lender must assess the credit of the borrower and write a contract whether the loan is for $1,000 dollars or $1 billion. This makes small loans relatively expensive for borrowers and unprofitable for lenders. Information technology (IT), however, has helped to bring down the cost of making small loans and therefore improved the access to credit of small businesses.

Rather than having a human loan officer decide whether to make a small loan, the bank relies on a computerized system of **credit scoring**. The potential borrower is asked a series of questions about his or her financial situation and credit history. The answers are fed into a statistical model, based on the bank's experience with other borrowers, that pre-

credit scoring
Scoring a potential borrower based on characteristics to assess probability of default.

[22] A principal example is loans used to finance leveraged buyouts (LBOs) and other corporate restructurings. We shall discuss these in Chapter 15.

dicts the likelihood of repayment. Based on the answer, the bank grants or denies the loan. Because the bank makes many such loans, diversification ensures that the performance of the loan portfolio matches reasonably closely the predictions of the statistical model.[23] Credit scoring was originally pioneered in credit card lending to consumers, but since the early 1990s it has increasingly been applied to small-business loans of up to $100,000

The whole procedure is easy to computerize, greatly lowering the cost of the transaction and the speed with which it can be executed. In addition, IT makes credit histories readily available, so that the bank can check the accuracy of the borrower's information almost instantaneously. There are now online lenders that promise to give small business borrowers an answer in less than 5 minutes. Moreover, the lower cost of making such loans enables banks to offer business credit lines as small as $5,000. The overall result has been a significant increase in small-business lending: loans of under $100,000 were the fastest-growing category of business loans in the late 1990s. Owners of small businesses have been able to rely more on bank financing and less on family and friends.

Lending to Noncommercial Borrowers

The menu of bank assets has grown steadily over the years. The list of borrowers has expanded from merchants and governments to include landowners, other banks, industrial firms, and consumers. This expansion has followed a clear pattern. As the economy has developed, banks have faced demands for credit from new classes of borrower. Satisfying these new demands has generally promised banks higher yields than their traditional assets. However, the new types of asset have typically increased risk and reduced liquidity. Consequently, they have frequently gotten the banks into difficulties.

mortgage lending
Lending against real estate collateral.

Mortgage Lending. Under the commercial bills doctrine, **mortgage lending**—lending against real estate collateral—is considered inappropriate for commercial banks. Mortgage loans are long term and illiquid. Real estate prices are notoriously volatile.

Nonetheless, country banks were always under pressure from local landowners to lend against real estate. For many American banks, real estate was the only form of collateral their customers had. City banks, too, were drawn into real estate lending. The move from the country to the cities in the nineteenth and early twentieth centuries led to booming urban real estate markets. The demand for mortgages was initially satisfied by near banks such as the S&Ls. However, the high yields to be earned on mortgage loans proved a temptation the banks could not resist, and by the 1920s they were heavily involved in mortgage lending.

Mortgage lending has been a perennial source of banking problems in just about every country in the world. However, it is usually the financing of commercial rather than residential real estate that is the source of the problem. For example, losses on real estate loans were a primary cause of the bank problems in the United States in the 1980s and early 1990s. They have played a major role in the problems of the Japanese banking system. And they were an important source of bank losses in the Asian financial crisis that began in 1997.

[23] The standardization of such loans has made it easier for banks to "securitize" them (bundle them and sell them to investors). We shall have more to say about securitization in later chapters.

Consumer Lending. Lending to consumers is a comparatively new activity for banks. It began in the United States in the 1920s, but became important only after World War II. As we have seen, banks did not pioneer in this area, but rather followed the lead of near banks—especially credit unions and finance companies—when it became clear that consumer lending was profitable.

Consumer lending by banks initially took the form mainly of installment credit on consumer durables. Recently in the United States it has developed into credit card lending, now an important source of bank profits. Credit scoring and IT have greatly reduced the cost of this form of lending. By 1996, two thirds of U.S. households possessed bank credit cards.[24]

In other countries, credit cards are less popular and overdraft lending remains the predominant form of consumer loan. With an overdraft, the bank provides a line of credit that is drawn upon automatically if there are insufficient funds to cover a check. Interest rates on such lines of credit are typically similar to those on credit cards. Overdrafts are offered by some U.S. banks, but are much more common overseas. In some countries—Germany, for example—overdrafts are the principal form of consumer debt and consumers "live on their overdraft" in much the same way that some Americans "live on their credit cards."

Securitization. While banks find it profitable to make mortgage and consumer loans, for reasons that we shall explore in later chapters, they often do not wish to carry these loans on their balance sheets. To get them off their balance sheets, they need to sell the loans to someone else. Syndications and participations are a way of doing this: in a sense, the lead bank "sells" a part of the loan to other banks. This solution is, however, unsuitable for mortgage and consumer loans, mainly because they are too small. The transactions costs of selling individual loans would simply be too great.

securitization The sale of loans to a pool that issues tradable securities to finance the purchase.

For these types of loans, banks have found a different solution—securitization. In a **securitization**, a bank puts together a package of many small loans and sells it or parts of it to other banks or investors. We shall look at the securitization of mortgage loans in Chapter 13 and at the securitization of consumer loans in Chapter 14.

THE EVOLUTION OF BANK LIABILITIES

Two forces have driven the evolution of commercial bank liabilities. First, as banks have expanded the scope of their lending, their need for funds has increased. New types of liability offered new sources of funds. Second, banking regulation frequently placed restrictions on the nature or terms of existing liabilities, so banks came up with alternatives to provide them with the funds they needed. New types of liability, like new types of asset, have often been a source of trouble. The most common problem has been instability: new liabilities have often been "hot money"—money liable to be withdrawn on short notice. The maturity of new liabilities has also sometimes been a problem, potentially increasing banks' exposure to interest rate risk.

[24] We shall have more to say about credit cards in Chapter 8.

Checking Deposits, Banknotes, and Time Deposits

Although the classic bank liability is the checking deposit, in the eighteenth and nineteenth centuries, banknotes were a major competitor. Banknotes were particularly attractive to banks in rural and provincial areas. In such areas, transactions were mostly made in hand-to-hand currency, and the use of deposits was limited. In major cities, and for large transactions among merchants and industrialists, deposits generally remained the principal bank liability. In major U.S. cities, the amount of deposits had already exceeded the amount of banknotes by 1830.

By the end of the nineteenth century, governments in most countries had taken over the right of note issue for themselves, forcing banks to look to other types of liability. In the United States, the National Banking Acts effectively deprived state-chartered country banks of the right to issue banknotes. State banks therefore turned increasingly to deposits.

Time deposits were initially of little significance for commercial banks in the United States. Until late in the nineteenth century it was rather the near banks—savings banks, credit unions, and S&Ls—that took in most long-term household deposits. However, following their loss of the right of note issue, country banks expanded their time deposits rapidly, so that by the end of the century over half their deposits were time deposits. City banks began to offer time deposits only in 1913, when national banks were first allowed to operate savings departments. Time deposits became an important source of funds for city banks in the 1920s.

Interbank Deposits

In many countries in the nineteenth century, the deposits of country banks were a major source of funds for city banks. For country banks with more funds than good loan opportunities, a deposit at a city bank was an attractive way to dispose of surplus funds. Competition among city banks ensured that these **interbank deposits** earned attractive returns. Moreover, because they were so liquid, they made an excellent secondary reserve.

interbank deposits
The deposit of one bank at another.

By the end of the century, as technology progressed, city banks in most countries developed extensive branch systems that displaced or absorbed the small country banks (we shall discuss this in Chapter 7). Consequently, interbank balances declined in importance, replaced by interbranch transfers of funds within a given bank. In the United States, however, interstate and intrastate branching restrictions long hindered this process, and interbank balances continued to be an important source of funds for city banks.

Country banks deposited their surplus funds with city banks. These in turn deposited the funds with banks in the great financial centers—initially Philadelphia and Boston, later New York. The banks in the financial centers used these funds to make **call loans** (loans repayable on demand) to securities dealers and traders. The availability of call loans was an important factor in the spectacular growth of the New York securities market from the 1890s on. By 1900, securities loans accounted for over 40% of all lending by nationally chartered banks.[25]

call loan
A loan repayable on demand of the lender.

The Federal Reserve Act of 1913 brought a new type of interbank lending. Members of the new Federal Reserve System (including all national banks) were required to main-

[25] We shall have more to say about interbank lending and the money market in Chapter 7.

tain reserves in the form of balances held at the newly established Federal Reserve Banks. To meet this requirement, some banks had to borrow from the Fed through the "discount window." At the same time, other banks found themselves with surplus funds in their deposits.

Beginning in 1921, a market developed in which banks with surplus reserve deposits would lend them to those with reserve deficiencies. This market came to be known as the **Fed funds market**. A Fed funds loan was not only cheaper than a discount loan, but it also relieved the borrower of the need to assemble collateral. Loans were arranged over the telephone. The loan was executed through the exchange of checks drawn on the Fed. As the market expanded, government securities dealers began to take part—first as participants, then as market makers. Brokers in call loans began to broker Fed funds too.

Fed funds market Market for loans of deposits at the Fed.

This system of interbank deposits was a significant source of instability. From the Civil War to the Great Depression, a series of banking crises shook the economy. Interbank deposits played a major role in most of them. Typically, a rash of bank runs would cause country banks to withdraw their interbank deposits, spreading the crises throughout the banking system. The Glass–Steagall prohibition of interest on checking deposits was intended to reduce interbank deposits by making them unattractive.[26]

The Fed funds market continues to be important today, but it is not the only interbank market, or even the most important one. It must share the stage with a vast international market for interbank loans—the **Eurodollar interbank market**. Eurodollar banks are banks located outside the United States that accept time deposits in U.S. dollars and make loans in U.S. dollars.[27]

Eurodollar interbank market Market for loans between Eurodollar banks.

Since banks have the choice of lending to one another in either the Feds funds market or the Eurodollar interbank markets, the interest rates in the two markets are closely related. The rate in the Fed funds market is known as the **Fed funds rate**. The rate in the Eurodollar interbank market is known as the **London interbank offered rate (LIBOR)**.

Fed funds rate The rate at which banks lend to one another on the Fed funds market.

London interbank offered rate (LIBOR) The rate at which banks lend to one another on the Eurodollar interbank market.

Interest Rate Restrictions and the Revolution in Bank Liabilities

We have seen how the Glass–Steagall restrictions on interest rates placed banks at a competitive disadvantage when interest rates began to rise in the 1960s. Large depositors, such as corporations and institutions, were the first to react, and they began to withdraw their cash from zero-interest checking deposits in commercial banks, to invest instead in liquid money market securities. Bank deposits, two-thirds of all financial assets in 1947, had fallen to one-third by 1980. To stem the decline, banks had to be able to compete for depositors' funds. This meant they had to find ways around the interest rate restrictions.[28]

Banks found several ingenious ways to pay interest on the checking deposits of their larger customers. These included the bank repo, the overnight Eurodollar, and the interbank Fed funds purchase.

[26] We shall discuss the destabilizing role of interbank deposits in Chapter 19.

[27] We shall learn more about the origins of Eurodollar banking in Chapter 7 and about the reasons for the vast interbank market in Chapter 18.

[28] We have already seen how thrifts invented the NOW account as a way of paying interest on the checking accounts of small depositors and that banks soon adopted this innovation.

bank repo
A bank liability secured by government securities.

The Bank Repo. One way corporate treasurers had found to earn interest on their liquid reserves was to make very short-term secured loans, called repos, to government securities dealers.[29] Banks invented the **bank repo** as a way of luring back these corporate deposits. Here is how it works.

General Computer (GC) has a deposit at Gotham Bank. At the end of each day, the balance of GC's deposit is automatically converted into an overnight loan to Gotham, secured by government securities. In the morning, the loan is repaid automatically into GC's deposit so that it has the use of the funds during the day.

For example, suppose that at 3:30 P.M., GC has $2 million in its checking deposit. The bank automatically converts this into a secured loan. The form of the loan is a sale of T-bills by the bank to GC and a simultaneous commitment by the bank to buy them back again the next morning at a set price.[30] The bank sells the T-bills to GC for $2 million and agrees to buy them back at 9:00 A.M. the next day for $2,000,370. The extra $370 is equivalent to an interest rate of 0.0185% overnight on the $2 million (an effective annual rate of 7%).

The next morning, as agreed, the bank credits GC's deposit for $2,000,370, and GC regains the use of its money. During the day money flows in and out of the deposit. At 3:30 P.M. of the second day, the balance is down to $1 million. Again, the bank automatically sells to GC T-bills for this amount, with an agreement to repurchase the following morning.

For GC this arrangement is entirely equivalent to an interest-bearing checking deposit. Losing the use of its funds overnight is no sacrifice, since the bank is closed then anyhow. The arrangement also has advantages for the bank.

To understand the advantages to Gotham, consider the effect of the repo on its balance sheet:

Deposits	−$2m
Securites sold under agreement to repurchase	+2m

Gotham's required reserves are determined by the amount of its deposits at 4:00 P.M. each day. Since deposits converted into repos vanish from the balance sheet at 3:30, the bank can hold fewer reserves. If the reserve requirement is 10%, Gotham can reduce its reserves by $200,000, enabling it to earn interest on that amount. Because "securities sold under agreement to repurchase" are considered a "borrowing" rather that a deposit, they are not subject to reserve requirements.[31] Borrowings are not covered by deposit insurance, so Gotham also saves the deposit insurance premium.[32] GC is unconcerned by the lack of insurance, because it is protected from any loss by its ownership of the T-bills.

[29] We shall discuss repos in Chapter 12.

[30] This combines a spot sale with a forward repurchase.

[31] For a repo to be exempt from reserve requirements, the securities repoed must be Treasuries or agencies.

[32] Premiums range between 23¢ and 31¢ per $100 of deposits. We shall discuss deposit insurance in Chapter 19.

Overnight Eurodollars. Another way corporate treasurers had found to earn interest on their liquid reserves was to deposit the money in a bank outside the United States—a Eurodollar bank. Such banks were not subject to any restrictions on the rate they could pay on deposits. Just as banks found a way to mimic the security dealer repo with a bank repo, so did they find a way to mimic the Eurodollar deposit with **overnight Eurodollars.** Let us see how Gotham does this.

overnight Eurodollars An overnight interbank loan involving a Eurodollar bank.

Each day, instead of sweeping GC's checking deposit into a bank repo, the balance is formally turned into an overnight loan to Gotham's London subsidiary. The funds lent to London are then lent back again to Gotham in the United States. If the original deposit is for $1 million, then the net effects on Gotham's balance sheet and on the balance sheet of its London subsidiary are

GOTHAM

		Deposits	−$1m
		Eurodollar borrowings	+1m

GOTHAM, LONDON

Loans		Deposits	+$1m
Gotham	+$1m		

Each morning the overnight loans are repaid, and GC regains access to its funds for the day.

The net effect on Gotham's balance sheet is much like that of the repo. All that really happens is that Gotham shifts an amount of $1 million from one category of liability, deposits, to another, Eurodollar borrowings. This allows the bank to pay interest on it. Also, because Eurodollar borrowings are a borrowing and not a deposit, there are no required reserves and no deposit insurance premiums.[33]

Overnight Eurodollars are not insured, and—unlike a bank repo—they are not secured. GC therefore bears some default risk: if Gotham were to fail overnight, GC might take a loss. To compensate for the risk, the interest rate on overnight Eurodollars is a little higher than it is on a bank repo.

There is an advantage for Gotham to the overnight Eurodollar over the bank repo. The funds it raises in the form of overnight Eurodollars are available for any use it chooses. Specifically, it can use them to fund loans. Funds raised in the form of repos are necessarily tied up in government securities and are therefore not available to fund loans.

Correspondent Fed Funds. Banks found a third device that enabled them to pay interest on deposits. This one was targeted specifically at interbank deposits. The device exploits the existence of the Fed funds market. It works as follows.

Smalltown State Bank has an interbank deposit with Gotham. Suppose the two banks conduct the following two-step transaction:

Step 1. Smalltown withdraws $5 million from its interbank balance at Gotham in the form of Fed funds.

Step 2. Smalltown then lends the $5 million in Fed funds to Gotham.

[33] Until 1990, when the requirement was abolished, Eurodollar deposits did have a 3% reserve requirement.

The combined effect of the two steps on the balance sheets of the two banks is

GOTHAM

	Deposits
	Smalltown −$5m
	Federal funds bought
	Smalltown +5m

SMALLTOWN STATE BANK

Deposit at Gotham −$5m	
Federal funds sold	
Gotham +5m	

In reality, the two stages are combined into one. Gotham simply transfers an amount of $5 million from one category of liability, deposits, to another, Fed funds bought. No fed funds are actually withdrawn or lent. To distinguish this type of "Fed funds" transaction from the real borrowing and lending of fed funds, the former is called **correspondent Fed funds.**[34]

correspondent Fed funds
A loan to a correspondent bank that is formally a loan of Fed funds.

The borrowing and lending of Fed funds is called "Federal funds bought" by the borrower and as "Federal funds sold" by the lender. The terminology dates from the days of the commercial bills doctrine, when interbank loans were frowned upon. It is simply a weak attempt to conceal the true nature of the transaction.

The purpose of correspondent Fed funds, like the purpose of bank repos or overnight Eurodollars, is to allow Gotham to pay interest on a deposit. As with the other two devices, Gotham benefits from the Fed funds bought being a borrowing rather than a deposit: there are no required reserves and no deposit insurance premiums. Like overnight Eurodollars, Fed funds bought are uninsured and unsecured, so their yield must be higher to compensate for the risk.

The conversion of deposits into Fed funds bought is possible only if the depositor can, at least in principle, have a deposit at the Federal Reserve. It is limited, therefore, to banks, thrifts, U.S. agencies, government securities dealers, and domestic offices of foreign banks.

NCDs and Other Wholesale Deposits. As we have seen, the rapidly growing money market of the 1970s competed for the funds of bank depositors. It offered them higher market rates at a time when rates on deposits were limited by government regulation. Banks were quick to realize, however, that the money market was not just a problem: it was also an opportunity. It could provide them with an important new source of funds.

Banks cannot themselves issue commercial paper: commercial paper is intended to finance trade, and banks may not engage in trade. However, bank holding companies can and do issue commercial paper. They then make the funds available to the daughter bank either through deposits or by using the funds to purchase assets from the daughter bank.[35]

[34] Gotham is Smalltown's correspondent bank. We shall learn about the correspondent relationship in Chapter 7.

[35] Banks once used this as a way of avoiding reserve requirements. However, in 1970 the Fed imposed a 5% reserve requirement on commercial paper that was issued by bank holding companies to fund the purchase of assets from banking subsidiaries.

This arrangement is less than perfect from the bank's point of view because it fails to exploit the bank's deposit insurance: liabilities of the holding company are not insured. This means that the bank must pay a higher rate of interest on holding company liabilities than it pays on its own.

negotiable certificate of deposit (NCD) A negotiable bank CD.

Citibank solved this problem in 1961 when it invented the **negotiable certificate of deposit (NCD)**. This was, essentially, commercial paper in the form of a certificate of deposit. The NCD modified the ordinary certificate of deposit (CD) in several ways to make it more attractive to the money market. A regular CD is a time deposit with a fixed maturity. Since it may be withdrawn before maturity only with a penalty, it is relatively illiquid. This makes it unattractive to the typical money market investor—a corporate treasurer managing a firm's cash reserves. The NCD overcame this handicap by being negotiable. Although it could not be redeemed early, unlike a regular CD it could be sold to someone else. Negotiability made the NCD a tradable security competitive with commercial paper or T-bills.

Banks have created variations on the NCD. When regulators for a time imposed a 3% reserve requirement on NCDs with maturity less than 18 months, banks quickly switched to a longer term substitute, the **deposit note**, with a maturity of up to 5 years.

deposit note A long-term, insured, bank liability.

These new types of time deposit are all issued in amounts of $100,000 or more. They are known collectively as **wholesale time deposits**.[36]

wholesale time deposits Bank time deposits issued in original amounts of $100,000 or more and sold on the money market.

Wholesale time deposits have changed the way large banks do business. With regular deposits banks must wait passively for funds to come in. If a bank is "loaned up," it will simply be unable to make an additional loan. To prevent this from happening, it must carry secondary reserves such as government securities that can be liquidated as needed to accommodate new lending. With wholesale time deposits, and other money market borrowings, banks no longer have to wait passively for new deposits to come in. If a bank wants to make an additional loan, it can raise the funds whenever it pleases by selling wholesale time deposits in the money market.

Innovations in Consumer Deposits

Heavy reliance by large banks on funding from the money market led to serious problems in the early 1980s. Such funds were "hot money." They were easy to get, but they were also easy to lose.[37] As a result of these problems, banks rediscovered the importance of "core deposits"—checking deposits and small time deposits—that are less likely to evaporate if a bank runs into difficulties.

One way that banks have attempted to increase their core deposits is by marketing retail CDs through securities firms. Securities brokerage firms earn a commission from selling investments to their customers—mainly stocks, bonds, and mutual funds.[38] They are glad to be able to round out their array of products by offering insured CDs as well.

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[36] Banks also offer wholesale notes called *bank notes*, which are like deposit notes except that they are not formally deposits and so are not insured. Bank holding companies sell *medium-term notes* with maturities up to 7 years. These are mainly used to finance nonbank subsidiaries of the holding company, rather than bank lending.

[37] We shall discuss the resulting problems in Chapter 19.

[38] We shall discuss securities firms in Chapter 11.

brokered retail deposits Bank CDs marketed through securities brokers.

Because these **brokered retail deposits** typically have a maturity of several years, they are not inherently very liquid. However, the security brokers marketing them are often willing to create a secondary market.

By the end of 2000, there was some $219 billion of brokered retail deposits outstanding. Almost the entire amount was at the larger banks. Banks have benefited from the additional, stable source of funds. Consumers have benefited from better rates as banks have competed for their business.

THE EVOLUTION OF BANK ACTIVITIES

The evolution of bank assets and liabilities shows us how the intermediation side of a bank's business has developed. But banks are more than just intermediaries. As we have seen, banking evolved as a combination of financial intermediation and payments. It did so because there were economies of scope between these two activities. Economies of scope have also led banks into various other related lines of business.

Economies of Scope Related to Payments

Banks provide payments services, not only to households and businesses, but also to the financial markets. As we shall see in Chapter 17, an efficient and reliable system of settling financial transactions is essential to the proper functioning of securities markets. In addition to payments proper, banks provide a variety of related services. As we saw in Chapter 5, they offer cash management services that enable corporations to speed the payments they receive and delay the payments they make. Banks also provide their customers with foreign exchange to enable them to make payments in other countries. And they provide credit cards and process credit card accounts for small-bank and nonbank issuers. The payments and payments-related activities of banks are so important that we shall devote an entire chapter to them—Chapter 8.

Economies of Scope Related to Intermediation

In the process of intermediation, banks assess the creditworthiness of borrowers and back their judgment by guaranteeing a return to lenders. Banks can engage in these two activities—assessing creditworthiness and providing guarantees—without actually intermediating the loan. That is, they can broker and guarantee, explicitly or implicitly, direct lending from lender to borrower. Unlike actual intermediation, such activity leaves the balance sheet of the bank unchanged.

The Securities Business. As we saw earlier in the chapter, some types of firm engaged in the securities business (scriveners and trust companies) evolved into banks. They did so because, holding balances for their customers, it was only natural for them to offer transactions services based on those balances. We also saw that there has been movement in the other direction too—from banking into the securities business (universal banks).

The reason why the securities business is attractive to banks is again economies of scope. There is a great deal of similarity and complementarity between the work involved in financial intermediation and work involved in underwriting and trading publicly traded securities. In particular, both intermediation and the securities business require the gathering and processing of information on the creditworthiness of borrowers and monitoring their behavior after credit has been extended. Moreover, if a firm is already borrowing from a bank, the bank will be familiar with its creditworthiness and will be in a good position to help the firm issue securities or to make a market in its securities.

The securities activities of banks therefore include the underwriting of new issues, market making in existing issues, advice to firms in putting together mergers and acquisitions, and monitoring and supervising corporate management on behalf of investors.[39] In addition, many banks provide trust and custodial services. They manage portfolios of securities for corporations, institutions, and individuals, and they manage mutual funds.[40] They hold securities for their clients. They execute the payment of interest and dividends for issuers of stocks and bonds, and they execute purchases and issuance of securities in mergers and acquisitions. They monitor compliance with covenants associated with bond issues.[41]

Loan Origination. In underwriting securities, banks assess creditworthiness but do not provide the funding themselves. There are additional ways in which banks can originate a loan but not fund it. The lead bank in a syndication or participation does this, and so does a bank that pools its loans and sells them in a securitization. In all of these cases, a bank receives fees for originating the loan, for servicing it, and perhaps for guaranteeing it. However, it does not earn an interest rate margin as it would if it were funding the loan itself.

Guarantees. When it underwrites securities, a bank does not provide those investing in the securities with any guarantee.[42] In syndications and securitizations, guarantees are possible but unusual. In some circumstances, however, banks do provide guarantees. Such guarantees are important, for example, in the market for commercial paper.

roll over
To pay off existing debt by issuing new debt.

line of credit
A bank commitment to lend to a customer up to a prespecified limit.

standby letter of credit
A bank guarantee used to back some types of security issued in the money market.

Commercial paper has a very short maturity, typically 30 days or less. Issuers commonly **roll over** their commercial paper: that is, they issue new commercial paper to pay off the old as it matures. Lenders are concerned that the issuer, for whatever reason, may be *unable* to roll over its commercial paper and will therefore default. To protect lenders from this danger, a bank can provide the issuer with a **line of credit**. The bank promises, if necessary, to lend the issuer the funds to pay off the old paper (in effect converting the commercial paper into a bank loan). A variation on this arrangement is the **standby letter of credit (SLC)**. An SLC is a commitment by a bank to pay if the customer fails to repay a loan or defaults on some other contractual obligation. Attaching an SLC to an issue of commercial paper essentially makes it an obligation of the guaranteeing bank. Naturally,

[39] We shall discuss the activities of securities firms, and of banks engaged in securities activities, in Chapter 11.

[40] We shall discuss portfolio management in more detail in Chapter 10.

[41] We shall have more to say about these functions of commercial banks in Chapter 14.

[42] Nonetheless, as with any underwriter, considerations of reputation ensure that banks are conscientious in their work.

banks charge a fee for backing commercial paper with a line of credit or with a standby letter of credit.

banker's acceptance
Draft on which a bank has guaranteed payment.

Banker's Acceptances. There is a variation on commercial paper—the **banker's acceptance**—that involves the bank even more closely in guaranteeing the credit of a customer. The banker's acceptance is essentially a guaranteed postdated check. To see how it works, consider an example.

An American company, United Computers (UC), imports $1 million of computer chips from Kim Electronics in Korea. Normally, when one company purchases from another, the seller extends the buyer trade credit—time to pay. However, Kim knows nothing about the American company's creditworthiness, and it is unwilling to extend it credit. At the same time, UC does not have the funds to pay for the chips in advance. The acceptance provides a way for the deal to go through by substituting the credit of UC's bank.

Along with its order to Kim, UC sends a "letter of credit" from its bank, Chase Manhattan. This states that Chase will be willing to issue an acceptance. When the chips arrive, UC sends Kim a "time draft" drawn on Chase for $1 million, together with documents acknowledging receipt of the goods. The time draft is an order from United to Chase to pay Kim $1 million in 90 days time—in essence a check that cannot be cashed until the future date it carries.

Since, of course, a check may bounce, Kim sends the time draft (with the documents) back to Chase to be acknowledged. Chase does this by stamping on it the word "accepted" to indicate that it will guarantee payment. The acceptance is then returned to Kim.

Kim can hold the acceptance to maturity. However, as is typical, the firm prefers to get the cash immediately. So it sells the acceptance (discounts it) to its own bank. Kim's bank also has the option of holding the acceptance as an investment, but it too prefers to sell it. So it sells the acceptance in the New York acceptance market through its correspondent there.

When the acceptance matures, whoever is holding it at the time presents it for payment to Chase (just like a check). At the same time, UC pays Chase the $1 million to cover the payment.

The acceptance seems a rather roundabout way of doing things. It would seem to be much simpler for UC to raise the money it needs to pay Kim by selling commercial paper. However, this may be impossible if UC is a small firm without the credit required to issue commercial paper. You could think of this banker's acceptance as a way for Chase to substitute its credit for UC's to enable UC to borrow in the money market.

off-balance-sheet banking
Banking activities that do not directly involve changes in bank assets or liabilities.

Off-Balance-Sheet Banking. Banks earn fee income from guaranteeing commercial paper and from providing bankers' acceptances—that is, from credit substitution. Banks are able to substitute their credit in this way because evaluating the credit risk of their customers and monitoring their loan performance are precisely the activities banks are good at. Indeed, helping a customer issue money market paper allows a bank to perform much of its traditional lending function without actually putting the loan on its own books. Such **off-balance-sheet banking** has a number of advantages for a bank.

As we have seen, it avoids the regulatory costs of a regular loan. For the example we considered on pages 145–6, with a bank line of credit, United Computer might be able to

sell commercial paper at 5.5%. (This is a little higher than the 5% Valley National must pay on its deposits because the commercial paper is not covered by deposit insurance.) If Valley National charges UC a fee of 80 basis points, UC still borrows more cheaply, and the bank makes a nice profit.

Off-balance-sheet banking effectively increases a bank's leverage. The bank increases its exposure to credit risk, but because the loan does not appear on its balance sheet, its formal equity-to-loan ratio is unaffected. We shall see in Chapter 19 that regulators have caught onto this and now require banks to hold capital against their off-balance-sheet risks. We shall also see that banks have an answer for this too.

Off-balance-sheet banking also relieves a bank of the liquidity risk involved in funding the loan itself. Typically, the deposits used to fund the loan are of shorter maturity than the loan itself. If the depositors wish to withdraw their funds before the loan is repaid, the bank must somehow find the necessary funds. With off-balance-sheet banking, the bank is no longer responsible for the liquidity of the loan, and it no longer bears the associated costs.[43]

Forward Transactions. As we saw in Chapter 2, there is a great deal of similarity between lending and forward transactions. Forward transactions, like loans, involve promises, and they consequently suffer from the same difficulties. Since banks specialize in dealing with such difficulties by assessing creditworthiness and providing guarantees, it is only natural for them to expand their activities into forward transactions.

Banks offer forward transactions in foreign exchange. Buying and selling forward foreign exchange is a natural outgrowth of their foreign exchange business. Banks also offer forward transactions related to interest rates. The most important is the *swap*. This is an arrangement that allows borrowers to exchange fixed interest payments for payments that fluctuate with current market rates. Banks combine forward transactions in interest rates with lending when they make **loan commitments**—commitments to lend to their customers in the future at a prearranged rate.[44]

loan commitment A bank's commitment to lend to a customer in the future at a prearranged rate.

Economies of Scope in Marketing

The relationship between a bank and its customers, both depositors and borrowers, provides it with an opportunity to sell them other products. Moreover, a bank's branch network and the tellers who provide service to its customers are largely a fixed cost. If they can be used to sell additional products, income will increase with relatively little increase in cost.

This is an important part of the economies of scope between banking and the securities business. New issues have to be sold to investors: the bank's branches provide a distribution network and its depositors provide a natural clientele. This was an important reason for the success of the German universal banks when they entered the securities business. When depositor-investors hold securities, a bank can help its customers to trade them.

There are opportunities for marketing other products. One that seems a natural for marketing to a bank's customers is insurance. There are no obvious economies of scope

[43] We shall discuss liquidity risk in Chapter 18.

[44] We shall discuss banks' role as a forward intermediary in Chapter 16.

between banking and insuring. But a bank does not have to be an insurer in order to sell insurance. It is well placed to sell to its customers insurance policies provided by insurance companies.

Banks also sell their customers other financial products that they do not themselves create. For example, when deposit rates fell in the United States during and after the recession of 1990–91, banks lost large amounts of time deposits as consumers switched to higher yielding, long-term investments—especially mutual funds. Banks responded by themselves offering to sell mutual funds to their customers. While some banks sold mutual funds that they themselves managed, others sold mutual funds managed by unrelated companies. The commissions earned on these sales helped to offset the loss of intermediation income from the banks' declining time deposits.

REGULATORY OBSTACLES TO THE EXPANSION OF BANK ACTIVITIES

The ability of banks to exploit economies of scale by expanding into related activities has sometimes been limited by regulatory restrictions. The history of banking in the United States provides a striking example.

The United States

Universal Banking in the United States. In the 1880s, private banks in the United States became closely involved in the financing of railroads and then, from the 1890s, in the financing of the new industrial companies. As their business boomed, private bankers like Morgan, Brown Brothers, and Kuhn Loeb found themselves in need of ever-increasing amounts of short-term financing. Many therefore acquired control of chartered commercial banks. Commercial banks in turn, seeing the enormous profits being made in underwriting, expanded into the securities business by setting up securities subsidiaries.[45] By 1929, private banks and chartered commercial banks were well on their way to fusing into a new type of institution that combined commercial banking with the securities business.

The Separation of Commercial and Investment Banking. All this came to an end with the Great Crash of 1929 and the Depression that followed. As we saw in Chapter 3, the collapse of the financial system and of the economy prompted a wave of financial legislation that transformed the structure of the financial system and froze it in place for many years. The new laws rigidly segmented the financial structure in order to keep banks out of danger. The **Glass–Steagall Act of 1933** required that commercial banks restrict their activities to payments and intermediation; the securities business was to be limited to specialized *investment banks*. Commercial banks were required to divest them-

[45] Chartered banks had to set up subsidiaries to underwrite securities because they were not themselves allowed to own corporate equities. By 1929, nearly all large chartered banks had securities subsidiaries. These accounted for about half of all underwriting and distribution of corporate securities.

selves of existing securities operations. Private banks wishing to engage in securities business (to be investment banks) were to divest themselves of their commercial banking affiliates. The Morgan bank, for example, split into a commercial bank, J. P. Morgan, and an investment bank, Morgan Stanley. This segmentation was reinforced by later legislation, such as the **Bank Holding Company Act of 1956**, which restricted the affiliation of banking and nonfinancial corporations ("the separation of banking and commerce").

The separation of commercial banking from the securities business was never complete, however. The Glass–Steagall restrictions applied only to corporate securities: subsidiaries of bank holding companies were always allowed to deal in Treasury securities and to underwrite general obligation municipal bonds. Moreover, Glass–Steagall related only to publicly traded securities: banks were quite active in the growing market in privately placed debt.[46] Finally, the Glass–Steagall Act applied only to activities *within* the United States: U.S. commercial banks also engaged in the securities business overseas, and U.S. securities firms (investment banks) had overseas subsidiaries engaged in banking.[47]

Pressure for Deregulation. Pressure to remove the Glass–Steagall restrictions began to grow in the 1980s. As we have seen, restrictions on commercial banks made it attractive for other financial institutions to try to enter banking and to lure away their business. Like thrifts, securities firms found ways into banking. A favorite method was the **nonbank bank**. The Bank Holding Company Act defined a bank as an institution that accepts checking deposits and makes commercial loans. Consequently, an institution that performed only one of these functions was not, legally speaking, a bank. Merrill Lynch, for example, set up Merrill Lynch Bank and Trust Company in New Jersey. This "nonbank" did not accept checking deposits but it did accept insured time deposits and make commercial loans. The further expansion of nonbank banks was blocked by legislation in 1987.

nonbank bank A financial institution that is like a bank except that it either does not accept checking deposits or it does not make commercial loans.

Commercial banks did not stand idly by while securities firms and others were invading their territory. They responded by trying themselves to expand into activities that had been barred to them by Glass–Steagall. Regulators were sympathetic and used their discretion to interpret the law as much as possible in the banks' favor. In 1983, regulators allowed banks to engage in discount brokerage (executing trades without offering investment advice); by 1990, some 2,000 banks were offering this service. In 1989, the Fed allowed bank securities affiliates to engage in limited underwriting of corporate bonds.[48] Bankers Trust, Chase, Citi, and J. P. Morgan immediately applied for permission. In 1990 the Fed extended the authorization to include corporate stocks. J. P. Morgan was the first bank to receive permission to underwrite equities.

A second source of pressure for deregulation was the increasing globalization of the world financial system. More and more, U.S. banks and securities firms were finding themselves in competition for business, both at home and abroad, with Japanese and European rivals. If there were economies of scope between banking and other financial activities, then prohibiting American financial institutions from combining these activities placed them at a competitive disadvantage in the world marketplace.

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[46] We shall discuss Treasury securities in Chapter 12; municipal securities, the Eurobond market, and private placements in Chapter 14.

[47] These were generally Eurodollar banks. We shall have more to say about Eurodollar banking in Chapter 7.

[48] Such underwriting was to constitute no more than 10% of their business.

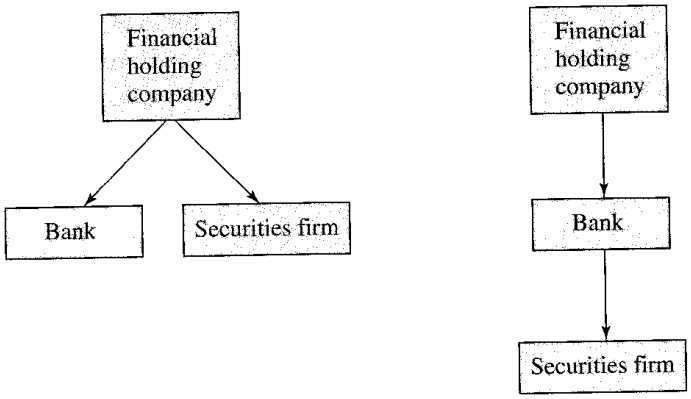
Repeal of Glass–Steagall. After many unsuccessful attempts, blocked by this interest group or that, Congress finally dismantled the Depression era segmentation of the financial system with passage of the **Gramm–Leach–Bliley Act of 1999**. This legislation did three things.

- It effectively repealed the Glass–Steagall separation of commercial banking from the securities business.
- It eased the restrictions imposed by the Bank Holding Company Act on the ownership of banks by nonbank financial companies.
- It allowed bank subsidiaries to engage in a broad range of financial activities still not permitted to banks themselves.

The act created two new frameworks under which banks can engage in new types of financial activity or integrate with other types of financial company. A "financial holding company" (FHC) can conduct new activities through a holding company affiliate of the bank regulated by the Federal Reserve Board. A "financial subsidiary" permits new activities to be conducted through a subsidiary of the bank regulated by that bank's normal regulator. For example, to engage in the securities business or in insurance, a bank can set up, or purchase, a securities firm or an insurance company. The new, or newly acquired, company can be a subsidiary of the financial holding company that also owns the bank (making the new company an affiliate of the bank). Or, it can be a subsidiary of the bank itself. These two possibilities are illustrated in Exhibit 6.4.

A financial holding company may engage in any type of financial activity and even, in some circumstances, in nonfinancial activities. Explicitly permitted are securities activities, insurance, and equity investment in financial and nonfinancial companies. The FHC does not need to ask permission to do any of these things: it merely has to inform its regulator, the Fed, after the fact. Financial subsidiaries of banks are more restricted: they may not, for example, engage in underwriting insurance, in real estate development, or in equity investment. With passage of Gramm–Leach–Bliley, the way is now clear for U.S. financial institutions to pursue economies of scope more or less without restriction.

EXHIBIT 6.4 Alternative Structures under Gramm–Leach–Bliley: Financial Holding Company (left) and Subsidiary (right).



Other Countries

Let us look briefly at the situation in some other countries to see how they compare with our own in terms of the freedom of financial institutions to expand their activities.

Canada. Banking in Canada has historically been much less regulated than banking in the United States. However, until 1987, securities markets were regulated quite tightly and banks were excluded from them. In 1987 Canada deregulated its securities markets and allowed any firm, including banks and insurance companies, to open securities subsidiaries. This effectively removed the distinctions between securities firms, commercial banks, and trust companies.[49] Canadian and U.S. banks have moved into the Canadian securities market, mostly by buying up existing Canadian investment banks.

A 1991 law, which took effect in 1992, removed many of the remaining barriers between different types of financial institution. Banks are now allowed to own insurance companies and trust companies, and to provide various investment banking and trust services previously denied them (however, they are still not allowed to market insurance through their branches or to offer auto leasing). Restrictions on the lending of trust and insurance companies were removed, making it easier for these firms to compete directly with banks; Canadian banks are also allowed to own insurance companies.

The United Kingdom. The financial system in the United Kingdom has largely been free of formal regulatory constraints since the 1870s. Nonetheless it developed along fairly specialized lines until the 1980s. Commercial banks (descendants of country banks, goldsmiths, and scriveners that had incorporated in the late nineteenth century) accepted checking deposits and made loans. Merchant banks specialized in the securities business. Building societies (the equivalent of our savings and loans) accepted time deposits and made mortgage loans.

In the 1980s this segmentation began to break down. Commercial banks expanded into the securities business, insurance brokerage, and other activities, mainly through acquisitions. Building societies and other types of savings institution have begun to offer checking deposits.

Europe

The European Union is in the process of removing all internal barriers to trade in goods and services; as part of this program, a fully integrated European Financial Area is being planned.

The EU's Second Banking Directive, which came into effect in 1993, allows banks from any member country to expand into any other. Any activity allowed the bank in its home country will be allowed it in the host country, regardless of whether such activities are allowed to domestic institutions there (unless the activity is specifically excluded by the Second Banking Directive). A proposed Investment Services Directive would allow the same freedom to securities firms, which may or may not also be banks.

[49] Trust companies still existed as distinct institutions in Canada. Before deregulation, they had, in addition to their trust business, accepted time deposits and specialized in mortgage lending.

Banking under the new regime is modeled on the universal banks of Germany, which are free to engage in more or less any activity they please: they provide their customers with long-term loans and equity as well as short-term credit, and they underwrite and market public issues (acting as securities firms).

German universal banks have long been allowed links with insurance companies, as have banks in the United Kingdom and France. The Germans call the combination of banking and insurance *Allfinanz*; the French call it *bancassurance*. Other European countries have traditionally restricted or prohibited such links, and insurance is one of the activities excluded by the Second Banking Directive. Nonetheless, bancassurance has been spreading to other countries. There have recently been major mergers and acquisitions between banks and insurance companies in Spain, the Netherlands, Italy, Sweden, and Switzerland (which is not a member of the EU).

Japan

Postwar regulation in Japan set up a financial system based on the U.S. model. It created a number of distinct types of bank—long-term credit banks, commercial banks, and trust banks—and separate securities firms. Japan's Article 65 is its equivalent of the Glass–Steagall Act. However, Japanese banks, although they could not underwrite securities, were allowed to own equity in other corporations. Indeed, banks and their affiliates came to own some 30% of all equity in Japan. Cross-shareholding is widespread among banks, insurance companies, securities firms, and nonfinancial corporations in so-called *keiretsu* groups (the descendants of the prewar *zaibatsu* groups). This arrangement allows significant integration in practice, despite the regulations prohibiting it.

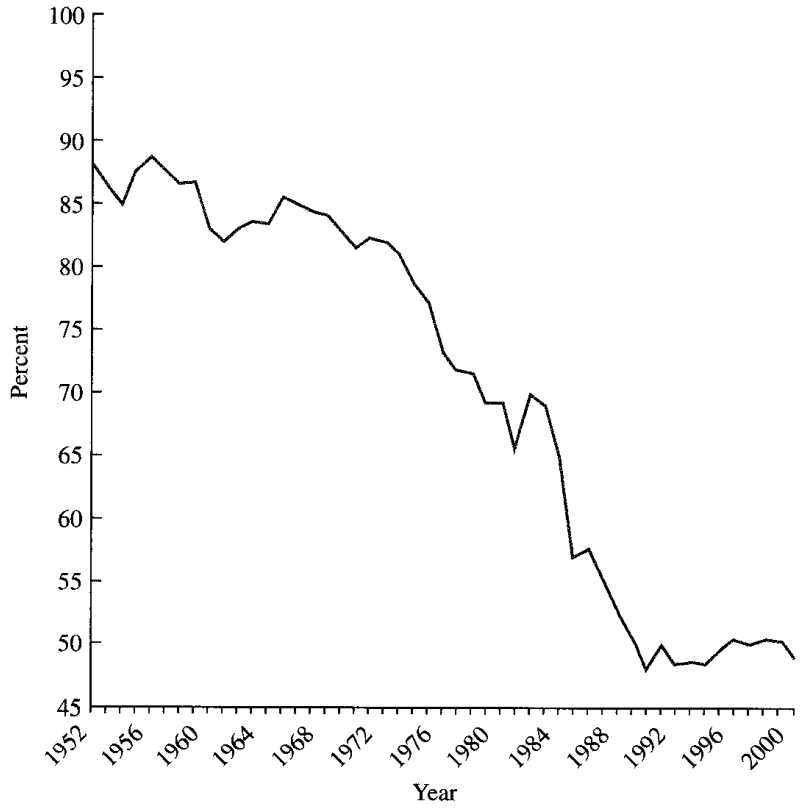
There has been a gradual deregulation of banking in Japan spurred by the financial crisis that has been going on there since 1990. Ceilings on deposit interest rates were gradually removed. As in the United States, this put pressure on bank profits and caused banks to seek income from off-balance-sheet activities. Banks and securities firms have gradually been allowed to enter one another's lines of business through subsidiaries. In 1992, banks were allowed to underwrite new issues of corporate securities but not to participate in the secondary market; in 1999, bank securities subsidiaries were given full securities powers. Regulation still separates banking and insurance.

THE DECLINE OF THE BANK?

Commercial banks in the United States appear to have been declining in importance for some time. We saw in Chapter 5 that the banks' share of total assets of all financial intermediaries has been declining since the beginning of the century. Exhibit 6.5 shows that even in an area that is classically the province of banks—short-term lending to business—the market share of commercial banks has been declining since World War II and especially sharply since the 1970s. The United States is not alone in this; the relative importance of banks seems to have been declining too in France and in Japan.

Appearances, however, are often deceiving. Looking at bank assets and lending alone does not give a complete picture. For example, as we have seen, banks have voluntarily given up much of their lending to large creditworthy business borrowers because this

EXHIBIT 6.5 Banks' Share of Business Short-Term Credit



Source: Flow of Funds Accounts.

EXHIBIT 6.6 Noninterest Income as a Percentage of Total Gross Income for Banks in Various Countries

	1981	1985	1990	1995	2000
Canada	—	24	31	35	52
France	16	14	20	55	67
Germany	29	30	27	21	29
Italy	26	32	27	20	38
Japan	18	21	24	2	12
Switzerland	53	48	50	57	62
United Kingdom	36	38	40	43	40
United States	24	27	33	35	43

Source: OECD (1991).

lending is unprofitable. Instead, banks today help such customers find direct financing in the money market and earn fee income for doing so.

More generally, as the banks' traditional business of accepting deposits and making loans has become less profitable, activities other than intermediation have become increasingly important as a source of revenue. A measure of this shift is the proportion of noninterest income in banks' total gross income. Exhibit 6.6 shows how this proportion has changed over time in a number of countries.

You can see that the proportion of noninterest income has risen steadily for U.S. banks since 1981 and that banks in other countries have experienced similar trends. The percentage of noninterest income has been highest in those countries with the fewest restrictions on bank activities, such as Germany, Switzerland, and the United Kingdom. It has risen steadily in the United States as restrictions on bank activities eroded and, finally, were removed.

The size of bank assets is a poor indicator of the importance of commercial banking. First, it captures only one of a bank's two basic functions—financial intermediation. The other—payments—is an important source of revenue. In 1996, revenue from payments-related activities accounted for 30 to 40% of the total operating revenue of the 25 largest U.S. banks.[50] Second, as we have seen, the importance of off-balance-sheet activities has been growing rapidly.

Recent research has taken these factors into account and also has looked at alternative measures of the importance of banks such as value added and employment. This research has found that there has, in fact, been no decline in the importance of banks in the United States.[51] It turns out that it is not that banks have been growing less important, but that the answer to the question "What is a bank?" has been changing.

SUMMARY

- Banks have developed from five main types of institution—payments processors, merchant banks, securities firms, chartered banks, and near banks.
- Payments processors (money-changer banks, banks of deposit, goldsmith banks) began by providing local payments services and expanded into lending.
- Merchant banks began with trade and expanded into remittance, the securities business, local payments, and lending.
- Securities firms (scriveners, trust companies, investment banks) began with securities business and lending and expanded into payments.
- Chartered banks were set up from the beginning as banks. Their purpose was to harness fractional reserve banking to the service of public finance. The Bank of England was the first, and it was the model for American chartered banks.
- Near banks began with forms of financial intermediation that were not of interest to banks. They sometimes added payment functions to become banks or were absorbed by banks.
- Banks have evolved in three dimensions: in the type of lending they do (their assets), in the type of borrowing they do (their liabilities), and in the additional activities in which they engage. This evolution has been stimulated by the search for profits, and it has been constrained by government regulation.

[50] See Radecki (1999).

[51] See Boyd and Gertler (1994).

- Bank lending began with the discounting of commercial bills and with the purchase of government securities. It expanded into other areas, such as mortgage lending, interbank lending, lending to industrial firms, and lending to consumers, as these types of loan became profitable.
- Bank borrowing began with checking deposits and banknotes. New types of liability were added to satisfy banks' growing need for funds. Interbank deposits became an important source of funds for the New York banks that provided finance to the developing securities markets.
- Restrictions on the interest rate that banks could pay on deposits, together with rising market interest rates, allowed nonbank financial institutions to lure away bank customers with instruments such as NOW accounts and money market mutual funds.
- Banks responded by developing bank repos, overnight Eurodollars, and correspondent Fed funds, and by adopting the NOW account, all as ways to pay interest on checking deposits. They also developed NCDs and other wholesale deposits to tap the money market for funds themselves.
- Banks have pursued economies of scope to steadily expand their activities in payment-related services and in services related to intermediation. The latter include the securities business, loan origination, guarantees, and forward transactions. Banks derive an increasing fraction of their income from such "off-balance-sheet" banking.
- Banks in the United States were long constrained in their expansion into the securities business and into insurance by various regulations. Many of the restrictions were removed with passage of the Gramm–Leach–Bliley Act of 1999.
- In other countries, such as the United Kingdom and Germany, banks have always enjoyed much greater freedom in the allowable range of activities.
- Some measures suggest that the importance of banks is declining. However, this is largely an illusion created by the changing nature of bank activities.

DISCUSSION QUESTIONS

1. Give five examples of types of company that might possibly develop into banks if regulations permitted. In each case explain the potential economies of scope.
2. How did the evolution of banks in America differ from the pattern seen in England and Europe? Do we still see traces of these differences?
3. Why do you think that banks were not originally interested in serving the needs of ordinary households? Why did this business nonetheless appeal to the various types of near bank? How did their motives differ? How did their structure better suit them to this type of business? Why did banks eventually change their minds?
4. Why do you think that governments took the right to issue banknotes away from banks and reserved it for themselves?
5. What changes in American banking can be attributed to government regulations that limited the interest rate that banks could pay on deposits? Were these changes for the better?
6. Show T-accounts for the following changes to the balance sheet of First National Bank:
   a. First National purchases $2 million in Federal funds from a respondent bank.
   b. A customer decides not to roll over a $1 million overnight repo.
7. What were the consequences of interest rate restrictions on bank liabilities? What new liabilities did banks come up with? Explain each.
8. What is off-balance-sheet banking? Give examples. Explain why banks have an advantage in these activities. Why do banks engage in off-balance-sheet banking? Why has the bank share in total financial intermediary assets been shrinking? Does this mean that banks have become less important? Why or why not?

BIBLIOGRAPHY

Alton, Gilbert R. "Requiem for Regulation Q: What It Did and Why It Passed Away." *Economic Review of the Federal Reserve Bank of St. Louis*, February 1986, 22–37.

Born, Karl Erich, *International Banking in the 19th and 20th Centuries*. New York: St. Martin's Press, 1983.

Boyd, J. H., and M. Gertler. "Are Banks Dead? Or Are the Reports Greatly Exaggerated?" *Federal Reserve Bank of Minneapolis Quarterly Review*, summer 1994, 2–23.

Cameron, Rondo. *Banking in the Early Stages of Industrialization*. New York: Oxford University Press, 1967.

Caskey, John P., and Brian J. Zikmund. "Pawnshops: The Consumer's Lender of Last Resort." *Federal Reserve Bank of Kansas City Economic Review*, March–April 1991, 5–18.

Collins, Michael. *Money and Banking in the U.K.: A History*. London: Croom Helm, 1988.

Frankel, Allen B., and John D. Montgomery. "Financial Structure: An International Perspective." *Brookings Papers on Economic Activity* I (1991):257–310.

Hammond, Bray. *Banks and Politics in America*. Princeton, NJ: Princeton University Press, 1957.

James, John A. *Money and Capital Markets in Postbellum America*. Princeton, NJ: Princeton University Press, 1978.

Kindleberger, Charles P. *A Financial History of Western Europe*. London: George Allen & Unwin, 1984.

Krooss, Herman E., and Martin R. Blyn. *A History of Financial Intermediation*. New York: Random House, 1971.

Organization for Economic Cooperation and Development. *Bank Profitability, Statistical Supplement*. Paris: OECD, 1991.

Radecki, Lawrence J. "Banks' Payment-Driven Revenues." *Federal Reserve Bank of New York Economic Policy Review*, July 1999, 53–66.

Roover, Raymond de. *Business, Banking, and Economic Thought*. Chicago: University of Chicago Press, 1974.

KEY TERMS

money-changer banks
overdraft
usury
remittance
merchant banks
banks of deposit
suspension of convertibility
universal banks
banknote
chartered bank
Bank of the United States
free banking
private bank
near bank
savings bank
savings and loan
credit union
finance company
pawnshop
post office savings bank
retail banking
negotiated order of withdrawal (NOW) account
discounting
commercial bills doctrine
commercial paper
regulatory costs
syndication
participation
credit scoring
securitization
mortgage lending
interbank deposits
call loans
Fed funds market
Eurodollar interbank market
Fed funds rate
London interbank offered rate (LIBOR)
bank repo
overnight Eurodollars
correspondent Fed funds
negotiable certificate of deposit (NCD)
deposit note
wholesale time deposits
brokered retail deposits
roll over
line of credit
standby letters of credit
banker's acceptance
off-balance-sheet banking
loan commitment
Glass–Steagall Act of 1933
Bank Holding Company Act of 1956
nonbank bank
Gramm–Leach–Bliley Act of 1999