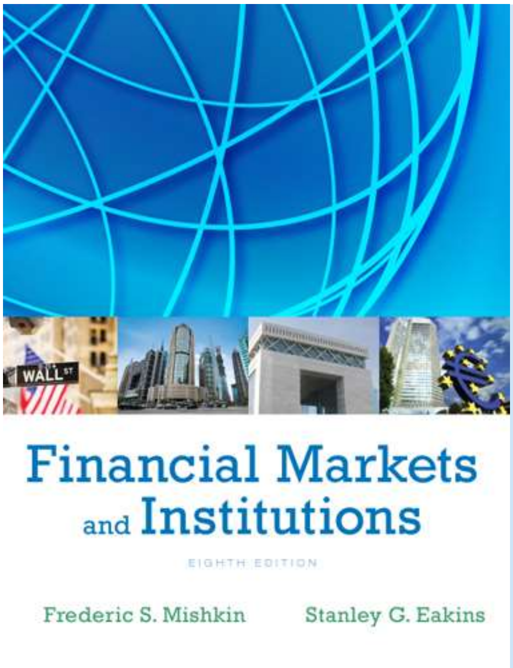


Chapter 19

Banking Industry: Structure and Competition

Chapter Preview

In the U.S., about 6,200 commercial banks serving the businesses and consumer's needs. This puts the U.S. in a class by itself. In most other developed nations, only a handful of banks dominate the landscape.

But is this better?

Chapter Preview

Indeed there are many questions we can ask. Why did the U.S. banking system develop this way? Does this mean there is more competition? We try to answer these questions in this chapter.

Chapter Preview

Topics include:

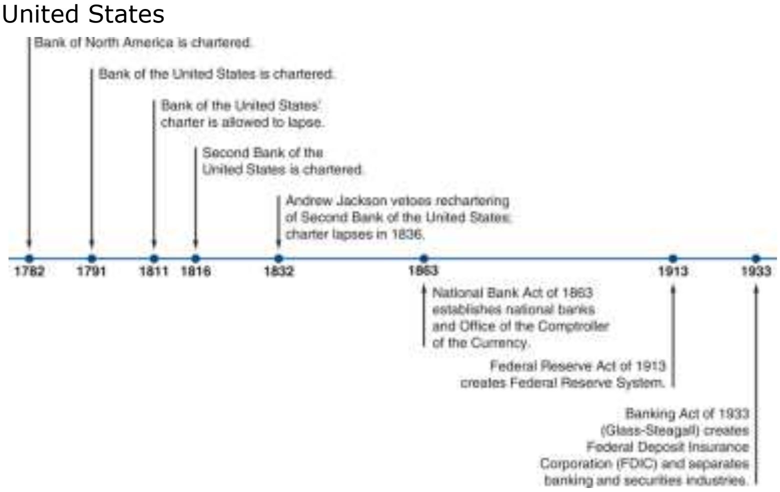
- Historical Development of the Banking System
- Financial Innovation and the Growth of the Shadow Banking System
- Structure of the U.S. Commercial Banking Industry
- Bank Consolidation and Nationwide Banking
- Separation of Banking and Other Financial Service Industries
- Thrift Industry: Regulation and Structure
- International Banking

Historical Development of the Banking Industry

- The modern commercial banking industry began when the Bank of North America was chartered in Philadelphia in 1782.
- The next slide provides a timeline of important dates in the history of U.S. banking prior to WWII.

Historical Development of the Banking Industry

Figure 19.1 Time Line of the Early History of Commercial Banking in the United States



Historical Development of the Banking Industry

- There are also some major events post-1933
  - In 1999, Glass-Steagall was repealed. Commercial banks now engaged again in securities activities.

Historical Development of the Banking Industry

- The history had one other significant outcome: Multiple Regulatory Agencies
  1. Federal Reserve
  2. FDIC
  3. Office of the Comptroller of the Currency
  4. State Banking Authorities

Historical Development of the Banking Industry

- The U.S. Treasury has proposed legislation to centralize the regulation of depository institutions under one independent agency, but it hasn't survived the scrutiny of Congress.

Financial Innovation and the Growth of the Shadow Banking System

- In recent years the traditional banking business of making loans that are funded by deposits has been in decline.
- Some of this business has been replaced by the **shadow banking system**, in which bank lending has been replaced by lending via the securities market.

Financial Innovation

- Innovation is result of search for profits. A change in the financial environment will stimulate a search for new products and ideas that are likely to increase the bottom line.
- There are generally three types of changes we can examine:
  – Response to Changes in Demand Conditions
  – Response to Changes in Supply Conditions
  – Avoidance of Existing Regulation

Financial Innovation

- Response to Changes in Demand Conditions
  – Major change is huge increase in interest-rate risk starting in 1960s
  – Adjustable-Rate Mortgages are an example of the reply to interest-rate volatility
  – Banks also started using derivates to hedge risk, and intermediaries (like the CBOT) started developing extensive interest rate products.

Financial Innovation

- Response to Changes in Supply Conditions
  – Major change is improvement in information technology have
    1. lowered the cost of processing financial transactions, making it profitable for financial institutions to create new financial products and services
    2. made it easier for investors to acquire information, thereby making it easier for firms to issue securities

Financial Innovation: Bank Credit and Debit Cards

- Many store credit cards existed long before WWII.
- Improved technology in the late 1960s reduced transaction costs making nationwide credit card programs profitable.
- The success of credit cards led to the development of debit cards for direct access to checkable funds.

Financial Innovation: Electronic Banking

- Automatic Teller Machines (ATMs) were the first innovation on this front. Today, over 250,000 ATMs service the U.S. alone.
- Automated Banking Machines combine ATMs, the internet, and telephone technology to provide "complete" service.
- Virtual banks now exist where access is only possible via the internet. The next slide highlights this.

E-Finance: Will "Clicks" dominate "Bricks" in Banking?

- Will virtual banks on the internet become the primary form for bank business, eliminating the need for physical bank branches? Here's some evidence:
  - Internet-only banks have experienced low revenue growth
  - Depositors appear reluctant to "trust" the security of their funds in I-banks

E-Finance: Will “Clicks” dominate “Bricks” in Banking?

– I-bank customers seem concerned that their transactions are truly secure and private
– Empirical evidence shows that long-term savings products are purchased more often face-to-face
– Technology glitches are still present

Financial Innovation: Electronic Payments

- The development of computer systems and the internet has made electronic payments of bills a cost-effective method over paper checks or money.
- The U.S. is still far behind some European countries in the use of this technology.

E-Finance: Why are Scandanavians so far ahead of Americans with E-money

- The U.S. writes close to 100 billion checks. In Europe, however, two-thirds of noncash transactions are electronic.
  - Europeans have been using *giro* payments for decades (banks / post office transfers funds for bills)
  - Scandinavians are much bigger users of mobile technology and the Internet. Why?
- America's continued use of paper is costly. Can that ever be changed?

Financial Innovation: E-Money

- Electronic money, or stored cash, only exists in electronic form. It is accessed via a stored-value card or a smart card.
- E-cash refers to an account on the internet used to make purchases.

E-Finance: Are We Headed toward a Cashless Society?

- Predictions of a cashless society go back decades. *Business Week* predicted e-payments would "revolutionize … money itself (but reverse itself later). But several things work against this:
  - Equipment to accept e-money not in all locations
  - Security and privacy concerns

Financial Innovation: Junk Bonds

- Prior to 1980, debt was never issued that had a junk rating. The only junk debt was bonds that had fallen in credit rating.
- Michael Milken of Drexel Burnham assisted firms in issuing original-issue junk debt, and almost single-handedly created the market.

Financial Innovation: Commercial Paper Market

- *Commercial paper* refers to unsecured debt issued by corporations with a short original maturity.
- Currently, over $1 trillion is outstanding in the market (end of 2012).
- The development of money market mutual funds assisted in the growth in this area.

Financial Innovation: Securitization

- *Securitization* refers to the transformation of illiquid assets into marketable capital market instruments.
- Today, almost any type of private debt can be securitized. This includes home mortgages, credit card debt, student loans, car loans, etc.

Financial Innovation: Avoidance of Existing Regulations

- Regulations Behind Financial Innovation
  1. Reserve requirements
     - Tax on deposits = $I \times r^D$
  2. Deposit-rate ceilings (Reg Q)
     - As $i \uparrow$, loophole mine to escape reserve requirement tax and deposit-rate ceilings

Financial Innovation: Avoidance of Existing Regulations

- Money Market Mutual Funds (MMMFs): allow investors similar access to their funds as a bank savings accounts, but offered higher rates, especially in the late 1970s.
- Currently, MMMFs have assets around $2.6 trillion. In an odd irony, risks taken by MMMFs almost brought down the industry in 2008.

Financial Innovation: Avoidance of Existing Regulations

- Sweep Accounts: Funds are “swept” out of checking accounts nightly and invested at overnight rates. Since they are no longer checkable deposits, reserve requirement taxes are avoided.

Mini Case: Bruce Bent and the MMMF Panic of 2008

- Bruce Bent, an originator of MMMFs, told his shareholders of the **Reserve Primary Fund** in July 2008 that the fund was managed on a basis of “… discipline focused on protecting your principal.”
- When Lehman Brothers went into bankruptcy in 2008, Bruce’s fund, with assets over $60 billion, was holding $785 million of Lehman’s debt

Mini Case: Bruce Bent and the MMMF Panic of 2008

- The valuation loss meant that Bruce's investors took a loss - $1 invested was no longer worth $1. The fund loss 90% of its assets almost overnight.
- This "panic" lead the Fed to step in, insuring MMMF assets.
- The MMMF industry will certainly face stiffer regulation follow this run.

The Practicing Manager: Treasury STRIPS

- Developed in the early 1980s
- Avoid reinvestment risk associated with coupon bonds.
- Investment banks were able to profit from the separation of interest into "bonds."

Treasury STRIPS

Table 19.1 Market Value of Treasury Strip Zero-Coupon Bonds Derived from a $1 Million 10-Year Treasury Bond with a 10% Coupon Rate and Selling at Par

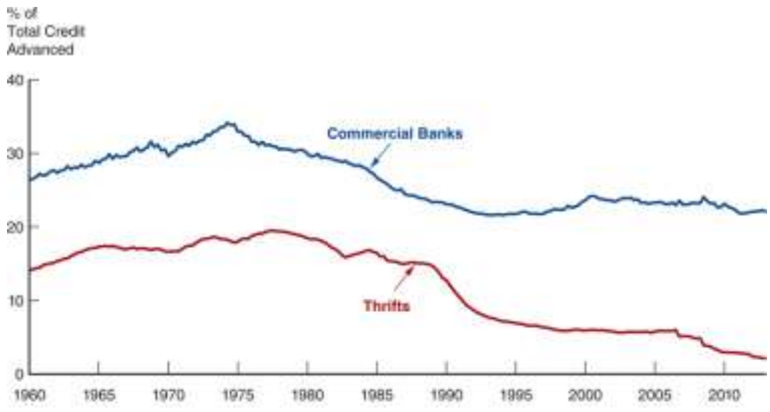
(1) Year	(2) Cash Payment ($)	(3) Interest Rate on Zero-Coupon Bond (%)	(4) Present Discounted Value of Zero-Coupon Bond ($)
1	100,000	9.75	91,116
2	100,000	9.75	83,022
3	100,000	9.75	75,646
4	100,000	9.75	68,926
5	100,000	9.75	62,802
6	100,000	9.75	57,223
7	100,000	9.75	52,140
8	100,000	9.75	47,508
9	100,000	9.75	43,287
10	100,000	9.75	39,442
10	1,000,000	9.75	394,416
Total			$1,015,528

Financial Innovation and the Decline in Traditional Banking

- Asset transformation affected by financial innovation.
- The importance of commercial banks as a source of funds to nonfinancial borrowers has shrunk dramatically.

Financial Innovation and the Decline in Traditional Banking

Figure 19.2 Bank Share of Total Nonfinancial Borrowing, 1960–2013



Source: Federal Reserve Flow of Funds Accounts; *Federal Reserve Bulletin.*

Financial Innovation and the Decline in Traditional Banking

- Decline in Cost Advantages in Acquiring Funds (Liabilities)
  - $\pi \uparrow$ $i \uparrow$, then disintermediation because
    1. Deposit rate ceilings and regulation Q
    2. Money market mutual funds
- Checkable deposits fell from 60% of bank liabilities to only 5% today.

Financial Innovation and the Decline in Traditional Banking

- Decline in Income Advantages on Uses of Funds (Assets)
  1. Easier to use securities markets to raise funds: commercial paper, junk bonds, securitization
  2. Finance companies more important because easier for them to raise funds

Banks' Responses

- Loss of cost advantages in raising funds and income advantages in making loans causes reduction in profitability in traditional banking
  1. Expand lending into riskier areas (e.g., real estate)
  2. Expand into off-balance sheet activities
- Creates problems for U.S. regulatory system
- Similar problems for banking industry in other countries

Decline in Traditional Banking in Other Industrialized Countries

- Forces similar to those in the U.S. have led to a similar decline in other industrialized countries.
- For example, Australian banks have lost business to international securities markets
- In many countries, as securities markets develop, banks also face competition from the new products offered

Structure of the U.S. Commercial Banking Industry

- Around 6,500 commercial banks currently exist in the U.S.
- The tables on the next two slides shows various statistics for these banks as well as the ten largest U.S. banks.

Structure of the Commercial Banking Industry

Table 19.2 Size Distribution of Insured Commercial Banks, March 31, 2013

Assets	Number of Banks	Share of Banks (%)	Share of Assets Held (%)
Less than $100 million	1,954	32.1	0.9
$100 million–$1 billion	3,607	59.2	7.9
$1 billion or more	535	8.8	91.2
Total	6,096	100.00	100.00

Source: http://www2.fdic.gov/sdi/main.asp.

FDIC statistics on banking
http://www.fdic.gov/bank/statistical/index.html

Ten Largest U.S. Banks

Table 19.3 Ten Largest U.S. Banks, 2013

Bank	Assets ($ millions)	Share of All Commercial Bank Assets (%)
1. J.P. Morgan Chase & Co	1,947.8	14.58
2. Bank of America	1,429.7	10.70
3. Citigroup	1,319.4	9.87
4. Wells Fargo & Company	1,284.5	9.61
5. U.S. Bank National Association	349.3	2.61
6. PNC Bank, National Association	294.5	2.20
7. Bank of New York Mellon	281.3	2.11
8. Capital One, National Association	235.2	1.76
9. State Street Bank and Trust Company	223.2	1.67
10. TD Bank, National Association	212.2	1.59
Total	7,577.3	56.70

Source: http://www2.fdic.gov/IDASP/main.asp?formname=inst.

Restrictions on Branching

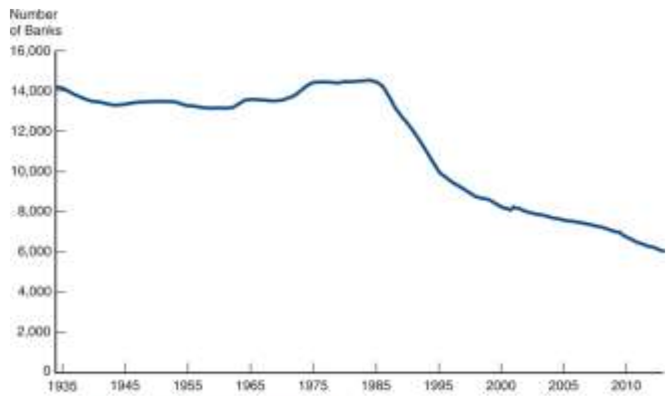
- Branching Restrictions (McFadden Act of 1927): Very Anti-competitive
- Response to Branching Restrictions
  - Bank Holding Companies
    - Allowed purchases of banks outside state
    - BHCs allowed wider scope of activities by Fed
    - BHCs dominant form of corporate structure for banks
  - Automated Teller Machines
    - Not considered to be branch of bank, so networks allowed

Bank Consolidation and Nationwide Banking

- The number of commercial banks in the U.S. was stable from 1934 through the mid-1980s.
- After that, the number of commercial banks began to fall dramatically.

Bank Consolidation and Number of Banks

Figure 19.3 Number of Insured Commercial Banks in the United States, 1934–2013



Bank Consolidation and Nationwide Banking

- Bank Consolidation: Why?
  1. Loophole mining reduced effectiveness of branching restrictions
  2. Development of super-regional banks
- Economies of scale
  1. Increased with the web and computer technology
  2. Scope economies also present in using data for pricing, new products, etc.
  3. Has lead to the birth of **large, complex banking organizations (LCBOs)**

E-Finance: Information Technology and Bank Consolidation

- Information technology is particularly relevant for the credit card industry. Today, over 60% of the credit card debt is help by the five biggest banks (only 40% in 1995).
- Custody for securities has risen, from 40% as a percent of assets in 1990 to 90% today.
- Smaller banks just contract with larger banks, further leading to consolidation.

Bank Consolidation and Nationwide Banking

- Riegle-Neal Act of 1994
  1. Allows full interstate branching
  2. Promotes further consolidation
- Future of Industry Structure
  – Will become more like other countries, but not quite:
    - Several thousand, not several hundred
    - Only half of small banks will remain, and large banks are expected to double in number

Bank Consolidation and Nationwide Banking

- Are Bank Consolidation and Nationwide Banking a Good Thing?
  - Cons
    1. Fear of decline of small banks and small business lending
    2. Rush to consolidation may increase risk taking
  - Pros
    1. Community banks will survive
    2. Increase competition and efficiency
    3. Increased diversification of bank loan portfolios: lessens likelihood of failures

Separation of Banking and Other Financial Service Industries

Glass-Steagall

- allowed commercial banks to sell on-the-run government securities
- prohibited underwriting / brokerage services, real estate / insurance business
- prohibited other FIs from offering commercial banking services

Separation of Banking and Other Financial Service Industries

- Erosion of Glass-Steagall
  - Fed, OCC, FDIC are allowing banks to engage in underwriting activities, under the Section 20 loophole in the act
- Gramm-Leach-Bliley Act of 1999
  - Legislation to eliminate Glass-Steagall
  - States retain insurance regulation, while SEC oversees securities activities
  - OCC regulates subsidiaries that underwrite securities
  - Fed still oversees bank holding companies

Separation of Banking and Other Financial Service Industries

- Implications for Financial Consolidation
  1. G-L-B will speed-up consolidation
  2. Expect mergers between banks and other financial service providers to become more common, and mega-mergers are likely on the way
  3. U.S. banks likely to become larger and more complex organizations

Separation of Banking and Other Financial Service Industries

- Separation in Other Countries
  1. Universal banking: Germany
     - No separation of banking and underwriting, insurance, real estate, etc.
  2. British-style universal banking
     - Underwriting ok, but more legal separation of subs, no equity stakes in firms, insurance uncommon
  3. Japan
     - Allowed to hold equity in firms, but BHCs are illegal. Leaning toward the British system

Thrift Industry: Regulation and Structure

- The regulation and structure similar to the commercial banking industry. We will look at each type of institution briefly:
  - savings and loan associations (S&Ls)
  - mutual savings banks
  - credit unions

Thrift Industry: S&Ls

- Can be chartered either by the federal government or by the states
- Office of the Comptroller of the Currency regulates federally insured
- Members of the Federal Home Loan Bank System, which makes loans to the members of the system

Thrift Industry: S&Ls

- S&Ls experienced difficulties in the 1980s, engaging in same activities as commercial banks.
- Many experts view having a separate charter and regulatory apparatus no longer makes sense.

Thrift Industry: Mutual Saving Banks

- Similar to S&Ls but are jointly owned by the depositors
- Subject to many of the FDIC's regulations for state-chartered banks
- Deposits not insured by the FDIC have their deposits insured by state insurance funds
- Most have assets in excess of $25 million since regulations are fairly liberal.

Thrift Industry: Credit Unions

- Similar to S&Ls, but organized around a particular group of individuals with a common bond
- National Credit Union Administration (NCUA) issues federal charters and regulates federally chartered credit unions
- Assets are consumer loans with fairly short maturities, thus avoiding the financial difficulties of the S&Ls and mutual savings banks

Thrift Industry: Credit Unions

- Usually small, with assets less than $10m
- Regulatory changes allow individual credit unions to cater to a more diverse group of people by interpreting the common bond requirement less strictly
- Branching across state lines and into other countries is permitted for federally chartered credit unions (e.g., Navy Federal CU).

International Banking

- There are currently 100 American bank branches abroad, with over $1.5 trillion in assets. In 1960, there were only 8 branches with less than $4 billion in assets. Why the rapid growth?
  1. Rapid growth of international trade
  2. Banks abroad can pursue activities not allowed in home country
  3. Tap into Eurodollar market

International Banking

- The Eurodollar market represents U.S. dollars deposited in banks outside the U.S. Many companies want these dollars:
  - The dollar is widely used in international trade
  - Dollars held outside the U.S. are not subject to U.S. regulations
- London is the center for Eurodollars
- To capture the profits from Eurodollar transactions, U.S. banks opened abroad

International Banking

- U.S. Banking Overseas. Most foreign branches are in Latin America, the Far East, the Caribbean, and London, for either trade reasons or regulatory avoidance.
- Another structure is the Edge Act Corporation, a sub engaged in international banking.

International Banking

- U.S. banks can own controlling interests in foreign banks / finance companies, governed by Regulation K.
- International Banking Facilities
  - approved by the Fed in 1981
  - accept time deposits of foreign investors
  - not subject to reserve requirements
  - cannot conduct business with American business
  - receive favorable local tax treatment

International Banking

- Foreign Banks in U.S. hold more than 28% of total U.S. bank assets.
- Do a large portion of U.S. bank lending - nearly 20% for lending to U.S. corporations.

International Banking

- Foreign Banks in U.S. are setup as:
  - an agency office of a foreign bank
    - Fewer regulations
  - a sub of a U.S. bank
    - Same regs as a U.S. bank
  - a branch of a foreign bank
    - May form Edge Act corps. and IBFs.

International Banking

1. Regulations (as of 1978 International Banking Act)
   - Same as for U.S. domestic banks, except banks grandfathered in
2. Impact
   - World financial markets more integrated
   - Encouraged bank consolidation abroad
   - Importance of foreign banks in international banking

Ten Largest Banks in the World

Table 19.4 Ten Largest Banks in the World, 2012

Bank	Assets (U.S. $ millions)
1. Industrial & Commercial Bank of China, China (ICBC)	2,811,340
2. HSBC Holdings, UK	2,692,540
3. Deutsche Bank, Germany	2,665,400
4. Crédit Agricole Group, France	2,660,860
5. Mitsubishi UFJ Financial Group, Japan	2,594,820
6. BNP Paribas, France	2,527,220
7. Credit Agricole SA, France	2,441,180
8. Barclays PLC, UK	2,401,810
9. JPMorgan Chase & Co, US	2,359,140
10. Japan Post Bank, Japan	2,291,350

Source: http://www.relbanks.com/worlds-top-banks/assets.

Chapter Summary

- Historical Development of the Banking System: the historical development of the U.S. banking system was reviewed, and the resulting agencies (OCC, Fed, SEC, etc.) discussed
- Financial Innovation and the Growth of the Shadow Banking System: changes in both demand and supply forces, and the response of the banking industry, were examined

Chapter Summary (cont.)

- Structure of the U.S. Commercial Banking Industry: the size, character, structure, and regulation of the commercial banking system was explored
- Bank Consolidation and Nationwide Banking: the forces leading bank consolidation and national banks, and the implications for the future, were outlined

Chapter Summary (cont.)

- Separation of Banking and Other Financial Service Industries: the rise and fall of separate banks was discussed, and the implications for the future were examined
- Thrift Industry: Regulation and Structure: we also looked at the three primary institutions (S&Ls, Mutual Saving Banks, and Credit Unions) and their regulation

Chapter Summary (cont.)

- International Banking: the branching of U.S. banks out of the U.S. as well as foreign banks operating in the U.S. were reviewed