Lecture 10

Banking Industry: Structure and Competition

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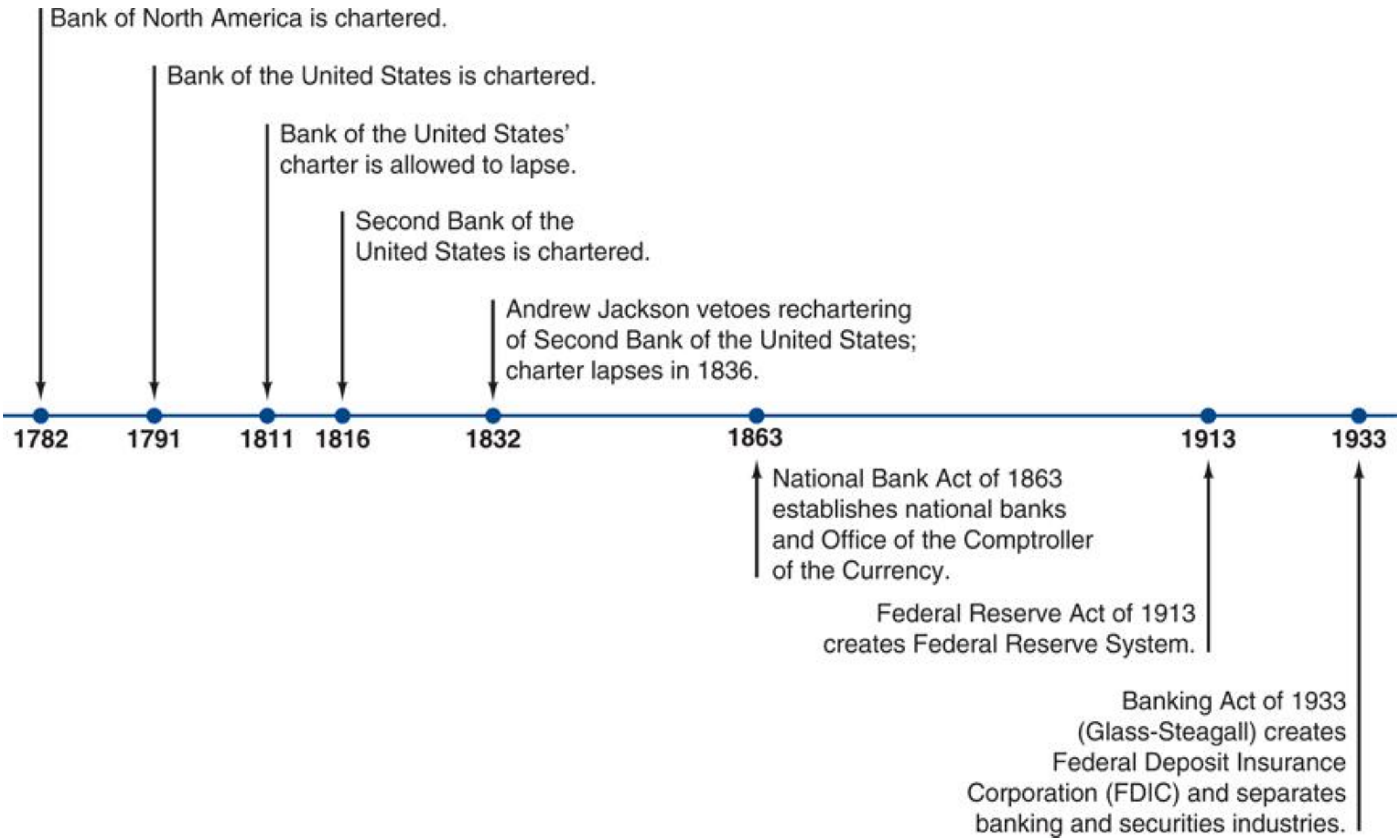
Agenda

- Historical Development of the Banking System
- Financial Innovation and the Growth of the Shadow Banking System
- Structure of the Commercial Banking Industry
- Bank Consolidation

Historical Development of the Banking Industry

Time Line of the Early History of Commercial Banking in the US



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  - In 1999, Glass-Steagall was repealed.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. Federal Deposit Insurance Corporation (FDIC)
  3. Office of the Comptroller of the Currency
  4. State Banking Authorities

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- Some of this business has been replaced by the **shadow banking system**, in which bank lending has been replaced by lending via the securities market.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: 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.
- But will virtual banks on the internet become the primary form for bank business, eliminating the need for physical bank branches?

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.
- Are we heading toward a cashless society?

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

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

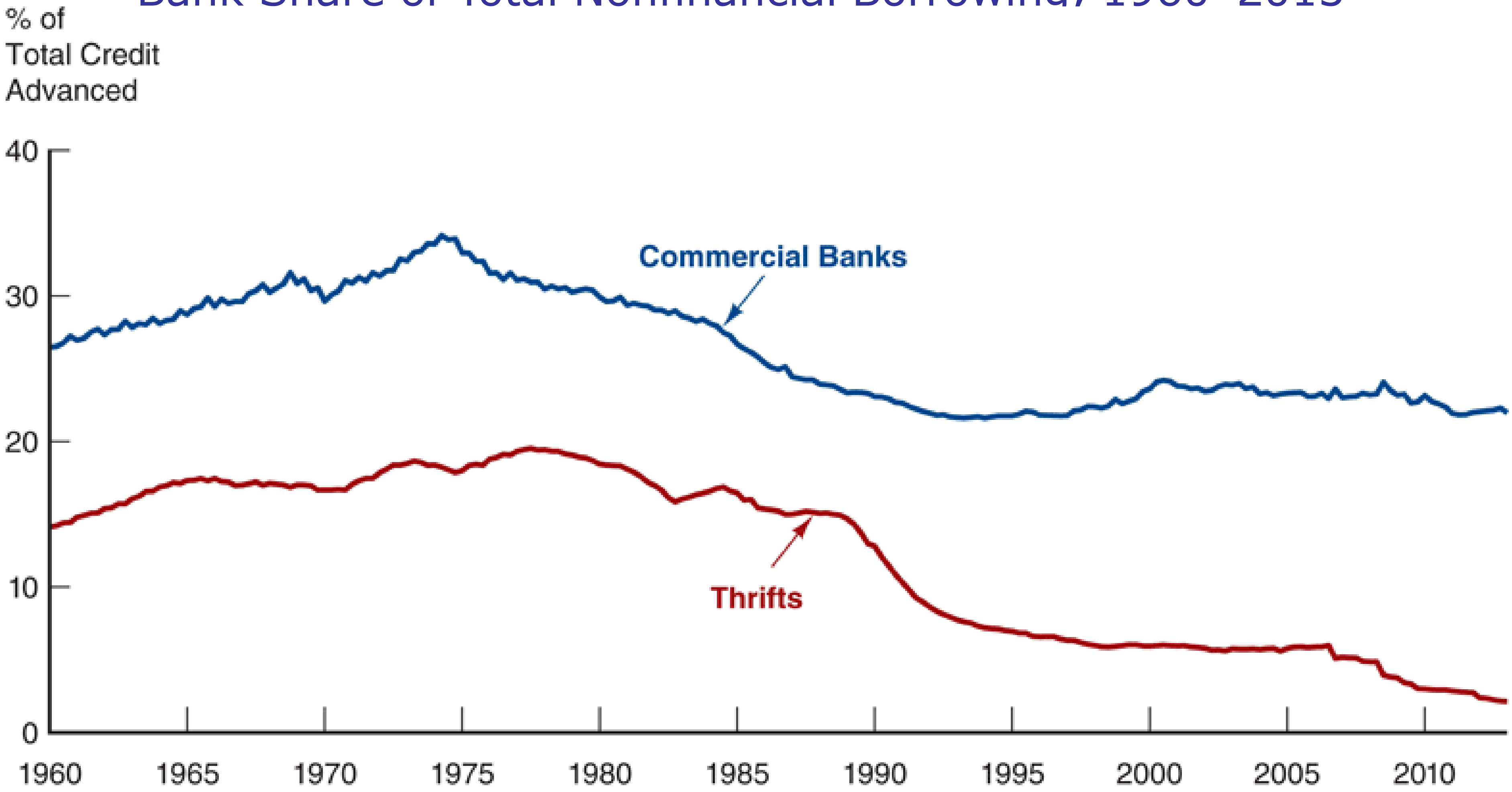
Financial Innovation and the Decline in Traditional Banking

- 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

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 Commercial Banking Industry

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 Banks in the World (2012)

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.

Ten Largest Banks in the World (2016)

Rank	Banks	Assets (US $ million)
1	ICBC (China)	3,545,000
2	China Construction Bank Corporation (China)	2,965,290
3	Agricultural Bank of China (China)	2,852,550
4	Mitsubishi UFJ Financial Group (Japan)	2,654,740
5	Bank of China (China)	2,639,770
6	HSBC Holding (U.K.)	2,595,670
7	JP Morgan Chase & Co (U.S.)	2,423,810
8	BNP Paribas (France)	2,404,100
9	Bank of America (U.S.)	2,185,500
10	Deutsche Bank (Germany)	1,972,880

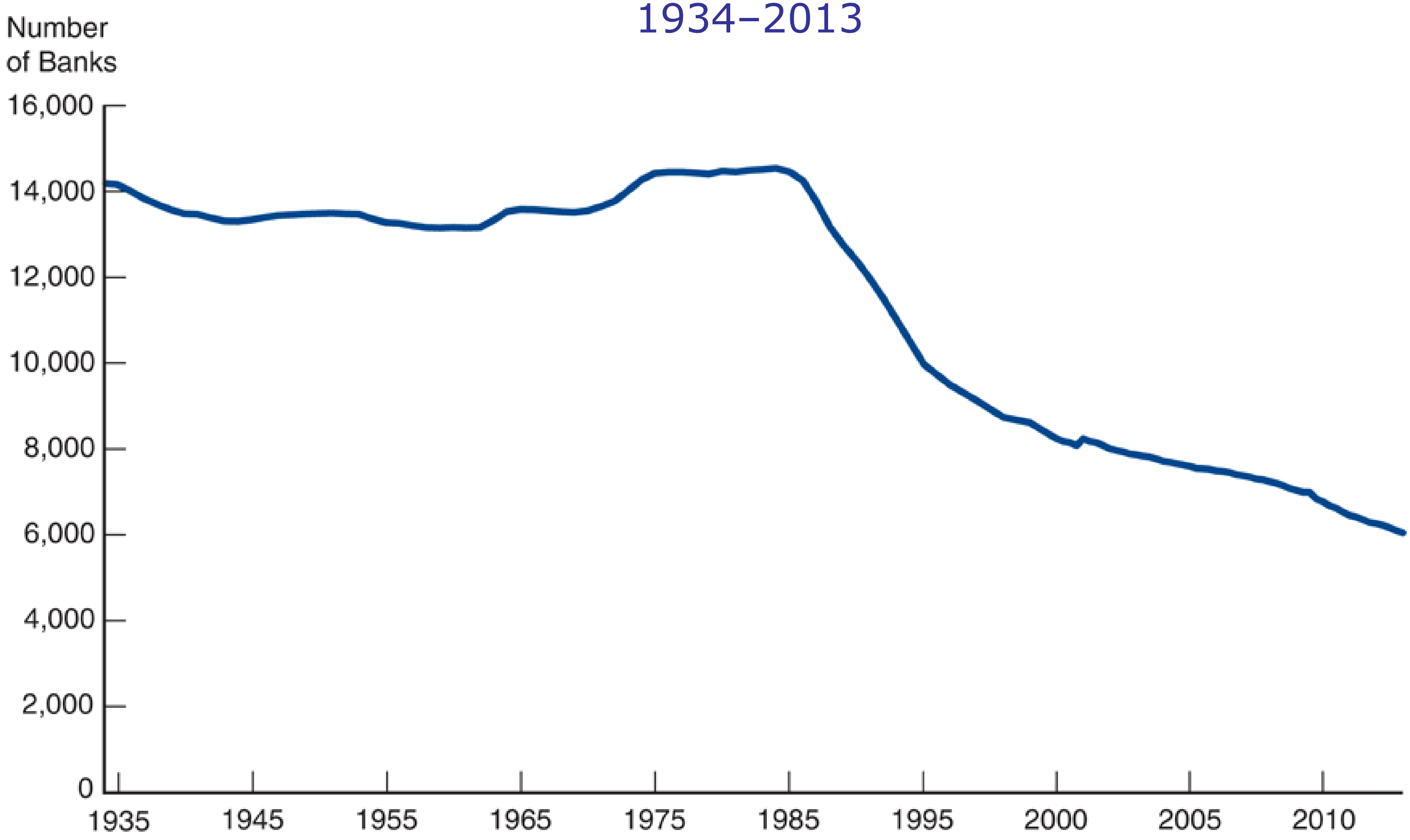
Bank Consolidation

- 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

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



Source: www2.fdic.gov/qbp/qbpSelect.asp?menuitem=STAT.

Is Bank Consolidation Good?

– 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

Banking in a nutshell