

CHAPTER 18

Financial Regulation

FINANCIAL MARKETS & INSTITUTIONS

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Chapter Preview

■ The financial system is one of the most heavily regulated industries in our economy. In this chapter, we develop an economic analysis of why regulation of banking takes the form that it does. We see further that regulation doesn't always work.



Chapter Preview

- Finally, we offer an explanation for the world banking crisis and reforms to prevent future disasters. Topics include:
 - Asymmetric Information and Financial Regulation
 - The 1980s U.S. Banking Crisis
 - Federal Deposit Insurance Corporation Improvement Act of 1991
 - Banking Crisis Throughout the World
 - The Dodd-Frank Bill and Future Regulation



- Our previous analysis of asymmetric information, moral hazard, and adverse selection provide an excellent backdrop for understanding the current regulatory environment in banking.
- There are nine basic categories of bank regulation, which we will examine from an asymmetric information perspective.



- 1. Bank Panics and the Need for Deposit Insurance
 - Prior to FDIC insurance, bank failures meant depositors lost money, and had to wait until the bank was liquidated to receive anything. This meant that "good" banks needed to separate themselves from "bad" banks, which was difficult for banks to accomplish.
 - The inability of depositors to assess the quality of a bank's assets can lead to panics. If depositors fear that some banks may fail, their best policy is to withdraw all deposits, leading to a bank run, even for "good" banks. Further, failure of one bank can hasten failure of others (contagion effect).



- Government Safety Net: Deposit Insurance and the FDIC
 - Bank panics did occur prior to the FDIC, with major panics in 1819, 1837, 1857, 1873, 1884, 1893, 1907, and 1930–1933.
 - By providing a safety net, depositors will not flee the banking system at the first sign of trouble. Indeed, between 1934 and 1981, fewer than 15 banks failed each year.



- Bank Panics and the Need for Deposit Insurance
 - The FDIC handles failed banks in one of two ways: the payoff method, where the banks is permitted to fail, and the purchase and assumption method, where the bank is folded into another banking organization.
 - Implicit insurance is available in some countries where no explicit insurance organization exists. But, as the next slide shows, deposit insurance is spreading throughout the world.



Global: The Spread of Deposit Insurance Throughout the World

- Up to the 1960s, only six countries had deposit insurance. By the 1990s, the number topped 70.
- Has this spread of insurance been a good thing? Did it improve the performance of the financial system and prevent crises?
- Oddly enough, the answer appears to be no.



Global: The Spread of Deposit Insurance Throughout the World

- Explicit government insurance is associated with less bank sector stability and higher bank crises.
- Appears to retard financial development
- But this appears to be only for countries with ineffective laws, regulation, and high corruption. Indeed, for emerging markets, deposit insurance may be the wrong medicine!



- Bank Panics and the Need for Deposit Insurance
 - The FDIC insurance creates moral hazard incentives for banks to take on greater risk than they otherwise would because of the lack of "market discipline" on the part of depositors.
 - The FDIC insurance creates adverse selection.
 Those who can take advantage of (abuse) the insurance are mostly likely to find banks attractive.



- Bank Panics and the Need for Deposit Insurance
 - Regulators are reluctant to let the largest banks fail because of the potential impact on the entire system. This is known as the "Too Big to Fail" doctrine. This increases the moral hazard problem for big banks and reduces the incentive for large depositors to monitor the bank.



- Bank Panics and the Need for Deposit Insurance
 - When Continental Illinois failed, all deposits were insured, as were bond holders. This means even creditors aren't interested in a bank's health!



- Bank Panics and the Need for Deposit Insurance
 - Consolidation has created many "large" banks, exasperating the too-big-to-fail problem.
 Further, banks now engage in more than just banking, which may inadvertently extend FDIC to such activities as underwriting.



2. Restrictions on Asset Holdings

- Regulations limit the type of assets banks may hold as assets. For instance, banks may not hold common equity.
- Even with regulations in place, the 2007–2009 financial crisis still occurred. Perhaps more regulation is needed?



3. Bank Capital Requirements

Banks are also subject to capital requirements.
 Banks are required to hold a certain level of capital (book equity) that depends on the type of assets that the bank holds.



3. Bank Capital Requirements

- Details of bank capital requirements:
 - Leverage ratio must exceed 5% to avoid restrictions
 - Capital must exceed 8% of the banks riskweighted assets and off-balance sheet activities (details follow)
 - New capital requirements are forthcoming to address problems (such as OBS items) with riskweighted assets



3. Bank Capital Requirements

The next four slides show how to calculate Bank Capital requirements for a fictitious bank.



Calculating Capital Requirements

First National Bank

Assets		Liabilities	
Reserves	\$3 m	Checkable deposits	\$20 m
Treasury securities	\$10 m	Nontransactions	\$60 m
		deposits	
Government agency	\$7 m	Borrowings	\$11 m
securities			
Municipal bonds	\$10 m	Loan loss reserves	\$2 m
Residential mortgages	\$10 m	Bank capital	\$7 m
Real estate loans	\$20 m		
C&I loans	\$35 m		
Fixed assets	\$5 m		



Calculating Capital Requirements

- Leverage Ratio = Capital/Assets= \$7m/\$100m = 7%
- Bank is well capitalized



Calculating Risk-Adjusted Requirements

 $0 \times \$3$ million (Reserves) $+0 \times \$10$ million (Treasury securities) (Agency securities) $+.20 \times \$7$ million $+.50 \times 10 million (Municipal bonds) (Residential mortgages) $+.50 \times 10 million (Real estate loans) $+1.00 \times \$20$ million $+1.00 \times 35 million (Commercial loans) $+1.00 \times \$5$ million (Fixed assets) $+1.00 \times \$20$ million (Letters of credit) \$91.4 million (Total risk-adjusted assets)



Calculating Risk-Adjusted Requirements

- Core Capital Requirement
 - = 4% x risk-adjusted assets
 - = 4% x \$91.4m = \$3.66m
 - < \$7m of core capital</p>
- Total Capital Requirement
 - = 8% x risk-adjusted assets
 - = 8% x \$91.4m = \$7.31m
 - < \$9m of total capital</p>
 - = \$7m of core + \$2m of loan loss reserves



3. Bank Capital Requirements

Of course, the system isn't perfect. Banks now engage in **regulatory arbitrage**, where for a given category, they seek assets that are the riskiest. Basel continued to work on the system.



4. Prompt Corrective Action

An undercapitalized bank is more likely to fail *and* more likely to engage in risky activities. The FDIC Improvement Act of 1991 requires the FDIC to act quickly to avoid losses to the FDIC.



4. Prompt Corrective Action

For example, "well capitalized" banks are permitted some underwriting risk. However, "undercapitalized banks" must submit a capital restoration plan, restrict asset growth, and seek regulatory approval to open new branches or develop new lines of business.



- In June 1999, the Basel Committee proposed several reforms to the original Basel Accord, with the following components:
 - Linking capital requirements to actual risk for large, international banks
 - Steps to strengthen the supervisory process
 - Increased market discipline mechanisms



- The new system appears to be quite complex, and implementation has been delayed by years.
- U.S. regulators met to determine how best to protect the FDIC insurance fund based on the new capital requirements.
- Only the largest U.S. banks will be subject to Basel 2. Other U.S. banks will follow a simplified standard.



Further the 2007–2009 financial crisis revealed problems of the accord

- Didn't require enough capital to weather the financial crisis
- Relied on credit ratings for weights—which proved unreliable during the crisis
- Procyclical credit standards restrict credit exactly when it is needed
- Doesn't address liquidity problems



But fear not! Basel 3 is on its way. We should all feel confident the regulators will get it right this time. Third time is a charm, right?



5. Financial Supervision: Chartering and Examination

- Reduces the adverse selection problem of risk-takers or crooks owning banks to engage in highly speculative activities. As Lincoln S&L shows, this isn't a perfect system.
- Examinations assign a CAMEL rating to a bank, which can be used to justify cease and desist orders for risky activities.
- Periodic reporting (call reports) and frequent (sometimes unannounced) examinations allow regulators to address risky / questionable practices in a prompt fashion.
- If examiners aren't happy, bank can be declared a "problem bank" and subject to more frequent examinations.



6. Assessment of Risk Management

- Past examinations focused primarily on the quality of assets. A new trend has been to focus on whether the bank may take excessive risk in the near future.
- Four elements of risk management and control:
 - 1. Quality of board and senior management oversight
 - 2. Adequacy of policies limiting risk activity
 - 3. Quality of risk measurement and monitoring
 - 4. Adequacy of internal controls to prevent fraud



- 6. Assessment of Risk Management
 - U.S. regulators have also adopted similarminded guidelines for dealing with interest-rate risk.
 - Particularly important is the implementation of stress testing, or VAR calculations, to measure potential losses.



7. Disclosure Requirements

- Better information reduces both moral hazard and adverse selection problems
- Sarbanes-Oxley increased requirements for accurate accounting statements, created the PCAOB, and put limits on conflicts of interest
- Mark-to-market accounting may help, if asset values can be determined



8. Consumer Protection

- Standardized interest rates (APR)
- Prevent discrimination (e.g., CRA to help avoid redlining particular areas)
- The 2007–2009 revealed further need for consumer protection (from themselves?) as consumers took out loans where they clearly didn't understand the terms



9. Restrictions on Competition

- Branching restrictions, which reduced competition between banks
- Separation of banking and securities industries: Glass-Steagall. In other words, preventing nonbanks from competing with banks (repealed in 1999)
- Can lead to higher fees and less innovation



Many laws have been passed in the U.S. to regulate banking. Table 18.1 provides a summary of the major legislation and key provisions.



Major Banking Legislation in the United States (a)

 TABLE 18.1
 Major Financial Legislation in the United States

Federal Reserve Act (1913)

Created the Federal Reserve System

McFadden Act of 1927

Effectively prohibited banks from branching across state lines

Put national and state banks on equal footing regarding branching

Banking Acts of 1933 (Glass-Steagall) and 1935

Created the FDIC

Separated commercial banking from the securities industry

Prohibited interest on checkable deposits and restricted such deposits to commercial banks

Put interest-rate ceilings on other deposits

Securities Act of 1933 and Securities Exchange Act of 1934

Required that investors receive financial information on securities offered for public sale

Prohibited misrepresentations and fraud in the sale of securities

Created the Securities and Exchange Commission (SEC)

Investment Company Act of 1940 and Investment Advisers Act of 1940

Regulated investment companies, including mutual funds

Regulated investment advisers

FDIC index of regulations on banking http://www.fdic.gov/regulations/laws/index.html



Major Banking Legislation in the United States (b)

Bank Holding Company Act and Douglas Amendment (1956)

Clarified the status of bank holding companies (BHCs)

Gave the Federal Reserve regulatory responsibility for BHCs

Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980

Gave thrift institutions wider latitude in activities

Approved NOW and sweep accounts nationwide

Phased out interest-rate ceilings on deposits

Imposed uniform reserve requirements on depository institutions

Eliminated usury ceilings on loans

Increased deposit insurance to \$100,000 per account

Depository Institutions Act of 1982 (Garn-St. Germain)

Gave the FDIC and the FSLIC emergency powers to merge banks and thrifts across state lines

Allowed depository institutions to offer money market deposit accounts (MMDAs)

Granted thrifts wider latitude in commercial and consumer lending

Competitive Equality in Banking Act (CEBA) of 1987

Provided \$10.8 billion to the FSLIC

Made provisions for regulatory forbearance in depressed areas

(continued)

FDIC index of regulations on banking http://www.fdic.gov/regulations/laws/index.html



Major Banking Legislation in the United States (c)

 TABLE 18.1
 Major Financial Legislation in the United States (continued)

Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) of 1989

Provided funds to resolve S&L failures

Eliminated the FSLIC and the Federal Home Loan Bank Board

Created the Office of Thrift Supervision to regulate thrifts

Created the Resolution Trust Corporation to resolve insolvent thrifts

Raised deposit insurance premiums

Reimposed restrictions on S&L activities

Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991

Recapitalized the FDIC

Limited brokered deposits and the too-big-to-fail policy

Set provisions for prompt corrective action

Instructed the FDIC to establish risk-based premiums

Increased examinations, capital requirements, and reporting requirements

Included the Foreign Bank Supervision Enhancement Act (FBSEA), which strengthened the Fed's authority to supervise foreign banks

Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994

Overturned prohibition of interstate banking

Allowed branching across state lines

FDIC index of regulations on banking http://www.fdic.gov/regulations/laws/index.html



Major Banking Legislation in the United States (c)

Gramm-Leach-Bliley Financial Services Modernization Act of 1999

Repealed Glass-Steagall and removed the separation of banking and securities industries

Sarbanes-Oxley Act of 2002

Created Public Company Accounting Oversight Board (PCAOB)

Prohibited certain conflicts of interest

Required certification by CEO and CFO of financial statements and independence of audit committee

Federal Deposit Insurance Reform Act of 2005

Merged the Bank Insurance Fund and the Savings Association Insurance Fund Increased deposit insurance on individual retirement accounts to \$250,000 per account Authorized FDIC to revise its system of risk-based premiums

Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010

Creates Consumer Financial Protection Bureau to regulate mortgages and other financial products Routine derivatives required to be cleared through central clearinghouses and exchanges New government resolution authority to allow government takeovers of financial holding companies Creates Financial Stability Oversight Council to regulate systemically important financial institutions Bans banks from proprietary trading and owning large percentage of hedge funds

FDIC index of regulations on banking http://www.fdic.gov/regulations/laws/index.html



Cases

Before moving on to the US S&L Crisis of the 1980s, let's look at a few cases:

- Mark-to-Market Accounting and the 2007–2009 Financial Crisis
- The 2007–2009 Financial Crisis and Consumer Protection Regulation
- Electronic Banking and Financial Regulation
- International Financial Regulation



Mark-to-Market Accounting and the 2007–2009 Financial Crisis

- In theory, market prices provide the best basis for estimating the true value of assets, and hence capital, in the firm.
- Mark-to-market accounting, however, is subject to a major flaw: the price of an asset during a time of financial distress does not reflect its fundamental value.



Mark-to-Market Accounting and the 2007–2009 Financial Crisis

- If banks are required to show "market" value in financial records, a bank may appear undercapitalized, even though prices aren't accurate
- The criticism was made only when asset values were falling (2007–2009), not when asset prices were booming, making banks' balance sheets look very good (early 2000s).



The 2007–2009 Financial Crisis and Consumer Protection Regulation

- During the housing boom, mortgage originators had little incentive to ensure that subprime borrowers had an ability to pay back their loans.
- A particular infamous mortgage was dubbed the NINJA loan because it was issued to borrowers with No Income, No Job, and No Assets.



The 2007–2009 Financial Crisis and Consumer Protection Regulation

- The Federal Reserve did address some issues in July of 2008 for subprime loans:
 - Mortgage had to consider ability to repay
 - No-doc (NINJA-type) loans were banned
 - Ban on prepayment penalties
 - Escrow accounts required
- Further regulations were established for all mortgages.



The 2007–2009 Financial Crisis and Consumer Protection Regulation

The backlash isn't over. A new consumer financial protection agency is being. Headed by Elizabeth Warren, the new agency will take responsibility for most financial products used by a typical consumer.



E-Finance: Electronic Banking and Regulation

- Electronic banking has created new issues in regulation, particularly security and privacy.
- An incident in Russia (1995) highlights this, where a computer programmer moved millions in assets from Citibank accounts to personal accounts.



E-Finance: Electronic Banking and Regulation

- Electronic banking creates the need to assess the technical skills of banks to handle transaction securely and safely. Electronic signatures also had to be addressed by Congress.
- Privacy is also a problem. There are laws protecting consumers from the sharing of information, but this regulation is likely to evolve over time.



International Banking Regulation

- Bank regulation abroad is similar to that in the United States (similar problems as well).
- There is a particular problem of regulating international banking and can readily shift business from one country to another (e.g., BCCI scandal) and requires coordination of regulators in different countries (a difficult task).



International Banking Regulation

- Basel is attempting to coordinate regulation of banks operating in multiple countries.
 Even allowed regulations of a foreign bank if regulators feel the bank lacks oversight.
- Whether such agreements solve international financial regulation problems is an open question.



The 1980s S&L Banking Crisis

Prior to the 1980s, the FDIC and bank regulation seemed to be going well. However, in the 80s, failures rose dramatically, as you can see in the following slide. The current period around 2010 isn't much better.



U.S. Bank Failures

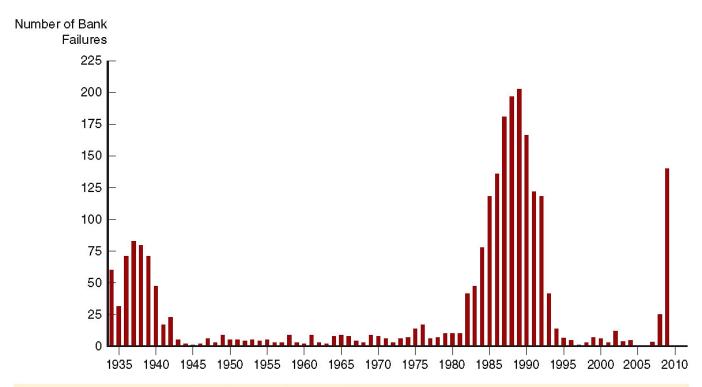


FIGURE 18.1 Bank Failures in the United States, 1934–2009

Source: www.fdic.gov/bank/historical/bank/index.html.



The 1980s S&L Banking Crisis

- Why?
 - Decreasing profitability: banks take risk to keep profits up
 - 2. Financial innovation creates more opportunities for risk taking
 - 3. Innovation of brokered deposits enables circumvention of \$100,000 insurance limit
- Result: Failures ↑ and risky loans ↑



Following the widespread failure of thrift institutions in the late 1980s, the Bush administration proposed a set of legislation to overhaul the supervision and insurance for the thrift industry. As part of this, the FSLIC was dissolved and the FDIC assumed responsibility for insuring thrift institutions. To address the new needs of the FDIC, the Improvement Act of 1991 was passed.



- FDIC recapitalized with loans, ability to borrow from the Treasury, and higher premiums to member banks
- Reduce scope of deposit insurance and too-bigto-fail
 - Eliminate deposit insurance entirely
 - Lower limits on deposit insurance
 - Eliminate too-big-to-fail
 - Coinsurance



- Prompt corrective action provisions
 - 1. Critics believe too many loopholes
 - 2. However: accountability increased by mandatory review of bank failure resolutions
- Risk-based premiums
- Annual examinations and stricter reporting
- Enhances Fed powers to regulate international banking



- FDICIA also instructed the FDIC to develop risk-based insurance premiums. However, it wasn't very effective. The Federal Deposit Reform Act of 2005 attempts to remedy this.
- FDICIA was a good start. But there are still concerns with too-big-to-fail doctrines and effective insurance premiums.



Banking Crisis Throughout the World

As the next two slides illustrates, banking crisis have struck a large number of countries throughout the world, and many of them have been substantially worse than ours.



Cost of Banking Crises in Other Countries (a)

TABLE 18.2	The Cost of Rescuing Banks in a Number of Countries

Country	Date	Cost as Percentage of GDP
	1980-2007	
Indonesia	1997–2001	57
Argentina	1980–1982	55
Thailand	1997–2000	44
Chile	1981–1985	43
Turkey	2000–2001	32
South Korea	1997–1998	31
Israel	1977	30
Ecuador	1998–2002	22
Mexico	1994–1996	19
China	1998	18
Malaysia	1997–1999	16
Philippines	1997–2001	13
Brazil	1994–1998	13



Cost of Banking Crises in Other Countries (b)

Finland	1991–1995	13
Argentina	2001–2003	10
Jordan	1989–1991	10
Hungary	1991–1995	10
Czech Republic	1996–2000	7
Sweden	1991–1995	4
United States	1988	4
Norway	1991–1993	3
	2007–2009	
Iceland	2007–2009	13
Ireland	2007–2009	8
Luxembourg	2007–2009	8
Netherlands	2007–2009	7
Belgium	2007–2009	5
United Kingdom	2007–2009	5
United States	2007–2009	4
Germany	2007–2009	1

Source: Luc Laeven and Fabian Valencia, "Resolution of Banking Crises: The Good, the Bad and the Ugly," IMF Working Paper No. WP/10/46 (June 2010) and Luc Laeven, Banking Crisis Database at http://www.luclaeven.com/Data.htm.



Banking Crisis Throughout the World

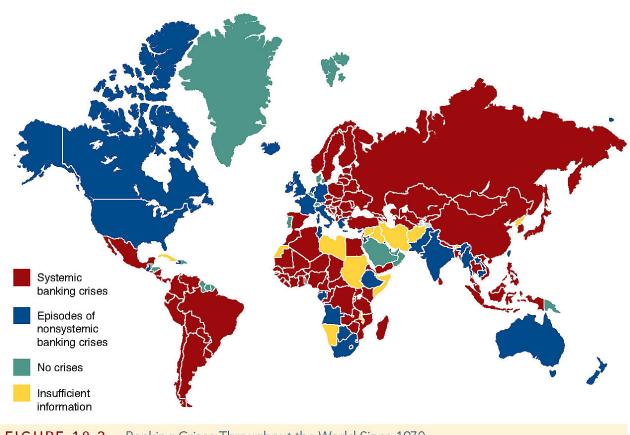


FIGURE 18.2 Banking Crises Throughout the World Since 1970

Source: World Bank: "Episodes of Systemic and Borderline Financial Crises" by Gerard Caprio and Daniela Klingebiel. ©January 2003.



Déjà Vu All Over Again!

Banking crises are just history repeating itself. Financial liberalization leads to moral hazard (and bad loans!). Deposit insurance is not big enough to cover losses, but the gov't does stand ready to bailout the system. And that implicit guarantee is enough to exacerbate the moral hazard problem.



In July 2010, the Dodd-Frank bill was passed. It is the most comprehensive financial reform legislation since the Great Depression. It addresses five different categories of regulation.



- Consumer Protection Consumer Financial Protection Bureau created, to examine and enforce regulations for all businesses engaged in issuing residential mortgage products, as well as for issuers of other financial products marketed to poor people
- Resolution Authority U.S. government granted authority for financial firms who pose a risk to the overall financial system because their failure would cause widespread damage



- Systemic Risk Regulation Financial Stability Oversight Council created, which would monitor markets for asset price bubbles and the buildup of systemic risk, develop liquidity requirements, and assist in the orderly liquidation of troubled financial firms
- Volcker Rule Banks limited in the extent of their trading with their own money, and allowed to own only a small percentage of hedge and private equity funds



Derivatives requires standardized derivative products to be traded on exchanges and cleared through clearing houses, requires higher capital requirements for custom products, bans banks from some of their derivatives dealing operations, and imposes capital and margin requirements on firms dealing in derivatives and forces them to disclose more information about their activities.



The Dodd-Frank bill does not address all areas of concern and problems in the current regulatory environment. Some areas for future consideration include:



- Capital Requirements regulation and supervision of financial institutions to ensure that they have enough capital to cope with the amount of risk they take are likely to be strengthened
 - AIG's capital has obviously not high enough
 - Bank's sponsoring SIVs point to need for capital requirements of OBS operations
 - Increased regulation for too-big-to-fail operations
 - Capital requirements need to be countercyclical



 Compensation Pay in the financial services industry needs to consider the long-term affects of the compensation scheme. For example, requirements that bonuses be paid out for a number of years after they have been earned and only if the firm has remained in good health are being examined. Such "clawbacks" may encourage employees to reduce the riskiness of their activities.



- GSEs The fate and oversight of Fannie Mae and Freddie Mac has not been addressed. A number of different routes are available, but each has its pros and cons (see pg. 450).
- Credit Rating Agencies regulation to restrict conflicts of interest and to give incentives to provide reliable ratings have already been strengthened in the aftermath of the 2007–2009 financial crisis, but even more is likely to be done.



More regulation is needed to prevent a crisis from ever occurring again, there is a substantial danger that too much or poorly designed regulation could hamper the efficiency of the financial system. If new regulations choke off financial innovation that can benefit both households and businesses, economic growth in the future will suffer.



Chapter Summary

- Asymmetric Information and Financial Regulation: the problems of adverse selection and moral hazard were reviewed. These ideas are the basis for exploring the regulatory environment of the banking industry.
- The 1980s S&L Banking Crisis: We examined the causes of the U.S. crisis. Further, we explored problems caused by the political environment in fixing the problem promptly.



Chapter Summary (cont.)

- Federal Deposit Insurance Corporation Improvement Act of 1991: The provisions of this act and its implications for the safety of the banking system were explored.
- Banking Crisis Throughout the World: As reviewed, evidence suggests that the U.S. is not alone in its banking problems, as other countries face similar issues as the U.S. in the late 1980s.



Chapter Summary (cont.)

■ The Dodd-Frank Bill and Future Regulation: This legislation addressed many areas of financial regulation to help prevent a future crisis. More is needed. But, too much regulation may do more harm than good!