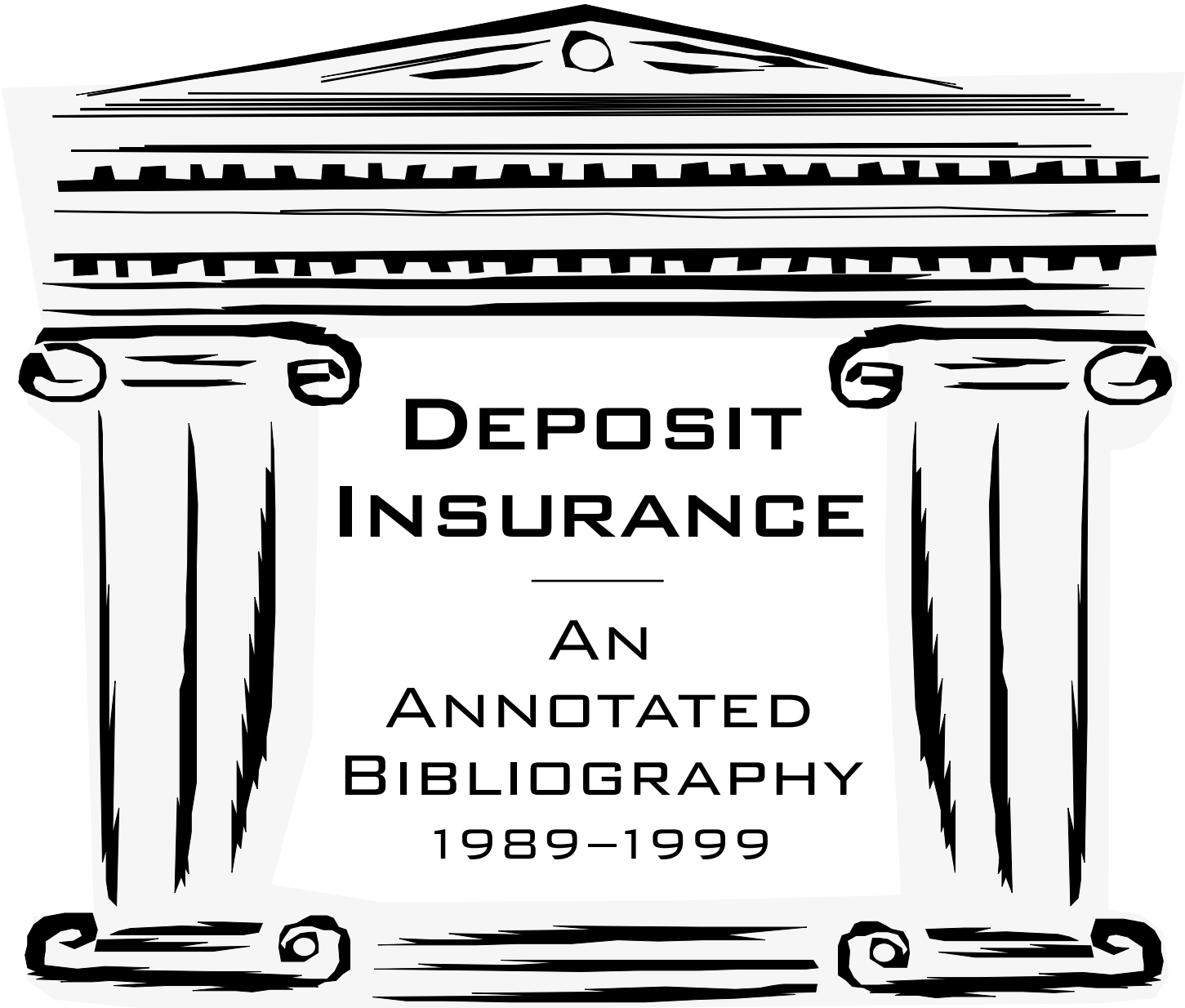

# Deposit Insurance

## An Annotated Bibliography

1989–1999

FDIC

Federal Deposit Insurance Corporation
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Washington, DC

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# Foreword

Financial crises over the past 20 years have called attention to the global importance of maintaining strong and stable financial systems. Government programs and policies, such as deposit insurance, can be an important part of that effort.

Increasingly, countries around the world are looking to establish or strengthen their deposit insurance systems. In doing so, they are confronting issues that U.S. policymakers have faced for many years and, in some cases, still do.

In September 1998, the Federal Deposit Insurance Corporation (FDIC) held an international conference that focused on the policy trade-offs inherent in any deposit insurance system. Fundamental policy questions were considered, such as the purpose and scope of deposit insurance coverage. We discussed operational issues with policy implications as well, such as the cost to the industry of insurance coverage and the disposition of failed-bank assets.

As a result of the conference, we realized there was a pressing need for a reference guide to "best practices" among existing deposit insurance programs. This annotated bibliography is a comprehensive compilation of research on deposit insurance issues. It can be a reference tool for the establishment and operation of a credible deposit insurance system. Anyone interested in these issues—researchers, policymakers, and practitioners—will find it helpful.

I want to thank the staff of the FDIC Division of Research and Statistics and the FDIC Library for the tremendous effort they put into making this bibliography a noteworthy research tool for years to come.

Donna Tanoue

DONNA TANOUE
Chairman

## Acknowledgments

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# Preface

Much has been written on the topic of deposit insurance. This bibliography has been compiled to assist researchers, policymakers, practitioners, and others in more efficiently searching through the voluminous amount of printed information available on the subject of deposit insurance. By making this literature more accessible, we hope to stimulate additional research on issues of ongoing concern in the field of deposit insurance.

## ***Scope***

The bibliography is as inclusive as possible. It contains over 700 books, journal articles, working papers, doctoral dissertations, conference proceedings, congressional hearings (witnesses are named), and government and international agency reports—nearly everything that was published between 1989 and 1999 on the topic of deposit insurance. To be included in this bibliography, a substantial portion of each work had to focus on deposit insurance. For the most part, the bibliography does not include newspaper and trade publication articles, master's theses, or individual speeches or testimonies. Selected older materials deemed particularly relevant to the issues at hand are also included. An attempt has been made to list only the most recent version of a paper and to exclude earlier versions that may have also been presented or published; however, the earlier versions are sometimes identified at the entry for the most recent version.

Researchers and other users of the bibliography should note the date of an entry's publication. The United States, after suffering through the savings & loan and banking crises of the 1980s and early 1990s, reformed its deposit insurance system—one of the world's oldest and most successful—in the early 1990s. Much of the work written before 1991 deals with problems of the pre-reform U.S. system. Most of the material is still highly relevant, however, because it discusses many of the weaknesses inherent in deposit insurance systems and provides a thorough analysis of the policy trade-offs associated with the numerous reforms recommended. Pre-reform material also allows the user to follow the reform process from identification of the problem through policy analysis, recommendation, formulation, enactment, and post-reform evaluation. In response to this natural break in the literature, we have separated entries dealing specifically with reform issues into two chapters that correspond to the pre-reform and post-reform periods.

Titles included in the bibliography were obtained using a variety of on-line databases, library collections, bibliographies, indices, and individual Web sites. On-line databases used for this compilation included the following: Econlit, ProQuest, Dialog, First Search, Carl Uncover, Dissertation Abstracts Online, Fed-in-Print, Lexis-Nexis, Westlaw, and the Library of Congress' Online Catalog. Hard-copy indices used included the *Readers' Guide to Periodical Literature*, the *Banking Literature Index*, *World Banking Abstracts*, and the *Business Periodicals Index*. Despite our best efforts, we are certain to have missed some important titles. Users of the bibliography are encouraged to bring these oversights to our attention. In addition, for some entries we were not able to include

abstracts because we were unable to obtain physical or electronic copies of the items. Efforts to obtain these materials will continue.

***Arrangement of Entries/Origin of Abstracts***

The titles in this bibliography are arranged by subject area. The subject areas themselves reflect topics that appeared to receive particular attention in the deposit insurance literature, and each title was placed within the subject area to which it was deemed to make the greatest contribution. The entries within each subject area are arranged alphabetically by author's (or editor's) last name or by title if no author or editor was given. For multiple entries by the same author, the titles written by the author alone are listed first. Works edited by the same author appear next, with co-authored publications listed last.

Most abstracts are paraphrases of the original authors' own descriptions of their works; minor modifications have been made, mostly to correct for voice and tense. The intent of the abstracts is to provide users with sufficient information to determine the entry's relevance. No subjective opinions about the quality or worth of the entry have been made or will be offered. In addition to our own abstracts, Econlit and the Academic Press have graciously allowed us to reprint a significant number of abstracts from their copyright-protected collections; reprints are indicated by the copyright notice given at the end of each such abstract.

***Obtaining Copies of Work Cited***

Sources cited in this bibliography can be obtained through academic, government, or institutional libraries using standard interlibrary loan procedures. Contact the librarians at these institutions for further assistance.

***On-Line Access***

This bibliography is available via the Internet on the FDIC's homepage located at http://www.fdic.gov. Both a printer-friendly Portable Document Format (PDF) file, and a searchable HTML version, are available at this address. Search and printing instructions are provided at the site.

***Updates***

We expect the on-line version of this deposit insurance bibliography to be updated annually beginning in the year 2001. The hard-copy version will be updated and distributed less frequently.

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# Acronyms

| | |
|---|---|
| BIF | Bank Insurance Fund |
| BIS | Bank for International Settlements |
| CEC | Commission of the European Community |
| EC | European Community |
| ECU | European Currency Unit |
| EU | European Union |
| FDIC | Federal Deposit Insurance Corporation |
| FDICIA | Federal Deposit Insurance Corporation Improvement Act of 1991 |
| FIRREA | Financial Institutions Reform, Recovery, and Enforcement Act of 1989 |
| FSLIC | Federal Savings and Loan Insurance Corporation |
| GAO | General Accounting Office |
| IMF | International Monetary Fund |
| NAFTA | North American Free Trade Agreement |
| RFC | Reconstruction Finance Corporation |
| RTC | Resolution Trust Corporation |
| OMB | Office of Management and Budget |
| S&Ls | Savings and Loan Associations |
| SAIF | Savings Association Insurance Fund |
| TBTF | Too Big to Fail |

# 1. General Deposit Insurance Theory and Policy

***Entries in this section are more general than entries in the other sections, and their perspective on deposit insurance issues is broader. These entries examine government-provided deposit insurance, alternative insurance structures and regimes, historical background, and budgeting and accounting issues.***

Baglioni, Angelo, and Giuseppe Marotta. 1993. Deposit Insurance: Implications from Financial Intermediation Theory. In *Financial Markets' Liberalization and the Role of Banks,* edited by Vittorio Conti and Rony Hamaui, 337–64. Cambridge University Press.

> The authors survey the literature on the characteristics of a bank and highlight some implications for asset and liability management and for the principles of banking supervision. They put special emphasis on deposit insurance. They also examine the motivations and drawbacks of the U.S. deposit insurance system and then assess selected proposals of reform for the system, which have had a bearing on the recent evolution of deposit protection schemes in other industrialized countries.

Barth, James R., Michael G. Bradley, and John J. Feid. 1989. The Federal Deposit Insurance System: Origins and Omissions. Research Paper no. 153. Federal Home Loan Bank Board.

> The authors maintain that federal deposit insurance practices differ significantly from private insurance practices. Indeed, federal deposit insurance is not insurance in the normal sense of the word. It is a guarantee that all insured depositors will be fully protected against loss. Flaws in the federal deposit insurance system have permitted insolvent thrift institutions to remain open. The very poor performance of these institutions masked the performance of solvent thrift institutions and drew attention away from the potential value of the thrift charter.

Barth, James R., R. Dan Brumbaugh Jr., and Robert E. Litan. 1992. *The Future of American Banking*. Columbia University Seminar Series. Sharpe.

> Analyzes the current and prospective condition of commercial and savings banks in the United States. Frames the major economic and policy issues raised by the banking crisis. Considers the current reported condition of the banking industry, concentrating on large banks. Presents a longer-run prognosis for the banking industry and discusses the implications of these projections for the financial services sector and for federal regulatory policy toward that sector. Assesses the condition of the Bank Insurance Fund, which is administered by the Federal Deposit Insurance Corporation. Presents and discusses alternative methods of financing the payment of the potential liabilities. Concludes with suggestions for changes in the nation's deposit-insurance system and accompanying banking laws. (©1999 EconLit)

Barth, James R., John J. Feid, Gabriel Riedel, and M. Hampton Tunis. 1989. Alternative Federal Deposit Insurance Regimes. Research Paper no. 152. Federal Home Loan Bank Board.

> The authors trace the evolution of the federal deposit insurance system, discussing the initial legislated insurance assessment, subsequent changes in it, and the level of basic insurance coverage for the FSLIC and the FDIC. For both of the deposit insurance funds, data are provided on the reserves and on costs incurred. Much of the discussion is about the reserves at each fund in comparison with actual cost experience. For the FSLIC the authors find, in retrospect, that the insurance assessment did not increase rapidly enough when reserves relative to insured deposits fell.

Bordo, Michael D. 1999. International Rescues versus Bailouts: A Historical Perspective. *Cato Journal* 18, no. 3:336–75.

> This paper studies the record of the nineteenth and twentieth centuries and suggests that international financial rescues of the past were quite different from the series of bailouts during the 1990s. The international rescues of the 1990s marked a watershed in the purpose, size, and term of the funds provided to countries in distress. These recent bailouts were justified, however, on the grounds that they would stop the financial crisis from spreading to other countries.

Calomiris, Charles W. 1990. Is Deposit Insurance Necessary? A Historical Perspective. *Journal of Economic History* 50, no. 2:283–95.

> In evaluating the performance of various government-created liability insurance schemes, the author asks two principal questions: First, which experiments failed or succeeded, and why? More particularly, the author attempts to ascertain whether the failures of insurance systems were attributable to a flaw inherent in their design or to insurmountable exogenous shocks. Second, would branch banking (a perceived alternative to insurance) have provided a more effective way to protect the payments system than bank insurance? The author concludes that unlimited branch banking combined with privately administered insurance programs would protect the payments system from exogenous disturbances that could produce banking panics.

Calomiris, Charles W. 1992. Deposit Insurance: Lessons from the Record. In *Financial Crises,* vol. 1, edited by Michael Bordo, 400–420. Ashgate. Also 1989. Deposit Insurance: Lessons from the Record. Federal Reserve Bank of Chicago *Economic Perspectives* 13 (May): 10–30.

> This article considers possibilities for deposit insurance reform in the light of historical successes and failures of bank liability insurance in the United States. The author address four central questions: What was the historical motivation for bank liability insurance? Is this motivation justified by the historical record? Which safety nets for bank liability holders were most successful, and why? What are the lessons of the historical record for current reforms?

Calomiris, Charles W., and Eugene N. White. 1994. The Origins of Federal Deposit Insurance. In *The Regulated Economy: A Historical Approach to Political Economy*, edited by Claudia Golden and Gary D. Libecap, 145–88. National Bureau of Economic Research Project Report Series. University of Chicago Press.

This paper explains how and why federal deposit insurance was adopted with near unanimity in 1933. The authors consider the forces for, and against, federal deposit insurance from the nineteenth century to 1933. They argue that even though the traditional supporters of federal deposit insurance had suffered repeated defeats and their power was at its nadir in 1933, the nature of the political struggle over deposit insurance changed in the 1930s: instead of being a battle waged in Congress among special interests, it became one that engaged the general public. The banking collapse focused the attention of the public on the otherwise esoteric political issue of banking reform and offered supporters of deposit insurance the opportunity to wage a campaign to convince the public that federal deposit insurance was the best solution to banking instability.

Carisano, Rita. 1992. *Deposit Insurance: Theory, Policy and Evidence*. Ashgate.

This book examines the relation between banks and deposit insurance schemes, analyzes the economics of banks, and discusses the role of deposit insurance within the safety net established in most countries to stabilize the banking system. Considers the rationale for deposit insurance, discussing both banking panic models and systemic risk as a source of financial instability. Examines the fundamental dilemma of deposit insurance, discussing the moral hazard problem, the social costs of moral hazard, and regulation and supervision as responses to deposit insurance. Analyzes various proposals for coping with the perverse effects of deposit insurance, including risk-related pricing of deposit insurance, solutions calling for greater reliance on market discipline, the possibility that market efficiency can be enhanced by increased information disclosure, use of a risk-related capital regulation, and radical alternatives that argue for a private deposit insurance and for narrow banks. Presents a comparative analysis of deposit insurance schemes across various countries, including the United States, Canada, Japan, the United Kingdom, Italy, France, and Germany. (©1999 EconLit)

De Lange, Michel. 1992. *Essays on the Theory of Financial Intermediation: Market Imperfections, the Allocation of Credit, Deposit Insurance and the Transmission of External Shocks*. Thesis Publishers.

In this collection of essays, the author examines financial institutions, credit market imperfections, financial intermediation, and the theory of deposit insurance. He also examines deposit insurance in a variety of countries, discusses the criticisms of deposit insurance, and suggests a system to prevent moral hazard.

Dowd, Kevin. 1996. Re-examining the Case for Government Deposit Insurance: Reply [to Hazlett comment in same issue]. *Southern Economic Journal* 62, no. 4:1092.

The author defends his earlier opinion that share capital can reassure depositors of the safety of their deposits and can provide an alternative and probably superior means of protecting the banking system against problems caused by bank runs. He explains why Hazlett's claim that the banker must necessarily make zero profits is incorrect and why her assertion that the pledge of capital is unlikely is mistaken.

Federal Deposit Insurance Corporation (FDIC). 1990. Findings and Recommendations Concerning "Pass-Through" Deposit Insurance: Report to the 101st Congress. FDIC.

FIRREA (1988) required the FDIC to review the pass-through deposit insurance coverage provided to individual participants in pension and profit-sharing 401k plans, as well as to individual investors in unit investment trusts. This is the final report.

Federal Reserve Bank of Chicago. 1990. *Game Plans for the '90s.* Proceedings of the 26th Annual Conference on Bank Structure and Competition.

Conference proceedings include topics such as Innovation in Financial Markets; The Superregional Challenge; FIRREA: Implications for the U.S. Financial System; The Future Role of Commercial Banks in Commercial Lending; Interstate Acquisitions; Japanese Banks: Emerging Global Competitors; Europe 1992; and Globalization and Public Policy. Specific papers related to deposit insurance include "Risk-Based Deposit Insurance: Is Price Regulation Necessarily Better Than Quantity Regulation?" by William R. Keeton; "Market-Based Deposit Insurance Premiums," by Kathleen A. Kuester and James M. O'Brien; "The Impact of Deposit Insurance on S&L Shareholders' Risk/Return Trade-offs," by Elijah Brewer III; "Deposit Insurance and Risk-Shifting Behavior of Commercial Banks," by Jin-Chuan Duan, Arthur F. Moreau, and C. W. Sealey; "Post-FIRREA: The Need to Reform the Federal Deposit Insurance System," by James R. Barth; and "FIRREA: Implications for the U.S. Financial System," by Bert Ely.

Federal Reserve Bank of Chicago. 1991. *Rebuilding Banking*. Proceedings of the 27th Annual Conference on Bank Structure and Competition.

Conference proceedings include topics such as The Condition of the FDIC; Assessing Current Legislative Proposals for Deposit Insurance Reform; Moral Hazard and Franchise Value: Theory and Evidence; Managerial Incentives and Bank Performance; Behavior of Poorly Capitalized Banks; Creditor Discipline, Bank Closure Policy: The Case for Early Intervention; FDIC Premiums; Market Value Accounting; and Future Bank Profitability. Papers on deposit insurance include "The Condition of the Bank Insurance Fund: A View from Washington," by Gillian Garcia; "Assessing the Condition of the Bank Insurance Fund," by Philip F. Bartholomew and Thomas L. Lutton; "Comments on Deposit Insurance Reform," by Thomas C. Theobald; "Dissecting Current Legislative Proposals for

Deposit Insurance Reform," by Edward J. Kane; "Assessing the Current Legislative Proposals for Deposit Insurance," by John C. Dugan; "The Impact of Reform on Community Banks," by Kenneth A. Guenther; "The Asset Flexibility Option and the Value of Deposit Insurance," by Peter Ritchken, James Thomson, Ramon DeGennaro, and Anlong Li; "Dealing with Poorly Capitalized Banks from the Perspective of the Deposit Insurance Agency," by George J. Benston; "Subordinated Debt Market Information and the Pricing of Deposit Insurance," by Carolin D. Schellhorn and Lewis J. Spellman; "Reforming Deposit Insurance: The Danish Case," by Randall J. Pozdena; "A Simple Approach to Better Deposit Insurance Pricing," by Sarah B. Kendall and Mark E. Levonian; and "Deposit Premiums of Failed Banks: Implications for the Values of Deposits and Bank Franchises," by James A. Berkovec and J. Nellie Liang.

Federal Reserve Bank of Chicago. 1992. *Credit Markets in Transition.* Proceedings of the 28th Annual Conference on Bank Structure and Competition.

Conference proceedings include topics such as Regulatory Intervention; Interest-Rate Risk and Capital Requirements; Inside Information and the Allocation of Credit; Deregulation and the Changing Role of Banks; The Credit Crunch; Consolidation in the Banking Industry; The Japanese Banking System; and The Insurance Industry in Transition. Papers on deposit insurance include "Incentive Conflict in Deposit-Insurance Regulation: Evidence from Australia," by Edward J. Kane and George G. Kaufman; and "Bank Failure Resolution, the Cost Test, and the Entry and Exit of Resources in the Banking Industry," by Frederick S. Carns and Lynn A. Nejezchleb.

Federal Reserve Bank of Chicago. 1993. *FDICIA: An Appraisal, Renaissance, Requiem, or Just Another Acronym?* Proceedings of the 29th Annual Conference on Bank Structure and Competition.

Conference proceedings include topics such as Systemic Risk; Estimating BIF Losses; The Response of Banks to Capital Shocks; Risk-Taking by Banks; Bank Accounting Issues; Bank Lending Practices; Bank Mergers; Bank Closure Policy; Banking in the Global Market; FDICIA: Renaissance or Requiem? and Bank Regulation after FDICIA. Papers related to deposit insurance include "FDICIA and the Future of Banking Law and Regulation," by Alan Greenspan; "The Importance of Accurate Bank Accounting under FDICIA," by Allen N. Berger; "A Moral Hazard Rationale for Early Closure in FDICIA," by Raman Kumar and George Emir Morgan; "Deposit Guarantees, Nonperforming Loans, and the Postal Savings System in Japan," by Thomas F. Cargill; "Politics of Deposit Insurance Reform: The Case of Argentina," by Geoffrey P. Miller; "The Implications of FDICIA for Bank Management," by Lawrence Connell; "Remarks on FDICIA," by William M. Isaac, "FDICIA: Renaissance or Requiem?" by George G. Kaufman; "Remarks on FDICIA," by Richard L. Thomas; "The Meaning of FDICIA," by Harrison Young; "New Private Sector Deposit Insurance," by Warren G. Heller; and "Remarks on Banking after FDICIA," by Karen D. Shaw.

Federal Reserve Bank of Chicago. 1995. *The New Tool Set: Assessing Innovation in Banking.* Proceedings of the 31st Annual Conference on Bank Structure and Competition.

Conference proceedings include topics such as Assessing Innovations in Banking; Strategies for Utilizing the New Tool Set in Banking; Derivatives and Risk Management; Lessons from Financial Crises; Mortgage Financing and Community Development; Responding to Bank Regulations; Interstate Bank Activity; Advances in Bank Cost Analysis; Financial Intermediation and Bank Uniqueness; Assessing and Monitoring Risk; Capital Regulation; and Expanding Bank Product Powers. Papers dealing specifically with deposit insurance include "Financial Innovations and Deposit Insurance," by Ricki Tigert Helfer; "Acquirer Gains in FDIC-Assisted Bank Mergers: The Influence of Bidder Competition and FDIC Resolution Policies," by Matthew T. Billet, Jane F. Coburn, and John P. O'Keefe; and "Banks' Deposit Insurance Liabilities: Exogenous vs. Managerial Determinants," by Jin-Chuan Duan and C. W. Sealey.

Garfield, Reed Roy. 1992. The Lender of Last Resort: Theory and Alternatives. Ph.D. diss., George Mason University.

The author discusses possible laissez-faire banking rules and procedures, as well as the defects of the rules and procedures in place. He contends that true laissez-faire banking will satisfy the stability-provisions demanded by orthodox economic theorists, thereby proving that deposit insurance is not necessary for bank stability.

Golembe, Carter H. 1995. Some Unfinished Business. *The Golembe Report*s 1995-9.

The author examines several deposit insurance issues. He begins with the reduction of deposit insurance assessments almost to zero and asks how this could happen, why, and what it might portend. He then discusses the matter of privatization of the federal deposit insurance system, and includes some history not included in his preceding report (*The Golembe Reports* 1995-8).

Hein, Scott E. 1992. A Reexamination of the Costs and Benefits of Federal Deposit Insurance. *Business Economics* 27, no. 3:26–31.

Mention of federal deposit insurance evokes two disparate responses in today's financial environment. Bankers and the public seem to view federal deposit insurance in an overall favorable light. While bankers are concerned about increased premiums, they don't seem to favor major changes in our federal deposit insurance system. Business economists and the academic community, on the other hand, are far more critical of the current structure of federal deposit insurance. This paper examines today's federal deposit insurance system by summarizing recent thinking in the area of perceived costs and benefits of federal deposit insurance. (©1999 EconLit)

Independent Bankers Association of American (IBAA). 1990. *Protecting the Federal Deposit Insurance System.* IBAA.

This publication presents the IBAA's analyses and positions on the following issues: (1) the purpose and history of federal deposit insurance; (2) monitoring and measuring risk; (3) incentives to control risk; and (4) closure or recapitalization of insolvent, or nearly insolvent, institutions.

Kane, Edward J. 1992. Comment on Government Deposit Insurance [Comment on Wall in same volume]. In *Emerging Challenges for the International Financial Services Industry,* edited by James R. Barth and Philip F. Bartholomew, 177–81. Research in International Business and Finance, vol. 9. JAI Press.

Kane agrees with Wall on the basic elements of government deposit insurance, on its problems and prospects, and in particular on the costly role that political and bureaucratic incentives have played in keeping insolvent and inefficient institutions from being put out of business. However, Kane explains why he thinks the damage from the current deposit insurance system will be greater than Wall predicts.

Keeton, William R. 1990. Small and Large Bank Views of Deposit Insurance: Today vs. the 1930s. Federal Reserve Bank of Kansas City *Economic Review* (3d quarter): 23–35.

In the late 1980s, small and large banks advanced very different proposals for changing the level of protection for depositors. Small banks favored covering all depositors regardless of the amount. In contrast, large banks preferred imposing some loss on large depositors when a bank fails. However, small and large banks have not always differed so sharply on deposit insurance. In the 1930s proponents tried to convince smaller banks that it was in their best interest to support deposit insurance, but most small banks ignored this advice and sided with larger banks against deposit insurance. In the 1980s, small banks rejected the proposals of large banks to reduce coverage of deposit insurance. This article argues that small banks have always needed deposit insurance more than large banks and opposed the idea in the 1930s only because of certain factors. Small banks need deposit insurance more than large banks because they lack diversification and are more susceptible to local economic shocks.

Keeton, William R. 1992. The Reconstruction Finance Corporation: Would It Work Today? Federal Reserve Bank of Kansas City *Economic Review* (1st quarter): 33–54.

The high rate of bank failures and the sharp decline in the bank insurance fund during the late 1980s and early 1990s intensified debate over the best way to deal with poorly capitalized banks. Some banking experts and government officials have argued that government investment in the banking industry is the best solution because it minimizes the costs of bank failures to the FDIC and to society as a whole. This article presents the success of the Reconstruction Finance Corporation (RFC) during the Great Depression as evidence that the same approach would work today, but the article also maintains that government

investment should be used with caution. The article describes how the preferred stock program came into existence and presents evidence that the program worked better than the more-recent prompt corrective action or forbearance have worked. Last, it considers the implications of the RFC experience for the deposit insurance debate in light of key differences between the 1930s and 1992.

Kolb, Robert W., ed. 1991. *The Financial Institutions and Markets: A Reader*. Kolb Publishing Company.

This collection of 36 previously published papers examines the changing global financial scene. Deposit insurance topics includes "Financial Panics, Bank Failures, and the Role of Regulatory Policy," by Stephen Smith and Larry Wall; "Ex Ante Risk and Ex Post Collapse of S&Ls in the 1980s," by Elijah Brewer III and Thomas Mondschean; "Underlying Causes of Commercial Bank Failures in the 1980s," by Lynn Seballos and James Thomson; "FIRREA and the Future of Thrifts," by Elizabeth Laderman; "The RTC and the Escalating Costs of the Thrift Insurance Mess," by Christopher Pike and James Thomson; "FDICIA's Prompt Corrective Action Provisions," by Christopher Pike and James Thomson; "Too Big to Fail: Origins, Consequences and Outlook," by Robert Hetzel; "Risk-Based Capital Standards and Bank Portfolios," by Jonathan Neuberger; "Early Warning Systems," by Mark Levonian; "The Effects of Interstate Banking," by Elizabeth Laderman; "Market Value Accounting for Commercial Banks," by Thomas Mondschean; and "Banking and Commerce: A Dangerous Liaison," by Loretta Mester.

Lewis, Mervyn K., ed. 1995. *Financial Intermediaries*. Library of Critical Writings in Economics, vol. 43. Edward Elgar Publishing.

This is a collection of previously published articles on financial intermediation. A majority of initial publication dates predate 1989. Deposit insurance papers include "Bank Runs, Deposit Insurance, and Liquidity," by Douglas Diamond and Philip Dybvig (1983); "Models of Banking Instability: A Partial Review of the Literature," by Kevin Dowd (1992); "Banking Theory, Deposit Insurance, and Bank Regulation," by Douglas Diamond and Philip Dybvig (1986); "Deposit Insurance: Theory and Practice," by Ian McCarthy (1980); "An Analytic Derivation of the Cost of Deposit Insurance and Loan Guarantees: An Application of Modern Option Pricing Theory," by Robert Merton (1977); "Federal Deposit Insurance, Regulatory Policy, and Optimal Bank Capital," by Stephen Buser, Andrew Chen, and Edward Kane (1981); and "The Reform of Federal Deposit Insurance," by Lawrence J. White (1989).

Mayer, Martin. 1991. Banking on the Government. *Modern Maturity* 34, no. 5:65–67.

The author expresses concern that the S&L crisis could repeat itself on the banking stage and could result in a bailout costing over twice as much. He then strongly encourages the Treasury and Congress to take steps to prevent what he sees as the imminent collapse of the banking system.

Moysich, Alane K. 1991. Summary of Proceedings: International Conference on Deposit Insurance and Problem-Bank Resolution Policies. *FDIC Banking Review* 4, no. 1:27–34.

Representatives from various countries met at the FDIC on September 26, 1990, to discuss alternative approaches to deposit insurance, bank-failure resolution strategies and the bank safety net. This paper summarizes the four panel discussions.

Murphy, M. Maureen, Thomas Woodward, and Ray Schmitt. 1991. Federal Deposit Insurance Corporation (FDIC) Pass-Through Insurance for Pension Plans. Report for Congress (May 8), no. 91-411 EPW. Congressional Research Service.

This report explains the economics of deposit insurance, summarizes laws and proposals for change, and provides a side-by-side comparison of the provisions that affect pension plans. Under 1991 law, the $100,000 insurance limit for individuals is applied on a per participant basis when a pension fund is involved. Legislative proposals with the general effect of scaling back these insurance protections have been introduced.

Osterberg, William P. and James B. Thomson. 1993. Making the SAIF Safe for Taxpayers. Federal Reserve Bank of Cleveland *Economic Commentary* (November 1).

This article traces the evolution of the regulatory quagmire and takes a look at the policy options then facing Congress. Assessing these options requires an understanding of three trends in the financial-services industry. First, regulatory changes have largely removed the rationale for separate regulatory structures for banks and thrifts. Second, thrifts have become more like banks. And third, as banks have become healthier and a portion of the thrift industry has continued to falter, the premiums necessary to fund the SAIF have put thrifts at a competitive disadvantage.

Patin, Roy P., and Douglas McNiel. 1992. Safety of Nonfederally Insured versus Federally Insured Credit Unions in the United States. *Journal of Economics and Finance* 16, no. 3:49–56.

The failure of the Rhode Island Share and Deposit Indemnity Corporation heightened the debate about mandating federal deposit insurance for credit unions. However, opponents of and proponents for required federal deposit insurance for credit unions relied primarily on anecdotal evidence to support their positions. This study provides empirical evidence concerning differences in the behavior of federally insured versus nonfederally insured credit unions in the United States in 1989. Results suggest that the problems occurring in Rhode Island are not symptomatic of widespread differences in the safety of the two groups of credit unions throughout the country. (©1999 EconLit)

Russell, Steven, ed. 1993. The Government's Role in Deposit Insurance. Federal Reserve Bank of St. Louis *Review* 75, no. 1:3–34.

> During the 1980s, banks and thrifts failed at a rate the United States had not experienced since the Great Depression. Deposits at most of these institutions were insured by the federal government, and covering the insurance liabilities required over a hundred billion dollars in taxpayer funds. The crisis in the banking and thrift industries has led to a reexamination of the federal deposit insurance system. These pages are a collection of six essays (introduced and edited by Steven Russell) on deposit insurance and the federal government's role in providing it: "Remarks on Banking and Deposit Insurance," by Philip H. Dybvig; "Deposit Insurance: A Skeptical View," by Kevin Dowd; "Banking without Tax-Backed Deposit Insurance," by J. Huston McCulloch; "What Have We Learned about Deposit Insurance from the Historical Record?" by David C. Wheelock; "Deposit Insurance: Problems and Solutions," by Mark D. Flood; and "Deposit Insurance Policy," by Anjan Thakor.

Short, Genie D., and Kenneth J. Robinson. 1998. Bank Deposit Guarantees: Why Not Trust the Market? In *Money and the Nation State: The Financial Revolution, Government, and the World Monetary System*, edited by Kevin Dowd and Richard H. Timberlake Jr., 213–45. Transaction Publishers.

> The authors explore the evolution of deposit guarantees in the United States. They also offer a comparative analysis of deposit insurance programs elsewhere in the world and review the reasons that 100 percent deposit guarantees have become an accepted policy norm for maintaining deposit market stability throughout the world. They argue, however, that the expanded role given the financial safety net has not minimized deposit market instability, but, instead, has contributed to and exacerbated financial-sector problems throughout the world. They conclude by arguing that changes are needed to allow bank deposit markets to function more freely and thereby improve the price-signaling mechanism for monitoring risk-taking in banking.

Tammen, Melanie S. 1990. The Savings & Loan Crisis: Which Train Derailed—Deregulation or Deposit Insurance? *Journal of Law and Politics* 6, no. 2:311–42.

> This article examines four important issues relating to the S&L crisis of the 1980s: (1) how the U.S. Congress postponed the necessary deregulation of the thrift industry for more than a decade; (2) how Congress tolerated, and legislated, the ballooning of the deposit insurance safety net; (3) why FIRREA fails to solve the problem; and (4) how some proposed changes will introduce market discipline to the deposit insurance system and help taxpayers police the growth of their "contingent liabilities" in this area.

Taylor, John. 1992. The Budgetary Arithmetics of Loan Guarantees and Deposit Insurance: A Comment [on Weil in same volume]. *Carnegie–Rochester Conference Series on Public Policy* 37 (December): 123–26.

Weil's paper describes the U.S. budgetary treatment of direct loans and loan guarantees that began with the Credit Reform Act of 1990. Even though Taylor disagrees with Weil's recommendation of returning to the old precredit-reform accounting, he stresses the importance of such research to U.S. federal budget policy and to economic performance in the United States and other countries.

Temzelides, Ted. 1997. Are Bank Runs Contagious? Federal Reserve Bank of Philadelphia *Business Review* (November): 3–14.

History shows that banks are subject to runs and panics. Researchers disagree, however, about whether runs are contagious: that is, do problems at insolvent banks spread to solvent ones? If runs are contagious, what, if anything, can be done to stop the spread, and what are the implications for deposit insurance and banking regulations? In this article, Ted Temzelides reviews the basic theory and presents some recent evidence on contagious bank runs. (©1999 EconLit)

Thies, Clifford F., and Daniel A. Gerlowski. 1989. Deposit Insurance: A History of Failure. *Cato Journal* 8, no. 3:677–93.

This article describes deposit insurance from a historical perspective and examines the record of state-sponsored deposit insurance. What emerges is a surprisingly consistent pattern: "reckless banking," losses in excess of assessments, increased assessments and borrowing, and the exit of sound banks from the insurance system, leaving an increasingly risky and ultimately uninsurable pool of remaining banks. In short, the history of deposit insurance funds shows that all have exhibited the same moral-hazard problem that was evident at the federal level in the 1980s.

Todd, Walker F. 1992. History of and Rationales for the Reconstruction Finance Corporation. Federal Reserve Bank of Cleveland *Economic Review* (4th quarter): 22–35.

This paper reviews some of the lessons to be learned from the experience of the original Reconstruction Finance Corporation (RFC), which was the principal government-funded bailout agency for both banks and nonbanks from 1932 to 1947. Having tried forbearance and seen it fail to deal adequately with the thrift industry's problems after 1982, Congress created the Resolution Trust Corporation (RTC) in 1989, which it hoped would resolve those problems much as the RFC had done in the 1930s. According to the author, the RTC has proved to be a much weaker entity. He then discusses why creating an RFC would probably have been a better solution in the 1980s.

U.S. House. 1990. Committee on Banking, Finance, and Urban Affairs. Briefing Paper on Deposit Insurance: How It Originated and How It Works, by Charles E. Schumer. Committee Print 101-5. U.S. Government Printing Office.

This report objectively explains the deposit insurance system in the United States: how it currently works (1990), how it originated and evolved, and why it exists as it does.

U.S. House. 1992. Committee on Banking, Finance, and Urban Affairs. *To Examine the Current Condition of the U.S. Banking Industry and Projections for the Bank Insurance Fund: Hearings*. 102d Cong., 2d sess., June 30 and July 2, 1992.

Witnesses include Charles Bowsher, Edward Kane, William Taylor, William Ferguson, Norman Jones, Timothy Ryan, and Lawrence J. White.

U.S. Office of Management and Budget. 1991. *Budgeting for Federal Deposit Insurance*. U.S. Office of Management and Budget.

This report presents options for budgeting for the deposit insurance system within the federal government. The report's major conclusions include the following: (1) cash accounting for deposit insurance has served the United States poorly; (2) costs should be measured as they arise rather than later when they are paid; (3) alternative methods are available to use these better cost estimates to improve deposit insurance accounting; (4) alternative means are available to control costs; and (5) phasing in a new system for deposit insurance budgeting can minimize transition problems.

Wall, Larry D. 1992. Government Deposit Insurance: Problems and Prospects. In *Emerging Challenges for the International Financial Services Industry,* edited by James R. Barth and Philip F. Bartholomew, 157–76. Research in International Business and Finance, vol. 9. JAI Press.

The article focuses on the U.S. deposit insurance system partly because it is one of the oldest systems sponsored by a national government and partly because it is one of the most spectacular examples of what can go wrong with deposit insurance. The first section reviews the goals of deposit insurance and describes the methods used to limit bank risk. The second section discusses why deposit insurance has failed. The third section considers the costs of the breakdown. The fourth section analyzes the effectiveness and prospects for adoption of a variety of deposit insurance reform measures. Last, the article discusses the implications of the U.S. experience for deposit insurance systems in other countries.

Weil, Philippe. 1992. The Budgetary Arithmetics of Loan Guarantees and Deposit Insurance. *Carnegie–Rochester Conference Series on Public Policy* 37 (December): 97–122.

The Credit Reform Act of 1990 required that starting with FY1992, loan guarantees—but not deposit insurance, Social Security, or any source of revenue—be budgeted on an accrual basis. Such accounting inconsistencies are neutral and innocuous in a world with optimizing rational agents and a tax-

smoothing government, but they are not neutral and innocuous in a tax-weary policy environment. This paper argues, therefore, that the Credit Reform Act of 1990 should be rescinded and a pure cash-basis accounting principle be restored. A present-discounted-value accounting of the government's activities could still be attempted, but off-budget and not solely for loan guarantees.

Wheelock, David C. 1993. Government Policy and Banking Market Structure in the 1920s. *Journal of Economic History* 53, no. 4:857–79.

This article investigates interstate differences in banking market structure during the 1920s. It finds that the number of banks per capita and the ratio of state-chartered to federally chartered banks were highest in states with deposit insurance systems, low minimum capital requirements, and branching restrictions. In the 1920s, banking consolidation was greatest where falling incomes caused high failure rates, in states with deposit insurance, and where branching increased. After 1920, the high failure rate of insured state banks caused the ratio of state-chartered to federally chartered banks to decline relatively more in states with insurance systems. (©1999 EconLit)

White, Eugene N. 1997. Deposit Insurance. In *Reforming Financial Systems: Historical Implications for Policy,* edited by Gerard Caprio Jr. and Dimitri Vittas, 85–100. Cambridge University Press. Also 1995. Deposit Insurance. Policy Research Working Paper no. 1541. The World Bank.

The author argues that deposit insurance was the peculiar creation of the U.S. banking experience and, generated by some of that system's worst features, is inappropriate for developing or transition economies. Deposit insurance not only presents enormous incentive problems but also demands additional regulations and close supervision to be workable in the short run. Simpler, less-costly alternatives may achieve the same objectives.

White, Eugene N. 1998. The Legacy of Deposit Insurance: The Growth, Spread, and Cost of Insuring Financial Intermediaries. In *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century,* edited by Michael D. Bordo, Claudia Goldin, and Eugene N. White, 87–121. University of Chicago Press.

Without the Great Depression, the United States would not have adopted deposit insurance. This article examines how market and political competition for deposits raised the level of coverage and spread insurance to all depository institutions. The author explores the cost of insurance with a counterfactual analysis of an insurance-free post–Great Depression financial system in order to assess the burden imposed by the legacy of the New Deal.

White, Lawrence H. 1993. Why Is the U.S. Banking Industry in Trouble? Business Cycles, Loan Losses, and Deposit Insurance. In *The Crisis in American Banking*, edited by Lawrence H. White, 7–28. The Political Economy of the Austrian School Series. New York University Press.

The author explains why he believes (1) the FDIC will run out of insurance funds because of asset-quality problems at large banks; (2) banks will continue to fail because of bad loans; (3) the number of loan losses is cyclical, secular, and regulatory; and (4) the 1993 deposit guarantee system allows a bank to take the risks without paying a correspondingly higher price for funds.

White, Lawrence J. 1991. The Value of Market Value Accounting for the Deposit Insurance System. *Journal of Accounting, Auditing and Finance* 6, no. 2:289–302.

The purpose of an accounting system should be to provide a depository's managers, owners, and insurer-regulator with a picture of current economic reality so that private and public decisions concerning that depository have a power base. This article argues the case for market-value accounting primarily for thrifts and their insurance fund; but the basic argument and logic apply with equal force to commercial banks and credit unions and their insurance funds.

# 2. Designing and Establishing Deposit Insurance Systems

***Entries in this section discuss international experiences with deposit insurance, various surveys of international deposit insurance systems and structures, lessons learned, emerging best practices, and prescriptions for designing effective and efficient deposit insurance systems.***

Bank for International Settlements (BIS). 1998. Report of the Working Group on Strengthening Financial Systems. BIS.

> The objective of the Working Group is to develop concrete methods to strengthen financial systems in industrial and emerging-market economies alike. The first part of this report reviews existing sets of sound practices and ongoing efforts to formulate them, and goes on to consider the development of understandings on sound practices in certain areas where, had they existed, the Asian crisis could have been prevented, or its severity reduced. The focus of the second part is on concrete methods to foster implementation. The third and final part considers ways to better coordinate international efforts to strengthen financial systems. The appendix provides a list of ongoing and planned work in international forums that is related to the subject of this report.

Boot, Arnoud W. A., and Sweder van Wijnbergen. 1995. Financial Sector Design, Regulation and Deposit Insurance in Eastern Europe. In *Banking Reform in Central Europe and the Former Soviet Union,* edited by Jacek Rostowski, 42–57. Central European University Press.

> A well-designed regulatory and legal framework in emerging markets will allow banks both to channel savings to enterprises efficiently and to play their role in corporate governance, while minimizing the vulnerability of the system to fraud, corruption, and financial crisis. The authors discuss issues in designing financial systems, including the goals of the financial system and deposit insurance.

Caprio, Gerard Jr., and Ross Levine. 1994. Reforming Finance in Transitional Socialist Economies. The World Bank *Research Observer* 9, no. 1:1–24.

> Four strategies that should guide reform of the financial sector of transitional socialist economies are discussed: (1) building infrastructure, (2) privatizing some financial institutions early, (3) publicizing losses of state-owned enterprises, and (4) improving the tax system.

Clair, Robert T., and Gerald P. O'Driscoll Jr. 1991. Learning from One Another: The U.S. and European Banking Experience. Research Paper no. 9108. Federal Reserve Bank of Dallas.

> The authors examine the U.S. and European banking industries and derive and discuss lessons that each system could learn from the other. For example, European banks demonstrate how (1) expanded asset powers allow banks to diversify their sources of income and reduce their risk of failure, and (2) fewer geographical restrictions benefit banks, allowing them to better diversify their

asset portfolios and reduce their risk of failure. From the U.S. experience, Europe can learn a valuable lesson, or warning: poorly constructed safety nets can reduce the incentives for, and the ability of, banks to monitor their own risks, with the result that there is less stability overall.

Ebhodaghe, John U. 1997. *Safe and Sound Banking Practices in Nigeria: Selected Essays*. Lagos: Page Publishers Services.

This book of essays by John U. Ebhodaghe offers insight into major developments in the Nigerian financial sector, particularly in the post–Structural Adjustment Programme era. Topics include deposit insurance, banking distress, bank receivership, bank management, bank internal-control systems, roles of banks' external auditors, and the future of banking business.

Fry, Maxwell J. 1993. The Fiscal Abuse of Central Banks. Working Paper WP/93/58. International Monetary Fund.

Reviews the fiscal activities in a sample of 26 developing countries that governments have obliged their central banks to undertake. In the main, these activities fall under five categories: (1) collecting signage; (2) imposing financial restriction; (3) implementing selective credit policies; (4) undertaking foreign exchange operations at nonmarket-clearing prices; and (5) providing implicit or explicit deposit insurance at subsidized rates and recapitalizing insolvent financial institutions. Not all central banks engage in all these activities, but some central banks perform additional fiscal activities such as collecting taxes and running food procurement programs. (©1999 EconLit)

Garcia, Gillian. 1996. Deposit Insurance: Obtaining the Benefits and Avoiding the Pitfalls. Working Paper WP/96/83. International Monetary Fund.

This paper contrasts deposit protection with other forms of insurance, examines why goods and services of all kinds receive warranties and guarantees, and explores the particular characteristics of deposits and banks that merit deposit insurance. It examines a variety of reasons why countries choose to adopt systems of deposit insurance, the pitfalls that can arise from poorly designed schemes, and the features of a scheme that successfully avoids these pitfalls. (©1999 EconLit)

Garcia, Gillian. 1997a. Commonalities, Mistakes and Lessons: Deposit Insurance. In *Preventing Banking Crises: Analysis and Lessons from Recent Bank Failures Worldwide*, Proceedings of a conference co-sponsored by the Federal Reserve Bank of Chicago and The World Bank on June 12–13.

Suggestions are made for the best deposit insurance systems in normal times and during emergencies. A well-designed insurance system needs to build good incentives for owners, managers, depositors, borrowers, regulators, and politicians.

Garcia, Gillian. 1997b. Depositor Protection and Banking Soundness. In *Banking Soundness and Monetary Policy: Issues and Experiences in the Global Economy*, edited by Charles Enoch and John H. Green, 464–78. International Monetary Fund. [Followed by comments by Thomas N. Kibua.]

This article explores the goals for a deposit insurance system, the tools of deposit insurance, best practices for the design of a system, and the effects of a poorly designed system. The author concludes that a well-designed deposit protection scheme can strengthen incentives for good governance for banks, but a poorly designed system will impair market discipline and lead to a deterioration in the banking system.

Garcia, Gillian. 1997c. Protecting Bank Deposits. International Monetary Fund *Economic Issues* 9:1–14.

Governments must tread a fine line between ensuring the health of the banking system and encouraging recklessness on the part of individual banks (by overprotecting deposits). Ill-conceived deposit insurance can harm an economy if the scheme stifles innovation and economic growth. A deposit insurance system created in accord with both market and regulatory discipline can reinforce managers' efforts, thereby helping the banking system work efficiently.

Garcia, Gillian. 1998a. Deposit Insurance. In *Preventing Bank Crises: Lessons from Recent Global Bank Failures,* Proceedings of a conference co-sponsored by the Federal Reserve Bank of Chicago and the Economic Development Institute of The World Bank, edited by Gerard Caprio Jr., William C. Hunter, George G. Kaufman, and Danny M. Leipziger, 255–69. The World Bank.

This chapter from the conference proceedings proposes a set of best practices for deposit insurance systems in normal times and during emergencies. These best practices draw on recent experience in dealing with financial crises around the world but are also influenced by the emphasis that modern finance theory places on good incentive structures for financial soundness. The chapter also examines departures from best practices, as revealed by an International Monetary Fund survey of 50 deposit insurance systems.

Garcia, Gillian. 1998b. Deposit Insurance: A Survey of Actual and Best Practices. Working Paper WP/99/54. International Monetary Fund.

This paper surveys the characteristics of explicit systems of deposit insurance in 68 countries. It compares these actual practices with a set of best practices that has been adopted by IMF staff for advising member countries. These best practices seek to establish a system of deposit insurance that provides incentives for all parties to keep the financial system sound. The paper discerns some convergence toward best practices in recent years but notes several areas where improvements in the incentive structure are still necessary.

Gondo, G. 1995. La direttiva comunitaria sul sistema di garanzia dei depositi bancari (The communal directive on the bank deposit guarantee system). *Foro Italiano* 4:96–106.

In Italian without English summary.

Goodhart, Charles A. E., and Dirk Schoenmaker. 1995. Should the Functions of Monetary Policy and Banking Supervision Be Separated? *Oxford Economic Papers* 47, no. 4:539–60.

This paper investigates whether monetary policy and banking supervision should be separated. The main argument for separation is that the combination of functions might lead to a conflict of interest. An argument against is that separation is inconsistent with the central bank's concern for the systemic stability of the financial system. In a cross-country survey of 104 bank failures, the authors observe a trend toward using taxpayers' money for bank rescues, a trend that strengthens the case for splitting off the supervisory function to another government agency. It would, however, be difficult to have a separation, since the central bank generally remains the only source of immediate funding for bank rescues.

Helfer, Ricki Tigert. 1999. What Deposit Insurance Can and Cannot Do. International Monetary Fund *Finance and Development* 36, no. 1:22–25.

Deposit insurance can contribute to financial stability, but only if it is adequately funded and if other safeguards—such as a strong bank supervision program—are also in place. On the surface, it appears that a national deposit insurance system can be set up quickly and easily, with the announcement of a public guarantee of bank deposits. Some countries, hoping both to prevent wholesale deposit withdrawals that could cause healthy banks to fail and to bring stability to a troubled banking system, have tried to create a deposit insurance system in just this way. Unfortunately, unless the system has sufficient financing to ensure its survival in a serious financial crisis as well as a strong program of bank supervision, it is destined to fail.

Jackson, William. 1993. Mixing Banking and Commerce Using Federal Deposit Insurance: Industrial Banks and Nonbank Banks. Report for Congress (August 26), no. 93-769 E. Congressional Research Service.

Despite explicit federal legislation forbidding the combination of commercial banking and commerce, through corporate ownership it is possible under 1993 law to combine two kinds of banks with nonbanking activities. Continuing efforts to encourage these mixtures may be patterned on industrial banks or nonbank banks, whose operations are favorable for owners such as insurance, securities, or industrial firms.

Kane, Edward J. 1993. What Lessons Should Japan Learn from the U.S. Deposit-Insurance Mess? *Journal of the Japanese and International Economy* 7, no. 4:329–55.

In any representative democracy, public officials are subject to incentive conflict. Japan can benefit from understanding and eliminating the particular conflicts in bureaucratic incentives that make U.S. regulators reluctant to acknowledge and resolve deposit-institution insolvencies in a timely fashion. Weaknesses in accountability for the delayed consequences of regulatory decisions tempt regulators to help inefficient and insolvent banks to resist exit at the expense of other parties. To improve incentives, the consequences of regulatory choices must be made transparent enough for outsiders to monitor them. This can be done by assigning responsibility for privately insurable risks to private coinsurers and defining more fully government responsibilities for monitoring and minimizing financial institutions' exposure to catastrophic risk. (©1993 Academic Press)

Kane, Edward J. 1995. Establishing an Efficient Private–Federal Partnership in Deposit Insurance. In *Managerial Finance in the Corporate Economy*, edited by Dilip Kumar Ghosh and Shahriar Khaksari, 175–94. Routledge.

This article identifies some ethical constraints and patterns of privatization that promise to increase the efficiency and fairness of federal deposit insurance. The problems of deposit insurance show that congressional oversight of discretionary government loss-control is a system that continues to misserve taxpayer interests. The author outlines reform models that would constrain regulators and politicians to treat taxpayers' loss exposure more nearly as if it were their own.

Kane, Edward J., and Robert Hendershott. 1996. The Federal Deposit Insurance Fund That Didn't Put a Bite on U.S. Taxpayers. *Journal of Banking and Finance* 20, no. 8:1305–27.

Unlike the Federal Savings and Loan Insurance Corporation and the Bank Insurance Fund, the National Credit Union Share Insurance Fund (NCUSIF) survived the 1980s without falling into a state of accounting insolvency. This paper analyzes how differences in incentive structure constrain the attractiveness of interest-rate speculation and other risk-taking opportunities to managers and regulators of credit unions. Despite these better incentives, robust present-value calculations establish that NCUSIF fell into economic insolvency during the mid-1980s. Besides calculating the extent of this insolvency, the paper also seeks to explain why, after NCUSIF became insolvent, it could rebuild its reserves without an explicit or implicit taxpayer bailout. The authors' explanation turns on cross-industry coinsurance responsibilities and the shallowness of the fund's observed insolvency relative to industry net worth. We identify forces in the decision making environment tending to limit the depth and duration of unresolved insolvencies at individual credit unions. The authors conjecture that expanded use of coinsurance and private monitoring could reduce taxpayer loss exposure elsewhere in government deposit insurance systems. (©1999 EconLit)

Ketcha, Nicholas J. Jr. 1999. Deposit Insurance System Design and Considerations. Policy Paper no. 7:221–39. Bank for International Settlements.

This paper discusses deposit insurance and failed-bank resolution systems: the role they play in a nation's financial safety net; the advantages and disadvantages such systems provide; the establishment, coverage, and funding of such systems; the linkage with supervision and licensing; and failed-bank receivership and resolution processes and considerations. Although deposit insurance systems are in place in many countries, this paper is based heavily on the lessons learned from, and on the principal features of, the deposit insurance system in the United States.

Kupiec, Paul H., and James M. O'Brien. 1998. Deposit Insurance, Bank Incentives, and the Design of Regulatory Policy. Federal Reserve Bank of New York *Economic Policy Review* 4, no. 3:201–11. Also 1997. Deposit Insurance, Bank Incentives, and the Design of Regulatory Policy. Finance and Economics Discussion Series, no. 1998-10. Board of Governors of the Federal Reserve System.

This study highlights the difficulties inherent in designing an optimal bank regulatory policy. When banks can issue equity at the risk-adjusted risk-free rate, collateralization of deposits with a risk-free asset costlessly resolves moral-hazard inefficiencies and insurance pricing issues. Heavy information requirements inhibit incentive-compatible designs in obtaining optimal bank-specific results.

MacDonald, Ronald. 1996. Deposit Insurance. *Handbooks in Central Banking*, no. 9. Centre for Central Banking Studies, Bank of England.

This handbook aims to give practical guidance on the essential questions that must be addressed in the establishment of deposit insurance schemes. It examines the rationale for deposit insurance, given the risk that insurance creates moral hazard. It then discusses the differences between formal deposit insurance schemes and implicit (or ad hoc) arrangements for depositor insurance, and the feasibility of private insurance. After describing different types of schemes, it deals with detailed matters such as triggers for the payment of compensation, selection of the categories of deposit that are to be protected, compensation ceilings, and co-insurance. Finally, it discusses the financing of compensation and of administrative arrangements.

Mas, Ignacio, and Samuel Talley. 1990. Deposit Insurance in Developing Countries. International Monetary Fund *Finance and Development* 27, no. 4:43–45.

As conditions in developing countries have become highly unstable, the affected governments have taken a variety of actions to restore stability to their banking systems. One such action has been to establish deposit insurance. This article contrasts explicit and implicit systems of deposit guarantees, explains the pros and cons of each insurance scheme, and details how best to design an insurance system.

McCallie, John D. 1995. Early Warnings of the Hazards of Federal Deposit Insurance at the Time of Its Inception. *History of Political Economy* 27, no. 4:687–703.

This article demonstrates that most of the criticisms of federal deposit insurance were well understood and warned about at the time of its inception, thus it is difficult to explain the guarantee nature of the plan by an earlier lack of understanding. The moral hazard problem had in fact been explicitly detailed by the early 1920s and regulatory forbearance was experienced and discussed by the early 1930s. Even proponents of deposit insurance were especially critical of the guarantee feature of the plan. Moreover, earlier remedies and alternatives match closely those advocated today. (©1999 EconLit)

Murton, Arthur J. 1989. Bank Intermediation, Bank Runs, and Deposit Insurance. *FDIC Banking Review* 2, no. 1:1–10.

This article examines why the government provides deposit insurance and how the provision of deposit insurance can improve economic performance. The author argues that the primary reason for deposit insurance is to promote financial stability by preventing bank runs. He points out, however, that deposit insurance may allow excessive risk-taking, and the costs of possible misallocation of resources associated with excessive risk-taking must be balanced against the benefits of financial stability. The terms of this trade-off depend on the availability of alternatives to bank deposits as sources of liquidity, the importance of bank lending activities, and the difficulty associated with monitoring bank asset values and monitoring risk-taking. Finally, the author considers alternatives to, and reforms of, deposit insurance.

Pulkkinen, Thomas E., and Eric S. Rosengren. 1993. Lessons from the Rhode Island Banking Crisis. Federal Reserve Bank of Boston *New England Economic Review* (May 1): 3–12.

The 1989 failure of the Rhode Island Share and Deposit Indemnity Corporation (RISDIC), a private insurance fund, and the closure of its 45 remaining member institutions froze the accounts of 300,000 individuals—10 percent of all deposits in the state. Although the closure of two institutions triggered RISDIC's demise, flaws in both design and management had set the stage for failure and are the focus of this article. The authors group RISDIC's problems into three categories: risk concentrations, control of the insurance fund by those it insured, and RISDIC's inadequate regulatory oversight of members. Concentrations of risks abounded. Both the fund and the geographic area it covered were small, and member institutions lent heavily in real estate. The fund's failure to reserve sufficiently against this exposure was especially problematic.

Radecki, Lawrence J. 1990. A Survey of the Origins and Purposes of Deposit Protection Programs. Research Paper no. 9034. Federal Reserve Bank of New York.

This paper presents a selective survey of deposit guarantee programs. First, it reviews the establishment of programs guaranteeing bank accounts in several countries and puts them in historical context. Second, the paper analyzes the

intended purposes of a deposit protection program. The usefulness of a protection program and its role in the safety net for the banking system become clearer when one recognizes that reorganizing a failing bank is preferable to closing it down and that a deposit insurance fund may provide the resources needed to expedite an assisted merger or a recapitalization. Third, a deposit protection program, while intended primarily to maintain order and safety, has secondary and sometimes subtle effects on the banking sector.

Santomero, A. M., and J. T. Trester. 1993. Structuring Deposit Insurance for a United Europe. Working Paper no. 94-22. Wharton Financial Institutions Center, Wharton School of Business, University of Pennsylvania.

This paper analyzes the difficulties associated with bank regulation and deposit insurance in a unified Europe. Specifically, it explores the consequences of the Second Coordinating Banking Directive and the "common passport" branching regulation. The paper analyzes issues of deposit insurance premiums and taxes on banks (including reserve taxes) in the context of a general equilibrium model. The results indicate that in such a structure, taxes and deposit insurance are interdependent. At the minimum, exceedingly close macroeconomic policy coordination will be necessary if the single market for financial services is truly to come to fruition and be stable. A similar degree of cooperation will be necessary in the area of bank regulation.

Shull, Bernard. 1993. How Should Bank Regulatory Agencies Be Organized? *Contemporary Policy Issues* 11, no. 1:99–107.

The U.S. Treasury Department (1991) makes a strong case for consolidating federal bank regulatory authority. However, its proposal to eliminate direct FDIC authority over insured nonmember banks contributes little to this end because deposit insurance requires supervisory oversight. The U.S. Treasury Department (1991) also maintains an independent role for the Federal Reserve. Elimination of neither the insurance agency nor the central bank appears practical. A better approach to regulatory agency consolidation would combine supervision with deposit insurance and central banking in an institutional structure modified somewhat from the present Federal Reserve structure. (©1999 EconLit)

Talley, Samuel H., and Ignacio Mas. 1992. The Role of Deposit Insurance. In *Financial Regulation: Changing the Rules of the Game*, edited by Dimitri Vittas, 321–51. The World Bank.

This article first analyzes and evaluates the implications and desirability of creating a deposit insurance system in countries that do not already have such systems. It then identifies the major features of deposit insurance systems and reviews the pros and cons of alternative structures for each major feature.

Todd, Walker F. 1994. Lessons from the Collapse of Three State-Chartered Private Deposit Insurance Funds. Federal Reserve Bank of Cleveland *Economic Commentary* (May). Also 1994. Similarities and Dissimilarities in the Collapses of Three State-

Chartered Private Deposit Insurance Funds. Working Paper 9411. Federal Reserve Bank of Cleveland.

This economic commentary analyzes the collapse of the Rhode Island Share Deposit Indemnity Corporation (RISDIC) with a view toward differentiating between the elements of failure and resolution that RISDIC shared with other large state-chartered deposit insurance funds—principally the Ohio and Maryland funds—and the elements that were unique to Rhode Island. Also examined are the factors that led to differences between the solution chosen by state and federal officials in Rhode Island and the solutions used in Ohio and Maryland. Finally, the author draws inferences from these episodes for the design and viability of private deposit insurance plans.

Towe, Christopher M. 1989. Optimal Fiscal Policy and Government Provision of Contingent Liabilities: The Example of Government Loan and Deposit Guarantees. Working Paper WP/89/84. International Monetary Fund.

The optimal provision of loan guarantees or deposit insurance is examined in the context of an overlapping generations model. He demonstrates that even in the face of a market imperfection that precludes diversification of the private sector's loan portfolio to eliminate risk, full government guarantee of private sector loans (or deposits) is suboptimal. The results suggest that although some degree of guarantee is appropriate, such policies should be designed to avoid an inefficient level of capital accumulation. (©1999 EconLit)

## 3. Pricing and Valuation of Deposit Insurance

***Entries in this section deal with the methodologies for calculating deposit insurance premiums. In particular, they explore option pricing theory and its application to deposit insurance pricing; the effects of fixed and risk-adjusted pricing regimes; estimation of actuarially fair premiums; and the market value of deposit insurance guarantees over time.***

Acharya, Sankarshan. 1995. Credit Rating Enhancement Norms and Ratings-Based Bank Capital and Deposit Insurance Premium. Finance and Economics Discussion Series 95-28. Board of Governors of the Federal Reserve System.

> The standard asset-pricing paradigm is applied to measure a credit rating agency's implied rating standards, such as leverage and asset volatility, from observed bond yield spread data. A methodology is proposed to measure the amount of debt that a firm needs to reduce in order to enhance its credit quality (bond rating) without changing its asset risk and size. This methodology is applied to develop implementable bank capital and deposit insurance premium standards based on ratings of pools of bonds held by banks in equilibrium within a paradigm (an alternative to narrow banking and consistent with universal banking) in which regulators act like private surrogates of bank debtholders, insuring debt for a price but not for profit, and banks choose their asset composition. (©1999 EconLit)

Acharya, Sankarshan. 1996. Charter Value, Minimum Bank Capital Requirement and Deposit Insurance Pricing in Equilibrium. *Journal of Banking and Finance* 20, no. 2:351–75.

> This paper shows that leaving insolvent banks with large enough charter values open can be optimal and derives normative bank closure/reorganization policies based on the liquidation value of assets and the charter value. The charter value of a bank is broadly defined as the value that would be foregone due to a closure. Our simulations of risk-taking show that an optimal forbearance for an insolvent bank with a large enough charter value alleviates the moral hazard problem. This is because increasing the risk raises the probability of losing the charter value, although it generates a moral hazard gain. (©1999 EconLit)

Acharya, Sankarshan, and Jean-François Dreyfus. 1989. Optimal Bank Reorganization Policies and the Pricing of Federal Deposit Insurance. *Journal of Finance* 44, no. 5:1313–33.

> Optimal dynamic regulatory policies for closing ailing banks and for deposit insurance premiums are derived as functions of the rate of flow of bank deposits and interest paid on deposits, the economy's risk-free interest rate, and the regulators' bank audit/administration costs. Under competitive conditions, the threshold assets-to-deposits ratio below which a bank should be optimally closed is shown to be greater than or equal to one. Optimal deposit insurance premiums and probabilities of bank closure are shown to be nondecreasing in the bank's risk on investment and nonincreasing in the bank's current assets-to-deposits ratio. (©1999 EconLit)

Allen, Linda, and Anthony Saunders. 1993. Forbearance and Valuation of Deposit Insurance as a Callable Put. *Journal of Banking and Finance* 17, no. 4:629–43.

Previous research evaluating deposit insurance as a put option has ignored the ability of the deposit insurer (put writer) to control the timing of the puts exercise via closure decisions. We model deposit insurance as a callable put, i.e., a put option where the FDIC retains a valuable call provision. The value of deposit insurance subsidies can therefore be measured as the net difference between the put and call features of the insurance contract. Forbearance can be viewed as forfeiture by the deposit insurer of the value of its call component of the deposit insurance option. (©1999 EconLit)

American Bankers Association. 1991. *Deposit Insurance Premium Levels and Credit Availability*. American Bankers Association.

This report argues that the direct costs of raising deposit insurance premiums will increase FDIC case resolution costs by increasing the number of bank failures and reducing the present value of failed banks to potential acquirers. Indirect effects—although less obvious—are also important. Raising premiums will reduce credit availability and slow the economic recovery. In turn, the slower recovery will result in additional bank failures and an even greater burden on the BIF.

Anderson, Ronald W., and Nusret Cakici. 1999. The Value of Deposit Insurance in the Presence of Interest Rate and Credit Risk. New York University Salomon Center *Financial Markets, Institutions, and Instruments* 8, no. 5:45–61.

The authors use the theory of the term structure of interest rates and the pricing of interest-contingent contracts to determine the fair value of insurance for depository institutions. The balance sheet of a bank is taken to consist of long and short positions in various fixed-income securities. Deposit insurance for the bank is a put option on the value of the assets. The value of deposits, assets, and implied exercise price of the put and the value of the put are all determined simultaneously as part of the same valuation solution. The approach is initially developed for a single-state term structure and is then extended to incorporate credit risk on bank assets.

Barth, James R., Daniel E. Page, and R. Dan Brumbaugh Jr. 1992. Pitfalls in Using Market Prices to Assess the Financial Condition of Depository Institutions. *Journal of Real Estate Finance and Economics* 5, no. 2:151–66.

In this article the authors examine the information that stock prices provide about the financial condition of federally insured thrift institutions. In order to assess their financial condition from the different perspectives of stockholders and the federal insurer, they calculate the value of the put option of federal deposit insurance available to thrift institutions. Their results demonstrate that the two perspectives often provide, particularly for unhealthy institutions, quite different views of the financial condition of individual institutions. (©1999 EconLit)

Blair, Christine, and Gary S. Fissel. 1991. A Framework for Analyzing Deposit Insurance Pricing. *FDIC Banking Review* 4, no. 2:25–38.

The authors address the question of whether to revise the current system of flat-rate deposit insurance premiums in favor of a risk-based system. Although there is general agreement that relating an insured bank's premium to the risk it poses to the insurance fund would be desirable, the information-intensive nature of the intermediation process in which banks specialize makes risk measurement difficult. The authors present an overview of alternative methods for establishing risk-based premiums and then discuss the arguments for and against risk-based premiums.

Chan, Yuk Shee, Stuart I. Greenbaum, and Anjan V. Thakor. 1992. Is Fairly Priced Deposit Insurance Possible? *Journal of Finance* 47, no. 1:227–45.

The authors analyze risk-sensitive, incentive-compatible deposit insurance in the presence of private information and moral hazard. Without deposit-linked subsidies, it is impossible to implement risk-sensitive, incentive-compatible deposit insurance pricing in a competitive, deregulated environment except when the deposit insurer is the least risk averse agent in the economy. The authors establish this formally in the context of an insurance scheme in which privately informed depository institutions are offered deposit insurance premia contingent on reported capital; the result holds for alternative sorting instruments as well. This suggests a contradiction between deregulation and fairly priced, risk-sensitive deposit insurance. (©1999 EconLit)

Cheng, Anthony Wing-Man. 1996. Estimating the Market Value of Deposit Insurance for Savings and Loans. Ph.D. diss., University of Virginia.

The author estimates the market value of deposit insurance for a sample of savings and loans associations, using various methods that can be applied to S&Ls that do not have publicly traded stocks. For each S&L, deposit insurance is priced as a one-period European put option with a striking price equal to the book value of the S&L's liabilities. Previously this method of pricing deposit insurance has been applied to banks and S&Ls that do have publicly traded stocks. The author shows how the market value of assets and asset volatility can be obtained from the S&Ls' accounting data by several methods. The results of this study suggest that it is feasible to price deposit insurance premiums using accounting data. The results further suggest that under the fixed-rate deposit insurance system, significant cross-subsidization among S&Ls was evident during the 1990s.

Cook, Douglas, and Lewis Spellman. 1994. Repudiation Risk and Restitution Costs: Toward Understanding Premiums on Insured Deposits. *Journal of Money, Credit, and Banking* 26:439–59.

There is a widely held impression that federally insured deposits are the risk equivalent of Treasury securities. Despite this impression, the authors provide evidence of risk pricing of insured deposits. If there is risk pricing of guaranteed

deposits, investors in deposit instruments evidently price the possibility of loss from incomplete or costly deposit insurance coverage. The risk pricing of insured deposits is tantamount to believing the guarantee might be repudiated in whole or in part. This paper examines this issue in the context of premium rates found to exist for the FSLIC-insured deposits during that agency's waning days before its abolition in 1989.

Cornett, Marcia Millon, Hamid Mehran, and Hassan Tehranian. 1998. The Impact of Risk-Based Premiums on FDIC-Insured Institutions. *Journal of Financial Services Research* 13, no. 2:153–69.

The authors examine the effect of a series of announcements leading to the approval of risk-based deposit insurance premiums on returns to stockholders of commercial banks. Utilizing risk-weighted capital ratios and measures of overall risk, we group banks according to one of the nine-tier insurance categories subsequently defined by the FDIC. During the period in which the new insurance system was considered and approved, it was found that stockholders of "well-capitalized," "healthy" banks experienced wealth changes significantly different from those experienced by less than well-capitalized, less than healthy banks. Although many argued the premium range in the initial insurance schedule was insufficient, the results show that this initial risk-basing marked an important change in the relative burdens imposed by FDIC insurance. (©1999 EconLit)

Craine, Roger. 1995. Fairly Priced Deposit Insurance and Bank Charter Policy. *Journal of Finance* 50, no. 5:1735–46.

The thrust of current deposit insurance reform--risk-based insurance premiums and capital requirements--is an effort to price deposit insurance more fairly. Fairly pricing deposit insurance eliminates inequitable wealth transfers but it does not lead to an efficient equilibrium. This paper shows that an alternative charter policy results in an efficient separating equilibrium. (©1999 EconLit)

Dermine, Jean. 1992. Deposit Insurance, Credit Risk and Capital Adequacy: A Note. Working Paper no. 19. INSEAD.

Previous research on deposit insurance and capital adequacy has modeled the bank as a corporate firm with risky assets and insured liabilities. No attempt was made to analyze explicitly the risk characteristics of bank assets. The purpose of this paper is to model bank lending and calculate credit-risk sensitive insurance premia. The lending function of banks creates the need to model equity as a "capped" call option. Previous estimates of insurance premia which are based on a "naked" call assumption could be biased. Moreover, it is shown that the Modigliani-Miller capital structure irrelevance theorem implies the ineffectiveness of bank capital regulations. (©1999 EconLit)

Downie, David Craig. 1995. Essays in Banking. Ph.D. diss., University of British Columbia.

This dissertation examines two issues in the theory of banking: the role and efficiency of a monopoly bank in a spatial economy, and the design of a deposit insurance contract. Chapters 2 and 3 of the thesis develop and analyze a simple production economy with two types of agents. Lenders have an endowment of one unit of a good that may be consumed or invested in a firm. Firms have access to a project but lack the capital necessary to operate it and are thus forced to borrow: firms' projects are identically independently distributed cross-sectionally. A simple information asymmetry prevents efficient contracting by lenders and firms and results in the incurring of deadweight default costs.

Duan, Jin-Chuan, and Min Teh Yu. 1994. Forbearance and Pricing Deposit Insurance in a Multiperiod Framework. *Journal of Risk and Insurance* 61, no. 4:575–91.

A multiperiod deposit insurance pricing model is developed in this article, which utilizes an asset value reset rule comparable to the typical practice of insolvency resolution by insuring agencies. The fairly-priced premium rate of our model can substantially differ from Merton's (1977). After incorporating capital forbearance and moral hazard into the model, our results show that the fairly-priced premium rate is not neutral to forbearance policy even in the absence of moral hazard. The model formalizes the process of how excessive risk-taking under capital forbearance could lead to instability in the deposit insurance system. (©1999 EconLit)

Duan, Jin-Chuan, and Min Teh Yu. 1999. Capital Standard, Forbearance and Deposit Insurance Pricing under GARCH. *Journal of Banking and Finance* 23, no. 11:1691–706.

The authors propose a multiperiod deposit insurance pricing model that incorporates simultaneously a capital standard and the possibility of forbearance. The model uses the recently developed GARCH (Generalized Auto Regressive Conditional Heteroscedasticity) option pricing technique in determining the deposit insurance value. The authors contend that their model offers two distinct advantages. First, it explicitly considers the implications of the strict enforcement of capital standards as stipulated in the FDIC Improvement Act of 1991 (FDICIA). Second, use of the GARCH model allows the authors to capture many robust features exhibited by financial asset returns. By the GARCH option pricing theory, the value of a contingent claim is a function of the asset risk premium. This unique feature is found to be prominent in determining the bank's deposit insurance value. The model is also used to study the effects of capital forbearance and moral-hazard behavior in the multiperiod deposit insurance setting.

Duan, Jin-Chuan, Arthur F. Moreau, and C. W. Sealey. 1993. Incentive Compatible Deposit Insurance Pricing and Bank Regulatory Policies. In *Research in Finance*, vol. 11, edited by Andrew Chen, 207–27. JAI Press.

The many publications on various aspects of deposit insurance reform have failed to explain how the features of deposit insurance contracts affect bank decisionmaking; and they lack a clear prescription for formulating such contracts so as to achieve policy goals. This article develops a model of bank behavior under regulatory constraints within a framework of moral hazard. The results show that the policy goals pursued by regulatory authorities can be achieved only if deposit insurance contracts take into account incentive compatibility. One implication of the model is that, under existing (1993) regulatory policies, a ceteris paribus move to risk-adjusted deposit insurance premiums may actually make banks riskier. Some numerical results are presented to show the quantitative importance of the model's implications.

Duan, Jin-Chuan, Arthur F. Moreau, and C. W. Sealey. 1995. Deposit Insurance and Bank Interest Rate Risk: Pricing and Regulatory Implications. *Journal of Banking and Finance* 19, no. 6:1091–108.

The linkage between the interest-rate risk exposure of banks and the liabilities of a deposit insuring agency is not well understood. The authors develop a model to evaluate the interest-rate risk exposure of both deposit-taking institutions and deposit-insuring agents when bank equity has limited liability and interest rates are stochastic. Empirical results based on a sample of U.S. banks are presented for the interest-rate risk exposure of banks and for the effect of this exposure on the liabilities of the FDIC.

Duvic, Robert Conrad. 1990. Deposit Insurance in the American Savings Industry: Analysis and Extension of the Contingent Claims Approach. Ph.D. diss., University of Texas at Austin.

This study examines several empirical issues that must be addressed if the Contingent Claims Approach (CCA) is to be used to price deposit insurance. The author examines the difficulties of dealing with mutual associations, the proper setting of the term of the associations' deposits, and the proper measure of the riskiness of those deposits. He devises procedures and structures them into a model that uses the CCA to price deposit insurance for all associations, not just associations with widely traded equity. This model also facilitates an analysis of the validity of the CCA. The study's major result is that the default risk premiums developed for each association by the CCA were statistically similar to those measured in the market. This finding supports the use of the CCA in the pricing of deposit insurance.

Epps, T. W., Lawrence B. Pulley, and David B. Humphrey. 1996. Assessing the FDIC's Premium and Examination Policies Using "Soviet" Put Options. *Journal of Banking and Finance* 20, no. 4:699–721.

The FDIC's total liability for insuring a bank's deposits during a fixed period diminishes as the frequency of examinations increases, since a marginally solvent bank can be closed while losses are small. This article develops a technique for pricing the insurance liability over a fixed period during which there are multiple examinations. Under 1996 regulatory policy, most banks are examined annually and reviewed every six months, at which time the fees for insurance may be adjusted. Since the existing schedule of fees allows only a narrow range and a few discrete levels, the FDIC typically retains some positive or negative residual liability in each six-month period and for the entire year. The authors show how to estimate this net liability. The calculations of total and net liability are illustrated for a sample of large banks.

Federal Deposit Insurance Corporation (FDIC). 1990. A Study of the Desirability and Feasibility of a Risk-Based Deposit Insurance Premium System. Report. FDIC.

In this FIRREA-mandated report, the FDIC reviews the framework for deposit insurance pricing methods and recommends procedures and an implementation strategy. Chapter 1 reviews the conceptual framework of deposit insurance pricing, examining several pricing issues as well as several alternative methods for establishing risk-based deposit insurance. Chapter 2 develops a proposal for risk-based deposit insurance that uses an adjusted capital approach. Chapter 3 presents the study's conclusions.

Fissel, Gary S. 1994. Risk Measurement, Actuarially-Fair Deposit Insurance Premiums and the FDIC's Risk-Related Premium System. *FDIC Banking Review* 7, no. 3:16–27.

The author compares the FDIC's risk-related premium system with independent risk classifications derived from a proportional hazards model (PHM). The PHM estimates actuarially-fair insurance premiums on the basis of econometric estimates of expected time-to-failure. The author concludes that the FDIC's relative risk rankings are generally consistent with those of the PHM as well as with historical failure rates. The premium rate spread between high- and low-risk institutions, however, is considerably narrower than what is suggested by the PHM.

Flannery, Mark J. 1991. Pricing Deposit Insurance When the Insurer Measures Bank Risk with Error. *Journal of Banking and Finance* 15, no. 4–5:975–98. Also 1989. Pricing Deposit Insurance When the Insurer Measures Bank Risk with Error. In *Banking System Risk: Charting a New Course,* Proceedings of the 25th Annual Conference on Bank Structure and Competition, 70–100. Federal Reserve Bank of Chicago.

If the deposit insurance agency ("FDIC") can observe bank risks without error, it can attain actuarial soundness equally well with either risk-related premium assessments or risk-related capital standards. However, many bank assets are difficult and expensive to evaluate, so their true value and risk cannot be

ascertained without error. These risk measurement errors cause the FDIC to misprice its deposit insurance, which can be analyzed as a put option written on assets with uncertain volatility and current value. This paper evaluates the optimal means of pricing deposit insurance in such an environment. Because FDIC's insurance pricing errors increase with bank leverage, the impact of these errors on private-sector allocations can be minimized with a combination of risk-related capital standards and risk related premia. (©1999 EconLit)

Flood, Mark D. 1990. On the Use of Option Pricing Models to Analyze Deposit Insurance. Federal Reserve Bank of St. Louis *Review* (January): 19–35.

This paper critically examines the use of option pricing models for analyzing deposit insurance premiums. The author outlines the basic theory of option pricing, which was originally developed to assign dollar values to the option contracts traded on financial exchanges. Then, by applying the model to several insurance arrangements, he illustrates how to analyze the claims of bankers, depositors, and insurers on the assets of a bank or thrift. Finally, he considers some of the limitations of this approach.

Freixas, Xavier, and Jean-Charles Rochet. 1998. Fair Pricing of Deposit Insurance. Is It Possible? Yes. Is It Desirable? No. *Research in Economics* 52, no. 3:217–32.

This note elaborates on a recent contribution by Chan, Greenbaum and Thakor (1992) who argue that fairly priced deposit insurance is incompatible with free competition in the banking sector when adverse selection is present. We show that, under more general assumptions on the banks' operating costs, there exist incentive compatible mechanisms that are fairly priced. However, we compute the characteristics of the optimal premium schedule and show that it is not fairly priced: instead it entails subsidization of the less efficient banks by the most efficient ones. We also analyze the trade-off between short-run and long-run efficiency: cross-subsidies help relaxing incentive compatibility constraints but generate unfair competition. (©1998 Academic Press)

Fries, Steven M., and William R. M. Perraudin. 1991. Banking Policy and the Pricing of Deposit Guarantees: A New Approach. Working Paper WP/91/131. International Monetary Fund.

This paper describes a new approach to pricing government deposit guarantees that uses techniques of stochastic process switching employed in the recent literature on exchange rate determination. Our model avoids inconsistent assumptions about the information available to investors and the government common in previous work based on an option pricing approach. We derive actuarially fair deposit insurance premia and optimal financial reorganization rules and examine the role of banking policies such as capital requirements. (©1999 EconLit)

Garrott, Thomas M. 1991. Deposit Insurance: How Much Can We Afford? Cato Institute *Regulation* 14, no. 1:20–22.

The author expresses his concern about the immediate need for deposit insurance reform. He suggests (1) reducing deposit insurance coverage from $100,000 to $50,000; (2) abolishing the policy of "too big to fail"; (3) making insurance premiums paid by banks a function of risk; and (4) publishing the FDIC ratings of each bank for consumers to use when choosing a bank with which to do business.

Hein, Eelis. 1996. Deposit Insurance: Pricing and Incentives. Studies in Economics and Finance no. E:6. Bank of Finland.

Uses option valuation models to analyze the economics of a deposit insurance system. Provides an introduction to deposit insurance systems and a brief history of the Finnish deposit insurance system, describing how it has functioned and changed in the environment of the recent economic and banking crises. Presents a one-period European-type put option model of deposit insurance. Conducts comparative static analysis to identify the basic determinants in the value of a deposit insurance contract and their interactive effects. Provides an analysis of deposit insurance coverage as far as the various liability holders are concerned. Uses the one-period model for estimating the value of deposit insurance for those Finnish banks whose stock price information is available. Analyzes deposit insurance with a multiperiod American-style put option model, exploring bank risk incentives under various regulatory schemes, and calculating point estimates of the value of deposit insurance premia under various insurance schemes and assumptions of the stock market's expectations concerning the regulator's behavior. Licentiate thesis for the Helsinki School of Economics and Business Administration. (©1999 EconLit)

Hwang, Dar Yeh. 1991. Alternative Pricing: Models for Estimating FDIC Deposit Insurance Premiums: Theory and Empirical Studies. Ph.D. diss., Rutgers University.

This study uses alternative pricing models from both the macro and micro viewpoints to estimate FDIC premiums. Then, using an option as well as a non-option approach, it estimates risk-based insurance premiums for banking firms. The study uses computer-accessed market data and FDIC Call Report data. The empirical results indicate that the FDIC overcharged banks for deposit insurance during the 1980s.

Hwang, Dar Yeh, Cheng F. Lee, and K. Thomas Liaw. 1997. Forecasting Bank Failures and Deposit Insurance Premiums. *International Review of Economics and Finance* 6, no. 3:317–34.

Logistic regressions are performed to estimate the probability of bank failure. The in-sample logistic regression analysis indicates that the higher the equity capital, profitability, or liquidity, the lower the probability of bank failure. On the negative side, the ratio of past due loans to total assets is the most stable factor contributing to bank failures over the sample period. Other failure contributing

factors change over time. In addition, a numerical illustration is provided to calculate the actuarial fair deposit insurance premiums. (©1999 EconLit)

Jaeger, Mireille. 1994. Application des modèles d'option à l'analyse de l'activité et du risque bancaires (The application of option pricing models to the analysis of banking activity and risk). [With English summary.] *Revue-d'Economie Politique* 104, no. 6:826–49.

This paper is a survey of economic literature concerning the applications of the OPM (Option Pricing Model) to the banking firm. Firstly, the model was used for assessment purposes, namely to derive the fair deposit insurance rate and to measure the risk of the bank assets. Secondly, the OPM studied the capital structure problems, and the related banking strategies, especially the tendency of bankers to increase their risk-taking. These findings led to an anlysis of banking regulation, concerning the ways of rating deposit insurance and the definition of solvency ratios. Concluding remarks turn on the limits of the OPM, when applied to the banking firm, as it takes into account only the solvency risk, and ignores the liquidity risk. (©1999 EconLit)

Kendall, Sarah B. 1992. A Note on the Existence and Characteristics of Fair Deposit Insurance Premia. *Journal of Banking and Finance* 16, no. 2:289–97.

This paper treats the fair deposit insurance premium as a fixed point of the value of insurance per dollar of deposits. Using the standard model of the value of deposit insurance and treating the premium as an up-front cost to a bank it is shown that the fixed-point premium exists and is unique under fairly general conditions. It is shown that ignoring the premium as an up-front cost may lead to underestimation of the fair premium. In addition, the fixed-point model suggests that premium rates should vary with the ratio of deposits to total liabilities. (©1999 EconLit)

Kendall, Sarah B., and Mark E. Levonian. 1991. A Simple Approach to Better Deposit Insurance Pricing. *Journal of Banking and Finance* 15, no. 4–5:999–1018.

The authors examine the ability of simple insurance pricing schedules to match premiums with the values derived from a contingent-claim model of deposit insurance. They use a quadratic loss function to compare a flat-rate pricing system to alternative pricing schedules incorporating measures of risk. A simple two-bracket schedule that distinguishes between high and low capitalization is a substantial improvement. A pricing schedule under which the rate paid by low-capital banks depends on their degree of undercapitalization is better still. In addition, the gains from using market value measures of capital rather than book value are great. (©1999 EconLit)

Kerfriden, Christian, and Jean-Charles Rochet. 1993. Actuarial Pricing of Deposit Insurance. *Geneva Papers on Risk and Insurance Theory* 18, no. 2:111–30.

Using a pricing formula for options on coupon bonds, Jamshidian (1989), El Karoui and Rochet (1990), the authors compute the actuarial pricing of deposit

insurance for a commercial bank. The formula takes into account the maturity structure of the bank's balance sheet, as well as market parameters such as the term structure of interest rates and the volatility's of zero coupon bonds. The relation with asset liability management methods is explored. (©1999 EconLit)

Kuester, Kathleen A., and James O'Brien. 1991. Market-Based Deposit Insurance Premiums: An Evaluation. Finance and Economics Discussion Series no. 150. Board of Governors of the Federal Reserve System.

Risk adjusted deposit insurance premiums have been among deposit insurance reforms considered by economists and policy-makers. This paper evaluates the use of option pricing methods, used in a number of studies, to set stock market-based, risk adjusted deposit insurance premiums, and more generally, to identify banks by their riskiness. The paper points out potential biases in the approach, and it empirically tests the ability of the option measures to distinguish banks by risk. The results demonstrate that the equity market measures are sensitive to contemporaneous accounting information and have predictive power for future bank performance, but that the market measures do not contain all the information conveyed by accounting data. Thus, the results do not make a convincing case for exclusive use of this methodology to set risk adjusted insurance premiums. They suggest, however, that market and accounting information may be useful jointly in identifying risky banks. (©1999 EconLit)

Lai, Van Son. 1996. The Effects of Variations in Laxity (or Strictness) of Closure Rules on the Valuation of Deposit Insurance. *Financial Review* 31, no. 4:721–46.

The passage of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), which removed some of the freedom or latitude the FDIC had in resolving and closing insolvent institutions, makes it clear that regulatory closure rules are not invariant with regard to time and events. Therefore, this paper analyzes the effects of variations in the laxity or strictness of bank closure rules on the valuation of deposit insurance. Hardly predictable state variables, such as political, economic and bureaucratic constraints, represent potential sources of uncertainty that drive changes in the stringency of closure policy. A variation of Ronn and Verma's model is extended to consider situations where the insurance agency's closure rule is uncertain. (©1999 EconLit)

Landskroner, Yoram, and Jacob Paroush. 1994. Deposit Insurance Pricing and Social Welfare. *Journal of Banking and Finance* 18, no. 3:531–52.

Recent literature has established that financial disruption has real costs which justify government intervention in the financial sector. One form of government intervention is deposit insurance. In this paper we determine the optimal pricing and subsidy of deposit insurance in a social welfare context. The main conclusion is that optimal deposit insurance need not be actuarially fair. In an economy with a real and a financial sector we consider the effects of taxation and social (political) weights of the sectors. We analyze two policy tools: government supervision and deposit insurance pricing. (©1999 EconLit)

Laub, Michael. 1993. Deposit Insurance and the Treasury Manager: The Effects of Increased Deposit Insurance on Business Customers of Banks. Report. Bethesda, MD: Corporate Council for Government Relations, Treasury Management Association.

This paper reports on the effects of increased deposit insurance premiums on businesses. Among other things, the study finds that (1) 93 percent of deposit insurance premiums for business accounts are passed through to business customers; (2) deposit insurance pricing does not justify switching banks, except in the case of risk-based penalties; (3) the FDIC's allowance for uncollected balances is archaic and is substantially less than the actual amount of uncollected balances in business accounts; (4) the most-favored cash-management techniques are controlled disbursements and sweep accounts.

Lee, Inmoo. 1995. Two Essays in Finance (Equilibrium, Deposit Insurance). Ph.D. diss., University of Illinois at Urbana–Champaign.

The second of two essays—"Deposit Insurance with Changing Volatility: An Application of Exotic Options"—assumes that the volatility of the bank's assets changes or can be changed when the assets first hit a certain level. Accordingly, this essay develops a model to incorporate the bank manager's incentives to change the bank's volatility. The results show that shareholders' equity and the deposit insurance premium can be represented as combinations of generalized versions of particular barrier options known as down-and-out and down-and-in options. Numerical examples illustrate the properties of the model.

Levonian, Mark E. 1991. Risk-Adjusted Deposit Insurance Premiums. Federal Reserve Bank of San Francisco *Weekly Letter* no. 91-3.

The annual premium that banks paid for federal deposit insurance before reform was a simple flat percentage of total domestic deposits. This *Letter* argues that certain aspects of banking risk can be measured objectively and that simple modifications to deposit insurance pricing to reflect these aspects of risk will generate substantial benefits compared with a flat-rate system.

Li, Anlong. 1992. Three Essays on Contingent Claims Pricing. Ph.D. diss., Case Western Reserve University.

This study consists of three research essays on contemporary financial option pricing theories and their applications. The common theme of the essays involves the pricing of financial claims whose values become path-dependent when the usual lattice-approximating schemes are used. The first essay explores the potential of transformation and other schemes in constructing a sequence of simple binomial processes that weakly converges to the desired diffusion limit. The second essay extends some of the simple lattice-approximation methods for one-dimensional diffusions to higher dimensions and develops special lattices to approximate perfectly correlated diffusions. The last essay analyzes the investment decisions of insured banks under fixed-rate deposit insurance.

Lucey, Brian M. 1993. Fair Deposit Insurance Premia for Two Irish Banks. Research Paper 93-4. Institute of European Finance.

The author evaluates the deposit insurance scheme operated by the Central Bank of Ireland, and conducts a theoretical analysis to determine fair premiums.

Maude, David, and William Perraudin. 1995. Pricing Deposit Insurance in the United Kingdom. Working Paper Series no. 29. Bank of England.

The valuation of bank deposit guarantees depends crucially on the point at which troubled financial institutions are closed. Under different assumptions about regulatory policies, the authors use data on the equity value and deposits of eight large U.K. banks to value deposit insurance. The models implemented include the standard Merton-style audit models of deposit guarantee valuation, an endogenous closure rule model, and a model with endogenous subsidies in which equity holders remain in control of the financially troubled bank.

Moore, Scott Bradley. 1990. A Methodology for Determining Quasi-Market Deposit Insurance Premium Rates for Savings Institutions. Ph.D. diss., University of Kentucky.

Merton (1977) argues that risk-based deposit insurance premium rates can be determined using an extension of the Black and Scholes (1973) option pricing model. A number of authors have extended Merton's model to simulate premium rates or to estimate bank-specific premium rates for a sample of savings institutions. Results obtained here are consistent with the fixed premium rates creating inequalities and moral-hazard incentives. However, the difficulties of measuring two critical model variables—the market value of savings institution assets and the asset return variance—limit inferences that can be drawn from the sample and may cast doubt on the study's findings. To use Merton's methodology to estimate risk-based premium rates, one must collect more accurate data on savings institution assets. A methodology for collecting that information is outlined.

Nagarajan S., and C. W. Sealey. 1995. Forbearance, Deposit Insurance Pricing, and Incentive Compatible Bank Regulation. *Journal of Banking and Finance* 19, no. 6:1109–30.

This paper examines the incentive compatible role of regulatory forbearance policy in the context of optimal bank regulation under moral hazard. Its results show that, when a bank's asset portfolio returns have market risk, the regulator can influence the bank's choice of ex ante risk by delaying the closure of an insolvent bank. The optimal closure policy involves co-ordinating the closure decision with market-wide performance. Such a policy may significantly alleviate the bank's ex ante risk-shifting problem. Furthermore, even fixed-rate deposit insurance can be optimal when combined with a sound forbearance policy and a minimum capital standard. (©1999 EconLit)

Nagarajan, S., and C. W. Sealey. 1998. State Contingent Regulatory Mechanisms and Fairly Priced Deposit Insurance. *Journal of Banking and Finance* 22, no. 9:1139–56.

This paper presents a model of incentive compatible bank regulation under moral hazard and adverse selection. We derive a wide range of simple and conceptually implementable mechanisms that can solve each type of incentive problem separately and also achieve the first-best outcome--but only when regulatory instruments involve ex post pricing that is contingent on the bank's performance relative to the market. An important feature of these mechanisms is that they do not involve a subsidy to the bank. When the regulator faces both moral hazard and adverse selection simultaneously, we identify the conditions under which the same mechanism can achieve the first-best solution. (©1999 EconLit)

Oda, Nobuyuki. 1998. Estimating Fair Premium Rates for Deposit Insurance Using Option Pricing Theory—An Empirical Study on Japanese Banks. Institute for Monetary and Economic Studies Discussion Paper Series, no. 98-E-11. Bank of Japan.

This paper uses option pricing theory to estimate fair, variable deposit insurance premium rates in accordance with individual bank default risk, and conducts empirical analyses using Japanese data. The purpose of the analyses is to discuss the role that deposit insurance plays in monitoring bank management. The U.S. system combines the subjective judgment of a bank supervisor with certain objective criteria. The author analyzes the types of methodologies viewed as policy options in Japan. The results confirm that if one adjusts for the changes in market expectations about the forbearance of the supervisory authorities, one can improve the accuracy of the estimates. Finally, this paper considers the probable effect on bank management if this method were actually adopted.

Oorlog, Dale Robert. 1991. Risk-Adjusted Deposit Insurance Premiums at Optimal Audit Frequencies. Ph.D. diss., University of Nebraska at Lincoln.

Before reform, all federally insured depository institutions paid a flat-rate deposit insurance premium. This created a moral hazard: bank owners had an incentive to increase the riskiness of their institutions; thus, the insurance was underpriced. The author presents a model for determining premiums that are sensitive to the degree of liability to which the institution exposes the deposit insurance agency. The model is based on option pricing methodology. The conclusions demonstrate that risk-sensitive premiums can be reliably estimated, at least for banks whose equity is publicly traded. Additionally, most of the cost of deposit insurance is shown to be due to the FDIC's policy of forbearing to close mildly insolvent banks. This suggests that the cost of deposit insurance can be cut in half if policymakers introduce state-deposit audit frequencies, and the average optimal audit frequency is about half of the current average.

Ritchken, Peter, James B. Thomson, Ramon P. DeGennaro, and Anlong Li. 1995. The Asset Flexibility Option and the Value of Deposit Insurance. In *Research in Finance*, vol. 13, edited by Andrew H. Chen, 219–36. JAI Press.

> Models of deposit insurance typically assume that the volatility of a bank's assets is exogenous, or predetermined. Although this static approach is useful for exploring the effect of volatility, closure rules, and subsidies on bank decisions, it ignores the ability of equity holders to respond to market events by adjusting previous investment and leverage decisions. This paper presents a dynamic model of a banking firm that incorporates this flexibility option. The paper explores the effect of the flexibility option on optimal decisions, firm value, and the value of deposit insurance.

Ritchken, Peter, James B. Thomson, and Ivilina Popova. 1995. The Changing Role of Banks and the Changing Value of Deposit Guarantees. Working Paper no. 9502. Federal Reserve Bank of Cleveland.

> This article develops a model for pricing deposit guarantees. The model treats the bank's investments as a portfolio of default-free bonds and risky loans. The risk of the loans is determined by individual firms' financing and investment decisions. Pushing back risk to the level of the borrowing firms allows the authors to link deposit guarantees to specific characteristics of these loans and to make correlations between business risk and interest rates. Since the nature of bank loans has been changing over time, the model should predict the accompanying change in the value of the government guarantees.

Saunders, Anthony, and Berry Wilson. 1995. If History Could Be Rerun: The Provision and Pricing of Deposit Insurance in 1933. *Journal of Financial Intermediation* 4, no. 4:396–413.

> This paper examines cross-subsidy, moral hazard, and bank liability issues related to the provision of federal deposit insurance by "rerunning" its implementation, i.e., determining fair premium values, over the period 1927–32. The pre-1933 period was characterized by historically high asset-price volatility, a large number of bank failures, and a weak federal safety net. In this economic context, we find a high degree of self-insurance on the part of the banks in our sample, both in terms of higher overall capital levels and a strong correlation between capital levels and asset volatility. Potentially large, regional cross-subsidies among banks were also found. (©1995 Academic Press)

Shaffer, Sherrill. 1997. Deposit Insurance Pricing: The Hidden Burden of Premium Rate Volatility. *Cato Journal* 17, no. 1:81–90.

> This article presents evidence that the existing (1997) pattern of deposit insurance pricing may be costing the industry over $1 billion per year more than an alternative policy of stabilizing the premium rate and allowing the Bank Insurance Fund to serve as a shock absorber for fluctuations in aggregate losses. The additional cost is in the form of risk premiums demanded by investors and uninsured depositors.

Singh, Sandeep. 1992. A Risk-Based Evaluation of Deposit Insurance Premiums for Select Banks in G-5 Countries and Canada. Ph.D. diss., Kent State University.

The government guarantee of bank deposits has been traditionally defended on grounds of promoting financial stability, enhancing competition, and reducing surveillance costs. However, it has come under increasing criticism for acting as an incentive to unjustified risk-taking by banks and for encouraging depositor indifference. Late in 1991, FDICIA based deposit insurance on the degree of capitalization. Using the options pricing methodology, this study calculates risk-based deposit insurance premiums for banks in G-5 countries and Canada.

So, Jacky C., and Jason Z. Wei. 1998. Forbearance, Deposit Insurance, and the Market Value of Savings and Loan Associations. In *Advances in Financial Planning and Forecasting*, vol. 8, edited by Cheng-Few Lee, 177–99. JAI Press.

This study examines the effect of forbearance on the valuation of deposit insurance premiums. Unlike previous studies, this one treats forbearance as an implicit option that allows the FDIC to delay closing insolvent financial institutions. The implicit option approach is able to correct for the downward biases created by the pricing model proposed by Merton (1977).

Urrutia, Jorge. 1990. The Cost of Deposit Insurance: Derivation of a Risk-Adjusted Premium. *Insurance, Mathematics, and Economics* 9, no. 4:281–90.

This article develops a model for determining a risk-adjusted insurance premium to be charged by the FDIC. The proposed model is an alternative to models based on the option pricing formula and introduces co-insurance and deductible clauses for deposit insurance. The resultant risk-sensitive insurance premium is (1) an increasing function of the interest rate paid on a bank's deposits, the bank's loan-loss rate, the bank's deposit-to-capital ratio, and the expenses incurred by the FDIC and the insured bank; and (2) a decreasing function of the interest rate earned on the bank's loans and the rate of return on the FDIC's investments. The models with co-insurance and deductibles reduce the FDIC's liabilities and result in smaller insurance premiums than the full insurance model. A risk-adjusted insurance premium would encourage banker and depositor discipline by reducing the moral-hazard problem existing under the current (1990) insurance premium.

U.S. Securities and Exchange Commission. 1991. Estimating the Value of Federal Deposit Insurance. Report. Office of Economic Analysis, U.S. Securities and Exchange Commission.

This study uses two methods to estimate the value of the federal deposit insurance provided to commercial banks. The first method considers that since deposit insurance effectively converts risky debt into riskless debt, the spread between yields on uninsured bank debt (or bank holding company debt) and yields on comparable riskless Treasury securities can be viewed as a first approximation of the value of deposit insurance. The second method is an option pricing model. In this approach, the value of deposit insurance is viewed as equivalent to the value of a put option issued by the insurer to the bank, allowing the bank to put its asset

to the insurer in return for the insurer's assumption of the bank's deposit liability. Both methods reveal that the value of deposit insurance is three to five times greater than the amount collected under the existing (1991) premium of 19.5 basis points, which indicates that federal deposit insurance represents a large contingent liability of the federal government. Furthermore, the value varies widely across banks, a fact indicating that the present (1991) system of flat-rate premiums results in a large cross-subsidy from safer banks to riskier banks.

Walker, Anna Kuzmik. 1995. Harnessing the Free Market: Reinsurance Models for FDIC Deposit Insurance Pricing. *Harvard Journal of Law and Public Policy* 18, no. 3:736–92.

This article briefly surveys reinsurance and the reinsurance options available to Congress; presents the reinsurance pilot program proposed by the FDIC in response to FDICIA; discusses the FDIC's options for structuring the reinsurance market; reviews possible market participants and special considerations for certain participants; explores the compatibility of private pricing and FDIC pricing of deposit insurance, focusing on the unique aspects of the FDIC; discusses the uses of reinsurance premium information available to the FDIC; and concludes by reviewing the strengths and weaknesses of reinsurance as a model for reform.

Wu, Lifan. 1994. Essays on Regulatory Control of Deposit Insurance and Dual Trading. Ph.D. diss., University of Illinois at Urbana–Champaign.

The first essay in this dissertation extends the existing theoretical framework to incorporate a bank's charter value and analyzes its effect on the pricing of deposit insurance. Using both deterministic and stochastic charter values, the author derives values of deposit insurance. The author shows that at a given level of regulatory control, significant charter value can be a main cost to exploit the FDIC's guarantee. Consequently, studies that fail to allow for charter value tend to understate the costs of a bank's risk shifting and to overstate the FDIC's true obligation for an insolvent bank. In the case of stochastic charter value, the correlation between a bank's tangible assets and its charter value is important for determining its fair insurance premium.

# 4. Regulation and Supervision of Insured Depository Institutions

***The entries in this section deal with the regulation and supervision of insured depository institutions: the appropriate role for bank regulation, alternative regulatory structures, principles of effective regulation, regulatory forbearance and its effect on the cost of bank failures, bank capital regulations, the economic effect of bank regulation, and deregulation.***

Acharya, Sankarshan. 1990. Regulatory Policies When Banks Control Asset Quality, Unobserved by Regulators. Unpublished manuscript. Division of Research and Statistics, Board of Governors of the Federal Reserve System.

> The author derives optimal dynamic regulatory policies when (a) regulators cannot ex ante observe the quality of assets a bank will choose to hold during the period until the next examination, and (b) neither the regulators nor the banks know perfectly the subsequent asset-quality choices (since future choices depend on future asset values, which depend stochastically on current choices). In the game, a bank chooses equity capital, self-closure strategy, and quality of assets to maximize shareholders' wealth. Regulators set rules for timing bank closure and for establishing deposit insurance premiums to minimize their liabilities. Asset quality, capital, deposit insurance premiums, and closure timing are determined in equilibrium as functions of the assets-to-deposits ratio and other parameters specific to a bank. Game results indicate that a bank is closed whenever its assets-to-deposits ratio falls below an equilibrium threshold that is greater than or equal to 1. In the author's model, equilibrium can achieve the virtues of deregulation in a panic-proof banking industry when regulators do not insure bank deposits for profit.

Andrabi, Tahir, and Andrea Ripa di Meana. 1994. Bank Regulation and Debt Overhang. *Journal of Money, Credit, and Banking* 26 (part 1), no. 3:460–78.

> The paper explains why banking regulations are crucial to the unfolding of the current international debt crisis. The interplay of deposit insurance and capital adequacy requirements may create strong disincentives against offering relief to debtor countries with solvency problems, in spite of the fact that granting relief would improve the worth of the claims held by creditor banks. Furthermore, it is shown that the negotiating stance of individual banks is not related to their exposure to troubled loans in any simple way. Whether highly exposed banks are tougher than those with limited exposure is also generally dependent on the features of the regulatory environment. (©1999 EconLit)

Barth, James R., and Michael G. Bradley. 1989. Thrift Deregulation and Federal Deposit Insurance. *Journal of Financial Services Research* 2, no. 3:231–59.

> The authors observe that although federal insurance funds were designed to cover all insured deposits, federal regulations lacked a rule specifying how these deposits would be covered if a crisis occurred that swamped either of the insurance funds. Apparently Congress accepted the argument that strict

enforcement and regulation could be used to reduce the probability of failure and thereby prevent large losses to the insurance funds. The authors maintain, however, that this legislative oversight and the insufficiency of the savings association insurance fund forced regulators to permit insolvent institutions to remain open. The poor performance of these institutions skewed aggregate thrift performance, masking the performance of solvent institutions. A protracted debate ensued centering on the cost of resolving troubled thrifts and the ability of healthy thrifts to pay these costs. This debate drew attention away from the potential value of the thrift charter.

Basle Committee on Banking Supervision (BCBS). 1997a. *Core Principles for Effective Banking Supervision.* Publication no. 30. BCBS.

This document presents 25 principles for effective banking supervision relating to the following seven categories: (1) preconditions for effective banking supervision; (2) licensing authority and regulatory structure; (3) prudential regulations and requirements; (4) methods of ongoing banking supervision; (5) information requirements; (6) formal powers of supervisors; and (7) cross-border banking. The final section of the report discusses the role of deposit insurance.

Basle Committee on Banking Supervision (BCBS). 1997b. Deposit Protection Schemes in Member Countries of the Basle Committee. In *International Supervisory Issues*, 90–96. *Compendium of Documents Produced by the Basle Committee on Banking Supervision*, vol. 3. BCBS.

The Basle Committee has not issued recommendations on whether countries should have deposit protection arrangements or how these should be structured. The reason it has not is partly that its members have institutional differences and partly that its principal focus has been to create the conditions in which deposit protection is less likely to be needed. Nonetheless, for informational purposes the Committee has occasionally conducted surveys of the arrangements in force in its member countries. This publication provides a synopsis of the current (1997) arrangements.

Benston, George J., and George G. Kaufman. 1996. The Appropriate Role of Bank Regulation. *Economic Journal* 106, no. 436:688–98.

According to the authors, the appropriate role of bank regulation, or the question of whether banks should be regulated at all, has long been a matter of controversy. Before the United States had a central bank, banks themselves established private clearinghouses, resembling the private central banks in other countries, to both provide prudential supervision and to prevent abrupt local declines in the assets that served as bank reserves and money. Nevertheless, the authors take as givens not only a government central bank but also government-operated deposit insurance. Thus they do not disagree greatly with Dowd's defense of free or laissez-faire banking but focus instead on how banks should be regulated in an existing non-laissez-faire structure to achieve the best of both worlds. They find that bank regulation reduces both the negative externalities from moral hazard and

the agency costs that accompany poorly structured government-provided deposit insurance. But deposit insurance can effectively become redundant.

Benveniste, Larry, Dennis R. Capozza, Roger Kormendi, and William Wilhelm. 1994. Contract Design for Problem Asset Disposition. *American Real Estate and Urban Economics Association Journal* 22, no. 1:149–67.

As a result of declining real estate values and the receivership of numerous financial institutions, government regulators like the Resolution Trust Corporation (RTC) and Federal Deposit Insurance Corporation (FDIC) have large inventories of distressed assets. This paper develops a model of the principal/agent issues associated with management and disposition of problem assets. In the model, optimal contracts balance risk sharing with incentives for effort. The authors argue that the RTC will minimize the ultimate cost of the thrift crisis by placing managerial control of distressed assets in the private sector, while retaining full or partial ownership of the assets for risk-sharing purposes. Recoveries are maximized, however, only when an asset manager has an incentive to expend a first-best level of effort by indexing asset management and disposition contracts to market movements. (©1999 EconLit)

Boot, Arnoud W. A., and Anjan V. Thakor. 1993. Self-Interested Bank Regulation. *American Economic Review* 83:206–12.

The authors formalize the notion that a bank regulator may pursue self-interest rather than social welfare, and examine the implications of this for deposit insurance and regulatory reform in banking. They model the pursuit of self-interest by introducing uncertainty about the regulator's ability to monitor a bank's asset choice. This uncertainty creates a desire on the part of the regulator to acquire a reputation as a capable monitor, and this desire distorts the regulator's bank-closure policy and inflates the liability of the deposit insurance fund. The authors use this perspective on bank regulation to generate numerous policy prescriptions about banking reform.

Bourke, Philip. 1994. Bank Stability, Deposit Insurance and Regulation. In *The Competitiveness of Financial Institutions and Centers in Europe*, edited by Donald E. Fair and Robert Raymond, 403–17. Financial and Monetary Policy Studies, vol. 28. Kluwer Academic Publishers.

This article discusses issues related to the supervision of financial intermediaries in Europe and elsewhere outside the United States, particularly the issue of deposit insurance, and discusses some regulatory implications of the internationalization of the financial-services industry.

Bradley, Michael G., Carol A. Wambeke, and David A. Whidbee. 1991. Risk Weights, Risk-Based Capital and Deposit Insurance. *Journal of Banking and Finance* 15, no. 4–5:875–93.

The thrift risk-based capital regulation assigns weights to various asset categories according to their perceived credit risk. The risk-based capital requirement is

currently 8 percent of these risk-weighted assets. Little empirical work exists to support either the 8 percent capital level or the weights included in the regulation. They authors employ the asset categories set forth in the regulation to calculate statistical estimates of the capital level and the risk weights that would have been required for the deposit insurance system for thrifts to have been actuarially fair over the 1985–88 period. Their results indicate that the 8 percent capital requirement adopted by federal regulators would have been too little to cover insurance costs over the 1985–88 period and that the risk weights assigned to some asset categories would have been too high relative to the risk weight assigned "standard" assets. (©1999 EconLit)

Broaddus, J. Alfred Jr. 1994. Choices in Banking Policy. Federal Reserve Bank of Richmond *Economic Quarterly* 80, no. 2:1–9.

The central purpose of bank regulation is to protect the actuarial soundness of the federal safety net-deposit insurance, discount window lending, and the Fed's oversight of the payments system. Some regulatory changes could improve current banking policy by reducing regulatory burden while maintaining the soundness of the existing safety net. Beyond these changes, however, society faces a trade-off: further easing of the costs of bank regulation would require limiting the scope of the federal safety net. (©1999 EconLit)

Calomiris, Charles W. 1993. The Decline of Private Deposit Insurance in the United States: A Comment [on English in same issue]. *Carnegie–Rochester Conference Series on Public Policy* 38:129–42.

The author analyses the economic constraints that private, state-mandated deposit insurance systems have had to satisfy. He argues that greater risk-taking during booms and increased incidence of fraud during economic declines are important elements in a coherent story of the timing of deposit-insurance-fund collapses, and that these two tendencies are magnified by the peculiar economic constraints that underlie private deposit insurance. He examines the boom and collapse of deposit insurance funds over time, and ponders the appropriate regulatory response to such crises.

Chen, Andrew H., and Sumon C. Mazumdar. 1994. Impact of Regulatory Interactions on Bank Capital Structure. *Journal of Financial Services Research* 8, no. 4:283–300.

This article examines a bank's optimal capital structure and risk-taking decisions in a regulated environment. It focuses on the interactive nature of the Fed's collateralized discount window lending and the FDIC's deposit insurance. Such regulatory interactions are shown to have nonlinear and nonuniform impacts on the bank's leverage and risk-taking decisions. Thus, bank moral hazard problems may persist, even when banks are charged risk-adjusted deposit insurance premia and are also subject to market discipline through subordinated debt. The analysis yields several new policy implications about the design and pricing of bank regulations. (©1999 EconLit)

Cobos, Dean Forrester. 1989. Forbearance: Practices and Proposed Standards. *FDIC Banking Review* 2, no. 1:20–28.

The author suggests that forbearance is a word with different meanings to different people. Because in recent years forbearance has often been associated with the delayed closure of insolvent institutions, the word has become pejorative in many places. However, many forms of forbearance have long been accepted supervisory practices. Forbearance is not something to be avoided under all circumstances. This article discusses appropriate uses of supervisory forbearance.

Curry, Timothy J., John P. O'Keefe, Jane Coburn, and Lynne Montgomery. 1999. Financially Distressed Banks: How Effective Are Enforcement Actions in the Supervision Process? *FDIC Banking Review* 12, no. 2:1–18.

This article investigates the effects of bank examinations and formal enforcement actions on the behavior of problem banks during the 1980s and 1990s. The first section discusses the legal and regulatory framework for the application of formal enforcement actions. The second section focuses on the enforcement policies available to the FDIC: kinds of actions, procedures used, and number and types of enforcement actions issued by the FDIC in recent decades. The third section reviews previous empirical studies. The results show that both examiner downgrades in safety-and-soundness ratings and the issuance of formal enforcement actions had important effects on the performance of distressed banks.

Dahl, Drew, John P. O'Keefe, and Gerald A. Hanweck. 1998. The Influence of Examiners and Auditors on Loan-Loss Recognition. *FDIC Banking Review* 11, no. 4:10–25.

The authors find that when bankers have some discretion in their treatment of loan losses, the timing of loan-loss recognition is influenced by bank examiners but not by auditors. Auditors appear to focus less on *recognizing* loan losses and more on *providing* for them.

Dreyfus, Jean-François, Anthony Saunders, and Linda Allen. 1994. Deposit Insurance and Regulatory Forbearance: Are Caps on Insured Deposits Optimal? *Journal of Money, Credit, and Banking* 26 (part 1), no. 3:412–38.

This article examines the desirability of establishing caps on the scope of insured deposits, given the existence of a flat (mispriced) premium schedule for deposit insurance. The authors show that the optimal setting of caps on insured deposit coverage cannot be analyzed independently from either the FDIC's bank closure policy or the nature of the deposit insurance premium. Specifically, while the existence of flat premium schedules might seem to imply that the expected liability of the insurer is an increasing function of the size of a bank's insured deposits, the study reveals that this need not be the case when the insurer follows dynamically optimal closure policies and when the early liquidation of a bank's assets entails positive transaction costs.

Elmer, Peter J. 1990. Risk-Based Capital Requirements: Reshaping the Thrift Industry. *FDIC Banking Review* 3, no. 1:27–35.

> The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 established new and higher capital standards for savings and loans and other depository institutions in the United States. Based on fourth-quarter data for 1989, the author estimates that almost one-half of the assets of nonconservatorship thrifts were in thrifts that did not meet their current capital requirements, while almost three-fourths of the assets of nonconservatorship thrifts were in thrifts that did not, at that time, meet the new standards that were to be phased in under FIRREA. The author points out, however, that thrifts not meeting the requirements are not doomed to fail, but that without a major improvement in performance, the options available to many of them seem limited to some combination of the following: shrinking, merging with healthier institutions, or attracting outside capital.

English, William B. 1993. The Decline of Private Deposit Insurance in the United States. *Carnegie–Rochester Conference Series on Public Policy* 38:57–128. [Followed by comments by Charles W. Calomiris.]

> Since the early 1980s, the number of private deposit-insurance providers operating in the United States has declined sharply, as many of them have failed. The failures were caused both by poor design and by inadequate regulation of member institutions. The weak regulation was primarily the result not of inadequate examinations of members but of inaction on the part of the insurers and state regulators. The private deposit insurance failures of the 1980s are similar in many respects to the failures that occurred in earlier groups of private deposit insurers.

French, George E. 1992. Early Corrective Action for Troubled Banks. *Contemporary Policy Issues* 10, no. 4:103–13. Also 1991. Early Corrective Action for Troubled Banks. *FDIC Banking Review* 4, no. 2:1–12.

> This paper presents data concerning the performance of the U.S. commercial bank supervisory system and identifies a number of needed improvements in areas including: (1) rules governing bank loss recognition, (2) supervisory response to excessive loan concentrations and poor underwriting standards, (3) rules governing dividend payments by troubled banks, and (4) the early closure or resolution of troubled banks. (©1999 EconLit)

Fries, Steven, Pierre Mella-Barral, and William Perraudin. 1997. Optimal Bank Reorganization and the Fair Pricing of Deposit Guarantees. *Journal of Banking and Finance* 21, no. 4:441–68.

> When should regulators close a financially ailing bank? FDIC practice has moved toward early closure. In contrast, the approach taken by banking regulators in Japan continues to be more patient. The authors analyze a series of models in which closure rules and bailout policies arise endogenously through the interaction of (1) regulators' attempts to minimize discounted, expected costs of

bankruptcy, and (2) equity-holders' incentives to recapitalize banks. The authors outline policies for implementing socially optimal closure rules for distressed banks that minimize financial costs to regulators and reduce moral hazard.

Furlong, Frederick T., and Michael C. Keeley. 1989. Capital Regulation and Bank Risk-Taking: A Note. *Journal of Banking and Finance* 13, no. 6:883–91. Also 1989. Capital Regulation and Bank Risk-Taking: A Note. In *Banking System Risk: Charting a New Course*, Proceedings of the 25th Annual Conference on Bank Structure and Competition, 101–16. Federal Reserve Bank of Chicago.

This paper examines the theoretical effects of more stringent capital regulation on bank asset-portfolio risk. The analysis shows that, for a value-maximizing bank, incentives to increase asset risk decline as capital increases. Thus, as long as regulators do not reduce their efforts to contain asset risk and bank size, more stringent capital regulation unambiguously reduces the expected liability of the deposit insurance system.

Garner, Craig Boyd. 1994. Unconstitutional Regulatory Seizures under the Federal Deposit Insurance Corporation Improvement Act of 1991: The Final Blow to the Independence of National Banks. *Pepperdine Law Review* 22, no. 1:131–65.

Tracing the evolution of FDICIA, the author provides historical background and discusses the traditional regulation of financial institutions. He claims FDICIA is unconstitutional in two ways. First, inasmuch as it applies to solvent banks, it is a direct violation of the Takings Clause of the U.S. Constitution. Second, Title 12 of the United States Code, Section 191, violates due process requirements since it provides no notice or opportunity for a hearing when the FDIC is appointed receiver for solvent institutions. The author also explains why the standard of review that applies to regulatory takeovers by federal agencies is so arbitrary and capricious.

Gart, Alan. 1994. *Regulation, Deregulation, Reregulation: The Future of the Banking, Insurance, and Securities Industries*. Wiley.

Places into historical perspective the changes that have taken place within the U.S. financial services industry in order to draw lessons for the regulation and redefinition of the industry in the future. Provides an overview and history of financial regulation, discussing the financial services industry; the history of bank regulation; securities and investment regulation, 1940–79; mainframe bank deregulation; and regulation of the insurance industry. Addresses contemporary banking issues and discusses deposit insurance and bank failures. Examines trends and structural change in the insurance industry, the investment banking and securities industry, and the banking industry. Sets out the opinions of various experts concerning reform in the banking industry. Considers the prospects for regulation and deregulation in the financial services industry in the 1990s and offers an agenda for reform. (©1999 EconLit)

Giammarino, Ronald M., Tracy R. Lewis, and David E. M. Sappington. 1993. An Incentive Approach to Banking Regulation. *Journal of Finance* 48, no. 4:1523–42.

The authors examine the optimal design of a risk-adjusted deposit insurance scheme when the regulator has less information than the bank about the inherent risk of the bank's assets (adverse selection) and when the regulator is unable to monitor the extent to which bank resources are being directed away from normal operations toward activities that lower asset quality (moral hazard). Under a socially optimal insurance scheme: (1) asset quality is below the first-best level, (2) higher-quality banks have larger asset bases and face lower capital adequacy requirements than lower-quality banks, and (3) the probability of failure is equated across banks. (©1999 EconLit)

Giammarino, Ronald M., and Josef Zechner. 1990. Uniform Risk Based Capital Requirements for Deposit Taking Institutions: A Canadian/U.S. Comparison. Research Papers in International Business, Trade, and Finance. Faculty of Commerce and Business Administration, University of British Columbia.

The Bank of International Settlements proposed wide-scale adoption of a specific risk-adjusted capital adequacy requirement and the proposal was accepted by many countries, including Canada, Japan, the United Kingdom, and the United States. The authors examine the proposed standards in some detail. In particular, they ask whether the capital standards will create or exacerbate (as opposed to eliminate or mitigate) international differences in the regulatory environment.

Gilbert, R. Alton. 1994. Federal Reserve Lending to Banks That Failed: Implications for the Bank Insurance Fund. Federal Reserve Bank of St. Louis *Review* 76, no. 1:3–18.

During the 1980s many banks failed, imposing large losses on the Bank Insurance Fund (BIF). The Federal Reserve had loaned to many of the banks that ultimately failed—thus many people were convinced that Federal Reserve lending practices had increased BIF losses. This concern led Congress, in the Federal Deposit Insurance Corporation Improvement Act, to impose limits on Federal Reserve lending to troubled banks. The author investigates whether the evidence supports the conclusion that Federal Reserve lending practices increased BIF losses. The findings are contradictory.

Green, David. 1995. Banking Supervision in the New Europe. *European Business Journal* 7, no. 4:26–33.

The author maintains that the integration of the European financial system means that developments in the banking system of one country will have repercussions in other member states. Integration, therefore, will pose new challenges to regulators and bank supervisors that may warrant a reassignment of competencies between tiers of government. The author therefore advocates a shift in responsibility toward the European Central Bank but proposes that national supervisors continue to have a role in implementation of policy.

Harrell, Alvin C. 1993. Deposit Insurance Issues and the Implications for the Structure of the American Financial System. *Oklahoma City University Law Review* 18, no. 2.

This article discusses the U.S. experience with deposit insurance and bank regulation in the twentieth century. It specifically analyzes two assumptions: (1) deposit insurance is a public necessity that cannot be significantly cut back; and (2) any regulatory problems can be solved if bank regulatory powers and penalties are increased.

Hazlett, Denise. 1997. Deposit Insurance and Regulation in a Diamond–Dybvig Banking Model with a Risky Technology. *Economic Theory* 9, no. 3:453–70.

Three deposit insurance schemes are studied in a version of the Diamond–Dybvig banking model with a risky technology. The schemes include a full deposit guarantee and two alternatives which people have suggested as ways to limit the moral hazard problem of deposit insurance. Regulation to suppress the moral hazard problem under each theme takes the form of solvency and incentive compatibility constraints. When the regulation is relaxed slightly, as it might be under regulatory error, the insurer's payout is lower under the alternatives than under the full guarantee. However, the coinsurance and deductible schemes are less effective at preventing bank runs than the full guarantee. Moreover, in some environments, even the full guarantee itself does not provide enough reassurance to rule out bank runs. (©1999 EconLit)

Institute of Financial Education. 1990. *Insurance of Accounts: A Practical Guide to the FDIC Regulations*. Institute of Financial Education.

This book presents and explains the uniform insurance regulations of the FDIC. It provides bank employees with basic knowledge of the insurance of accounts and serves as a handy reference tool.

Javoer, Suarez. 1998. Risk-Taking and the Prudential Regulation of Banks. *Investigaciones-Economicas* 22, no. 3:307–36.

Under deposit insurance, prudential regulation replaces market discipline in the control of banks' risk-taking. This paper examines different types of prudential regulation, from the relatively sophisticated risk-based proposals made by theorists to the risk-insensitive schemes that existed in most countries prior to the Basle Accord on capital standards of 1988. Exploiting the isomorphic relationship between deposit insurance guarantees and put options, like in Merton (1977), the author focuses on the behavior of banks under alternative regulatory schemes, rather than on pure valuation issues. The paper also investigates the role of capital requirements in a perfectly competitive banking industry operating under flat-rate deposit insurance premiums. After exploring the rationale and limitations for the use of risk-based capital requirements, it evaluates the theoretical adequacy of the Basle Accord. (©1999 EconLit)

Kaufman, George G. 1989. Thrift Deregulation and Federal Deposit Insurance: Comments [on Barth and Bradley in same issue]. *Journal of Financial Services Research* 2, no. 3:261–64.

The author expresses concern that Barth and Bradley's analysis, although providing an excellent review of the S&L crisis, is colored in favor of the Federal Home Loan Bank Board (FHLBB). He discusses a number of events less favorable to the FHLBB.

Khademian, Anne M. 1996. *Checking on Banks: Autonomy and Accountability in Three Federal Agencies.* Brookings Institution.

Explains the connection between structure, political oversight, and the way bank supervision is managed in the three agencies that oversee banking in the United States—the Office of the Comptroller of the Currency (OCC), the Federal Reserve Board (Fed), and the Federal Deposit Insurance Corporation (FDIC). Contends that the current three-agency system is a healthy arrangement for the banking industry. Draws on open-ended interviews conducted in 1992 and 1993 with past and present bank examiners, supervisors, and officials in the Fed, OCC, and FDIC. Introduces the art of bank examination and supervision and the management challenges they pose. Presents the distinctive management styles of the three agencies. Discusses the concept of agency autonomy and its connection to the development of each agency's organizational character. Examines the organizational characters of the Fed, FDIC, and OCC, represented by sets of commitments, and the connection between characters and management styles. Studies the organizational characters in action as each agency grapples with common mandates for supervising banks. Examines the historical record of banks under the jurisdiction of each agency, arguing that some overlap in jurisdictions is desirable. (©1999 EconLit)

King, Kathleen Kuester, and James M. O'Brien. 1991. Market-Based, Risk-Adjusted Examination Schedules for Depository Institutions. *Journal of Banking and Finance* 15, no. 4–5:955–74.

Among deposit insurance reforms considered by economists and policymakers have been prompt resolution of problem institutions, risk-adjusted deposit insurance premiums and risk-adjusted capital requirements. Some economists have further suggested that risk-adjusted deposit insurance premiums or capital ratios be calculated by applying option pricing models to stock market data. Alternatively, the option methodology could be used to establish a risk-based examination schedule whereby riskier banks would be examined on a more frequent basis. Such an examination schedule would be consistent with prompt resolution strategies since it would relate the frequency of examination and closeness of supervision to banks' riskiness. This paper demonstrates how a risk-adjusted examination schedule could be derived. The paper also considers alternatives to the assumptions regarding examination policies made in standard applications of the option model, which may be valid for the sample periods

previously used. It discusses potential resulting biases and ways to mitigate their effects. (©1999 EconLit)

Kroszner, Randall S., and Philip E. Strahan. 1996. Regulatory Incentives and the Thrift Crisis: Dividends, Mutual to Stock Conversions, and Financial Distress. *Journal of Finance* 51, no. 4:1285–319.

During the 1980s, insolvency of individual thrifts and the thrift deposit insurer created severe incentive problems. Lacking cash to close insolvent thrifts, regulators induced nearly $10 billion of private capital to flow into the industry through mutual-to-stock conversions. The authors test a theory of how regulators encouraged capital-impaired mutual thrifts to convert by permitting them to pay dividends rather than rebuild capital. They estimate the costs of this policy and interpret the 1991 Federal Deposit Insurance Corporation Improvement Act as requiring regulators to impose restraints on depository institutions parallel to debt covenants that prevent capital distributions by nonfinancial firms experiencing distress. (©1999 EconLit)

Lang, William W., and Leonard I. Nakamura. 1990. Optimal Bank Closure for Deposit Insurers. Working Paper no. 90-12. Federal Reserve Bank of Philadelphia.

The authors consider a model of banks with public deposit insurance in which the differential between returns on bank assets and the costs per dollar of deposits vary over time and across banks. In this case, there exists a positive option value to closure that should be considered, in addition to the bank's expected return and asset-deposit ratio, in the optimal regulatory closure rule. Actuarially fair deposit premiums must include this option value in order to induce optimal self-closure for banks. Thus, risk-related deposit premiums should be tailored to the individual return history of the bank.

Macey, Jonathan R., and Geoffrey P. Miller. 1994. Towards a Regulatory Analysis of Deposit Insurance. In *Prudential Regulation of Banks and Securities Firms,* edited by Guido Ferrarini, 209–90. Kluwer Law International.

The authors explore the relationship between deposit insurance and the mismatch in the term structure of banks' assets and liabilities. They explain how the mismatch accounts for much of the instability in the banking system. They then critique the four principal alternative hypotheses that have been offered to explain this mismatch and suggest that a regulatory hypothesis may offer the best explanation. They warn, however, that acceptance of the regulatory hypothesis does not necessarily imply that government-sponsored deposit insurance is needed.

Macey, Jonathan R., and Geoffrey P. Miller. 1995. Deposit Insurance, the Implicit Regulatory Contract, and the Mismatch in the Term Structure of Banks' Assets and Liabilities. *Yale Journal of Regulation* 12, no. 1:1–24.

The authors discuss the relationship between deposit insurance and the mismatch in the term structure of commercial banks' assets and liabilities. First they

critique the traditional regulatory hypothesis which posits that government-sponsored deposit insurance gives banks incentives to fund long-term assets with short-term liabilities because it enhances bank credit and subsidizes short-term liabilities. The authors then use public-choice theory to argue that a modified version of the regulatory hypothesis is the best explanation for the mismatch. They also argue that embracing the regulatory hypothesis does not imply accepting the government-sponsored deposit insurance scheme as it exists in the United States.

Mazumdar, Sumon C. 1996. Bank Regulations, Capital Structure, and Risk. *Journal of Financial Research* 19, no. 2:209–28.

The joint influence of the Federal Reserve's (Fed) discount window credit and reserve requirements and FDIC's deposit insurance on a bank's optimal capital structure and asset risk choices is analyzed. The specific seniority of such regulatory claims, and potentially strong negative correlation between bank asset classes, significantly alters our traditional view of such regulatory influences on bank behavior. The author finds that the discount window's presence does not always prompt bank risk-taking and leverage, but it does partially offset such incentives under certain conditions. In addition to its cost, a reserve requirement provides the bank with an indirect subsidy that may encourage deposit funding. Thus, regulatory reforms, such as the FDIC Improvement Act of 1991, which curtail banks' access to the discount window, may not always be appropriate to resolve a bank's incentive for moral hazard behavior. The Fed's presence needs to be more comprehensively examined to design effective regulatory policy. (©1999 EconLit)

Mazumdar, Sumon C., and Suk Heun Yoon. 1996. Loan Monitoring, Competition, and Socially Optimal Bank Capital Regulations. *Journal of Risk and Insurance* 63, no. 2:279–312.

This article analyzes socially optimal bank capital regulations that support fairly-priced deposit insurance. Under full information, banks voluntarily choose a socially optimal interior capital structure based on the cost-benefit tradeoff involved in monitoring loans. Capital regulations are, therefore, redundant. Under asymmetric information, incentive-compatible capital regulations together with fairly-priced deposit insurance are possible if and only if the regulator can prevent bank-borrower collusive side-payments and also observe the rate charged and the equity contributed by the bank for a loan. The bank would then again voluntarily choose the socially optimal interior capital structure and bank capital requirements would be redundant. Greater equity contributions by banks with higher loan quality are then socially optimal. These results highlight the critical importance of bank supervision in effective regulatory policy design. (©1999 EconLit)

Miles, David. 1995. Optimal Regulation of Deposit Taking Financial Intermediaries. *European Economic Review* 39, no. 7:1365–85.

The author analyzes the case for special restrictions on the commercial decisions of deposit-taking financial intermediaries. He shows that the existence of asymmetric information between managers of intermediaries and depositors generates unregulated outcomes, such that equity capital is underutilized and lending is suboptimally low. Accordingly, he designs a form of regulation to correct this market failure: a capital adequacy scheme of the same kind as those used by bank regulators. The author maintains that previous research had heretofore failed to provide such schemes with a theoretical underpinning. He also analyzes the ways in which optimal capital adequacy rules differ from the regulations currently (1995) used by banking supervisors.

Nelson, Richard W. 1993. Regulatory Structure, Regulatory Failure, and the S&L Debacle. *Contemporary Policy Issues* 11, no. 1:108–15.

Widespread S&L failures during the 1980s required the federal government to spend over 100 billion dollars to bail out the thrift deposit insurance fund. This paper interprets the S&L debacle as a regulatory failure. Review of the S&L debacle suggests that regulators failed to manage the deposit insurance system efficiently. But the regulatory agencies' structure appears to have played a secondary role in contributing to regulatory failure. Faced with the same incentives, objectives, and resources, regulators probably would have behaved similarly regardless of the regulatory structure. (©1999 EconLit)

Nelson, Richard W. 1996. Supervision and the Great Deposit Insurance Debate. In *Stability in the Financial System*, edited by Dimitri B. Papadimitriou, 84–93. Jerome Levy Economics Institute Series. St. Martin's Press.

This article offers insight into alternative interpretations of the deposit insurance debacle of the 1980s. First, the author reviews deregulation and expanded insurance coverage as contributors to the debacle. Second, he analyzes the interrelations between supervision and deposit insurance and traces their interaction to colonial times. He concludes that creators of the federal deposit insurance system sought to limit its risk by withholding an explicit federal guarantee and by building checks into the system, including conservative coverage limits, high chartering standards, and wider supervisory authority. He further suggests that the deposit insurance debacle of the 1980s resulted from erosion of these checks.

Noe, Thomas H., Michael J. Rebello, and Larry D. Wall. 1996. Managerial Rents and Regulatory Intervention in Troubled Banks. *Journal of Banking and Finance* 20, no. 2:1–50.

In this paper the authors investigate the effects of regulatory policies on troubled banks. In the authors' analysis banks' portfolio decisions are unobservable and are made by management. Management's decisions are influenced by the compensation and intervention policies of shareholders and regulators as well as

the impact of its portfolio choice on its share of firm-specific rents. They demonstrate that firm-specific rents may induce managers to prefer risky asset portfolios. These incentives may be exacerbated by shareholder-designed compensation contracts intended to align managerial and stockholder interests. Depending on the parametric specifications of the model, both the often-criticized practice of regulatory forbearance and the compensation regulations proposed in the Federal Deposit Insurance Corporation Improvement Act of 1991 may form part of the deposit insurance loss-minimizing regulatory policy. (©1999 EconLit)

Nuxoll, Daniel A. 1999. Internal Risk-Management Models as a Basis for Capital Requirements. *FDIC Banking Review* 12, no. 1:18–29.

In the first part of this article, the author describes some of the "Value at Risk" (VAR) models in use and discusses their limitations, especially in setting capital requirements. In the second part of the article, the author discusses three proposals to revise the Basle Accord. The first, which was adopted in 1996, permits banks to use internal VAR models to estimate one kind of risk—the risk of trading activities. The second would permit banks to use somewhat different VAR models to evaluate the risk of making loans. The third would permit banks to use any method to estimate their own risk. However, in contrast to current regulatory regimes, banks that underestimated the risk of their activities would be penalized.

O'Keefe, John P. 1993. Risk-Based Capital Standards for Commercial Banks: Improved Capital-Adequacy Standards? *FDIC Banking Review* 6, no. 1:1–15.

At year-end 1990, risk-based capital standards were implemented for U.S. commercial banks. By replacing simple flat-rate capital requirements with ones that explicitly incorporate risk, the new standards substantially changed the approach used to assess bank capital adequacy. This study investigates whether the risk-based capital standards are improved measures of capital adequacy. The author discusses the relative merits of both the risk-based and the former flat-rate capital standards and analyzes banks' regulatory capital ratios over time in order to assess the relative effectiveness of the two approaches.

Peek, Joe, and Eric S. Rosengren. 1996. The Use of Capital Ratios to Trigger Intervention in Problem Banks: Too Little, Too Late. Federal Reserve Bank of Boston *New England Economic Review* (September 1): 49–58.

In the 1980s and on into the 1990s, numerous depository institutions failed and the deposit insurance funds suffered dramatic losses. In response, Congress passed a series of bank regulatory acts intended to address the problems that had led to the crisis and thus prevent its recurrence. The capstone of this transformation of banking legislation was the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), with two key provisions designed to reduce the cost of troubled banks to the deposit insurance funds: early closure of failing institutions, and early supervisory intervention in problem banks. Both provisions together are referred to as prompt corrective action. This

article considers whether capital ratio thresholds that trigger prompt corrective action provide enough lead time for intervention at trouble banks to be successful.

Pierce, James L. 1993. The Functional Approach to Deposit Insurance and Regulation. In *Safeguarding the Banking System in an Environment of Financial Cycles,* Conference Series no. 37, 111–30. Federal Reserve Bank of Boston.

This paper argues that the fixed-institutions approach is inadequate to deal with the issues faced by public-policymakers charged with ensuring the stability and efficiency of the banking system. The author argues that a more functional approach to bank regulation—one that focuses on crucial economic functions and not the preservation of existing institutional arrangements—is needed to confront the implications of the technological revolution that has integrated financial markets and institutions. The author argues that failure to adopt a more functional approach will cause an even larger share of the financial system to be protected by the federal safety net.

Pike, Christopher J., and James B. Thomson. 1992. FDICIA's Prompt Corrective Action Provisions. Federal Reserve Bank of Cleveland *Economic Commentary* (September 1).

This article focuses specifically on the early intervention (prompt corrective action) provisions of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991. The authors review the origins of mandatory early intervention policy and the underlying political–economic arguments that support it; discuss the specific sections of the law that pertain to this policy; and glance at the effect new guidelines will have on the nation's depositories.

Randall, Richard E. 1989. Can the Market Evaluate Asset Quality Exposure in Banks? Federal Reserve Bank of Boston *New England Economic Review* (July/August): 3–24.

The insolvency of the federal deposit insurance fund for thrifts and the recognition of serious weaknesses in a number of large commercial banking organizations have sparked an intensive discussion of possible changes to make the banking system and the deposit insurance funds safer. This study evaluates the success of investors and security analysts in identifying and evaluating the problems of large bank holding companies in the 1980s. The author finds that the developing problems were not identified by the market until substantial damage was done. He concludes that market discipline cannot be relied on to limit credit risk and could be counterproductive by increasing liquidity risks. He further concludes that the mark-to-market concepts and risk-adjusted deposit insurance premiums, while having desirable features, cannot effectively protect the banking system and deposit insurance funds. (©1999 EconLit)

Thomson, James B. 1993. The Cost of Buying Time: Lessons from the Thrift Debacle. Federal Reserve Bank of Cleveland *Economic Commentary* (January 1).

This article takes a critical look at capital forbearance as a policy for dealing with troubled financial institutions. After reviewing the mounting evidence on the cost

of thrift forbearance, the author concludes that the policy was indeed a losing proposition for taxpayers.

Yoon, Suk Heun, and Sumon C. Mazumdar. 1996. Fairly Priced Deposit Insurance, Incentive Compatible Regulations, and Bank Asset Choices. *Geneva Papers on Risk and Insurance Theory* 21, no. 1:123–41.

This article provides incentive compatible regulations that support fairly priced deposit insurance in a competitive banking industry. If informational asymmetry exists between the regulator and banks regarding loan quality, it is shown to be incentive compatible when the regulator can observe actual loan rates decrease in loan quality. Competition in the loan market induces banks to be indifferent to all loans that satisfy a minimum acceptable quality and reject all riskier loans. The regulator could reduce the banking industry's riskiness by imposing stricter capital requirements that increase this minimum quality. (©1999 EconLit)

Young, Maureen Ann. 1990. Why Regulatory Reform Fails: A Study of the United States Banking System. Ph.D. diss., University of California at Berkeley.

This dissertation develops a theory of regulatory competence that proposes that there are limited functions and activities for which government actors are well suited, and argues that primary supervision of the deposit insurance system is not one of them. After reviewing the complex regulatory bureaucracy in the United States and analyzing the rationality of the existing structure, the thesis considers the merits of alternative regulatory restructuring proposals. The author also critiques regulatory effectiveness by examining, among other things, policies for dealing with bank failures, the "too big to fail" policy, and privatization of the deposit insurance function. Finally, the author presents a formal theory of regulatory competency, outlines a hierarchy of activities that government bureaucracies can successfully undertake, and concludes by offering some general principles for achieving efficient regulatory systems.

# 5. Role of Deposit Insurance in Bank Failures

***Entries in this section focus on bank failures and the role deposit insurance played in those failures: the underlying causes of bank crises, failed-bank resolution methods, bank closure rules, the costs of failed-bank resolutions, and historical perspectives on the U.S. savings and loan debacle and the commercial bank crisis of the 1980s and early 1990s.***

Alston, Lee J., Wayne A. Grove, and David C. Wheelock. 1994. Why Do Banks Fail? Evidence from the 1920s. *Explorations in Economic History* 31, no. 4:409–31.

> This paper examines the causes of rural bank failures during the 1920s using a newly created state-level data series. By focusing on rural banks, the authors are able to investigate the impacts of agricultural distress and government policies on the class of banks accounting for 80 percent of the failures in the decade. Failure rates were highest where farm acreage and land values had increased the most before 1920 because these regions suffered the worst agricultural distress subsequently. Agricultural distress caused more bank failures in states with deposit insurance systems, suggesting that insurance encouraged banks to increase risk as their net worth declined. (©1999 EconLit)

Baer, Herbert, and Daniela Klingebiel. 1995. Systemic Risk When Depositors Bear Losses. In *Research in Financial Services: Private and Public Policy*, vol. 7, edited by George G. Kaufman, 195–302. JAI Press.

> There is surprisingly little evidence on the macroeconomic effect of imposing losses on depositors. This article, using case studies, presents some empirical evidence on the links between the treatment of depositors of insolvent institutions and subsequent macroeconomic performance. The five episodes studied are Estonia, 1992; Argentina, 1989; Malaysia, 1986; Japan, 1946; and the United States, 1933.

Barth, James R. 1991. *The Great Savings and Loan Debacle.* American Enterprise Institute.

> Describes the facts in the case of the widespread failure of savings and loan institutions during the 1980s, arguing that the major blame rests with government's failure to reform the way in which discipline is imposed on U.S. depository institutions. Chronicles the growth and development of savings and loans from their origin in 1831 to the modern crisis years beginning in 1980. Discusses the events of the 1980s, arguing that the industry was actually insolvent by the beginning of the decade, before deregulation. Evaluates the August 1989 legislation designed to resolve the savings and loan crisis and prevent a recurrence, suggesting that the legislation reduces the value of the savings and loan charter, while not actually correcting the moral hazard inherent in the structure of the federal deposit insurance system. Describes the structure of the federal deposit insurance system and the way in which the problem of moral

hazard arises. Suggests lessons that apply to all federally insured depository institutions. (©1999 EconLit)

Barth, James R., Philip F. Bartholomew, and Michael G. Bradley. 1990. Determinants of Thrift Institution Resolution Costs. *Journal of Finance* 45, no. 3:730–54.

This article examines the costs imposed by the resolutions of failed thrift institutions in the period 1980–1988. The authors begin by presenting a simple model that specifies the factors that explain thrift resolution costs. They then test the model using a comprehensive data set that allows some of the econometric problems encountered in earlier studies to be avoided. The empirical evidence suggests that the model that explains resolution costs in the late 1980s is significantly different from the model for either the middle or the early 1980s. This evidence is consistent with the changing nature of the thrift crisis and with changes in the regulators' closure rule. The authors maintain, moreover, that the econometric evidence is consistent with the hypothesis that, for troubled institutions, tangible net worth systematically understates market-value net worth. In addition, the evidence reveals the importance of including time effects as well as institution effects as determinants of the cost of resolution.

Barth, James R., Philip F. Bartholomew, and Peter J. Elmer. 1997. The Value of Tax Benefits and the Cost of Liquidating versus Selling Failed Thrift Institutions. *Journal of Economics and Finance* 21, no. 2:3–11.

This article examines the 205 resolutions of insolvent thrifts that occurred in 1988 and explores the determinants of the cost savings that resulted when 179 of the institutions were sold through assisted acquisitions rather than liquidated. According to the authors' analysis, several factors were found to be significant determinants of the cost savings. Among these were level of core deposits, average branch size, mortgage servicing rights, tax benefits specific to the purchase contracts, and type of acquirer.

Barth, James R., R. Dan Brumbaugh Jr., and Robert E. Litan. 1991. Bank Failures Are Sinking the FDIC. *Challenge* 34, no. 2:4–15.

The authors maintain that not since the creation of deposit insurance in 1933 have the U.S. banking industry and its deposit insurer been as troubled as they have been in recent (pre-1991) years. Moreover, the losses are expected to continue, and it is the judgment of the authors that total bank resolution costs through 1994 could exhaust the resources of the bank insurance fund. The authors propose to federal policymakers three options for preventing an explosion of deposit insurance costs: (1) they can raise bank capital standards even higher; (2) they can narrow the list of bank-eligible assets; and (3) they can create a more automatic system of regulatory intervention. Ideally, such a system would be supplemented with market-like devices to impel regulators to act in a timely fashion to prevent weak banks from taking more risks. This last option is preferred by the authors and discussed in greater detail.

Barth, James R., and Robert E. Litan. 1998. Preventing Bank Crises: Lessons from Bank Failures in the United States. In *Preventing Bank Crises: Lessons from Recent Global Bank Failures,* Proceedings of a conference co-sponsored by the Federal Reserve Bank of Chicago and the Economic Development Institute of The World Bank, edited by Gerard Caprio Jr., William C. Hunter, George G. Kaufman, and Danny M. Leipziger, 133–79. The World Bank.

This paper explores the relationship between banking problems and bank regulation by examining the banking problems that occurred in the United States during the period 1980–96. It has been well documented that among the many factors responsible for the problems, bank regulation is an important one. In particular, overly restrictive laws and regulations helped expose thousands of depository institutions to substantial interest-rate risk in the late 1970s and early 1980s. Subsequently, especially in the early to middle 1980s, lax regulation and supervision enabled many inadequately capitalized institutions to grow rapidly by engaging in high-risk activities.

Blalock, Joseph B., Timothy J. Curry, and Peter J. Elmer. 1991. Resolution Costs of Thrift Failures. *FDIC Banking Review* 4, no. 1:15–26.

The authors examine the determinants of resolution costs for 97 thrifts resolved by the Federal Savings and Loan Insurance Corporation (FSLIC) from 1984 to 1987, and conclude that the primary determinant of resolution costs was the asset mix of the institutions. "High-risk" assets such as land and development and construction loans are found to increase resolution costs, whereas the operation of a more traditional franchise is found to reduce resolution costs.

Bovenzi, John F., and Maureen E. Muldoon. 1990. Failure-Resolution Methods and Policy Considerations. *FDIC Banking Review* 3, no. 1:1–11.

The authors examine the FDIC's traditional methods of handling bank failures, and detail the Corporation's policy objectives and concerns. They discuss the trade-offs that exist among the sometimes-competing policy goals, and the ways in which various failure-resolution methods affect the attainment of these goals.

Brock, Philip L., ed. 1992. *If Texas Were Chile: A Primer on Banking Reform*. Institute for Contemporary Studies.

This book publicizes the paradox that when a bank goes out of business, financial uncertainty and instability increase, but when poorly performing, money-losing banks are prevented from going out of business, problems are compounded. Rather than attempt either to evade or to solve this paradox, this volume accepts it as an inevitable catch-22. It also recognizes that banks that should go out of business are always allowed to do so eventually, albeit at greater financial, economic, and social cost than would have been incurred had closure not been delayed. Thus, the volume explores the manner in which bank closures that should occur, will occur—at the earliest possible date, and with the least possible damage.

Brown, Richard A., and Seth Epstein. 1992. Resolution Costs and Bank Failures: An Update of the FDIC Historical Loss Model. *FDIC Banking Review* 5, no. 1:1–16.

The authors construct a financial model designed to measure the losses on assets placed into receivership by the FDIC. They then apply the Corporation's accounting data to the model in order to evaluate actual loss experience in receiverships between the years 1986 and 1990. In extending and updating previous work by Bovenzi and Murton (1988), they derive separate loss measurements for six distinct asset types. They also use a cost accounting model to estimate expenses for each of the asset types. From these loss calculations they develop a statistical model to estimate losses in future bank failures as a function of the relative proportion of performing and nonperforming loans in the institutions' portfolios.

Brumbaugh, R. Dan Jr. 1993. *The Collapse of Federally Insured Depositories: The Savings and Loans as Precursor*. Garland.

Presents an econometric analysis of the savings and loan crisis as it developed in the United States in the early 1980s. Provides an overview of the institutional, regulatory, and historical development of federally insured depositories. Investigates the causes of the failure and insolvency of savings and loans from 1981 through 1984 and the causes of the losses imposed on the Federal Savings and Loan Insurance Corporation. Describes the subsequent developments involving federally insured depositories and deposit insurance that represent the ongoing decline of the depositories and the breakdown of the deposit-insurance system. Based on the author's doctoral dissertation submitted to George Washington University in February 1986. (©1999 EconLit)

Buck, Cody. 1992. *The ABC's of FDIC: How to Save Your Assets from Liquidation*. CoSTARR.

The author, who once worked at the FDIC, explains some of the methods and procedures that were used to liquidate banks: (1) how the FDIC determined the minimum amount it would accept in satisfaction of debt; (2) what instructions were given to FDIC Account Officers about contacting bank customers; (3) how customers can negotiate with the FDIC in terms that the Corporation will understand; (4) what the FDIC organizational structure is and what amount of authority is entrusted to the respective levels; and (5) how real estate and loans can be bought from the FDIC.

Calomiris, Charles W., and Joseph R. Mason. 1997. Contagion and Bank Failures during the Great Depression: The June 1932 Chicago Banking Panic. *American Economic Review* 87, no. 5:863–83.

The authors examine the social costs of asymmetric-information-induced bank panics in an environment without government deposit insurance. Their case study is the Chicago bank panic of June 1932. The authors compare the ex ante characteristics of panic failures and panic survivors. Despite temporary confusion about bank asset quality on the part of depositors during the panic, which was

associated with widespread depositor runs and bank stock price declines, the panic did not produce significant social costs in terms of failures among solvent banks. (©1999 EconLit)

Carns, Frederick S., and Lynn A. Nejezchleb. 1992. Bank Failure Resolution, the Cost Test, and the Entry and Exit of Resources in the Banking Industry. *FDIC Banking Review* 5, no. 2:1–14.

FDIC cost considerations determine the "minimum acceptable bid" for a failed-bank franchise. Thus, for example, the FDIC's statutory cost test may dictate a purchase-and-assumption transaction even for an institution with negative franchise value. In competitive markets, however, the decision whether to continue operations depends upon franchise value alone. Using failed-bank data, the authors find that the cost test may have interfered with the efficient adjustment of resources in a sizable percentage of recent cases. Although this conflict cannot be completely avoided, the authors argue that a more explicit consideration of resource-adjustment effects could help to strike an appropriate balance between the conflicting methods for determining the viability of a franchise.

Cebula, Richard J. 1993. The Impact of Federal Deposit Insurance on Savings and Loan Failures. *Southern Economic Journal* 59, no. 4:620–28.

This article tests empirically the hypothesis that the existence of federal deposit insurance actually raised the S&L failure rate in the years before 1990. The author develops a model that includes federal deposit insurance and a variety of factors alleged to have induced the S&L crisis. His focus is on two measures of the S&L failure rate: (1) the percentage of federally insured S&Ls that failed, and (2) the absolute number of federally insured S&Ls that failed.

Cebula, Richard J. 1995. The Impact of Federal Deposit Insurance on Savings and Loan Failures: Reply [to Saltz comment in same issue]. *Southern Economic Journal* 62, no. 1:256–58.

This paper examines empirically the impact of federal deposit insurance on the failure rate of S&Ls. The model tests whether there is any influence of such insurance on the riskiness of S&L lending practices and, hence, on the profitability and solvency of S&Ls. Using data for the period 1963–89, it is found that federal deposit insurance may in fact be a very significant contributor to the S&L crisis of years. (©1999 EconLit)

Cebula, Richard J., and Willie J. Belton. 1997. An Empirical Note on the Impact of Federal Deposit Insurance on Bank Failures in the U.S. *International Advances in Economic Research* 3, no. 3: 281–87.

This study empirically examines the impact of federal deposit insurance coverage on the failure rate of commercial banks in the U. S. over the 1963–91 period. The analysis allows for the potential bank failure rate impact of the growth rate of real GDP, the real prime lending rate, the real cost of funds, and the commercial hank tangible capital-to-asset ratio, while measuring federal deposit insurance coverage

as the percentage of deposits at federally insured banks that was covered by federal deposit insurance. The instrumental variables' estimates indicate that the greater the extent of federal deposit insurance coverage, the higher the bank failure rate. (©1999 EconLit)

Cebula, Richard J., Willie J. Belton Jr., James B. Barth, and Ray Y. Chou. 1994. Deposit Insurance and Bank Failures: A Preliminary Analysis. In *Proceedings of the American Statistical Association (AMSTAT) Annual Meetings: Business and Economics Statistics*, 293–97. AMSTAT.

This study empirically investigates whether federal deposit insurance coverage has acted to influence the failure rate of commercial banks (CB). After accounting for such factors as recession, the real CB cost of funds and the real lending rate, the CB capital-to-asset ratio, and the increased competition of the 1980s and 1990s, the estimations in this study imply that federal deposit insurance has acted to increase the CB failure rate, although this effect appears to have been observably stronger for the more competitive 1980s and 1990s than for the previous period.

Chari, V. V. 1989. Banking without Deposit Insurance or Bank Panics: Lessons from a Model of the U.S. National Banking System. Federal Reserve Bank of Minneapolis *Quarterly Review* 13, no. 3:3–19.

This paper is a study of bank panics under the U.S. National Banking System in 1864-1913. During this period, bank deposits in the United States, like those in Great Britain and Canada, were not insured by the government. Unlike the United States, however, neither of those countries had any bank panics. The U.S. panics were caused essentially by two unique features of the U.S. banking system: prohibitions on bank branching and pyramiding of bank reserves. In the paper, a model which includes these features is constructed, and it is shown that bank panics can occur even though all agents are rational. In this model, bank panics can be eliminated by a combination of reserve requirements, central bank loans, and occasional restrictions on cash payments by banks. The conclusion is that to eliminate bank panics, deposit insurance is not necessary. (©1999 EconLit)

Chen, Yehning. 1994. The Role of Information Externalities in Bank Runs. Ph.D. diss., University of California at Los Angeles.

This dissertation provides an explanation of bank runs. Bank runs are depositors' response to unfavorable information about their banks. Since there is a moral-hazard problem that affects the incentives of bank managers and depositors, a bank run can be a mechanism for disciplining bank management—by liquidating banks that have made unwise and unprofitable investments. However, monitoring banks by runs may be inefficient. The first-come, first-served rule in the deposit contract creates a negative payoff externality among depositors and gives them excessive incentive to withdraw their funds. Even if it is assumed that depositors always choose Pareto dominant equilibrium, bank runs may be triggered by very noisy early information even when depositors know that more precise information

will be available in the near future. By reducing the payoff externality, deposit insurance can induce depositors to use their information more efficiently and can make runs effective mechanisms for monitoring banks.

Chu, Kam Hon. 1996. Is Free Banking More Prone to Bank Failures Than Regulated Banking? *Cato Journal* 16, no. 1:47–62.

This article empirically investigates the relative stability of three different banking regimes—a free banking system, a regulated banking system, and a regulated banking system with a flat-premium deposit insurance scheme—for the period 1935–1964. These regimes are represented by the Hong Kong, Canadian, and U.S. banking systems, respectively. The paper begins with a summary of major views on the relationships between banking regulations, deposit insurance, and bank failures. It then briefly describes the institutional and economic backgrounds of the three banking systems during the period studied. Last, it presents the empirical results comparing the relative stability of the alternative banking regimes.

Cochran, Bruce, Lawrence C. Rose, and Donald R. Fraser. 1995. A Market Evaluation of FDIC Assisted Transactions. *Journal of Banking and Finance* 19, no. 2:261–79.

This study updates and extends the literature regarding Federal Deposit Insurance Corporation purchase and assumption transactions. Unlike voluntary mergers, the results indicate that winning bidders do not overpay. Moreover, our results indicate that acquiring banks' undertaking large failed bank transactions experienced large wealth transfers. Excess returns may be explained by the synergy hypothesis or over subsidization hypothesis. The paper concludes that excess returns are not driven by scale or scope economies; evidence is consistent with diversification gains or the over subsidization hypothesis. It also appears that well-capitalized acquirers received preferential treatment. (©1999 EconLit)

Cole, Rebel A. 1993. When Are Thrifts Closed? An Agency-Theoretic Model. Finance and Economics Discussion Series, no. 93-37. Board of Governors of the Federal Reserve System.

This study examines the determinants of both book-value insolvency and regulatory closure in the thrift industry. Agency theory suggests that the determinants of insolvency and closure are a function of conflicts between shareholders and creditors, shareholders and managers, and regulators and taxpayers. The theory suggests that certain thrift attributes may have different effects upon insolvency and closure because prompt closure of insolvent institutions may not be in the regulators' best interests. In this study, both thrift insolvency and thrift closure are modeled as functions of two broad risk factors: operating risk and agency risk. Using a bivariate probit model to jointly examine determinants of insolvency and closure, the analysis finds evidence consistent with the existence of both moral hazard–induced behavior by thrift owners and expense-preference behavior by thrift managers. The results also show that agency conflicts between regulators and taxpayers are important in explaining why some thrifts were closed while others were not.

Cole, Rebel A., and Robert A. Eisenbeis. 1996. The Role of Principal–Agent Conflicts in the 1980s Thrift Crisis. *Real Estate Economics* 24, no. 2:195–218.

Agency theory suggests that many of the costs incurred by the taxpayer during the 1980s thrift crisis were the result of conflicts between principals and their agents. This study models the costs associated with three distinct types of agency conflicts involved in closing an insolvent thrift—conflicts between creditors and owners, between owners and managers and between taxpayers and government officials. Using a model that controls for sample-selection bias, the study presents strong evidence that thrift owners effected wealth transfers from creditors by undertaking high-risk investments and that government officials pursued policies that increased losses to the thrift deposit insurance fund which ultimately were funded by the taxpayer. The results do not show that managers effected wealth transfers from owners through expense-preference behavior but rather that inefficient management increased the losses of the deposit insurance fund. (©1999 EconLit)

Cole, Rebel A., and Jeffery W. Gunther. 1995. Separating the Likelihood and Timing of Bank Failure. *Journal of Banking and Finance* 19, no. 6:1073–89.

The authors use a split-population survival-time model to separate the determinants of bank failure from the factors influencing the survival time of failing banks. Basic indicators of a bank's condition, such as capital, troubled assets, and net income, are important in explaining the timing of bank failure. However, many of the other variables typically included in bank-failure models, such as measures of bank liquidity, are not associated with the time to failure. The results also suggest that the closure of large banks is not delayed relative to the closure of small banks.

Cottrell, Allin F., Michael S. Lawlor, and John H. Wood, eds. 1995. *The Causes and Costs of Depository Institution Failures*. Kluwer Academic Publishers.

This volume brings together the following papers on the topic of deposit insurance, failures, and moral hazard: "Deregulation Gone Awry: Moral Hazard in the Savings and Loan Industry," by Rebel A. Cole, Joseph A. McKenzie, and Lawrence J. White; "Underlying Determinants of Closed-Bank Resolution Costs," by William P. Osterberg and James B. Thomson; "Federal Reserve Lending to Banks That Failed: Implications for the Bank Insurance Fund," by R. Alton Gilbert; "The Savings and Loan Debacle: Moral Hazard or Market Disaster?" by Gregory A. Lilly; "What Are the Connections between Deposit Insurance and Bank Failures?" by Allin F. Cottrell, Michael S. Lawlor, and John H. Wood.

Cowan, Charles D. 1997. Statistical Sampling as a Management Tool in Banking. *FDIC Banking Review* 10, no. 1:17–23.

The author describes the use of sampling in a financial setting and, to illustrate, focuses on some of the methods used by the FDIC to value assets in liquidation. The author finds that using sampling—as opposed to valuing each asset—

achieves significant cost savings while ensuring the accuracy and quality of the results.

Deposit Insurance and U.S. Bank Failures. 1994. *International Currency Review* 21, no 1–2:30–47, 54.

This article draws from a February 1991 U.S. Treasury Department work entitled "Modernizing the Banking System" to illustrate the dangers of mishandling bank failures and the ingenuity of the authorities in dissipating the dangers that failures represent for stability. The article discusses the cost of bank runs, bank failures, bailing out banks, bridge banks, and the treatment of parties involved in U.S. bank failures.

England, Catherine. 1991. Deposit Insurance and the Banking Crisis in the 1990s. In *Proceedings of the Sixth Annual Meetings of the Pennsylvania Economic Association,* edited by Stanley G. Long, 203–17.

The author posits that consumers and businesses depend less on banks today than they ever have. However, it is difficult to imagine how the requisite structural adjustments will be made without imposing large and unnecessary costs on U.S. taxpayers and the U.S. economy. Banks' traditional importance (psychological as well as financial) in the U.S. economy has seemingly paralyzed policymakers confronted with increasing evidence of the industry's decline. The author hopes they will be able to shake off this paralysis in time to save the still-healthy portions of the banking industry and at the same time protect taxpayers from another massive bailout.

Federal Deposit Insurance Corporation (FDIC). 1997. *History of the Eighties—Lessons for the Future: An Examination of the Banking Crisis of the 1980s and Early 1990s*. FDIC.

Two volume set presents the results of a study of recent banking crises conducted by the FDIC to identify areas in which the agency's mission could be better accomplished in the future. Volume 1 contains thirteen papers discussing the banking crises of the 1980s and early 1990s and their implications (George Hanc); banking legislation and regulation (Lee Davison); commercial real estate and the banking crises of the 1980s and early 1990s (James Freund, Timothy Curry, Peter Hirsch, and Theodore Kelley); the savings and loan crisis and its relationship to banking (Alane Moysich); the LDC debt crisis (Curry); the mutual savings bank crisis (Moysich); Continental Illinois and the "too big to fail" policy (Davison); banking and the agricultural problems of the 1980s (Brian Lamm); banking problems in the Southwest (Lamm and John O'Keefe); banking problems in the Northeast (Lamm and O'Keefe); banking problems in California (Victor Saulsbury and Curry); bank examination and enforcement (Curry); and off-site surveillance systems (Jack Reidhill and O'Keefe). Volume 2 contains the proceedings of a symposium held to discuss the preliminary results of the FDIC's study of recent banking crises. Volume 1 contains a bibliography and an index. (©1999 EconLit)

Federal Deposit Insurance Corporation (FDIC). 1998a. The Banking Crises of the 1980s and Early 1990s: Summary and Implications. *FDIC Banking Review* 11, no. 1.

This special issue of the *Review* contains the introductory chapter from the book *History of the Eighties—Lessons for the Future: An Examination of the Banking Crisis of the 1980s and Early 1990s*, which was researched and written by staff of the Division of Research and Statistics of the FDIC. The analysis presented in this chapter deals with (1) the factors underlying the rapid rise in the number of bank failures; (2) the regulatory issues raised by this experience; (3) questions that remain open despite the legislative and regulatory remedies adopted between 1980 and 1994; and (4) concluding comments.

Federal Deposit Insurance Corporation (FDIC). 1998b. *Managing the Crisis: The FDIC and RTC Experience, 1980–1994*. FDIC.

Examines the manner in which the Federal Deposit Insurance Corporation (FDIC) and the Resolution Trust Corporation (RTC) handled the bank and thrift failures occurring during the U.S. banking crisis of the 1980s and early 1990s. Part 1 documents the evolution of the methods used to resolve failed institutions, pay depositors their money, and dispose of the large volume of assets that remained. Part 2 presents case studies of ten significant bank failures: First Pennsylvania Bank; Penn Square Bank; Continental Illinois National Bank and Trust Company; First City Bancorporation of Texas; First RepublicBank Corporation; MCorp; Bank of New England Corporation; Southeast Banking Corp.; Seven Banks in New Hampshire; and CrossLand Savings. Volume 2 consists of the proceedings of the symposium "Managing the Crisis: The FDIC and RTC Experience," hosted by the FDIC in April 1998, which featured discussions of the strategies used to liquidate the 1,617 banks and 1,295 thrifts that failed during the period. (©1999 EconLit)

Federal Deposit Insurance Corporation (FDIC). 1998c. *Resolutions Handbook: Methods for Resolving Troubled Financial Institutions in the United States*. FDIC.

This handbook details the processes available to the FDIC for resolving problem banks and savings institutions.

Garcia, Gillian. 1995. Implementing FDICIA's Mandatory Closure Rule. *Journal of Banking and Finance* 19, no. 3–4:723–25.

Under the prompt corrective action (PCA) provisions of the FDIC Improvement Act (FDICIA), closure is mandatory when an institution's tangible equity capital falls below 2 percent of its total assets. By the time the act was passed in December 1991, the number of critically undercapitalized banks and thrifts had fallen by 59 percent and 77 percent, respectively. By the time the act was implemented one year later, the percentages were even greater. Consequently, the expected deluge of closures did not occur. This article mentions five possible reasons for the decrease in the number of undercapitalized banks: (1) the improved economy; (2) the threat of mandatory closing; (3) the actual closing of failing banks by regulators; (4) the changed message on forbearance by Congress

and the administration; and (5) the improved ability to monitor a bank's compliance with the law.

Genin, Veronique Annie. 1994. Market-Based, Bank-Specific Closure Rules for Depository Institutions. Ph.D. diss., Florida State University.

This dissertation investigates the early-closure reform proposal by deriving bank-specific, market-based closure parameters. The study covers 32 quarters from the years 1984–91. The first essay analyzes the relationship among early closure, the flat-rate deposit insurance premium, and FDIC direct assistance. In the second essay, the author derives bank-specific closure-condition parameters, which represent the value of the opportunity to become solvent and to preserve the franchise value. The third essay explores the relationship between business cycles and the bank-specific, closure-condition parameters determined in the second essay. The results indicate that banks' conditions are rarely influenced by national business cycles but are influenced by regional economic activity.

Giliberto, S. Michael, and Nikhil P. Varaiya. 1989. The Winner's Curse and Bidder Competition in Acquisitions: Evidence from Failed Bank Auctions. *Journal of Finance* 44, no. 1:59–75.

This study examines the effect of bidder competition in acquisitions. The authors use predictions from auction theory to test whether acquirers of failed banks overpaid (the "winner's curse") when bidding in FDIC sealed-bid purchase-and-assumption (P&A) transactions (auctions). The empirical results indicate that winning bids tend to become larger as the number of competitors increases, as predicted by theory. The authors also find that bid levels of *all* bidders rose as competition increased, a finding consistent with the failure of bidders to adjust for the winner's curse in a common-value auction setting. However, additional tests using winning bids are consistent with both a common-value and a private-values model, so this result should be interpreted with caution.

Gonzales-Hermosillo, Brenda. 1999. Determinants of Ex Ante Banking System Distress: A Macro-Micro Empirical Exploration of Some Recent Episodes. Working Paper WP/99/33. International Monetary Fund.

This paper empirically analyzes the contribution of microeconomic and macroeconomic factors in recent episodes of banking-system problems in the U.S. Southwest, Northeast, and California; in Mexico; and in Colombia. The paper finds that, at the bank level, low equity capital and low reserve coverage for problem loans are leading indicators of bank distress, signaling a high likelihood of near-term failure. Distress is also shown to be a function of the same fundamental macro-micro sources of risk that determine bank failures. The author suggests that a focus on distress can help identify industrywide fragility before a crisis actually occurs.

Goodhart, Charles A. E. 1993. Bank Insolvency and Deposit Insurance: A Proposal. In *Money and Banking: Issues for the Twenty-first Century,* edited by Philip Arestis, 75–94. St. Martin's Press. Also 1993. Bank Insolvency and Deposit Insurance: A Proposal. In

*Central Bank and the Financial System*, edited by C. A. E. Goodhart, 414–29. MIT Press.

The experience of bank failures in several major countries has pointed up a number of intractable problems facing central banks and bank regulatory authorities. The debate continues over whether such insurance should be provided by the private or the public sector and whether it should cover all deposits or only deposits providing transactions services. The author argues that such insurance needs to be provided by the public sector and cover all deposits.

Gregorian, Vartan. 1991. *Carved in Sand: A Report on the Collapse of the Rhode Island Share and Deposit Indemnity Corporation*. 2 vols. State of Rhode Island.

This report elaborates on the following reasons for the failure of the Rhode Island Share and Deposit Indemnity Corporation (RISDIC): (1) many RISDIC members strayed from the original credit union concept; (2) some of RISDIC's members did not have adequate sources of liquidity; (3) RISDIC was not prepared to function as an insurer; (4) RISDIC had no recourse to "deep pockets" outside of its own membership; (5) RISDIC's board of directors did not adequately oversee RISDIC's operations; (6) RISDIC did not have an adequate monitoring and examination system; (7) RISDIC adopted an indulgent approach toward members; (8) the state's Department of Business Regulation did not have the resources or the continuity of leadership to exercise its legislated responsibilities adequately; (9) the state legislature indulged RISDIC's and its members' desire for "flexibility"; and (10) the executive branch did not take adequate precautions to mitigate the effect of a possible financial crisis.

Guo, Lynn. 1997. When and Why Did FSLIC Resolve Insolvent Thrifts? Ph.D. diss., Boston College.

This dissertation investigates the reasons regulators granted capital forbearance during the thrift crisis of the 1980s: Was it to reduce the cost to federal insurance funds or was it because of the statutory constraints faced by the regulatory agencies? For the period 1985–89, the results suggest that regulators seldom conformed to the benchmark strategy that an "unconflicted" agent would follow in timing insolvency resolutions. Results are inconsistent with the hypothesis that regulators simply seek to minimize the loss exposure to the insurance fund. The dissertation also develops evidence about the character of forbearance policies. First, it shows that authorities did not first resolve institutions with lower capital ratios and greater franchise values. Second, regulators gave more forbearance to larger thrifts and District 7 and 9 thrifts. Third, thrifts that were market-value insolvent but RAP-solvent were given more time to recover, ceteris paribus.

Gupta, Atul, and Lalatendu Misra. 1999. Failure and Failure Resolution in the U.S. Thrift and Banking Industries. *Financial Management* 28, no. 4:87–105.

The failure of large numbers of thrifts and commercial banking firms during the 1980s and early 1990s severely tested the existing deposit insurance and failure-resolution systems in the United States. This article surveys recent academic and

regulatory studies on the causes of the crisis, the costs of different regulatory strategies used to combat the crisis, and the changes resulting from the passage of FIRREA in 1989 and of FDICIA in 1991. The information gathered from the review is used to identify critical elements of a regulatory strategy that is capable of both early detection of potential problems and minimization of resolution costs in the event of such failures.

Holland, David S. 1993. The Bank and Thrift Crises—A Retrospective. *FDIC Banking Review* 6, no. 1:16–25.

The decade of the 1980s was a tumultuous period for the U.S. banking and thrift industries and their regulators. This article provides a retrospective analysis of the crises. The author first provides a brief review of pre-1980 developments in the thrift and banking industries. Next, the thrift industry's expansion and contraction are described. Then, the banking industry's difficulties are examined. Finally, the author gives his thoughts on the prospects of the banking and thrift industries.

Holland, David S. 1998. *When Regulation Was Too Successful—The Sixth Decade of Deposit Insurance: A History of the Troubles of the U.S. Banking Industry in the 1980s and Early 1990s.* Praeger.

This book examines the banking industry's troubles of the 1980s and early 1990s, troubles that at times approached crisis proportions. Unlike the infamous savings and loan crisis, however, the banking troubles did not end up decimating an industry or requiring a massive taxpayer bailout. The banking industry survived and, indeed, seems healthy and very much a central, fundamental component of the U.S. financial system. Nevertheless, the author expresses concern that some of the lessons that should have been learned from these episodes have not been fully accepted.

Jaffee, Dwight M. 1989. Symposium on Federal Deposit Insurance for S&L Institutions. *Journal of Economic Perspectives* 3, no. 4:3–9.

In this paper introducing the symposium, the author examines the problems that led to the insolvency of the Federal Savings and Loan Insurance Corporation (FSLIC). In examining the sources and solutions of the FSLIC crisis, he raises and discusses four questions: How did S&L losses expand so rapidly and unexpectedly? How should the FSLIC be redesigned to avoid a recurrence? Who is going to pay for the existing FSLIC losses? What are the prospects for the S&L industry?

James, Christopher. 1991. The Losses Realized in Bank Failures. *Journal of Finance* 46, no. 4:1223–42.

This article examines the losses realized in bank failures during the period 1985 through mid-year 1988. Losses are measured as the difference between the book value of assets and the recovery value net of the direct expenses associated with the failure. Results indicate that the loss on assets is substantial, averaging 30

percent of the failed bank's assets. An analysis of the determinants of these losses reveals a significant difference between the value of assets retained by the FDIC and the value of similar assets assumed by acquiring banks. Direct expenses associated with bank closures average 10 percent of assets. There are, however, significant economies of scale with respect to direct costs of liquidation.

Kane, Edward J. 1989. *The S&L Insurance Mess: How Did It Happen?* Urban Institute Press.

Contends that congressional procedures for budgeting and overseeing the operations of the savings and loan deposit insurance bureaucracy made the regulatory strategy of cover-up and deferral practically irresistible. Notes that the S & Ls have been "in the red" for over twenty-five years, spreading to the Federal Savings and Loan Insurance Corporation (FSLIC) and that federal regulators and politicians allowed accounting gimmicks to hide the impending damage from the public. Reviews FSLIC regulation and the handling of risk and S&L capital. Identifies critical mistakes of the FSLIC and analyzes socially perverse incentives confronting thrift regulators. Presents two case studies of the meltdown of deposit insurance funds as evidence of regulatory gambling. Recommends guidelines for significant reform in both the short run and long run, including improving incentives, emphasizing market discipline, and stressing regulatory procedures especially dealing with adequacy of capital requirements. (©1999 EconLit)

Kane, Edward J., and Min Teh Yu. 1994. How Much Did Capital Forbearance Add to the Tab for the FSLIC Mess? Working Paper 4701. National Bureau of Economic Research.

Federal regulators characterize capital forbearance as an efficient way of nursing weak banks and thrifts back to health. An alternative hypothesis is that forbearance reflects inefficient costs of agency that fall on federal deposit-insurance funds. Divergences between regulatory measures of a troubled institution's net worth and GAAP and market-value measures relieved FSLIC from having to book de facto encumbrances that industry losses were imposing on the FSLIC fund. This omission protected the reputations and careers of top officials. Delays in insolvency resolution intensified FSLIC exposure to future losses by distorting management and risk-taking incentives and squeezing profit margins for surviving thrifts. Besides accumulating projects with negative net present value, delay hurt FSLIC indirectly by undermining the average profitability of the industry it insured. This paper seeks to measure the opportunity cost of FSLIC forbearance during 1985-1989. Although the opportunity cost of delay did not increase every year, it did increase on average. Had opportunity-cost standards of capital adequacy been routinely enforced, FSLIC guarantees would not have displaced private capital on a mammoth scale, surviving members of the industry would have proven more profitable, and investments in commercial real estate would have been reinstated. (©1999 EconLit)

Kane, Edward J., and Min Teh Yu. 1995. Measuring the True Profile of Taxpayer Losses in the S&L Insurance Mess. *Journal of Banking and Finance* 19, no. 8:1459–77.

This research shows that conservative methods of projecting and discounting cash flows, if applied to information "already" collected in the FHLBB's reporting system, would have reflected the size of the S&L deposit-insurance losses long before taxpayers were aware of the extent of the mess. Official data show FSLIC reserves of $4.6 billion in 1986. In sharp contrast, our conservative estimate puts imbedded losses for that year at $45.3 billion. These methods prove insensitive to arbitrariness in the assumptions needed to operationalize the discounting process and measure the extent of "guilty knowledge" it is fair to presume officials possessed—supporting an incentive-breakdown theory of the problem over presumptions of innocent ignorance. The policy implication is that taxpayers need to impose on government regulatory agents a better information system and better enforcement of those agents' obligations to the public. (©1999 EconLit)

Kaufman, George G. 1996. Bank Failures, Systemic Risk, and Bank Regulation. *Cato Journal* 16, no. 1:17–45.

The author maintains that regulations imposed to prevent or mitigate the effect of bank failures are frequently inefficient and counterproductive and that banking regulators often increase both the probability of bank failures and the costs of such failures—ultimately shifting the costs of failures from private depositors of the failed banks to general taxpayers. He argues that an effective system of structured early intervention and resolution would reduce the number of bank failures while still allowing inefficient institutions to fail.

Levonian, Mark E. 1992. A Note of Caution on Early Bank Closure. Federal Reserve Bank of San Francisco *Weekly Letter*, no. 92-41 (November 20).

Penalties do not always have their intended effects. Prohibition may or may not reduce problems related to alcohol. The relationship between the death penalty and murder rates is passionately debated. Similar considerations arise in bank regulation, where penalties designed to deter banks from taking risks just might have the opposite effect. Specifically, a policy of closing troubled banks earlier aims to prevent unsound banks from taking big risks at the expense of the deposit insurance fund; the catch is that recent banking research indicates some banks may respond to earlier closure by taking on *more* risk. This *Letter* describes this new research and argues that the effect it points to can be mitigated if a larger number of smaller penalties are imposed in a policy of graduated intervention, as under the federal bank regulatory policy of "prompt corrective action."

Lowy, Martin. 1991. *High Rollers: Inside the Savings and Loan Debacle.* Greenwood.

Provides an inside look at the savings and loan crisis. Explains how the S&L business and its regulatory system were set up; how the accounting rules gave a false picture of financial health; how the economics of the S&L business changed; how real estate markets work; how the regulators and accountants could not keep up with the changes; how greed and fraud were permitted to take over; how the

time value of money made delay costly; how the political process made matters worse; and what factors caused parts of the S&L losses. Discusses the impact of deregulation; the role of numbers in formulating policy; how complexity can prevent effective regulation; why fraud always threatens banks and what can be done about it; what regulation can and cannot accomplish; how regulation is unable to tame technology or market forces; deposit insurance reform; and some implications of the FSLIC bailout for the future of thrift institutions. (©1999 EconLit)

Mailath, George J., and Loretta J. Mester. 1994. A Positive Analysis of Bank Closure. *Journal of Financial Intermediation* 3, no. 3:272–99.

This article investigates the incentives of a regulator to close depository institutions, recognizing that an institution's risk-taking will be influenced by the regulator's policy regarding bank closure and that there are opportunity costs in closing banks arising from their intermediation function. The authors conclude that regulators focus not on the current portfolio of the bank but on its future portfolio.

Moreland-Gunn, Penelope, Peter J. Elmer, and Timothy J. Curry. 1995. Reps and Warranties. *FDIC Banking Review* 8, no. 3:1–9.

Representations and warranties (R&Ws) are legally binding statements primarily made by sellers assuring buyers that certain minimum asset-quality requirements are met. R&W risk can be significant for institutions that actively purchase and sell loans because each time a purchase or sale is made, R&W risk exposure increases. The authors discuss the early difficulties of the Resolution Trust Corporation (RTC) in trying to sell assets without R&Ws. They also analyze the RTC's claims experience with R&Ws, and compare the estimated costs and benefits of granting R&Ws.

Murphy, Neil B. 1992. Acquisitions of Failed-Bank Deposits: In-Market vs. Out-of-Market Cost Effects. *FDIC Banking Review* 5, no. 2:24–33.

Banks seeking to acquire an insured-deposit franchise from the FDIC establish their bids on the basis of expected net future earnings from the acquisition. Does a high bid from an in-market bank reflect cost efficiencies, or does it reflect gains from reducing the number of competitors in the market area? This article seeks to answer that question. Using standard econometric techniques and simulations of specific transactions, the author finds that in-market bidders who close redundant branches can achieve substantial cost efficiencies. Although there may not be economies of scale as a bank expands, there appear to be economies of scale as the typical branch expands.

Neuberger, Jonathan A. 1990. How to Close Troubled Banks. Federal Reserve Bank of San Francisco *Weekly Letter* (December 7).

In this *Letter*, the author describes current procedures for resolving problems at troubled banks and suggests that tighter procedures can go a long way toward closing insolvent banks promptly.

O'Keefe, John. 1990. The Texas Banking Crisis: Causes and Consequences 1980–1989. *FDIC Banking Review* 3, no. 2:1–34.

This analysis seeks to explain the high failure rates among Texas commercial banks in the 1980s. Specifically, the author examines financial and nonfinancial market data as well as information on regulatory activity in Texas during the period in question to determine which factors contributed to the problems of the state's commercial banks.

O'Keefe, John. 1992. Bank Failure Resolutions: Implications for Banking Industry Structure, Conduct, and Performance. *FDIC Banking Review* 5, no. 1:17–35.

This study examines the effect of failed-bank acquisitions on acquirers' performance and investigates the determinants of post-acquisition performance. Using a sample of recent failed-bank acquisitions, the author finds that the post-acquisition performance of the failed-bank acquirers was very similar to that of acquirers of nonfailed banks. Both groups of acquirers were able to improve asset quality and maintain profitability, on average, in the post-acquisition period. Neither group of acquirers, however, appeared to realize economies of scale or scope. Finally, although the FDIC often granted assurances to failed-bank acquirers, these assurances did not appear to result in a significant subsidy to failed-bank acquirers.

Okina, Yuri. 1995. Coping with the Failure of Financial Institutions through Reform of the Deposit Insurance System. *Japan Research Quarterly* 4, no. 3:73–76.

There has been much discussion of rights and wrongs in the handling of the failure of two Tokyo-based credit associations. The author examines what approach Japanese authorities should take in dealing with failed financial institutions and whether the Japanese deposit insurance system should be reformed. The author suggests working to increase the transparency with which failures are handled, having available a diversity of resolution methods, and reforming the deposit insurance system.

Osterberg, William P., and James B. Thomson. 1994. Underlying Determinants of Closed-Bank Resolution Costs. Working Paper no. 9403. Federal Reserve Bank of Cleveland.

This paper looks at the underlying determinants of bank resolution costs. In the spirit of James (1991), the authors model resolution costs as functions of problem assets. However, they extend previous work by looking at failures from a more recent period (from 1986 to 1992) and by broadening their specification to include proxies for fraud, off-balance-sheet risk, brokered deposits, and both regional and

size effects. Unlike James, they find no evidence that capital reflects net unbooked losses, but they do find roles for fraud, off-balance-sheet items, and both regional and size dummies.

Reichert, Usha Nair. 1997. A Brief Note Examining the Impact of Federal Deposit Insurance on Savings and Loan Failures Using Granger Causality Tests. *Journal of Economics and Finance* 21, no. 3:61–64.

This brief note applies Granger causality testing to the issue of whether federal deposit insurance has caused S&L failures. The findings strongly indicate that federal deposit insurance has Granger-caused S&L failures over the 1934–91 period. (©1999 EconLit)

Resolution Trust Corporation (RTC). 1990. Open Bank Assistance: A Study of Government Assistance to Troubled Banks from the RFC to the Present. RTC.

This RTC research study describes four major types of open-bank assistance: the loan and investment program of the Reconstruction Finance Corporation; the FDIC's net worth certificate program; the FDIC's capital forbearance program; and direct open-bank assistance transactions.

Saltz, Ira S. 1995. The Impact of Federal Deposit Insurance on Savings and Loan Failures: Comment [on Cebula article in vol. 59, no. 4]. *Southern Economic Journal* 62, no 1:253–55.

Saltz maintains that although the Cebula article is a useful scholarly investigation of the causes of the S&L crisis, it contains an econometric flaw that casts doubt on one of his conclusions—the conclusion that the failure rate of S&Ls is a positive function of the real federal deposit insurance ceiling. In addition to discussing this econometric flaw, Saltz presents some new estimates of the basic model in Cebula to show that the ceiling on federal deposit insurance does not significantly affect the failure rate of S&Ls.

Saltz, Ira S. 1997a. FDIC Coverage on Bank Failures: Cointegration Analysis Using Annual Data, 1942–91. *International Advances in Economic Research* 3, no. 1:71–80.

The present study empirically investigates whether in the U.S. federal government-provided deposit insurance, which was intended to prevent runs on banks and to protect depositors of modest means, has acted to induce increased bank failures. This issue has been investigated earlier, but only with regression analysis, and it remains unresolved since results vary sharply from one study to the next. By contrast, the present study uses cointegration techniques to investigate this problem. The cointegration analysis finds strong evidence of a cointegrating relationship between the bank failure rate and the extent of central government-provided deposit insurance as well as other variables. Maximum eigenvalue and trace test results, along with normalized cointegrating vectors and likelihood ratio test results, are provided examination. (©1999 EconLit)

Saltz, Ira. 1997b. Federal Deposit Insurance Coverage and Bank Failures: A Cointegration Analysis with Semi-annual Data, 1965–91. *Journal of Economics and Finance* 21, no. 3:3–9.

This study examines empirically the link between bank failures and statutorily created increases in the extent of federal deposit insurance coverage. The model includes such factors as the percentage of deposits at federally insured banks that was covered by federal deposit insurance (FDICOV), the tangible capital/asset ratio, the commercial bank cost of funds, and the prime rate of interest. Using cointegration techniques involving maximum eigenvalue, trace, and likelihood ratio tests, together with semi-annual data for 1965–91, the study reveals that the bank failure rate is cointegrated with FDICOV, the capital/asset ratio, and the commercial bank cost of funds. Accordingly, it is inferred that--consistent with previous studies--the system of federal deposit insurance very likely induced bank failures during the study period. (©1999 EconLit)

Seballos, Lynn D., and James B. Thomson. 1990. Underlying Causes of Commercial Bank Failures in the 1980s. Federal Reserve Bank of Cleveland *Economic Commentary* (September 1): 1–4.

This article asks why bank failures hit record rates during good economic times and says there were probably two reasons. First, the U.S. banking system is a regional system. Therefore, economic slumps in specific areas of the country, which do not necessarily coincide with national downturns, may be partly responsible for the increased rate of failures. Second, the rise in the failure rate may be traced to the behavior of bank management in increasingly deregulated and competitive financial markets. The authors investigate the role these factors may have played in the failures of banks between 1982 and 1989. They conclude that although regional economic problems contributed to the demise of many of the banks during this period, a bank's ability to survive was ultimately determined by managerial factors.

Selgin, George. 1994. Are Banking Crises Free-Market Phenomena? *Critical Review* 8, no. 4:591–608.

The conventional view of banking crises sees them as an inherent problem of fractional-reserve banking systems. According to this view, government regulation in the form of an alert central bank (acting as a "lender of last resort"), or deposit insurance, or both is needed to keep isolated bank failures from generating system wide panic. But this view does not mesh with historical experience, which points to government regulation itself as the most likely cause of banking crises. (©1999 EconLit)

Silverberg, Stanley. 1989. M Corp and the Handling of Large Bank Failures. *The Golembe Reports* 1989-3.

During the last week in March 1989, 20 banks that had been subsidiaries of M Corp were closed by the Comptroller of the Currency, placed into a bridge bank by the FDIC, and eventually sold to another bank. The FDIC's handling of M

Corp and the events leading up to the March closing are likely to have a significant effect on how future failures are managed. In fact, these events illustrate issues and conflicts that have already arisen in connection with the handling of other large-bank failures during the late 1980s. The author discusses some of these events and assesses the appropriateness of what was done by and to M Corp.

Silverberg, Stanley. 1992. The High Cost of Bank Failures. *The Golembe Reports* 1992-3.

The author observes that bank failures have become very important and expensive to surviving banks—even very healthy ones—as additional regulatory costs have been imposed in reaction (or overreaction) to failures. In other words, surviving banks will have to shoulder the costs of both past and future failures. This report examines these latter costs. It also looks at the way bank failures are being handled and the effect on costs and other aspects of the banking environment.

Strahan, Philip E. 1995. Asset Returns and Economic Disasters: Evidence from the S&L Crisis. *Journal of Monetary Economics* 36, no. 1:189–217.

This paper shows that depositors lost confidence in FSLIC during the two years prior to passage of FIRREA, legislation which recapitalized the deposit insurance fund in 1989. During this period, promised returns on retail CDs reflected the expected loss and return standard deviation on these securities in the absence of government insurance. Cross-sectional analysis is used to estimate both the probability and the conditional price of risk associated with FSLIC default. The results suggest that increased uncertainty about both output and inflation in this disaster scenario drove the price of FSLIC default risk to extremely high levels. The results also indicate that the market for retail deposits is characterized by less than perfect arbitrage across geographical regions. (©1999 EconLit)

Talley, Pat L. 1993. *The Savings and Loan Crisis: An Annotated Bibliography.* Greenwood.

An annotated bibliography of books and research papers that address specific aspects of the U.S. savings and loan crisis. Includes both scholarly and popular titles of books and research papers published between 1980 and 1992. Arranged alphabetically by author under the following subject areas: the Depository Institutions Deregulation and Monetary Control Act of 1980; the Garn-St. Germain Depository Institutions Act of 1982; deposit rate ceilings; mortgage lending; accounting and tax issues; deposit insurance; regulatory oversight; the thrift industry (in different periods); the Competitive Equality Banking Act of 1987; resolution cost; mergers, acquisitions, and conversions; failed thrifts; 1988 resolutions; failure analysis and prediction; Texas thrifts; the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA); and post-FIRREA. (©1999 EconLit)

U.S. Congressional Budget Office (CBO). 1994. The Changing Business of Banking: A Study of Failed Banks from 1987 to 1992. Report. CBO.

Prepared at the request of the Senate Banking Committee, this study examines the major factors contributing to bank failures from 1987 to 1992 and discusses the extraordinary resolution costs that resulted from the failures.

U.S. General Accounting Office (GAO). 1993. *Bank Insurance Fund: Review of Loss Estimation Methodologies*. GAO/AIMD-94-48.

This report compares the various approaches forecasters used in estimating bank failures and losses, the key assumptions of each approach, and the timing and frequency with which the estimates were prepared.

U.S. General Accounting Office (GAO). 1994. *1992 Bank Resolutions: FDIC Chose Methods Determined Least Costly, But Needs to Improve Process*. GAO/GGD-94-107.

This report presents the results of the GAO's review of the FDIC's compliance with Section 13(c)(4) of FDICIA. Section 13(c)(4) requires the FDIC to calculate and document its evaluation of the costs of all possible methods for resolving a troubled depository institution and to choose the resolution method that entails the least possible cost to the deposit insurance fund. These statutory provisions establish the basic requirements the FDIC must meet in making its least-cost determination. This report assesses the FDIC's adherence to the least-cost requirements and includes recommendations for improving the resolution process.

U.S. House. 1991a. Committee on Banking, Finance and Urban Affairs. *Closure of 45 Privately Insured Financial Institutions in Rhode Island: Hearing*. 102d Cong., 1st sess., April 17.

Witnesses include Layne Bumgardner, Antoinette DeMaio, John Downey, Joe Dube, Paul Fritts, Flora Fusaro, Carlotta LaBella, Mark Neckes, Bruce Sundlun, and Richard Syron.

U.S. House. 1991b. Committee on Banking, Finance and Urban Affairs. *The Bank of New England Failure and Resolution: Hearing*. 102d Cong., 1st sess., May 24 and 25.

This study of the failure of the Bank of New England in January 1991 indicates that bank management undertook a high-risk gamble on commercial real estate without proper internal controls. In its conclusion, the study suggests that the newly enacted FDICIA will help control future failures of this type, since the act gives regulators more supervisory power and the authority to intervene before a bank becomes insolvent. Witnesses include Marilyn Cimini, John F. Downey, Flora R. Fusaro, Terrance McKenna, Anthony J. Solomon, John Stone, Bruce G. Sundlun, John F. Kerry, John Joseph Moakley, Bruce Bolling, Raymond Flynn, Oscar Dotson, Thomas Middleton, James P. Murphy, Charles O'Connell, Bert Otto, William E. Robinson, Theodore M. Shediac, William Spring, John R. Strickland, Paul H. Wiechman, Dianne Wilkerson, and Charles C. Yancey.

U.S. House. 1991c. Committee on Banking, Finance and Urban Affairs. *Rhode Island Banking Crisis: Hearing*. 102d Cong., 1st sess, May 24 and 25.

Witnesses include Marilyn Cimini, John Downey, Flora Fusaro, Terrance McKenna, Anthony Solomon, John Stone, Bruce G. Sundlun, John Kerry, John Moakley, Bruce Bolling, Raymond Flynn, Oscar Dotson, Thomas Middleton, James Murphy, Charles O'Connell, Bert Otto, William Robinson, Theodore Shediac, William Spring, John Strickland, Paul Wiechman, Dianne Wilkerson, and Charles Yancey.

U.S. Senate. 1990. Committee on Banking, Housing and Urban Affairs. *Fraud in America's Insured Depository Institutions: Hearing*. 101st Cong., 2d sess., August 1 and 2.

The subjects discussed are the nature and extent of the problem of fraud in depository institutions, why it seems to be as pervasive as it is, how the federal government is responding to it, and what further steps need to be taken in addition to the reform legislation already enacted. Witnesses include Richard Fogel, William Seidman, and Richard Thornburgh.

Wheelock, David C. 1992a. Deposit Insurance and Bank Failures: New Evidence from the 1920s. *Economic Inquiry* 30, no. 3:530–43.

This paper examines the contributions of deposit insurance to bank failures during the 1920s. Using individual bank data from Kansas, where membership in the state insurance system was voluntary, the author finds that the balance sheets of insured banks reflected greater risk-taking and probit model estimates indicate that insured banks were more likely to fail than noninsured banks. Insurance had an especially strong impact the closer a bank was to failure. Because regulation was comparatively strict in Kansas, the findings suggest that deposit insurance had an even greater impact in other states and in the recent U.S. experience. (©1999 EconLit)

Wheelock, David C. 1992b. Regulation and Bank Failures: New Evidence from the Agricultural Collapse of the 1920s. *Journal of Economic History* 52, no. 4:806–25.

This article examines the contribution of government policies to the high number of bank failures in the United States during the 1920s. In the state of Kansas, which had a system of voluntary deposit insurance and where branch banking was strictly prohibited, bank failure rates were highest in counties suffering the greatest agricultural distress and where deposit insurance system membering was highest. The evidence for Kansas illustrates how prohibitions on branch banking caused unit banks to be especially vulnerable to local economic shocks and suggests that deposit insurance caused more bank failures than would have occurred otherwise. (©1999 EconLit)

Wheelock, David C., and Subal C. Kumbhakar. 1994. The Slack Banker Dances: Deposit Insurance and Risk-Taking in the Banking Collapse of the 1920s. *Explorations in Economic History* 31, no. 3:357–75.

This article examines the effects of deposit insurance on bank behavior in Kansas during the 1920s. Kansas banks were severely stressed by a collapse of commodity prices in 1920 and the resulting increase in loan defaults. The authors find that banks belonging to the state deposit insurance system maintained lower capital/asset ratios, which may explain their comparatively high failure rate. Despite delays and eventual suspension of insurance payments, they find no evidence of a decline in the credibility of insurance and, hence, in the ability of insured banks to take excessive risks before the system's collapse in 1926. (©1999 EconLit)

Wheelock, David C., and Paul W. Wilson. 1994. Can Deposit Insurance Increase the Risk of Bank Failure? Federal Reserve Bank of St. Louis *Review* 76, no. 3:57–71.

The authors examine the effect of deposit insurance by drawing on historical evidence from a voluntary insurance system that operated in Kansas between 1909 and 1929. They found that insured banks held less capital and reserves than uninsured banks and that banks with low capital and reserves, or a heavy reliance on borrowed funds, were more likely to fail. In short, risky banks were more likely to fail, and members of the state deposit insurance system tended to be riskier than nonmembers.

Wheelock, David C., and Paul W. Wilson. 1995. Explaining Bank Failures: Deposit Insurance, Regulation, and Efficiency. *Review of Economics and Statistics* 77, no. 4:689–700.

This paper uses micro-level historical data to examine the causes of bank failure. For state-chartered Kansas banks during 1910–28, time-to-failure is explicitly modeled using a proportional hazards framework. In addition to standard financial ratios, this study includes membership in the voluntary state deposit insurance system and a measure of technical efficiency to explain bank failure. The results indicate that deposit insurance system membership increased the probability of failure and technically inefficient banks were more likely to fail than technically efficient banks. (©1999 EconLit)

White, Lawrence J. 1991. *The S&L Debacle: Public Policy Lessons for Bank and Thrift Regulation*. Oxford University Press.

Provides an analysis of the savings and loan debacle, focusing on what happened, how and why it happened, and what reforms are necessary so that the experience will not recur. Describes the current status of the thrift industry and examines recent trends. Discusses the deposit insurance and the regulatory structure applicable to thrifts and banks. Recounts the financial and political history of the thrifts through the late 1970s. Discusses the interest rate squeeze of the late 1970s and early 1980s, and explores the subsequent behavior. Reviews the efforts of the Federal Home Loan Bank Board to contain the damage and analyzes the activities

of the Board in disposing of insolvent thrifts, especially in 1988. Discusses the cleanup legislation of 1989, and examines some fundamental questions concerning deposit insurance and the bank and thrift regulation that accompanies it. Addresses the fundamental reforms that are needed for regulation and deposit insurance and explores two themes that are relevant to the reforms--the changing and improving technologies that undergird banks and thrifts, which will lead to increased competition within and among them, and the future role of thrifts in the financial services markets. (©1999 EconLit)

Zhang, Hao. 1997. Repeated Acquirers in FDIC Assisted Acquisitions. *Journal of Banking and Finance* 21, no. 10:1419–30.

The authors studied repeated acquirers in Federal Deposit Insurance Corporation (FDIC) assisted acquisitions. Using a sample of 128 FDIC assisted acquisitions and 387 non-assisted acquisitions, we found that FDIC assisted acquirers, on average, produced positive abnormal returns. This result was driven by repeated acquirers. First-time acquirers did not profit in these assisted acquisitions. In a logit analysis, they found that the FDIC repeated acquirer improved its profiting chances by reducing the winning bid and the number of bids. This evidence is consistent with the suggested experience/information effect based on theory and FDIC practices. (©1999 EconLit)

# 6. Economics of Deposit Insurance

***Entries in this section are more academic and focus on the following: bank risk-taking, managerial incentives, bank stability, portfolio choice, charter values and shareholder return, and bank capital regulation. Also discussed are the costs and benefits of deposit insurance.***

Allen, Linda, and Anoop Rai. 1996. Bank Charter Values and Capital Levels: An International Comparison. *Journal of Economics and Business* 48, no. 3:269–84.

> Although recent regulatory policies, such as the Basle capital requirements, purport to level the international financial playing field, country-specific effects may still endure. These country-specific factors may stem from regulatory policies (such as deposit insurance, access to discount window borrowings, too big to fail and forbearance policies, lender of last resort privileges), or may be the result of market forces (such as monopoly power, cost synergies, information impediments to development of domestic financial markets). In this paper, the authors utilized a market-based valuation measure, Tobin's Q, to determine whether bank charter values include a country-specific component. Although they found the existence of country-specific components in Spain, Japan, and the United States, their significance declined over the period 1991–1993. (©1999 EconLit)

Armaos, John. 1992. Bank Runs and Partial Suspension of Convertibility. Series in Money, Economics, and Finance, Working Paper FB-92-34. Columbia First Boston.

> This paper attempts to justify theoretically the use of partial suspension of convertibility as an effective measure—under certain circumstances—against bank runs. Its use was frequent in the days of the National Banking System in the U.S. and before the advent of deposit insurance. The paper shows that partial suspensions can eliminate panics and be optimal (efficient) at the same time and then proceeds to show that their characteristics generally agree with those actually observed in the marketplace. (©1999 EconLit)

Arshadi, Nasser. 1989. Capital Structure, Agency Problems, and Deposit Insurance in Banking Firms. *Financial Review* 24, no. 1:31–52.

> This paper applies and synthesizes various theories of corporate finance, including capital structure, agency insurance, and regulation, to the case of banking firms and the deposit insurance system. It is argued that a value-maximizing bank would reach its optimal capital structure by minimizing the agency costs of incentive conflicts among stockholders, managers, uninsured depositors, and the deposit insurance agency. Although a regulatory imposed capital requirement may reduce the agency costs inherent in the insurance contract, it cannot produce a universal capital structure that is optimal for all insured banks. The observed capital structure patterns also suggest that banks actively seek an optimal capital structure. (©1999 EconLit)

Benston, George J., William C. Hunter, and Larry D. Wall. 1995. Motivations for Bank Mergers and Acquisitions: Enhancing the Deposit Insurance Put Option versus Earnings Diversification. *Journal of Money, Credit, and Banking* 27, no. 3:777–88.

This article examines the prices bid for target banks in the early to middle 1980s. The authors study two hypotheses: (1) the earnings diversification hypothesis, which holds that acquirers would bid more for merger partners that offered risk-reduction opportunities, and (2) the deposit insurance put-option hypothesis, which holds that acquirers would bid more for targets that offered opportunities to increase risk and/or become "too big to fail." The results produced by an empirical analysis of a sample of 302 mergers are consistent with the earnings diversification hypothesis and inconsistent with the deposit insurance put-option hypothesis.

Berkovec, James A., and J. Nellie Liang. 1993. Selection in Failed Bank Auction Prices: An Econometric Model of FDIC Resolutions. Finance and Economics Discussion Series, no. 93-40. Board of Governors of the Federal Reserve System.

The FDIC uses a sequential auction procedure to sell failed banks, a procedure that results in the use of one of four alternative transaction methods. The methods vary by the amount and quality of the assets and deposits sold. The authors contend that the sequential auctions cause selection bias to be introduced into prices paid for failed banks. This article estimates an econometric model of the FDIC auction process and failed-bank prices that corrects for selection bias and yields estimated values for the different types of assets and deposits of failed banks. Estimates of the selection effect indicate that the majority of the FDIC's cost differences across transaction types can be attributed to the selection process in which banks are assigned a resolution method on the basis of observed and unobserved differences in quality, leaving little to be explained by relative efficiency.

Besanko, David, and Anjan V. Thakor. 1993. Relationship Banking, Deposit Insurance, and Bank Portfolio Choice. In *Capital Markets and Financial Intermediation,* edited by Colin Mayer and Xavier Vives, 292–327. Cambridge University Press. [Followed by comments by Richard J. Gilbert and Carmen Matutes.]

This article examines the consequences of interbank competition and bank–capital market competition on the portfolio choices of banks and on the welfare of borrowers in a regulatory environment of (de facto) complete deposit insurance. They focus on an industry characterized by "relationship banking," that is, by repeated, bilateral credit transactions between banks and borrowers. The article develops a model of dynamic asset-portfolio choice for a bank operating over two time periods. It examines the dependence of the bank's portfolio choice on its anticipated future information advantage as well as on credit market structure. The authors analyze the results and discuss the policy implications of the analysis.

Bhattacharya, Sudipto, Arnoud W. A. Boot, and Anjan V. Thakor. 1998. The Economics of Bank Regulation. *Journal of Money, Credit, and Banking* 30, no. 4:745–70.

The authors review the economics of bank regulation as developed in the contemporary literature. They begin with an examination of the central aspects of modern banking theories in explaining the asset transformation function of intermediaries, optimal bank liability contracts, coordination problems leading to bank failures and their empirical significance, and the regulatory interventions suggested by these considerations. In particular, the authors focus on regulations aimed primarily at ameliorating deposit-insurance-related moral hazards, such as: cash-asset reserve requirements, risk-sensitive capital requirements and deposit insurance premia, and bank closure policy. Moreover, they examine the impact of the competitive environment (bank charter value) and industry structure (scope of banks) on these moral hazards. They also examine the implications of banking theory for alternatives to deposit insurance. (©1999 EconLit)

Bond, Eric W., and Keith J. Crocker. 1993. Bank Capitalization, Deposit Insurance, and Risk Categorization. *Journal of Risk and Insurance* 60, no. 4:547–69.

This article examines the complementary relationship between bank capitalization and deposit insurance as tools that reduce the exposure of risk-averse depositors to a bank's random portfolio returns. In a costly state verification framework where banks possess private information about solvency, the authors establish that debt contracts are optimal and that banks both capitalize and purchase insurance. Moreover, optimal insurance contracts charge premiums which are conditioned on bank risk as indicated by the level of capitalization. A full-insurance scheme without risk categorization results in an equilibrium where banks totally decapitalize. (©1999 EconLit)

Boot, Arnoud W. A., and Anjan V. Thakor. 1991. Off-Balance-Sheet Liabilities, Deposit Insurance, and Capital Regulation. *Journal of Banking and Finance* 15, no. 4–5:825–46.

The authors examine the effect of banks' off-balance-sheet activities (particularly loan commitments) on their asset portfolio risk when banks, as well as borrowers, are free to choose asset risk. They formally establish that banks that have loan commitments have lower asset risk than banks that do not. Loan commitments may, thus, reduce the bank's portfolio risk and lower the exposure of the federal deposit insurer. The authors then analyze the implications of the interaction between banks' on- and off-balance-sheet activities for the recently adopted Bank for International Settlements capital guidelines, maintaining a clear distinction between loan commitments and other off-balance-sheet activities. (©1999 EconLit)

Boyd, John H., and David E. Runkle. 1993. Size and Performance of Banking Firms: Testing the Predictions of Theory. *Journal of Monetary Economics* 31, no. 1:47–67.

> In recent years, two important literatures on the theory of banking firms have developed. One examines the economic functions of banks in environments in which agents are asymmetrically informed. Another considers the incentive effects (moral hazard) resulting from deposit insurance. Both theories make predictions about the relation between banking firm size and performance. An empirical analysis of large bank holding companies investigates measures of market valuation and risk of failure. Limited support is provided for either set of theoretical predictions. (©1999 EconLit)

Boyd, John H., Bruce D. Smith, and Chun Chang. 1998. Deposit Insurance: A Reconsideration. Working Paper 593. Federal Reserve Bank of Minneapolis.

> This paper offers a general equilibrium analysis of the consequences of deposit insurance programs, the way in which they are priced, and the way in which they fund revenue shortfalls. The central issue of any insurance program is how the government makes up the program's losses.

Brewer, Elijah III. 1995. The Impact of Deposit Insurance on S&L Shareholders' Risk/Return Trade-Offs. *Journal of Financial Services Research* 9, no 1:65–89. Also 1989. The Impact of Deposit Insurance on S&L Shareholders' Risk/Return Trade-Offs. Issues in Financial Regulation Working Papers Series, no. 1989-24. Federal Reserve Bank of Chicago.

> This article empirically examines how savings and loan associations' (S&Ls') stock returns respond to asset mix changes. When deposit insurance is underpriced, increases in financial leverage and the riskiness of the asset portfolio should lead to increases in expected return on common stock. In particular, changes in asset components which increase the volatility of an institution's portfolio should lead the stock market to upwardly revalue S&L equity. This hypothesis is examined using data for the July 1984-December 1989 period. Increases in commercial mortgage loans, acquisition and development loans, and investments in service corporations appear to cause higher return for shareholders of poorly capitalized, failing S&Ls. Similar increases appear to have little impact on the common stock returns of well-capitalized S&Ls. (©1999 EconLit)

Calomiris, Charles W. 1989. Do "Vulnerable" Economies Need Deposit Insurance? Lessons from the U.S. Agricultural Boom and Bust of the 1920s. Issues in Financial Regulation Working Paper Series, no. 1989-18. Federal Reserve Bank of Chicago.

> This paper examines whether deposit insurance is desirable for economies that are intrinsically vulnerable to large income disturbances. The paper provides cross-sectional evidence on movements of price, income, and wealth, and on indicators of financial distress as experienced by various states in the 1920s. The author measures changes in the size, number, and portfolio structure of national and state-chartered banks before and during the crisis. He evaluates differences in the performance of the state-chartered banking systems in response to the crisis.

Specifically, he compares the rate of bank suspension and bank failure, the cost to depositors of failures, and the ability of the banking systems to recover from the crisis.

Carr, Jack L. 1993. Deposit Insurance, Savings, and Economic Growth. In *Economic Policy, Financial Markets, and Economic Growth*, edited by Benjamin Zycher and Lewis C. Solmon, 29–52. Westview.

This chapter briefly reviews developments in the literature on economic growth and examines some of the policy implications of the new economic models. The author maintains that in policy discussions it becomes crucial to distinguish between a private-interest theory of policy and a public-interest theory. The chapter then examines one particular policy and its effect on economic growth: the enactment of compulsory deposit insurance in both Canada and the United States. The data presented support a private-interest theory of deposit insurance. Because deposit insurance has a major effect on the operation of the banking sector, the author argues that deposit insurance has affected the efficient allocation of savings and the growth rate.

Carr, Jack, and Franklin G. Mathewson. 1989. The Effects of Deposit Insurance on Financial Institutions. Working Paper 8903. Institute for Policy Analysis, University of Toronto.

In this paper, the authors examine the impact of non-risk rated deposit insurance upon the behavior of financial institutions. In particular, they focus on the impact of deposit insurance on the financial structure of deposit-taking firms. Finally, the paper offers a political economy interpretation of the jurisdictional competition between governments that precipitated the introduction of the deposit insurance in Canada at a time of financial stability. Contrary to general belief, the authors believe that deposit insurance serves private and not public interests. (©1999 EconLit)

Chen, Andrew H., and Jacky C. So. 1996. Insolvency, Foreign-Branch Deposits, and Option-Based Risk-Adjusted Deposit Insurance in the 1980s. In *Research in Finance*, vol. 14, edited by Andrew H. Chen, 175–95. JAI Press.

This study argues that asset returns of commercial banks are sub-Gaussian and that it is, therefore, inappropriate to use a traditional risk measure, such as the standard deviation of return, to estimate insolvency risk into the Black-Scholes option pricing model to determine deposit insurance premiums. New estimates obtained from a log-stable option pricing model indicate that Black-Scholes models underestimate insolvency risk and fair insurance premiums. The common belief that regional banks are less risky, and thus subsidize money-center banks within a flat-rate deposit insurance system, is not supported if it is restricted to explicit coverages. However, because most money-center banks have more foreign deposits than non-money-center banks, they benefit at the expense of non-money-center banks to the extent that foreign deposits are perceived to be implicitly insured by the FDIC.

Chen, Cheng-Yuaun. 1994. Optimal Capital Requirements for Insured Banks. Ph.D. diss., University of Texas at Dallas.

This dissertation examines the problem of defining and computing optimal capital requirements for insured banks. Capital requirements are optimal when they make an arbitrarily fixed deposit-insurance premium actuarially fair for each bank. They can be determined if an appropriate deposit insurance contract can be designated for a plausibly conceivable world. This contract must deal with the liquidity problems inherent in the current flat premium system, and it must permit the calculation of several unobservable variables from market data, given widely accepted valuation techniques for financial contracts.

Cook, Douglas O., and Lewis J. Spellman. 1991. Federal Financial Guarantees and the Occasional Market Pricing of Default Risk: Evidence from Insured Deposits. *Journal of Banking and Finance* 15, no. 6:1113–30.

The authors develop a two-date state preference model that demonstrates that investors' valuation of third-party guaranteed debt depends on the financial condition of the guarantor. As the solvency ratio of the guarantor declines, investors demand higher promised rates on the firm's debt securities, and price the firm's risk variables more sensitively. The empirical results are derived from sample data of Federal Savings and Loan Insurance Corporation (FSLIC) guaranteed obligations from the late 1980s. The evidence shows differences in the market's perception of the FSLIC's insolvency between 1987 and 1988. The market response to a decline in the financial condition of the guarantor affected the value of insured certificates of deposit (CDs). This resulted in higher CD rates in relation to the U.S. Treasury curve. In other words, it caused the pricing of insured deposits to become more risk-sensitive.

Cook, Douglas O., and Lewis J. Spellman. 1996. Firm and Guarantor Risk, Risk Contagion, and the Interfirm Spread among Insured Deposits. *Journal of Financial and Quantitative Analysis* 31, no. 2:265–81.

The authors develop a model of third-party guaranteed debt and show that interest-rate premiums are related to firm guarantor risk and not to firm-specific risk. The study applies the model to thrifts issuing certificates of deposit (CDs) guaranteed by the Federal Savings and Loan Insurance Corporation (FSLIC), and then estimates the firms' probabilities of insolvency and guarantor risk across 20 months, beginning in January 1987. This period spans the insolvency of the guarantor followed by two recapitalizations. The relative stability found in firm risk across time offers no evidence of generalized risk contagion among firms. The elevated CD premiums and rate spreads are, therefore, attributed to increases in guarantor risk rather than changes in firm risk.

Cooper, Russell, and Thomas W. Ross. 1991. Bank Runs: Liquidity and Incentives. Working Paper 3921. National Bureau of Economic Research.

Diamond–Dybvig (1983) provides a model of intermediation in which bank runs are driven by pessimistic depositor expectations. Models which address these

issues are important in the ongoing discussion which weighs the costs (incentive problems) and the benefits (preventing runs) of deposit insurance. This paper extends the Diamond–Dybvig analysis to consider several important questions for evaluating deposit insurance that could not be addressed within their framework. First, it provides conditions for runs when banks can invest in both illiquid and liquid projects. This results in a weakening of the conditions necessary for bank runs relative to the Diamond–Dybvig model in which no liquid investments occur in equilibrium. Second, it characterizes how banks respond to the possibility of runs in their design of deposit contracts and investment decisions, particularly through the holding of excess reserves. Finally, the authors use this framework to evaluate the costs and benefits of deposit insurance and other forms of intervention. To do so, they introduce moral hazard and monitoring into the model to explore the incentive effects of deposit insurance. The implementation of a capital requirement can, along with deposit insurance, support the optimal allocation. (©1999 EconLit)

Cooperman, Elizabeth S., Winson B. Lee, and Glenn A. Wolfe. 1992. The 1985 Ohio Thrift Crisis, the FSLIC's Solvency, and Rate Contagion for Retail CDs. *Journal of Finance* 47, no. 3:919–41.

This paper uses both an ARIMA transfer-function intervention model and a panel data analysis to examine the effect of the Ohio deposit insurance crisis in 1985 on the pricing of six-month retail certificates of deposit (CDs) for federally-insured Ohio banks and savings and loans. Adjusting for pricing reactions due to changes in market rates, the authors find a significant, unanticipated rise in CD-rate premiums on the initial event week of the crisis that continued for approximately seven weeks. Consistent with a contingent insurance guarantee hypothesis, rate premiums are found to be risk based. (©1999 EconLit)

Cooperstein, Richard L., George G. Pennacchi, and F. Stevens Redburn. 1995. The Aggregate Cost of Deposit Insurance: A Multiperiod Analysis. *Journal of Financial Intermediation* 4, no. 3:242–71.

This paper extends the standard single-period model of deposit insurance to a multiperiod setting. It incorporates a variety of features describing bank and regulator behavior, such as endogenous capital adjustments and regulatory forbearance. Budgetary costs of deposit insurance are found using contingent claims techniques. The results show how the market value of a bank's net worth, a critical input of the model, can be estimated using accounting cash flow data and information from aggregate bank stock prices. Using Call Report data on U.S. commercial banks, the authors provide empirical estimates of the aggregate cost of deposit insurance under alternative regulatory policies. (©1995 Academic Press)

Cordella, Tito, and Eduardo Levy Yeyati. 1998. Financial Opening, Deposit Insurance, and Risk in Model of Banking Competition. Working Paper 98/87. International Monetary Fund.

Using a model of banking competition for deposits, this paper studies the effect of increased competition, arising from the relaxation of entry barriers, on the determination of interest rates and on banks' risk-taking behavior. The paper finds that lower entry costs foster competition in deposit rates and reduce banks' incentives to limit risk exposure. Although higher insurance coverage amplifies this effect, two alternative arrangements help to reduce it.

Crabbe, Leland, and Mitchell A. Post. 1994. The Effect of a Rating Downgrade on Outstanding Commercial Paper. *Journal of Finance* 49, no. 1:39–56.

Douglas W. Diamond (1991) argues that a firm's reputation determines whether it borrows directly or through an intermediary. The authors test the Diamond model by examining the quantity response of commercial paper issued by bank holding companies to a rating downgrade. From 1986 to 1991, cumulative abnormal declines averaged 6.69 percent in the first two weeks after the downgrade and 11.05 percent in the subsequent twelve weeks. In contrast to commercial paper issued by bank holding companies, large CDs issued by affiliated banks did not change significantly in the period around a downgrade, suggesting that deposit insurance may have removed market discipline from the CD market. (©1999 EconLit)

Crouhy, Michel, and Dan Galai. 1991. A Contingent Claim Analysis of a Regulated Depository Institution. *Journal of Banking and Finance* 15, no. 1:73–90.

A model of financial intermediation to determine the market value of bank equity, deposits, and deposit insurance is developed. The implicit equilibrium interest rate on deposits is derived and analyzed. Three types of risk are considered in the model: interest-rate risk, financial risk, and default risk. The effect of different regulatory measures, such as capital adequacy, reserve and liquidity requirements, deposit insurance, and interest-rate ceilings, is analyzed and their impact on the bank behavior is also assessed. Moreover, the authors investigate the interactions among these measures to determine which are dominant under alternative circumstances and which are redundant. (©1999 EconLit)

DeGennaro, Ramon P., and James B. Thomson. 1994. Anticipating Bailouts: The Incentive-Conflict Model and the Collapse of the Ohio Deposit Guarantee Fund. Working Paper no. 9407. Federal Reserve Bank of Cleveland.

The collapse of the Ohio Deposit Guarantee Fund (ODGF) in March 1985 provides a laboratory for examining the financial market's belief in the incentive-conflict model proposed by Kane (1989). Research in this area has yet to examine the stock returns of federally insured institutions in the context of this model. Thus, research has not addressed the question of whether financial market participants recognize the implications of the model; that is, whether they anticipate the bailouts it implies. This paper finds that the stock of firms insured

by the poorly capitalized Federal Savings and Loan Insurance Corporation (FSLIC) does reasonably well during the 41-day event window centered on the ODGF's Bank Holiday, whereas the stock of firms insured by the relatively well-capitalized FDIC does not. More important, observed differences in the abnormal returns of FDIC-insured and FSLIC-insured firms are consistent with the incentive-conflict model.

Demirgüç-Kunt, Asli, and Enrica Detragiache. 1998. The Determinants of Banking Crises: Evidence from Developing and Developed Countries. International Monetary Fund *Staff Papers* 45, no. 1:81–109.

This paper studies the factors associated with the emergence of systemic banking crises, using a large sample of developed and developing countries in 1980–94 and using a multivariate logit econometric model. The results suggest that crises tend to erupt when the macroeconomic environment is weak, particularly when growth is low and inflation is high. In addition, high real interest rates are clearly associated with systemic banking-sector problems, and there is some evidence that vulnerability to balance-of-payments crises has played a role. Countries with an explicit deposit insurance scheme were particularly at risk, as were countries with weak law enforcement.

De Nicolo, Gianni. 1992. Optimal Banking Arrangements in Some Diamond and Dybvig Models with Sequential Service. Ph.D. diss., University of Minnesota.

This dissertation examines the aggregate-risk version of the Diamond and Dybvig (1983) model of banking with sequential service, a model that introduces a restriction limiting the ability of the banking system to implement timely suspensions. Under this restriction, the first-best allocation is either unattainable (as a unique equilibrium) or is attainable (as a unique equilibrium) by arrangements more complex than Diamond and Dybvig's threat of suspension. In these models a planner can choose to relinquish control of part of his or her resources to agents, who individually invest in the technology and make a privately observed liquidation decision of their autarkic investment. The models differ according to the observability of this decision in the final period and according to agents' preferences.

De Nicolo, Gianni. 1996. Run-Proof Banking without Suspension or Deposit Insurance. *Journal of Monetary Economics* 38, no. 2:377–90.

In a model of banking with asymmetric information among depositors and multiple sources of aggregate risk, the author shows that a demand deposit arrangement with state-contingent deposit payments and a priority-of-claims provision on final date resources is (almost) best. Under this arrangement, intermediaries infer the realization of aggregate risk and of a privately observed signal on the outcome of the risky technology from depositors' withdrawal choices, and panics as well as information-based runs are averted. Neither suspension provisions nor deposit insurance are necessary for an efficient, run-proof banking system. Furthermore, intermediation provides information-

production services that a credit market does not necessarily provide. (©1999 EconLit)

Dennis, Steven A., Ian G. Sharpe, and Ah Boon Sim. 1998. Implicit Deposit Insurance and Deposit Guarantees: Characteristics of Australian Bank Risk Premia. *Accounting and Finance* 38:91–114.

This article examines the hypothesis that yields on newly issued CDs of Australian banks incorporate a premium that reflects bank risk. The empirical analysis of Australian banks' CD premiums suggests the data are consistent with this hypothesis and therefore supports the view that CD holders do not perceive their deposits as being risk-free. Nor does it find any statistically significant difference between the premiums paid by private banks with implicit deposit insurance and the premiums paid by government-owned banks with explicit government guarantees.

Diamond, Douglas W., and Philip H. Dybvig. 1983. Bank Runs, Deposit Insurance, and Liquidity. *Journal of Political Economy* 91, no. 3:401–19. Also 1992. Bank Runs, Deposit Insurance, and Liquidity. In *Financial Crises*, vol. 1, edited by Michael Bordo, 401–19. Ashgate.

This seminal article shows how bank deposit contracts can provide allocations superior to those of exchange markets and therefore offers an explanation of how banks that are subject to runs can attract deposits. In the authors' model, investors face privately observed risks that lead to a demand for liquidity. Traditional demand deposit contracts that provide liquidity have multiple equilibria, one of which is a bank run. But bank runs cause real economic damage and are not simply reflective of other problems. Certain types of demand deposit contracts can prevent runs, however. The authors examine these, but more importantly, show that there are circumstances when government provision of deposit insurance can produce superior contracts.

Dowd, Kevin. 1993. Re-examining the Case for Government Deposit Insurance. *Southern Economic Journal* 59, no. 3:363–70.

This paper reevaluates the Diamond–Dybvig analysis of deposit insurance and their argument that deposit insurance should be provided by the government. It extends their model to include share capital; shows how share capital can reassure depositors of the safety of their deposits; and suggests how such capital can provide an alternative, and probably superior, means of protecting the banking system against problems caused by bank runs. (©1999 EconLit)

Duan, Jin-Chuan, and C. W. Sealey. 1997. Determinants of Banks' Deposit Insurance Liabilities: Exogenous versus Managerial Influences. In *Research in Finance*, vol. 15, edited by Andrew H. Chen, 255–74. JAI Press.

The authors develop and test a model to estimate the extent to which banks' deposit insurance liabilities are determined by economic and financial factors as opposed to managerial decisions to take risks. The approach used here differs

from previous work in that the authors model banks' risk-shifting behaviors in a manner analogous to that used in the portfolio selection and timing literature. The results suggest that managerial decisions, especially portfolio timing, have played an important role in determining deposit insurance liabilities.

Duesterberg, Daniel Joseph. 1991. Bank Panics: Causes, Consequences, and Policy Responses. Ph.D. diss., Indiana University.

The author's examination of historical evidence reveals that both psychological factors, or "sunspots," and fundamental economic conditions have contributed to bank panics. Previous work shows that in a finite horizon setting, the banking system is inherently unstable. The author demonstrates that the same instability characterizes the banking system even when the time horizon is infinite. He shows that deposit insurance definitely eliminates this instability and that suspension of payment may do so. He uses the infinite horizon setting to capture the periodic recurrence of bank panics, and assigns an objective probability distribution to their occurrence. He then shows that bank panics occur as an equilibrium outcome.

Eberle, Paul Barron. 1990. Deposit Insurance Guarantees and Bank Risk-Taking: A Model of the Banking Industry. Ph.D. diss., University of Missouri at Columbia.

This dissertation develops a free-entry model of the banking industry under uncertainty, a model that analyzes the effect of deposit insurance on a bank's expected terminal net worth, the amount of risk assumed by the bank, and consumer welfare. Results from the model show that in the absence of deposit insurance, a risk-neutral bank will diversify its portfolio between safe and risky assets. When deposit insurance is provided at no cost to banks, a bank will invest its entire portfolio in the risky assets and promise depositors the greater expected return on the risky asset.

Economides, Nicholas, Glenn R. Hubbard, and Darius Palia. 1996. The Political Economy of Branching Restrictions and Deposit Insurance: A Model of Monopolistic Competition among Small and Large Banks. *Journal of Law and Economics* 39, no. 2:667–704.

This article suggests that the introduction of bank branching restrictions and federal deposit insurance in the United States likely was motivated by political considerations. Specifically, it argues that these restrictions are instituted for the benefit of the small unit banks that were unable to compete effectively with large, multiunit banks. The authors analyze this "political hypothesis" in two steps. First, they use a model of monopolistic competition between small and large banks to examine gains to the former group from the introduction of branching restrictions and government-sponsored deposit insurance. They then find strong evidence for the political hypothesis by examining the voting record of Congress. (©1999 EconLit)

Engineer, Merwan. 1989. Bank Runs and the Suspension of Deposit Convertibility. *Journal of Monetary Economics* 24, no. 3:443–54.

This article examines a longer-horizon version of Diamond and Dybvig's (1983) model. In the extended model, suspending the convertibility of bank deposits into cash does not always prevent a bank run. A bank run may occur even if the bank can adjust new withdrawal payments after observing too many withdrawals. This result is based on the assumption that depositors have unknown liquidity demands and preferences which they discover over time. The article also explores the effects of deposit insurance and alternative payment policies on the bank-run equilibrium.

Flannery, Mark J. 1989. Capital Regulation and Insured Banks' Choice of Individual Loan Default Risks. *Journal of Monetary Economics* 24, no. 2:235–58.

How bankers choose the riskiness of their individual assets is an important question. It is well known that fixed-premium deposit insurance leads a bank to prefer a high-variance asset portfolio, but its effect on individual asset choice has not been carefully evaluated. This paper demonstrates how bank examination procedures and capital adequacy standards can make the value of a bank's deposit insurance contract concave in individual asset risks. Insured bankers may therefore have a rational preference (ceteris paribus) for relatively safe individual loans, even while they prefer risky portfolio returns. The model's implications for loan securitization and the federal regulators' new risk-based capital standards are discussed. (©1999 EconLit)

Giammarino, Ronald, Eduardo Schwartz, and Josef Zechner. 1989. Market Valuation of Bank Assets and Deposit Insurance in Canada. *Canadian Journal of Economics* 22, no. 1:109–27.

The authors examine a sample of Canadian banks and use option pricing theory to infer the market value of a bank's assets from the observed market value and volatility of its equity. They find that market value estimates are significantly different from corresponding book values. These differences vary significantly across banks, suggesting that market values provide bank-specific information not found in book values. They also derive the risk-adjusted deposit insurance premia for these banks. The results suggest that the current flat-rate deposit insurance premium system has resulted in significant cross subsidization among banks. (©1999 EconLit)

Goodfriend, Marvin. 1991. Money, Credit, Banking, and Payments System Policy. Federal Reserve Bank of Richmond *Economic Review* 77, no. 1:7–23.

This article employs contract theory to analyze the evolution of the payments system. Insights gained are used subsequently to evaluate three prominent public payments system polices: monetary policy, central bank lending, and deposit insurance. (©1999 EconLit)

Goodhart, Charles A. E., and Haizhou Huang. 1999. A Model of the Lender of Last Resort. Working Paper no. WP/99/39. International Monetary Fund.

This paper develops a model of the lender of last resort. It provides an analytical basis for "too big to fail" and a rationale for "constructive ambiguity." Key results are that if contagion (moral hazard) is the main concern, the Central Bank (CB) will have an excessive (little) incentive to rescue banks, and the resultant equilibrium risk level is high (low). When both contagion and moral hazard are jointly analyzed, the CB's incentives to rescue are only slightly weaker than with contagion alone. The CB's optimal policy may be nonmonotonic in bank size.

Goyeau, Daniel, Alain Sauviat, and Amine Tarazi. 1994. La Prévention des ruées bancaires: Assurance-dépots et réglementation des fonds propres (The prevention of bank runs: Deposit insurance and capital regulation). [With English summary.] *Revue d'Economie Politique* 104, no. 6:801–25.

According to the authors, a deposit insurance system is generally considered a first-order necessity for the prevention of bank runs. However, such a system generates a moral-hazard problem, encouraging banks to increase the riskiness of their activities. Formerly, when the Black-Scholes option valuation model is used, the theoretical value of the insurance premium appears to be positively related to bank leverage and to bank asset risk. If the premium is defined on a fixed-rate basis, banks will maximize its value, thereby increasing their risk of failure. The question then is whether prudential regulation is able to deal with this moral-hazard problem. In both risk-neutrality and risk-aversion frameworks, regulation can be inefficient as long as the actual risk endured by banks is not correctly appraised. In response to these limits, the literature on bank risk implicitly classifies different reform proposals within two categories. In the first set, the occurrence of bank runs is completely eliminated. In the second set, the risk of bank runs is considerably reduced but potentially present.

Goyeau, Daniel, Alain Sauviat, and Amine Tarazi. 1995. Responsabilité limitée et choix de portefeuille des banques (Limited liability and bank portfolio choice). [With English summary.] *Finance* 16, no. 1:93–112.

In this paper the relevancy of bank capital regulation is reexamined when an explicit fixed rate deposit insurance is taken into account. More precisely, the question which is raised is whether capital regulation is the only way to efficiently limit bank risk-taking when failure possibility exists. The analysis indicates that this result, previously obtained in the literature, relies essentially on the choice of a binomial distribution of risk. Indeed, when various states of the world are taken into account mean-variance analysis and thus bank self discipline is relevant again. The necessity of imposing capital constraints cannot therefore be justified by the existence of limited liability and the effect of capital regulation on risk remains ambiguous. Therefore, in the light of this indeterminacy, an alternative system relying on variable rate deposit insurance or market discipline imposed by perfectly informed depositors might be preferable. (©1999 EconLit)

Gunther, Jeffery W., Linda M. Hooks, and Kenneth J. Robinson. 1997. Adverse Selection and Competing Deposit Insurance Systems in Pre-Depression Texas. Financial Industry Studies Working Paper 4-97. Federal Reserve Bank of Dallas.

> In 1910, Texas instituted a unique deposit insurance program for its state-chartered banks, consisting of two separate plans: the depositors guarantee fund, similar in operation to the deposit insurance schemes adopted in several other states; and the depositors bond security system, which required the procurement of a privately issued insurance policy. In this paper, the authors hypothesize that the provision of a choice in funds led to risk-sorting among the banks, with the relatively conservative institutions opting for the comparatively rigorous bond security system. When a probit model with heteroskedasticity is used, the evidence obtained from balance-sheet data recorded at the time the banks were required to enlist in an insurance plan indicates that such was the case, since the alternative plan relying on privately issued insurance was unpopular except among relatively conservative and well-managed institutions.

Hannan, Timothy H. 1989. The Impact of Bank Regulatory Requirements on Large Corporate Lending. Finance and Economics Discussion Series no. 63. Board of Governors of the Federal Reserve System.

> This paper defines the burden imposed on banks by reserve requirements, deposit insurance premiums, and capital adequacy requirements and estimates the extent to which it has inhibited large corporate lending by banks. Evidence consistent with the hypothesis that all three of these elements of the regulatory burden inhibit large corporate lending by banks is found. Coefficient point estimates suggest that capital requirements have a particularly strong effect on the lending behavior of banks for which capital requirements are binding. (©1999 EconLit)

Hassan, M. Kabir. 1992. An Empirical Analysis of Bank Standby Letters of Credit Risk. *Review of Financial Economics* 2, no. 1:31–44.

> Bank exposure to off-balance-sheet activities in general and Standby Letters of Credit (SLCs) in particular has become a major concern to regulators. The risk-exposure of SLCs has been re-examined by employing option pricing methodologies to calculate implied asset risk from bank equity and flat deposit insurance, and from risk-premia on bank subordinated debt. The results indicate that SLC reduce systematic risk, equity risk and implied asset risk. It appears that Standby Letters of Credit contribute to the overall diversification of a bank's assets. (©1999 EconLit)

Hassan, M. Kabir. 1993. The Off-Balance-Sheet Banking Risk of Large U.S. Commercial Banks. *Quarterly Review of Economics and Finance* 33, no. 1:51–69.

> OBS banking activities have grown rapidly in recent years. The risk-based capital requirements of OBS activities presume that some OBS activities expose banks to additional and potentially excessive risk. This study employs Ronn-Verma option pricing methodology to calculate implied asset risk, and examine the risk-behavior of OBS activities. This approach incorporates the non-linearity of an

option pricing model, deposit insurance and regulatory closure rules. A pooled cross-section and time-series analysis reveals that OBS activities, in general, reduce total risk but do not affect systematic risk. The explanatory power of models is improved significantly when implied asset risk, instead of equity risk, is used to proxy for total risk. The results suggest that risk-based capital regulations of OBS activities may unduly penalize large banks. (©1999 EconLit)

Hassan, M. Kabir, Gordon V. Karels, and Manferd O. Peterson. 1994. Deposit Insurance, Market Discipline, and Off-Balance-Sheet Banking Risk of Large U.S. Commercial Banks. *Journal of Banking and Finance* 18, no. 3:75–93.

The "market discipline" of off-balance-sheet banking activities (OBSAs) is examined by employing contingent claims valuation techniques to derive implied asset variances from bank equity, and from risk-premia for bank subordinated debt. Specifically, implied asset variances have been calculated from market and on- and off-balance-sheet information using options pricing techniques. Theoretically these implied asset variances are better than equity variance or risk-premia in proxying bank risk because they capture portfolio effects as well as the non-linear nature of contingent claims model and the impact of closure rules. Empirical results suggest the existence of "market discipline" of OBSAs. Market participants price these OBSAs as risk-reducing. (©1999 EconLit)

Hassan, M. Kabir, and William H. Sackley. 1994. A Methodological Investigation of Risk Exposure of Bank Off-Balance-Sheet Loan Commitment Activities. *Quarterly Review of Economics and Finance* 34, no. 3:283–99.

This study provides further empirical evidence of capital market reactions to the growth and riskiness of bank off-balance-sheet loan commitment activities. Previous studies have ignored the impact of regulation on the measurement of bank risk. In this research Ronn-Verma (1986) and Gorton-Santomero (1990) option pricing models are employed to calculate implied asset risk from bank equity and subordinated debt. This approach incorporates the nonlinearity of contingent claims valuation models, deposit insurance and regulatory closure rules. This research reports strong evidence that loan commitments reduce bank risk. In addition, decreases in equity risk, subordinated debt default risk and implied asset risk resulting from increases in loan commitments activities implies that loan commitments may contribute to the overall diversification of bank portfolio risk. It, therefore, may be inappropriate to include loan commitments in a risk-based capital calculation. (©1999 EconLit)

Hazlett, Denise Janine. 1992. Deposit Insurance and Regulation in a Diamond–Dybvig Banking Model with a Risky Technology. Ph.D. diss., University of Minnesota.

The author uses the Diamond–Dybvig banking model, amended to include a risky technology, to study how well alternative feasible deposit insurance schemes work as substitutes for suspension of convertibility. To overcome the moral hazard that accompanies deposit insurance in this model, the author holds that two kinds of regulation are needed: solvency and incentive compatibility regulations.

The presence of the risky technology has implications about the effectiveness of deposit insurance in preventing bank runs. The author's findings suggest that even a full guarantee of deposits will not rule out bank runs in environments with significant amounts of state-dependent liabilities. In some environments, co-insurance and deductible schemes are even less likely to prevent bank runs than is the full guarantee. However, the co-insurance and deductible schemes are both less susceptible to abuse of the deposit insurance guarantee than is the full guarantee.

Hazlett, Denise. 1996. Re-examining the Case for Government Deposit Insurance: Comment [on Dowd article in vol. 59, no. 3]. *Southern Economic Journal* 62, no. 4:1090–91.

Dowd presented a modified version of Diamond and Dybvig's banking model and claimed that for some parameters of his model, a bank capital holder can earn a profit by guaranteeing the optimal Diamond–Dybvig deposit withdrawals. According to Dowd, the capitalist willingly puts up his own resources as a guarantee on deposits, because of the profits he will earn from doing so. These profits, according to Dowd, made government-provided deposit insurance unnecessary. Hazlett's "Comment" shows that no such profits exist. By definition, the optimal Diamond–Dybvig deposit withdrawals require that all of the returns from deposited resources by paid out to depositors. There is no surplus for the bank capital holder to claim as profits.

Ho, Lok-Sang. 1992. Deposit Insurance: An Economic Perspective. *Hong Kong Economic Papers,* no. 22:21–33. [Followed by untitled speeches given by Jao and McLean at the Hong Kong Economic Association forum on bank deposit insurance.]

In the wake of the failure of the Hong Kong branch of the Bank of Credit and Commerce International (BCCHK), public interest in the subject of deposit insurance in Hong Kong has been revived, and in response, the government has now restudied the subject (it had long held that establishing any form of deposit insurance was not in the public interest). This paper examines the various arguments for and against deposit insurance in the light of economic theory, and presents some recommendations.

Jacklin, Charles J. 1989. Demand Equity and Deposit Insurance. Research Paper 1062. Graduate School of Business, Stanford University.

The services provided by the liability side of banking are examined in an economy in which everyone is identical ex ante and banks are uninsured. Demand equity deposit claims are shown to provide all the service that can be provided by demand debt claims without the risk of banking panics as long as there is not both aggregate uncertainty about liquidity demands and asymmetry of information about the quality of bank assets. Demand debt claims are conjectured to have evolved because both these conditions were met historically. Given the rapid development of financial markets, these conditions may no longer hold and thus demand equity claims may offer a viable alternative to government-insured

demand debt claims. With demand equity claims, only insurance against fraud need be provided to ensure a safe deposit system. (©1999 EconLit)

Jacklin, Charles J. 1993. Market Rate versus Fixed Rate Demand Deposits. Research Paper 1265. Graduate School of Business, Stanford University.

In an economy with uninsured banks, market rate deposits are shown to provide services identical to fixed rate deposits without risking banking panics as long as there is not both aggregate uncertainty about liquidity demands and asymmetric information about bank asset quality. However, if both assets and information revealed through market prices, the analysis may explain the evolution of fixed rate deposits before the introduction of deposit insurance. Moreover, it provides currently relevant insights regarding deposit contract forms and deposit insurance. (©1999 EconLit)

Jayanti, S. V., Anne Marie Whyte, and Quang A. Do. 1996. Bank Failures and Contagion Effects: Evidence from Britain and Canada. *Journal of Economics and Business* 48 no. 2:103–16.

This paper examines contagion effects of bank failures in Britain and Canada. British banks experienced no significant reaction while Canadian banks reacted negatively to failures of domestic banks. The differing reactions may be attributable to the difference in regulatory response to the failures. Results suggest that the market is more likely to react negatively when increased regulations are proposed in the wake of a failure. Furthermore, the existence of a formal deposit insurance scheme may not be enough to prevent contagion effects; the actual and perceived response of regulators to bank failures may shape the investor response. (©1999 EconLit)

Kane, Edward, J. 1995. Three Paradigms for the Role of Capitalization Requirements in Insured Financial Institutions. *Journal of Banking and Finance* 19, no. 3–4:431–59.

Standard models for deposit insurance strike analogies to more familiar financial contracts and conceive of risk as exogenous. The oldest model of deposit insurance likens it to passively underwriting casualty insurance. A more sophisticated, but still bilateral model likens deposit insurance to writing a passive put option on the enterprise whose funding is insured. Delays in acknowledging the wreck of the S&L industry and its federal insurer (FSLIC) discredit these models as guides to managing a deposit-insurance fund. Deposit insurance is better interpreted as a trilateral performance bond that enhances the credit of an insured institution. This interpretation endogenizes risk, emphasizes incentive conflict, and underscores the need to optimize loss-control activity. The bonding model clarifies that a subset of the monitoring and disciplinary activities traditionally undertaken by government officials can usefully be privatized. (©1999 EconLit)

Kane, Edward J., and Berry K. Wilson. 1998. A Contracting-Theory Interpretation of the Origins of Federal Deposit Insurance. *Journal of Money, Credit, and Banking* 30, no.

3 (part 2): 573–95. Also 1998. A Contracting-Theory Interpretation of the Origins of Federal Deposit Insurance. Working Paper no. W6451. National Bureau of Economic Research.

> Conventional wisdom holds that the enactment of federal deposit insurance helped small rural banks at the expense of large urban institutions. This article uses asymmetric-information, agency-cost paradigms from corporate-finance theory and data on bank stock prices to show how deposit insurance could and did help stockholders of large banks. The broadening stockholder distribution of large banks during the stock market bubble of the late 1920s undermined the efficiency of double-liability provisions in controlling incentive conflict among large-bank stakeholders. Federal deposit insurance restored depositor confidence by guaranteeing depositor funds and having government officials assume the task of monitoring managerial performance and solvency at U.S. banks.

Karels, Gordon V., John M. Geppert, and Arun J. Prakash. 1997. Deposit Insurance, Capital Adequacy Requirements, and Interest Rate Dynamics. *Journal of Business, Finance and Accounting* 24, no. 9–10:1311–31.

> This article evaluates the interaction between deposit insurance and bank deposit rates in a long-run equilibrium setting with a premium structure; analyzes the long-run effects of a general deposit insurance system; and takes an in-depth look at the time series behavior of insured and uninsured interest rates.

Konishi, Masru. 1994. Essays on Financial Economics. Ph.D. diss., University of Western Ontario.

> This dissertation contains four essays on financial economics. The first develops an information-based banking model to examine the choice by lenders between negotiated debt transactions and open-market transactions when the loan market is subject to adverse selection. The second essay applies a version of the information-based banking model developed in the first essay to examine the role of financial deepening in the context of a dynamic model. The third essay seeks to show that the existence of a loan sales market enables the deposit insurance provider to implement risk-adjusted insurance premiums to banks. The fourth essay develops a life-cycle model of corporate finance in which a mixed age group of borrowers exists, to show that higher default rates in financial markets need not be associated with lower social welfare.

Kopcke, Richard W. 1995. Safety and Soundness of Financial Intermediaries: Capital Requirements, Deposit Insurance, and Monetary Policy. Federal Reserve Bank of Boston *New England Economic Review* (Nov./Dec.): 37–65.

> According to the author, when not all investors are fully informed about the prospective returns on all assets, the cost of funds for financial intermediaries depends on savers' state of confidence in their investments. Because the regulations that govern intermediaries affect the price of risk in financial markets and because this influence varies with economic conditions, the actions of regulators, like those of the monetary authority, may need to be adjusted as

economic conditions change in order to foster the prudent valuation of assets. Prompt enforcement of fixed, risk-based capital requirements, for example, amplifies the credit cycle and may make financial intermediaries less able to cope with economic shocks. Hence, the author contends, regulatory and monetary policies would stabilize financial markets best by managing the price of risk so that it dampens cycles in economic activity.

Kuester, Kathleen A., and James M. O'Brien. 1989. Bank Equity Values, Bank Risk, and the Implied Market Value of Banks' Assets, Liabilities, and Deposit Insurance. Finance and Economics Discussion Series, no. 98. Board of Governors of the Federal Reserve System.

This paper models the stock market's valuation of banks' assets and liabilities and the value to bank stockholders of the deposit insurance option. It estimates these market valuations for a sample of 234 large banks and examines their sensitivity to bank portfolio characteristics that indicate potential default risk. The average value of deposit insurance is found to vary over three periods and two estimation methods from 0.5 cents to 2.0 cents. Several types of loans and measures of loan performance are shown to have a significant effect on the values of bank assets and deposit insurance. (©1999 EconLit)

Kupiec, Paul H., and James M. O'Brien. 1997. The Pre-Commitment Approach: Using Incentives to Set Market Risk Capital Requirements. Finance and Economics Discussion Series, no. 1997-14. Board of Governors of the Federal Reserve System.

This paper develops a model of bank behavior that focuses on the interaction between the incentives created by fixed-rate deposit insurance and a bank's choice of its loan portfolio and its market-traded financial instruments. The model is used to analyze the consequences of the Federal Reserve Board's proposed Pre-Commitment Approach (PCA) for setting market risk capital requirements for bank trading portfolios. Under the PCA, a bank determines its own market risk capital requirement subject to known regulatory penalties should its trading activities generate subsequent losses that exceed its market risk capital commitment. (©1999 EconLit)

Lai, Van Son. 1989. Essays in Deposit Insurance, Financial Guarantees, and Gap Management. Ph.D. diss., University of Georgia.

This dissertation consists of three essays, one each on deposit insurance, private financial guarantees, and gap management. The first essay models the effects of uncertainty caused by closure rules and forbearance policies on the valuation of deposit insurance. The second essay uses option pricing theory to develop several models for the valuation of vulnerable loan guarantees in which the guarantor defaults. The third essay presents a synthesis and new evidence on the linkage between net interest margin and maturity gaps in U.S. commercial banks.

Levonian, Mark E. 1991. Have Large Banks Become Riskier? Recent Evidence from Option Markets. Federal Reserve Bank of San Francisco *Economic Review* (fall): 3–17.

This paper examines trends in risk at the largest U.S. commercial banks during the late 1980s. Prices of exchange-traded options on bank equity are used to derive several measures of banking risk. The results show that the riskiness of bank assets and activities did increase at large banks during the period. However, market capital-asset ratios generally rose, leaving the burden on the deposit insurance fund little changed. Hence, while the results support the notion that banks now engage in a riskier business than previously, the general increase in capital has been sufficient to hold overall banking risk relatively constant. (©1999 EconLit)

Li, Anlong. 1991. Optimal Bank Portfolio Choice under Fixed-Rate Deposit Insurance. Working Paper no. 91-11. Federal Reserve Bank of Cleveland.

This paper analyzes the optimal investment decisions of insured banks under fixed-rate deposit insurance. In the presence of charter value, trade-offs exist between preserving the charter and exploiting deposit insurance. Allowing banks to dynamically revise their asset portfolios has a significant impact on both the investment decisions and the fair cost of deposit insurance. The optimal bank portfolio problem can be solved analytically for constant charter value. The corresponding deposit insurance is shown to be a put option that matures sooner than the audit date. An efficient numerical procedure is also developed to handle more general situations. (©1999 EconLit)

Liang, Youguo, Sunil Mohanty, and Frank Song. 1996. The Effect of the Federal Deposit Insurance Corporation Improvement Act of 1991 on Bank Stocks. *Journal of Financial Research* 19, no. 2:229–42.

This study used a multivariate regression model to investigate the effect of the passage of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991 on returns to the shareholders of bank-holding companies. The empirical results suggest that the shareholders of well-capitalized banks benefited from the enactment of the FDICIA, while those of undercapitalized banks experienced significant losses during the announcement period. However, the shareholders of adequately capitalized banks did not gain or lose significantly from the enactment of the FDICIA. The FDICIA also affected stock returns of large and small bank-holding companies similarly. (©1999 EconLit)

Matutes, Carmen, and Xavier Vives. 1996. Competition for Deposits, Fragility, and Insurance. *Journal of Financial Intermediation* 5, no. 2:184–216.

In the presence of economies of scale, depositors' expectations are shown to give rise to vertical differentiation and to yield multiple market equilibria, some of which exhibit institutional or systemic collapse. This fragility is due to a coordination problem among depositors and not to bank competition. Nevertheless, failure perceptions do influence rivalry which in turn affects the failure probability, in particular equilibria. Deposit insurance improves welfare

by preventing collapse, extending the market, and minimizing frictions. However, deposit insurance also may induce fiercer competition for deposits and increase the deadweight losses associated with failing institutions. The welfare impact of deposit insurance is shown to depend on market structure, and is thus ambiguous even in a world of full liability and no moral hazard in bank investments. (©1996 Academic Press)

McCallie, John Douglas. 1990. The Impact of Deregulation and Deposit Insurance on the Thrift Industry: An Empirical Analysis. Ph.D. diss., Auburn University.

From 1980 to 1988 more than 560 thrifts failed, with an estimated total resolution cost of over $150 billion. According to the author, many observers maintained that legislation in the early 1980s, which deregulated thrifts, was misguided and was a major cause of the thrift crisis. Other writers challenged the hypothesis that deregulation was a dominant cause. Rather, they claimed that moral-hazard behavior caused by the existence of federal deposit insurance was the major culprit in the thrift debacle. This study tests the validity and the relative importance of these two prominent and competing theories on the cause of the thrift crisis.

McClatchey, Christine Anna. 1995. The Impact of Deposit Insurance on Risk-Taking Behavior: An Application to Credit Unions. Ph.D. diss., University of Nebraska at Lincoln.

Previous studies of deposit insurance have been mostly devoted to examining changes in the risk-taking behavior of banks or savings and loans. This dissertation examines changes in credit union risk-taking following the establishment of the National Credit Union Share Insurance Fund (NCUSIF) in 1971. The author uses time-series data and several financial ratios that proxy for capital adequacy, liquidity, and loan delinquency to empirically test if credit unions increased risk after deposit insurance was implemented. The test's results did not support the increased risk-taking hypothesis. Although federal credit union capital ratios did fall immediately after adoption of deposit insurance, this was most likely the result of reduced capital requirements, not deposit insurance.

McCulloch, J. Huston, and Min Teh Yu. 1998. Government Deposit Insurance and the Diamond–Dybvig Model. *Geneva Papers on Risk and Insurance Theory* 23, no. 2:139–49.

The apparent banking market failure modeled by Diamond and Dybvig (1983) rests on their inconsistently applying their "sequential servicing constraint" to private banks but not to their government deposit insurance agency. Without this inconsistency, banks can provide optimal risk-sharing without tax-based deposit insurance, even when the number of "type 1" agents is stochastic, by employing a "contingent bonus contract." The threat of disintermediation noted by Jacklin (1987) in the nonstochastic case is still present but can be blocked by contractual trading restrictions. This article complements Wallace (1988), who considers an alternative resolution of this inconsistency. (©1999 EconLit)

McKenzie, George. 1990. Capital Adequacy Requirements, Deposit Insurance, and Bank Behavior. *Economic and Social Review* 21, no. 4:363–75.

> As financial market regulations were eliminated during the 1980s, the fragility of the international financial system was increasingly exposed. In turn, this generated interest in the design of prudential regulations and safety-net procedures for banks. The thesis of this article is that the two—prudential regulation and safety-net procedures—must be treated as interdependent and not as substitutes for each other. A capital-adequacy requirement ensures that there is a buffer against a decline in the value of bank assets, but it does not eliminate the possibility of runs. On the other hand, deposit insurance creates a moral-hazard problem that can best be limited by the setting of appropriate capital requirements and risk weights.

Mishra, Chandrasekhar. 1991. Deposit Guarantee Nonperformance, Bank Insurance Fund, and Private Reinsurance for a Vulnerable Deposit Insurer. Ph.D. diss., University of Texas at Dallas.

> This dissertation examines the alleged inadequacy of the deposit insurance fund in light of the increasing number and costs of bank failures during the 1980s. At the time, the author argues, the level of the fund that protects bank depositors was dangerously low, especially considering the notion that there exist implicit guarantees that extend to uninsured deposits and non-deposit debts. Hence, the author argues, the potential role of private insurance companies should be reexamined. Private deposit insurance could, he maintains, provide improved diversification of the federal deposit insurer's risk and offer protection against future catastrophic losses.

Murton, Arthur James. 1992. Essays in Banking and Deposit Insurance. Ph.D. diss., University of Virginia.

> This dissertation consists of three essays on banking and deposit insurance. The first essay extends the Diamond–Dybvig model of banking to focus on how the bank contract will be structured when the threat of a bank run is present. The second essay examines how government provision of deposit insurance promotes financial stability by preventing bank runs. The third essay examines the role of bank charter values and bank regulation and supervision in controlling bank risk-taking.

Ozler, Sule. 1989. Commercial Bank Lending to Developing Countries: The Expansion of the Market. *Contemporary Policy Issues* 7, no. 3:1–10.

> The developing country debt crisis brought attention to the type of lending behavior that predominated while the commercial bank market developed. This article presents the major characterizations of bank behavior, particularly regarding predictions that can be tested empirically. Critically comparing existing empirical studies with these predictions shows that the magnitude of default risk and deposit insurance were incorporated into the lending behavior. However, these alone do not explain the evolution of the market. One can understand this

evolution in terms of information imperfections in the market, but this evaluation contradicts a major role for agency problems in the banking firms. (©1999 EconLit)

Ozler, Sule, and Harry Huizinga. 1992. Bank Exposure, Capital, and Secondary Market Discounts on Developing Country Debt. Working Paper no. 3961. National Bureau of Economic Research.

Previous empirical studies of secondary market discounts for developing countries have ignored important creditor country factors. The empirical evidence in this paper indicates that, after controlling for repayment indicators of borrower countries, bank exposure and capital are important determinants of secondary market discounts: an increase in the exposure of large banks to a particular country leads to a decrease in the secondary market discounts on the debt of that country, while an increase in the capital of large banks leads to an increase in secondary market discounts. Among the repayment indicators of developing countries, only debt ratios are found to be significant determinants of the discounts. This suggests that the impacts of exposure and capital can be explained by the presence of deposit insurance. The evidence presented on the stock market pricing of lender banks supports this view. (©1999 EconLit)

Park, Sangkyun. 1990. Contagion of Bank Failures: The Relation of Deposit Insurance and Information. Ph.D. diss., University of California at Los Angeles.

It has been argued that bank failures are contagious because of the lack of bank-specific information. This dissertation models an economy in which individuals rationally maximize utility using a Bayesian inference rule. The model illustrates how rational depositors, lacking bank-specific information, run on solvent banks. The logic developed by the model is as follows: When depositors are not informed of the financial structure of individual banks, they infer the soundness of a particular bank from the condition of the banking system as a whole. Given this, a high failure ratio signals an adverse condition within the banking sector and therefore results in a high perceived deposit risk and a low expected return from deposits. Depositors run on banks if the expected return from deposits falls below that from holding currency. These developments explain the phenomenon of general bank runs after a large number of bank failures and implies that sound banks can prevent runs on themselves if they are able to provide reliable information about their financial structure. Hence, a banking system can be stable even if the government does not provide deposit insurance.

Park, Sangkyun. 1996. Banking and Deposit Insurance as a Risk Transfer Mechanism. *Journal of Financial Intermediation* 5, no. 3:284–304.

This paper models an economy in which risk-averse savers and risk-neutral entrepreneurs make investment decisions. Aggregate investment in high-yielding risky projects is maximized when risk-neutral agents bear all nondiversifiable risks. A role of banks is to assume nondiversifiable risks by pledging their capital in addition to diversifying risks. Banks, however, do not completely eliminate

risks when monitoring by depositors is imperfect. Government deposit insurance that uses tax revenue to repay depositors transfers remaining risks to entrepreneurs. Deposit insurance can improve welfare because imperfect monitoring by the government largely results in income transfer among risk-neutral agents rather than lower production. (©1996 Academic Press)

Peria, Maria, Soledad Martinez, and Sergio Schmukler. 1998. Do Depositors Punish Banks for "Bad" Behavior? Examining Market Discipline in Argentina, Chile, and Mexico. Policy Research Working Paper (February). The World Bank.

This paper examines the existence of market discipline in the banking industries of Argentina, Chile, and Mexico during the 1980s and 1990s. Using a bank panel data set, the authors test for the presence of market discipline by studying whether depositors punish risky banks by withdrawing their deposits. They find that across countries and across deposit insurance schemes, market discipline exists even among small, insured depositors. Standardized coefficients and variance decomposition of deposits indicate that bank fundamentals are at least as important as other factors affecting deposits. GMM estimations confirm that the results are robust to the potential endogeneity of bank fundamentals.

Pozdena, Randall J. 1992. Danish Banking: Lessons for Deposit Insurance Reform. *Journal of Financial Services Research* 5, no. 3:289–98.

An alternative to a large deposit insurance fund, some observers have recommended prompt closure of banks that fail to maintain a high level of market-value capital. Others, however, see such an "early closure" policy as impractical, and potentially damaging to the competitive position of U.S. banks. Because the Danes have employed a policy of early closure based on marked-to-market portfolios, their experience is relevant to this debate. The article describes Danish banking policy, and discusses its effects on the behavior of banks and on processes for resolution of weak banks. The Danish policy appears to have provided depositor protection and resolved problems with large and small banks without a deposit insurance fund and without significant burdens on either the banks themselves or the public purse. (©1999 EconLit)

Ramos, Alberto M. 1996. Deposit Insurance, Bank Capital Structures, and the Demand for Liquidity. Working Paper no. 96-8. Federal Reserve Bank of Chicago.

This paper provides an economic explanation for the extraordinary and historically unprecedented accumulation of liquid assets by the banking system in the aftermath of the Great Depression. At the end of the 1930s, the banking system held over 35 percent of its assets in non-interest-bearing cash. Why were these holdings so high and why was the same phenomenon not observed in Canada? The paper argues that, unlike what happened in Canada, U.S. banks emerged from the Depression severely undercapitalized and did not immediately replenish the capital account because it would have been extremely expensive at the time to do so. To calm depositors' fears, bank managers increased the share of liquid assets in their portfolios to reduce their risk exposure on the asset side.

To shed some light on this observation, the author constructs a banking model that generates some empirically testable implications.

Ritchken, Peter, James B. Thomson, Ramon P. DeGennaro, and Anlong Li. 1993. On Flexibility, Capital Structure, and Investment Decisions for the Insured Bank. *Journal of Banking and Finance* 17, no. 6:1133–46.

Most models of deposit insurance assume that the volatility of a bank's assets is exogenously provided. Although this framework allows the impact of volatility on bankruptcy costs and deposit insurance subsidies to be explored, it is static and does not incorporate the fact the equity holders can respond to market events by adjusting previous investment and leverage decisions. This paper presents a dynamic model of a bank that allows for such behavior. The flexibility of being able to respond dynamically to market information has value to equity holders. The impact and value of this flexibility option are explored under a regime in which flat-rate deposit insurance is provided. (©1999 EconLit)

Romer, David H. 1995. Why Weren't There More S&L Failures? Ph.D. diss., University of California at Berkeley.

The first chapter of this dissertation examines the relationship among insurance, franchise value, and banks' risk and capital decisions. The author develops a model in which banks with fixed-price deposit insurance weigh the option value of deposit insurance against the expected franchise value of the bank. The second chapter examines the relationships between asset risk and franchise values and between asset risk and ownership structure. Stock price data from publicly traded S&Ls are used to measure portfolio risk and franchise or charter values. The empirical results indicate excessive risk-taking on behalf of S&Ls. The results also show stockholder-controlled S&Ls holding riskier portfolios than managerially controlled S&Ls, suggesting a moral-hazard problem. The third chapter investigates the heterogeneity in savings institutions' responses to the deregulation of the thrift industry in the 1980s. This chapter explicitly models the heterogeneity of banks and finds a separating equilibrium wherein some thrifts hold safer portfolios in order to protect information rents, whereas others hold riskier assets in order to maximize the option value of deposit insurance.

Rose, Peter S. 1996. The Diversification and Cost Effects of Interstate Banking. *Financial Review* 31, no. 2:431–52.

This study examines recent interstate bank geographic diversification inside the United States. More than 80 holding companies that gradually evolved into interstate banking companies were tested for significant linkages to risk and efficiency indicators. The study finds that while geographic expansion frequently is associated with increases in risk, when banking firms were grouped by threshold levels of geographic diversification more highly diversified interstate banks appear to achieve reductions in risk exposure and operating costs. The study's results suggest the spread of interstate banking may change the industry's

risk and cost profile significantly with profound implications for the future of the deposit insurance fund. (©1999 EconLit)

Schellhorn, Carolin Dorothee. 1991. The Role of Subordinated Debt in Measuring and Regulating Financial Institution Riskiness. Ph.D. diss., University of Texas at Austin.

This dissertation extends the market-oriented approach to the pricing of risk-adjusted deposit insurance premiums by substituting uninsured subordinated debt for uninsured senior debt in the capital structure of a bank. The inclusion of subordinated debt in the assumed capital structure allows the unobservable variables—bank asset value and asset variance—to be derived from observable variables in both debt and equity markets. Two important results are obtained: First, for an exogenously assumed time until the next closure decision, estimates of risk-adjusted deposit insurance premiums appear to be different when the estimation procedure includes market information about debt as well as equity. Second, an endogenous solution is provided for the market-perceived time until the next regulatory closure decision. When endogenous solutions for the market-perceived length of the deposit insurance contract period are used, point estimates of the time variable suggest regulators increased their use of forbearance in the late 1980s.

Simons, Katerina, and Stephen Cross. 1991. Do Capital Markets Predict Problems in Large Commercial Banks? Federal Reserve Bank of Boston *New England Economic Review* (May): 51–56.

During the debate over deposit insurance reform, the nature and limits of market discipline became an especially important topic. The widely accepted argument in favor of greater reliance on market discipline is that market discipline will restrain managerial risk-taking and reduce potential losses to the deposit insurance fund. Opponents of this view support the traditional reliance on supervision by the bank regulatory agencies as the primary method of maintaining the safety and soundness of the banking system and the integrity of the deposit insurance fund. This article attempts to shed some empirical light on the issue by studying the effectiveness of market discipline as it is exercised by bank stockholders. The authors use residual analysis to test whether the market anticipates a bank's downgrade to problem-bank status. The results show that shareholder returns fail to anticipate bank downgrades by examiners.

Smith, Brian, and Robert White. 1992. The Impact of Stabilization of Interim Audits on the Pricing of Deposit Insurance. *Journal of Business Finance and Accounting* 19, no. 1:113–32.

The authors use quarterly financial statement information from 119 credit unions in British Columbia (Canada) for the years 1976–1983 to analyze the benefits and costs—in terms of deposit insurance premiums paid—of having an interim audit performed. After adjustments for economies of scale, a cross-sectional analysis of audit costs indicates that such costs are best modeled as constant percentages of liabilities. The benefits of an interim audit outweigh the costs only when the financial institution is highly leveraged, the institution has relatively low

liquidation or merger expenses, or its asset-to-liability ratio is especially volatile. The models presented also suggest a guide as to whether a credit union should be provided a temporary loan rather than be liquidated or merged. The regulatory choice of stabilization is most beneficial when liquidation and merger expenses are high, audit costs are low, and returns are less volatile.

Smith, Bruce D., and Cheng Wang. 1998. Repeated Insurance Relationships in a Costly State Verification Model: With an Application to Deposit Insurance. *Journal of Monetary Economics* 42, no. 2:207–40.

The authors consider the problem of an insurer who enters into a repeated relationship with a set of risk averse agents in the presence of ex post verification costs. The insurer wishes to minimize the expected cost of providing these agents a certain expected utility level. The authors characterize the optimal contract between the insurer and the insured agents. They then apply the analysis to the provision of deposit insurance. The authors' results suggest—in a deposit insurance context—that it may be optimal to utilize the discount window early on, and to make deposit insurance payments only later, or not at all. (©1999 EconLit)

Spiegel, Mark. 1989. Risk Aversion, Deposit Insurance, and Collective Action Problems among Banks. Economic Research Reports, no. 89-03. New York University.

Collective action problems are likely to arise in concerted lending situations. The sources of lending structures which hinder collective actions are therefore of policy concern. This paper introduces a monopolistically-competitive model in which bank risk aversion and Federal deposit insurance policy combine to induce banks to choose a level of concentration ex-ante which hinders their collective action ex-post. Decreases in loan concentration result in an increase in the degree of credit contraction in bad states, an increase in the probability of default, and an increase in the expected burden on FDIC funds. (©1999 EconLit)

Spiegel, Mark. 1996. Fixed-Premium Deposit Insurance and International Credit Crunches. Federal Reserve Bank of San Francisco *Economic Review*, no. 2:3–15.

This article demonstrates that the introduction of fixed-premium deposit insurance, both explicit and implicit, can magnify the degree to which credit extension is sub-optimal by increasing the number of banks participating in the lending package. The analysis is conducted through a monopolistically competitive two-period model of foreign lending. Results show that deposit insurance raises the number of banks participating in a lending package through three channels: first, deposit insurance acts as a subsidy on lending; second, deposit insurance weakens the degree to which the market induces banks to organize in a manner that will minimize the public-good problem associated with relending to a problem debtor; finally, implicit deposit insurance removes much of the remaining liability side of the bank balance sheet from a private regulating role.

St. Hill, R. L. 1995. A Post-Keynesian Perspective on Commercial Bank Behavior and Regulation. *Metroeconomica* 46, no. 1:35–62.

This paper presents a post Keynesian perspective on commercial bank behavior and regulation. It is assumed that: (1) the quantity of loans is endogenous; (2) banks are dual purpose institutions whose functions are to create credit and supply means of payment and liquidity; (3) uncertainty pervades decision making; and (4) banks are price setters in retail markets, but price takers in wholesale markets. The effects of a number of instruments of regulation are analyzed including lender of last resort, liquid reserve requirements, deposit insurance, capital adequacy and open market operations. (©1999 EconLit)

Thomson, James B. 1992. Modeling the Bank Regulator's Closure Option: A Two-Step Logit Regression Approach. *Journal of Financial Services Research* 6, no. 1:5–23.

This article models the regulator's decision to close a bank as a call option. A two-equation model of bank failure that treats bank closings as an event timed by bank regulators is constructed and estimated for bank failures that occurred from 1984 through 1989. The results of the regression experiment are consistent with the underlying theoretical model, since a majority of the regressors in the closure equation are significant with the correct sign. Overall, the results support the hypothesis that delayed closure of insolvent financial institutions is a function of the incentive system facing bank regulators. The results of this study imply that for regulators to adopt more timely insolvency-resolution policies, fundamental changes in the regulatory incentive system are necessary.

Urrutia, Jorge. 1990. The Cost of Deposit Insurance: Derivation of a Risk-Adjusted Premium. *Insurance: Mathematics and Economics* 9, no. 4:281–90.

The author develops a model for determining a risk-adjusted insurance premium to be charged by the Federal Deposit Insurance Corporation. The model introduces co-insurance and deductible clauses for deposit insurance and is an alternative to models based on an option-pricing formula. The resultant risk-sensitive insurance premium is (1) an increasing function of the interest rate paid on a bank's deposits, the bank's loan-loss rate, the bank's deposit-to-capital ratio, and the expenses incurred by the FDIC and the insured bank; and (2) a decreasing function of the interest rate earned on the bank's loans and the rate of return on the FDIC's investments. The models with co-insurance and deductibles reduce the FDIC's liabilities and result in smaller insurance premiums than the full insurance model. Compared with the flat insurance premium, a risk-adjusted insurance premium would encourage discipline on the part of bankers and depositors, reducing the moral-hazard problem.

Wang, Yu-Lin. 1994. The Resource Allocation Effects of Deposit Insurance: A Pilot Study. Ph.D. diss., University of Minnesota.

This dissertation studies the resource allocation effects of deposit insurance, using the idea that a necessary condition for resource allocation effects is a corner solution: there are types of investments that insured institutions finance, but other

institutions do not. Examining a sample of commercial construction projects undertaken during the 1980s in a city in Minnesota, the author asks if there is some class of projects, determined by their characteristics, that were financed only by insured institutions. The finding suggests that the sample does not include a class of projects in which financing was exclusively provided by insured institutions. Thus the evidence is not consistent with a resource allocation effect caused by deposit insurance.

Williamson, D. Stephen. 1997. Discount Window Lending and Deposit Insurance. *Review of Economic Dynamics* 1:246–75.

The author constructs a banking model in which roles for government-provided deposit insurance and discount window lending emerge when branch banking is restricted. Additionally, banks evolve endogenously as an efficient arrangement for sharing risk. Discount window lending permits better risk-sharing by making bank assets more liquid, but is limited because of a moral-hazard problem that arises from adverse selection in the loan market. Deposit insurance also creates the potential for better risk-sharing, but accomplishes this through contingent transfers rather than enhancements of liquidity. Banks tend to take on more risk with deposit insurance and to take less care in screening loans, but this result is consistent with an increase in welfare for depositors and borrowers.

Yu, Min Teh. 1991. Two Essays in Deposit Insurance. Ph.D. diss., Ohio State University.

In this dissertation, the first essay seeks to ascertain whether economically accurate reporting would have developed alarming figures before the shortfall of Federal Savings and Loan Insurance Corporation (FSLIC) resources had reached enormous proportions. The essay develops and compares alternative methods for generating market-based measurement of the FSLIC's true income. The second essay shows that the potential market failure modeled by Diamond and Dybvig can easily be rectified without taxpayer-backed government deposit insurance if one relaxes their arbitrarily imposed "sequential servicing constraint" and uses a "contingent bonus contract." The purpose of this second essay is merely to demonstrate that the Diamond and Dybvig model does not constitute evidence of what they claim. The Diamond and Dybvig model therefore does not make the case for a continuation of federal deposit insurance in the wake of the government deposit insurance debacle.

Zarruk, Emilio R. 1989. Bank Spread with Uncertain Deposit Level and Risk Aversion. *Journal of Banking and Finance* 13, no. 6:797–810.

This paper derives a model of the banking firm under uncertainty and risk aversion. The selection of the bank's optimal spread between loan and deposit rates is emphasized. The model's results provide some implications for bank asset quality, capital regulation, and deposit insurance. For example, it is shown that increases in the level of equity capital tend to increase the bank's spread under decreasing absolute risk aversion. This implies an improvement in bank asset quality. On the other hand, as the deposit supply function becomes more

volatile, the bank's spread narrows, which implies a decline in the quality of the bank's assets. (©1999 EconLit)

Zarruk, Emilio R., and Jeff Madura. 1992. Optimal Bank Interest Margin under Capital Regulation and Deposit Insurance. *Journal of Financial and Quantitative Analysis* 27, no. 1:143–49.

This paper examines the relationships among capital regulation, deposit insurance, and the optimal bank interest margin. In a model where loan losses are the source of uncertainty, changes in capital regulation or deposit insurance premiums have direct effects on the bank's interest margin. An increase in bank capital requirements or in deposit insurance premiums results in a reduced interest margin under nonincreasing risk aversion. Comparative static analysis also explores the relation between asset quality and interest margin. It is shown that a mean-preserving spread of the distribution of loan losses results in a reduced margin. (©1999 EconLit)

# 7. Deposit Insurance and Moral Hazard, Risk, and Incentives

***Entries in this section deal with the moral-hazard problem caused by the provision of deposit insurance, methods of mitigating the problem, the effect of deposit insurance on bank risk-taking behavior and on the incentives of bank management, and the principal–agent problem in bank regulation.***

Acharya, Sankarshan. 1991. Efficient Resolution of Moral Hazard via Capital Market: Monitoring Banks. Finance and Economics Discussion Series, no. 178. Board of Governors of the Federal Reserve System.

> This paper shows that capital market competition can efficiently resolve moral hazard in a firm whose shareholders (the agent) control the standard deviation of the rate of return to assets (volatility), and whose debt holders, unable to observe the volatility, can appoint a not-for-profit principal (regulator) to insure their debt and monitor the firm for a price. In equilibrium, shareholders of such a firm (e.g., a bank) receive an expected rate of return (compensation) consistent with their risk of investment; and the asset volatility and debt (deposit) insurance premium are determined as increasing functions of capital. Further, thresholds of capital below which such a firm is closed is positive. An algorithm is presented to compute equilibrium results. (©1999 EconLit)

Acharya, Sankarshan. 1995. Efficient Resolution of Moral Hazard under No Arbitrage: Risk Premium, Volatility, and Leverage. Finance and Economics Discussion Series, no. 95-15. Board of Governors of the Federal Reserve System.

> The shareholder–debtholder conflict is efficiently resolved when the capital market acts as a super monitor to preclude arbitrage and when debtholders monitor the firm. The market value of a firm in a world where monitoring is necessary is equal to the market value in a world where monitoring is not necessary; what adjusts in equilibrium is the state-pricing-density. In a no-arbitrage equilibrium, the asset risk premium and the volatility of a levered firm are negatively related, the asset volatility and risk premium are increasing in the asset/debt ratio, and the threshold asset/debt ratio below which the firm is closed because of bankruptcy or liquidation is an increasing function of the asset risk premium.

Baker, Tom. 1996. On the Genealogy of Moral Hazard. *Texas Law Review* 75, no. 2:237–93.

> The author focuses on the legal and political question of the extent to which those who suffer are responsible for their condition. In the legal academy, the question is debated within the framework of law and economic analysis. Within that framework, the concept of "moral hazard" is one of the most important yet least well understood. The author explains how the concept of moral hazard, applied to banking regulation, bankruptcy law, business law, and the like, has changed the way U.S. laws treat citizens.

Benston, George J. 1995. Safety Nets and Moral Hazard in Banking. In *Financial Stability in a Changing Environment*, edited by Kuniho Sawamoto, Zenta Nakajima, and Hiroo Taguchi, 329–377. Bank of Japan. [Followed by comments by Pierre Duguay and Kazuhito Ikeo.]

> In the absence of other constraints, bank owners and managers have incentives to take greater risks than they would have taken without the federal safety net. The essential questions considered in this paper are how costly the problem is and what can and should be done about the situation. Author describes the ways nongovernment providers of insurance deal with this problem. He also considers moral hazard in financial markets. He concludes that the optimal combination of the benefits from safety nets, the cost of moral hazard, and the cost of dealing with moral hazard is complex and best left to the parties affected; in general, government should not intervene.

Brewer, Elijah III, William E. Jackson, and James T. Moser. 1996. Alligators in the Swamp: The Impact of Derivatives on the Financial Performance of Depository Institutions. *Journal of Money, Credit, and Banking* 28, no. 3 (part 2): 482–97.

> It has been argued that underpriced federal deposit insurance provides incentive for insured institutions to increase the value of shareholder equity by expanding into activities that shift risk onto the deposit insurer. Derivative instruments have been used by firms to change their risk exposure. Permitting firms with substantial moral hazard incentives to utilize interest-rate derivative instruments could lead to higher rather than lower exposure to risk. This article, using a sample of savings and loan associations (S&Ls), examines the proposition that involvement with interest-rate derivatives instruments increases depository institutions' risk. The authors find that there is a negative correlation between risk and derivatives usage. In addition, S&Ls that used derivatives experienced relatively greater growth in their fixed-rate mortgage portfolios. (©1999 EconLit)

Brewer, Elijah III, and Thomas H. Mondschean. 1992. Ex Ante Risk and Ex Post Collapse of S&Ls in the 1980s. Federal Reserve Bank of Chicago *Economic Perspectives* (July/August): 2–12.

> This research examines the risk premiums on S&Ls' large certificates of deposit and the returns on, and volatility of, S&L common stock. These studies report evidence that supports that moral hazard—the incentive for managers and shareholders to take advantage of underpriced deposit insurance by taking additional risks—significantly increased the cost of the S&L bailout.

Brewer, Elijah III, and Thomas H. Mondschean. 1994. An Empirical Test of the Incentive Effects of Deposit Insurance: The Case of Junk Bonds at Savings and Loan Associations. *Journal of Money, Credit, and Banking* 26, no. 1:146–64.

> This paper analyzes how financial markets reacted to S&L diversification into junk bonds. The authors report that junk bond holdings are positively correlated with both the volatility of S&L equity returns and the interest rates paid on large CDs. Next, they examine the impact of junk bonds on equity returns. For poorly

capitalized S&Ls, greater risk-taking increases the value of deposit insurance and should lead to higher stock returns. However, a well-capitalized institution that increases junk bond holdings should not experience stock price gains. The authors find that this is the case for the sample of S&Ls they studied. (©1999 EconLit)

Brewer, Elijah III, Thomas H. Mondschean, and Philip E. Strahan. 1997. The Role of Monitoring in Reducing the Moral Hazard Problem Associated with Government Guarantees: Evidence from the Life Insurance Industry. *Journal of Risk and Insurance* 64, no. 2:301–22.

State guaranty funds provide partial protection to life insurance liability holders in the event of an insolvency, thus creating a potential moral hazard problem akin to the one associated with deposit insurance in the banking industry. Consistent with this theory, we find that risk-taking by life insurers is higher in states with guaranty funds that are underwritten by taxpayers. In states where taxpayers pay for the costs of resolving insolvencies, life insurers hold portfolios with higher overall stock market risk and higher levels of risky assets. By contrast, in states where the guaranty funds are underwritten by the industry, overall risk is no higher than in states without these funds. (©1999 EconLit)

Calomiris, Charles W., Charles M. Kahn, and Stefan Krasa. 1991. Optimal Contingent Bank Liquidation under Moral Hazard. Issues in Financial Regulation Working Papers Series, no. 1991-13. Federal Reserve Bank of Chicago.

This paper uses models of asymmetric information and incentive compatibility to explain two distinctive features of the arrangements by which banks obtain financing-demandable debt and the sequential service constraint. The option of early withdrawal and contingent liquidation of the bank serves as a disciplinary device to keep the banker's portfolio choice in line with depositors' preferences. The possibility of default and the first-come, first-served rule give depositors the incentive to monitor the banker.

Crawford, Anthony J., John R. Ezzell, and James A. Miles. 1995. Bank CEO Pay–Performance Relations and the Effects of Deregulation. *Journal of Business* 68, no. 2:231–56.

The authors test a deregulation hypothesis that posits that bank CEO compensation became more sensitive to performance as bank management became less regulated. They observe a significant increase in pay-performance sensitivities from their 1976–81 regulation subsample to their 1982–88 deregulation subsample. These increases in pay sensitivities after deregulation are observed for salary and bonus, stock options, and common stock holdings. The authors observe increases in the pay-performance relation associated with high-capitalization-ratio banks, consistent with providing incentives for wealth creation. Even larger increases in pay-performance sensitivity for lower capitalization-ratio banks suggest a Federal Deposit Insurance Corporation moral hazard problem. (©1999 EconLit)

Davies, Sally M., and Douglas A. McManus. 1991. The Effects of Closure Policies on Bank Risk-Taking. Finance and Economics Discussion Series, no. 158. Board of Governors of the Federal Reserve System.

> This paper models bank closure policy for a risk averse bank that enjoys flat-rate deposit insurance. The authors find that increasing the level of net worth at which banks are closed can increase or decrease induced risk aversion, as well as increase the likelihood that marginally healthy banks would be subject to extreme moral hazard. In addition, they find that changes in closure policy can increase or decrease desired leverage and that this effect depends on the degree of correlation among asset returns. (©1999 EconLit)

Demsetz, Rebecca S., Marc R. Saidenberg, and Philip E. Strahan. 1997. Agency Problems and Risk-Taking at Banks. Staff Reports, no. 29. Federal Reserve Bank of New York.

> The moral-hazard problem associated with deposit insurance generates the potential for excessive risk-taking on the part of bank owners. The banking literature identifies franchise value—a firm's profit-generating potential—as one force mitigating that risk-taking. The authors argue that in the presence of owner/manager agency problems, managerial risk aversion may also offset the excessive risk-taking that stems from moral hazard. Empirical models of bank risk tend to focus either on the disciplinary role of franchise value or on owner/manager agency problems. The paper estimates a unified model and finds that both franchise value and ownership structure affect risk at banks. More important, it identifies an interesting interaction effect: the relationship between ownership structure and risk is significant only at low-franchise-value banks—those where moral-hazard problems are most severe and where conflicts between owner and manager risk preferences are therefore strongest. Risk is lower at banks with no insider holdings, a finding that suggests that the owner/manager agency problem affects the choice of risk for only a small number of banks—those with low franchise value and no insider holdings.

Duan, Jin-Chuan, Arthur F. Moreau, and C. W. Sealey. 1992. Fixed-Rate Deposit Insurance and Risk-Shifting Behavior at Commercial Banks. *Journal of Banking and Finance* 16, no. 4:715–42.

> Fixed-rate deposit insurance is thought to provide banks with an incentive to shift risk to the FDIC, thereby expropriating wealth. Banks can achieve these wealth transfers by increasing their overall risk and thus increasing the actuarial value of the deposit insurance. The authors test the risk-shifting hypothesis on a sample of U.S. banks. They use an option-based methodology to price each bank's actuarial liability to the FDIC. They then conduct statistical tests to determine if banks have been successful in manipulating risk in such a way as to increase these liabilities. The results suggest that, with notable exceptions, risk shifting is not widespread.

Finch, Howard James. 1992. Thrift Insolvency and Go-for-Broke Management Behavior. Ph.D. diss., University of Alabama.

This dissertation seeks to test for excessive risk-taking, or "go-for-broke" behavior, on the part of thrifts that experience declining net worth. First, the author fits a regression equation to account for changes in each variable due to macroeconomic influences. Then, using statistical quality-control techniques, he tracks the residuals from the regressions, representing unexplained changes. The conclusion is that thrifts experiencing declining net worth did not engage in "go-for-broke" investment behavior. The analysis indicated that the risk subsidies that deposit insurance forbearance provides managers did not result in excessive risk-taking by thrifts facing financial distress.

Goldberg, Lawrence G., and T. Harikumar. 1991. Risk-Taking Incentives of Banks and Risk-Adjusted Deposit Insurance. *Journal of Financial Research* 14, no. 3:233–39.

The manager of a depository institution is shown to exhibit risk-taking behavior under the current insurance arrangement. Perfect monitoring or risk-based deposit insurance would eliminate this incentive if information were symmetric between bank managers and the insuring agency. Absent symmetric information, it is shown that a recently suggested scheme, where insurers collect insurance premiums based on projected and actual risk levels, does not control the risk-taking incentive. The only way to control this incentive through insurance rates is to levy a relatively high premium, which is not actuarially fair. (©1999 EconLit)

Gorton, Gary, and Richard Rosen. 1995. Corporate Control, Portfolio Choice, and the Decline of Banking. *Journal of Finance* 50, no. 5:1377–420.

In the 1980s, U.S. banks became systematically less profitable and riskier as nonbank competition eroded the profitability of banks' traditional activities. Bank failures rose exponentially during this decade. The leading explanation for the persistence of these trends centers on fixed-rate deposit insurance: the insurance gives bank equityholders an incentive to take on risk when the value of bank charters falls. The authors propose and test an alternative explanation based on corporate control considerations. They show that managerial entrenchment played a more important role than did the moral hazard associated with deposit insurance in explaining the recent behavior of the banking industry. (©1999 EconLit)

Grossman, Richard S. 1992. Deposit Insurance, Regulation, and Moral Hazard in the Thrift Industry: Evidence from the 1930s. *American Economic Review* 82, no. 4:800–821.

This paper compares risk-taking of insured and uninsured thrifts operating under strict and less-strict regulatory regimes during the 1930's. Analysis of balance-sheet data indicates that while newly insured thrifts undertook less risk than their uninsured counterparts, possibly because of screening by deposit-insurance authorities, moral hazard emerged gradually. Insured institutions operating under relatively permissive regulatory regimes were more prone to undertake risky

lending activities than their more tightly regulated counterparts. Possibly because of screening by deposit-insurance authorities, moral hazard emerged gradually. Insured institutions operating under relatively permissive regulatory regimes were more prone to undertake risky lending activities than their more tightly regulated counterparts. Given the current system of deposit insurance, the results suggest that effective regulation and supervision will play a key role in maintaining thrift stability in the 1990s. (©1999 EconLit)

Gunther, Jeffrey W., and Kenneth J. Robinson. 1990a. Empirically Assessing the Role of Moral Hazard in Increasing the Risk Exposure of Texas Banks. Financial Industry Studies Working Paper no. 90-4. Federal Reserve Bank of Dallas.

The authors investigate the possibility that a deterioration in financial performance, coupled with federal deposit insurance, prompted Texas banks in 1983–1984 to take on the large amounts of asset risk that ultimately contributed to their high rate of failure. To assess the role of moral hazard in banking difficulties, the authors test whether changes in asset risk occurring from 1983 to 1984 were related to the prior rate of growth in book-value capital among a sample of insured commercial banks operating in the Dallas and Houston metropolitan areas. They do this by developing an econometric model to investigate the factors that contribute to a bank's risk exposure.

Gunther, Jeffrey W., and Kenneth J. Robinson. 1990b. Moral Hazard and Texas Banking in the 1980s: Was There a Connection? Financial Industry Studies Working Paper no. 90-6. Federal Reserve Bank of Dallas.

The authors analyze the potential role of the risk-taking incentives arising from moral hazard as a causal factor in the financial difficulties of Texas banks in the 1980s. The ability of insured depository institutions to place at risk funds that are guaranteed by the government may encourage institutions to participate in risky ventures they otherwise might avoid. Given the incentives to engage in activities with greater risk, a key linkage between moral hazard and federal deposit insurance is a bank's capital position. Moral hazard, combined with deregulation and increased competition created the financial sector distress of the 1980s. The existence of moral hazard may lie behind the transition from the well-balanced bank portfolios characteristic of stable banking periods to the higher-risk portfolios that tend to characterize banks when their capital levels drop below regulatory standards.

Holguin, Angela H. 1997. Controlling Moral Hazard of Federal Deposit Insurance through the Risk-Related Premium System. Ph.D. diss., University of Delaware.

The author explains how the federal deposit insurance system has demonstrated its ability to stave off banking panics and depositor runs in the face of industry and economic hardships. However, she argues, the ability of the premium system to discourage moral hazard must be improved if the banking industry is to remain competitive and the insurance funds are to be maintained at sufficient levels to absorb losses from insured institutions. For these goals to be accomplished, the system's risk mechanisms for identifying and pricing should be refined so that

they promote greater financial incentives to control risks and so that they distribute the costs of deposit insurance more equitably.

Hovakimian, Armen, and Edward J. Kane. 1996. Risk-Shifting by Federally Insured Commercial Banks. Working Paper no. W5711. National Bureau of Economic Research.

When deposit insurance is mispriced and misadministered, it imparts risk-shifting incentives to U.S. banks. Regulators are expected to monitor and discipline increases in bank risk exposure that would transfer wealth from the FDIC to bank stockholders. This paper assesses the success regulators had in controlling risk-shifting by U.S. banks during the period 1985–1994. In contrast to single-equation estimates developed from the option model by others, the simultaneous-equation approach used here yields evidence that indicates regulators failed to prevent large U.S. banks from shifting risk to the FDIC. Moreover, at the margin, banks that are undercapitalized shifted risk more effectively than other sample banks.

Iwamura, Mitsuru. 1993. Deposit Insurance and Moral Hazard. *Bank of Japan Monetary and Economic Studies* 11, no. 1:63–85.

It is well known that deposit insurance creates a moral-hazard problem. However, no precise answers have been given as to what characterizes the risk-incentive mechanism of commercial banks under deposit insurance systems and whether a system of variable deposit insurance premiums, which is often regarded as a more consistent framework, can resolve the moral-hazard problem. This article seeks to estimate the risk premiums of deposit insurance systems, using numerical integration under certain simplified assumptions; it also seeks to offer some answers to the two questions above. The functions of most deposit insurance systems extend beyond simple insurance payoffs and include rescue operations and merger assistance. The former function guarantees only the principal of bank deposits, while the latter covers both principal and interest. This article examines why these functional differences create some difficulties in resolving the moral-hazard problem.

Kane, Edward J. 1990. Principal–Agent Problems in S&L Salvage. *Journal of Finance* 45, no. 3:755–64.

FDIC legislation and traditional insolvency-resolution procedures intensified the principal–agent problems most responsible for the Federal Savings and Loan Insurance Corporation (FSLIC) crisis. These same principal–agent problems placed counterproductive constraints on the governance and operating policies on the Resolution Trust Corporation—the agency responsible for rescuing and salvaging assets in insolvent thrifts. Such constraints slowed insolvency resolution, increased interim financing costs, and undermined RTC recovery of asset value. In an attempt to preserve evanescent and economically misconceived "franchise values," the RTC allowed insolvents to seek financing on an unconsolidated basis, initiated bidding for institutions one at a time, held back seriously troubled assets, and recruited an overly narrow range of bidders.

Kane, Edward J. 1993. How Incentive-Incompatible Deposit Insurance Funds Fail. In *Research in Financial Services: Private and Public Policy: 1992*, vol. 4, edited by George G. Kaufman, 51–91. JAI Press.

> An incentive-incompatible deposit insurance fund (IIDIF) is a scheme for guaranteeing deposits at client institutions that deploys defective systems of information collection, client monitoring, and risk management. These defective systems encourage voluntary risk-taking by clients and by managers and politicians responsible for administering the fund. The paper focuses on how principal-agent conflicts and asymmetries in the distribution of information lead to myopic behavior by IIDIF managers and by politicians who appoint and constrain them. (©1999 EconLit)

Karels, Gordon V., and Christine A. McClatchey. 1999. Deposit Insurance and Risk-Taking Behavior in the Credit Union Industry. *Journal of Banking and Finance* 23, no. 1:105–34.

> This paper examines the relationship between deposit insurance and risk-taking behavior within the credit union industry. Time series tests employing industry average financial ratios for federal and state credit unions did not support the increased risk-taking hypothesis. Although federal credit union capital declined immediately following the adoption of deposit insurance, this was most likely the result of reduced capital requirements, not deposit insurance. Liquidity and loan delinquency ratios had a negative time trend coefficient, implying a decline in risk-taking behavior during the post-insurance period. Cross-sectional test results employing Iowa state-chartered credit union data indicated that insured credit unions were better capitalized and more liquid than their uninsured counterparts. Overall there was no evidence that the adoption of deposit insurance increased the risk-taking behavior of credit unions. (©1999 EconLit)

Keeley, Michael C. 1990. Deposit Insurance, Risk, and Market Power in Banking. *American Economic Review* 80, no. 5:1183–200.

> A fixed-rate deposit insurance system in the absence of regulation might provide a moral hazard for excessive risk-taking. Although the U.S. deposit insurance system appears to have worked remarkably well over most of its 50-year history, major problems began to appear in the early 1980s. This article tests the hypothesis that increases in competition caused bank charter values to decline, which in turn caused banks to increase default risk through increases in asset risk and reductions in capital. The results suggest that banks with more market power hold more capital relative to assets and have a lower default risk, as reflected in lower risk premiums on large, uninsured CDs.

Khorassani, Jacqueline. 1997. Real Deposit Insurance Limits, the Moral Hazard Problem, and Bank Failure. Ph.D. diss., West Virginia University.

> This dissertation investigates an explanation for the high failure rate among depository institutions during the 1980s and early 1990s. The moral-hazard hypothesis contends that, in the presence of deposit insurance, banks have an

incentive to acquire riskier assets than they should, because insured depositors—secure in the knowledge that their funds are safe in any event—will not penalize the institution by withdrawing their funds or requiring that a risk premium be added to the rates paid on their deposits. Thus, the moral-hazard hypothesis relies on the behavior of two groups of agents, depositors and banks, and on the linkage between them. The author uses 44 quarterly cross-sectional data sets to test 60–95 percent of all insured commercial banks in the United States over the period 1984–1994. The results suggest that as real deposit insurance decreased, depositors' sensitivity to bank risk increased. However, as predicted by the moral-hazard hypothesis, banks did not react to depositors' increased risk sensitivity by lowering the level of their controllable risk.

Kroszner, Randall S. and Philip E. Strahan. 1995. Regulatory Incentives and the Thrift Crisis: Dividends, Mutual to Stock Conversions, and Financial Distress. Working Paper no. 119. Center for the Study of the Economy and the State, University of Chicago.

This paper explores the incentive problems arising from the insolvency of both individual thrifts and the thrift deposit insurance fund during the 1980's. Consistent with their theory, the authors find insolvent and poorly-capitalized mutual thrifts were much more likely to convert during the period of the deposit insurer's cash shortage than either before or after. Second, insolvent institutions had a higher propensity to pay dividends during the period of cash shortage. Third, using a model of regulatory and thrift behavior relating dividend payments to conversions, capital, and earnings, they find that initially insolvent mutual-to-stock converters were more likely to pay dividends out of earnings and were less constrained by low capital than other stock thrifts. The authors conclude by discussing how private debt covenants prevent this type of behavior in non-financial firms and how recent legislative changes can be interpreted as requiring regulators to impose similar types of covenants on depository institutions. (©1999 EconLit)

Kuester, Kathleen A., and James O'Brien. 1989. Bank Equity Values, Bank Risk, and the Implied Market Values of Banks' Assets and Liabilities. Finance and Economics Discussion Series, no. 67. Board of Governors of the Federal Reserve System.

The paper examines the importance of several sources of risk in valuing banks' market equity and deposit insurance. The analysis indicates that both bank-specific loan credit risk and the market's discount for bank default risk are important determinants of banks' market equity values. The results suggest that the market risk discount may be influenced by factors that are important in determining the general level of stock prices. Finally, the value of deposit insurance net of explicit and implicit regulatory costs is found to differ across banks, depending in part on bank-specific risk. (©1999 EconLit)

Levonian, Mark E., and Fred Furlong. 1995. Reduced Deposit Insurance Risk. Federal Reserve Bank of San Francisco *Weekly Letter*, no. 95-08 (February 24).

> This issue of the *Letter* analyzes trends in bank risk and the implications for the deposit insurance system. The analysis suggests that, although the risk associated with bank assets and activities has increased, bank capital positions have soared, pushing down estimates of the federal deposit insurance liability to relatively moderate levels. In the public-policy debate, the improved health of banks and the deposit system should tip the balance more toward the gains in efficiency that may result if the barriers separating banks from other financial institutions are removed.

Macey, Jonathan R., and Geoffrey P. Miller. 1995. Deposit Insurance, the Implicit Regulatory Contract, and the Mismatch in the Term Structure of Banks' Assets and Liabilities. *Yale Journal on Regulation* 12, no. 1:1–24. Also 1995. Deposit Insurance, the Implicit Regulatory Contract, and the Mismatch in the Term Structure of Banks' Assets and Liabilities. In *Banking Law Anthology,* edited by Allison P. Zabriskie, 329–352. International Law Library Publishers.

> Authors explore the relationship between deposit insurance and the mismatch in the term structure of commercial banks' assets and liabilities. After critiquing the traditional regulatory hypothesis, which posits that banks have incentives to fund long-term assets with short-term liabilities because government-sponsored deposit insurance enhances bank credit and subsidizes short-term liabilities, they use public choice theory to argue that a modified version of the regulatory hypothesis is the best explanation for the mismatch in the term structure of banks' assets and liabilities. Finally, they argue that embracing the regulatory hypothesis does not imply acceptance of the government-sponsored deposit insurance scheme as it exists in the U.S. (©1999 EconLit)

Matutes, Carmen, and Xavier Vives. 1995. Imperfect Competition, Risk-Taking, and Regulation in Banking. Discussion Paper 1177. Centre for Economic Policy Research.

> The authors develop a model of banking competition which disentangles the roles that limited liability, deposit insurance (both with flat and risk-based premia), and rivalry for deposits play in determining risk-taking incentives both in the asset and the liability side of the balance sheet. They find that in all market configurations (uninsured or insured) banking rivalry yields excessive deposit rates when social failure costs are high or when competition is intense. Maximal risk-taking incentives (on the liability and asset sides) exist with flat-premium deposit insurance and minimal with risk-based insurance. In an uninsured market, risk-taking on the asset side is implied by limited liability and the presence of moral hazard (asset risk not observable). With flat-premium deposit insurance maximum risk-taking incentives exist even if there is no moral hazard. Finally, the authors extricate the role of rate and asset regulation both in the case of insured and uninsured deposits. (©1999 EconLit)

Mazumdar, Sumon C. 1997. Regulatory Monitoring, Closure Costs, and Bank Moral Hazard Behavior. *Journal of Regulatory Economics* 12, no. 3:267–89.

This article theoretically analyzes the efficacy of close regulatory monitoring and early bank closure policies, introduced by the 1991 Federal Deposit Insurance Corporation Improvement Act (FDICIA), in reducing the FDIC's losses and curbing bank moral hazard behavior induced by mispriced deposit insurance. Contrary to conventional wisdom the author demonstrates that continuous bank monitoring and early closure may in fact exacerbate the moral hazard problem if bank shareholders face a penalty upon closure. Moreover, if reputational disincentives and monitoring costs prevent the regulator from implementing timely closure then the bank's moral hazard incentives are significantly altered. These results suggest several new policy implications. (©1999 EconLit)

McKenzie, Joseph A., Rebel A. Cole, and Richard A. Brown. 1992. Moral Hazard, Portfolio Allocation, and Asset Returns for Thrift Institutions. *Journal of Financial Services Research* 5, no. 4:315–39.

This article examines the earnings performance of nontraditional assets allowed to thrifts since the early 1980s. It uses the statistical cost accounting methodology developed by D. Hester and J. Zoellner to estimate average returns on thrift portfolio investments for the years ending June 30,1987 and June 30, 1988. Results show that average returns on land loans, service corporation investment, real estate investment, and commercial loans were significantly lower than returns on more traditional assets. The results are far more pronounced at capital deficient institutions, lending support to the hypothesis that they used nontraditional investments as a means of exploiting the deposit insurance system. Returns on nontraditional assets are significantly affected by geographic factors, even for well capitalized institutions. The article concludes with an evaluation of the reimposition of portfolio restrictions on thrifts by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989. (©1999 EconLit)

Mei, Jianping, and Anthony Saunders. 1991. Bank Risk and Real Estate: An Asset Pricing Perspective. Working Paper S-91-50. Salomon Center, New York University.

While a number of papers have investigated the ex post variables driving the return-generating process of bank stock returns, no study has comprehensively studied: (i) the ex ante risk premiums on bank stocks and (ii) the time varying nature of such premiums. In this study, the authors investigate how the changing nature of bank risk-taking (especially in the real estate market) along with the presence of a federal safety net (like deposit insurance) has affected the ex ante pricing of risk in the market for bank stocks. The major finding is that a premium for real estate risk is increasingly apparent in the market for bank stocks, presumably reflecting these banks' growing exposures in this area; however, factor risks for the biggest money center banks are underpriced. This underpricing is consistent with the presence of "too-big-to-fail" safety-net subsidies for the nation's largest banks. (©1999 EconLit)

Nagarajan, S., and C. W. Sealey. 1997. Market Discipline, Moral Hazard, and Bank Regulation. In *Technology://www.policy.implications.for.the.future.of.financial.services/com*, Proceedings of the 33d Annual Conference on Bank Structure and Competition, 226–40. Federal Reserve Bank of Chicago.

This paper seeks to develop a model of bank regulation under conditions of moral hazard and to examine the feasibility of delegating the regulatory function to market forces. The authors designed the model to investigate the incentives of different claimholders to exert market discipline on banks' risk-taking decisions. The authors show that the various private-sector claimholders of a bank will choose optimal levels of information production and monitoring that are less than that of the regulator.

Pecchenino, Rowena A. 1992. Risk-Based Deposit Insurance: An Incentive Compatible Plan. *Journal of Money, Credit, and Banking* 24, no. 4:499–510.

This paper develops a model of a risk-based deposit insurance regulatory regime in which the insurer induces banks to reveal truthfully the riskiness of their portfolios and to protect adequately their creditors from loss. This scheme reduces the limits on stockholder liability, responds to changes in market conditions, and provides depositors with timely information on bank risk. (©1999 EconLit)

Peek, Joe, and Eric S. Rosengren. 1997. Derivatives Activity at Troubled Banks. *Journal of Financial Services Research* 12, no. 2–3:287–302.

Because of moral hazard associated with deposit insurance, troubled banks that have a relatively thin capital cushion to absorb losses have an incentive to take speculative positions. Thus, the prevalence of problem banks among those actively engaged in derivatives markets should be of concern to bank supervisors. However, the authors find no evidence that bank supervisors take into account, either favorably or unfavorably, the derivatives activities of troubled banks in their decisions to downgrade bank ratings or impose regulatory actions. The derivatives activity of troubled banks should raise the same concerns expressed about banks' on-balance-sheet positions, namely, that they may not be fully exploiting hedging opportunities or may be placing their remaining capital at risk, intentionally or unintentionally. (©1999 EconLit)

Scott, Kenneth E. 1989. Deposit Insurance and Bank Regulation: The Policy Choices. *Business Lawyer* 44, no. 3:907–33.

Technological advances in the computer and communications industries, rising inflation and interest rates, the collapse of energy prices, and a world recession all exerted pressure on the old system of deposit insurance and legal regulation of banking. The author discusses three possible explanations for the stress: (1) the national and world economies have undergone random shocks; (2) events have shown a need for better supervision of banking; and (3) the uniform premium structure of the deposit insurance system creates an incentive for a bank to accept higher risks than it would otherwise. Controlling institutional risk, matching the

insurance premium to the risk, closing the bank before insolvency, and transforming insured deposits into riskless claims are all policy choices for dealing with the risk-incentive problem.

Shiers, Alden F. 1994. Deposit Insurance and Banking System Risk: Some Empirical Evidence. *Quarterly Review of Economics and Finance* 34, no. 4:347–61.

This paper examines the effect of federal deposit insurance on the riskiness of the commercial banking system. It is generally acknowledged that a system of fixed rate deposit insurance creates incentives for banks to increase their risk-taking activities. Yet very little empirical evidence exists confirming or refuting this supposition. The coefficient of variation of bank profits and the standard deviation of profits are used as measures of bank risk. How these measures of bank risk are affected by deposit insurance coverage, and other variables thought to affect bank risk, is examined. Deposit insurance is found to have a statistically significant positive effect on bank risk. This result provides empirical support for the FDIC Improvement Act requirement of risk related deposit insurance premiums starting January 1994. (©1999 EconLit)

Shoven, John B., Scott B. Smart, and Joel Waldfogel. 1991. Real Interest Rates and the Savings and Loan Crisis: The Moral Hazard Premium. Working Paper no. 3754. National Bureau of Economic Research.

Real interest rates rose to historically high levels in 1980 and remained high throughout the decade. Macroeconomists attribute this phenomenon to a combination of tight monetary policy, fiscal deficits, and variable inflation rates. This paper presents preliminary evidence for an additional explanation of high real rates that is related to the decade-long crisis in the savings and loan industry. Deposit insurance moral hazard, and regulatory forbearance provide the incentives and the means for insolvent thrifts to issue liabilities that compete with Treasury securities in the market for funds. Thus, as the magnitude of the thrift crisis grew during the 1990's, so did pressure on Treasury yields. Even if the effect of the S&L crisis on interest rates is small, the increased cost of financing the public debt adds significantly to the total costs associated with the savings and loan fiasco. (©1999 EconLit)

Sivasangaram, Murugesu. 1991. Deposit Insurance and Banks' Risk-Taking Incentives with Forbearance and Uncertain Insolvency Resolution. Ph.D. diss., Queen's University at Kingston.

This dissertation extends Marcus's (1984) work to analyze the implication of forbearance and uncertain insolvency resolution for depository institutions' risk-taking behavior. The author's prime objective is to investigate whether forbearance and uncertain insolvency resolution have contributed to past banking crises. The models show that forbearance and uncertain insolvency resolution distort banks' risk incentives. However, the distortions do not seem to create a financial crisis. The general wisdom, which holds that the insurers' practices are responsible for the crisis, does not have much validity. The dissertation also

shows that with forbearance and uncertain insolvency resolution, the equilibrium deposit rate of return becomes sensitive to the behavior of the insurer and the market as well as to the interactions between them.

Spiegel, Mark M. 1999. Moral Hazard under the Japanese "Convoy" Banking System. Federal Reserve Bank of San Francisco *Economic Review*, no. 3:3–13.

The author examines whether the prevailing regulatory regimes in Japan's banking sector through most of the 1990s may have played a role in the sector's slow movement towards recovery. For example, the article examines the Japanese "convoy" system, under which the burden of maintaining the deposit safety net was to some extent placed on the banking industry as a whole. The author reviews the history of bank failures in Japan and demonstrates that banks were called upon to assist with failures, particularly systemic failures and those that occurred after the funds of the Japanese Deposit Insurance Corporation were effectively exhausted in the mid-1990s. The theoretical model demonstrates that the relative level of moral hazard in bank lending among the various regimes depended on bank charter values and that the level of moral hazard was greater under the convoy banking regime than under a fixed-premium deposit insurance scheme.

Stern, Gary H. 1999. Managing Moral Hazard with Market Signals: How Regulation Should Change with Banking. Federal Reserve Bank of Minneapolis *Region* 13, no. 3: 28–31, 60–62.

Banking consolidation and the increasing complexity of bank operations have made past reforms seem less able to address the moral-hazard problem that is inherent in a financial safety net. Regulators and policymakers agree that additional reform is needed. The author of this article is the president of the Federal Reserve Bank of Minneapolis and believes that proposals relying exclusively on unfettered markets to eliminate moral hazard are not credible, and proposals relying exclusively on supervision and regulation are unlikely to address the moral-hazard problem effectively. Rather, promising reform proposals that use market signals to enhance discipline can be combined with the best aspects of current regulation to help mitigate the moral-hazard problem—a problem that is most acute with the largest banks. The reforms discussed in this paper would apply only to the largest banks, especially those considered too big to fail.

Sundaresan, Natarajan. 1996. Essays in Banking. Ph.D. diss., University of Massachusetts.

This dissertation consists of two essays analyzing the effect of policy measures used to control the risk-taking behavior of banks. The first essay explores the effect of increasing the required minimum capital-to-asset ratios on the riskiness of banks' assets. The empirical results indicate that banks' preference for risk is likely to be increased. The second essay deals with the development of a risk-based deposit insurance model in consonance with the bailout policy of the FDIC. The author derives a theoretical model for estimating the bank insuring agency's

liability and therefore the risk-adjusted deposit insurance premium of a bank. The model used here is an application of the flexible writer extendible put option but, in contrast to models used in previous studies, this one explicitly incorporates the FDIC's bailout policy (characterized by the lack of inclination on the part of the FDIC to close low- or negative-net-worth depository institutions). This distinction is significant, as regulator forbearance was originally a significant contributor to deposit insurance fund losses.

Thadden, Ernst-Ludwig von. 1997. The Term-Structure of Investment and the Banks' Insurance Function. *European Economic Review* 41, no. 7:1355–74.

The author examines the proposition, first formulated rigorously by Bryant (1980) and Diamond and Dybvig (1983), that in a production economy with stochastic liquidity shocks to the household sector, banks serve to provide optimal intertemporal insurance to consumers. The author argues that to understand the moral-hazard problem inherent in this insurance problem, one cannot consider solely the role of banks as providers of liquidity. He develops a model with several investment opportunities in which banks have the additional function of asset diversification. This pooling of intermediation functions is shown to reduce the moral-hazard problem, thereby enhancing the stability of depository contracts and increasing the scope of the banks' insurance function.

Weber, Marsha. 1997. Changes in Bank Risk from Deposit Insurance Premium Increases. Ph.D. diss., University of Nebraska at Lincoln.

Increases in the number of bank failures during the 1980s put a strain on the deposit insurance fund that caused much concern about the role of regulators in the banking industry and the ability of the banking insurance system to withstand credit crises. The FDIC raised deposit insurance premiums during this period to keep the Bank Insurance Fund (BIF) solvent and, in 1994, adopted a risk-based fee structure. This dissertation seeks to analyze and empirically test the effects of these changes in deposit insurance premiums on the risk-taking behavior of commercial banks. Specifically, the author seeks to analyze the effects of these premium changes on bank total asset risk. Evidence suggests that banks attempting to maximize the value of deposit insurance will increase asset risk when deposit insurance premiums increase. The empirical evidence, however, does not consistently support this relationship.

Weinstein, Harris. 1992. Moral Hazard, Deposit Insurance, and Banking Regulation. *Cornell Law Review* 77, no. 5:1099–104.

Deposit insurance has succeeded in capping destructive panics and bank runs despite the large numbers of bank and thrift failures that are highly related to fraud and wrongdoing. Depositors have confidence in the federal guarantee and continue to seek the best return, regardless of the risk of failure. The savings and loan crisis provides an instructive example of the consequence of separating risk from reward in the financial marketplace. The lesson to be learned about deposit insurance is not that one must choose between "regulation" and "market" but that

the better option is regulation within the market, including regulation that seeks to reinforce market-based incentives and limits.

Wheelock, David C., and Subal C. Kumbhakar. 1995. Which Banks Choose Deposit Insurance? Evidence of Adverse Selection and Moral Hazard in a Voluntary Insurance System. *Journal of Money, Credit, and Banking* 27, no. 1:186–201.

This article investigates adverse selection and moral hazard in the voluntary deposit insurance system of Kansas, which operated from 1909 to 1929. Regulations were imposed to limit risk-taking and membership was made voluntary to assuage objections that insurance forces conservative banks to protect depositors of high-risk institutions. The authors find, however, that risk-prone banks were the most likely to join the system at its inception. Using a simultaneous equations model, they also detect both adverse selection and moral hazard behavior throughout the system's first ten years. (©1999 EconLit)

# 8. Safety Nets, Deposit Insurance, and Subsidies

***Entries in this section include works on bank safety nets in general and deposit insurance in particular. Also covered are the costs of official government safety nets, their benefits, the existence of safety net–related banking subsidies and their competitive implications, and policies for containing such subsidies.***

Bankers Roundtable. 1997. The Federal Safety Net—Subsidy Effects in and outside of Banks. Occasional Paper no. 3. Bankers Roundtable.

> In discussions about modernizing the laws that govern the financial marketplace, the argument has been advanced that banks and affiliated companies enjoy subsidy benefits from the federal safety net. This subsidy may be defined as a benefit from the government which results in a distortion in the marketplace, including a competitive economic advantage for banks. The authors argue that the federal safety net provides certainty for insured depositors and stability for financial markets but has little if any effect on banks as competitors. The authors conclude that the safety-net subsidy or its transfer should not be a major issue for financial modernization.

Benston, George J. 1989. The Federal "Safety Net" and the Repeal of the Glass–Steagall Act's Separation of Commercial and Investment Banking. *Journal of Financial Services Research* 2, no. 4:287–305.

> If banks were allowed to engage in securities activities, it is feared that the federal safety net—deposit insurance, the Fed's role as lender-of-last resort, and government intervention to prevent financial crises—might be strained and possibly broken as banks' risk-taking increased. An analysis of methods of controlling risk-taking and bankers' present ability and propensity to take risks leads to a contrary conclusion. Nevertheless, the concern has given rise to a considerable body of empirical work. Studies on bank failures, risk-return profiles, cash flows, and profits and losses from underwriting are reviewed critically. On the whole, both the empirical and theoretical analyses provide little reason for concern about the federal safety net. (©1999 EconLit)

Burnett, Amy, Ramesh K. S. Rao, and Seha M. Tinic. 1991. Subsidization of S&Ls under the Flat-Rate Deposit Insurance System: Some Empirical Estimates. *Journal of Financial Services Research* 5 no. 2:143–64.

> This study analyses the thrift institutions' asset volatilities over the 1955–88 period and finds that deregulation in the industry has not led to a systematic increase in risk-taking in the industry. Through examining the magnitude of the subsidies by S&L holding companies under the present flat-rate deposit insurance system, the authors discover that a flat-rate deposit insurance system provides uneven and inequitable distribution of subsidies among thrift institutions. The authors find that a large fraction of the asset volatilities is attributable to firm-specific investment policies and that the risk of institutions' assets change considerably over time. Taken as a whole, the results suggest that switching to a

risk-based deposit insurance system would be economically efficient. The authors conclude by recommending policy changes that can increase the efficacy of risk-based insurance by increasing the level of monitoring by depositors and the financial markets.

Calomiris, Charles W. 1997. *The Postmodern Bank Safety Net: Lessons from Developed and Developing Economies.* American Enterprise Institute.

This analysis of the government safety net for the financial system begins with a review of the changes that have taken place in the twentieth century in policies and attitudes. Chapter 1 discusses the expansion of protection between the 1930s and the early 1980s, the period when an extensive "modern" safety net was constructed. Chapter 2 shows how new evidence in the mid-1980s began to alter attitudes and policies within the United States and in other economies. In chapter 3, the author considers alternative solutions to the incentive problems of the safety net and compares two approaches to reforming government safety nets, one based on the 1988 Basle International Bank Capital Standards and provisions of the Federal Deposit Insurance Corporation Improvement Act of 1991, the other a potentially more promising approach to reforming government safety nets. Chapter 4 reviews and evaluates two prominent examples of recent reform in the light of the arguments of chapter 3: namely, the experiences of Chile and Argentina, countries that have injected elements of private market discipline into their safety-net reforms. Chapter 5 offers some conclusions.

Demirgüç-Kunt, Asli, and Harry Huizinga. 1999. Market Discipline and Financial Safety Net Design. Policy Research Working Paper no. 2183. The World Bank.

The authors examine cross-country data on bank-level interest expense and deposit growth for evidence of market discipline in individual countries. In addition, using cross-country information on deposit insurance systems, they investigate the effect of explicit deposit insurance (and its key features) on bank interest rates and market discipline. They find that it is difficult to design and implement an effective safety net for banks, because overgenerous protection of banks may introduce a risk-enhancing moral hazard and destabilize the very system it is meant to protect. The safety net that policymakers design must provide the right mix of market and regulatory discipline—enough to protect depositors without unduly undermining market discipline of banks.

Emmons, William Robert. 1992. Essays on the Regulation of Financial Institutions. Ph.D. diss., Northwestern University.

This dissertation investigates the theory of banking safety nets, comprising the central bank's discount window and deposit insurance. The author also examines evidence to test whether the U.S. banking crisis of the 1980s and 1990s was primarily due to distress in the "real economy" or to increased risk-taking by banks. In the first essay, a theoretical model is developed in which demandable debt keeps the incentives of bankers and depositors aligned. The second essay shows that "small" banking systems benefit from a mutual guarantee of deposits. The third essay investigates the recent rise in bank failures and concludes that

bank failures are more likely when increased risk-taking coincides with a bad local economy.

Enoch, Charles, Peter Stella, and May Khamis. 1997. Transparency and Ambiguity in Central Bank Safety Net Operations. Working Paper no. WP/97/138. International Monetary Fund.

To mitigate the risks of contagion from problems arising in the banking sector, many countries operate some form of banking-sector safety net. Such safety nets generally involve a judicious mixture of transparency and ambiguity. This ambiguity may be important to counter moral-hazard effects but may lead to excessive forbearance in the face of banking problems. Although the scope for ambiguity has been declining, some ambiguity in the handling of individual institutions remains. In any case, ex post transparency is essential for reviewing the propriety of any assistance and preserving the authorities' future reputation and policy credibility.

Isard, Peter, Donald J. Mathieson, and Liliana Rojas-Suarez. 1996. A Framework for the Analysis of Financial Reforms and the Cost of Official Safety Nets. *Journal of Development Economics* 50, no. 1:25–79.

This paper builds a multiperiod, general equilibrium framework for analyzing the macroeconomic effects of financial reforms in developing countries and the costs of maintaining official safety nets. When the creditworthiness of the nonfinancial sector is weak, the efficiency gains from financial liberalization may be countered by an increase in expected deposit insurance funding obligations, even when prudential supervision is strong. Moreover, given the distortions in a repressed financial system, attempts to reduce risk exposures by increasing bank capital/asset ratios may increase the funding obligations associated with deposit insurance, particularly when the debt-servicing capacity of nonfinancial firms is low. (©1999 EconLit)

Jones, Kenneth, and Barry Kolatch. 1999. The Federal Safety Net, Banking Subsidies, and Implications for Financial Modernization. *FDIC Banking Review* 12, no. 1:1–17.

Many policymakers and economists have long maintained that the federal safety net—broadly defined as federal deposit insurance and access to the Federal Reserve System's discount window and payments system—endows insured depository institutions with a financial subsidy and with certain other, nonfinancial, competitive advantages. Others have also asserted that banks could conceivably pass cost advantages on to their bank subsidiaries and affiliates—in essence, extending the safety net to activities for which it was not intended. During congressional hearings on proposed financial modernization legislation, the presumed existence of a government subsidy and a bank's alleged ability to pass it to its subsidiaries became a particularly important issue. This article reexamines the subsidy issue in light of recent regulatory reforms prompted by the thrift and banking crises of the 1980s. After reassessing the traditional arguments claiming that safety net–related subsidies exist and have competitive implications, the article argues that for public-policy purposes the relevant question is not

whether a gross subsidy exists, but whether a net marginal subsidy remains after full account is taken of all offsetting costs. Finally, the article discusses the effectiveness of firewalls and other regulatory efforts to prevent the transfer of any subsidy and to limit taxpayer exposure.

Kane, Edward J. 1995. What Is the Value-Added for Large U.S. Banks in Offering Mutual Funds? Working Paper no. W5111. National Bureau of Economic Research.

This paper argues that an implicit deposit-insurance credit enhancement is extended to any nondeposit savings vehicle offered by a very large bank. This unpriced credit enhancement helps to explain the preference revealed by very large U.S. banks for gearing up to offer mutual funds instead of developing index-linked deposit products. It also explains why large banks have been more eager than small banks to offer mutual funds and why bank mutual funds could be priced to grow at a time when bank deposits were being priced to shrink. (©1999 EconLit)

Keehn, Silas. 1989. Banking on the Balance: Powers and the Safety Net. Monograph. Federal Reserve Bank of Chicago.

The regulatory structure of the financial industry has seen significant and generally desirable changes in the 1980s. These have occurred on an issue-by-issue basis and have not been the result of a comprehensive reappraisal. However, the changing needs of the banking public and production-efficiency arguments call for additional regulatory changes. This monograph outlines existing proposals and describes a new one that can be implemented within the existing regulatory framework and requires minimal legislative changes.

Kwast, Myron, and Wayne Passmore. 1997. The Subsidy Provided by the Federal Safety Net: Theory, Measurement, and Containment. Finance and Economics Discussion Series, no. 1997-58. Board of Governors of the Federal Reserve System.

Considerable controversy surrounds the question of whether the government's commitment to preventing a systemic crisis in the banking system and to protecting small depositors by maintaining a federal safety net for insured depository institutions also provides a subsidy to banks. This paper presents an intuitive and analytical model of how the safety net affects banks' cost of funds. The paper's emphasis is on the distinction between fixed and marginal costs in banking and on the implications of the model for measuring the subsidy. Empirical results strongly suggest that the safety net has benefited banks and that over recent years bank holding companies have tended to move activities into a bank or a bank subsidiary. The authors conclude that limiting the extension of the safety-net subsidy should be a serious concern when strategies are designed for expanding bank activities.

Lehnert, Andreas, and Wayne Passmore. 1999. The Banking Industry and the Safety Net Subsidy. Finance and Economics Discussion Series, no. 1999-34. Board of Governors of the Federal Reserve System.

Governments use monetary policies to counteract the effects of financial crises. The authors examine the subsidy that such safety-net policies provide to the banking industry. Using a model of uncertainty-driven financial crises, they show that any monetary policy designed to maintain risky investment in the face of investor uncertainty (and thus promote economic growth and stability) will subsidize the banking industry. In addition, they show that the *mere presence* of a monetary authority willing to support a failing banking system in bad times subsidizes the banking industry, even if those bad times do not occur. A conditional bailout policy that does not extend equally to all financial institutions creates a greater subsidy for those institutions perceived as being "close" to the central bank, possibly giving these institutions a competitive advantage.

Mantripragada, Krishna G. 1991. The Role of Market-Value Accounting in Reducing Potential Taxpayer Subsidies: The Case of Deposit Insurance. *Public Budgeting and Finance* 11, no. 4:20–32.

This article studies the role that market-value accounting can play in reducing potential taxpayer subsidies to the deposit insurance program. It examines the relationship between the accounting system and losses to the deposit insurance program, discusses problems in implementing market-value accounting, and shows how market-value accounting can improve the effectiveness of the system of public regulation and reduce the adverse financial consequences of regulatory discretion. Although the direct focus of the article is on deposit insurance reform, the discussion and arguments are applicable to improving the regulatory effectiveness of other public agencies and programs.

Mishra, Chandrasekhar, and Jorge L. Urrutia. 1995. Deposit Insurance Subsidies, Moral Hazard, and Bank Regulation. *Journal of Economics and Finance* 19, no. 1:63–74.

The model developed in the paper separates deposit insurance subsidies into two components: a premium-linked subsidy which arises from an ex-ante mispricing of the deposit insurance premium, and an asset-linked subsidy which arises from a lack of ex-post monitoring of the bank's actions. The identification of these two subsidies provides important insight into the relation between deposit-insurance subsidies and bank risk. The asset-linked subsidy is higher for banks of average risk and lower for very-high and very-low risk banks. The premium-linked subsidy behaves differently under risk-adjusted and fixed-rate schemes. The model also indicates that the implementation of a risk-adjusted insurance-rate schedule alone would not be sufficient to eliminate the bank's excessive risk-taking behavior. Thus, some combination of risk-sensitive deposit-insurance pricing and regulatory control is necessary to reduce the moral hazard problem. (©1999 EconLit)

Osterberg, William P., and James B. Thomson. 1991. The Effect of Subordinated Debt and Surety Bonds on the Cost of Capital for Banks and the Value of Federal Deposit

Insurance. *Journal of Banking and Finance* 15, no. 4–5:939–53. Also 1990. The Effect of Subordinated Debt and Surety Bonds on the Cost of Capital for Banks and the Value of Federal Deposit Insurance. Working Paper no. 9012. Federal Reserve Bank of Cleveland.

> This paper examines two proposals to reduce the subsidy to risk-taking embedded in the current deposit insurance system and to protect the deposit insurance fund. The two proposals are (1) requiring banks to issue subordinated debt and (2) requiring bank stockholders to post surety bonds. The authors use the cash-flow version of the capital asset pricing model (Chen, 1978) to show how each proposal affects the values and rates of return on uninsured deposits and equity. They also find that only if deposit insurance is mispriced can either affect the values of the FDIC claim and the bank. (©1999 EconLit)

Santomero, Anthony M. 1997. Deposit Insurance: Do We Need It and Why? *Ekonomia* 1, no. 1:1–19. Also 1997. Deposit Insurance: Do We Need It and Why? Working Paper no. 97-35. Wharton Financial Institutions Center, Wharton School of Business, University of Pennsylvania.

> The existence of an efficient intermediary sector is an essential ingredient to a productive economy. To protect the real sector from financial fragility, a series of circuit breakers have been established, known collectively as the financial safety net. One part of this system, deposit insurance, has proven the most difficult to manage. While it adds stability, its effects on bank decision making, risk tolerance, depositor behavior, and sector stability are all problematic. This has led many to question its validity as a stability tool, and still others to propose alteration in its coverage and pricing. Nowhere is the problem of appropriate insurance coverage more difficult than in the European Union. (©1999 EconLit)

Scott, William, L., and Michael F. Lockett. 1992. Commercial Banks' Expanding into Securities Underwriting: The Equity Market's Risk Assessment. *Journal of Economics and Finance* 16, no. 3:37–47.

> Government officials must decide if the payments system and deposit insurance funds would be endangered by allowing commercial banks to underwrite corporate securities. In this study the authors provide evidence on the issue by evaluating the perspectives of equity investors in investment banking concerns. Dealer exposures to capital markets (investment banking and market making) are not perceived to contribute to their marginal riskiness--either systematic or nonsystematic. However, investment exposures to capital markets (merchant banking and principal transactions) add to both systematic and nonsystematic risks of participating firms. Along with the accounting-based previous research, these findings suggest granting new securities powers that are solely dealer-based. (©1999 EconLit)

Shaw, Karen D. 1993. What Should Deposit Insurance Protect? *Bankers Magazine* 176, no. 5:60–63.

The banking industry is used to measuring the cost of deposit insurance by the millions of dollars it sends each year as premiums to the FDIC. Those premiums, however, are only a fraction of the true cost of the insurance. With growing awareness by Congress and two administrations that deposit insurance protects against a less-than-remote risk (a point the savings and loan rescue made clear), regulation, supervision, and examination of insured institutions and their holding companies have increased dramatically. However, the disparity between the premiums banks pay and the funding advantage they may receive suggests that deposit insurance may still represent a net subsidy from the federal government.

Stern, Gary H. 1998. Government Safety Nets, Banking System Stability, and Economic Development. *Journal of Asian Economics* 9, no. 1:21–29.

The number, breadth, and cost of banking crises in developed and developing countries in the latter half of the twentieth century are unprecedented. While many factors contributed to the crises, the moral hazard associated with explicit and implicit government deposit insurance has been cited as a likely cause in a significant number of cases. A potential method for addressing moral hazard is to eliminate government deposit insurance programs and outlaw ex post government support for depositors. This option could lead to instability in the banking system and would likely lack the credibility needed to reduce moral hazard. Instead, deposit insurance reforms should balance the objectives of stability and moral hazard cost reduction. In this paper, the author proposes a plan, with co-insurance at its core, to increase market discipline while minimizing any increase in instability. Enacting legal reforms that balance these competing goals is particularly important in developing countries, as the extent and quality of a country's financial infrastructure is a significant determinant of economic development. (©1999 EconLit)

Walter, John R. 1996. Firewalls. Federal Reserve Bank of Richmond *Economic Quarterly* 82, no. 4:15–39.

Since the banking crisis of the early 1930s, laws and regulations have restricted banks' transactions with their nonbank affiliates. These restrictions, commonly known as firewalls, are meant to prevent the spread of financial difficulties within a banking company. In certain circumstances, banking company owners gain from shifts of nonbank losses to affiliated banks while the federal deposit insurance fund loses. Firewalls may provide a valuable regulatory tool for containing banking company owners' incentives to employ such shifts. (©1999 EconLit)

Walter, John R. 1998. Can a Safety Net Subsidy Be Contained? Federal Reserve Bank of Richmond *Economic Quarterly* 84, no. 1:1–20.

Banks may receive a subsidy from deposit insurance or from other components of the government-provided banking safety net. Extension (leakage) of a subsidy to

banks' nonbank affiliates will only serve to enlarge it. But subsidy enlargement, since it entails expanded risks to taxpayers and reduced economic efficiency, seems to demand steps to prevent it. To contain bank-to-affiliate leaks, observers propose intracompany restrictions. While such restrictions may contain intracompany leaks, they cannot contain broader subsidy enlargement. Competition will compel banks to yield any subsidy to their borrowers and depositors, thereby frustrating public-policy attempts to limit it. (©1999 EconLit)

Whalen, Gary. 1997. The Competitive Implications of Safety Net–Related Subsidies. Economics Working Paper no. 97-9. Office of the Comptroller of the Currency.

This paper provides evidence on the competitive implications of safety net–related subsidies. The author discusses the existing evidence on the determinants and size of a potential subsidy stemming from possibly mispriced deposit insurance; outlines potential supervisory tools that might mitigate any subsidy or prevent its transfer to direct bank subsidiaries or holding company affiliates; presents and discusses a set of subsidy estimates for the 50 largest domestic bank holding companies; and gives some market evidence that provides insight on the existence and size of any subsidy.

# 9. Country- or Region-Specific

***Entries in this section focus on deposit insurance in a specific country or region and cover the following: country-specific descriptions of deposit insurance systems, comparative surveys, international experiences with deposit insurance systems, and banking and deposit insurance reforms outside of the United States.***

Allen, Linda. 1994. Deposit Insurance and Bank Closure Policy: The Israeli Banking System. Bank of Israel *Banking Review* 4 (June): 31–55.

> This article adds to the growing literature on designing an optimal deposit insurance scheme unhampered by some of the moral-hazard problems engendered by current regulations. The author surveys the deposit protection schemes in Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. She also considers one particular proposal for the fair pricing of deposit insurance and applies it to the case of Israel's banking system.

Anikin, Andrei Vladimirovich. 1997. *Zashchita bankovskikh vkladchikov: Rossiiski problemy v svete mirovogo opyta* (Banking deposit insurance: Russian problems in light of the world experience). Moscow: Izd-vo "Delo."

> In Russian without English summary.

Anyanwu, J. C. 1991. Deposit Insurance in Nigeria: Benefits, Costs, and Operational Strategies. *Savings and Development* 1:67–77.

> The paper argues that deposit insurance builds and maintains confidence in financial institutions and the financial system as a whole, fosters and permits more effective and efficient competition between financial institutions, and creates equity with respect to depositors. However, it involves direct operating costs and payments, opportunity cost, and direct costs. The Nigerian Deposit Insurance Corporation (NDIC) was established in 1988 to insure all deposit liabilities of licensed banks and other financial institutions operating in Nigeria so as to maximize the aforementioned benefits under the joint ownership of the Federal Government and the Central Bank of Nigeria. It operates the fixed premium regime with regulatory and supervisory roles. It is argued here that NDIC be made independent and be allowed to compulsorily insure all deposits but continue the fixed premium regime with selective regulation to reduce associated moral hazards. (©1999 EconLit)

Asian Development Bank (ADB). 1997. Technical Assistance to the Republic of the Philippines for Institutional Capacity Building of the Philippine Deposit Insurance Corporation. Report. TAR: PHI 31654. ADB.

> During 1997, the Philippine Deposit Insurance Corporation (PDIC) and the Philippine Department of Finance (DOF) asked the Asian Development Bank for a technical assistance grant for the institutional strengthening of PDIC. The request arose from the realization of the need for the PDIC to improve its regulatory and supervisory powers in the face of a increasingly volatile market.

This document explains the grant's objectives, scope, cost estimates, financing plan, implementation arrangements, and terms of reference for the consultants.

Association for the Study of the Cuban Economy (ASCE). 1994. *Cuba in Transition*. Proceedings of the 4th Annual Meeting of ASCE, Florida International University.

Twenty-nine papers, written in English and Spanish, examine the transition of Cuba toward a market economy. Among the twenty-four English-language papers are the papers that focus on monetary dualism as an instrument toward a market economy; dual monetary systems in the Western hemisphere and the Cuban transition; inflation and the monetary regime during the Cuban economic transition; the role of deposit insurance in a market-oriented banking system in Cuba; the historical development of the Cuban banking system; elements for a modern financial system; the case for an independent Central Bank; a first approximation design of the social safety net for a democratic Cuba; required changes in Cuba's laws and legal institutions during its transition to a free-market democracy; and economic and financial institutions needed to support the market. (©1999 EconLit)

Atiyas, Izak. 1990. Financial Distress and Implicit Deposit Insurance: Essays on Turkey's Experience with Financial Liberalization. Ph.D. diss., New York University.

This dissertation reviews a financial liberalization episode in Turkey and presents theoretical analyses of some economic issues raised by that experience. The overview shows that interest rates were deregulated in a period when the corporate sector experienced low or negative profitability. Consequent problems of nonperforming loans in the banking sector resulted in fierce competition for financial resources and extremely high ex post real interest rates. In the corporate sector, the leverage of firms in financial distress increased despite high costs of borrowing. The author argues that these patterns of behavior are best explained by (1) widespread financial distress and (2) implicit deposit insurance combined with the absence of a regulatory framework.

Bank for International Settlements (BIS). 1999. Bank Restructuring in Practice. Policy Paper no. 6. BIS.

Contents include "Bank Restructuring in Practice: An Overview," by John Hawkins and Philip Turner; "Restructuring the Banking System—The Case of Brazil," by Geraldo Maia; "Bank Restructuring in China," by Xie Ping; "Banking Problems: Hong Kong's Experience in the 1980s," by Raymond Li; "Bank Restructuring in Korea," by Dookyung Kim; "Policy Responses to the Banking Crisis in Mexico," by Pablo Graf; "Development and Restructuring of the Saudi Banking System," by the Saudi Arabian Monetary Agency; and "Bank Restructuring in South-East Asia," by John Hawkins.

Bank Guarantee Fund of Poland. 1999. Polish Experiences in Providing Guarantees for Bank Deposits. Unpublished manuscript. Bank Guarantee Fund of Poland.

During the 1990s the Polish parliament passed two fundamental pieces of legislation: the Banking Act and the Act on the National Bank of Poland. These acts began a new era for the Polish banking system. This paper examines the banking situation in Poland and how it has progressed. Topics include the privatization of banks and the establishment, organization, responsibilities, and financing of the Bank Guarantee Fund.

Barth, James R., Gerard Caprio Jr., and Ross Levine. 1999. Financial Regulation and Performance: Cross-Country Evidence. Policy Research Working Paper no. 2037. The World Bank.

Costly bank failures in the 1980s and 1990s focused the authors' attention on the need to find ways to improve the performance of different countries' financial systems. They believe that financial systems can be improved, but there is little empirical evidence to support any specific advice about regulatory and supervisory reform. With few cross-country comparisons of financial regulatory and supervisory systems, economists cannot decide how to correct incentives and moral-hazard problems in developing economies—whether, for example, to require higher (and more narrowly defined) capital-to-asset ratios, to mandate stricter definition and disclosure of nonperforming loans, to require that subordinated debt be issued, or to install world-class supervision. Proposed reforms usually involve changes in financial regulations and supervisory standards, but many pressing questions about reform remain unanswered. The authors conclude that (1) countries with relatively weak governments and bureaucratic systems impose harsher regulatory restrictions on bank activities; (2) countries with more restrictive regulatory regimes do not automatically have poorly functioning banking systems; and (3) countries with more restrictive regulatory systems are not less likely to suffer a banking crisis.

Barth, James R., Daniel E. Nolle, and Tara N. Rice. 1997. Commercial Banking Structure, Regulation, and Performance: An International Comparison. Economics Working Paper no. 97-6. Office of the Comptroller of the Currency.

This paper provides detailed information on banking structure, permissible banking activities, regulatory structure, deposit insurance schemes, and supervisory practices in each of the 15 European Union countries as well as in Canada, Japan, Switzerland, and the United States.

Bartholomew, Philip F. 1989. Foreign Deposit Insurance Systems. Special Report. Office of Policy and Economic Research, Federal Home Loan Bank Board.

The author lists countries with deposit insurance schemes and describes the various premium-pricing schemes used by those countries.

Bartholomew, Philip F., and Vicki A. Vanderhoff. 1991. Foreign Deposit Insurance Systems: A Comparison. *Consumer Finance Law: Quarterly Report* 45:243–48.

When one considers proposals for reforming deposit insurance in the United States, it is useful to examine the practices of other countries that offer a federal government guarantee of deposits at financial institutions. At least 27 other countries have some system of federal deposit insurance. This article tabulates information collected on administration, membership, coverage, and financing of these systems.

Bruyneel, Andre, and Axel Miller. 1995. Belgium Implements Deposit-Guarantee Scheme. *International Financial Law Review* 14, no. 6:18–20.

Belgium has implemented the European Commission directive on deposit-guarantee schemes for credit institutions. The Law of December 23, 1994, inserted a number of new provisions into the Law of March 22, 1993, on the status and control of credit institutions. The main differences between the new system and the system organized in 1985 are that (1) the participation of credit institutions in the deposit-guarantee scheme is now mandatory; (2) there is only one insurance fund for all credit institutions; (3) the contributions made by the credit institutions are effectively paid to the Institut de Réescompte et de Garantie/Herdiscontering, and a ceiling is set on the obligations of each institution; and (4) the circumstances entitling a depositor to obtain reimbursement have been extended to all circumstances in which depositors' funds have become unavailable (formerly a depositor was entitled to obtain reimbursement only in bankruptcy or similar situations).

Bucchi, Wadico. 1992. Garantia de depositos em instituições financeiras (Deposit guarantees for financial institutions [in Brazil]). Instituto Brasileiro de Ciência Bancária (São Paulo, Brazil).

In Portuguese without English summary.

Buch, Claudia M. 1996. Creating Efficient Banking Systems: Theory and Evidence from Eastern Europe. Germany: J. C. B. Mohr.

The author analyzes the effects of domestic financial liberalization in Eastern Europe since 1989, focusing on the reforms of the banking system and on the most advanced reform states of Eastern Europe--the Czech Republic, Hungary, and Poland--as well as Estonia, which has followed a unique path in reforming its banking sector. She analyzes microeconomic aspects of banking reforms, covering the problem of nonperforming loans on the balance sheet, weak information systems as a constraint for banking in Eastern Europe, and banking regulations and deposit insurance. The author examines the banking sector's competitive structure; commercial banks' portfolio choices and the structure of their loan portfolios; bank efficiency and profitability; and evidence on the financial structure of firms and on the role of banks in real sector adjustment and in the privatization process. (©1999 EconLit)

Canada Deposit Insurance Corporation (CDIC). 1993. Deposit Insurance Survey Report. Unpublished manuscript. CDIC.

In June 1992, the Canada Deposit Insurance Corporation (CDIC) initiated a Deposit Insurance Survey as part of a research project designed to gain information about the nature and operations of deposit insurance systems in place around the world. The Survey consisted of a detailed questionnaire sent to 122 countries, with the request that the country notify the CDIC if it did not have deposit insurance in place. The Survey report has four parts: (1) a list of respondents; (2) a two-page summary of responses; (3) copies of the responses from those countries that had a deposit insurance scheme in place; and (4) a list of respondents' addresses.

Cardone, Clara. 1996. A Single European Union Deposit Insurance Scheme? An Overview. Working Paper. Universidad Carlos III de Madrid.

This paper discusses and analyzes the different aspects of the deposit insurance schemes in the European Union (EU) and their harmonization and compatibility with other EU regulations.

Cargill, Thomas F., Michael M. Hutchison, and Takatoshi Ito. 1996. Deposit Guarantees and the Burst of the Japanese Bubble Economy. *Contemporary Economic Policy* 15 (July): 41–52.

This article describes the status of deposit insurance systems in Japan and reviews the history of deposit guarantees. In the 1990s, some Japanese financial institutions faced near or outright insolvency for the first time since the end of World War II. To gain perspective on the problem, the authors gather publicly available data and facts on deposit guarantees in Japan.

Carr, Jack L., Frank G. Mathewson, and Neil C. Quigley. 1994a. The Economics of Canadian Deposit Insurance. Research Report no. 9052. Department of Economics, University of Western Ontario.

The introduction of deposit insurance in Canada in 1967 is commonly explained as an efficiency-enhancing response to macroeconomic shocks and contagious runs by imperfectly informed depositors, as well as a means of promoting domestic institutions that would compete with the large chartered banks. In this paper, the authors show that since 1967 insolvencies among Canadian banks, trust and mortgage loan companies have increased, and the number of domestic competitors for the large banks has been reduced. A model in the spirit of Akerlof and Romer (1993) links these observations to the incentives provided by deposit insurance. The authors argue that the Canadian scheme was primarily designed to force the incumbent banks to subsidize trust and mortgage loan companies and the entry of regionally based chartered banks. As such, the scheme was politically efficient in the sense of Becker (1983) but has reduced economic efficiency. (©1999 EconLit)

Carr, Jack L., Frank G. Mathewson, and Neil C. Quigley. 1994b. Ensuring Failure: Financial System Stability and Deposit Insurance in Canada. *Observation* 36. C. D. Howe Institute, Canada.

The authors analyze the history and economics of deposit insurance in Canada. They examine the stability of Canada's financial system before deposit insurance was introduced; the reasons for the introduction of deposit insurance in 1967 and its impact on bank failures; and the current structure for governance by the Canada Deposit Insurance Corporation, depositor compensation, and regulation. The paper demonstrates the primacy of political motives in the decision to have deposit insurance and argues that deposit insurance has resulted in reduced economic efficiency in Canada. In conclusion, the authors recommend reforms to the current structure of Canada's deposit insurance scheme to achieve greater efficiency. (©1999 EconLit)

Carr, Jack L., Frank G. Mathewson, and Neil C. Quigley. 1995. Stability in the Absence of Deposit Insurance: The Canadian Banking System, 1890–1966. *Journal of Money, Credit, and Banking* 27, no. 4 (part 1): 1137–58.

The Canadian banking system experienced a prolonged period of stability prior to the introduction of deposit insurance in 1967. Documenting the reasons for this stability provides important evidence in the debate over the impact of mandatory flat-rate deposit insurance. This paper uses new archival data to refute recent claims that this stability resulted from an implicit deposit insurance scheme managed by Canada's largest banks and guaranteed by the federal government. The authors argue that the Canadian banking system was stable for two reasons. First, the absence of deposit insurance provided incentives for both prudence on the part of management, and monitoring by depositors and regulators. Second, the absence of unit banking and other regulatory barriers to competition facilitated efficient mergers which produced a relatively small number of well-managed banks. (©1999 EconLit)

Chamorro, J. M. 1993. Valoración de la Garantía de los Depósitos Bancarios y Alineado por Riesgo: Una aplicación al caso España (The value of the banking deposit guarantee and ranking by risk: An application to Spain's case). *Revista Españo de Economía* 10, no. 1:93–110.

In Spanish without English summary.

Chamorro, J. M., Pérez de Villarreal, and G. Rubio Irigoyen. 1994. Tres ensayos sobre la garantía de los depósitos: Aplicaciones a la banca españo (Three essays on the guarantee of deposits: Application to the Bank of Spain). Working Books, Fundación BBV.

In Spanish without English summary.

Chant, John F. 1997. Canada's Economy and Financial System: Recent and Prospective Developments and the Policy Issues They Pose. In *The Banking and Financial Structure*

*in the NAFTA Countries and Chile,* edited by George M. von Furstenberg, 2–43. Kluwer Academic Publishers.

This chapter examines the changes that have taken place in Canadian financial markets since 1980, exploring the extent to which changes have been the result of policy responses to economic events (as compared with deliberate reform). Events influencing policy during the period have been the failures of banks and other institutions, developments in technology, and pressures for globalization. The chapter finds that policy has been directed to a small set of issues that emerge repeatedly in different forms.

Chen, Lien-Lien, and Raymond P. H. Fishe. 1993. Informal Financial Arrangements and the Stability of Deposit Insurance in Less Developed Countries. *Southern Economic Journal* 60, no. 1:157–68.

A formalized deposit insurance system such as that in the United States is found in only a small number of other countries, with varying degrees of coverage and membership requirements. One reason that deposit insurance plays a smaller role in developing countries is that they typically suffer from a less-diversified economic base, making them more prone to liquidity crises that deposit insurance cannot prevent. The authors use a model that provides two major insights into the nature of financial intermediation in developing countries: (1) in equilibrium, the monitoring of loans requires a mixed strategy; and (2) a sufficiently high probability of common external shock prevents intermediaries from entering less-diversified areas, which are typically located in less-developed countries. Informal arrangements may arise if they provide a method of tying payments to project outcomes or if they reduce monitoring costs. One example of such arrangements is rotating savings clubs. The model also suggests that formal financial intermediaries may coexist with informal arrangements if the two entities have different monitoring costs.

Chen, Thomas P., and K. Thomas Liaw. 1993. Bank Deposit Insurance Policies: An International Overview and Recommendations for Taiwan. *American Asian Review* 11, no. 4:9–29.

This article provides an overview of bank deposit insurance systems around the world and makes recommendations for Taiwan's bank deposit insurance reforms. The authors consider two proposals: (1) use the cost of capital of a financial institution to determine the insurance premium; and (2) determine deposit insurance premiums by capital adequacy and supervisory ratings. In conclusion, the authors determine that only the second proposal can be effectively implemented in Taiwan.

Chu, Kam Hon. 1995. The Monetary and Banking System of Hong Kong: A Study from a Free Banking Perspective. Ph.D. diss., University of Toronto.

This dissertation shows that a bank can use its deposit rate and portfolio to give a signal to depositors about its underlying quality. Hong Kong is used as a case study because its banking system was close to a free banking system. Empirical

results of both regression and cluster analysis applied to free cross-sectional data for 1964–1965 indicate that banks with higher liquidity ratios and lower deposit rates had, on average, higher profitability. This study challenges the "efficiency" argument for deposit insurance by showing that an implicit or non-risk-rated deposit insurance scheme destroys the signaling mechanism and induces a moral-hazard problem by encouraging banks to take risks; deposit insurance also encourages poor-quality banks to enter the industry and therefore raises systemic risk. The results are consistent with the argument that deposit insurance induces banks to take excessive risks.

Ciampi, C. A. 1991. Intervento all'Assemblea ordinaria del FITD (Proceedings of the FITD Assembly). Documenti no. 314. Banca d'Italia.

In Italian without English summary.

Ciampi, C. A. 1992. Il credito di ultima istanza (The credit of last resort). Quaderni dell'Associazione per lo Sviluppo degli Studi di Banca e Borsa no. 112.

In Italian without English summary.

Commission of the European Communities (CEC). 1994. Directive 94/19/EC on Deposit Guarantee Schemes. *Official Journal of the European Communities,* L135 (May 31): 5–14. Brussels: CEC.

The CEC directive 94/19/EC establishes guidelines for countries to establish deposit insurance schemes if they are to be European Union members. Under the directive, depositors will be guaranteed a minimum level of protection against the undesirable outcomes of asset-allocation decisions taken by bank managers, who, by virtue of their monopoly of information concerning the bank's portfolio, have greater power than the depositor. The directive requires that implementation of this protection involve setting minimum standards of coverage.

Cuevas, Olinto Méndez. 1994. *Breves comentarios a la Ley General de Bancos: Incidencias de la Ley Especial de Protección a los depositantes y de regulacion de emergencias en las instituciones financieras* (Short comments related to banking laws [in Venezuela]: Implications of the special law for protecting depositors and financial institutions during financial emergencies). Caracas: n.p.

In Spanish without English summary.

Cull, Robert. 1998. The Effect of Deposit Insurance on Financial Depth: A Cross-Country Analysis. Working Paper no. 1875. The World Bank.

Whether explicit deposit insurance strengthens or weakens financial markets depends on the circumstances in which it is adopted. Adopting a system to counteract instability appears to have little (or negative) effect. Adopting it when government credibility and institutional development are high appears to have a positive effect on financial depth.

Deutsche Bundesbank. 1992. Deposit Protection Schemes in the Federal Republic of Germany. In *Monthly Report of the Deutsche Bundesbank,* (July): 28–36.

The Deutsche Bundesbank (Germany's Central Bank) discusses the deposit insurance system in Germany, which consists of multiple private, public, mandatory, and voluntary deposit insurers. Germany's central bank discuses (1) its justification for deposit insurance; (2) the different protection schemes operated by the several deposit insurers; (3) deposit protection abroad; and (4) deposit protection in the European Community.

Di Noia, Carmine. 1994a. Il Fondo Interbancario di Tutela dei Depositi: Alcune ipotesi di riforma (prima parte). *Rivista Bancaria: Minerva Bancaria* 2:37–72.

In Italian without English summary.

Di Noia, Carmine. 1994b. Il Fondo Interbancario di Tutela dei Depositi: Alcune ipotesi di riforma (seconda parte). *Rivista Bancaria: Minerva Bancaria* 3:63–80.

In Italian without English summary.

Di Noia, Carmine. 1994c. Il Fondo Interbancario di Tutela dei Depositi: Alcune ipotesi di riforma (terza parte). *Rivista Bancaria: Minerva Bancaria* 4:53–79.

In Italian without English summary.

Di Noia, Carmine. 1995. Structuring Deposit Insurance in Europe: Some Considerations and a Regulatory Game. Working Paper no. 94-31. Wharton Financial Institutions Center, Wharton School of Business, University of Pennsylvania.

The protection of savings and the creation of insurance schemes is becoming a topic of discussion for the European Union (EU): incoming directives describe a sort of "financial guarantee scheme model" that would be valid not only for deposit insurance but also for investor compensation schemes in case of failure of investment firms. This paper describes the ongoing process, focusing on the recently approved deposit-guarantee-scheme directive that will compel the European Union member states to redraw their internal regulations. The author studies the effects of the directive on the equilibrium of different kinds of institutional regulations and suggests ways of regulating the single deposit insurance authorities within the EU member states.

Dowd, Kevin. 1990. Some Lessons from the Recent Canadian Bank Failures. In *Research in Financial Services: Private and Public Policy*, vol. 1, edited by George G. Kaufman, 113–28. JAI Press.

The failure of Canada's Home Bank in 1985 was the first bank failure in that country since 1923. The author suggests that the major cause of the bank's failure was the strategy of the bank's management. Furthermore, he identifies three major areas in which the regulatory environment clearly failed: (1) the weakness of the bank was not detected until a considerable amount of harm had already been done; (2) the Canadian deposit insurance system encouraged excessive risk-taking by bank management; and (3) under the guise of acting as a "lender of last

resort," the Bank of Canada allowed itself to be dragged into a second bailout operation that only put off the bank's failure and increased the costs involved.

Duan, Jin-Chuan, Mao-Wei Hung, and K. Thomas Liaw. 1995. Pricing Deposit Insurance in Taiwan. In *Advances in Pacific Basin Business, Economics, and Finance,* vol. 1, edited by Cheng Few Lee, 311–19. JAI Press. Also 1992. On the Pricing of the Deposit Insurance Liabilities of the CDIC [Central Deposit Insurance Corporation] in Taiwan. In *Economic and Political Reforms in Asia,* edited by Thomas Chen, Young Back Choi, and Sung Lee, 88–99. St. John's University Press.

The fixed-rate deposit insurance system presents a fundamental vulnerability in a volatile financial market such as the one in Taiwan. For most of the Central Deposit Insurance Corporation's six years of operation, deposit insurance coverage was overcharged. In 1990, however, the actuarial liability facing the CDIC was staggering compared with the levied insurance premium. Inasmuch as the banking industry in Taiwan is undergoing major deregulation, a fixed-rate deposit insurance system appears particularly inadequate.

Duan, Jin-Chuan, and Min Teh Yu. 1994. Assessing the Cost of Taiwan's Deposit Insurance. *Pacific-Basin Finance Journal* 2, no. 1:73–90.

The authors use Merton's (1977) deposit insurance pricing model to analyze ten depository institutions in Taiwan. To compute the inputs needed for Merton's formula, they used a market-based maximum-likelihood-estimation method developed by Duan. The authors' findings indicate that these ten institutions were for the most part heavily subsidized by the deposit insuring agency. When compared with the estimates obtained by use of the Ronn and Verma (1986) method, these results raise a question as to the appropriateness of the Ronn and Verma method for deposit insurance pricing.

Dziobek, Claudia, and Ceyla Pazarbaşioğlu. 1998. Lessons from Systemic Bank Restructuring. International Monetary Fund *Economic Issues* 14.

The authors of the study analyze the experiences of 24 countries (representing all areas of the world) that initiated reforms in the 1980s and early 1990s: 4 industrial and 15 developing countries, and 5 countries in transition to market-oriented systems. The authors consider a banking crisis systemic if a fifth or more of the total deposits in the national system are affected; they define systemic bank restructuring and explain which practices lead to successful restructuring. They present several illustrative cases in which countries restructured.

Federal Deposit Insurance Corporation (FDIC). 1990. *Proceedings of the International Conference on Deposit Insurance and Problem-Bank Resolution Policies.* FDIC.

This volume is a collection of comments by representatives of bank trade associations, deposit insurance entities, central banks, and government offices. Panel topics include Policy Issues Surrounding Problem-Bank Resolutions; The Impact of Problem-Bank Resolutions on the Stability of Financial Markets; The Role of Deposit Insurance Programs in Financial Systems; Banking Industry

Perspective on Deposit Insurance and Government-Sponsored Safety Nets; and Where Do We Go from Here: International Trends in Problem-Bank Resolution Policies.

Federal Deposit Insurance Corporation (FDIC). 1998a. *Conference Papers: International Conference on Deposit Insurance*. Vol. 1. FDIC.

Conference papers include "Seguro de Depósitos Sociedad Anónima (SEDSA), Argentina," by José Carlos Jaime; "The Nature and Role of Deposit Insurance in Korea," by Jong-Suk Park; "The Nature and Role of Deposit Insurance," by Grant Reuber (CDIC); "Bank Guarantee Fund in the Republic of Poland," by Ewa Kawecka Włodarczak and Jan Szambelańczyk; "Deposit Insurance, Deposit Priority, Both, or Neither? And Bankruptcy Priority for Bank Deposits: A Contract Theoretic Explanation," by Urs W. Birchler (Swiss National Bank); "The Interbank Deposit Protection Fund (FITD of Italy): Legal and Economic Aspects," by Cristiano Zazzara; "The Nigeria Deposit Insurance Corporation: Establishment, Administration, Achievements, and Challenges," by John U. Ebhodaghe; "Bank Deposit Insurance System in the Philippines," by Ernest Leung; "The Structure and Functions of the Deposit Insurance System—The Performance of the Central Deposit Insurance Corporation of Taiwan," by Wei-Yi Lin; and "Comparative Analysis of Established Deposit Insurance Systems," by Cristian Bichi (National Bank of Romania).

Federal Deposit Insurance Corporation (FDIC). 1998b. *Conference Papers: International Conference on Deposit Insurance.* Vol. 2. FDIC.

Conference papers include "The Nordic Countries' Banking Crises," by Heikki Koskenkylä; "Recent Banking Crises and Lessons Learned: The U.S. Experience," by Barry Kolatch; "Resolution and Collection Methods in Japanese Financial Markets," by Ryoji Kitami; "The UNCITRAL Model Law on Cross-Border Insolvency," by Simeon A. Sahaydachny; and "Milestones in the Collection and Use of Data for Federal Deposit Insurance," by Don Inscoe.

Fingleton, Eamonn. 1995. Japan's Invisible Leviathan. *Foreign Affairs* 74, no. 2:69–85.

The West often ascribes mystery and chaos to political and economic power in Japan. Yet Japanese power is actually a carefully structured hierarchy, and the capstone is neither big business nor the Ministry of International Trade and Industry but the little-understood and low-profile Ministry of Finance. The MOF controls Japan's equivalents of the U.S. Federal Reserve, Treasury Department, Internal Revenue Service and Federal Deposit Insurance Corporation. It is the prime mover behind Japan's savings rate, distribution of overseas aid and regulation of monopolies. However obscure, it may well be the most powerful bureaucracy in the world. (©1999 EconLit)

Fondo Interbancario di Tutela dei Depositi (FITD). 1999. International Deposit Insurance Systems. Unpublished manuscript. Rome: FITD.

> The FITD examines the deposit insurance schemes in the following countries: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, Portugal, Spain, Sweden, the United Kingdom, and the United States.

Fratianni, Michele. 1995. Bank Deposit Insurance in the European Union. In *Politics and Institutions in an Integrated Europe*, edited by Barry Eichengreen, Jeffry Frieden, and Jürgen von Hagen, 144–76. Springer Publishing. Also 1995. Bank Deposit Insurance in the European Union. Discussion Paper no. 110. Global Programs Office, School of Business, Indiana University.

> This article studies bank deposit insurance in the European Union (EU) and its likely effect on the member countries' banking industries. Deposit insurance is a relatively new phenomenon in the EU and has emerged because of the more competitive environment now prevailing in the banking industry there. None of the existing deposit insurance schemes approximates the optimal solution of actuarially fair insurance premiums. Bank regulation and bank supervision have substituted for imperfect deposit insurance. Consequently, the relevant focus of the analysis becomes the overall regulatory level rather than deposit insurance in isolation. The home-rule principle, embedded in the Second Banking Directive, created incentives for member countries to compete in the area of regulations. This competition, however, has a floor provided by a spate of EU directives that set minimum standards, including the 1994 directive on deposit insurance.

Fratianni, Michele. 1996. Bank Deposit Insurance: The Italian Case. *Review of Economic Conditions in Italy* 2 (July–December): 221–50.

> This article deals with deposit insurance in Italy and the presiding institution, the Fondo Interbancario de Tutela dei Depositi (FITD). Since the formation of the FITD, the agency has faced a few crises and has developed a procedure for monitoring bank risk. This procedure turns out to be largely ineffective inasmuch as it does not add information to what is already available to the financial markets. In addition, FITD has a weak institutional structure in the sense that it is dominated by the Banca d'Italia (BI). The author provides a set of recommendations to strengthen the deposit insurance institution.

Freixas, Xavier. 1998. Nuevos avances en la teoria de la regulacion financiera (New advances in the theory of financial regulation). *Moneda y Credito* no. 206:11–37. [In Spanish with English summary.]

> In this paper the author examines recent contributions to the theory of financial regulation. He first considers the results in the theory of banking where he distinguished different topics. Issues of concern include the areas of the optimal design of regulatory mechanism, the regulation of deposit insurance, the optimal bank closure policy, the analysis of regulation and systemic risk analysis. The author then proceeds to survey the contributions to the regulation of financial

markets. These include issues of disclosure regulation and restrictions to trading (insider information). Over all, the analysis of these contributions allowed the author to recognize that the methodology used does not take into consideration the results of regulatory analysis that stems out of the Industrial Organization literature. On the contrary, the models focus on a very specific issue and therefore seem to indicate that there is still some way to go before reaching a satisfactory integrated theory of financial regulation. (©1999 EconLit)

Fres-Felix, Maria L. 1991. *Deposit Insurance Schemes: Its Nature, Role and Issues*. Research and Training Centre, Southeast Asian Central Banks (SEACEN). Kuala Lumpur: SEACEN Centre.

The financial liberalization that swept the international community led to increased global competition in banking and ultimately increased the risks in the industry. As banking systems continue to evolve and face ever-increasing risks, some bank failures occur. It is during such times of crisis that the question of protection of deposits is underscored. In the SEACEN region, only two countries—the Philippines and Sri Lanka—have deposit insurance systems in place. Some other member countries have considered establishing such a scheme. The concept and practice of deposit insurance seems simple on the surface, but it also presents some complexities. This study is aimed at informing researchers about the nature of deposit insurance, its role, and the issues it raises. The hope is that the information can foster better understanding of such a scheme.

Fries, Steven, Robin Mason, and William Perraudin. 1993. Evaluating Deposit Insurance for Japanese Banks. *Journal of the Japanese and International Economy* 7, no. 4:356–86.

Declines in Japanese land value and stock market prices have created doubt as to the financial stability of the Japanese banking system and the adequacy of its deposit insurance scheme. In this article, the authors apply the pricing models of Fries and Perraudin (1993) and Merton (1977) to value the Japanese authorities' deposit guarantees for 16 city, trust, and long-term-credit banks. The authors estimate both models using exact maximum-likelihood techniques that allow for time aggregation and for the fact that observed quantities such as stock market values are nonlinear functions of underlying driving processes.

Garrido Torres, A. 1991. Crisis bancaria y regulación financiera: El seguro de depósitos (Banking crisis and financial regulation: Deposit Insurance). Working Paper 22/91. Caja de Ahorro y Pensiones de Barcelona.

In Spanish without English summary.

Gay, Gerald D., Stephen G. Timme, and Kenneth Yung. 1991. Bank Failure and Contagion Effects: Evidence from Hong Kong. *Journal of Financial Research* 14, no. 2:155–65.

In this paper, the authors examine the influence of three Hong Kong bank failures on stock prices of the colony's banking industry. As deposit insurance is

nonexistent in Hong Kong, the world's fourth-largest financial center, an interesting environment is provided for testing contagion effects of bank failure on other financial institutions. By examining contagion effects in an environment void of explicit deposit insurance, this study should provide interesting insights into the resiliency of modern-day financial markets. In turn, insights should also be provided into debates concerning the role and reform of deposit insurance and the rationale for regulation of the financial services industry in general. The results indicate that unexpected bank failure causes significant negative stock price reactions within the banking industry; yet, some banks are less affected than others. (©1999 EconLit)

Gonzalez, Arturo Huerta. 1998. *El Debate del FOBAPROA: Orígenes y consecuencias del "rescate bancario"* (The debate over FOBAPROA: Origins and consequences of the "banking rescue"). Mexico City: Editorial Diana.

Text in Spanish, but chapter titles (in translation) include "Causes of the Bank Crisis"; "Government Intervention and 'The Banking Fund Problem of the Protection of Savings Deposits' (FOBAPROA)"; "Fiscal Cost and the Political Results of the Bank Recovery"; "The Debate over FOBAPROA"; and "The Political Parties' Proposals and an Alternative."

Gruben, William. 1998. Banking Structures, Market Forces, and Economic Freedom: Lessons from Argentina and Mexico. *Cato Journal* 18, no. 2:263–74.

The author presents evidence of the linkages among market discipline, government guarantees, bank performance, and exchange-rate stability in Argentina and Mexico. Various researchers' econometric models of the financial systems in those two countries offer varieties of evidence that have not, until now, found their way into the literature. By considering these several models together, the author is able to draw collective conclusions that the individual constructors of the models could not and did not draw. The author argues that banking crises in Latin America, more than in industrial countries, can surprise regulators rather than be anticipated and therefore planned for. He points out the benefits of adopting policies that offer market-based signals so as to create market-based discipline.

Hall, Maximilian, and John Bettles. 1999. Deposit Insurance Reform in Japan: Better Late Than Never? *Journal of Financial Services Research* 15, no. 3:211–42.

The deposit insurance system in Japan was introduced in 1971 as a response to intensified competition in the deposit-taking sector. The system has undergone a number of significant changes to accommodate developments in the local financial sector. The pace of such reform accelerated to help stabilize the Japanese financial system in the face of systemic risk. The authors explain how local deposit insurance arrangements evolved to cope with events such as the failure of housing loan companies or the failure of other major financial institutions. They also assess the policy responses; address the part played by deposit insurance in alleviating the pressures of the late 1990s experienced by the

Japanese banking sector; and examine the extent to which Japanese authorities have learned from the U.S. experience with deposit insurance.

Hallagan, William. 1997. Speed and Sequencing of Market Reforms: The Case of Banking in Latvia. *Contemporary Economic Policy* 15, no. 2:24–34.

After Latvia regained its independence from the former Soviet Union, Latvia's banking sector initiated free-market reforms. Initially, several apparent disequilibriums existed in the market for banking services. The processes that generated these disequilibriums are described, as are the events that transpire as the market approaches equilibriums over time.

Hindryati, Rin. 1992. Deposit Insurance Still But a Dream. *Indonesia Business Weekly* 1, no. 2, p. 42.

The author examines the status of deposit insurance in Indonesia in 1992. He cites reasons the Bank of Indonesia and other government officials had not yet created a deposit guarantee scheme.

Hungary. 1995. *International Financial Law Review*. Banking Yearbook (October) p. 86.

The National Deposit Insurance Fund (NDIF) in Hungary is somewhat similar to the FDIC in the United States, except that the NDIF does not exercise the sort of control that the FDIC does over state-chartered nonmember federally insured banks. As the number of foreign banks investing in Hungary increases, privatizing the Hungarian banking industry will become more important for the Hungarian government.

Kane, Edward J., and George G. Kaufman. 1993. Incentive Conflict in Deposit-Institution Regulation: Evidence from Australia. *Pacific-Basin Finance Journal* 1, no. 1:13–29.

The authors designed a model to explain pre-1990 U.S. failures of federal and state deposit insurance funds. It incorporates four premises: (1) regardless of the existence of an explicit government deposit insurance system whose potential losses are subject to limited liability and formal coverage limits, depositors and bank management recognize that the self-interest of government officials creates a system of implicit coverage to "bailout" taxpayers; (2) the extent of the implicit coverage depends on regulators' and politicians' career interests; (3) officials tend to gamble on postponing needed regulatory action; and (4) this regulatory gambling occurs at taxpayer expense.

Karlsen, Harald. 1994. The Norwegian Banking Crisis—Rescue Operations in the Period 1988–1993. *Norges Bank Economic Bulletin* 65, no. 1:69–73.

In Norway the safety net for the banking system has two elements. The first, prudential protection, consists of three lines of defense: the bank's capital base, the bank's own guarantee funds, and the Government Bank Insurance Fund (GBIF). The second element of the safety net is liquidity protection ensured by

Norges Bank (the central bank) through the provision of liquidity in its role as lender of last resort. Late in 1990, the possibility seemed to exist that the guarantee funds could face difficulties in fulfilling their roles unless member banks' financial performances improved. This situation was the background for the formation of the GBIF in March 1991. Late in 1991, after two large banks lost all their equity capital, the GBIF was allowed to provide share capital and other types of core capital directly to the banks. In 1992, the largest commercial banks had another difficult year that led to the infusion of more government funds.

Key, Sydney J. 1992. Deposit-Protection Schemes: Issues for an EC Directive. Research Report 11. Centre for European Policy Studies.

The first section of this report briefly summarizes the European Commission's proposal and presents a table to facilitate comparison among different approaches to deposit protection. The second section sets forth the arguments for the home—and host—country approaches to deposit insurance for three methods of providing banking service: across borders, via subsidiaries, and via branches. The third section analyzes the extent to which the home-country approach requires the harmonization of national schemes, not only to ensure that consumers are adequately protected and that systemic risk is reduced but also to minimize moral hazard and avoid competitive distortions. The fourth section deals with the external dimension of a European Commission deposit insurance directive. The fifth section briefly discusses the relationship between deposit insurance and the functions of a possible future European Central Bank, such as that envisioned in the Maastricht Treaty.

Kjaer, Jorn H. 1991. Reguleringen af den finansielle sektor (Regulation of the financial sector). *Nationalokonomisk Tidsskrift* 129, no. 1:15–22. [In Danish with English summary.]

Financial institutions are generally subject to more intensive official regulation and supervision than commercial and industrial companies. The reasons for this are: (1) greater public interest in maintaining their solvency, (2) their function as transmission channels for monetary policy, (3) the possibility of allocating financial resources to priority areas, (4) a perceived need to avoid excessive profits. The Danish experience is reviewed and it is concluded that regulation has become more market oriented. It is recommended to pursue this deregulation further, in particular as regards the remaining restrictions in the mortgage credit area. There is, however, a strong public interest in minimizing the risk of failures, in particular as regards deposit-taking institutions. A deposit insurance scheme is also essential. (©1999 EconLit)

Ko, Dong Won. 1996. Financial Liberalization and Internationalization: The Korean Experience. Ph.D. diss., Duke University.

This dissertation analyzes and evaluates financial liberalization and internationalization in South Korea and describes that country's financial system. The author strongly argues that the independence of the South Korean central

bank should be secured as soon as possible because such independence is crucial for pursuing financial liberalization and internationalization. The author also recommends that the South Korean government adopt a universal banking system as the optimal model of the nation's future banking system because universal banking, which permits diversification, helps improve bank competitiveness. Finally, the author urges the South Korean government to adopt a risk-adjusted premium system (rather than a flat-rate premium scheme) in implementing the deposit insurance system, because the flat-rate system causes moral-hazard problems.

Ko, Dong Won. 1997a. Bank Deposit Insurance System in Korea. *Korean Journal of International and Comparative Law* 25:93–117.

The author analyzes the substantive provisions of South Korea's Bank Deposit Insurance Act of 1995 and outlines the deposit insurance systems in major countries, such as the United States, Japan, Germany, and the United Kingdom, as well as in the European Union, to suggest some recommendations for improving the South Korean bank deposit insurance system. Finally, the author makes four recommendations for improving the system, focusing in particular on the introduction of a risk-adjusted premium scheme for stabilizing the bank deposit insurance system as soon as possible.

Ko, Dong Won. 1997b. Korea Introduces Bank Deposit Insurance Scheme. *International Financial Law Review* 16, no. 4:46–48.

Whenever South Korean banks have carried large nonperforming loans, the government and the central bank have consistently bailed them out. However, following the liberalization and internationalization of South Korea's financial market in the early 1980s, this kind of commitment proved unsustainable. Because of these trends, the government created a scheme that would provide stability and safeguard depositors' interests. The main aim of the Bank Deposit Insurance Act of 1995 (BDIA) was to protect depositors and create financial stability by means of a bank deposit insurance system. The government recognized that depositors' interests must be safeguarded by the state; nevertheless, the insurance system that was created still needs to be improved.

Korea Deposit Insurance Corporation (KDIC). 1996. *Deposit Insurance System in Korea.* KDIC.

This booklet presents an outline of the insurance scheme in South Korea, touching on (1) the framework of the Deposit Insurance System, (2) the structure of the Korea Deposit Insurance Corporation, and (3) the management committee members and executives of the Korea Deposit Insurance System.

Kyei, Alexander. 1995. Deposit Protection Arrangements: A Survey. Working Paper no. 96/83. International Monetary Fund.

Partly based on responses to a 1992 questionnaire, this paper compares the key elements of various deposit protection systems around the world. Starting in the

1980s, more and more countries were adopting explicit deposit insurance schemes, largely in response to emerging problems with their financial systems.

Liu, Ming-Hua. 1992. Bank Supervision in Hong Kong. Ph.D. diss., University College of North Wales.

In response to the banking crises and international supervisory convergence in the 1980s, Hong Kong introduced a new banking law, which for the first time imposed a statutory minimum ratio of capital to total risk-adjusted assets. This dissertation examines the experiences of the Hong Kong banking system with the discipline of market forces and bank failures. It analyzes the effect of three different capital adequacy ratios—gearing ratios, risk-independent ratios, and risky-assets ratios—on the overall riskiness of banks and on their profitability, to see if there is any theoretical basis for regulating bank capital. It evaluates the capital requirements introduced in Hong Kong in the late 1980s.

Macchiati, Alfredo. 1990. Assicurazione dei depositi e crisi bancarie in Italia (Deposit Insurance and the Banking Crisis in Italy). *Banche e Banchieri* 17, no. 1:29–45.

In Italian without English summary.

Marshall, Kathryn G. 1994. The Case against Deposit Insurance in Indonesia. In *Indonesia Assessment: Finance as a Key Sector in Indonesia's Development*, edited by Ross H. McLeod, 186–201. Institute of Southeast Asian Studies.

The author argues that a deposit insurance scheme would be inappropriate for Indonesia since the scheme would increase a bank's incentives to make risky loans. Without a deposit insurance scheme, depositors can monitor bank behavior and then be compensated for higher risks.

McKenzie, George, and Manzoor Khalidi. 1994. The EU Directive on Deposit Insurance: A Critical Evaluation. *Journal of Common Market Studies* 32, no. 2:171–90.

The authors argue that the incentives induced by the EU Directive on Deposit Guarantees for both depositors and banks are incompatible with the goal of fostering a stable and efficient financial system. The authors explore (1) the problem of moral hazard and the principle of co-insurance (a principle requiring depositors to bear losses arising from bank failure); (2) the concept of a bank safety net and the relationship between the Deposit Guarantee Directive and other financial market directives, especially the Bank Solvency Directive; (3) the principle of subsidiary, which leaves the implementation of the directive in the hands of national authorities, subject to minimum standards.

McQuery, Elizabeth. 1999. The Banking Sector Rescue in Mexico. Federal Reserve Bank of Atlanta *Economic Review* 84, no. 3:14–29.

This article examines Mexico's bank rescue efforts (1995–1998), focusing particularly on the role of the deposit insurance fund, the Bank Fund for the Protection of Savings. According to the author, the governmental rescue programs prevented a systemic collapse of the banking sector but cost more than

$55 billion dollars. The article also attempts to place the overall rescue effort within a larger context by looking at its economic and political consequences. The Mexican experience suggests that country-specific factors can profoundly affect the success of government policies and that governments need to pay more attention to political matters, even when problems appear to be economic or technical.

Milhaupt, Curtis. 1999. Japan's Experience with Deposit Insurance and Failing Banks: Implications for Financial Regulatory Design? *Monetary and Economic Studies* 17, no. 2:21–46. Bank of Japan. Also 1999. Japan's Experience with Deposit Insurance and Failing Banks: Implications for Financial Regulatory Design? Discussion Paper no. 99-E-8. Institute for Monetary and Economic Studies, Bank of Japan.

This paper examines three decades of Japanese experience with deposit insurance and failing banks, and analyzes the implications of that experience for bank safety-net reform in other countries. The literature and policy debate on deposit insurance have been heavily colored by U.S. banking history and focus almost exclusively on explicit deposit protections schemes. Analysis of Japan's safety-net experience suggests that (1) deposit insurance in the real world, for all its flaws, is superior to the real-world alternative—implicit government protection of depositors and discretionary regulatory intervention in bank distress; (2) a well-designed explicit deposit insurance system with a credible bank closure policy is the starting point for the designing of effective private alternatives to a government-run safety net; and (3) the trend toward greater institutionalization of the Japanese safety net reflects increased political competition and greater emphasis on legal as opposed to reputational systems of economic ordering.

Miller, Geoffrey P. 1997. Is Deposit Insurance Inevitable? Lessons from Argentina. In *Economic Dimensions in International Law: Comparative and Empirical Perspectives*, edited by Jagdeep S. Bhandari and Alan O. Sykes, 392–404. Cambridge University Press. Also 1996. Is Deposit Insurance Inevitable? Lessons from Argentina. *International Review of Law and Economics* 16, no. 2:211–32.

This article explores the Argentine government's decision to abolish deposit insurance and its subsequent decision to reestablish a form of deposit insurance. Although fundamental reform of deposit insurance does appear possible, the experience in Argentina suggests the need for skepticism about how long such reforms can last, especially in economic systems where banking markets have been historically unstable.

Mondschean, Thomas S., and Timothy P. Opiela. 1998. The Impact of Deposit Insurance Reform on Market Discipline in Poland. In *Payment Systems in the Global Economy: Risks and Opportunities*, Proceedings of the 34th Annual Conference on Bank Structure and Competition, 443–53. Federal Reserve Bank of Chicago.

This research focuses on how Polish bank and customer behavior has been affected by market and regulatory changes from 1992 to 1996. The authors present an overview of the Polish banking system, describe trends in deposit

growth from 1992 to 1998, and examine the evolution of Poland's deposit insurance policy.

Mondschean, Thomas S,. and Timothy P. Opiela. 1999. Bank Time Deposit Rates and Market Discipline in Poland: The Impact of State Ownership and Deposit Insurance Reform. *Journal of Financial Services Research* 15, no. 3:179–96.

This article examines the effect of ownership structure and changes in the deposit insurance system on the market for bank time deposits in Poland. The authors find that previously, in an environment of less-restrictive bank supervision and a deposit insurance policy that favored state banks, depositors exacted a price for risk-taking. But after a new law went into effect increasing insurance coverage for private banks, bank-specific variables became less important in explaining differences in deposit interest rates. The authors report, however, that the three fully guaranteed state banks pay significantly lower rates than private banks. Moreover, other state-owned banks, with the same explicit guarantee as private banks, pay significantly lower rates than private banks, so it appears that depositors treat these state-owned banks as if they have a larger implicit guarantee.

Moysey, A. Warren. 1998. Deposit Insurance and Other Compensation Arrangements. Research paper prepared for the Task Force on the Future of the Canadian Financial Services Sector.

This report deals with the compensation arrangements of the Canada Deposit Insurance Corporation, the Canadian Investor Protection Fund, the Canadian Life and Health Insurance Compensation Corporation, the Property and Casualty Insurance Compensation, and a variety of other bodies. The report specifically reviews and makes recommendations on the following public-policy concerns: (1) market mechanisms; (2) funding mechanisms; (3) public confusion about the deposit insurance system; (4) bank management's relationships with primary regulators; (5) rationale for deposit insurance; and (6) conglomeration.

National Bank of the Republic of Macedonia. 1998. Deposit Insurance in the Republic of Macedonia. Unpublished manuscript. National Bank of the Republic of Macedonia.

The document examines deposit insurance as an element for protection of a general banking system and studies the need for deposit insurance, types of deposit insurance systems, and basic elements of explicit deposit insurance systems. The document then turns to the deposit insurance system in the Republic of Macedonia and discusses (1) the position of the Savings Insurance Fund; (2) the functioning of the Fund since its establishment; (3) problems faced by the Fund; and (4) reasons the Fund should not operate as a classic shareholding company.

Norwegian Banking Law Commission. 1995. Report Relating to Guarantee Arrangements and Public Administration, etc., of Financial Institutions. *Norges Bank Economic Bulletin* 66, no. 4:458–61.

The Norwegian Banking Law Commission presented its second report in November 1995. The report contains a draft of the act relating to guarantee arrangements and public administration of financial institutions. The bill was drawn up on the basis of experience from a national banking crisis and the perceived need to change and modernize existing legislation. The objective of the bill is to secure the claims of customers from financial institutions and to maintain the guarantee arrangements for banks and insurance companies. The bill will also implement the EU's Deposit Insurance Directive in Norway. The bill proposes that the Norwegian deposit insurance scheme shall cover deposits up to NOK 2 million per depositor, an amount considerably higher than the minimum requirement of ECU 20,000 (just over NOK 160,000) stipulated in the EU directive. Except the section relating to banks' guarantee funds, the report is supported by all the members of the commission.

Nowakowski, Jerzy. 1997. Bank Deposit Guarantee System in Poland. *Eastern European Economics* 35, no. 2:84–95.

Concern for the security and stability of the Polish banking system led to the founding of the Bank Guarantee Fund (BFG) in February 1995. The most important reasons for creating an institution responsible for guaranteeing bank deposits were (1) the need to stabilize the banking system by reducing the risk of mass withdrawals if customers were to become alarmed about the security of their deposits; (2) the need to protect consumers; and (3) the need to adjust the Polish guarantee system to the European Union's standards in the context of Poland's association with this organization and its hope of becoming a full member.

Önal, Yildirm Beyazit, Hatice Gereklioğlu Düzakin, and Meltem Akyüz. 1996. Türkıye'de Mevduat Sıgortasi Sıstemını Gelışımı Ve Bankalarin Rısk Değerlendırmesını De İçeren Aktıf Bır Mevduat Sıgortasi Model Önerısı. *Türkıye Bankalar Bırlığı*, vol. 198.

In Turkish without English summary.

Peng, Xun. 1997. Establishing Deposit Insurance System in China. Unpublished manuscript. University of Texas at Austin.

Several trends have come together to make the case for deposit insurance in China compelling. This report proposes banking reforms other than deposit insurance to reduce the risks involved in the banking industry, analyzes the benefits and costs of establishing deposit insurance in China, and recommends proposals that would best implement a deposit insurance system for China that would respond to challenges confronting the financial sector.

Ratón, José Manuel Fínez. 1994. *Garantías Sobre Cuentas y Depósitos Bancarios la Prenda de Créditos* (Guarantees on accounts and banking deposits). Barcelona: Jose Maria Bosch.

In Spanish without English summary. The author examines the search for credit safety and credit guarantees in Spanish banking practices.

Recommendations. 1997. *International Financial Law Review* 16, no. 4:47–49.

This article makes recommendations in four areas for implementing the bank deposit insurance system in South Korea: (1) the risk-based premium system, (2) bank supervisory powers, (3) the inclusion of foreign bank branches in the South Korean deposit insurance system, and (4) capital contributions to the Deposit Insurance Fund.

Reforming the Korean Banking System. 1999. *Financial Market Trends*, no. 72 (February): 85–114.

The South Korean financial system changed fundamentally in the 1990s. Financial reform legislation was passed in late 1997 with the overriding goal of ensuring that the banking system would have a viable cost structure, even though this would entail some losses of employment and a reduction in the size of the banking sector. This article examines the dynamic banking system within South Korea.

Régie de l'assurance-dépôts du Québec. 1997. *Les Trente Ans d'histoire de la Régie de l'assurance-dépôts du Québec* (A thirty-year history of the deposit insurance system in Quebec). Québec: La Régie de l'assurance-dépôts du Québec.

In French without English summary.

Santomero, Anthony. 1997. Deposit Insurance: Do We Need It and Why? Working Paper no. 97-35. Wharton Financial Institutions Center, Wharton School of Business, University of Pennsylvania.

A crucial part of the government safety net is implicit or explicit deposit insurance. This paper explains why deposit insurance exists, why it causes problems, and what can be done to remedy the problems without losing the benefits. The author specifically examines a deposit insurance system in a united Europe. As Europe moves closer toward a single currency and a single financial market, the difficulties associated with weighing and minimizing the cost of deposit insurance become even greater. This is because the willingness of different societies to absorb the costs of such a system in exchange for financial stability, and the willingness of financial institutions to bear risk, will vary. Yet the release of the European Commission's Deposit Insurance Directive in 1994 made it clear that facing these conflicting pressures was essential to the emergence of a robust financial sector.

Sato, Ryuzo, Rama V. Ramachandran, and Bohyong Kang. 1994. Risk-Adjusted Deposit Insurance for Japanese Banks. In *Japan, Europe, and International Financial*

*Markets: Analytical and Empirical Perspectives,* edited by Ryuzo Sato, Richard M. Levich, and Rama V. Ramachandran, 223–39. Cambridge University Press. Also 1990. Risk Adjusted Deposit Insurance for Japanese Banks. Working Paper no. 3341. National Bureau of Economic Research.

> This article seeks to evaluate the Japanese deposit insurance scheme by contrasting the flat insurance rate with a market-determined risk-adjusted rate. The model used to calculate the risk-adjusted rate is that of Ronn and Verma (1986). It uses the notion of Merton (1977) that deposit insurance can be based on a one-to-one relation between it and the put option; this notion permits the application of the Black and Scholes (1973) model for calculating the insurance rate. The risk-adjusted premiums are calculated for 13 city banks and 22 regional banks. The interbank spread in risk-adjusted rates is found to be as wide in Japan as in the United States. But the insurance system is only one component of the safety network for a country's banking system. The difference between the U.S. and Japanese networks is described and its implications for the evaluation of the insurance system is discussed.

Scheer, Craig M. 1994. The Second Banking Directive and Deposit Insurance in the European Union: Implications for U.S. Banks. *George Washington Journal of International Law* 28, no. 1:171–207.

> The analysis section of this article addresses two concerns raised by the European Commission's Deposit Guarantee and Second Banking Directives: (1) the possibility that Congress's prohibition on insurance coverage of foreign deposits in U.S. banks could disadvantage U.S. banks operating in the European Union; and (2) the possibility that the European Union may grow impatient with the structure of U.S. banking laws, especially if EU banks operating in the United States do not receive profit opportunities comparable to those that U.S. banks in the European Union might enjoy because of the Second Banking Directive.

Schoenmaker, Dirk. 1993a. Home Country Deposit Insurance? In *Money and Banking: Issues for the Twenty-First Century—Essays in Honor of Stephen F. Frowen,* edited by Philip Arestis, 2d ed., 95–116. St. Martin's Press.

> Whereas supervision is based on the home-country principle, deposit insurance is still based on the host-country principle. This article investigates whether home-country deposit insurance can offer home-country supervisors an incentive for sound supervision. The main idea is to make home supervisors face all the costs when any bank under their supervision fails. However, it is important to consider the effect of such a regulatory change on the overall banking system. The author's framework for the microanalysis of this proposal of home-country deposit insurance is the interaction among the supervision, deposit insurance, and lender-of-last-resort functions.

Schoenmaker, Dirk. 1993b. Internationalization of Banking Supervision and Deposit Insurance. *Journal of International Banking Law* 8, no. 3:106–12.

> With the establishment of the home-country principle for banking supervision in the G-10 countries and the European Community, supervision has followed the widespread internationalization of banking. In contrast, deposit insurance is still based on the host-country principle. This article investigates the merits and problems of home-country deposit insurance. The main idea is that home supervisors would be made to bear the costs when any of the banks under their supervision failed. A recent proposal for a European Commission directive to establish deposit protection on the home-country principles is also briefly discussed.

Shumacher, Liliana Beatriz. 1996. Bubble or Depositors' Discipline? A Study of the Argentine Banking Panic (December 1994–May 1995). Ph.D. diss., University of Chicago.

> This dissertation evaluates the ability of depositors to impose discipline on banks in a system with no deposit insurance and strong limitations on the central bank's ability to act as the lender of last resort. The author studies the mergers and failures that took place as a consequence of the panic that harmed Argentine banks after the Mexican devaluation of December 1994. The author's findings suggest that when depositors are confronted with a shock to all banks, asset values, they were able to identify the weakest retail banks in the system, viewed them as less prepared to survive the shock, and penalized them with higher withdrawals.

Simanovskii, A. I. 1997. On Deposit Insurance and Banking Bankruptcies: Reflections on Two Draft Laws. *Russian and East European Finance and Trade* 33, no. 4:78–90.

> After a two-tiered banking system emerged in Russia, there were many debates about creating a deposit insurance system. This article examines two kinds of arguments against creating such a system, the arguments based on conceptual approaches to the organization of a new system and the specific criticisms of organizational or editorial aspects of the draft law.

Sjaastad, Larry A. 1997. Deposit Insurance: Do We Really Need It? In *Preventing Banking Sector Distress and Crises in Latin America*, Proceedings of a conference held in Washington, DC, April 15–16, 1996, edited by Suman K. Bery and Valeriano F. Garcia, 47–51. Discussion Paper, no. 360. The World Bank. [Followed by comments by Paul M. Horvitz, Roberto Junguito, and Allan H. Meltzer.]

> The author explains how both deposit insurance and the lender-of-last-resort facility offered by central banks have evolved as devices to stabilize inherently unstable institutions: fractional reserve banking. He explains (1) the source of banking instability; (2) the difference between deposit insurance and the lender-of-last-resort facility; (3) the moral-hazard problem; (4) alternative ways of delivering deposit insurance; (5) essential characteristics of deposit insurance; (6)

the way in which deposit insurance really "insures"; and (7) the way to design a panic-proof system.

Timewell, Stephen. 1995. Latvia: The Brutal Truth. *The Banker* 145, no. 834, p. 35.

On June 27, 1995, Latvia's largest bank, Banka Baltija, collapsed. The failure is attributed to the criminal acts of the bank's management, the fraudulent involvement of a Russian bank, and even the involvement of the Soviet Union's KGB. The crisis should prove to be a catalyst for a shakeout and an improvement in the Latvian banking sector.

Turkey. 1998. *International Financial Law Review* (July): 113–14.

In 1926, three years after the foundation of the Republic of Turkey, the Turkish Parliament adopted a translation of the Swiss Civil Code, with some amendments, as the new Turkish Civil Code. As a result, the general principles of continental law became applicable in Turkey. This article presents an overview of banking in Turkey, including amendments to the Banks Act, the general framework of organization and operation of a bank in Turkey, the opening of branches in Turkey, and bank inspectors.

Turkey: New Legislation for Banking Sector. 1999. *International Financial Law Review* 18, no. 8:57–58.

On June 18, 1999, Turkey introduced a new Banks Act, which replaced the previous bank regulation. The new act aims to create a safer, more regulated environment for existing banks in Turkey, as well as operational policies similar to those envisaged under the Basle Accord. The new legislation also contains important provisions that increase the barriers to entry for new banks by imposing a much higher minimum capital requirement and payments of certain fees for issuance of new banking licenses.

Umoh, P. N. 1997. *Bank Deposit Insurance in Nigeria*. Lagos: Page Publishers Services.

This book records the activities of the Nigeria Deposit Insurance Corporation from its inception in 1989 to 1996. The topics discussed include (1) the concept of deposit insurance; (2) establishing and administering the corporation; (3) the corporation's activities; and (4) other activities. The book sets out the roles an explicit deposit insurance scheme can play in a country's financial system, particularly in Africa, where such schemes are few.

U.S. General Accounting Office (GAO). 1991. *Deposit Insurance: Overview of Six Foreign Systems.* Report to the Chairman, Senate Committee on Banking, Housing, and Urban Affairs. GAO/NSIAD-91-104.

The GAO obtained information on deposit insurance and protection systems in Canada, France, Germany, Italy, Japan, and the United Kingdom. Because a country's approach to deposit protection is driven partly by the structure of its regulatory regime and partly by the size and nature of its banking system, the

GAO also outlined elements of the six countries' overall financial regulatory systems. In addition, this report reviews the resolution of bank failure cases in five countries (Japan had had no bank failures) and describes the European Community's efforts to encourage establishment of Community-wide deposit protection.

U.S. General Accounting Office (GAO). 1994. *Bank Regulatory Structure: The Federal Republic of Germany*. GAO/GGD-94-134BR.

Proposals to consolidate U.S. bank regulatory agencies have raised questions about how other countries structure and carry out their various bank regulatory, supervisory, and central-bank activities. This report provides information on the structure and operations of regulatory activities in Germany. Specifically, the report describes (1) the German bank regulatory structure and its key participants, (2) how that structure functions, and (3) central bank responsibilities that affect the banking industry.

U.S. General Accounting Office (GAO). 1995a. *Bank Regulatory Structure: The United Kingdom*. GAO/GGD-95-38.

Proposals to consolidate U.S. bank regulatory agencies have raised questions about how other countries structure and carry out their various bank regulatory, supervisory, and central-bank activities. In response to a congressional request that the GAO examine such activities in several countries, this report provides information on the United Kingdom, whose bank regulatory structure is dominated by its central bank. This report describes (1) the U.K. bank regulatory and supervisory structure and its key participants; (2) how that structure functions, particularly with respect to bank authorization, regulation, and supervision; and (3) how banks are examined.

U.S. General Accounting Office (GAO). 1995b. *Bank Regulatory Structure: France*. GAO/GGD-95-152.

Proposals to consolidate U.S. bank regulatory agencies have raised questions about how other countries structure and carry out their various bank regulatory, supervisory, and central-bank activities. In response to a congressional request that the GAO examine such activities in several countries, this report provides information on France, where jurisdiction over the authorization, regulation, and supervision of banks is divided among three separate but interrelated regulatory entities. This report describes (1) the French bank regulatory and supervisory structure and its key participants; (2) how that structure functions, particularly with respect to bank authorization, regulation, and supervision; (3) how banks are examined in France; and (4) how the central bank handles other bank-related responsibilities.

U.S. General Accounting Office (GAO). 1995c. *Bank Regulatory Structure: Canada*. GAO/GGD-95-223.

Proposals to consolidate U.S. bank regulatory agencies have raised questions about how other countries structure and carry out their various bank regulatory,

supervisory, and central-bank activities. In response to a congressional request that the GAO examine such activities in several countries, this report provides information on Canada, which relies on a federal supervisor rather than the central bank. This report describes (1) the Canadian bank federal regulatory and supervisory structure and its key participants; (2) how that structure operates, particularly with respect to bank authorization or chartering, regulation, and supervision; (3) how banks are examined; and (4) how participants handle other financial system responsibilities.

U.S. General Accounting Office (GAO). 1997. *Bank Regulatory Structure: Japan*. GAO/GGD-97-5.

Proposals to consolidate U.S. bank regulatory agencies have raised questions about how other countries structure and carry out their various bank regulatory, supervisory, and central-bank activities. In response to a congressional request that the GAO examine such activities in several countries, this report provides information on Japan.

Valori, V. P., and J. Vesala. 1998. Reform of the Finnish Deposit Guarantee Scheme. *Bank of Finland Bulletin,* no. 3.

Finland's deposit guarantee scheme was revised at the start of 1998 with the entry into force of certain amendments to the Act on Credit Institutions (1229/97). Depositors' claims are now protected by means of a new deposit guarantee fund. To provide statutory protection to depositors, membership in the fund is mandatory for all Finnish deposit-taking banks. This article outlines the 1998 changes to the Finnish deposit guarantee scheme.

Vogelsang, Harald. 1990. *Der Einlagensicherungsfond des Bundesverbandes deutscher Banken im Lichte des Versicherungsrechts* (The deposit insurance fund of the federal association of West German banks in light of the insurance law). Karlsruhe: VVW.

In German without English summary.

Woodward, Thomas G. 1989. Deposit Guarantees in Other Countries. Report for Congress (November 27), no. 89-637 E. Congressional Research Service.

This paper reports whether a deposit guarantee scheme is in existence in 15 countries (Australia, Austria, Belgium, Canada, Denmark, France, Germany, Italy, Japan, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States. When deposit insurance schemes are in place, the author describes their main characteristics.

Yoshino, Joe Akira. 1994. Seguro Depósito (Deposit Insurance in Brazil). Texto Para Discussão Nº 344. Instituto de Pesquisa Econômica Aplicada Texto.

In Portuguese without English summary.

## 10. Deposit Insurance Reform in the United States: Pre-FDICIA

***The Federal Deposit Insurance Corporation Improvement Act was passed in December 1991. Entries in this section were published before or soon after its passage and describe the problems and weaknesses of the pre-FDICIA deposit insurance system. Highlighting the need for reform, these entries contain numerous recommendations for reforming, if not abolishing or privatizing, deposit insurance.***

American Bankers Association (ABA). 1990. Federal Deposit Insurance: A Program for Reform. Report. Deposit Insurance Reform Committee, ABA.

This report presents an approach to handling insolvent depository institutions that eliminates the troublesome "too-big-to-fail" doctrine and treats all banks equally while at the same time preserving essential liquidity. If the approach were implemented, the ABA believes it would result in a stronger and more stable banking industry and a sound deposit insurance system.

Arshadi, Nasser. 1989. Exclusion of Foreign Deposits from the Deposit Insurance Assessments: Consequences and Solutions. *Issues in Bank Regulation* 13, no. 1:29–32.

The exclusion of foreign deposits from the assessment for current insurance premiums has become highly controversial. Because of the exclusion, larger institutions are exempt from assessments on a substantial portion of their deposit base, whereas smaller banks must pay premiums on their total deposits and are therefore taking a heavier burden of the deposit insurance cost. The author explains why a risk-based insurance system would eliminate this disparity in premiums.

Avery, Robert B., and Allen N. Berger. 1991. Risk-Based Capital and Deposit Insurance Reform. *Journal of Banking and Finance* 15, no. 4–5:847–74.

This paper analyzes the risk-based capital (RBC) standards using data on U.S. banks from 1982 to 1989. The associations between bank performance (including bankruptcy) and the RBC relative risk weights and compliance with the RBC standards are assessed. These associations suggest that RBC constitutes a significant improvement over the old capital standards, although both standards incorporate useful independent information. The data also indicate that relative to the old standards, the new standards are much more strict on large banks and are more stringent overall. As a result, banks representing more than one-fourth of all bank assets would have failed the new standards as of 1989. (©1999 EconLit)

Baer, Herbert L. 1990. What We Know about the Deposit Insurance Problem. *Chicago Fed Letter* 35:1–3.

Deposit insurance is very different from other forms of insurance. For example, with life and automobile insurance, the insurer has limited control of risk once the decision to insure and the terms of the contract are set. With deposit insurance, the insurer can control risks. The author argues that the failure of regulatory

bodies to use their preventive tools to avert deposit insurance losses represents, in effect, a subsidy to insolvent and poorly capitalized financial institutions. The availability of this subsidized deposit insurance gives beneficiaries an incentive to increase their expected profits by taking additional risks. Deposit insurance also creates a climate that fosters forbearance, which allows insolvent financial institutions to remain open. The heavy losses suffered by insolvent banks and thrifts during the 1980s make clear the important role the closure decision plays in controlling the cost of deposit insurance. If legislators and regulators wish to avoid the failure of a future deposit insurance system, they must reintroduce creditor discipline.

Bank Administration Institute and the Institute for Strategy Development. 1991. *Deposit Insurance Reform: A Blueprint for Change.* Center for Banking Issues and Strategies, Bank Administration Institute.

This document examines (1) FIRREA's changes to the deposit insurance system; (2) the health of the bank and thrift insurance funds; (3) the effect of deposit insurance reform on profitability; and (4) deposit insurance reform and industry restructuring. The document presents the proposed legislation as well as regulatory proposals to reform and modernize deposit insurance and protect taxpayers.

Bartel, Richard D. 1991. Insure All Savings—Not Just Bank Deposits. *Challenge* 34, no. 5:20–25.

The author interviewed Jane D'Arista, Associate Director of the Morin Center for Banking Law Studies at the Boston University School of Law. She discussed the expansion of insurance to all forms of savings. Proposed reforms would restructure deposit insurance for banks and other depository institutions and would examine the functioning of the entire financial system. In an attempt to protect international capital, the administration has proposed more powers and products for banks, infusions of capital from nontraditional sources, and regulatory relaxations. However, D'Arista feels, community banks, their customers, and the average taxpayer would suffer if such banking proposals were implemented.

Barth, James R., Philip F. Bartholomew, and Michael G. Bradley. 1989. Reforming Federal Deposit Insurance: What Can Be Learned from Private Insurance Practices? *Consumer Finance Quarterly Report* 45:140–47. Also 1989. Reforming Federal Deposit Insurance: What Can Be Learned from Private Insurance Practices? Research Paper no. 161. Federal Home Loan Bank Board.

The authors feel that the thrift crisis of the 1980s has been a catalyst for proposals to reform federal deposit insurance. All of the reform proposals reflect a common theme: the deposit insurer should adopt private insurance practices. Federal deposit insurance, however, is not insurance in the normal sense of the word. It is a guarantee that insured deposits will be protected against all loss. Such a guarantee could not be provided by a private insurer, given the possibility of a catastrophic loss. Furthermore, deposit insurance generates beneficial

externalities such that government intervention may be necessary to ensure that the socially optimal amount of insurance is provided. Problems with federal deposit insurance, however, remain to be resolved, and much can be learned from private insurance practices. But the government should not blindly adopt those practices. Rather, it should analyze them to determine how they affect the behavior of the insured.

Barth, James R., and R. Dan Brumbaugh Jr. 1990. The Rough Road from FIRREA to Deposit Insurance Reform. *Stanford Law and Policy Review* 2, no. 1:58–67.

The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) represents Congress's attempt to grapple with banking sector problems. The authors feel the legislation provides too little reform, misguided enforcement, insufficient funds, and too many adverse incentives for full recovery of the banking sector. They believe FIRREA will come to be seen as one more mutation of the problem. This article addresses the question of where FIRREA went awry and how its shortcomings can be remedied.

Barth, James R., and R. Dan Brumbaugh Jr., eds. 1992. *The Reform of Federal Deposit Insurance: Disciplining the Government and Protecting Taxpayers.* Harper Business.

This collection of papers on the topic of deposit insurance includes the following: "Getting the Incentives Right in the Current Deposit-Insurance System: Successes from the Pre-FDIC Era," by Charles W. Calomiris; "The Thrift Industry Crisis: Revealed Weaknesses in the Federal Deposit Insurance System," by James R. Barth and Philip F. Bartholomew; "A Critique of the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) of 1989 and the Financial Strength of the Commercial Banks," by R. Dan Brumbaugh Jr. and Robert E. Litan; "The Incentive Incompatibility of Government-Sponsored Deposit-Insurance Funds," by Edward J. Kane; "Aggregate Shocks, Loan Losses, and Portfolio Concentrations: Lessons for Assessing Depository Institution Risk," by Robert S. Chirinko and Gene D. Guill; "Lender of Last Resort, Too Large to Fail, and Deposit-Insurance Reform," by George G. Kaufman; "The Role of Market Value Accounting in the Regulation of Insured Depository Institutions," by William H. Beaver, Srikant Datar, and Mark A. Wolfson.

Barth, James R., Carl D. Hudson, and Daniel E. Page. 1991. The Need to Reform the Federal Deposit Insurance System. *Contemporary Policy Issues* 9, no. 1:24–35.

The biggest financial disaster in modern history struck the savings and loan industry during the 1980s. This paper argues that the unifying cause of this debacle was the way in which the federal deposit insurance system is structured. The fundamental cause was not fraud and deregulation, as is commonly argued. The government not only permitted reportedly insolvent institutions to continue to operate, it permitted many such institutions to grow by offering relatively high rates on their deposits. Unfortunately, the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) of 1989 may not prevent a similar situation from ever recurring. Therefore, one must understand exactly what happened, what the FIRREA does and does not do, and the proposals for

reforming the entire structure of the federal deposit insurance system. (©1999 EconLit)

Berlin, Mitchell, Anthony Saunders, and Gregory F. Udell. 1991. Deposit Insurance Reform: What Are the Issues and What Needs to Be Fixed? *Journal of Banking and Finance* 15:735–52.

Problems in the commercial banking industry have led to widespread calls for reform of the deposit insurance contract on the grounds that it promotes moral hazard. This article reviews the empirical evidence for the importance of moral hazard in contributing to crises. The article then evaluates various reform proposals, grouping them into two broad classes: proposals that seek to impose greater discipline on bank stockholders, and proposals to increase the disciplinary role of bank debtholders. Finally, the article identifies some issues that have received inadequate attention in the literature on bank regulation, including (1) the effects of actual changes in regulators' monitoring policies on bank behavior; (2) the advantages and disadvantages of public and private production of bank accounting information; (3) the optimal mix of public and private monitoring; and (4) the implications of externalities, contagion effects, and information asymmetries for the design of optimal insurance premiums.

Black, Robert P. 1991. Reflections on Deposit Insurance. Federal Reserve Bank of Richmond *Economic Review* 77, no. 1:3–6.

A crucial public-policy issue is the need for reform of the nation's deposit insurance system. This article discusses the role of deposit insurance and outlines some proposals for reform. (©1999 EconLit)

Blad, Leiv H. Jr. 1990. Searching for the Ideological Foundations of Federal Deposit Insurance. *Annual Review of Banking Law* 9: 533–57.

This document analyzes the problems inherent in federal deposit insurance and the proposals to remedy the situation. It investigates the legislative history of deposit insurance and concludes that many of the problems of insurance can be traced to unresolved contradictions in the original legislation. The article then analyzes the three most plausible reform proposals, before concluding that Congress can resolve the central dilemma of federal deposit insurance by adopting a modified version of these proposals.

Boss, Maria, and Gary Watson. 1991. The FDIC's Special Defenses: Before and after FIRREA. *American Business Law Journal* 29, no. 2:309–34.

The article explains how the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 might affect the special defenses that protect the government from debtor defenses, as well as the affirmative lender liability claims. The special defenses, called "superpowers," are as follows: (1) the D'Oench doctrine, which stipulates that if a debtor lends itself to an arrangement that tends to deceive bank examiners or a bank's creditors, the debtor is barred from raising a defense based on that scheme; (2) 12 Code section 1823 (3), which

extends the D'Oench doctrine to any agreement, whether or not it was secret and regardless of the participants in the scheme; and (3) the federal holder in due course argument, according to which the FDIC is not subject to personal defenses that a borrower could otherwise assert against a failed institution.

Bradley, Michael G. 1991. Empirical Analysis of the Thrift Crisis and Deposit Insurance Reform. In *Proceedings of the American Statistical Association (AMSTAT) Annual Meetings: Business and Economics Statistics*, 19–28. AMSTAT.

The author provides a theoretical foundation involving empirical analysis of the thrift crisis. His opinion is that policymakers and economists have overlooked an empirical analysis of the banking crisis, which has led to the adoption of inappropriate deposit insurance reform. The author discusses selected empirical studies and presents a general empirical model of the thrift crisis. He concludes with examples of how economists might transmit poor results, and describes the role economics plays in the political process.

Brookings Institution. 1989. *Blueprint for Restructuring America's Financial Institutions: Report of a Task Force.* Brookings Institution.

The task force members are George Benston, R. Dan Brumbaugh Jr., Jack M. Guttentag, Richard J. Herring, George G. Kaufman, Robert E. Litan, and Kenneth E. Scott. They identify four flaws in the banking system: (1) deposit insurance encourages risk-taking; (2) regulators have been unable to detect excessive risk exposure; (3) authorities have not intervened in weak institutions early enough; (4) and interventions have protected all depositors, not just the insured. Any structural reform proposals should attempt to (1) maintain the safety of insured deposits; (2) strengthen market discipline of risk exposure; (3) enhance market efficiency by eliminating some restrictions on bank powers and by minimizing costs of necessary restrictions; (4) dispose of insolvent institutions promptly; and (5) minimize transaction costs by allowing institutions to choose which regulatory system they operate under. The authors stress the need to adopt a new deposit insurance system quickly.

Brumbaugh, R. Dan Jr., Andrew S. Carron, and Robert E. Litan. 1989. Cleaning up the Depository Institutions Mess. *Brookings Papers on Economic Activity* 1:243–83.

This paper estimates that the present value cost of merging or liquidating the hundreds of insolvent thrift institutions still operating as of the end of 1988 will range between $100-150 billion. Given federal deposit insurance, the failure to implement and enforce sound capital standards is identified as the principal reason for the thrift crisis. Significantly, thirteen of the nation's fifteen largest banks, holding $700 billion in assets, are also weakly capitalized and thus susceptible to similar "moral hazard" incentives to take risks. Long-term reform of the depository industry requires sound capital regulation and market value accounting. (©1999 EconLit)

Burnham, James B. 1990. A Financial System for the Year 2000: The Case for Narrow Banking. Formal Publication no. 97. Center for the Study of American Business, Washington University of St. Louis.

This study focuses on the portion of the financial sector that is covered by deposit insurance. The author proposes limiting deposit insurance to only "narrow banks," those whose investment opportunities are severely limited. He further suggests that only narrow banks should have access to the Federal Reserve's payments system. He reviews and comments on other reform proposals.

Burnham, James B. 1991. Deposit Insurance: The Case for the Narrow Bank. Cato Institute *Regulation* 14, no. 2:35–43.

The reform proposal discussed in this article is a proposal to limit federal insurance to "narrow banking," that is, to deposits invested solely in low-risk assets. The article details key features of a financial system with narrow banks and advances extensive arguments in favor of such reform. The author argues that the central issue is not the capacity of private financial institutions and their customers to make the necessary adjustments, but the ability of regulators and lawmakers to adjust their mind sets and policies. The author suggests what he believes is a practical and sensitive way to accomplish the twin goals of reducing taxpayer exposure and fostering a sounder, more competitive financial system.

Byrne, Alfred J. T. 1991. Safety and Soundness in Banking Reform: Implications for the Federal Deposit Insurer. *Washington University Law Quarterly* 69, no. 3:679–768.

Despite restrictions, banking organizations have been able to expand into new product and geographic areas to a limited extent. Even in the absence of statutory reform, such expansion can be expected to continue. In an effort to compete more effectively, banks will try to keep pace with developments in the marketplace. A carefully considered, cohesive reform policy is needed to provide a rational framework within which banks can expand more freely, subject to the safeguards necessary to ensure the continued stability of the banking system and to avoid unnecessary losses to the deposit insurance fund.

Cargill, Thomas F., and Thomas Mayer. 1992. U.S. Deposit Insurance Reform. *Contemporary Policy Issues* 10, no. 3:95–103.

In late 1991, Congress enacted a banking reform measure that (1) authorizes $70 billion of additional FDIC funding, (2) enhances bank regulation and supervision, and (3) adopts a "trip wire" system for increasingly severe regulation based on a bank's capital. In doing so, Congress rejected a number of key elements of a U.S. Treasury proposal submitted early in 1991, such as interstate banking and expanded bank powers. The author contends that the Treasury proposal failed to recognize that in the current financial environment, regulatory oversight is a poor substitute for market discipline. The authors review problems with the financial reform process and discuss the failure of the Treasury proposal to recognize these problems. They also review alternative approaches to deposit insurance reform.

Carns, Frederick S. 1989. Should the $100,000 Deposit Insurance Limit Be Changed? *FDIC Banking Review* 2, no. 1:11–19.

> In considering how to harness market forces to better control bank risk-taking, one often finds recommendations to alter the $100,000 statutory limit on deposit insurance coverage. The most common suggestion is to reduce the scope of coverage—and thus promote "depositor discipline"—either by lowering the dollar amount of coverage per deposit by or restricting coverage to particular classes of deposits. This article considers the merits of proposals to enhance market discipline by changing the statutory limit on deposit insurance coverage.

Carns, Frederick S., Arthur J. Murton, and Lynn A. Nejezchleb. 1989. No Free Lunch in Deposit Insurance Reform. In *The Financial Safety Net for Consumer Savings: Policy Options for the 1990s,* 51–59. Conference proceedings, Pace University.

> The authors briefly discuss two often overlooked considerations that bear on the potential cost and effectiveness of market-oriented reforms of deposit insurance. The first consideration is that banks provide a special intermediary function that may be impaired—at a cost to the economy—if reforms expose depositors to increased risk; and the second is that political and institutional forces can be important to the effectiveness of any deposit insurance scheme. If these forces are neglected in the design of deposit insurance reform, the new system may be considerably less effective and/or more costly to operate than the present system.

Dotsey, Michael, and Anatoli Kuprianov. 1990. Reforming Deposit Insurance: Lessons from the Savings and Loan Crisis. Federal Reserve Bank of Richmond *Economic Review* (March): 3–28.

> This article provides a detailed analysis of the savings and loan crisis. It concludes that deregulation was not the root cause of the savings and loan industry's financial difficulties; instead, the overly stringent limitations on the investment powers of thrifts can be blamed for the crisis. In other words, deregulation combined with lax supervision ultimately produced the crisis in the thrift industry. Moreover, without deposit insurance and the accompanying regulatory structure, the crisis could never have attained the dimensions it did. A meaningful reform of the regulatory system will require providing for the automatic and prompt closure of failing institutions. But just the opposite happened. Once the Federal Savings and Loan Insurance Corporation became insolvent, regulators faced competing incentives that interfered with an efficient resolution of thrift insolvencies. The suggestions for reform arise from an analysis of bankruptcy law as it applies to unregulated nonfinancial firms, which do not have access to the kinds of government guarantees provided by deposit insurance. Recommended changes include incentives to discourage depositors from funding insolvent institutions, together with a system of judicial oversight of bank and thrift failure-resolution proceedings similar to the oversight of legal bankruptcy proceedings established to deal with financially troubled firms.

Douglas, John L. 1992. Deposit Insurance Reform. *Wake Forest Law Review* 27, no. 1:11ff.

The cost of deposit insurance and the dissatisfaction with the administration of the deposit insurance system have prompted a widespread push for reform. Unfortunately, no uniformity or agreement exists as to the steps necessary to reform the deposit insurance system. This article briefly reviews the history of deposit insurance, its role within the U.S. financial system, and the prospects and proposals for reform. Finally, it suggests a framework within which to move forward.

Eisenbeis, Robert A. 1990. Restructuring Federal Deposit Insurance and the Federal Safety Net. Unpublished manuscript. Board of Governors of the Federal Reserve System.

This paper explores the premises of previous proposals for financial reform. It first discusses developments in financial markets and changes in transactions accounts and the role of banks. It then looks at the implications of these changes with regard to the manner in which the federal safety net protects the payments system. The last sections look at the deposit insurance component of the federal safety net; discuss flaws in the existing system that were revealed in the thrift crisis; and propose remedial reforms. Although the author does not fully discuss the functioning and operation of the discount window, he does raise issues concerning its operation.

Ely, Bert. 1990. *Making Deposit Insurance Safe through 100% Cross-Guarantees.* Ely and Company.

The author maintains that deposit insurance should be reformed. He believes that federal deposit insurance cannot be fixed, because it is inherently flawed. Deposit insurance can be reformed only by completely replacing federal deposit insurance with a sound private-sector insurance mechanism. According to the author, the 100 percent cross-guarantee concept is that mechanism; further, it is the only comprehensive and feasible reform proposal that has been offered in the growing debate over the future of deposit insurance.

Ely, Bert. 1991. The Narrow Bank: A Flawed Response to the Failings of Federal Deposit Insurance. Cato Institute *Regulation* 14, no. 2:44–52.

Narrow-banking proposals are a response to the increasing burden some feel federal deposit insurance is placing on taxpayers. This article focuses on the flaws of the narrow-bank concept and the ways in which the real problems facing taxpayers might be solved with marketplace incentives. In addition, the article examines three more-specific implications of narrow banking: the fragmentation that will arise from the small-bank exemption, a substantial reduction in banking offices, and an inefficient severing of the credit-granting and deposit-taking functions now performed by banks.

Ely, Bert, and Vicki A. Vanderhoff. 1991. Lessons Learned from the S&L Debacle: The Price of Failed Public Policy. Policy Report no. 108. Institute for Policy Innovation.

Bert Ely was one of the early predictors of the FSLIC bankruptcy, and in this report he and a colleague point to deposit insurance as the root of the S&L debacle. The authors examine the federal and state policies related to deposit insurance that contributed to the failures.

Ely, David P., and Richard R. Weaver. 1991. The Shifting Value of Federal Deposit Insurance: Implications for Reform. *Journal of Financial Services Research* 5, no. 2:111–30.

This article examines the relationship between the value of federal deposit insurance and bank size. The authors conclude that since 1981, the value of deposit insurance has often been greater for the largest bank holding companies. This differential is consistent with the notion that the largest banks have greater ability to circumvent regulatory and/or market discipline. The source of this differential appears to lie with less capital rather than greater asset risk. These results suggest that recent proposals to improve the deposit insurance system should be evaluated on the basis of their ability to effect even-handed discipline throughout the banking industry, eliminating and forestalling expansion of the large-institution bias.

England, Catherine. 1990. Federal Deposit Insurance: Should It Be Privatized? Honor Society of Phi Kappa Phi *National Forum* 10 no. 2:2–24.

The author believes that at the root of the S&L crisis is the federal deposit insurance system. She feels federal deposit insurance encourages risk-taking among depositors, bank managers, stockholders, and politicians. And though the problems created by federal guarantees have been most apparent in the unfolding savings and loan debacle, the same flaws also affect banks. Ultimately, correcting current problems and returning the financial industry to a more stable course will require turning from federal guarantees to the private sector.

Federal Deposit Insurance Corporation (FDIC). 1989. *Deposit Insurance for the Nineties: Meeting the Challenge: A Staff Study.* FDIC.

This report, issued just before passage of FIRREA, presents (1) the FDIC's view of the problems associated with the then-existing deposit insurance regime, and (2) the Corporation's recommendations for reform. Topics include (1) the feasibility of implementing a system of risk-based insurance premiums; (2) the need for strong and effective supervision, including enforcement of capital standards and appropriate closure rules; (3) supervisory forbearance and the questions of when and how much forbearance is appropriate; (4) issues related to alternative techniques for handling bank failures; and (5) the question of whether banks should be treated differently in failure situations depending on their size.

Field, William. 1989. Reforming Deposit Insurance: The Subordinated Debt Option. *American Business Review* 7, no. 1:57–62.

The author argues that the FDIC actually contributes to the rise in the bank failure rate. He considers possible reforms in deposit insurance to deal with increased risk-taking and a rising failure rate, including (1) a switch to private insurance; (2) the use by the FDIC of risk-based premiums; and (3) a requirement that banks issue subordinated debt. The author advocates the third proposal.

Golembe, Carter. 1989. Assessing Foreign Deposits, and Deposit Insurance Reform. *The Golembe Reports* 1989-4.

This report examines the question of whether U.S. banks with deposits outside of the country should pay insurance assessments on those foreign deposits. The first section examines why the foreign deposits of U.S. banks are not assessed and what magnitudes are involved. The second section discusses the pros and cons of assessing foreign deposits in terms of both actual deposit insurance programs and deposit insurance reform proposals.

Gonzalez, Henry B. 1991. Toward Deposit Insurance Reform. *Washington University Law Quarterly* 69, no. 3:665–78.

This article outlines proposals for deposit insurance reform. The author thinks reform is necessary, since deposit insurance coverage has been extended—primarily through regulatory actions or decisions—to almost every deposit for almost any amount. Multimillion-dollar accounts are protected as if the insurance coverage "passes through" to recipients. Amounts over $100,000 are regularly protected when insolvent institutions are resolved, despite the clear language of the law passed in 1980 that limits coverage to $100,000. In fact, studies by the House Banking Committee have shown that more than 99 percent of all deposits in failed banks, including those over $100,000, have been covered by the FDIC. The sole exception provided for by statute, when a particular institution's deposit services are "essential to its community," has been turned on its head.

Independent Bankers Association of America. 1989. *Study of Consumer Reaction to Changes in Federal Deposit Insurance*. Market Facts.

As part of a larger study of possible regulatory changes, the Independent Bankers Association of America retained the services of Market Facts, Inc., to conduct a telephone survey of consumers who have accounts with depository institutions to determine how consumers view deposit insurance, what their reactions are to the proposal for reducing the ceiling for insured deposits, and what their reactions are to sharing the loss if an institution fails. The survey was conducted among a nationally representative sample of adults 18 and over who have a savings, checking, or money-market account, or an IRA or CD, with a bank, savings and loan, or credit union. To provide a large enough sample of respondents with large deposits ($50,000+), the national probability interviews were supplemented with a sample of higher-income respondents (household income of $50,000+).

John, Kose, Teresa A. John, and Lemma W. Senbet. 1991. Risk-Shifting Incentives of Depository Institutions: A New Perspective on Federal Deposit Insurance Reform. *Journal of Banking and Finance* 15, no. 4–5:895–915.

The authors characterize the risk-shifting incentives of a depository institution as arising fundamentally from the existence of limited liability and the associated convex payoff to equity-holders. This risk incentive feature is unchanged by deposits being insured, and hence excessive risk-taking by depository institutions is not solely attributable to the flat rate insurance premium. Consequently, the incentive problem cannot be resolved through a risk-based insurance premium, contrary to the prevailing view. The authors propose a solution that eliminates risk-shifting through an optimal tax structure and specify a corresponding insurance premium that is revenue neutral from the social planner's (regulator's) standpoint. The solution is derived in the context of a social objective function that trades off the benefits of liquidity services by banks and the unique informational role of bank loans with the costs of investment distortions engendered by risk-shifting. (©1999 EconLit)

Jones, DuPre. 1990. Debate over Deposit Insurance Reform Heats Up. *Office of Thrift Supervision Journal* 20, no. 2:21–25.

The thrift crisis in the 1980s prompted one of the most significant banking and thrift regulatory reform packages since the Great Depression. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) set new accounting, investment, and solvency standards for thrifts and increased the supervisory enforcement powers of the regulators, but did not attempt to address the question of deposit insurance. A central catalyst of the thrift crisis, many believe, was the entrepreneurial subversion of deposit insurance from safety net to all-purpose guarantee. Congress and the administration are studying the question of deposit insurance and the extent of federal coverage of deposit accounts. This article contains comments on deposit insurance reform by industry leaders and lobbyists, legislators, regulators, citizens' groups, and economic theorists.

Kareken, John H. 1990. Deposit Insurance Reform: Or, Deregulation Is the Cart, Not the Horse. Federal Reserve Bank of Minneapolis *Quarterly Review* (winter): 3–11.

With the intention of ensuring fair competition, Congress has managed, directly and indirectly, a significant deregulation of U.S. commercial banks and savings and loan associations. Historically U.S. banks have been limited in what they could pay depositors. However, with the advent of money-market accounts and Super-NOW accounts, they have much more freedom. But despite significant deregulation, Congress has yet to make a start at changing the U.S. deposit insurance scheme. If the objective of government-provided insurance for bank depositors is to prevent bank runs, then a radical alternative to the scheme is essential for deregulation to be effective. Suggested alternatives include (1) assessing an insurance premium that depends on the risk of default; (2) doing without government-provided insurance for bank depositors; (3) making banks hold 100 percent reserves in the absence of government-provided insurance; and (4) requiring banks to value their assets continuously at market prices.

Kaufman, George G. 1990. Make FDIC Insurance Redundant. *Challenge* 33, no. 1:13–17.

The commercial banking system is far healthier than the thrift industry system, but it is not healthy enough to withstand shocks comparable to those that shook the thrift industry in the 1980s. The Shadow Financial Regulatory Committee favors more timely mandatory recapitalization of insufficiently capitalized banks before they have exhausted their capital and have become so economically insolvent that they cannot repay depositors in full and on time. In addition, the Committee explains that since the most fundamental problem in the banking industry is the structure of federal deposit insurance, any effort to strengthen the banking industry should be pointed in that direction. The way to improve the deposit insurance system is to require banks to hold higher capital ratios and to progressively reduce banks' capital-asset ratio. When the bank's capital ratio declines to some low but positive number, mandatory recapitalization by present or new owners should be required.

Kaufman, George G., ed. 1990. *Restructuring the American Financial System.* Kluwer Academic Publishers.

In this collection of articles, the topics and authors are as follows: "Purpose and Operation of the Shadow Financial Regulatory Committee," by George G. Kaufman; "Guaranty of Deposits under the Banking Act of 1933," by Guy Emerson; "Restructuring Banking: The Shadow Financial Regulatory Committee's Program for Banking Reform," by Robert A. Eisenbeis; "Market-Value Accounting by Banks: Benefits, Costs, and Incentives," by George J. Benston; "The Savings and Loan Rescue of 1989: Causes and Perspectives," by George G. Kaufman; "Never Again: The S&L Bailout Bill," by Kenneth E. Scott; "The Collapse of the Texas Thrift Industry: Causes of the Problem and Implications for Reform," by Paul M. Horvitz; "Defective Regulatory Incentives and the Bush Initiative," by Edward J. Kane; "The Need for Timely and Accurate Measures of Federal Deposit Insurers' Net Reserves Position," by Edward J. Kane; and "Regulatory Reform of Securities and Futures Markets: Two Years after the Crash," by Franklin R. Edwards.

Keeley, Michael C. 1989. Reforming Deposit Insurance. Federal Reserve Bank of San Francisco *Weekly Letter* (April 21).

This *Letter* evaluates ways to reform the deposit insurance and regulatory systems to eliminate moral hazard. Such reform is vital to ensure that problems similar to those in the 1980s do not recur.

Keeton, William R. 1991. The Treasury Plan for Banking Reform. Federal Reserve Bank of Kansas City *Economic Review* 76, no. 3:5–24.

Problems in the banking industry prompted Congress to order the Treasury Department to undertake a comprehensive study of banking reform. The Treasury study, completed in February 1991, has become the focus of an intense debate.

The Treasury plan has two parts. One part would reform deposit insurance by varying deposit insurance premiums with risk, by reducing coverage, and by enforcing capital requirements more strictly. The second part would restructure the financial system by indirectly allowing full interstate banking. According to Treasury, both sets of reforms are needed—the deposit insurance reforms to protect the taxpayer and allocate credit more efficiently, and the restructuring proposal to protect the taxpayer and restore the long-run health of the banking industry. The author argues that the Treasury plan contains a number of useful proposals but is too cautious in some respects and too bold in others. He reviews the Treasury's justification for reform and examines the department's proposals.

Klebaner, Benjamin J. 1991. Banking Reform in the New Deal Era. *Banca Nazionale del Lavoro Quarterly Review* no. 178 (September): 319–41.

Despite the collapse of American banking in the early 1930s and Roosevelt's dislike of bankers, the New Deal did not overhaul the system. Deposit insurance and capital infusions from federal funds revived small local banks' prospects. Yet another agency to supervise commercial banks was added while state bank membership in the Federal Reserve remained optional; branching policy continued to be left to the states. Banking Acts of 1933 and 1935 bequeathed a significant agenda for the 1990s: to undo Glass-Steagall's ban on bank underwriting of securities, authorize nationwide banking, reform deposit insurance, and decrease federal loans and loan guarantees. (©1999 EconLit)

Kuprianov, Anatoli, and David L. Mengle. 1989. The Future of Deposit Insurance: An Analysis of the Alternatives. Federal Reserve Bank of Richmond *Economic Review* 75, no. 3:3–15.

Deposit insurance, while reducing the threat of bank runs, also lessens bankers' incentives to control risks. Reforms of the deposit insurance system are necessary to discourage excessive risk-taking such as characterized the recent S&L crisis. The adoption of market value accounting, early closing of failed banks, and exposing uninsured depositors and creditors to losses--all would give bankers less incentives to take excessive risks with insured deposits. (©1999 EconLit)

Kwast, Myron L. 1991. The Role of Empirical Research in Deposit Insurance Reform: Views of One Caught in the Middle. In *Proceedings of the American Statistical Association (AMSTAT) Annual Meetings: Business and Economic Statistics*, 29–38. AMSTAT. [Followed by comments by Gregory F. Udell.]

This paper is concerned with the process by which empirical results are communicated to economic policymakers, and it uses the debate over deposit insurance reform as a case study. The author proposes ten rules, or guidelines, to improve the way empirical results are communicated to policymakers.

LeRoy, Stephen F. 1990. Mutual Deposit Insurance. Federal Reserve Bank of San Francisco *Weekly Letter* (June 8).

To contribute to the debate about the best way to reform the deposit insurance system, this *Letter* briefly describes a variety of proposals and then offers one that has not received much attention, namely, replacing government-sponsored insurance with a mutual insurance program in which banks and thrifts monitor one another's loans and incentives and guarantee one another's deposits.

Levonian, Mark E. 1991. Deposit Insurance: Recapitalize or Reform. Federal Reserve Bank of San Francisco *Weekly Letter*, no. 91-36.

In 1991, Congress considered two deposit insurance reform proposals: First, pump more money into the Bank Insurance Fund (BIF) in the short run to "recapitalize" the fund, and second, undertake a more fundamental overhaul or "reform" of the U.S. deposit insurance system. The author argues that both recapitalization and reform are appropriate solutions, but to two different types of financial problems. Determining the relative merits of the solutions therefore requires a thorough understanding of the BIF's current difficulties.

Levonian, Mark E., and Paul P. Cheng. 1991. Changing the $100,000 Deposit Insurance Limit. Federal Reserve Bank of San Francisco *Weekly Letter*, no. 91-19.

This *Letter* argues that FDIC treatment of failed banks would make changes in the coverage limit more symbolic than effective. Such changes would introduce little additional discipline, and small banks and their depositors would bear a disproportionate burden. Moreover, even if depositor discipline could be introduced through a reduction in coverage, it probably is undesirable. Hence, although market discipline in banking is a worthy goal, deposit markets may be the wrong place to seek that discipline.

Macey, Jonathan R., and Geoffrey P. Miller. 1991. Toward Enhanced Consumer Choice in Banking: Uninsured Deposit Facilities as Financial Intermediaries for the 1990s. In *Annual Survey of American Law* 1991, no. 3:865–99. School of Law, New York University.

The authors argue that the banking industry cannot easily sustain the costs of backward-looking regulations, especially given the existence of powerful nonbank competitors not subject to similar regulatory burdens. The burdens of the regulatory system, moreover, fall disproportionately on consumers who have the least flexibility in structuring their financial affairs so as to avoid the increasingly uneconomic banking system. The authors propose a simple reform designed to remedy some, but not all, of these problems: the establishment of uninsured depository facilities—or, to use a more convenient if less exact terminology, consumer-choice banks.

Meigs, A. James, and John C. Goodman. 1990. Federal Deposit Insurance: The Case for Radical Reform. Policy Report no. 155. National Center for Policy Analysis.

The authors use historical examples of deposit insurance failure to support their point that "no deposit insurance scheme has ever been successful over a long period of time." The paper includes a list of the steps necessary to eliminate deposit insurance.

Mester, Loretta J. 1992. Curing Our Ailing Deposit-Insurance System. In *Bank Management and Regulation: A Book of Readings*, edited by Anthony Saunders, Gregory F. Udell, and Lawrence J. White. Mayfield. Also 1990. Curing Our Ailing Deposit-Insurance System. Federal Reserve Bank of Philadelphia *Business Review* (September/October): 13–24.

The savings and loan debacle brought to light the problems with the U.S. system of federal deposit insurance. The Treasury Department is studying these problems, and regulators, trade groups, and private economists have offered their own proposals for reforming the system. The more radical proposals suggest taking deposit insurance out of the federal government and putting it in the hands of private insurers. The other proposals, however, focus on the fundamental flaws of the system and on what can be done to repair it. The author describes (1) the goals of deposit insurance; (2) the history of deposit insurance; (3) problems with the current system; and (4) proposals from seven banking organizations concerning deposit insurance reform.

Nadler, Paul S. 1991. Where Is Banking Headed? *Journal of Cash Management* 11, no. 6:17–22.

The author describes the changes he thinks the banking industry will undergo in the 1990s. He explains why legislative and regulatory changes will affect the too-big-to-fail doctrine, the McFadden Act, and the Glass–Steagall Act. He predicts that the banking industry will probably be broader in scope than the industry that experienced crises in the late 1980s and early 1990s, with a few large national banks, a large number of independent community banks, and a few strong regional banks, all with broad powers.

Nakamura, Leonard I. 1990. Reforming Deposit Insurance When Banks Conduct Loan Workouts and Runs Are Possible. Working Paper no. 90-30. Federal Reserve Bank of Philadelphia.

The author addresses the problem of how to regulate banks when bank runs may occur, given that banks are "special" because they conduct loan workouts. In the paper, banks partially solve one information-based problem: improving the incentives of borrowers. However, banks in turn create an information-based problem: runs become possible. Moreover, stopping runs through deposit insurance fails to take into consideration the incentive problems faced by the bank. In conclusion, deposit insurance does not create an incentive problem but fails to cure it.

Neuberger, Jonathan A. 1989. FIRREA and Deposit Insurance Reform. Federal Reserve Bank of San Francisco *Weekly Letter* (December 1).

The author analyzes key provisions of FIRREA and finds that although the law takes a number of positive steps to deal with the thrift crisis, it contains elements of forbearance that invite further growth in the number of claims on the deposit insurance funds. Perhaps more important, FIRREA does not address the flawed incentive structure of the deposit insurance system. Additional reforms, therefore, will be necessary if future problems are to be avoided.

O'Driscoll, Gerald P. Jr. 1990. Banking Reform. Research Paper no. 9004. Federal Reserve Bank of Dallas.

The author examines the thrift crisis and banking-system problems. He also examines proposed remedies and explains deposit insurance and its role in the debacle, noting that deposit insurance "is one American idea that should be discarded, not imitated." A significant portion of the paper is devoted to the topic of deposit insurance reform.

Petri, Thomas E., and Bert Ely. 1992. Real Taxpayer Protection: Sound Deposit Insurance through Cross-Guarantees. Heritage Foundation *Policy Review* 60:25–29.

The authors propose replacing federal deposit insurance with a new form of protection because the FDIC will never be able to charge accurate risk-based premiums. The authors suggest that a 100 percent cross-guarantee system would (1) end all taxpayer risk in deposit insurance while fully guaranteeing all bank and thrift deposits; (2) lead to wiser credit allocation that would ensure effective use of U.S. savings; and (3) promote a more efficient banking system.

Sczudlo, Raymond S. 1990. FIRREA: A First Step on the Road to Reform. *Bankers Magazine* 173, no. 6:12–16.

FIRREA was designed to overhaul the regulatory structure of the U.S. savings and loan industry and to provide funding to close hundreds of insolvent thrifts. Two of FIRREA's stated purposes were to promote a safe and stable system of affordable housing finance and to improve the supervision of S&L associations by strengthening capital, accounting, and other supervisory standards. Yet despite progress with the S&L situation, there have been setbacks, including the ever-increasing cost of the cleanup. And as radical as some of FIRREA's measures were, lawmakers recognized that the need to stem the S&L crisis took priority and that consideration of many long-standing proposals for financial services reform would have to be deferred—proposals that dealt with deposit insurance reform, the concept of the narrow bank, proposals for functional regulation, expanded powers, the Corrigan Proposal, and so forth.

The Secura Group. 1989. Deposit Insurance Reform: A Framework for Analysis. Paper prepared for the Association of Reserve City Bankers.

This paper offers a framework for analyzing proposals to reform the deposit insurance system and addresses four questions: (1) What are, or were, the public-

policy objectives of deposit insurance? (2) How have the insurance agencies approached their task; what kind of system has evolved; and how, if at all, has it fallen short of serving its objectives? (3) What proposals have been made to reform or significantly alter the present deposit insurance system? (4) How do the various proposals address problems that have been identified, and what is their relevance to broader banking issues?

Shaffer, Sherrill. 1991. Aggregate Deposit Insurance Funding and Taxpayer Bailouts. *Journal of Banking and Finance* 15, no. 4–5:1019–1037.

Past events have focused attention on the fragility of the federal deposit insurance funds and have led many policymakers to pursue actively the goal of redesigning the insurance systems. This article explores the implications of different rate structures for the long-term solvency of the funds, using two simulation techniques based on historical loss distributions. Three findings stand out: (1) under the former 8.33 bp premium rate as well as under the 15 bp premium rate mandated as the new long-run target or default premium rate, the probability that the funds could become insolvent over a given 55-year period is higher than previously recognized; (2) raising the effective cap on the funds to as low as 2.5 percent of deposits can substantially reduce the probability of insolvency without further increasing the premium rate; and (3) the anticipated temporary 1991 premium rate of 19.5 bp implies a quite low probability of insolvency.

Short, Genie D., and Kenneth J. Robinson. 1990. Deposit Insurance Reform in the Post-FIRREA Environment: Lessons from the Texas Deposit Market. Financial Industry Working Paper no. 90-7. Federal Reserve Bank of Dallas.

This paper offers evidence from the experience of the Texas financial industry during the 1980s to underscore the need for more fundamental financial reform. The high concentration of asset-quality problems at the Texas institutions, together with the unique characteristics that emerged in the Texas deposit markets, indicated that broad-based reform of the current system of federal safety nets was needed. The proposed reforms address the problems of excessive risk-taking that contributed to the deterioration of U.S. banks and thrifts during the 1980s.

Stern School of Business. 1991. [Papers presented at] Conference on Deposit Insurance Reform, May 17. Salomon Center, New York University.

Conference papers and presenters include the following: "Deposit Insurance Reform: What Are the Issues and What Needs to Be Fixed?" by Mitchell Berlin, Anthony Saunders, and Gregory F. Udell; "The Limitations of Market Value Accounting and a More Realistic Alternative," by Allen N. Berger, Kathleen Kuester King, and James M. O'Brien; "A Framework for Assessing Credit Risk in Depository Institutions: Toward Regulatory Reform," by Robert S. Chirinko and Gene D. Guill; "Capital Controls and Bank Risk," by Gerard Gennotte and David Pyle; "Aggregate Deposit Insurance Funding and Taxpayer Bailouts," by Sherrill Shaffer; "Off-Balance-Sheet Liabilities, Deposit Insurance, and Capital

Regulations," by Arnoud W. A. Boot and Anjan Thakor; "Risk-Based Capital and Deposit Insurance Reform," by Robert B. Avery and Allen N. Berger; "Risk-Weights, Risk-Based Capital and Deposit Insurance," by Michael G. Bradley, Carol A. Wambeke, and David A. Whidbee; "Risk-Shifting Incentives of Depository Institutions: A New Perspective on Federal Deposit Insurance Reform," by Kose John, Teresa A. John, and Lemma Senbet; "The Effects of Closure Policies on Bank Risk-Taking," by Sally M. Davies and Douglas A. McManus; "The Effect of Subordinated Debt and Surety Bonds on the Cost of Capital for Banks and the Value of Federal Deposit Insurance," by William P. Osterberg and James B. Thomson; "Market-Based Risk-Adjusted Examination Schedules for Depository Institutions," by Kathleen Kuester King and James M. O'Brien; "Pricing Deposit Insurance When the Insurer Measures Bank Risk with Error," by Mark J. Flannery; "A Simple Approach to Better Deposit Insurance Pricing," by Sarah B. Kendall and Mark E. Levonian; and "Aggregate Deposit Insurance Funding and Taxpayer Bailouts," by Sherrill Shaffer.

Thomson, James B. 1989. Economic Principles and Deposit Insurance Reform. Federal Reserve Bank of Cleveland *Economic Commentary* (May 15).

The system of federal deposit insurance subsidizes risk-taking by depository institutions and therefore increases failure-resolution costs and decreases efficiency for the entire financial system. Reforms to the deposit insurance system should consider both the policy objectives of deposit guarantees and the attendant economic consequences and costs.

Thomson, James B. 1990. Using Market Incentives to Reform Bank Regulation and Federal Deposit Insurance. Federal Reserve Bank of Cleveland *Economic Review* 26, no. 1:28–40.

The author believes the system of bank regulation and federal deposit insurance is not working and requires a massive overhaul. This article looks at the issues involved in reforming the regulatory structure of the financial-services industry, including the issue of the financial safety net, and presents the case for adopting market-oriented reforms.

Thomson, James B. 1993. A Market-Based Approach to Reforming Bank Regulation and Federal Deposit Insurance. In *Research in Financial Services: Private and Public Policy: 1992,* vol. 4, edited by George G. Kaufman, 93–109. JAI Press.

This article reviews the proposals for market-oriented reform and provides an overview of how one would structure a market-based system of financial regulation. Section I proposes a market-based system of financial regulation. Section II proposes reforms to the regulatory infrastructure. Section III presents the author's conclusions.

U.S. Congressional Budget Office (CBO). 1990. *Reforming Federal Deposit Insurance.* CBO.

Requested by the House Banking Committee, this study analyzes a wide range of strategies that had been proposed to reform the existing (1990) deposit insurance system. The authors propose to transfer and control risk by strengthening capital and enhancing supervision, so as to contain moral hazard and reduce the exposure of taxpayers. Strengthening capital requirements can mean any or all of the following: increasing the amount of capital an institution must hold, making the closure rule more explicit with regard to a minimum level of capital, and assigning risk-based capital requirements. Enhancing supervision can mean improving regulatory practices or placing greater reliance on market forces or both.

U.S. Congressional Budget Office (CBO). 1991. Budgetary Treatment of Deposit Insurance: A Framework for Reform. CBO.

The Omnibus Budget Reconciliation Act of 1990 directed the Congressional Budget Office (CBO) to "study whether the accounting for federal deposit insurance programs should be on a cash basis, on the same basis as loan guarantees, or on a different basis." The CBO's study states that the FSLIC's budgetary treatment did not give timely warning and thus contributed to the S&L disaster. The government needs to be able to recognize events as they occur, to prevent disasters from building up. The CBO does not recommend policy action but presents options. This report discusses several options in detail: maintain current policy, create an account for working capital, link accrued deficits to fee adjustments, transform insurance funds into government-sponsored enterprises, or recognize past losses. Many tables and charts are included. One table reflects net outlays for federal deposit insurance from 1977 to 1996 for banks, thrifts, and credit unions. Other tables represent total deficit with and without deposit insurance for 1975–1996; effective insurance premiums for deposit insurance funds 1970–1989; and annual budgetary resources for deposit insurance 1986–1992.

U.S. General Accounting Office (GAO). 1991. *Deposit Insurance: A Strategy for Reform*. GGD-91-26. GAO.

In keeping with a legislative requirement, the GAO reviewed issues associated with reforming the federal deposit insurance system, focusing on whether such reforms would result in a safer, sounder, and more stable banking industry. The GAO presented a comprehensive three-part reform program that could change the way banks are regulated and supervised as well as the way the deposit insurance system functions. The program deals with (1) strengthening supervision, bank internal controls, and financial reporting requirements so that regulators can more effectively protect the Bank Insurance Fund (BIF) from losses; (2) changing economic incentives (through strengthened capital requirements, risk-based premiums, and other means) to ensure that owners, managers, and creditors bear most of the bank failure costs; and (3) updating the bank holding company

structure and regulation to reduce risks to the banking system and to modernize the financial system if Congress should wish to expand the powers of banks and other financial institutions.

U.S. House. 1990a. Committee on Banking, Finance, and Urban Affairs. *Deposit Insurance Reform: Hearing.* 101st Cong., 2d sess., February 21.

Witnesses include Charles Bowsher and William Seidman.

U.S. House. 1990b. Committee on Banking, Finance, and Urban Affairs. *Deposit Insurance Reform: Hearing*. 101st Cong., 2d sess., September 13, 19, 25, and 26.

Witnesses include Alan Greenspan, Carroll Hubbard, Gerald Kleczka, William Lehman, Stan Parris, Charles Schumer, Richard Fogel, William Seidman, and Robert Reischauer.

U.S. House. 1991a. Committee on Banking, Finance, and Urban Affairs. *Deposit Insurance Reform: Hearing*. 102d Cong., 1st sess., February 27.

Witness is Nicholas Brady.

U.S. House. 1991b. Committee on Banking, Finance, and Urban Affairs. *Core Banking Proposals: Hearing*. 102d Cong., 1st sess., June 18.

Witnesses include Thomas L. Ashley, Lowell Bryan, Timothy Hartman, Jerome Powell, and William Seidman.

U.S. Senate. 1990a. Committee on Banking, Housing, and Urban Affairs. *Deposit Insurance Reform and Financial Modernization, Hearing 101-973,* 101st Cong., 2d sess. Vol. 1 (April 3, 18, 24, and 26).

The issues discussed include reforming federal deposit insurance, modernizing the regulation of financial services, and maintaining the international competitiveness of U.S. financial institutions. Witnesses include Robert F. Downey, Thomas G. Labrecque, Sherry Ettleson, Peggy Miller, Jane Uebelhoer, Kenneth Whipple, Philip Vallandingham, David Silver, Norman Flynn, Stephen Friedman, and William V. Irons.

U.S. Senate. 1990b. Committee on Banking, Housing, and Urban Affairs. *Deposit Insurance Reform and Financial Modernization, Hearing 101-973,* 101st Cong., 2d sess. Vol. 2 (May 3, 17, 22; June 13, 20).

Issues discussed include reforming federal deposit insurance, modernizing the regulation of financial services, and maintaining the international competitiveness of U.S. financial institutions. Witnesses include E. Gerald Corrigan, Lawrence Connell, Bert Ely, Kenneth Scott, James Barth, Lowell L. Bryan, George G. Kaufman, Peter Leslie, Ulrich Cartellieri, Toru Kusukawa, W. Peter Cooke, Jeffery S. Chisholm, and David D. Hale.

U.S. Senate. 1990c. Committee on Banking, Housing, and Urban Affairs. *Deposit Insurance Reform and Financial Modernization, Hearing 101-973,* 101st Cong., 2d sess. Vol. 3 (July 12, 19, 25, 31).

Issues discussed include reforming federal deposit insurance, modernizing the regulation of financial services, and maintaining the international competitiveness of U.S. financial institutions. Witnesses include Alan Greenspan, Richard C. Breeden, Nicholas F. Brady, L. William Seidmian, and Robert Clarke.

U.S. Treasury Department. 1991. *Modernizing the Financial System: Recommendations for Safer, More Competitive Banks*. U.S. Treasury Department.

This report finds that the federal safety net has been overextended and that taxpayers are exposed to substantial losses through federal deposit insurance. The government can and should place prudent limits on taxpayer exposure by returning the scope of deposit insurance to its historical purpose—protecting small, unsophisticated savers. The most effective way to minimize taxpayer exposure is with a strong, competitive, well-capitalized banking system. This report examines the problems with the deposit insurance system; it also examines possible reforms, including streamlining the regulatory system, reducing overextended insurance coverage, and restoring competitiveness.

Wall, Larry D. 1989. A Plan for Reducing Future Deposit Insurance Losses: Puttable Subordinated Debt. Federal Reserve Bank of Atlanta *Economic Review* 74, no. 4:2–17.

The author presents a market-oriented approach—issuing bonds redeemable at the holder's request—to reduce taxpayers' exposure to the costs of future bank failures while retaining deposit insurance.

Wallison, Peter J. 1990. *Back from the Brink: A Practical Plan for Privatizing Deposit Insurance and Strengthening Our Banks and Thrifts*. American Enterprise Institute.

The author feels that the S&L crisis seems likely to produce the greatest government financial loss in the history of the United States. The central causes of this debacle, according to the author, lie in the decision to substitute government regulation for the discipline of the market. The author proposes to correct this mistake by introducing market incentives: a private system of deposit guarantees, supported by risk-based deposit insurance premiums and backed by the enormous capital of the banking system itself. Decisions to close insolvent banks and S&Ls would become market judgments, driven by market signals, rather than the judgment of a government administrator. The book not only explains the proposal but also presents tables detailing how the plan would work and showing the feasibility of risk-related deposit insurance.

Wells, F. Jean. 1989. Banks and Thrifts: Restructuring and Solvency. Congressional Research Service *Issue Brief* no. 1B89002.

The author briefly reviews the policy issues involved in the proposals for strengthening the deposit insurance funds.

Wheelock, David C. 1992. Government Policy and Banking Instability: "Overbanking" in the 1920s. Working Paper no. 92-007A. Federal Reserve Bank of St. Louis.

Excess capacity, or "overbanking," was cited by contemporaries as the leading cause of bank failure during the 1920's. Many states that had high numbers of banks per capita in 1920 had high bank failure rates subsequently. This article finds that the number of banks per capita was highest in states that provided deposit insurance, set low minimum capital requirements, and restricted branching. Banks per capita declined the most over the 1920's in states where branching expanded, and in those suffering high failure rates because of falling incomes or instability caused by deposit insurance. Deposit insurance and the relative dominance of agriculture also explain the composition of state banking systems between state and federally chartered institutions. (©1999 EconLit)

White, Lawrence J. 1989. The Reform of Federal Deposit Insurance. *Journal of Economic Perspectives* 3, no. 4:11–29. Also 1995. The Reform of Federal Deposit Insurance. In *Financial Intermediaries*, edited by Mervyn K. Lewis. International Library of Critical Writings in Economics, vol. 43. Edward Elgar Publishing.

This article reviews the deposit insurance system and advocates a set of necessary reforms. Suggestions include risk-based deposit insurance, the option of co-insurance, limits on the amount of insurance available, easier cancellation of insurance, and increased penalties for bank misconduct.

White, Lawrence J. 1990a. Problems with the FSLIC: A Former Policy Maker's View. *Contemporary Policy Issues* 8, no. 2:62–81.

The 1980s were searing for both the thrift industry and its regulators. The author points out that much has been learned, and remedial measures either have been put into place or are in process. However, four major regulatory changes are still necessary to improve the efficacy and efficiency of the thrift regulatory system. Only one—higher net-worth levels, based on the risks embedded in a thrift's portfolio—has achieved wide acceptance within the policy community. The other three—requiring market-value accounting and reporting by thrifts, instituting a system of risk-based premiums, and strengthening the regulator's power to intervene earlier and take control of an errant thrift—languish since they are still considered too controversial and/or too hard to implement. The proper task of public-policy is to find the right balance for a financial services sector that is competitive and efficient but does not impose undue risk or cost on the deposit insurer.

White, Lawrence J. 1990b. Reforming Regulation and Insurance. *Journal of Retail Banking* 12, no. 3:31–42.

Although some blame the deposit insurance system for the savings and loan association crisis, the author explains why the cause of the problem was the creation in the early 1980s of a specific set of opportunities, capabilities, and incentives for risk-taking by thrifts, reinforced by a set of federal policy actions that weakened the safety-and-soundness regulatory system. The author proposes

a set of recommendations for the fundamental reform of bank and thrift regulation and of the deposit insurance system. The recommendations call for, among other things, (1) market-value accounting; (2) realistic risk-based net-worth requirements based on a portfolio, rather than an asset-by-asset concept of risk; (3) risk-related insurance premiums; (4) extended coverage of deposit insurance to include all deposit obligations of insured depositories; and (5) prompt disposal of institutions that are insolvent or close to insolvency.

White, Lawrence J. 1992a. Change and Turmoil in U.S. Banking: Causes, Consequences, and Lessons. Working Paper no. S-92-23. Salomon Center, New York University.

This paper proceeds as follows: Section II analyzes the special characteristics of banks that have caused them to attract political attention and to be heavily regulated in the U.S. Section III explores the reasons for the four decades of banking tranquility that preceded the turmoil of the 1980s and then highlights the changes of the 1970s and early 1980s that led to the turmoil. Section IV describes the current state of change and turmoil in American banking. Section V discusses the prospects for continued turmoil for banking in the 1990s. Section VI analyzes three alternative "visions" of reform of U.S. deposit insurance and bank regulation. And Section VII draws the conclusions from this study of the recent U.S. Experience. (©1999 EconLit)

White, Lawrence J. 1992b. What Should Banks Really Do? *Contemporary Policy Issues* 10, no. 3:104–12.

With banking in turmoil, a new formula for bank structure and activities, for deposit insurance, and for bank regulation is necessary. This paper reviews the dilemmas of the then present structure of banking in the United States and explains how the banking sector arrived at its state of crisis. The author then suggests three alternative formulas, along with their advantages and disadvantages, that could provide the future framework for banking, deposit insurance, and regulation. (©1999 EconLit)

Whitesell, William E. 1991. Deposit Insurance, Reforms, and the Savings and Loan Crisis. In *Pennsylvania Economic Association: Proceedings of the Sixth Annual Meeting, May 23-25*, edited by Stanley G. Long. University of Pittsburgh.

The United States has faced a number of financial difficulties. This paper considers one of them—the savings and loan crisis. The author focuses principally on regulation and deregulation in the industry, deposit insurance, and the role of each in contributing to the failure of so many S&Ls. The author's goal is to help dispel some of the misunderstanding about elemental causes of banking sector problems.

Woodward, Thomas G. 1989a. The Economics of Deposit Insurance. Report for Congress no. 89-32E. Congressional Research Service.

This paper seeks to reassess deposit insurance in light of costs to the economy. The author reviews the benefits, costs, and economics of reforming the deposit insurance system.

Woodward, Thomas G. 1989b. The Dilemma of Deposit Insurance. Congressional Research Service *Review* (October): 6–7.

The author discusses the rationale for deposit insurance and the problem that bank runs on insolvent institutions create. To remedy the problems associated with deposit insurance, the author discusses changes imposed by FIRREA that include strengthening capital requirements and restructuring the bank insurance funds.

Woodward, Thomas G. 1990. Deposit Insurance Reform: Evaluating the Proposals. Report for Congress (August 27). Congressional Research Service.

Having absorbed between $100 billion and $200 billion in losses as a result of insuring deposits at insolvent savings and loan institutions, the federal government is reexamining its deposit insurance system. This report examines the principal competing proposals. Limitations on the benefits provided by deposit insurance could reintroduce discipline at the margin. Some macroeconomic stability would be lost under these reforms, however, and—more important—they are highly interdependent. Some would do little by the way of reform without the adoption of others. In particular, the too-big-to-fail problem affects most of the proposals. Finding a workable solution to the too-big-to-fail problem is critical if limitations on insurance benefits are to work.

Woodward, Thomas G. 1991. Long-Term Deposit Insurance Reform Options. Congressional Research Service *Review* 12, no. 5/6:3–4.

Losses to the government's deposit insurance systems seem to indicate a need for reform. The author discusses three ideas: (1) proposals to impose more depositor discipline on the system; (2) proposals to alter the incentives faced by owners and managers of banks and thrifts; and (3) reforms to change the way the government deals with troubled institutions. The trick is to balance the goal of macroeconomic stability against that of microeconomic efficiency.

## 11. Deposit Insurance Reform in the United States: Post-FDICIA

***Entries in this section were published after passage of the FDICIA reform legislation in December 1991. They include overviews of the law; periodic assessments of its application and effectiveness, weaknesses and shortcomings, and effect on bank operations and incentive structures; discussions of continuing problems with bank regulation and deposit insurance; and recommendations for additional reforms.***

American Bankers Association (ABA). 1991. *Summary Overview of the Federal Deposit Insurance Corporation Improvement Act of 1991.* Gibson, Dunn and Crutcher.

This overview of FDICIA outlines the principal provisions that are likely to interest members of the American Bankers Association and that the ABA supported, including recapitalization of the Bank Insurance Fund, limits on the too-big-to-fail doctrine, and improvements in FIRREA's requirements for using licensed and certified appraisers.

American Conference Institute. 1993. *From FDICIA to Now: The Winds of Regulatory Change*. Proceedings of the October 21 and 22 conference. American Conference Institute.

The papers presented at the conference include "Mortgage Loan Discrimination," by Paul Hancock; "Pending FDICIA Proposal on Safety and Soundness to Take Flexible Approach," by Paul Allan Schott; "Notice of Proposed Rulemaking for Safety and Soundness Standards," by Patrick S. Antrim; "Annual Reporting, Audit Committee, and Independent Audit Requirements of Section 112 of FDICIA," by Harris Weinstein and Susan A. Maxson; "Antitrust Analysis of Bank Mergers: Recent Developments," by Terry Calvani and W. Todd Miller; "Bank Holding Company Mergers and Acquisitions," by Stuart C. Stock; "OTS Enforcement Powers," by Carolyn B. Lieberman; "Criminal And Civil Enforcement after FDICIA," by Robert B. Serino; "Recent Enforcement Actions and Related Issues," by Herbert A. Biern; "Interstate Activities of Federal Thrifts," by John H. Huffstutler; "Proposed Revisions to Offering Regulations," by Ellen Broadman and Elizabeth Malone; "Bank and Mutual Funds: Legal Considerations," by Robert M. Kurucza, Robert G. Ballen, and Natalie H. Diana; and "Implementation of the Foreign Bank Supervision Enhancement Act of 1991," by James S. Keller.

Ballen, Robert G., and Joseph P. Savage. 1992. The Impact of the Federal Deposit Insurance Corporation Improvement Act of 1991 on the United States Payments System. *Loyola Consumer Law Reporter* 4, no. 4:112–16.

This article reviews the provisions of FDICIA that affect the payments system, especially the provisions amending the Expedited Funds Availability Act (EFAA)—the federal statute that requires a bank to allow consumers access to their deposited funds. The article first gives an overview of EFAA and what it requires of depository institutions. The article next reviews the amendments to EFAA under FDICIA. Last, the article discusses certain other provisions of

FDICIA—those concerning payments netting arrangements and interbank exposure—as well as certain payments provisions that were proposed but not included in the bill passed by Congress.

Bankers Roundtable. 1997a. *Deposit Insurance Reform in the Public Interest: Partnering for Financial Services Modernization*. Report of the Subcommittee and Working Group on Deposit Insurance Reform, Retail Issues and Deposit Insurance Committee. Bankers Roundtable.

This report outlines why it is time for reform and why the marketplace should increasingly serve as the regulator, with government regulation playing a less-intrusive and less-burdensome role. The suggestion is made that reform will prevent the Bank Insurance Fund and the Savings Association Insurance Fund from experiencing unnecessary losses when depository institutions fail. Reform is also needed for other reasons: (1) to protect taxpayers fully against any such losses; (2) to prevent deposit insurance from being used as a rationalization for costly and burdensome banking regulations, or as an excuse to deny banks the competitive opportunity to offer new products and services to their customers; and (3) to encourage bank management to establish proper policies and practices for managing and controlling risk, rather than relying on the federal guarantee of deposits. This report makes recommendations for achieving these reforms.

Benston, George J., and George G. Kaufman. 1993. Deposit Insurance Reform: A Functional Approach: A Comment [on Merton and Bodie in same issue]. *Carnegie–Rochester Conference Series on Public Policy* 38: 41–49.

The authors discuss the flaws associated with the Merton and Bodie approach to deposit insurance reform. Benston and Kaufman cite the costs of the Merton and Bodie approach as being too high and give their own suggestions for a less-costly and less-disruptive solution. The Benston–Kaufman proposal would allow banks to offer whatever services they wished, as long as they maintained sufficient capital to absorb most of the losses they might incur.

Benston, George J., and George G. Kaufman. 1997. FDICIA after Five Years. *Journal of Economic Perspectives* 11, no. 3:139–58.

At year-end 1991, Congress enacted fundamental deposit insurance reform for banks and thrifts--the FDIC Improvement Act. This reform followed the failure of more than 2,000 depository institutions in the 1980s. Many failed because the incentive incompatibility of the structure of federal government-provided deposit insurance encouraged moral hazard behavior by banks and poor agent behavior by regulators. Insurance was put on a more incentive compatible basis, providing for a graduated series of sanctions mimicking market discipline that first may and then must be applied by the regulators on floundering banks. This article reviews these changes and evaluates early results. (©1999 EconLit)

Benston, George J., and George G. Kaufman. 1998. Deposit Insurance Reform in the FDIC Improvement Act: The Experience to Date. Federal Reserve Bank of Chicago *Economic Perspectives* 22, no. 2:2–20.

In 1991, in the FDIC Improvement Act, the United States adopted fundamental deposit insurance reform. This article reveals why the severe banking crisis of the 1980s made such reform necessary, and analyzes FDICIA's success to date.

Berger, George S. 1994. Reforming Deposit Insurance and the Regulatory System: The Failure of the Middle Way. *Cato Journal* 14, no. 2:221–41.

This article presents a brief analysis of federal deposit insurance, followed by a detailed critique of a number of reform proposals. The most important reform proposals can be classified into one of two main categories: (1) the reform of deposit insurance, and (2) the reform of regulation.

Carnell, Richard Scott. 1993. A Partial Antidote to Perverse Incentives: The FDIC Improvement Act of 1991. *Annual Review of Banking Law* 12:317–71.

The author explains why the pre-FDICIA system of federal deposit insurance and depository institution regulation encouraged owners, managers, and regulators of insured depository institutions to act in ways inimical to the interests of the deposit insurance funds. These perverse incentives, resulting in excessive risk-taking by depository institutions and forbearance by their regulators, ultimately helped make the Federal Savings and Loan Insurance Corporation insolvent.

Carnell, Richard Scott. 1996. The FDIC Improvement Act of 1991: What Has Worked and What Has Not. *Treasury News,* no. RR-1417.

The author focuses on the criticisms of FDICIA and explains that the act has indeed been successful; bank profitability increased and failures and problem cases decreased. He warns of squandering the beneficial incentive-effects of FDICIA's key reforms by succumbing to complacency and thereby leaving depository institutions needlessly vulnerable to future stress.

Carns, Frederick. 1995. A "Two-Window" System for Banking Reform. *FDIC Banking Review* 8, no. 2:1–9.

The author maintains that despite the strong performance of the banking industry in the early 1990s, banking reform should be a priority for at least two reasons: insured deposits have increasingly been used to fund activities for which safety-net protection is unnecessary; and banking organizations operate under legal restrictions that inhibit competition for financial services. An alternative two-window system would restrict the uses of insured deposits to traditional banking activities, but it would permit banking organizations to use uninsured funds for nonbank activities of their choice as long as the activities were conducted in separately capitalized and legally distinct affiliates. The author concludes that the two-window system offers important advantages over both the current structure and any structure based on narrow banks.

Carow, Kenneth A., and Glen A. Larsen Jr. 1997. The Effect of FDICIA Regulation on Bank Holding Companies. *Journal of Financial Research* 20, no. 2:159–174.

The authors examine market reactions to legislative announcements surrounding the passage of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA). Research shows that bank regulation adversely affects shareholder wealth on the one hand, yet often provides government subsidies on the other. The removal of Federal regulators' discretionary authority and the imposition of mandatory regulations in the FDICIA have an overall negative effect on the author's sample of bank holding companies. The results are consistent with either the costly regulation hypothesis or the decreased subsidies hypothesis. (©1999 EconLit)

Cebula, R. J. 1997. An Exploratory Empirical Analysis of the Impact of the Federal Deposit Insurance Corporation Improvement Act of 1991 on Bank Failures in the United States. *Applied Financial Economics* 7, no. 6:695–701.

This article examines the effect of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) on bank failures in the United States. After summarizing a number of the most important provisions in this legislation and presenting certain relevant data, the article provides an exploratory empirical analysis that allows for variables such as the cost of deposits and other interest rates, capital/asset ratios, federal deposit insurance coverage, real GDP growth, and increased competition within the industry. The reduced-form estimates find that FDICIA appears to have reduced the failure rate of commercial banks in the United States.

Chapman, Cornelius. 1994. Regulation: Banking on Markets. *Reason* 26, no. 1.

The author claims that the U.S. deposit insurance system presents moral-hazard problems. To correct this situation, the author proposes a cross-guarantee system in which other banks, insurance companies, pension funds, and anyone else who could satisfy certain tests of financial strength would back bank deposits. A privatized, market-driven insurance system would protect taxpayers and allow banks to be more responsive to local economies and their needs.

Conference of State Bank Supervisors (CSBS). 1990. *Comments on Federal Deposit Insurance Reform.* CSBS.

In this document, the Conference of State Bank Supervisors (CSBS) strongly urges the Treasury Department to include in its review of options for reform an analysis of the effect that reform would have on the dual banking system. The CSBS reviews those issues that are of particular interest to the state banking system and makes recommendations when appropriate. The recommendations in this paper include the following: the "too-big-to-fail" doctrine should be abandoned; the $100,000 limit for deposit insurance should be maintained; private deposit insurance will not work; states should retain the authority to close state-chartered institutions; market value accounting of bank loan portfolios does not offer a significant improvement over GAAP; and failed-bank resolution should be

reformed in a manner that treats all institutions equally and reinstates depositor discipline.

Dale, Richard S. 1998. Deposit Insurance: Policy Clash over EC and US Reforms. In *The Emerging Framework of Financial Regulation*, edited by C. A. E. Goodhart, 559–80. Central Banking Publications.

Both the United States and the European Community have introduced new policy initiatives on deposit insurance. However, these two schemes move in diametrically opposite directions. On the one hand, U.S. authorities have sought to curtail the scope of deposit protection in the hope that exposing depositors to greater risk will cause greater financial discipline to be imposed. On the other hand, the European Commission, as part of its program for a single European financial market, has issued a directive that will extend the scope of deposit protection within the European Community without imposing any limit on the coverage offered by individual member states.

D'Arista, Jane W. 1993. No More Bank Bailouts: A Proposal for Deposit Insurance Reform. In *Transforming the U.S. Financial System: Equity and Efficiency for the 21st Century*, edited by Gary A. Dymski, Gerald Epstein, and Robert Pollin. Economic Policy Institute Series. Sharpe.

This chapter proposes a system for providing financial guarantees—a system that both insures individual savers and protects the capacity of financial institutions to support the transactions essential for economic stability and growth. To make the case for this new approach to federal financial guarantee programs, the author first outlines the history and purposes of financial guarantees and describes the structural changes that have undermined a system that worked so well in the past. She then presents detailed proposals for reforming federal insurance of savings and transactions deposits.

Downes, Patrick T., David Marston, and İnci Ötker. 1999. Mapping Financial Sector Vulnerability in a Non-Crisis Country. Policy Discussion Paper no. PDP/99/4. International Monetary Fund.

The forward-looking framework expounded in this paper links a qualitative evaluation of system-wide vulnerability (covering macro, sectional, institutional, and systemic liquidity issues) with a quantitative assessment of the financial condition of significant financial institutions. Using vulnerability criteria and judgmental stress tests, the authors develop 12 indicators of soundness that measure risk exposure, solvency, liquidity, profitability, and supervisory assessment. This holistic methodology can be used not only as an early-warning/crisis-avoidance system to identify potential systemic problems—and problem institutions—requiring immediate attention, but also as a way to pinpoint needed reforms in the legal, regulatory, and institutional infrastructure, to lessen the likelihood of a future crisis.

Ely, Bert. 1994. Financial Innovation and Deposit Insurance: The 100 Percent Cross-Guarantee Concept. *Cato Journal* 13, no. 3:413–36.

The author argues that in past decades, dramatic changes in the economics of the financial-services industry—due largely to the computer revolution—have destroyed the efficacy of traditional financial-services regulation. Despite these developments, the federal government has merely tinkered with the regulatory system. Such tinkering is counterproductive because the current rigid, central-planning style of financial-services regulation is inherently flawed. The author contends that the United States must create a market-driven regulatory model that gives individual banks and thrifts the flexibility to pursue unique business strategies. The author's 100 percent cross-guarantee concept is a reform proposal that would meet this test. Embodied in legislation introduced in September 1992 by Rep. Tom Petri (R-Wis.), it would lead to better-priced bank lending while eliminating the risk that federal deposit insurance poses to taxpayers. Cross-guarantees would also end "regulatory arbitrage," that is, the flight of lower-risk assets from banks and thrifts to less-taxed and less-regulated channels of financial intermediation.

Evanhoff, Douglas D. 1992. Preferred Sources of Market Discipline: Depositors vs. Subordinated Debt Holders. Issues in Financial Regulation Working Paper Series, no. 1992-21. Federal Reserve Bank of Chicago.

This paper discusses market discipline in the financial-services industry and offers an alternative to market discipline that has all of the favorable characteristics of either dollar-based or maturity-based deposit insurance coverage, relatively few of the problems, and a number of additional attributes. The author presents the case for having subordinated debtholders protect the insurance fund. He shows that there are numerous advantages to restructuring banks' capital requirements to have subordinated debtholders serve as a major source of market discipline.

Federal Deposit Insurance Corporation (FDIC). 1992. Report to the Congress on the Findings and Recommendations concerning the "Two-Window" Deposit System Proposal. Report. FDIC.

This FDIC study, mandated by FDICIA, reports on the "two-window" structure that would allow banking organizations to compete in nonbank markets without exposing the deposit insurance fund to undue risk.

Flannery, Mark J. 1993. Deposit Insurance Reform: A Functional Approach: A Comment [on Merton and Bodie in same issue]. *Carnegie–Rochester Conference Series on Public Policy* 38:35–39.

This article discusses Merton and Bodie's proposal for deposit insurance reform. The author agrees that their proposal brings a novel perspective to the analysis, but he highlights flaws in their proposal—topics they did not discuss.

Flood, Mark D. 1996. The Great Deposit Insurance Debate. In *Stability in the Financial System*, edited by Dimitri B. Papadimitriou, 34–83. Jerome Levy Economics Institute

Series. St. Martin's Press. Also 1992. The Great Deposit Insurance Debate. Federal Reserve Bank of St. Louis *Review* 74, no. 4:51–77.

> Federal deposit insurance is a defining feature of our nation's financial landscape. For many years, deposit insurance was regarded as a tremendous success. By protecting individual depositors, it discouraged banking panics, thus contributing greatly to monetary stability. The painful experiences of the 1980s have soured this cheery assessment. Recent legislation has made significant changes in deposit insurance, and many are calling for further reforms. The authors assess the various options for reform, and recall that federal deposit insurance was extremely controversial at its inception in the Banking Act of 1933. In this article the author reexamines the debate that surrounded the adoption of federal deposit insurance, first to see what the issues and arguments were at the time and, second, to see how those issues were treated in the legislation. He finds that the legislators of 1933 both understood the difficulties with deposit insurance and incorporated in the legislation numerous provisions designed to mitigate those problems. (©1999 EconLit)

Golembe, Carter H. 1992. Shadow and Substance—Further Thoughts on 1991's Deposit Insurance Legislation. *The Golembe Reports* 1992-6.

> The author examines the Federal Deposit Insurance Corporation Improvement Act of 1991 and its effect on the banking industry after a year. In the first section he asks what happened to deposit insurance reform, and in the second he examines the status of plans for capital regulation.

Golembe, Carter H. 1995. Deposit Insurance: Is Privatization an Option? *The Golembe Report*s 1995-8.

> The author alerts readers to a dialogue on deposit insurance reform that he believes will emerge, and suggests policy matters for consideration. In Section I he deals briefly with the system of government deposit insurance that is the subject of privatization proposals. In Section II he summarizes ideas on the privatization of deposit insurance, and identifies a few policy questions likely to arise. In Section III he offers concluding observations.

Golembe, Carter H. 1996. Reforming Deposit Insurance: Don't Build on the Past. *Banking Policy Report* 15:4–6.

> The author examines deposit insurance issues. He begins with the reduction of deposit insurance assessments almost to zero and asks, (1) How did this happen? (2) Why did this happen? and (3) What might it portend for the future? He returns to the matter of privatization of the federal deposit insurance system as discussed in a previous paper [*The Golembe Reports* 1995-8], and includes some history.

Gordon, Sheldon. 1994. Deposit Insurance: It's Safe, But Is It Sound? *Canadian Banker* 101, no. 6:32–36.

After the Canada Deposit Insurance Corporation (CDIC) experienced financial difficulties in the early 1990s, and especially after the failures of the bank Confederation Life and its subsidiary, Confederation Trust, the debate about the Canadian federal deposit insurance system intensified. The author, a freelance economics writer, discusses the need for reforms with Grant Reuber, chairman of the CDIC, and Anne Riley, director of financial institutions for the Canadian Bankers Association.

Gorton, Gary. 1994. Privatizing Deposit Insurance: The Ely Proposal. *Cato Journal* 13, no. 3:437–45.

The author believes that privatizing deposit insurance in the manner that Bert Ely has proposed (his 100 percent cross-guarantee concept) would eliminate the moral-hazard problem associated with flat-rate deposit insurance. In theory this problem is due to the fact that bank equityholders have an incentive to add risk to the bank's assets when this risk is not priced and when the value of the bank's charter (an intangible asset), is low enough. The proposal shifts the role of monitoring banks from the government, which currently examines and disciplines banks, to private guarantors.

Hanc, George. 1999. Deposit Insurance Reform: State of the Debate. *FDIC Banking Review* 12, no. 3:1–26.

This article examines various deposit insurance issues under the following main headings: (1) the role and functions of deposit insurance; (2) the nature of the moral-hazard and principal–agent problems inherent in deposit insurance; and (3) a review of specific deposit insurance reform proposals. A concluding section attributes differences in views on reform issues mainly to differences in views on public-policy priorities, the economic role of bank intermediation, the cost of bank risk monitoring, and the relative efficacy of government supervisory authorities and private-sector agents in identifying and restraining risky bank behavior.

Herendeen, James B., and Janet Hendrickson-Smith. 1993. The Banking Crisis and Regulatory and Deposit Insurance Reform: The Issues in Historic Perspective. In *Proceedings of the Seventh Annual Meeting of the Pennsylvania Economic Association*, edited by James C. Luizer, 323–34.

The authors hold that regulatory reform must be accompanied by reform of the deposit insurance system. The 1989 thrift rescue bill failed to come to grips with reform of the deposit insurance system and thus left the thrift industry vulnerable to a repeat experience of the 1980s. The authors explain why proposals before Congress to deal with the banking crisis fail to propose serious reform of deposit insurance. Deregulation of the banking industry, as has been proposed, will probably make things worse rather than better.

Huber, Stephen K. 1992. The Federal Deposit Insurance Corporation Improvement Act of 1991. *Banking Law Journal* 109, no. 4:300–336.

In 1991, the proponents of banking reform introduced sweeping legislation in a heroic attempt to fundamentally change the current banking and financial system of the United States and expand the powers of financial institutions. The author claims that, instead, Congress enacted a bill with a narrower focus—the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA)—the purposes of which are to recapitalize and protect the bank insurance funds, reform the deposit insurance system, and improve supervision of federally insured depository institutions, including foreign banks. The author provides an overview and analysis of the many changes made by FDICIA that will be of interest to bank and thrift officials as well as to the lawyers and accountants who work for those banks and thrifts.

Hughes, Sarah Jane. 1993. Banking and Deposit Insurance: An Unfinished Agenda for the 1990s. *Indiana Law Journal* 68, no. 3:835ff.

The author explains that instead of the broad reforms sought by the Treasury Department and the banking industry, the focus of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) was protecting the deposit insurance funds. To the extent that Congress failed to include structural banking reform in FDICIA, it merely postponed action necessary for the future health of the banking industry and, ultimately, for the integrity of the deposit insurance funds. The author analyzes three provisions of FDICIA that demonstrate continuing problems in the federal deposit insurance system: (1) the "least-possible-cost" resolution requirement, including restrictions on payments to uninsured and foreign depositors; (2) the "prompt corrective action" standards; and (3) the call for an enhanced insurance assessment. The author concludes that FDICIA will fail to achieve recapitalization of the Bank Insurance Fund and that, accordingly, further funding for the deposit insurance system will be required in the near term.

Jones, David S., and Kathleen Kuester King. 1992. An Analysis of the Implementation of Prompt Corrective Action. Finance and Economics Discussion Series, no. 204. Board of Governors of the Federal Reserve System.

Among the major provisions of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) is the requirement that the federal banking agencies implement, by year-end 1992, a capital-based policy of prompt corrective action (PCA). Under this framework each depository institution (DI) must be placed in one of five regulatory zones based on its capital position: (1) well-capitalized, (2) adequately capitalized, (3) undercapitalized, (4) significantly undercapitalized, or (5) critically undercapitalized. For each of the three categories of undercapitalized DIs, FDICIA specifies corrective actions that must be undertaken and a menu of discretionary actions. This paper evaluates alternative capital-driven assignment rules based on their ability to target for corrective actions commercial banks that the authors have identified as exhibiting a high risk of becoming insolvent between January 1984 and June 1989. (©1999 EconLit)

Kane, Edward. 1994. The Federal Deposit Insurance Fund That Didn't Bark in the Night. Working Paper no. 4648. National Bureau of Economic Research.

Unlike the Federal Savings and Loan Insurance Corporation and the Bank Insurance Fund, the National Credit Union Share Insurance Fund (NCUSIF) entered the 1990s in a state of accounting solvency. This paper develops evidence to show that NCUSIF remained solvent in a market-value sense as well. Differences in institutional product lines and risk-taking opportunities between credit unions and banks and thrifts are not consequential enough to explain the differences in their funds' health. This paper explains how differences in decisionmaking environments caused a substantial divergence between managerial and regulatory risk-taking incentives in the credit-union industry and those in the banking and thrift industries. The differences in incentive structure support the hypothesis that private co-insurance could lessen taxpayer loss exposure elsewhere in the federal deposit insurance system.

Kaufman, George G. 1994. FDICIA: The Early Evidence. *Challenge* 37, no. 4:53–57.

The author discusses how, despite the efforts of the regulators, the deposit insurance reform provisions of FDICIA have reduced the banks' and regulators' problems previously associated with deposit insurance and have financially strengthened the industry. The act provides a loophole for regulators to leave uninsured deposits at large banks unprotected. However, it is less likely that either the large number of bank and thrift failures or the large dollar losses from failures that were experienced in the 1980s will occur again. The author agrees that FDICIA is the most important prudential banking legislation since the Banking Act of 1933.

Kaufman, George G. 1995. FDICIA and Bank Capital. *Journal of Banking and Finance* 19, no. 3–4:721–22.

The FDIC Improvement Act of 1991 (FDICIA) attempts to correct the two major problems with deposit insurance that contributed greatly to the banking debacle of the 1980s—moral hazard, which occurred for banks primarily in the form of insufficient capital, and agency, which occurred for bank regulators primarily in the form of forbearance with respect to both timely sanctions and closure. The author concludes that FDICIA has successfully addressed these problems and has helped to make the banking industry financially healthier, while changing the behavior of regulators.

Kaufman, George G. 1997. Lessons for Transitional and Developing Economies from U.S. Deposit Insurance Reform. In *Standards and Politics: Banking and Finance Regulations in the NAFTA Countries,* edited by George von Furstenberg, 17–35. Kluwer Academic Publishers. Also 1997. Lessons for Transitional and Developing Economies from U.S. Deposit Insurance Reform. In *Regulation and Supervision of Financial Institutions in the NAFTA Countries and Beyond*, edited by George von Furstenberg. Kluwer Academic Publishers.

> This article seeks to discover whether banking is more fragile than other industries and, if so, what the causes and implications are. The article concludes that banks are more fragile, but that this would not have translated into greater breakage (failure) without the help of well-intentioned but counterproductive government policies. The author finds that within the United States, state-owned banks are particularly troublesome because they are used to allocate credit by the government and are frequently insolvent and able to continue to operate only because of implicit government deposit insurance. These insovlencies need to be resolved before lasting deposit insurance reform can be successfully introduced.

Kaufman, George G., ed. 1994a. *Assessing Bank Performance: FDICIA Two Years Later*. Proceedings of the December 10, 1993, Symposium. Loyola University of Chicago.

> This is a collection of papers presented at the second annual conference examining the effect of FDICIA. Authors and papers on the subject of deposit insurance include "FDICIA Two Years Later," by Philip Bartholomew; "Changing Structure of Commercial Banking in the 1990s," by Richard S. Peterson; "Assessing Bank Performance: FDICIA Two Years Later," by Douglas J. Kasl; and "Never on a Sunday," by Linda L. Stromberg.

Kaufman, George G., ed. 1994b. *Reforming Financial Institutions and Markets in the United States: Towards Rebuilding a Safe and More Efficient System*. Kluwer Academic Publishers.

> This book contains a variety of essays, including "The Intellectual History of the Federal Deposit Insurance Corporation Improvement Act of 1991," by George J. Benston and George G. Kaufman; "Banking Reform: Economic Propellants, Political Impediments," by Kenneth E. Scott and Barry R. Weingast; "Taxpayer Loss Exposure in the Bank Insurance Fund," by Edward J. Kane; "The Role of Forbearance and Its Costs in Handling Troubled and Failed Depository Institutions," by Robert A. Eisenbeis and Paul M. Horvitz; "Long-Run Benefits in Financial Regulation from Increased Accountability and Privatization," by Edward J. Kane; and "The Application of Private Insurance to Banking Oversight," by Richard C. Aspinwall.

Kaufman, George G., ed. 1997. *FDICIA: Bank Reform Five Years Later and Five Years Ahead*. Research in Financial Services: Private and Public Policy, vol. 9. JAI Press.

> Most of the papers in this collection were presented at a conference celebrating the fifth anniversary of the signing of the Federal Deposit Insurance Corporation

Improvement Act of 1991 (FDICIA). The conference was held in December 1996 at the Brookings Institution in Washington, D.C. The papers look back over banking and financial services in the five years since FDICIA and try to anticipate what may happen over the next five years. Papers include "The OCC and FDICIA," by Eugene A. Ludwig; "The FDIC Improvement Act of 1991: What Has Worked and What Has Not?" by Richard Scott Carnell; "Evaluating FDICIA," by Frederic S. Mishkin; "FDICIA after Five Years: What Has Worked and What Has Not?" by George Kaufman; "Evaluating the Prompt Corrective Action and Least Cost Resolution Provisions of the FDIC Improvement Act: The Watchdog's Perspective," by James Bothwell; "Contacting for Improved Supervisory Performance from Federal Banking Regulations," by Edward Kane; "Safe and Sound Banking in Developing Countries: We're Not in Kansas Anymore," by Gerald Caprio Jr.; "An International Banking Standard: The Time Is Ripe," by Morris Goldstein; "Main Features of Banking Problems and Solutions in Japan," by Masaru Yoshitomi; "Optimal Supervision and Regulation of Banks," by Alice Rivlin; "Central Banks' Approach to Dealing with Settlement Risk in Foreign Exchange Transactions," by Christopher J. McCurdy; "What's New after FDICIA?" by Robert E. Litan; "The FIRREA Next Time: Consumer Debt and Congressional Action," by Karen Shaw Petrou; "The Next Five Years in Banking: A Proposed Agenda for the New Administration and Congress," by David Vitale; "FDICIA: The Unfinished Business," by William Haraf; "The FDIC and FDICIA," by Ricki Helfer; and "A Partial Antidote to Perverse Incentives: The FDICIA Improvement Act of 1991," by Richard Scott Carnell.

Kaufman, George G., and Robert E. Litan, eds. 1993. *Assessing Bank Reform: FDICIA One Year Later*. Brookings Institution.

FDICIA was passed by Congress in November 1991 and signed into law a month later. The act promises to be the most important banking legislation since the Banking Act of 1933, yet it is also one of the most misunderstood and controversial laws enacted in years. This collection of papers examines the history and implementation of FDICIA, the responses to it, and its future.

Kennickell, Arthur B., Myron L. Kwast, and Martha Starr-McCluer. 1996. Households' Deposit Insurance Coverage: Evidence and Analysis of Potential Reforms. *Journal of Money, Credit, and Banking* 28, no. 3 (part 1): 311–22.

It is often suggested that reducing deposit insurance would reduce problems of moral hazard in the banking industry. However, little is known about likely effects of proposed reforms on household depositors. This study uses data from the Survey of Consumer Finances to examine the characteristics of household depositors, particularly those with uninsured funds. The authors find that large depositors tend to have substantial shares of their assets in insured depositories, yet often fail to keep their holdings within insurance limits. Various explanations for these factors are considered. The authors also simulate the effects of proposed reforms on the pool of uninsured depositors. (©1999 EconLit)

Konstas, Panos. 1992. How to DIG Ourselves out of the Insurance Mess. *Journal of Retail Banking* 14, no. 1:16–24.

The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA), the legislation that bailed out the savings and loan industry, did not address how deposit insurance should be reformed in order to avoid similar disasters in the future. Instead, the law directed the U.S. General Accounting Office and the Treasury Department to conduct (and submit to Congress) independent studies of the issue before any legislation on deposit insurance reform would be undertaken. Among the specific points to be investigated were the combining of federal and private insurance and restricting the liability of the FDIC to deposits explicitly covered by insurance. This article offers a plan to achieve both objectives. Because the system of de facto full insurance coverage of deposits encourages banks to take on highly risky assets, an intermediate private depositor is needed—dubbed a DIG for deposit intermediator and guarantor—with a vested interest in increased market discipline over banks. The author believes his plan to transfer regulation and insurance from the government to private parties would greatly improve bank safety, while reducing risks to the federal insurance fund and to the taxpayer.

Lai, Van Son, and Stephan Warywoda. 1997. Coinsurance and Private–Public Partnership in Deposit Insurance. In *Research in Finance*, vol. 15, edited by Andrew H. Chen, 275–303. JAI Press.

The authors derive closed forms formulas, using contingent claims analysis, to value co-insurance contracts and a private-public partnership in an attempt to shed light on various proposals for deposit insurance reform. They then compare the merits of these deposit insurance arrangements with one another and with the benchmark deposit coverage. They draw policy implications from the schemes that best mitigate moral-hazard problems. They find that some forms of co-insurance and private-federal partnership in deposit insurance reduce moral-hazard problems and constitute a means of containing government contingent liabilities.

Mantripragada, Krishna G., and H. Banarjee Rau. 1995. Private Deposit Insurance: An Assessment. *Journal of Insurance Regulation* 14, no. 1:90–114.

Although changes in the federal deposit insurance system have been made under the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), some view private deposit insurance as preferable even to a reformed federal deposit insurance. The author feels FDICIA does not reflect this preference but it does allow the FDIC to conduct limited experiments with private reinsurance. This article seeks to bring together the major ideas relating to privatization of deposit insurance, examining its appeal and feasibility as well as critically evaluating alternative plans that would implement it. Although in certain respects private deposit insurance may be preferable to federal insurance, many problems would have to be resolved before it could develop into a major force.

Merton, Robert C., and Zvi Bodie. 1993a. Deposit Insurance Reform: A Functional Approach. *Carnegie–Rochester Conference Series on Public Policy* 38:1–34.

The deposit insurance system has a basic structural problem: a mismatch between the deposits insured by the FDIC and the "opaque" and illiquid bank loans used to collateralize those insured deposits. At one time, synergy might have been created by the use of insured deposits as the primary source to finance the commercial lending activities of banks, but the authors see no evidence that such benefits, if any, exist in the financial system. There are, however, significant costs for maintaining the institutional structure. The authors conclude that an efficient solution to the mismatch is for commercial lending to be financed by standard instruments such as debt, preferred stock, and equity, and for deposit insurance to be limited to institutions or accounts that collateralize deposits with U.S. Treasury bills or their equivalent.

Merton, Robert C., and Zvi Bodie. 1993b. Deposit Insurance Reform: A Functional Approach: Reply [to Benston and Kaufman in same issue]. *Carnegie–Rochester Conference Series on Public Policy* 38:51–55.

Benston and Kaufman use a narrow-bank structure as a straw-man foil for making the case for their proposal, but Merton and Bodie claim the Benston–Kaufman article does little to address the merits and flaws of the Merton–Bodie article in either absolute or relative terms. Benston and Kaufman exaggerated the costs of implementing the Merton–Bodie proposal and understated the potential costs associated with the monitoring system in their own proposal. The Benston–Kaufman proposal would create moral hazard arising from asymmetric information between the insured banks and FDIC.

National Commission on Financial Institution Reform, Recovery and Enforcement. 1993. *Origins and Causes of the S&L Debacle: A Blueprint for Reform: A Report to the President and Congress of the United States*. Government Printing Office.

The national commission's report was based on months of study, public hearings, recorded interviews, and original research on the causes of the savings and loan crisis of the 1980s and early 1990s. The report focuses on the major forces that led to the crisis and/or contributed to its magnitude. The report recommends the following policy changes that would reduce the chances for a similar, future crisis: (1) give agencies that administer guarantee programs automatic borrowing authority; (2) allow institutions to offer federally insured deposit accounts solely through separately capitalized, federally insured, money-market funds; (3) require that the OMB and GAO make a joint annual report on the loss exposure of all financial insurance programs; (4) require each agency that provides financial insurance to assess possible adverse incentives built into its programs; and (5) grant all such agencies the authority to determine regulatory and examination standards.

Nelson, Richard W. 1996. Can the Federal Government Do a Better Job of Providing Deposit Insurance? In *Research in Financial Services: Private and Public Policy*, vol. 8, edited by George G. Kaufman, 259–65. JAI Press.

This article reviews the desirability of narrowing federal deposit insurance as proposed by the National Commission on Financial Institution Reform, Recovery and Enforcement. The article approaches the issue primarily from the post-debacle perspective of cost to taxpayers, but also considers the pre-debacle question of economic stability. Before turning to the public-policy issue, the author briefly discusses the nature of the deposit insurance business.

Parry, Robert T. 1992. A Central Banker's Perspective on Bank Reform. *Business Economics* 27, no. 3:13–18.

The Federal Deposit Insurance Corporation Improvement Act of 1991 made some progress toward reform in banking. In particular, the act establishes a more objective framework for prompt corrective action that limits regulatory discretion and mandates risk-based deposit insurance premiums. However, the U.S. still is a long way from shedding the antiquated regulatory structure adopted in the 1930s. For the sake of economic efficiency, banking regulation should move toward greater integration of commercial and investment banking, broader insurance powers for banks, and a system of nationwide branching. To protect the deposit insurance system better, it is important to have regulatory standards based on market-value criteria and to establish a more credible position against the too-big-to-fail policy. (©1999 EconLit)

Peek, Joe, and Eric S. Rosengren. 1997. Will Legislated Early Intervention Prevent the Next Banking Crisis? *Southern Economic Journal* 64, no. 1:268–80.

A key provision of the Federal Deposit Insurance Corporation Improvement Act of 1991 was prompt corrective action (PCA). PCA emphasized early intervention by bank supervisors and was intended to limit forbearance by making supervisory intervention more timely and less discretionary. However, PCA, as implemented, appears to have been oversold. Had PCA been in place during the recent banking crisis in New England, it would have had little, if any, effect. Since it imposes an essentially nonbinding constraint on bank supervisors, PCA is not likely to play a major role in preventing the next banking crisis. (©1999 EconLit)

Roper, Don E. 1993. Depository Institutions: Reforms along the Lines of Islamic Banking Principles. Ph.D. diss., University of Colorado at Boulder.

Depository institutions play an important role in the world's economic activities, and debt contracts are the most commonly used tools of those institutions. This dissertation affirms that debt contracts are risky for economic stability, especially when the overall indebtedness that countries, banks, and individuals have reached is taken into account. The author suggests a fundamental reform in depository institutions' daily practices. Limiting depository institution reform to supervisory and regulatory measures, albeit necessary, is not enough and might be dangerous. This dissertation investigates the possibility of including the main idea of Islamic

banking in the needed reform for the U.S. depository institutions. This idea would base the liability side of depository institutions on the principle of sharing (equity instead of debt contract) and would, this dissertation claims, eliminate any need for deposit insurance.

Silverberg, Stanley. 1993. A Case for Broadening the Deposit Insurance Assessment Base. Report. Independent Bankers Association of America.

The FDIC Improvement Act (FDICIA) gave the FDIC the authority to redefine the deposit insurance assessment base. Since the enactment of FDICIA in December 1991, assessment issues have focused on the recapitalization of the Bank Insurance Fund (BIF), the level of assessments, and the implementation of risk-based assessments. The FDIC has deferred serious consideration of modifying the assessment base—perhaps waiting for the general level of assessments to come down. This report is intended to provide an early contribution to determining the appropriate assessment base.

Smale, P. H. 1993. Bank Failures and the Deposit Insurance Fund. Congressional Research Service *Issue Brief* 92, no. 5:1–9.

Many factors contributed to the problems experienced by the U.S. deposit insurance system in the 1980s, including deregulation, technology, individual bank management, and economic conditions. Congressional concern grew as the pace of the failures accelerated. Interest in banks' financial problems increased as a result of the severe problems of the thrift industry, which required enormous infusions of government funds. This article responds to Congress's concern that its recapitalization of the BIF may not be sufficient to ensure the stability of the banking industry as a whole.

Stern, Gary H. 1997. A Modest Proposal for Meaningful Deposit Insurance Reform. Federal Reserve Bank of Minneapolis *Region* 11, no. 3:2–3.

The president of the Federal Reserve Bank of Minneapolis discusses the need to reinvestigate the issue of deposit insurance reform. He recommends that uninsured depositors—those with more than $100,000 in a bank account—should face some risk; if they did, they would put pressure on banks to operate in a more safe and sound manner. In particular, the author's proposal addresses the issue of moral hazard, the term that refers to the costly side effect of a de facto full insurance program: depositors and banks have an incentive to take on more risk than they otherwise would. If depositors were subject to a limited but meaningful loss, the market for information about the financial condition of banks would certainly broaden and deepen over time, and so would banks' commitment to safe and sound banking practices.

Stern, Gary H. 1998. Market Discipline as Bank Regulator. Federal Reserve Bank of Minneapolis *Region* 12, no. 2:2–3.

The president of the Federal Reserve Bank of Minneapolis briefly outlines his bank's proposal for deposit insurance reform, and comments on the role of market

discipline in helping to constrain excessive risk-taking by banks, especially large banks. The proposal would address the too-big-to-fail issue through legislation—specifically, an amendment to FDICIA (1991)—to provide that uninsured depositors suffer some loss even when FDICIA's too-big-to-fail provisions are invoked. The idea is that these creditors would know in advance that they would have to bear the consequences of their decisions, and therefore before-the-fact market discipline from uninsured depositors would increase. This reform would be coupled with market-based pricing of deposit insurance premiums and increased disclosure of information about the financial condition of banks.

Timmer, Barbara. 1993. Deposit Insurance: Back to the Future. In *Assessing Bank Reform: FDICIA One Year Later*, edited by George G. Kaufman and Robert E. Litan, 135–40. Brookings Institution.

The author reflects upon the Brookings Institution conference entitled Assessing Bank Reform: FDICIA One Year Later—the papers presented, ideas discussed, comparison with past conferences, and presenters' biographies.

Todd, Walker F. 1993a. Discount Window Provisions of the Federal Deposit Insurance Corporation Improvement Act of 1991. *Banking Policy Report* 12, no. 5.

The author discusses how and why Congress was prompted to redraw the limits of the Federal Reserve's statutory authority regarding the discount window. After Congress was aroused by what it apparently deemed evidence of use of the discount window to rescue uninsured claimants on failing depository institutions, it decided to provide explicit guidance and limitations on use of Federal Reserve Bank advances so as to minimize losses to the FDIC and taxpayers.

Todd, Walker F. 1993b. FDICIA's Emergency Liquidity Provisions. Federal Reserve Bank of Cleveland *Economic Review* 29, no. 3:16–23

The Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) made a potentially significant change in the standards for Federal Reserve discount window access by nonbanks. In exploring the background of this issue, the author contends that although most provisions decreased the federal financial safety net for undercapitalized insured depository institutions, FDICIA enlarged the moral-hazard problem by altering the Reserve Banks' collateral or purpose of borrowing standards to accommodate nonbanks' asset portfolios.

Todd, Walker F., and Gerald P. O'Driscoll Jr. 1993. Deposit Insurance Reform Is Not Enough. In *The Crisis in American Banking*, edited by Lawrence H. White, 119–38. New York University Press.

The authors argue that deposit insurance reform alone cannot eliminate the structural instabilities of the U.S. banking system. Deposit insurance is only one part of the federal financial safety net that undergirds the banking industry. Other elements of the safety net reinforce and enhance the perverse incentives generated by deposit insurance. The authors cite the reasons any form of deposit insurance

will prevent the United States from achieving a stable and equitable banking system.

Wall, Larry D. 1997. Taking Note of the Deposit Insurance Fund: A Plan for the FDIC to Issue Capital Notes. Federal Reserve Bank of Atlanta *Economic Review* 82, no. 1:14–30.

In the United States the risk that a financial breakdown could lead to a taxpayer bailout of the deposit insurance fund has been cited to justify current regulatory controls on the activities that banks may engage in. Despite some regulatory changes in the 1990s to protect taxpayers from future debacles, however, widespread failures could still expose taxpayers to losses. This article proposes a new way to monitor the deposit insurance fund: have the FDIC issue capital notes. Because the interest paid on the notes would be suspended if the fund required a loan from the Treasury or would be eliminated if taxpayer funds were contributed to offset deposit insurance losses, noteholders would have an incentive to clearly signal the condition of the insurance fund. This signal would help regulators, taxpayers, and members of Congress monitor the health of the fund and would change the incentive structure facing FDIC directors.

Wenninger, John. 1993. Implications of Narrow Banking for Monetary Policy. Research Paper no. 9327. Federal Reserve Bank of New York.

Narrow banking (or a variation on this theme, 100 percent reserve requirements) has been frequently proposed as an alternative to the current deposit insurance arrangements. However, the monetary policy implications of these proposals have not always been fully appreciated. In this article, the author reviews the potential advantages claimed for narrow banking in terms of deposit insurance reform and also explores in considerable detail the major disadvantages which come largely in the area of monetary policy. The main conclusion of this paper is that the problems that could be created for monetary policy are potentially so great that narrow banking probably would not be a viable approach to insurance reform, even though certain aspects of this approach do have some intuitive appeal. (©1999 EconLit)

Williamson, R. Mark. 1994. Regulatory Theory and Deposit Insurance Reform. *Cleveland State Law Review* 42, no. 1:105–31.

This article briefly examines what the role of banks would be in an economy where informational and other market conditions were perfect and where there was no regulation of any kind, and attempts to articulate an information failure theory to justify government regulation of banking. Next, the article focuses on the regulatory costs of deposit insurance—specifically, the adverse effects on the behavior of banks and depositors. The article contains a two-part conclusion: (1) it offers a reform proposal that calls for a political choice between retaining the overall architecture of the existing deposit insurance system or abandoning that architecture in favor of segregating or nationalizing banks that insure deposits; and (2) using a theoretical framework, it makes suggestions for tailoring reform to the political choices just described.

## 12. Legal Aspects of Deposit Insurance

***This section includes entries of a more legal nature, including but not limited to works dealing with national depositor preference, liability issues in bank-failure cases, case studies from bank-failure resolutions, and legislative histories.***

Elam, Linda C. 1992. Financial Institutions Deposit Insurance—Directors' and Others' Liability Insurance Policies. *Tennessee Law Review* 59, no. 2:305ff.

> Many banks that failed during the 1980s held directors' and officers' liability insurance policies (D&O policies) that covered bank losses due to dishonest acts of employees. FDIC or FSLIC recovery under these policies recouped at least some of the losses of the bank and thereby lessened the expenditure necessary from deposit insurance funds. Insurers, however, began to reduce their liability exposure by adding limiting language to the D&O policies, such as the "regulatory exclusion." Regulatory agencies have repeatedly challenged these exclusions in courts, with mixed results. In 1990, in *FDIC v. Aetna Casualty and Survey,* the Court of Appeals for the Sixth Circuit found there was no clear manifestation of public-policy against regulatory exclusions and held them valid and enforceable. Later cases have upheld regulatory exclusion in the face of public-policy challenges, primarily by following that decision. However, the court's analysis was incomplete and misleading. Therefore, the issue has yet to be satisfactorily resolved.

Farmer, John S. 1996. Letting the "Sacred Cow" Run Loose. *Washington University Journal of Urban and Contemporary Law* (fall): 205ff.

> The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) provides a roadmap for the Federal Deposit Insurance Corporation. Congress enacted FIRREA to "restore the strength of the thrift industry." However, the author contends that giving the courts jurisdiction over claims against the FDIC and the power to grant an injunction may inhibit the FDIC from serving as an effective conservator or receiver and may impede the FDIC from responding in the first instance. The Third Circuit Court granted a preliminary injunction and the Resolution Trust Corporation (RTC) appealed, arguing that the court lacked subject-matter jurisdiction over those claims against the RTC in its receiver and conservator capacities. The Fifth Circuit Court found that "no court may take any action to restrain or affect the exercise of powers or functions of [the RTC] as a conservator or a receiver." The Fifth Circuit Court's decision is consistent with the Supreme Court's ruling favoring the right to judicial review in the absence of an alternative remedy.

Hirschhorn, Eric, and David Zervos. 1990. Policies to Change the Priority of Claimants: The Case of Depositor Preference Laws. *Journal of Financial Services Research* 4, no. 2:111–26.

> Depositor preference laws have been proposed to reduce the cost of bank failures to the deposit insurance agencies. This article shows how depositor preference

rules change the payoff functions for bank creditors, including the deposit insurer, depositors, and nondepositor claimants. The adoption of depositor preference laws would appear to make nondepositors worse off, but they can improve their standing by collateralizing their claims. If a large enough proportion of nondepositor claims becomes collateralized, depositor preference could increase the cost of bank failure to the deposit insurance agency. Empirical analysis indicates that depositor preference will induce a substantial increase in collateralization, eliminating a significant share of the savings envisioned for the deposit insurer. Depositor preference will also reduce interest rates on uninsured deposits.

Lobdell, David W., and John A. Darrow. 1991. Maximizing Federal Deposit Insurance Corporation's Insurance of Deposits. *Loyola Consumer Law Reporter* 3, no. 2:58–59.

This article reviews FDIC insurance coverage of deposits for individual accounts, joint accounts, trust accounts, and accounts of business entities. It also reviews documentation requirements. Finally, it describes the Treasury Department bank reform proposals and explains their effect on the amount of deposit insurance that an individual may receive.

Maloney, Thomas J. 1990. *Federal Deposit Insurance Corporation* v. *Texarkana National Bank*: When the Defense of Fraud Is No Defense against the FDIC. *Loyola Law Review* 35, no. 4:1440ff.

Appellant, FDIC, receiver of failed Guaranty Bond State Bank (GBSB), brought suit against appellee, Texarkana National Bank (TNB), for breach of contract. The FDIC alleged that TNB failed to pay monies due GBSB under certificates of deposit and loan participation agreements. TNB asserted that it was entitled to set off those liabilities against liabilities owed it by GBSB, including fraudulent and legitimate loans made by GBSB in which TNB participated, and subordinated debentures held by TNB. This case is significant because it follows a long line of cases in which the courts have found that the federal policy of protecting the FDIC and public funds is paramount to the interest of innocent individuals and financial institutions.

Marino, James A., and Rosalind L. Bennett. 1999. The Consequences of National Depositor Preference. *FDIC Banking Review* 12, no. 2:19–38.

The authors examine the history of depositor preference laws and the potential costs and benefits of the national depositor preference legislation that was enacted in 1993. They study six large banks that failed between 1984 and 1992, to see how liabilities shifted just before failure. Finally, they discuss the potential effects of the combination of FDICIA and national depositor preference on the cost savings to the FDIC. The study suggests that even though national depositor preference may produce cost savings for the FDIC, it may also induce bank creditors and depositors to act in ways that significantly reduce the cost savings. In addition, the effect of national depositor preference on foreign depositors may induce foreign governments to act in such a way that the FDIC loses some control of the resolution process.

Massachusetts Continuing Legal Education (MCLE). 1991. *FDIC/RTC Crash Course*. MCLE.

This book is a collection of papers published by Massachusetts Continuing Legal Education, Inc. Authors and paper topics include "FDIC/RTC Superpowers," by Robert J. Stillman; "Some Procedural Issues under FIRREA," by Allen N. David; "Guidelines of the FDIC/RTC with Respect to Conflicts of Interest and Confidentiality and General Policies of Waiver Favored by the Outside Counsel Conflicts Committee," by Judith H. Thomsen; "Practical Concerns in Dealing with the RTC," by Peter C. Jacobs; "Directors' and Officers' Liability," by Mark I. Rosen and John V. Thomas; and "Potential Conflicts between Chapter 11 and 12 of the United States Code," by Sheryl Serreze.

Metzger, Thomas M. L. 1993. FDIC Capital Directive Procedures: The Unacceptable Risk of Bias. *Banking Law Journal* 110, no. 3:237–59.

The author maintains that procedural due process protections against bias are not present when the Federal Deposit Insurance Corporation issues a capital directive. A bank is deprived not only of a neutral decisionmaker but also of oral argument; cross-examination of FDIC decisionmakers; intra-agency review of the examiner's decision; and judicial review of the merits of the agency's decision. Even the one protection afforded the bank—written response to the intent to issue a directive—provides no protection against bias, since the response is considered only by the official who wrote the intent to issue the capital directive. Contrary to the Fifth Circuit Court's decision in *FDIC* v. *Bank of Coushatta*, which held that the FDIC's capital directive procedures are constitutionally sound and not subject to judicial review under the Administrative Procedure Act, a procedure that threatens a substantial property interest but affords no protection against potential bias of the decisionmaker is not constitutionally sound.

Murphy, M. Maureen. 1990. Federal Bank Regulators' Positions on 1980 Deposit Insurance Increase to $100,000. Report for Congress (September 12). Congressional Research Service.

This report briefly describes the legislative history of the 1980 increase in deposit insurance and identifies documents that shed light on the position of the following regulatory agencies: the Comptroller of the Currency (national banks), the Board of Governors of the Federal Reserve System (state member banks), the Federal Deposit Insurance Corporation (federally insured state-chartered banks), the Federal Home Loan Bank Board (federally chartered and federally insured thrifts), and the National Credit Union Administration (federally chartered and federally insured credit unions).

Nussbaum, Andrew J. 1992. Like Money in the Bank? An Economic Analysis of Fiduciary Duties to Protect the S&L Deposit Insurance Fund. *Administrative Law Review* 44, no. 2:355–401.

This article argues that the Office of Thrift Supervision's theory of fiduciary duty owed to the federal insurance fund lacks a legal basis and controverts economic theory. Such a duty, if it focused on limiting the risk to the S&Ls' assets in order to protect the fund, would exacerbate a principal cause of the continued instability of S&Ls: the lack of adequate capital investment. The article examines the triangular relationship involving the federal government as insurer, S&L management, and S&L shareholders (who are the traditional recipients of a fiduciary duty). The article concludes that the OTS's theory is fundamentally economically unsound.

Osterberg, William P. 1996. The Impact of Depositor Preference Laws. Federal Reserve Bank of Cleveland *Economic Review* 32, no. 3:2–11.

The 1993 amendment to the Federal Deposit Insurance Corporation Act made depositors' claims on failed banks superior to those of general creditors. The legislation's stated purpose was to reduce the cost to the FDIC of resolving bank failures, but how effective is it likely to be? This paper examines the impact of states' depositor preference laws from 1984 through 1992 and finds that although resolution costs were lower, creditors' responses may have partially offset the legislation's benefit to the FDIC. (©1999 EconLit)

Osterberg, William, and James B. Thomson. 1994. Depositor Preference and the Cost of Capital for Insured Depository Institutions. Working Paper Series, no. 9404. Federal Reserve Bank of Cleveland.

Depositor preference laws provide depositors with a claim on a failed depository institution's assets that is senior to unsecured general-creditor claims. Therefore, the author claims that depositor preference is correctly viewed as changing the capital structure of banks and thrifts, and these laws will affect the cost of capital for depositories. However, depositor preference will not affect the total value of banks and thrifts unless deposit insurance is mispriced.

Osterberg, William P., and James B. Thomson. 1999. Depositor-Preference Laws and the Cost of Debt Capital. Federal Reserve Bank of Cleveland *Economic Review* 35, no. 3:10–20.

Under depositor preference laws, depositors' claims on the assets of failed depository institutions are senior to unsecured general-creditor claims. As a result, the authors believe depositor preference changes the capital structure of banks and thrifts, thereby affecting the cost of capital for depositories. This article analyzes the effect of depositor preference laws on banks' cost of debt capital and on the value of FDIC deposit guarantees, and it does so by extending the single-period-cash-flow version of the capital-asset-pricing model to include depositor preference. The results indicate that under depositor preference laws, all general creditors would see the value of their claims reduced to the benefit of

the FDIC and uninsured depositors. Depositor preference laws may have another effect, however. In its most extreme form, structural arbitrage by general creditors can in fact render depositor and FDIC claims junior to those of general creditors.

Pulles, Gregory, Robert Whitlock, and James Hogg. 1991. *FIRREA: A Legislative History and Section-by-Section Analysis*. 3 vols. West Group.

This three-volume collection provides general information about FIRREA, including legislative reports.

Silverberg, Stanley C. 1994. A Report on Depositor Preference, Insurance Costs, and the Cost of Supervision. *The Golembe Reports* 1994-2.

This report addresses the cost of supervision, the likely effect of depositor preference on banking, and the effect of actions both actual and potential on the federal budget. The first section focuses on the cost of supervision and deposit insurance and the effect of both on the federal budget. The remainder of the report focuses on depositor preference: what it is, how its importance has been affected by the way the FDIC has handled bank failures, and how it is likely to affect the cost of future failures and the operations of banks.

Thomson, James B. 1994. The National Depositor Preference Law. Federal Reserve Bank of Cleveland *Economic Commentary* (February 15).

The author takes a critical look at depositor preference. The first section outlines the legislation and its implementation by the FDIC, and the second section examines the way in which depositor preference restructures a bank's liabilities. Then the author examines the possible reactions of nondeposit creditors to this restructuring, and discusses the policy implications.

# 13. Too Big to Fail

***Entries in this section deal specifically with the implicit bank regulatory policy known as "too big to fail" (TBTF): its origins; its economic consequences; its effects on bank behavior and risk-taking, on banks' cost of funds, and on depositor behavior; and corrective policy prescriptions.***

Angbazo, Lazarus, and Anthony Saunders. 1996. The Effect of TBTF Deregulation on Bank Cost of Funds. Salomon Center Working Paper no. S/96/39. New York University.

> This paper tests the hypothesis that the regulatory shift from full deposit coverage for some large banks to partial coverage for all banks, as mandated by the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), increased the risk and cost of bank deposits. The distribution of the wealth effects of FDICIA shows significant effects which were confined to the large bank segment. Specifically, the initial release of the President's plan, its initial approval in the House, and its passage by Congress generated negative abnormal returns for large banks, while the announcement of a less generous proposal by the Senate, and the President's final approval produced positive returns. Furthermore, the systemic risk estimate and the cost of funds for large banks declined after the Act. The data show no reaction by small banks, which is consistent with the hypothesis that small banks were not in a position to exploit the fairer cost of deposit insurance under the revised too-big-to-fail doctrine. (©1999 EconLit)

Black, Harold A., M. Cary Collins, Breck L. Robinson, and Robert L. Schweitzer. 1997. Changes in Market Perception of Riskiness: The Case of Too-Big-to-Fail. *Journal of Financial Research* 20, no. 3:389–406.

> In 1984, the Comptroller of the Currency stated that the eleven largest banking firms were "too big to fail," implying they would receive de facto 100 percent deposit insurance. The question is whether this announcement altered the market's perception of the riskiness of all banking organizations, not just those included in the Comptroller's statement. The authors address this question with two tests. First, through the examination of changes in institutional equity ownership from 1980 through 1988, they find that the announcement is associated with increases in institutional ownership at a time when a comparable set of nonfinancial firms saw reductions in institutional holdings. Second, through the examination of stock returns behavior of bank holding companies around announcements of dividend cuts and omissions from 1974 through 1991, they find that the Comptroller's 1984 announcement altered the market's reaction to dividend cuts and omissions by bank holding companies not specifically included in the Comptroller's statement. (©1999 EconLit)

Boyd, John H., and Mark Gertler. 1994. The Role of Large Banks in the Recent U.S. Banking Crisis. Federal Reserve Bank of Minneapolis *Quarterly Review* 18, no. 1:2–21.

The authors argue that the poor performance of the U.S. banking industry in the 1980s was due mainly to the risk-taking of the largest banks, which was encouraged by the U.S. government's too-big-to-fail policy. The article documents the recent trend toward riskier bank portfolios and the corresponding decline in bank profitability. A breakdown of the data by location and by asset size reveals that bank problems were concentrated in areas with troubled industries (oil, real estate, and agriculture) and among banks with the largest assets. In a statistical study controlling for location, asset size remains a significant factor in poor performance of large banks.

Feldman, Ron J., and Arthur J. Rolnick. 1998. Fixing FDICIA: A Plan to Address the Too-Big-to-Fail Problem. 1997 Annual Report. Federal Reserve Bank of Minneapolis.

In 1991, regulators indicated that in response to the failure of a very large bank, they would take extraordinary steps not otherwise allowed during a standard resolution. Such steps have included full protection of uninsured depositors and other creditors, as well as full protection of suppliers of funds to the bank's holding company and potentially even of shareholders, without regard to the cost to the FDIC. This practice has become known as "too big to fail" (TBTF). In this paper, the authors put forth a proposal to curtail the too-big-to-fail issue. The proposal requires uninsured depositors of TBTF banks to bear some losses when their banks are rescued. To further address moral hazard, the authors propose that the FDIC incorporate the market's assessment of risk, including the rate paid to uninsured depositors and other creditors, into insurance assessments.

Golembe, Carter. 1991. Too-Big-to-Fail and All That. *The Golembe Reports* 1991-4.

This report begins by describing how the TBTF concept came to be. The next section deals with suggested approaches to solving all or part of the too-big-to-fail problem, including several that have surfaced in draft legislative form. The final section offers concluding comments. The author's basic opinion is that TBTF is simply a small part of a larger problem within the banking industry and that solving the TBTF portion will not repair the banking industry.

Gray, Robert Parker. 1997. Failed Banks and Public Choice. Ph.D. diss., University of Sydney (Australia).

This dissertation examines the too-big-to-fail issue in bank failures from 1985 to 1994. The author uses public choice economic theories—particularly theories involving bureaucracies, interest groups, individual utility functions, regulations, and voting—to develop a model of choice made by the FDIC, and takes into consideration two landmark banking laws, FIRREA and FDICIA. He uses the logit econometric technique to test 20 variables in time periods delineated by FIRREA and FDICIA. The effect of the variables changes over time for the size of the bank. Between 1985 and 1989 the variable is statistically significant and positive, indicating the existence of a TBTF doctrine. However, size becomes

statistically insignificant between the enactment of FIRREA (1989) and the enactment of FDICIA (1991). After FDICIA, size is again statistically significant but the sign of the partial first derivative changes to negative, that is, after FDICIA, owners of uninsured deposits in smaller banks are favored. The most consistent variable is the relative level of core deposits in the failed bank. The higher the level of core deposits in a bank, the more likely the uninsured deposits will be treated as insured deposits.

Gup, Benton. 1998. Too Big to Fail: An International Perspective. In *Bank Failures in the Major Trading Countries of the World: Causes and Remedies*, 69–91. Quorum Books.

A key point in this chapter is that the TBTF doctrine extends beyond banks and that it is a much older practice than the failure of Continental Illinois Bank in 1984 — the event often identified with the origin of the TBTF doctrine. Throughout the world, governments intervene in the economy when they believe that there is a high probability that any event, for example the failure of a large firm (financial or nonfinancial), will result in severe economic distress or when they believe it is in their national interest to do so. The chapter examines twenty-three methods governments have used to intervene in the markets and provides examples from a variety of countries, including numerous examples of the TBTF doctrine applied to nonbanks.

Hetzel, Robert L. 1991. Too Big to Fail: Origins, Consequences, and Outlook. Federal Reserve Bank of Richmond *Economic Review* 77, no. 6:3–15.

The policy of too big to fail arose in part from pressures created by the lack of satisfactory bankruptcy arrangements for banks. It prevented market forces from closing banks and protected all uninsured depositors of large banks from loss in the event of failure. The consequent risk-taking behavior of banks produced the systemic instability in banking that the policy was designed to prevent. It is debatable how the Deposit Insurance Reform Act of 1991 will affect the timing of bank closures, the risk-taking behavior of banks, and the contraction of the banking industry. (©1999 EconLit)

Hughes, Joseph P., and Loretta J. Mester. 1993. A Quality and Risk-Adjusted Cost Function for Banks: Evidence on the "Too-Big-to-Fail" Doctrine. *Journal of Productivity Analysis* 4:293–315.

The authors estimate a multiproduct cost function model incorporating measures of bank output quality and the probability of failure. They find evidence that the "too-big-to-fail" doctrine significantly affects the price a bank pays for its insured deposits.

Institute for Strategy Development. 1991. "Too Big to Fail": Who Will Bear the Cost in Other Industrialized Nations? A study prepared for the American Bankers Association by the Institute for Strategy Development.

> In the United Kingdom, Japan, Germany, and most other countries whose banks compete directly with U.S. banks, the additional cost of protecting depositors above the deposit insurance limits is borne by the central bank and finance ministry, not the deposit insurance fund. A coherent response to the dilemma of which banks are "too big to fail" is vital if the U.S. deposit insurance system is to be truly restructured to avoid a repetition of its problems. A meaningful definition of the risk borne by the deposit insurance fund must precede any evaluation of the premiums it must charge and the resources it should control. Continuing the current practice of requiring the deposit insurance fund to bear the full cost of too-big-to-fail rescues results in premium levels that significantly reduce U.S. bank competitiveness.

Jacobe, Dennis. 1990. It's Time to End the Too-Large-to-Fail Doctrine. *Savings Institutions* 111, no. 2:23–25.

> The "too-large-to-fail" (TLTF) doctrine is the theory that large banks enjoy 100 percent deposit insurance that fully protects all uninsured depositors and general creditors. The author explains that de facto insurance coverage for all depositors and creditors of large financial institutions raises serious questions about competitive equity, market efficiency, financial sector structure, and overall economic stability. Most suggestions for reform involve ways to bring more market discipline to federally insured depositories. These suggestions include (1) reducing the deposit insurance amount; (2) limiting each depositor to one insured account; (3) cutting the insurance coverage provided; and (4) combining federal with private deposit insurance. Increased market discipline would allow the deregulation process to continue. By placing depositors at risk and limiting taxpayer exposure, these suggestions would let the marketplace determine financial institution activities. If de facto 100 percent insurance is going to be provided, the author feels it should be applied to all banks.

Moyer, R. Charles, and Robert E. Lamy. 1992. "Too Big to Fail": Rationale, Consequences, and Alternatives. *Business Economics* 27, no. 3:19–24.

> The "Too Big To Fail" (TBTF) doctrine was formalized in light of the liquidity crisis at Continental Illinois Bank in 1984. The objective of this policy is to preserve public confidence in banking institutions and thereby avoid the systemic problems associated with large bank failures. This article reviews the history of the TBTF policy, critically appraises its rationale and success, and discusses the serious economic consequences associated with TBTF. The moral hazard problems arising from the combination of TBTF, lax capital standards and a flat rate system of deposit insurance are examined. Alternatives to TBTF are suggested. (©1999 EconLit)

O'Hara, Maureen, and Wayne Shaw. 1990. Deposit Insurance and Wealth Effects: The Value of Being "Too Big to Fail." *Journal of Finance* 45, no. 5:1587–600.

This article investigates the effect on bank equity of the Comptroller of the Currency's announcement that some banks were "too big to fail" (TBTF) and that for those banks, total deposit insurance would be provided. Using event study methodology, the authors find positive wealth effects accruing to TBTF banks, with corresponding negative effects accruing to non-TBTF banks. They demonstrate that the magnitude of these effects varies with bank solvency and size. Finally, they show that the policy to which the market reacted was the one suggested by *The Wall Street Journal* and not the one actually intended by the Comptroller.

Park, Sangkyun. 1991. The Behavior of Uninsured Deposits: Market Discipline of "Too Big to Fail." Research Paper no. 9130. Federal Reserve Bank of New York.

This paper uses Call Report data of 1988, 1989, 1990, and 1991 to investigate the behavior of insured deposits. The focus is on the relationship among the quantity of uninsured deposits, interest rates, and the riskiness of banks. Cross-section analyses for each of the four years present two major findings: (1) The importance of bank size in explaining the quantity of uninsured deposits increased over time; and (2) riskier banks that offered higher interest rates on uninsured deposits attracted more uninsured deposits. Given these findings, uninsured deposits do not appear to be a reliable source of market discipline.

Randall, Richard E. 1990. The Need to Protect Depositors of Large Banks, and the Implications for Bank Powers and Ownership. Federal Reserve Bank of Boston *New England Economic Review* 78, no. 11:63–75.

The author believes three fundamental issues should be carefully considered before decisions are made about altering the federal safety net or the structure of the U.S. banking system. The first is whether bank depositors and other creditors can exercise timely and meaningful restraint on excessive risk-taking by bank management. The second issue is whether the government should handle the orderly resolution of large-bank failures in such a way that uninsured depositors and other bank creditors are protected. The third issue is the degree to which banking should continue to be insulated from other financial and nonfinancial activities. A review of these issues suggests that, since market discipline cannot be effective in deterring excessive credit risks in banks, authorities must continue to give all depositors of large banks the implicit assurance that their funds will be protected. Bank involvement in investment banking and other financial activities should continue to be limited, and nonbank entry into banking should still be restricted to avoid broadening the federal safety net.

Ratway, David J. 1995. Note and Comment: National Depositor Preference. *Nova Law Review* 19, no. 1121.

The Omnibus Budget Reconciliation Act of 1933 includes the National Depositor Preference provision that, for the first time, places both insured and uninsured

depositors of FDIC-insured institutions ahead of unsecured creditors in a bank liquidation. The author contends that the FDIC will be able to recoup most of the money it pays out to depositors before the first unsecured creditor receives anything, thus exposing unsecured creditors to great risk. The author expects that receipts to the federal deposit insurance funds from asset sales will rise, and insurance losses will be lower than under previous laws that divided the assets of a failed bank on a pro rata basis.

Robinson, Breck Ledo. 1994. Too-Big-to-Fail and Bank Holding Company Behavior. Ph.D. diss., University of Tennessee.

On September 19, 1984, the Comptroller of the Currency declared that some banks are "too big to fail" (TBTF). In the event of failure, the largest 11 banks would receive de facto 100 percent deposit insurance, which would minimize the possibility of bank runs by uninsured depositors. This dissertation explores the effect of TBTF on the market and on bank holding companies. The research examines the following areas: (1) the market's reaction to the TBTF doctrine in regard to the security price of bank holding companies, (2) the differences in the market's reaction to dividend cuts between the pre- and post-TBTF periods, (3) changes in bank holding companies' asset composition associated with the incentives related to the TBTF doctrine and (4) changes in the efficiency of bank holding companies caused by the TBTF doctrine.

Roth, Michael. 1994. "Too-Big-to-Fail" and the Stability of the Banking System: Some Insights from Foreign Countries. *Business Economics* 29, no. 4:43–49.

Systemic risk in case of a major financial crisis is an important issue in all industrialized countries. Each country addresses it differently by implementing a complex system of safety-net arrangements. In this article, the German approach of indirect deposit insurance through a liquidity bank is described. By comparing seven industrialized countries with regard to deposit insurance schemes, banking structures, and methods of handling a banking crisis, conditions are discussed under which such an approach is transferable to other banking systems in order to make a "too big to fail" scenario less likely to occur. (©1999 EconLit)

Scott, David F. Jr., William G. Jens, and Raymond E. Spudeck. 1992. Bank Reform: The Enduring Issues. *Business Economics* 27, no. 3:7–12.

The combination of a difficult aggregate economic environment, an increasingly competitive market for the delivery of financial services, and troublesome trends in both bank profitability and failure rates has focused national attention on bank reform. This article overviews several of the enduring issues that dominate bank reform proposals. The article then discusses the need for deposit insurance, the too-big-to-fail doctrine, and the entry of banks into non-traditional lines of business. The role of market discipline and bank survival in the 1990s is also considered. Less of a regulatory burden coupled with renewed market discipline are necessary for the banking industry and the economy to prosper during the remainder of the 1990s. (©1999 EconLit)

Stern, Gary H. 1997. The Too-Big-to-Fail Problem. Federal Reserve Bank of Minneapolis *Region* 11, no. 3:26–27.

In this commentary, Gary Stern, President of the Federal Reserve Bank of Minneapolis, argued that FDICIA, the 1991 banking reform legislation, did not go far enough in preventing de facto full coverage of uninsured depositors and creditors at large failed banks. Hence, he argues, the problem of moral hazard is unmitigated. The author strongly recommends that the law be changed so that whenever a TBTF-bank is rescued, depositors and creditors are able to recover only 80 percent of their uninsured deposits and claims, or the market value of these, whichever is greater.

Stern, Gary H. 1998. Deposit Insurance, Too Big to Fail, and Small Banks. Federal Reserve Bank of Minneapolis *Fedgazette* 10, no. 2:10–11.

This commentary discusses the issue of too-big-to-fail (TBTF). In 1991, Congress partially fixed the problem of moral hazard created by 100 percent coverage of uninsured deposits and creditors by passing the Federal Deposit Insurance Corporation Improvement Act (FDICIA). Certain provisions of FDICIA substantially increased the likelihood that uninsured depositors and other creditors would suffer losses when their bank failed. However, the author argues that the fix was incomplete, because regulators can still provide full protection when they determine that a failing bank is TBTF. He feels the TBTF exception is too broad and still provides too much protection for large banks. The resultant moral hazard from 100 percent coverage at large banks could, he argues, encourage these institutions to take on excessive risk. The author proposes to amend FDICIA so that the government cannot fully protect uninsured depositors and creditors.

Todd, Walker F., and James B. Thomson. 1990. An Insider's View of the Political Economy of the Too Big to Fail Doctrine. Working Paper no. 9017. Federal Reserve Bank of Cleveland.

Understanding interbank exposure is the key to understanding the too-big-to-fail doctrine. In this paper, the authors argues in support of three principal hypotheses: high levels of interbank exposure reduce the safety and soundness of the banking system; interbank exposure affects the ability of the FDIC and bank regulators to use market discipline as a constraint on banks' risk-taking; and a rising level of interbank exposure indicates reduced stability of the financial system. In addition, the paper provides evidence that interbank exposure does not appear to be a generalized problem for U.S. banks; however, some banks in all categories of asset size still have comparatively high ratios of interbank exposure to capital, despite a general decline in these ratios since the Continental Illinois failure.

U.S. House. 1991. Committee on Banking, Finance and Urban Affairs. *Economic Implications of the "Too Big to Fail" Policy: Hearing*. 102d Cong., 1st sess., May 9.

Witnesses include William H. Brandon Jr., Robert L. Clarke, Bert Ely, Johnny C. Finch, Robert R. Glauber, George G. Kaufman, John LaWare, William L. Seidman, and Howard L. Wright.

Wall, Larry. 1993. Too-Big-to-Fail after FDICIA. Federal Reserve Bank of Atlanta *Economic Review* 78, no. 1:1–14.

In passing the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), Congress sought to reduce both the potential for systemic problems in the banking system and bank regulatory agencies' incentives to follow a too-big-to-fail policy. FDICIA strictly controls regulators' ability to protect or extend the lives of large banks, while keeping other policy tools for dealing with systemic risk. Some systemic-risk issues remain, however, including the effect of a large bank's failure on financial derivatives markets and the effects of unexpected massive losses at one or more banks. This article reviews these concerns as well as FDICIA's provisions designed to reduce systemic risk.

Wilmarth, Arthur E. Jr. 1992. Too Big to Fail, Too Few to Serve? The Potential Risks of Nationwide Banks. *Iowa Law Review* 77, no. 3:959–1081.

The author considers the case for interstate branching, as well as the proposal for a nationwide consolidation of the banking industry. The article shows that interstate branching by itself (that is, without substantial consolidation through bank mergers and acquisitions) would provide modest net benefits to the banking industry and the public. In contrast, full-scale nationwide consolidation could impair the safety, efficiency, and profitability of the banking industry. Consolidation could also reduce competition among banks and restrict the availability of credit to smaller businesses and local communities. This article recommends, therefore, that interstate branching should be approved, but only with reasonable safeguards designed to prevent the potential adverse effects of consolidation. The author contends that the greatest risk posed by nationwide consolidation is that it would concentrate more of the nation's banking assets within a small number of "too big to fail" banks.

# 14. FDIC-Administered Insurance Funds

***Entries in this section relate specifically to the structure, status, and future condition of the two bank insurance funds administered by the Federal Deposit Insurance Corporation. Entries also discuss the merits of maintaining separate insurance funds for thrifts and commercial banks, and the effects of the industry's continuing consolidation on the exposure of the insurance funds.***

American Bankers Association. 1991. Banking Industry and FDIC Bank Insurance Fund Conditions. Report.

> This report finds that if the Bank Insurance Fund (BIF) is recapitalized with increases in deposit insurance premium rates, the BIF's funding problem will not be solved. The report discusses some of the difficulties in making reasonable estimates of the size of the problem facing the BIF and describes some of the feedback effects that must be considered when a recapitalization program is designed.

Eccles, Jennifer L., and John J. Feid. 1997. Two Deposit Insurance Funds: In the Public Interest? Economics Working Paper 97-5. Office of the Comptroller of the Currency.

> The authors ask whether it is in the public's best interest to maintain two separate deposit insurance funds or whether the Savings Association Insurance Fund (SAIF) and the Bank Insurance Fund (BIF) should merge. They (1) examine the historical reasons for separate funds; (2) review the legislative history of each fund's creation and evolution; (3) ask whether there could be any economic benefit from combining the funds; and (4) develop a mechanism to determine the optimal insurance fund level. The authors conclude that the FDIC could maintain a lower insurance fund reserve level in a combined fund than in either of the separate funds and still support the same amount of coverage, given the level of probability of loss.

Eisenbeis, Robert A. 1995. Regulation: Resolving the BIF/SAIF Problem. *Journal of Retail Banking Services* 17, no. 4:59–63.

> The Shadow Financial Regulatory Committee put forward a new proposal in its Statement No. 124, "Alternatives to Recapitalizing the Savings Association Insurance Fund and Defeasing the FICO [Financing Corporation] Bonds," September 18, 1995. This article sets out the background for the interest in restructuring the deposit insurance funds and describes in detail the Committee's proposal and why it would be potentially more incentive-compatible and potentially less costly to both the industry and the public than the current proposals being debated.

Fidjestol, Asbjorn. 1991. The [Norwegian] Government Bank Insurance Fund. *Norges Bank Economic Bulletin* 62, no. 1:26–29.

> On January 25, 1991, the Norwegian government put forward Bill Number 20 of January 20, 1991, proposing to establish of the Government Bank Insurance Fund,

which was to be governed by separate legislation. In March 1991, the Storting (parliament) adopted a bill providing for the establishment of the Fund, and allocated NOK 5 billion to it. The Fund's board was appointed in March 1991. The purpose of the Fund is to underpin the soundness of the Norwegian banking system and to secure depositors' interests. The background for the government's proposal to establish the Government Bank Insurance Fund is Norwegian banks' deteriorating loss, earnings, and capital position. The loss trend in 1990, as shown in the banks' year-end adjustment, increased the need for active measures. One of the Fund's functions is to grant loans on special terms to the Commercial Banks' Guarantee Fund and the Savings Banks' Guarantee Fund. The authorities are thereby contributing to buttressing the banking system by facilitating the infusion of risk capital.

Gilbert, R. Alton. 1992. The Effects of Legislating Prompt Corrective Action on the Bank Insurance Fund. Federal Reserve Bank of St. Louis *Review* 74, no. 4:3–22.

Under the assumption that losses to the Bank Insurance Fund (BIF) would have been lower if supervisors had acted differently, the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) made major changes in the supervision and regulation of depository institutions. Whether the evidence is consistent with that underlying assumption is an issue for consideration. As part of a program for reform of the supervision and regulation of depository institutions, several economists have begun promoting proposals for prompt corrective action (PCA) by supervisors. The evidence does not support the hypothesis that the longer a bank operates with a low capital ratio before failure, the larger the BIF loss. Instead, the evidence suggests that supervisors have been effective in constraining the risk assumed by poorly capitalized banks. These results raise doubts about whether PCA legislation will reduce BIF losses.

Gilbert, R. Alton. 1993. Implications of Annual Examinations for the Bank Insurance Fund. Federal Reserve Bank of St. Louis *Review* 75, no. 1:35–52.

This paper investigates whether there is a relationship between the frequency of bank examinations and losses to the Bank Insurance Fund (BIF). The author studies whether banks reduce their asset growth and dividends after supervisors classify them as problem banks. If so, BIF losses as a percentages of total assets at failed banks that were examined frequently should be less than BIF losses as a percentage of total assets at failed banks that were examined infrequently. The author concludes that the requirement of annual examinations will reduce losses of BIF.

Isaac, William M., and James A. Marino. 1989. The Bank Insurance Fund: Its Future Prospects. Report. The Secura Group.

This report reviews the works of R. Dan Brumbaugh Jr., Andrew S. Carron, and Robert E. Litan on the topic of the Bank Insurance Fund (BIF). These three authors conclude that the BIF is not viable; however, Marino and Isaac disagree. Marino and Isaac conduct a comprehensive analysis of the condition of the

banking industry and the resources of the BIF and conclude that the BIF is not under-funded.

Kane, Edward J. 1991. Timely Accounting and Budgeting for Deposit-Insurance Losses. Cato Institute *Regulation* 14, no. 4:29–32.

The author believes that the deposit insurance debate is confused by the misleading accounting system federal authorities have used to measure each fund's income, expenditures, liabilities, and net reserves. He suggests that elected and appointed officials be more accountable for deposit-insurance losses as they accrue.

Konstas, Panos. 1992. The Bank Insurance Fund: Trends, Initiatives, and the Road Ahead. *FDIC Banking Review* 5, no. 2:15–23.

The article discusses the changes to the financial condition of the Bank Insurance Fund (BIF) and the measures taken to restore the BIF to financial viability. The author recommends that a "moving-average" approach to assessment policy be implemented after the BIF reserve reaches its target ratio of 1.25 percent of insured deposits.

Lateef, Noel V., and Raymond S. Sczudlo. 1995. Federal Deposit Insurance Funds: The Impending Rate Disparity between Banks and Thrifts. *Banking Law Journal* 112, no. 4:353–83.

The authors examine the deposit-insurance rate disparity between members of the Bank Insurance Fund and members of the Savings Association Insurance Fund, and predict another S&L debacle unless the two funds are merged.

Marino, James A. 1990. A Preliminary Inquiry into the Financial Exposure of the Bank Insurance Fund. Report. The Secura Group.

This paper examines the need for further premium increases by providing a general view of the potential exposure facing the Bank Insurance Fund (BIF). The author estimates the number of institutions with a high failure potential among the approximately 13,000 commercial banks and 480 savings banks insured by the BIF. By isolating potential failure candidates, one can arrive at general conclusions regarding the BIF's potential exposure. Because the paper is interested primarily in failure prediction, it does not pretend to provide a balanced account of the condition of the banking industry.

Oshinsky, Robert. 1999a. Effects of Bank Consolidation on the Bank Insurance Fund. Working Paper 99-3. Federal Deposit Insurance Corporation.

During the 1990s, mergers of large banks changed the industry dramatically, with the concentration among the 100 largest banking organizations increasing from 54.6 percent as of year-end 1990 to 72.6 percent as of mid-1999. Using a Monte Carlo model under various levels of industry concentration, the author examines changes in the Bank Insurance Fund's (BIF's) ability to remain solvent. To better

examine the effects of consolidation, the author simulated the top 100 banking organizations individually, whereas other banks were simulated in the aggregate. The results show that, on the basis of historical loss and failure rates, the consolidation that took place between 1990 and 1997 increased the risk of BIF insolvency by approximately 50 percent, and that megamergers that took place or were announced during the 18 months between year-end 1997 and midyear 1999 further increased the risk of insolvency. Moreover, unlike the BIF of 1990, the solvency of the BIF of 1999 is inseparably tied to the health of the largest banking organizations.

Oshinsky, Robert. 1999b. Merging the BIF and the SAIF: Would a Merger Improve the Funds' Viability? Working Paper 99-4. Federal Deposit Insurance Corporation.

During the 1990s, the differences between BIF-insured and SAIF-insured institutions declined. Because of mergers, over one-third of the deposits insured by the Savings Association Insurance Fund (SAIF) had come to be held by Bank Insurance Fund (BIF)-member institutions. Using a Monte Carlo model under various levels of industry concentration, the author examines the SAIF's ability to remain solvent. He shows that industry consolidation has served to reduce the vulnerability of the SAIF, as several large BIF-member institutions have increased their SAIF-insured holdings. Nonetheless, the SAIF continues to be somewhat more vulnerable to insolvency risk than the BIF. The paper also examines a possible merger of the BIF and the SAIF. The results show that a larger, combined insurance fund would be less risky than either the BIF or the SAIF separately. In other words, both the BIF and the SAIF would benefit from a merger of the funds. In addition, the results show that the probability of either fund's becoming insolvent is significantly higher that the probability of a merged fund's becoming insolvent.

Savings Association Insurance Fund Industry Advisory Committee (SAIFIAC). 1990. Report of the SAIFIAC. Report. SAIFIAC.

This report was submitted to the House Committee on Banking, Finance and Urban Affairs and the Senate Committee on Banking, Housing, and Urban Affairs. The advisory committee urged Congress to take action to prevent further losses to the insurance funds, finding that the SAIF would have inadequate funds to perform its role as insurer. The committee recommended that funds designated for the SAIF not be counted as available to cover Resolution Trust Corporation (RTC) losses and that the $32 billion designated in FIRREA as contributions to the SAIF be preserved. The committee commented on insurance premium parity, regulatory independence, retroactive passive loss restrictions, QTL test, and purchased-mortgage servicing rights. The committee was established by FIRREA to make recommendations to the FDIC. The summary is from the June 1990 semiannual report of the SAIFIAC.

Savings Association Insurance Fund Industry Advisory Committee (SAIFIAC). 1994. Report of the SAIFIAC. Report. SAIFIAC.

While Congress was considering various proposals for consolidation of federal bank regulatory agencies, the Savings Association Insurance Fund Industry Advisory Committee was considering the status of the insurance funds, particularly the viability of the Savings Association Insurance Fund. The advisory committee recommended that a merger of the BIF and the SAIF take place as soon as possible.

U.S. General Accounting Office (GAO). 1993–1995. Deposit Insurance Funds: Compliance with Obligation and Repayment Requirements. GAO.

The Federal Deposit Insurance Corporation Improvement Act of 1991 required the GAO to report quarterly on the condition of the BIF and the SAIF and their ability to pay their obligations. The GAO also assesses whether the funds' total collections from the management and disposition of assets acquired from failed banks would be enough to repay their existing working capital borrowings. The GAO discontinued the reports once the banking crises subsided and the funds were deemed to be financially sound.

U.S. General Accounting Office (GAO). 1994a. *Federal Deposit Insurance Corporation: Management Letter as of December 31, 1992.* GAO/AIMD-94-30ML.

Pursuant to a legislative requirement, the GAO reviewed the Federal Deposit Insurance Corporation's (FDIC's) accounting procedures and internal controls for corporate, consolidated office, and asset pool operations. The GAO found several problems with the FDIC's accounting procedures and internal controls, and these are itemized in the report.

U.S. General Accounting Office (GAO). 1994b. *Federal Deposit Insurance.* GAO/GGD-95-47R.

Pursuant to a congressional request, the GAO reviewed whether (1) the transfer of money from federal deposit insurance funds into mutual funds would significantly affect the assessment income of the Bank Insurance Fund (BIF) and the Savings Association Insurance Fund (SAIF); and (2) Federal Deposit Insurance Corporation (FDIC) projections for the BIF and the SAIF consider this movement of money. The GAO noted that (1) the transfer of savings from deposits has reduced the assessment bases of the BIF and the SAIF; (2) slow rates of growth in the assessment bases contribute to the shortening of timetables for recapitalizing the BIF and the SAIF; (3) the slow rates of growth in the assessment bases would reduce the level of deposits that the BIF and the SAIF are projected to insure, but it would not reduce the funds' projected reserves by the same proportion; (4) the FDIC has not explicitly taken into account the effect of mutual funds on deposits; and (5) the willingness of consumers to move funds between deposits and mutual funds introduces a source of volatility into deposit growth projections and insurance fund reserve ratio calculations.

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