Jonathan R. Macey

The False Promise of De-Regulation in Banking

Law Review Submission
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I. Introduction

People of all political stripes tend to think of regulatory policy as involving straightforward choices between regulation and deregulation. Those most concerned with market failure and equality of outcomes favoring regulation and those with faith in markets and concerns about efficient outcomes favoring deregulation.

The point of this essay is to demonstrate that government regulation, sometimes in heavy doses, is necessary in order for private markets to function effectively. This essay illustrates this thesis, which can be summarized succinctly as arguing for government’s role in fostering markets (“mercerization”) by employing a number of case studies from the banking industry. From these studies it is clear that, in order for markets to work, government regulation often is needed in order to obtain the benefits promised by the proponents of free-market competition. In other words, it often is the cast that “freer markets need more rules.”

Deregulation often is touted as a panacea for problems created not only by failures of the regulatory state, but also for problems created by the politicization of the bureaucratic process. But deregulation is not a cure-all for either problem. In the particular case of banking, which is the subject of this Article, deregulation is not going to, produce better policies, and often will generate disastrous policy results.

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Sometimes what is paraded under the guise of regulation poses more costs on business and taxpayers; sometimes what appears to be regulation actually creates socially optimal incentives for private actors to order their behavior on their own in ways that benefit themselves, but also others.

Moreover, the policy choice between de-regulation, continued regulation, and even the initial decision whether to regulate in the first place, all have the political attributes typically attributed to regulation. Namely, these various policy choices are all informed by vigorous lobbying and other forms of rent-seeking. As a consequence, the process by which these policy decisions were reached can tell us a great deal about the likely effects of such choices, both in terms of efficiency and in terms of wealth distribution.

Finally, turning to the specific case of banking, the economic and political significance of deposit insurance must be understood. Deposit insurance is part of the fabric of democracy: politicians in a political marketplace characterized by rivalrous competition take ownership of bank failures, and must respond to such failures, either ex ante (before the failure) or ex post (after the failure), by providing assurances to depositors that they will be paid. Thus, I will argue, in democracies, either explicit de jure deposit insurance, or implicit de facto deposit insurance in the form of post-failure guarantees must be taken into account when evaluating the merits of any proposed efforts to achieve deregulation.

The Article begins by providing some background about the nature of the business of banking, and explains the theoretical underpinnings of the thesis. A major portion the Article examines actual examples of banking regulation and deregulation.
The conclusion is that regulation can foster markets, and that deregulation often is only successful when coupled with a strong guiding hand from government.

This Article also will explore state-federal relations in order to demonstrate that state regulation often is sub-optimal because states are subject to a variety of moral hazard problems that weaken their incentives to regulate effectively. In particular, when states regulate banks, they have incentives to create rules that promote excessive risk-taking, because the states disproportionately benefit when banks are successful, but share losses when banks fail with other states through the U.S. system of national deposit insurance.

II. Banking: Economic and Political Theory

Three core structural features distinguish banks\(^1\) from other sorts of business in the economy. First, banks are systematically far more highly leveraged than other sorts of firms in the economy. On average, well-capitalized banks have debt-equity ratios of 10:1, as opposed to the 1:1 debt ratios typical of non-financial firms.

Second, banks’ balance sheets are characterized by a severe disparity in the characteristics of their assets and liabilities with respect to liquidity and transparency. Banks’ assets (commercial and home mortgage loans) tend to be highly illiquid and opaque, while their liabilities tend to be highly liquid and transparent (transaction accounts, particularly checking accounts and short-and-medium-term certificates of deposit).

\(^{1}\) Following long-standing custom, while financial intermediaries come in many forms, the subset of financial intermediaries known as “banks” are those that combine commercial lending with transaction services, particularly demand deposits. See Jonathan Macey, Geoffrey Miller and Richard Carnell, Banking Law & Regulation (Aspen Law & Business, Third Edition, 2002).
Finally, banks’ balance sheets are unusual because of the mismatch in the term-structures of their assets and liabilities. Bank assets tend to be invested in long-term instruments, i.e. loans to commercial and residential borrowers, while their liabilities take the form of deposits, most of which are available on demand (demand checking accounts), or in the extremely short-term (federal funds and short-term certificates of deposit). While the precise relationships change over time, it is not unusual for the average maturity of banks’ liabilities to be only six months, with the average maturity of banks’ assets being six years in duration.

These core characteristics of banks are endogenous. Specifically, these characteristics pre-date exogenous regulatory events such as the introduction of government-issued currency to replace bank-issued specie, and, of course, the more recent introduction of deposit insurance. These fundamental, defining characteristics of banks are due to the existence of economies of scope that are generated with lending and deposit-taking are combined: lending requires close monitoring of borrowers, and deposit-taking facilitates such monitoring by giving bankers accurate, real-time information about borrowers’ cash flows. Moreover, banks’ ability to attain profitability is closely linked to these characteristics, as the spread, or difference, between what banks pay to attract deposits and other liabilities and what they earn on their loans and other assets.

The core characteristics of banks that I have just described make banks particularly susceptible to runs and panics. Banks are inherently unstable because depositors have access to banks’ liquidity on a first-come, first-served basis. This means that if depositors experience an unexpectedly large demand for liquidity, banks will
encounter a “run,” as word of the liquidity demand spreads, and depositors attempt to protect themselves by cashing in their accounts.

In other words, bank depositors face a prisoners’ dilemma. The best strategy for depositors as a group is to refrain from withdrawing their funds precipitously, and to base withdrawal decisions not on what other depositors do, but on their own, endogenous need for liquidity over their life cycles. By contrast, the safest strategy for depositors as individuals is to withdraw their funds the moment they hear the slightest rumor of financial weakness within the bank, or even unusual activity among depositors. This is because no bank is able to meet the liquidity needs of all of its depositors at once, in light of the banks high leverage, low liquidity, and the mismatch in the term-structure of its assets and liabilities. Banks, in the absence of a creditable deposit insurance regime, are extremely unstable creatures. That is why even the most free-market observers, such as Milton Friedman and Catherine England (Cato Institute) favor federally sponsored deposit insurance plans, at least as an option for banks and depositors.2

The notable lack of success of private (and even state-based)3 deposit insurance funds due to lack of credibility and transparency, coupled with the over all economic

2 Catherine England, Private Deposit Insurance: Stabilizing The Banking System, Cato Policy Analysis No. 54, June 21, 1985, proposing that every bank be able to “choose among several federal deposit insurance plans” from insurance on 100 percent of its deposits, thereby “extending explicit protection even beyond that available today” to permitting banks to choose to provide no federal insurance to its depositors, in exchange for “no federal regulation of its activities”; Milton Friedman and Anna Schwartz, “A Monetary History of the United States” (1963, Princeton University Press).

3 Maryland and Ohio were among the last states to have state-administered deposit insurance schemes. Both of these schemes collapsed ignominiously during the spring of 1985, and were the death knell of state deposit insurance funds. See http://www.fdic.gov/bank/historical/s&l/; McCulloch, J. Huston, "The Ohio S&L Crisis in Retrospect: Implications for the Current Federal Deposit Insurance Crisis," in: Merging Commercial and Investment Banking, Proceedings of a Conference on Bank Structure and Competition, pp. 230-251, Chicago: Federal Reserve Bank of Chicago, 1987; Pressman, Steven, Behind the S&L Crisis, Editorial Research Reports, Washington, DC: Congressional Quarterly, November 4, 1988; Todd, Walker
importance of banks in allocating capital and serving as repositories for savings, creates a
demand for regulation. Banks are critical to markets; however, in order to create a
market for banks, government regulation of deposit insurance is needed.

In turn, the existence of governmentally-sponsored deposit insurance schemes
create a demand for massive government regulation, because once the government enters
the business of offering deposit insurance, it must take steps to limit its liability and to
curb the inevitable moral hazard that results from bankers trying to transfer wealth from
the government’s insurance fund to themselves by increasing the riskiness of their
activities once the deposit insurance scheme is in place.

Milton Friedman’s core idea was that government regulation of some kind was
necessary to prevent bank failure. Regulation could take the form of deposit insurance,
which operates \textit{ex ante} to prevent bank runs and panics, or it could operate \textit{ex post} by
using monetary policy orchestrated by the central bank to inject money into the system
and provide liquidity for banks that were the subject of runs and panics. In their
\textit{Monetary History of the United States}, Friedman and Schwartz observe that the Federal
Reserve failed to do its job during the banking crisis that followed the stock market
collapse in 1939. They argued that the Fed had permitted a collapse of the monetary
system by permitting perfectly sound banks to fail by the thousands because of liquidity
problems, despite the fact that the Fed had been set up in 1913 with the objective of
preventing precisely that from occurring. Friedman and Schwartz argued that, because
the Fed had failed in its responsibilities and showed no sign that it was not going to
continue to fail in pursuing its function in the future, “something else was needed to

\textit{F., Similarities and Dissimilarities in the Collapses of Three State-Chartered Private Deposit Insurance}
perform the function for which it had originally been established and…the Federal Deposit Insurance Corporation would serve that function.”

As Professor Friedman has pointed out, deposit insurance worked extremely well for over forty years in accomplishing its stated purpose of preventing bank failures. As he has observed, from 1934 until the early ’70s, there were very few bank failures. And there were essentially no runs on banks because of liquidity problems.

In addition to the view of market-oriented economists that deposit insurance, and hence government regulation, is necessary simply to permit banks to operate in the market without causing major macro-economic dislocation, there is an independent reason based on real-world political considerations why government-sponsored deposit insurance is critical to a well-functioning economy. This analysis is based on the straightforward assumption that banks, like all other firms and individuals in the economy, operate in a world in which there is government.

And, where there is government, even where there is no governmental regulation, there is always the potential for governmental regulation. As such, it is critical for policy-makers and analysts to recognize that the level of governmental regulation at time “1” will effect the government’s predicted response to an event at time “2”. As such, where banks operate in democracies, political actors are subject to “Darwinian-like” political pressures. This means that, irrespective of one’s philosophical preference for a libertarian state, the actual regulation that one, in fact, observes will be determined by the necessity for political actors (politicians and bureaucrats) to maintain a certain level of

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political support in order to remain in office. Deregulation, regardless of its theoretical merits, may not be a viable survival strategy for political actors.

This analysis has profound implications for the “regulation-deregulation debate” Those in favor of deregulation must find a way to implement it that is consistent with the basic need of political actors for survival. Otherwise, to press for deregulation (or regulation) in the face of widespread, well-organized political opposition can never succeed because those who support such unpopular views will be replaced by entrepreneurial, opportunistic politicians who oppose it. The “take away” lesson is that once one admits the inevitability of certain governmental action, such as providing deposit insurance, or taxing corporate profits, or providing police protection for citizens, we similarly must acknowledge the necessity for governmental regulation. Thus the question is not whether to regulate, but how to regulate most effectively.

Thus I observe that in banking, not only the actual existence, but even the potential existence of government contingent liability to large numbers of bank creditors (depositors) in case of bank insolvency, either through *de jure* or *de facto* deposit insurance, fundamentally changes the role of government as it relates to banking.

As a purely descriptive (empirical) matter, governments in democracies respond to political pressure. For a variety of reasons, voters feel that government is responsible for maintaining and/or ensuring the integrity of the banking system. In other words, regardless of the nature of the regulatory regime in place in a particular jurisdiction, governments in democratic countries are made to feel responsible for the safety and soundness of their countries’ banking systems. Regulatory theory and practice should take account of this political reality of actual responsibility. One way that this political
reality manifests itself is in the form of bank bailouts in the case of banking crises. There have been large or systemic banking failures in many industrialized democracies, including the U.S., Russia, the Czech Republic, Israel, Argentina, Japan, Israel, Sweden, Finland, Norway, the Netherlands, and France. In every one of these countries, bank failures have led to a government response that has included, *inter alia*, the bailout of most, if not all, of the depositors in the bank suffering financial crisis.

The bailouts have taken one of two forms. In countries with *de jure* deposit insurance regimes, such as the U.S. (Federal Deposit Insurance Corporation Act of 1933), the nature and limits of the government’s exposure is set, *ex ante*, that is, before a banking crisis has manifested itself. In other democracies that have experienced banking crises without the existence of FDIC insurance (Israel, Czech Republic, Sweden), the absence of deposit insurance has been viewed *ex post* (after the banking crisis has manifested itself) as a regulatory failure. To cope with this failure, the government has acted as though it were responsible for meeting the liabilities of the failed bank. In other words, where no *de jure* deposit insurance regime exists, there has been a *de facto* deposit insurance regime, as the government has stepped in after the fact and made good on depositors and other claims.

A clear implication of this political reality is that it is erroneous (an example of what Ronald Coase and Harold Demsetz have characterized as the “Nirvana” fallacy), to compare a regulatory regime, such as the one that exists in the U.S., with a mythical unregulated regime, in which the government can credibly commit itself to stand aside and watch bank failures and do nothing in response. In other words, the proclivity for

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5 The Nirvana fallacy refers to the tendency to identify market failures such as externalities and then to conclude reflexively that government regulation would be optimal, without considering whether the
political survival has led politicians and policy-makers to offer bailouts even in the absence of explicit deposit insurance protection. Thus the real-world policy choice in banking is between a regulatory regime characterized by *de jure* (explicit) deposit insurance protection, and a “non-regulatory” regime characterized by *de facto* (implicit, after the fact deposit insurance in the form of gratuitous government bailouts of failed banks) depositor protection after a banking crisis has manifested itself.

Seen from this *real politick* perspective, since deposit insurance of one of these two types (*de jure* or *de facto*) is inevitable, we must choose between these two regimes, rather than between either of these regimes and some mythical alternative. For a variety of reasons, I will argue that a regulatory regime of well-defined, explicit *ex ante, de jure* deposit insurance is unambiguously superior to a world of undefined, implicit, *ex post, de facto* deposit insurance.

*De facto* deposit insurance regimes impose uncertainties: since it is clear that government will be responsible for bank failures to some extent, the nature and limits of that responsibility is not transparent to investors in regimes with *de facto* rather than *de jure* deposit insurance regimes. This uncertainty leads to two types of inefficiencies.

First, creditors will demand compensation for the uncertainty associated with the lack of information and certainty concerning the nature of the governmental guarantees in a *de facto* deposit insurance regime.

Second, greater resources will be expended in rent-seeking by creditors faced with a crisis in the bank or banks in which they have deposits. This, in turn, is likely to lead to inefficiencies and other costs associated with such regulation outweigh the benefits. This problem was first suggested by Ronald Coase, “The Problem of Social Cost,” Journal of Law and Economics 3, (October) 1-44 (1960), and then identified explicitly by Harold Demsetz, “Information and Efficiency: Another Viewpoint,” Journal of Law and Economics 12:1 (April) 1-22 (1969).
bailouts either of all creditors (which has been the historical norm) of banks in
democracies without *de jure* deposit insurance, or else to bailouts of only the most
politically powerful creditors. Neither of these alternatives is attractive from a public
policy point of view because each involves the waste of real resources.

The advantage of *de jure* deposit insurance, then, is that *de jure* insurance reduces
the government’s actual and contingent liability for bank failures from the totality of the
banks’ liabilities to the amount specified in the deposit insurance legislation. In light of
the fact that all democracies facing systemic bank failure have bailed out all creditors,
this represents a significant reduction in the government’s exposure. In other words, *de
jure* deposit insurance allows government to credibly commit to a relatively low level of
protection, thus capping its liability at the amount specified in the deposit insurance
regime.

In addition, *de jure* deposit insurance limits the economic waste associated with
rent-seeking by reducing the rent-seeking that occurs in anticipation of, and in the wake
of, bank failures by creditors seeking recourse to the government. Thus, the best, most
credible way for government to limit its exposure to banking crisis is to constrain itself *ex
ante* by providing a regulatory scheme of *de jure* deposit insurance.

Having established that government-sponsored, statutory deposit insurance
programs are a regulatory mechanism that is efficient as compared to the alternative, *ex
post, ad hoc*, governmental responses in the wake of bank failure, the question becomes
not whether regulation makes sense, but rather what sort of regulation makes the most
sense. This is because deposit insurance provides a solid, irrefutable reason for
government regulation: such regulation is necessary for the same reason that monitoring
and control is required in private sector insurance markets: to mitigate what economists call “moral hazard problems” (moral hazard refers to the proclivity to excessive, sub-optimal risk-taking by insured entities in order to transfer wealth from insurers to themselves).

Thus, the question is not whether, but how, to regulate banks in order to mitigate the moral hazard. A wide array of options is available to governments and private sector entities in the insurance business. We would expect that these regulations would also include contractual restrictions that would be applied to banks in exchange for government-sponsored deposit insurance regimes. These private-sector options include:

- Entry restrictions (limiting who qualifies for insurance)
- Guidelines on capital maintenance
- Guidelines on distributions of free cash flow
- Activities restrictions and regulations
- Regulation of management quality
- Regulation of banks’ investment policy
- Regulations requiring diversification of investments
- Restrictions on self-dealing
- Right to enter the premises and examine financial record and other information produced by the insured.

III. Case Study #1: The S&L Crisis

Having discussed the demand for regulation in the banking industry, we will now turn to the critical question of how to make government regulation in this critical area
function. Here I argue that the S&L crisis is directly attributable to deregulation that permitted banks to engage in excessive amounts of risk-taking. In particular, in 1967, the State of Texas approved a major liberalization of S&L powers that, among other things, permitted S&Ls to make loans on undeveloped property, regardless of the lack of income generated by such property, in amounts up to 50% of the appraised net worth of such properties. Then, the Financial Institutions Regulatory and Interest Rate Control Act of 1978 allowed S&Ls to invest up to 5% of their assets in each of the following types of loans: development, construction and education loans. This meant that all of a S&Ls equity would be at risk, not from fluctuations in the relatively stable home mortgage market, but from fluctuations in the notoriously volatile real estate development and construction markets.

During the period 1980-1982, the pace of deregulation quickened even further. Statutory and regulatory changes gave the S&L industry new powers in order to permit them to enter new areas of business in order to promote greater profitability. For the first time in history, the government approved measures aimed at improving S&L profitability rather than promoting the traditional, fiscally conservative goals of promoting broader access to housing and home ownership.

In March 1980, the Depository Institutions Deregulation and Monetary Control Act (DIDMCA) was enacted. The statute, promulgated during the Carter Administration, removed interest rate ceilings on deposit accounts, and expanded the ability of federally

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6 For an excellent earlier treatment of the same subject in this context, see Martin A. Levin and Mary Bryna Sanger, Making Government Work: How Entrepreneurial Executives Turn Bright Ideas into Real Results (1994).

chartered S&Ls to make loans for corporate acquisitions and commercial development and construction projects. Finally, DIDMCA raised the ceiling on government deposit insurance from $40,000 to $100,000, without adding any additional restraints or regulation to diminish moral hazard such as promulgating regulations that link insurance premiums to risk.

In November 1980, the Federal Home Loan Bank Board (FHLBB) reduced the minimum capital requirements for federally insured S&Ls from 5 percent of total deposits to 4 percent of total deposits. Also that month, the FHLBB also reduced curbs on risk-taking by removing regulatory limits on the amount of brokered deposits (hot money) that S&Ls could hold.8

These reforms were followed in August by the Tax Reform Act of 1981, which provided powerful tax incentives for real estate investment by individuals, helping to create a strong demand for real estate loans, and leading to extensive over-building.

In September 1981, the FHLBB permitted troubled S&Ls to meet their recently reduced minimum capital requirements by issuing so-called “income capital certificates” that were included as equity capital on S&L balance sheets. The effect of these certificates was to make insolvent financial institutions appear, for regulatory accounting purposes, as though they were solvent. These certificates did not comply with Generally Accepted Accounting Principles (GAAP), either for banks or for any other type of

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8 The term "brokered deposits" refers to blocks of funds pooled by securities broker/dealers and then placed in depository institutions offering the highest (federally insured) yield. During the thrift crisis of the 1980s, many failing institutions used brokered deposits to "gamble on resurrection." As a result, supervisors now closely monitor institutions that rely heavily on this type of funding. See http://www.stlouisfed.org/publications/cb/2003/d/pages/cedars_deposits.html
business. Such certificates, if issued by private firms, would have constituted securities fraud.

These deregulatory efforts were followed during the period 1982-1985 by significant reductions in the FHLBB regulatory and supervisory staffs at a time when the industry was growing by leaps and bounds. In the 1982-1985 period of staff reductions, S&L industry assets (loans) increased by 56 percent. Forty Texas S&Ls tripled in sized, and many S&Ls in California and Texas grew at rates in excess of 100 percent per year.

Like much of S&L “deregulation” of the era, these regulations are better described as “de-marketization” or “dis-incentivization” because of the perverse incentives they created. For example, in January 1982, the FHLBB reduced net worth requirements for insured S&Ls from 4 percent to 3 percent of total deposits. S&Ls were allowed to depart from GAAP still further through the introduction of new, so-called “Regulatory Accounting Principles” (RAP) which only applied to S&Ls, were inconsistent with GAAP, and which permitted banks to artificially pad their balance sheets, claiming that they had far more capital than was, in fact, the case. As one Congressman flamboyantly, but accurately, observed, RAP:

is a set of rules invented during the Reagan administration as one of the kingpin codes of deregulation. As described by one congressman, “this new set of accounting principles was really an invitation to fiscal conspiracy, a tool for deception and fraud, a vehicle for the perpetuation of elite stealing. RAP guaranteed the monumental expansion of phony bookkeeping. RAP made the present savings and loan debacle inevitable. The S&L RAP is an amazing creation. In summary, it was an admission that the books (of federally insured S&Ls) could not be balanced and time-honored standards (GAAP) could not be met. The bureaucratic solution was to redefine the meaning of balanced books and set the standards lower. Instead of solving the problem a decision was made to hide the problem in a grand embrace.
A transfusion of new official jargon gave new life to the network of racketeering enterprises that infested the country. The day of reckoning was delayed with a device offered by that same government which would later have to pay the bill. More time was granted for new schemes and conspiracies. New opportunities were provided for the massive siphoning operations to be executed. The great swindlers knew that the day of reckoning was coming but RAP gave them a new extension.9

In April 1982, the FHLBB issued new regulations that made it much easier for risk-taking speculators to purchase S&Ls. These new regulations eliminated restrictions on the minimum number of S&L shareholders. Previous regulations required that each S&L have at least 400 stockholders, at least 125 of whom were from the “local community.” Also, no individual could own more than 10% of the stock of an S&L, and no “controlling group” could own more than 25% of an S&L’s stock. The new regulations permitted single owners for S&Ls, thus reducing market monitoring and creating incentives for excessive loan concentrations among borrowers. In particular, these regulations made it easier for individuals to buy S&Ls by allowing them to put up land and other hard-to-value real estate assets, as opposed to cash, when purchasing ownership interests in a thrift institution.

It was in late 1982, however, that the real “race to the bottom” began among regulators. In December 1982, Congress passed the Garn-St. Germain Depository Institutions Act of 1982. This Reagan Administration initiative was designed to give even broader powers to federally chartered S&Ls with a view to making them more profitable, as well as more diversified. The major provisions of the statute included eliminating the ceilings on interest rates paid on deposits, eliminating the previous statutory restrictions on loan-to-value ratios, and expanding the powers of federal S&Ls.8

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to invest in assets unrelated to the business of making home mortgages by permitting S&Ls with federal charters to put up to 40% of their assets in commercial mortgages, up to 30% of their assets in consumer loans and up to 10% of their assets in commercial loans, and up to 10% in commercial leases.

The Garn-St. Germain Depository Institutions Act caused immediate, massive defections of state chartered banks to the federal system so that bank equity holders could avail themselves of the expanded powers permitted under the Act. Soon thereafter, California, followed closely by Texas and Florida, passed state law permitting state-chartered (but federally insured) S&Ls to invest 100% of deposits in any sort of venture whatsoever. Within a year, 10% of all S&Ls were insolvent as measured by standards consistent with GAAP. These S&Ls were permitted to remain open because they were not insolvent when the artificial equity permitted under RAP was included in their balance sheets, and they retained their ability to attract additional liquidity to meet current financial obligations because the liquidity came in the form of federally insured deposits, which they could attract by offering slightly higher rates of interest or other inducements (toaster ovens, televisions, etc.,) to depositors.

Thirty-five percent of all S&Ls were losing money by 1983. Such a result, along with the high number of bank failures (10%) reported in the previous paragraph, is consistent with the conclusion that banks were taking advantage of their new powers by engaging in excessive risk-taking of the “heads-I-win, tails-the-taxpayer-loses” variety. Shareholders, as equity claimants, benefited from the higher returns garnered when excessive risks pay-off. The government and, ultimately, taxpayers bore the brunt of the burden when the heavily leveraged banks became insolvent.
To understand this basic application of financial theory, imagine a bank that is barely solvent. The bank has $100 million in assets and $99.9 million in liabilities, leaving it with $100,000 in equity.\(^\text{10}\) Suppose the bank shifts its assets from relatively safe home mortgages to a high risk investment in real estate with payoff characteristics such that there is a .5 probability that the bank will lose one-half of its net worth ($50 million) and a .5 probability that the bank will garner a return of 50 percent, resulting in a new net worth of $50 million.

If the first, negative result materializes, the shareholders will have lost only their equity, $100,000. The depositors or, more accurately, the government-sponsored deposit insurance fund (together with the uninsured depositors, if any) will have lost the balance of $49.9 million. Alternatively, if the second, positive result materializes, the shareholders will have gained $50 million, and the government-sponsored deposit insurance fund and uninsured depositors will have gained nothing. More generally, this investment has an expected payoff to depositors of $24,900,000 \[.5(-$100,000) \times .5($50,000,000)\]. Holding expected returns (expected returns are the sum of the possible outcomes, when each possible outcome is multiplied by its respective probability) constant, the riskier the venture (as measured by the standard deviation of expected outcomes), the more valuable the venture is, \textit{ex ante}, to equity investors.

The deregulatory process just described had a profound effect on the risk-taking proclivities of S&L owners. Once the regulatory constraints were removed and government-sponsored deposit insurance was still available at low, fixed cost (i.e. not adjusted for risk), acute moral hazard in the form of providing extremely strong perverse incentives for S&L shareholder-owners to engage in excessive risk-taking emerged. The

\(^{10}\) This follows from the basic balance sheet equation, (assets – liabilities = equity).
consequences of this for U.S. taxpayers were significant. Fixed claimants had no incentives to monitor banks’ excessive risk-taking because deposit insurance insulated them from the consequences of such risk-taking.

Without government regulation to substitute for the market discipline typically supplied by contractual fixed claimants, disaster ensued. In other words, supporters of deregulation of the S&L industry failed to perceive that government regulation in an environment of insured depository institutions is necessary for the stability of the financial system. Such government regulation serves as a necessary substitute for the restrictions that private sector creditors would place on risk-taking by borrowers.\(^{11}\)

It has been suggested that the debacle of the S&L de-marketization resulted “not so much from poor policy choices as from flawed management of the deregulation process.”\(^{12}\) It is certainly true that loosening government constraints on banks required more rather than less regulatory oversight. However, it is mistaken to conclude that the disastrous de-marketization of the S&L regulation was a consequence merely of poor policy choices or of a failed ideology. The better explanation is rent-seeking. These so-called “de-regulatory” policies, which enriched equity owners of S&Ls, resulted from a desire to garner political support from politically powerful bankers, particularly in the key election states of California, Florida and Texas. For example, in April 1987, shortly before he was forced to resign as chair of the FHLBB, Edwin Gray was summoned to the office of Senator Dennis DeConcini, who along with four other Senators (John McCain,


\(^{12}\) Martin A. Levin and Mary Bryna Sanger, Making Government Work: How Entrepreneurial Executives Turn Bright Ideas into Real Results, supra, at 42.
Alan Cranston, John Glenn and Donald Riegle) questioned Gray about the appropriateness of FHLBB investigations into Charles Keating’s Lincoln Savings and Loan. All five senators, who later came to be known as the “Keating Five” received campaign contributions from Keating. The subsequent failure of Lincoln Savings and Loan was estimated to have cost the government over $2 billion.¹³

This case study shows that rent-seeking and other forms of abuse of the government decision-making process manifests itself in the form of so-called “deregulation” as readily as it manifests itself in the form of regulation. This is a straightforward application of the insight that the power to deregulate, like the power to regulate,¹⁴ and the power to refrain from regulating,¹⁵ are tempting sources of rent for governmental actors and thereby provide valuable rent-seeking opportunities for interest groups.

Students of public policy and others interested in improving the quality of regulation and policy formation should understand the incentive structure under which

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¹⁴ 1971 The notion of using regulation to benefit private parties rather than to serve the public interest was first developed formally by the University of Chicago's George Stigler who modeled the regulatory process as a function of the government’s ability to benefit private parties by, restricting entry into markets, policing cartels, and legitimizing various price-fixing strategies. These devices, Stigler showed, make it possible through for private firms able to galvanize into effective political coalitions, to earn super-competitive returns called economic rents. In a nutshell, Stigler showed how regulation can benefit the regulated, rather than the public. According to Stigler the market for regulation consisted of providing value to politicians in the form of campaign contributions, efforts to organize voting, intimations of future jobs, and occasional outright bribes in return for favorable regulation. Major research advancing the “rent-seeking” (also known as the “public choice”) approach to regulation has been contributed by James Buchanan, Sam Peltzman, Robert Tollison and Gordon Tullock. Consistent with one of the principal insights of this school of thought, this Article models politicians, bureaucrats and others involved in the policy-making process as rational economic actors who, subject to a variety of constraints act in their own self-interest, rather than some vaguely defined conception of the private interest. Students of public policy and others interested in improving the quality of regulation and policy formation should understand the incentive structure under which policy-makers and regulators operate.

policy-makers and regulators operate. As was shown in the case of the S&L crisis, the failure to understand this incentive structure makes it easier for powerful interests to unshackle themselves from any semblance of reasonable restraints on excessive risk-taking under the ideological guise of deregulation.

IV. Case Study #2: Lender Liability and Environmental Protection

Lender liability refers to civil liability for money damages and other relief that may be imposed on banks and other lenders that cause damages or act in bad faith, either to borrowers or to third parties outside of the debtor-creditor relationship. For example, where a bank makes explicit or implicit promises to extend credit and then imposes harm on a client by reneging on the promise, the lender is likely to be liable to the client. Similarly, when a particular lender takes actions that impose harm on third parties, such as other creditors, by improperly diverting assets of the debtors to itself, the third party can bring a lawsuit against the lender. So, for example, where a bank has loaned a client money, and uses its influence, and/or its access to the client’s transaction accounts to benefit itself at the expense of other, similarly situated or senior creditors, these creditors can seek civil remedies against the bank for damages.

An intense area of uncertainty in lender liability that involves very high stakes claims is the area of lender liability for environmental damage on the debtor’s property. The problem begins with the so-called Super Fund statute, also known as the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). \(^{16}\)

CERCLA imposes cleanup costs on “owners” or “operators” of hazardous waste sites, without regard to fault. The problem is that, as often happens when borrowers become financially distressed, large bank lenders, who often have a security interest in all

\(^{16}\) 42 U.S.C. Sections 9601-9657
of the borrower’s assets, will actually take over the day-to-day operation of the debtor’s plant when the borrower defaults. Where there is hazardous waste on the site, if the bank is deemed to have become an “operator” of the facility within the meaning of CERCLA, then it will be strictly liable for the costs of cleaning up the facility, regardless of when the damage occurred.

In order to protect banks and other secured lenders from the broad liability of CERCLA, the statute contains a specific exemption for a person who “without participating in the management of a facility holds indicia of ownership primarily to protect his security interest in the facility.” However, the contours of the statutory exemption for secured lenders is a bit vague, since it leaves open to (statutory) interpretation the question of what it means to participate in management, or to hold indicia of ownership “primarily to protect” one’s security interest. Of course, there is no problem as long as the borrower is making timely payments of principal and interest. Once a borrower defaults, however, and the lender takes possession of the collateral, it is difficult to avoid the argument that the bank is participating in management, where the collateral is the entire facility.

The potential for CERCLA to impose millions of dollars in liability on banks, despite the statute’s exemptive language, manifested itself in the early 1990s when judges began interpreting the meaning of the “operator” language in CERCLA. In particular, in United States v. Fleet Factors Corp., the court held that

17 42 U.S.C. Section 9601(20)(A).

18 901 F.2d 1550 (11th Cir. 1990), cert. denied, 498 U.S. 1046 (1991)
“a secured creditor may incur [strict liability for the costs of an environmental clean-up under CERCLA] by participating in the financial management of a facility to a degree indicating a (mere) capacity to influence the corporation’s treatment of hazardous wastes. It is not necessary for the secured creditor actually to involve itself in the day-to-day operations in order to be liable -- although such conduct will certainly lead to the loss of the protection of the statutory exemption. Nor is it necessary for the secured creditor to participate in management decisions relating to hazardous waste. Rather, a secured creditor will be liable if its involvement with the management of the facility is sufficiently broad to support the inference that it could affect hazardous waste disposal decisions if it so chose.”\textsuperscript{19}

This opinion sent shocks through the financial community as banks and other secured lenders fretted that they would have to choose between the unattractive alternative relinquishing their ability to take possession of their collateral in case of default and the even worse alternative of taking action that might lead to potentially devastating claims for clean up costs under CERCLA.

In the wake of the decision in \textit{Fleet Factors}, lawyers for secured lenders began advising their clients about how to avoid liability under CERCLA should their borrowers default. Lawyers began advising their clients to stop such common, and socially desirable, activities as monitoring facility operations, monitoring compliance with legal requirements of federal and local environmental codes, and providing strategic and financial advice to borrowers in distress, all because lawyers were concerned that such activities would make the lenders strictly liable as operators of a facility because they had “participated in management,” either generally or with regard to environmental issues.

For example, prior to the misguided decision in \textit{Fleet Factors}, it was common for lenders to inspect the property of prospective borrowers for environmental problems, and to demand that these problems be corrected before making a loan. It was also common

\textsuperscript{19} \textit{Ibid.}
for secured lenders to protect their investments in the borrower by requiring periodic reports from borrowers on compliance with applicable environmental regulations, and by making periodic environmental inspections of the borrower’s facilities to make sure that the reports were accurate. Lawyers began advising clients that, in the wake of Fleet Factors, these sorts of activities by lenders, however socially desirable, could lead to strict liability for environmental claims under CERCLA.

Because of the language in Fleet Factors that environmental liability could result where there was a “capacity to influence” the treatment of hazardous wastes, well-advised lenders were reluctant to condition the extension of credit on promises by the lender to maintain environmental safeguards.

Environmental activists and the professionals at the U.S. Environmental Protection Agency (EPA) naturally wanted to restore lenders’ incentives to proactively manage environmental risk. In response, the EPA enacted a detailed new rule, clarifying lender liability under CERCLA.  

The new rule overruled the Eleventh Circuit decision in Fleet Factors by making it clear that the “mere capacity to influence or the ability to influence, or the unexercised right to control” does not constitute control so as to trigger liability under the strict liability provisions of CERCLA. Also, to encourage monitoring, the rule provides that liability will not result where lenders impose contractual or other documentary requirements on borrowers that they will maintain certain environmental standards. Similarly, no liability will result where lenders require, as a condition for a loan, that the

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20 Environmental Protection Agency, National Oil and Hazardous Substances Pollution Contingency Plan: Lender Liability Under CERCLA, 57 Federal Register 18,344 (April 29, 1992).
borrower make representations, warranties, covenants or other promises to maintain environmental quality.

Under Fleet Factors these sorts of activities might be construed as opening banks to liability for having participated in management by having the “capacity” to affect hazardous waste disposal decisions if it so chose. The EPA regulation modifying the result in Fleet Factors is a clear example of “marketization” by a regulatory agency. The outcome in Fleet Factors had the unintended consequence of removing the incentives of an important class of market participants, banks, to engage in the socially desirable activity of monitoring and controlling their borrowers’ disposal of hazardous waste. By crafting a clear rule that provided protection from CERCLA liability for banks who made sure that their clients complied with the environmental laws, the EPA, by regulation, corrected a market distortion caused by a poorly reasoned judicial decision.

The EPA rule followed extensive consultation with banks, environmental groups and other affected parties. While the EPA ruling may have reflected political pressure by banking interests, this simplistic explanation of the rule is unconvincing. For one thing, banks are not repeat player constituents of the EPA, and are therefore not likely to be interested in spending the resources necessary to “capture” the Agency, even if they could. Moreover, environmental groups, who are, of course, repeat players before the EPA, also favored amending the rule because they, like the banks, favored creating a “safe harbor” from CERCLA liability for bank monitoring of environmental hazards. Finally, firms themselves were not adverse to this rule, because the potential liability imposed by the Eleventh Circuit decision in Fleet Factors raised the cost of capital and made banks unwilling to lend at a competitive rate to financially precarious firms with
potential environmental issues that needed close monitoring.\textsuperscript{21} Thus, in this example, the political support maximizing solution for the regulators at the EPA was also the efficient and socially optimal solution.

V. Case Study #3-5: Marketization and Federal-State Relations in Banking

The U.S. banking system operates under a system of dual state and federal chartering and safety and soundness regulation. The “dual banking system” long has enjoyed significant political support. The dual banking system ostensibly allows banks operating in any state to choose between two different sets of primary laws to define their powers and to regulate their activities and investments. Banks may opt for a national charter, and be regulated by the Comptroller of the Currency, or they may pursue a state charter, in which case their primary regulator will be the banking regulator of the chartering state.

It once was thought that the so-called dual banking system created good incentives for regulators, resulting in “the maximum freedom from regulation consistent with a safe and sound banking system.”\textsuperscript{22}

The dual banking system “has long been a sacred cow in the American political tradition.”\textsuperscript{23} A primary justification for the dual banking system is that it causes state and

\textsuperscript{21} The history of this controversy subsequent to the implementation of the EPA rules is fascinating. After the EPA issued its rule, the U.S. Court of Appeals for the District of Columbia Circuit rejected the rule on the Constitutional ground that it was beyond the EPA’s statutory authority to implement a rule construing the statutory provisions of CERCLA. This created tension between the executive branch and the judicial branch, as both the EPA and the Department of Justice publicly announced that they would follow the EPA rule anyway as a matter of their own administrative discretion to pick and choose cases for enforcement action. This controversy was resolved when Congress, as part of a Defense Department Appropriations measure reincarnated the EPA’s rule and forbade further judicial review, finally making it clear that the EPA rule is the authoritative interpretation of the statutory secured lender exception to CERCLA.

federal regulators “to compete for bank charters in order to retain market share.”

This competition is said to lead to a diminution in the arbitrary or abusive use of regulatory discretion. Detractors of the dual banking system argue that the system leads to a destructive “race to the bottom” among regulators who compete to attract chartering business from banks.

Neither of these arguments gives proper credit or respect to the reality of post-Roosevelt era constitutional interpretation. The federal government can – and does – invoke the Commerce and Supremacy clauses of the U.S. Constitution to preempt state laws whenever state laws give state-chartered banks a meaningful advantage over federal banks. And, even if that were not true, as a matter of both legal compulsion and competitive necessity, all banks must obtain deposit insurance from the federal government, and the FDIC requires that banks obtaining such insurance comply with its uniform regulations regardless of contrary provisions in the laws of individual states.

Here there are two related points about regulation in general and state-federal relations in particular. First, the competition between the states and the federal government in the domain of banking law and regulation is more imagined than real. Second, the paucity of meaningful competition within the U.S. federal system is socially desirable because competition between the states and the federal government in the realm of banking regulation would not produce beneficial results if it were to occur.

A. Reserve Requirements

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The history of reserve requirement regulations for state-chartered and federally-chartered banks provides a prime example of states’ perverse incentives to regulate their domestically chartered banks in an optimal way. Reserve requirements consist of bank assets that must be held in the form of vault cash or non-interest paying deposits with one of the regional Federal Reserve banks or with banks approved by the Board of Governors of the Federal Reserve System. Because banks do not generate any interest or other income on these reserves, which consist of cash-on-hand and non-interest bearing accounts at the central bank, they would prefer that reserve requirements be kept as low as possible. From a financial perspective, reserves are viewed as a tax on banks’ operations. Prior to 1980, national banks and state banks that had elected to be members of the Federal Reserve System were subject to reserve requirements established by federal regulation. State-chartered banks that were not members of the Federal Reserve System were not subject to these federal regulations. To avoid reserve requirements, which cut into banks’ profitability, state banks began exiting the Federal Reserve System. In response, bank regulators passed the Depository Institutions Deregulation and Monetary Control Act of 1980, which extended the reach of the Federal Reserve requirements to state non-Member banks.

This federal statute eliminated a major dimension of the competition within the dual banking system. The decision by Congress to impose standardized minimum reserve requirements was clearly inconsistent with the idea of competition in the dual banking system. The harder question is the normative one: whether competition between state and federal chartering agencies and regulators would be beneficial in banking. The
problem, as the reserve requirement controversy illustrates so aptly, is that the states have no incentive to enact laws that constrain banks’ proclivities towards excessive risk-taking.

To the extent that lax state laws permit banks to engage in excessive risk-taking, the benefits from such risk-taking fall on certain local borrowers (who would be unable to obtain credit under a more prudent regulatory regime) and often local shareholders (only a small percentage of banks are publicly held), who, as residual claimants, benefit if the risks pay off. By contrast, the costs of such risk-taking are borne not by private sector creditors of the state-chartered banks, and not by the banks’ state regulators, but rather by the federal government (and depositors and taxpayers in all fifty states), who bear the costs of administering and funding the federal deposit insurance funds.

In other words, the costs of lax state regulation are borne at the federal level, and the benefits accrue locally, at the state level, where banks lend money. Since the allocation of regulatory authority should track the incentives associated with regulating prudently, the dual banking system is a very bad policy idea in a regulatory regime like the U.S. that is characterized by federal deposit insurance. Thus, it is no surprise that in 1991, Congress passed a statute, the Federal Deposit Insurance Corporation Improvement Act (FDICIA), that provided, inter alia, that no state bank insured by the FDIC could engage in any type of activity that is not permissible for a national bank, unless a federal agency determines that the activity would pose no significant risk to the deposit insurance fund and the state bank applies with applicable capital standards.²⁶

This legislation strengthens the argument, originally set forth in Butler-Macey that the dual banking system is, and should be, a myth. More importantly, the interplay between the states and the federal government provides another example of both “illusory

deregulation” and the related phenomenon, incentive-enhancing regulation that either encourages, or replaces, market-driven responses to public policy problems.

With respect to the first point, about illusory deregulation, clearly the elimination or reduction of reserve requirements by a state banking regulator appears to be an effort to achieve deregulation. However, when viewed against the background existence of federally sponsored deposit insurance, the reality emerges. Such deregulation is simply an effort by local regulators to export the costs of tolerating excessive risk-taking by bankers nationally. This enables the local regulators to enjoy greater political support from bankers, while exporting the costs of their “deregulation” onto the general population. Such actions are not deregulation: they simply reflect bad, perhaps even corrupt, public policy choices. In other words it might be more helpful to talk about regulation that preserves incentives, and to contrast that with regulation that destroys incentives. State reserve requirement “deregulation” was really incentive-destroying regulation. Pre-emption and re-regulation by the Congress restored the proper incentive structure for banks, because it reduced banks’ proclivity to succumb to the moral hazard of excessive risk-taking.

B. Bank Closure Policy

Bank failure is the event against which the entire administrative scheme of regulation and enforcement in the banking industry is based. Bank failure is a concern as a matter of public policy in ways that the failure of other business is not for several reasons. First, and most obviously, the failure of an FDIC insured depository institution places the assets of the government’s insurance fund at risk. In addition, bank failures
impose losses, anxiety, and inconvenience on depositors. Finally, the failure of one bank may spread to others, creating the danger of generalized banking panics.\textsuperscript{27}

One of the more startling historical attributes of the dual banking system is that the power to cause the appointment of a receiver for a financially distressed bank, i.e. the power to close a bank, was vested in the bank’s chartering agency. Thus, the Comptroller of the Currency has the power to close national banks and, at least until 1991, state banking agencies had the exclusive power to close state-chartered banks, including federally insured banks and thrift institutions. The problem with this allocation or regulatory power was that state banking regulators had no incentive to close failed state-chartered banks, as long as those banks continued to employ people and as long as those banks continue to make loans to local borrowers. Bank closures are also problematic because they lead to rashes of foreclosures of delinquent loans by the receiver of the failed banks, and other events, such as strict adherence to debt covenants, which, from a macroeconomic perspective, are highly deflationary to local economies.

Thus, as with reserve requirements, recalcitrant state bank regulators, particularly in Arizona, California, Florida, and Texas, were able to transfer wealth to themselves from the federal deposit insurance fund as administrative delay increased the ultimate costs of resolving bank failures of state-chartered banks. As the costs of bailing out the insurance funds soared in the 1980s, and the issue of bank failure became politically salient, Congress finally, in the Federal Deposit Insurance Company Improvement Act of 1991 (FDICIA), gave the FDIC the power to close state-chartered insured banks in cases in which such closure is necessary to avoid or mitigate losses to the insurance fund.

\textsuperscript{27} Carnell. Macey and Miller, supra, at 723.
While FDICIA clearly represents encroachment by federal regulators onto turf long occupied by state regulators, it also is consistent with market principles and economic theory, because it allocates regulatory responsibility over bank closure to the regulator with the greatest stake in implementing optimal closure policy. Thus, the provisions of FDICIA wresting regulatory authority over the timing of bank closures away from state regulators is an example of market-based, incentive-compatible regulation.

C. Minimum Capital Requirements

While the term “capital” is used in a variety of different contexts in banking and finance, for purposes of this Article, capital refers to the amount by which a business’s assets exceed its liabilities. The terms “equity” and “net worth” also are used to describe this differential. For most businesses, the amount of capital that a firm has is regulated entirely by market forces, as it should be in a free market economy. Firms that want to borrow money must have a certain amount of equity as a cushion for the lenders, in case the value of the firms’ assets unexpectedly declines. Similarly, lenders often will impose various restrictions on the type and amount of subsequent borrowing that their clients will be permitted to do. Borrowers who don’t want this sort of market-based restriction on their capital structure must refrain from borrowing, or pay higher rates of interest to compensate lenders for their perceived risk.

In theory, at least, if a bank has enough capital, its creditors will never suffer losses. This is because as long as a bank’s assets can be sold for more than the amount of their liabilities (plus the administrative costs associated with the asset sale, and subsequent distribution of cash), the institution’s creditors will be repaid in full. One of
the problems observed in the discussion of bank closure policy in the previous section was that state regulators who kept state-chartered banks open after they were actually insolvent increased the ultimate size of the losses shouldered by the federal deposit insurance agencies, since the quality of banks’ assets would erode, and bank shareholders would engage in excessively desperate, and risky, attempts to return the bank to solvency.

The regulatory issues associated with minimum capital requirements are nicely summarized in a U.S. Treasury report:

In a private, competitive market economy, the primary purpose of capital is to cushion both equity holders and debt holders from unexpected losses. Debtholders are protected by the equity cushion that must be exhausted before the firm’s losses eat into their principal. Equity holders are protected in the sense that, in a world where bankruptcy is costly, substantial equity reduces the probability that bankruptcy will occur.

The existence of the federal safety net for depository institutions [notably federal deposit insurance and access to the Federal Reserve discount window] increases the importance of capital, since the safety nest adds taxpayers to private debt-holders as potential losers if an institution fails. Adequate capital holdings by depository institutions therefore have the following positive benefits: (1) lower the probability of bank failure; (2) reduces the incentive to take excessive risk; (3) acts as a buffer in front of the insurance fund and the taxpayer; (4) reduces the misallocation of credit caused by the safety net subsidy [e.g. the tendency for such a subsidy to foster the growth of weak banks relative to non-banks and healthy banks]; (5) helps avoid credit crunches; and (6) increases long-term competitiveness.

Stunningly, there was a time when state regulators could set minimum capital requirements for state-chartered banks. As with bank closure policy and reserve requirements, this rule led to several problems, as state regulators, in a regulatory world of federal deposit insurance, lacked the proper incentives to establish capital requirements for state-chartered banks that provided adequate protection for the federal deposit

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insurance fund. Federal regulators have more appropriate incentives because the cost of insufficient capitalization for banks is borne at the federal level. By contrast, state regulators, by relaxing the levels of capital that banks are permitted to hold, can conduct their own homegrown macroeconomic policy by encouraging localized lending and over-leveraging. In doing so, the local regulators can, under the guise of “deregulation,” transfer wealth to local banks from the federal government and its deposit insurance fund.

VI. Conclusion

The three case studies presented above, reserve requirements, bank closure policy, and minimum capital requirements, all represent situations in which the states, under the guise of “deregulation” inject market distortions into the regulatory system by relaxing rules that contribute to bank safety and soundness, which is a national issue. The existence of federal deposit insurance suggests strongly that bank safety and soundness regulation should be dealt with at the national, and not the state or local, level. The debacle of the S&L crisis and the concomitant insolvency of the Federal Savings and Loan Insurance Corporation were due in large part to the misallocation of regulatory responsibilities between the states and the federal government. The problem was not deregulation in these cases; rather, the problem was insufficient regulation. When the situation was corrected, the new regulations were market-mimicking in the sense that they replicated the rules that private insurance markets would have imposed if the federal deposit insurance scheme were to be privatized.

The broader theme of this Article is that regulation at the appropriate level is often necessary to cause the market to function effectively. Banks are very efficient at allocating capital, but they are very fragile economic entities. Without government
intervention in the form of deposit insurance and access to emergency loans, banking crises of the kind that we observed during the Great Depression would be regular occurrences. Thus, banking is a paradigmatic example of an industry in which regulation is necessary in order for a market, indeed for an entire industry, to function efficiently.

Deposit insurance in particular is a necessity. Not only does deposit insurance prevent bank runs and panics: it can also serve the valuable end of putting a ceiling on the extent to which the government will be expected to respond in case of a systemic banking crisis. History has shown that, in the absence of \textit{de jure} deposit insurance specifying the nature and extent of the government’s contingent liability to depositors in case of bank failure, there is no limit to the government’s exposure to creditors in case of bank failure.