

# FINANCIAL INNOVATION AND DEPOSIT INSURANCE: THE 100 PERCENT CROSS-GUARANTEE CONCEPT

*Bert Ely*

Dramatic changes in recent decades 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 current regulatory system. Such tinkering is counterproductive because the current rigid, central-planning style of financial services regulation is inherently flawed. Instead, we must create a market-driven regulatory model that gives individual banks and thrifts the flexibility to pursue unique business strategies.

The 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.), its implementation will quickly lead to better-priced and therefore wiser bank lending while eliminating the risk federal deposit insurance now poses to taxpayers. Cross-guarantees also will 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. America would have a safer and more efficient financial system as a result.

## The Traditional Regulatory Model

The traditional regulatory model for depository institutions emerged in the United States during the 19th century. Entry into banking was restricted and banks and thrifts were highly regulated as to their capital, liquidity, and lending. These regulations were enforced by bank examiners and supervisors under the premise that individual

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banks and thrifts needed to be protected from failing so that depositors (and noteholders prior to the federalization of currency issuance in 1863) would not suffer losses.

To work satisfactorily, the traditional regulatory model requires three conditions:

- *Slow rate of change.* Effective regulation depends on a slow rate of change because the political process cannot respond quickly enough to rapidly changing conditions due to the time it takes to overcome political resistance posed by those interests adversely affected by change.
- *Segregation of the regulated.* In order to regulate effectively, the regulator must be able to easily identify its charges. This task is made much simpler by controlling entry into the regulated field and by prohibiting unlicensed firms from engaging in the regulated activities.
- *Homogeneity among the regulated.* Because of its one-size-must-fit-all nature, regulation effectively fosters homogeneity among the regulated. In other words, regulation tends to lead to one logical way to conduct a business.<sup>1</sup> A relatively uniform style of operation also makes it easier for the regulator to monitor and control the enterprises it regulates.

Government regulation of financial services shows certain characteristics of central planning as it was practiced in the former Soviet Union and in Eastern Europe. Like central planning, banking regulation focuses on micromanaging individual enterprises, specifically by giving directives to the regulated as to what they must do (the Community Reinvestment Act and minimum capital requirements, for example), what they cannot do (branch across state lines, underwrite corporate stocks, or broker real estate), and what they are discouraged from doing, such as making limited documentation loans to small businesses. One cannot help but be struck by the fact that federal micromanagement of banks and thrifts has increased exponentially as the rest of the world rapidly sheds socialism and communism.

## Traditional Banking Regulation Did Not Work Well

The traditional regulatory model seemed to work well until the 1980s, as evidenced by the low number of bank and thrift failures from 1934 to 1980, the absence of visible signs of strain within the

<sup>1</sup>For example, uniform capital requirements and regulatory restraints on high-risk lending effectively limit banks and thrifts to holding a narrower range of assets than would be the case if they were less regulated.

financial system, and—after World War II—economic stability marked only by occasional recessions. One reason for this apparent calm was that the technology directly employed in the production and delivery of financial services changed relatively little during the first half of this century, after a burst of innovation between 1867 and 1889 (Cortada 1993: 283).<sup>2</sup> Even the early computers did not represent major change since they were not widely used. Consequently, this slow rate of technological change did not materially alter the economics of the financial services industry or significantly affect its structure.

However, one technological innovation outside of financial services, the development of the rubber tractor tire in the early 1920s, wreaked havoc on the small rural banks of that era. The rubber tractor tire permitted the paving of farm-to-market roads<sup>3</sup> which, in turn, enabled farmers to drive to larger, more distant towns that had bigger banks. From 1921 to 1931, surfaced rural roads increased from 13.2 percent of all rural highway mileage to 27.3 percent.<sup>4</sup> Not surprisingly, the average number of cars and trucks per farm increased from .3 to .8 as paved roads made auto travel less wearing (Ely 1988: 53). In effect, these developments fostered the decimation of a unit banking system that was further damaged by the broad asset deflation of the early 1930s. It is ironic that, even though the Great Depression should have put the advocates of traditional banking regulation on the defensive, particularly with regard to branching restrictions, New Deal banking legislation *increased* banking regulation while continuing to tolerate state-mandated branching restrictions.

While bank regulation may seem to have worked well after the New Deal banking “reforms” were enacted, the highly regulated banking system remained vulnerable to rapid changes that finally began to blossom during the 1970s.

<sup>2</sup>Key inventions during this 22-year innovative spurt, according to Cortada, include the typewriter (1868), stock ticker (1870), telephone (1876), cash register (1879), fountain pen (1884), adding machine (1885), comptometer (1887), and punch card accounting (1889). Other inventions of this era, such as the electric light (1879), and the electric elevator (1889), also facilitated the production and delivery of financial services. Although electronic technology, and specifically the computer, can be traced back to World War II, the full impact of this new technology probably did not begin to materially affect the production and delivery of financial services until the late 1970s; more recently, widespread use of personal computers has greatly accelerated the impact of technology on the production and delivery of financial services.

<sup>3</sup>Before the development of rubber tractor tires, country roads could not be paved because steel tractor tires quickly shredded the pavement.

<sup>4</sup>“Historical Statistics,” Series Q51, Q56, (1975): 710.

## Electronic Technology and Regulatory Arbitrage

Electronic technology, notably the personal computer, has dramatically altered the economics of producing and delivering financial services. These altered economics have irreversibly undermined the traditional regulatory model, specifically by harming the competitiveness of highly regulated financial institutions due to the rigidities imposed by government regulation. It is obvious that electronic technology changes far faster than the regulatory process can adapt to these changes. Technology is knocking down barriers separating highly regulated institutions from the rest of commerce, a trend that is introducing heterogeneity into the regulated industries. Attempts to preserve the traditional rigid regulatory model have succeeded only in perversely impairing the efficiency of producing and delivering financial services, hence increasing the overall riskiness of the financial system.

This multi-faceted impact has occurred because computers have increasingly permitted the unbundling, or separation into their constituent parts, of the legal contracts that are the common denominator of all financial services and products.<sup>5</sup> This unbundling, in turn, has resulted in the emergence of unregulated firms that perform pieces of financial services transactions. Previously, in their bundled form, these transactions could only have been performed by the highly regulated, traditional firms. In effect, these relatively unregulated financial services firms engage in *regulatory arbitrage* by using the computer to lawfully evade regulatory costs and strictures.

Home mortgages represent an excellent example of this unbundling process and the consequent regulatory arbitrage. The traditional S&L used to make or originate a fixed-rate mortgage, fund it with deposits it gathered through its branches, and service it by collecting monthly payments and performing other periodic tasks associated with holding a mortgage. The computer has unbundled the typical fixed-rate home mortgage into three distinct pieces—origination, funding, and servicing. Banks and independent mortgage bankers now originate many mortgages; most funding of fixed-rate mortgages is now provided by Wall Street through the asset securitization process; and servicing is now a highly automated process in which many non-financial firms compete.

The political process has not blocked regulatory arbitrage because successful arbitrageurs, such as mutual fund managers, the commercial paper market, asset securitizers, and producers of financial derivatives

<sup>5</sup>Examples of legal contracts that constitute financial services include checks, loans, stocks, bonds, insurance contracts, real estate leases, and trust agreements.

have gained sufficient political power to reinforce the regulatory barriers within the financial services industry that have helped to create these arbitraging opportunities. It appears that the less regulated, and therefore more entrepreneurial, firms are more effective politically in advancing or defending their interests than are highly regulated bankers.

Rapid technological change will continue for the foreseeable future. Moore's Law and Joy's Law do not seem to be abating.<sup>6</sup> Consequently, the adverse impact of computer technology on the traditional regulatory model will continue. In an absolute sense, the rate of change in the computer world is accelerating—doubling the number of transistors on a chip from 1 million to 2 million is much more significant economically than the doubling from 32,800 to 65,500 that took place five iterations (8 years) previously.

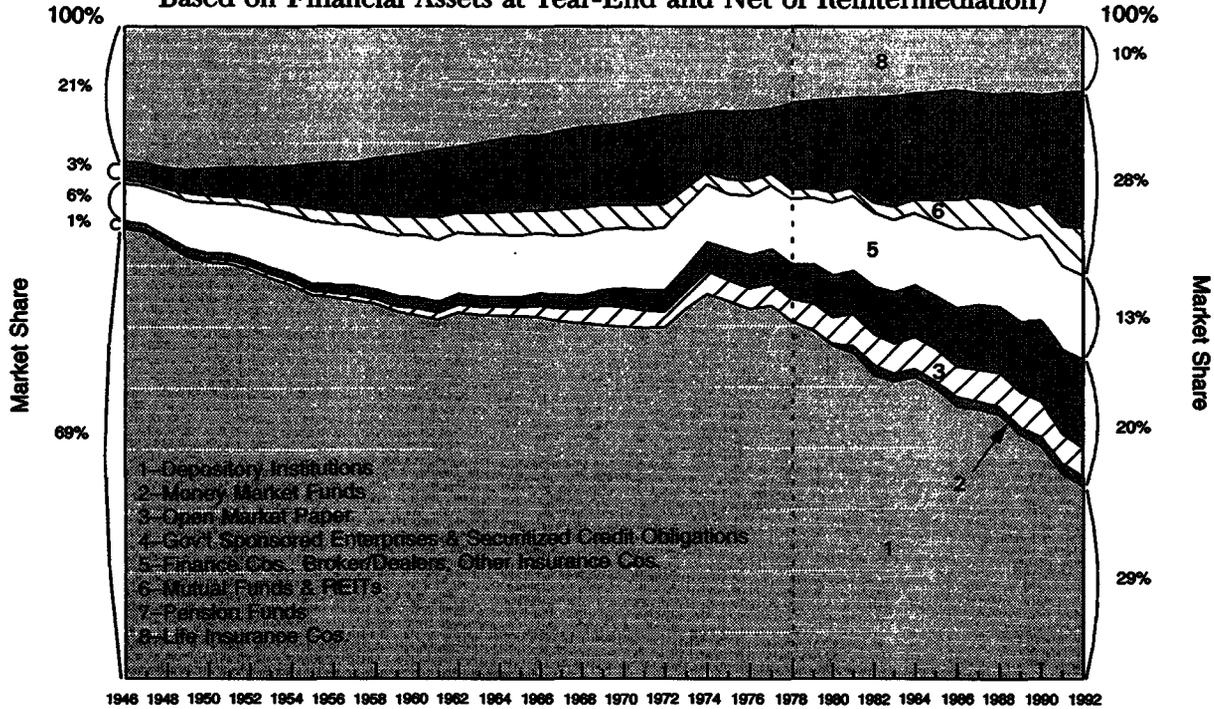
### Direct Consequences of Regulatory Arbitrage

Regulatory arbitraging probably began in the 1960s; it certainly accelerated rapidly during the 1980s, as evidenced by the increased flight of lower risk financial assets to less-taxed and less-regulated channels of funds intermediation. Regulatory arbitraging of specific financial products and services occurs as soon as the cost of executing the arbitrage drops below the amount saved by doing the arbitrage. Arbitrage costs largely represent real resource consumption, such as employing MBAs, lawyers, and other highly educated personnel equipped with sophisticated computers. Arbitrage savings usually consist of lawfully avoiding the cost of excessive capital requirements, overpriced deposit insurance, and other unnecessary regulatory costs and taxes that do not represent the consumption of real economic resources.

The easiest regulatory arbitrages occurred first. They included the shift of low-risk commercial loans to the commercial paper market and the securitization of home mortgages. The latter arbitrage has effectively been subsidized by the taxpayer since securities guaranteed by two key government-sponsored-enterprises, Fannie Mae (Federal National Mortgage Association) and Freddie Mac (Federal Home Loan Mortgage Corp.), carry a lower rate of interest than securities guaranteed privately.

<sup>6</sup>Moore's Law, named after Gordon Moore, a co-founder of Intel Corp., holds that the number of transistors per computer chip doubles every 18 months, which equals a compound annual growth rate of 59 percent. Joy's Law, named after William Joy, a co-founder of Sun Microsystems, holds that computer microprocessor speeds increase exponentially every 12 months. (Markoff, J. *New York Times*, 29 December 1991: F5.)

**FIGURE 1**  
**FINANCIAL INTERMEDIATION IN THE UNITED STATES**  
**(Market Share Held by Major Channels of Intermediation,**  
**Based on Financial Assets at Year-End and Net of Reintermediation)**



SOURCE: Ely & Company, Inc.

Regulatory arbitrages that are more costly to execute occur only if the achievable regulatory cost saving rises sufficiently to make the arbitrage profitable. Recent banking legislation, notably the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), and the regulations they have spawned have broadened the range of feasible arbitrages. As Figure 1 illustrates, the market share of highly regulated depository institutions (banks, thrifts, and credit unions), based on assets held on-balance-sheet, declined from 69 percent of total assets held by financial intermediaries at the end of 1946 to 29 percent at the end of 1992; that percentage is continuing to decline this year. This market share has shifted to the less-taxed and less-regulated channels of intermediation (bands 2 to 7 in Figure 1). This market share shift undoubtedly will continue as the impact of FDICIA, and the regulatory "reign of terror" it unleashed, further tightens the regulatory noose choking depository institutions.

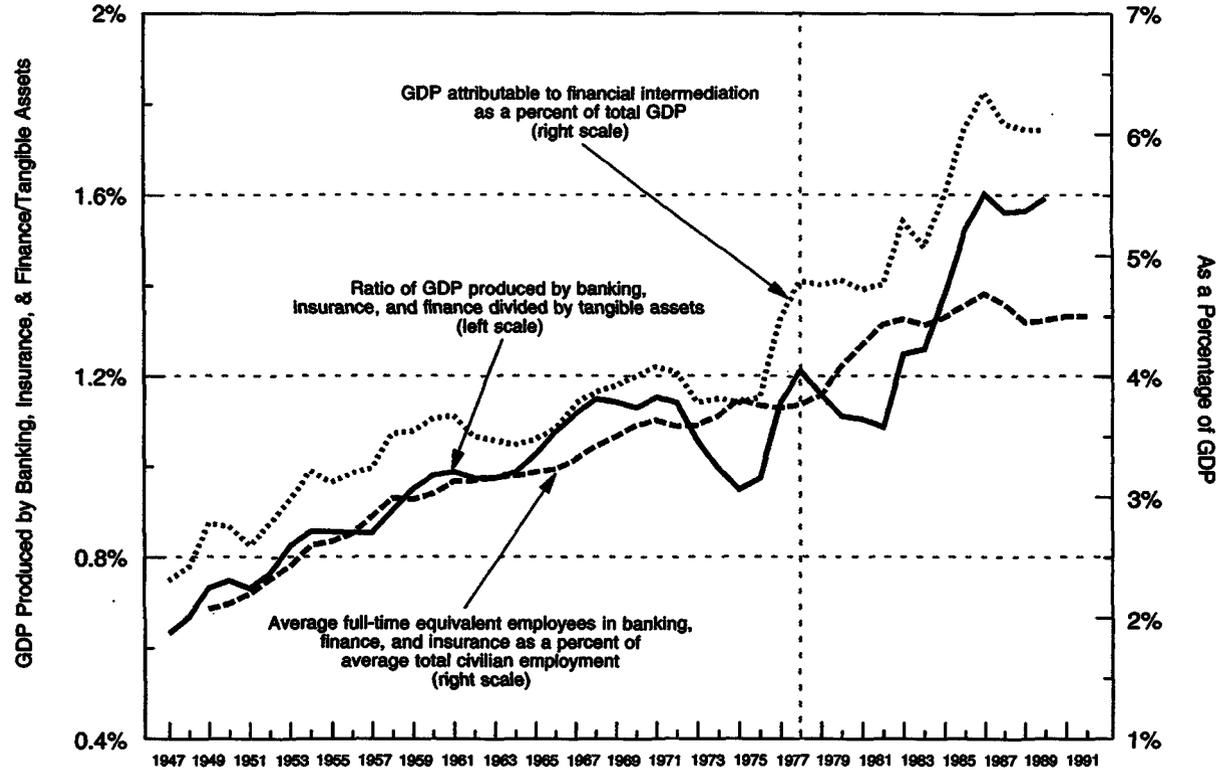
## Drawbacks of Regulatory Arbitrage

Regulatory arbitrage has three significant drawbacks. First, the flight of low-risk assets out of highly regulated and highly taxed institutions has the perverse effect of increasing the average riskiness of the assets retained by these institutions. Unfortunately, many banks, thrifts, and life insurance companies began pursuing riskier assets at the same time, during the early 1980s, in order to earn higher yields to compensate for higher regulatory costs while preserving deposit and insurance franchises which were collecting funds that no longer could be profitably invested in low-risk assets. This collective rush for high-yield, high-risk assets (junk bonds, commercial real estate loans, and so forth) led to a collective oversupply of credit that stimulated the commercial real estate bubble discussed below.

If the traditional regulatory model had worked properly, technology would have affected only the ability of depository institutions to attract deposits through branches. It should have had little, if any, effect on the ability of banks and thrifts to intermediate into low-risk assets whatever deposits they could gather. Put another way, increases in the relative cost of gathering deposits through branches should be borne by depositors, not borrowers.

Second, regulatory arbitrage has been very costly to the American economy. Ironically, this form of arbitrage consumes far more *real* resources than it saves. This outcome is contrary to the rationale for arbitrage, which is to enhance economic efficiency by lessening or eliminating price discrepancies between markets.

**FIGURE 2**  
**RELATIVE PRODUCTIVITY OF FINANCIAL INTERMEDIATION**



SOURCE: Ely & Company, Inc.

As Figure 2 illustrates, the relative productivity of the financial services industry (banking, finance, and insurance) has declined by over half since the end of World War II. In effect, it takes more than twice as many resources today as it did at the end of World War II, relative to the overall size of the economy, to finance a dollar of GDP or a dollar of tangible assets. This deterioration in relative productivity has occurred despite the extensive computerization of the financial services industry over the last 15 to 20 years. Regulatory arbitrage is the key villain in this deterioration. Had productivity growth in financial services matched the rest of the economy in the post-war era, banking, finance, and insurance activities in 1991 would have consumed \$150 billion less in real economic resources (Ely 1992: 358–60). To a great extent, this \$150 billion figure represents fees, salaries, and related costs incurred in the nonregulated segments of the financial services industry. Not surprisingly, these segments of the financial marketplace participate actively in the political process to preserve politically mandated marketplace inefficiencies.

Third, regulatory arbitrage increases taxpayer risk outside of the banking system. This increased risk occurs because non-depository institutions generally do not have an established mechanism comparable to the deposit insurance tax (euphemistically called an insurance premium) to assess surviving firms for losses incurred in protecting creditors of failed firms. Exceptions to this statement are the Securities Investor Protection Corporation for customers of broker-dealers and state guarantee funds for insurance companies.

If a liquidity crisis strikes the money market mutual funds or the commercial paper market, the Federal Reserve, in order to maintain financial stability, will be forced to provide emergency liquidity to those institutions experiencing runs or unable to roll over maturing debt.<sup>7</sup> Despite its professed insistence on lending only on a fully collateralized basis, the Fed may take a loss from this lending. Since the Fed is merely an extension of the U.S. Treasury, any loss the Fed suffers will be borne by taxpayers, because “any such loss would reduce the [Fed’s] annual payments to the Treasury and thereby increase the Federal deficit” (“Budget Baselines” 1993: 182).

### Mispriced Deposit Insurance—a Key Failing of the Traditional Regulatory Model

The regulatory arbitrage unleashed by electronic technology has revealed a key failing of the traditional regulatory model—mispriced

<sup>7</sup>Rep. Tom Petri (R.-Wis.) raised the issue of this potential risk to Richard Darman, then Director of the Office of Management and Budget, in letters dated September 3, 1992,

deposit insurance. Mispriced deposit insurance essentially caused the S&L crisis and contributed greatly to the several speculative bubbles that emerged during the 1980s.

Deposit insurance pricing can best be understood as an option pricing problem. All insurance contracts are option contracts—the insured has an option on the insurer's capital if an insured loss occurs. Consequently, an insurance premium is an option price. The price of the deposit insurance option must, accordingly, be fully reflected in the interest rate banks and thrifts charge on their loans and seek in the yields on their investments if an optimal balance is to be struck between deposit insurance losses and the risks being taken by insured institutions. In effect, the deposit insurance premium rate or option price must become the third element in calculating a bank or thrift's cost of funds, as illustrated in Figure 3. The cost of deposits and borrowed funds and the targeted rate of return on the lender's equity capital are the other two elements that must be factored into a cost of funds calculation.

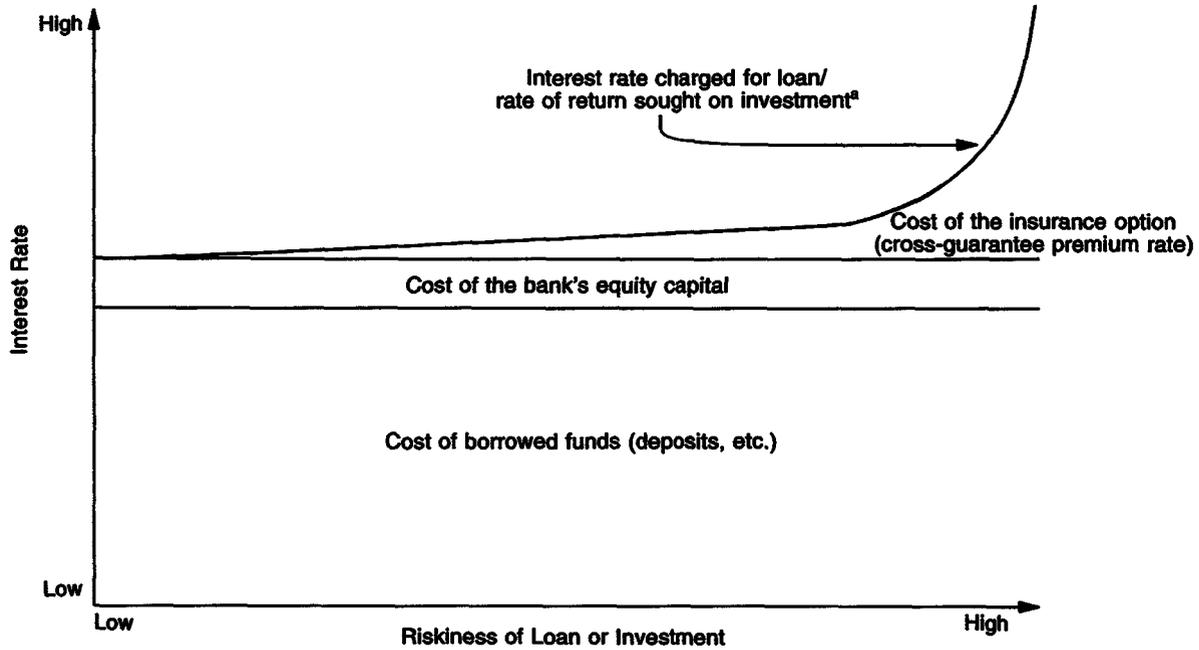
Option pricing has played absolutely no role in the traditional regulatory model even though the primary purpose of "safety-and-soundness" regulation today is to minimize deposit insurance losses. That is, the regulatory process has made no attempt to use deposit insurance pricing to dissuade banks and thrifts from making loans and investments that could cause deposit insurance losses in excess of total deposit insurance premiums. Instead, the regulatory process has relied exclusively on *ex ante* rules and *ex post* supervision of banks and thrifts to moderate their risk-taking. The rules and supervision have not worked well, as the enormous deposit insurance losses of the last 12 years attest. Put another way, the traditional regulatory model does not foster accurate pricing of banking risks for the threat of loss these risks pose to the deposit insurer.

For two reasons, the price banks and thrifts now pay for their deposit insurance under the FDIC's new risk-based assessment system bears no relationship to the potential cost of failure posed by new risks FDIC-insured banks and thrifts have assumed. First, the FDIC's new assessment scheme implemented on January 1, 1993, is largely based on bank capital, which is a lagging measure of banking risk, whereas the marketplace will price deposit insurance based on leading indicators of risk, such as excessive loan concentrations. Second, the traditional regulatory model will never be able to properly price the

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and October 6, 1992, and again in a February 26, 1993, letter to Leon Panetta, the current OMB director. Copies of these letters, as well as replies from Mr. Panetta and Federal Reserve Chairman Alan Greenspan, can be obtained from the author or Rep. Petri's office.

**FIGURE 3**  
**RISK AND THE COST OF THE INSURANCE OPTION**



<sup>4</sup> The interest rate to be charged excludes the bank's overhead expense and an allowance for expected losses.  
SOURCE: Ely & Company, Inc.

insurance risk posed by loans and investments because a government monopoly will never have the political freedom or the marketplace signals needed to properly price this risk (Scott and Mayer 1971: 893). For example, the FDIC currently charges a “risk-sensitive” premium rate that ranges from .23 percent to .31 percent per dollar of domestic deposits. By contrast, premium rates established by the marketplace most likely would range from less than .02 percent to .60 or .70 percent of deposits.

## Two Consequences of Mispriced Deposit Insurance

*The S&L crisis.* Properly priced deposit insurance would have prevented the S&L crisis because risk-sensitive pricing would have made maturity mismatching (using short-term deposits to fund long-term, fixed-rate loans) uneconomic for S&Ls. Instead, S&Ls would have used deposits to fund adjustable-rate mortgages (which for political reasons were barred for federally chartered S&Ls until 1981) and they would have securitized the fixed-rate mortgages they issued or funded the fixed-rate mortgages they held with long-term, callable bonds and deposits. Because the dangers of maturity mismatching were well-understood long before the 1960s,<sup>8</sup> deposit insurance premium rates would have skyrocketed after the interest rate spike that occurred in 1966, if not after one of the three earlier post-war rate spikes.

Not surprisingly, perhaps, the traditional regulatory model tolerated maturity mismatching. In fact, after the 1966 rate spike, Congress tried to preserve maturity mismatching by extending the Federal Reserve’s Regulation Q deposit interest rate controls to S&Ls. This fix to the traditional regulatory model lasted until the interest rate explosion in 1980–82 when nominal interest rates rose to record heights. These high rates temporarily rendered most S&Ls insolvent on a market-value basis, permanently bankrupted hundreds of S&Ls, and created the environment for the gross regulatory mismanagement of the S&L crisis that exists right up to the present time.

Attempts to prevent another S&L crisis, and a perceived crisis among commercial banks, led to draconian banking legislation, notably FDICIA, that has strangled commercial banking. This occurred despite the fact that, because of its different mission and financial structure, banking has experienced far fewer deposit insurance losses

<sup>8</sup>The textbook the author used in a college finance course in the spring of 1964 devoted a 21-page chapter to interest-rate risk; its index includes 20 references to interest-rate risk (Sauvain 1959: 112–32).

than thrift institutions (S&Ls and savings banks).<sup>9</sup> FDICIA and its predecessor, FIRREA, The Financial Institutions Reform, Recovery and Enforcement Act of 1989, essentially reflect Congress's enormous distrust of the regulators arising from the S&L crisis. However, as is typical of the political process, Congress, when finally aroused, applied the wrong solution by placing increased reliance on the traditional regulatory model, one consequence of which has been to broaden the opportunity for regulatory arbitraging.

*Bursting speculative bubbles.* Properly priced deposit insurance should impede the emergence of speculative bubbles and quickly temper any bubbles that begin to form. The first two types of bubbles discussed below that emerged during the 1980s were inflated by underpriced credit. Credit can be underpriced for two reasons. First, misguided government monetary policies may depress real interest rates; real rates may even be negative for a period of time, as occurred occasionally in the United States during the 1970s. Borrowing to finance speculative investments looks very attractive when real rates of interest are low or negative.

Second, lenders pumping credit into inflating bubbles may not include a sufficient loss allowance in the interest rates they charge to cover the losses they will incur when the bubble bursts. Credit clearly has been underpriced if losses caused by a bursting bubble later wipe out not only the speculators, but many of the lenders who extended credit to the speculators. Credit will turn out to be properly priced only if a bursting bubble does *not* cause the failure of the lenders who provided the credit that helped to inflate the bubble. (Speculators may be bankrupted, but they are not a regulatory concern because taxpayers should not protect equity investors from their speculative excesses.)

Properly priced deposit insurance will dramatically increase the likelihood that credit being used to inflate speculative bubbles will be priced high enough to cover likely losses. As illustrated in Figure 3, if the lender does not charge enough to cover prospective losses from a bursting bubble, the insurer should more than make up for that pricing shortfall by charging a higher premium to compensate for the losses *it* faces if the lender fails. The lender will then have to pass the higher premium through to its borrowers or suffer low profits or a negative return on its capital, conditions that the lender's stockholders should not tolerate for long.

<sup>9</sup>After adjusting for inflation, losses in failed commercial banks, as a percentage of total domestic deposits in all commercial banks, have been approximately one-tenth the loss rate experienced by thrift institutions.

## Three Bubbles that Burst During the 1980s

Three speculative bubbles burst during the 1980s, each of which did substantial damage to banking. Mispriced deposit insurance and comparable unpriced state-mandated guarantees for life insurers were a prime cause of these bubbles.

Farm land prices were the first bubble that popped in the 1980s. Farm land prices almost doubled, in inflation-adjusted terms, from 1971 to 1980, due largely to extremely cheap credit supplied after 1971 by an agency of the federal government, the Farm Credit System (Ely and Vanderhoff 1990). Record high interest rates in the early 1980s punctured this bubble. From 1980 to 1986, the inflation-adjusted value of farm land dropped back almost to its level of 1971. This burst bubble contributed to the failure of almost 300 agriculturally related commercial banks during the 1980s and led to a taxpayer bailout of the Farm Credit System.

The oil price bubble burst in 1981 after crude oil prices had more than tripled since 1973, in inflation-adjusted terms, as a result of the Arab oil boycott and the Iranian oil embargo. Long-standing U.S. price and allocation controls over domestic crude oil production exacerbated the effect of those two events. By 1986, the inflation-adjusted price of crude oil had plunged by more than two-thirds. The number of oil drilling rigs declined by three-fourths during the same five year period, undermining the value of collateral securing many loans tied to oil and gas exploration. Real estate values in the energy producing states also plunged, especially for commercial properties. These asset deflations greatly aggravated the S&L crisis and bankrupted hundreds of commercial banks in the energy states.

The commercial real estate bubble outside of the energy producing states was a creature of the 1980s. This bubble was fostered in part by the 1981 Tax Act's liberalized depreciation allowances and in part by a sharp increase in commercial real estate lending by banks, thrifts, and life insurance companies. From 1983 to 1989, total bank and thrift lending for construction and permanent loans on nonresidential real estate (except farm land) increased 131 percent, more than 2.4 times the 54 percent growth in nominal Gross Domestic Product (GDP) in those years. Life insurers nearly doubled their holdings of nonresidential mortgages between 1983 and 1989. This occurred despite the fact that the national office vacancy rate tripled to 14 percent, from 1982 to 1984, and kept on climbing after that to a late 1980s' peak of 17-18 percent, where it has remained. The asset deflation driven by this overbuilding and the subsequent collapse of rental rates has caused billions of dollars of losses for depository

institutions and life insurers. Clearly, these intermediaries underpriced their commercial real estate loans.

The damage from the deflationary aftermath of bursting bubbles extends to an entire economy, as evidenced by the prolonged recovery from the most recent recession in many industrialized nations, notably the United States, Great Britain, the Scandinavian countries, and Japan. Recovery is prolonged because, while nominal debts remain constant, asset deflations dramatically lower the net worth of many individuals and businesses, raising their effective leverage ratio. Income streams also are often impaired as assets lose value, making it even harder for borrowers to service their debts. In these circumstances, debtors aggressively rebuild their balance sheets by paying down their debts to reduce leverage ratios and debt servicing burdens. Demand for capital goods will be sluggish as long as this debt liquidation proceeds; the economic recovery will be correspondingly slow and painful.<sup>10</sup>

Deflation appears to be more demoralizing to the populace than inflation, perhaps because it is easier to protect oneself against inflation than deflation. This may be why populism, and its more extreme form, fascism, rear their ugly heads during deflationary times, as the world experienced in the 1930s. Populism essentially blames “the other guy” for economic difficulties. During the recent deflation-driven recession, we have seen its resurgence.

### A New Regulatory Model: 100 Percent Cross-Guarantees

The United States clearly needs a new regulatory model as the traditional regulatory model is hopelessly beyond repair. Specifically, the new model must rely much more than the traditional model does on market forces, specifically on properly priced deposit insurance, to promote wise and efficient lending and investing with a minimum of regulatory arbitrage. The following features should characterize the new regulatory model:

- Government regulation should concern itself only with maintaining the stability of the financial system, not the fate of individual firms within that system. However, stability should be ensured in a manner that protects taxpayers from all losses when individual firms fail.

<sup>10</sup>For one of the purest examples of a bursting bubble and its painful deflationary aftermath, see Ely and Vanderhoff (1990).

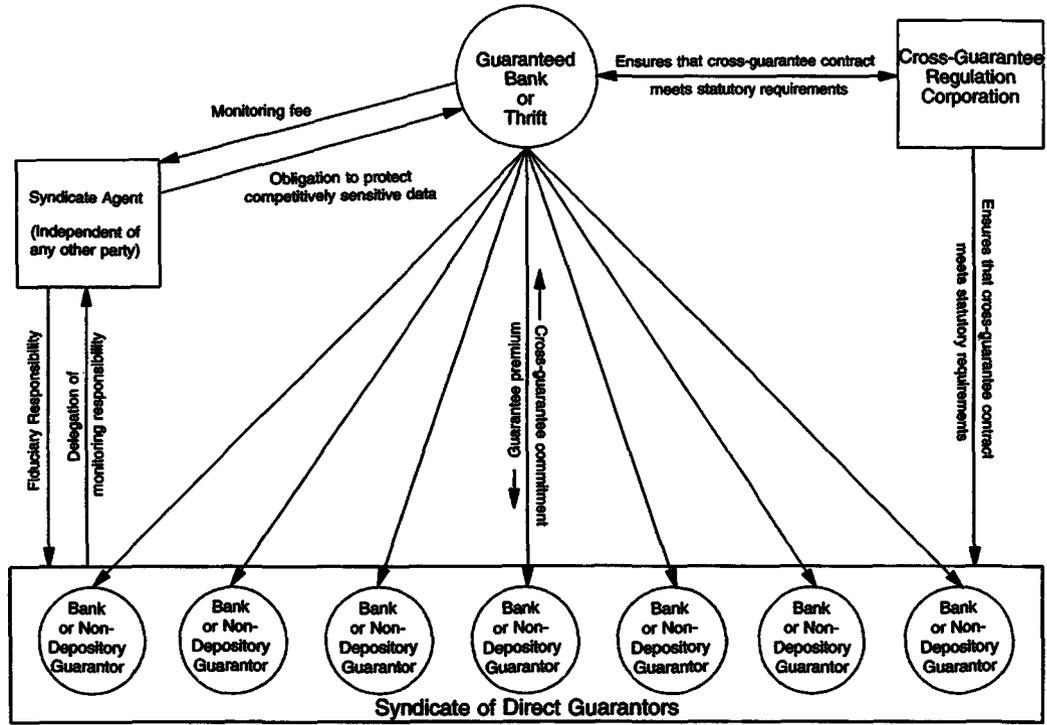
- Individual financial intermediaries should have the freedom to specialize in whatever activities they choose, subject only to market constraints.
- Individual firms should be permitted to fail, since failure is a necessary element of all successful marketplaces.
- The marketplace should establish a premium rate formula, institution by institution, for deposit insurance. As Figure 3 illustrates, a bank or thrift would then incorporate in the interest rate it charges or the investment yield it seeks the effect a particular loan or investment would have on its premium rate.

The major public policy challenge in banking today is designing a deposit insurance mechanism that meets the above criteria. The 100 percent cross-guarantee concept meets this challenge. There may be other ways to meet it, but they have not yet surfaced. All proposed reforms of federal deposit insurance, including FDIC reinsurance and the "narrow bank" and its ilk, are merely futile attempts to rebuild Humpty-Dumpty. The cross-guarantee concept is embodied in the Taxpayer Protection, Deposit Insurance Reform, and Regulatory Relief Act of 1992 (H.R. 6069), a 173-page bill that Rep. Tom Petri introduced on September 30, 1992. Key features of the Petri bill are as follows:

- Cross-guarantee contracts must protect all deposits, domestic and foreign, as well as most other liabilities and all off-balance-sheet commitments, such as letters of credit, option and futures contracts, swaps, and so forth. This requirement effectively shifts *all* insolvency risk for banks and thrifts, beyond that provided by stockholders, to ad hoc syndicates of guarantors who explicitly assume that risk in exchange for a risk-based premium. Shifting this insolvency risk to guarantors will eliminate depositors as a potential source of financial instability and banish concerns about banks considered to be too-big-to-fail.
- Cross-guarantee contracts will give the marketplace the opportunity to develop market-driven, risk-sensitive pricing focused on *leading* indicators of banking risk. This type of pricing will help enormously to starve emerging speculative bubbles of under-priced credit, thereby reducing greatly, if not eliminating, the subsequent deflationary consequences of bursting bubbles. Market-driven pricing, in concert with other aspects of cross-guarantees, will in turn eliminate the incentive for the financial markets to engage in the wasteful regulatory arbitrage that has become so widespread in recent years.

- Cross-guarantee contracts also will contain contractually agreed-upon restrictions on a bank or thrift's activities and specify the right of the syndicate to employ an agent (called the syndicate agent) to work inside the institution to monitor, on a real-time basis, its financial condition and risk-taking. The syndicate agent will collect a separate monitoring fee from the guaranteed institution for this work. Figure 4 illustrates the relationship of the various parties to a cross-guarantee contract.
- Every bank and thrift eventually must obtain a cross-guarantee contract, if the cross-guarantee system reaches "critical mass," which is defined in the Petri bill as 250 banks and thrifts, with \$500 billion in total assets, having obtained cross-guarantee contracts. If the system does not reach critical mass, the system will not activate. If it does activate, institutions with more than \$1 billion in assets will have 2 years to obtain a contract; those with less than \$25 million in assets will have 8 years.
- The Petri bill exempts guaranteed banks and thrifts from all federal safety-and-soundness requirements, such as uniform capital standards, lending limits, and restrictions on insider borrowings. Safety-and-soundness concerns will become the sole province of the contract negotiated between a guaranteed institution and its syndicate of guarantors. (The bill provides generous severance pay for the 15,000–20,000 bank and thrift examiners and supervisors whose jobs will become redundant under the cross-guarantee system.)
- To maintain depositor confidence in guaranteed banks and thrifts during the early years of the cross-guarantee system, the Petri bill creates a Backup Fund, or BUF, to protect deposits up to the present \$100,000 deposit insurance limit. In reality, the BUF should never experience a loss because of the cross-guarantee system's systemic safeguards discussed below. Indeed, the BUF essentially is a political facade to permit guaranteed institutions to continue to display the FDIC insurance sticker until such time as depositors have adapted to relying on a second sticker stating that all deposits are protected under a cross-guarantee contract.
- Bank runs should never occur because deposits will be fully guaranteed. If a run does develop, guarantors should have sufficient liquidity to snuff it out. The Federal Reserve also could provide emergency liquidity to a guaranteed bank or thrift without risk, since all such advances will be fully guaranteed under that institution's cross-guarantee contract.
- To ensure that even the smallest bank or thrift can obtain a cross-guarantee contract, the Petri bill authorizes "group cross-

FIGURE 4  
PARTIES TO A 100 PERCENT CROSS-GUARANTEE CONTRACT



SOURCE: Ely & Company, Inc.

guarantee contracts." Under group contracts, individual contracts of many small banks and thrifts scattered around the country can be pooled for risk syndication purposes as if they were one large bank. This is an important provision since smaller banks and thrifts generally will find it cheaper to be guaranteed under group contracts than under a contract under which they are the sole guaranteed party.

Very simply, the cross-guarantee concept is a self-insurance mechanism for banks and thrifts that completely replaces the existing system of federal deposit insurance. Under this concept, all deposits and most other liabilities of a bank or thrift will be unconditionally guaranteed against any loss under a contract with an ad hoc syndicate of voluntary guarantors. The bank or thrift, in turn, periodically will pay a risk-sensitive premium or fee to its guarantors to compensate them for the risk they have assumed. The guarantors, acting through a syndicate agent, also will have the right to monitor the activities and financial health of the bank or thrift they are guaranteeing.

### Building Systematic Safety Into Cross-Guarantees

The cross-guarantee concept eliminates all taxpayer risk from deposit insurance through uniform risk-dispersion rules and other systemic safety requirements. While the marketplace would insist on many of these rules, four statutory requirements provide uniformity where needed and more than adequate political comfort about the soundness of the cross-guarantee system.

First, each guarantor must itself be guaranteed by a syndicate of guarantors. Further, at least one of the guarantors in each syndicate must be contractually linked, directly or indirectly, to every other guarantor in the entire system. This requirement ensures that no "isolated closed loops" will ever exist within the cross-guarantee system. An isolated closed loop would exist if a small group of banks and thrifts guaranteed each other, but had no contractual links, for cross-guarantee purposes, with the rest of the system. In effect, the entire cross-guarantee system must form one giant network or closed loop to ensure that no loss, however large, will ever leak from the system. Preventing loss leakage is why *the cross-guarantee system will be stronger financially than even the federal government.*

Second, a uniform "stop-loss" requirement (in effect, a mandatory reinsurance mechanism) will pass through to each guarantor's own set of guarantors all losses in a 12-month period that exceed 5 times the premium income the guarantor earned during that period. Hence, a guarantor's maximum loss as a guarantor in any one year will be

limited to an amount equal to 12 percent of its capital. For most guarantors, that amount would equal 6 to 9 months of its pre-tax income. Losses of this magnitude, which should be extremely rare, will sting, but not bankrupt a guarantor, reflecting a basic principle of the cross-guarantee concept—no guarantor should ever fail by virtue of being a guarantor. The stop-loss limit will ensure that a large loss or a series of losses will be spread widely but thinly over a broad base of capital. However, because the system represents one giant closed loop, no loss will ever leak out of the system, even in conditions worse than the Great Depression.

Third, every cross-guarantee contract must have a minimum number of guarantors, each of whom can bear no more than a specified maximum percentage of that institution's insolvency loss should it fail. For example, a bank or thrift with \$100 million of assets must have at least 20 guarantors, no one of which can assume more than 5 percent of that institution's insolvency risk. All institutions with more than \$10 billion of assets must have at least 100 guarantors, each of which can assume no more than 1 percent of the institution's risk.

Fourth, each guarantor will be limited as to how much risk it can assume under any one contract and in the aggregate. These limits use the premium paid by a guaranteed institution as the measure of risk assumed. This concept, which reflects the basis on which property and casualty insurance companies are capitalized, recognizes that competitive marketplace pricing will determine with sufficient accuracy the risk of loss under each cross-guarantee contract.

The maximum amount of premium a guarantor can expect to earn annually under any one contract it enters into cannot exceed .09 percent of its equity capital. Further, the aggregate amount of premium income the guarantor is likely to receive over the next 12 months cannot exceed 3 percent of its total capital. A guarantor would have to enter into at least 34 contracts to hit its aggregate premium limit, a fact which ensures that every guarantor will be diversifying its risk if it fully utilizes its capacity as a guarantor. Guarantors, however, would not have to segregate capital in any manner for the cross-guarantee risks they assume; capital serves merely as the way to measure a guarantor's capacity to assume cross-guarantee risks. A guarantor will absorb its actual losses out of its pre-tax profits or, in the case of a very large loss, from its capital.

### Regulating Cross-Guarantees

The Petri bill creates a small new agency, the Cross-Guarantee Regulation Corporation (CGRC) to regulate the cross-guarantee

system (Figure 4). Its most important function will be to review proposed cross-guarantee and stop-loss contracts to ensure that they comply with all of the systemic safety requirements mandated in the bill. However, the CGRC is explicitly barred, in the strongest language possible, from passing judgment on any other feature of these contracts. The CGRC, for example, will be barred from rejecting a contract based on its pricing formula or provisions for taking over a failing institution.

In effect, the CGRC will be comparable to a building inspector; it will merely ensure that the institution has obtained a contract that meets statutory requirements. The marketplace will be the institution's architect, contractor, owner, and operator. Focusing government regulation on just a few rules needed to ensure a sound banking system will give individual banks and thrifts the latitude they need to pursue appropriate business strategies.

To make the cross-guarantee system as regulator-proof as possible, all cross-guarantee contracts will have to be filed electronically in a central electronic repository (CER) operated by the CGRC. Anyone will be able to access the CER at any time to double-check the CGRC's contract approvals and to try to detect any isolated closed loops that the CGRC might have overlooked. The Petri bill even empowers citizens to sue the CGRC to seek enforcement of provisions of the Petri bill that the regulators have ignored.

### *The Insuring Capacity of the Cross-Guarantee system*

Banks and thrifts today have at least 8 times as much capital as is needed to adequately backstop the cross-guarantee system. However, additional capital resources are made available to the cross-guarantee system through the Petri bill's authorization of "nondepository guarantors."

If all banks and thrifts today were guaranteed institutions, their cross-guarantee contracts would guarantee approximately \$4.1 trillion of on-balance-sheet liabilities plus off-balance-sheet liabilities with a risk-weighted credit equivalent of another \$400 billion. Assuming an average premium rate equivalent to .03 percent of on-balance-sheet liabilities, total premiums paid by guaranteed banks and thrifts would equal about \$1.25 billion annually. (Total premiums probably will be less than this amount because actual losses in failed banks will be a small fraction of this amount in the non-deflationary environment cross-guarantees will help to create.)

Given that premiums cannot exceed 3 percent of a guarantor's capital, the entire cross-guarantee system could operate with a \$41 billion capital base, an amount equal to just one-eighth of the book

capital of all banks and thrifts. Hence, there is more than enough capital and earning power within the banking system to safely underpin the entire cross-guarantee system.

As stated above, to give the system access to far greater capital resources, the Petri bill authorizes nondepository guarantors. A nondepository guarantor will function in the same manner as a bank or thrift guarantor, but only after having first obtained a "stop-loss contract" that unconditionally guarantees its performance as a guarantor. Nondepository guarantors can be insurance companies, manufacturing and service firms, pension and endowment funds, and even very wealthy individuals, provided that each nondepository guarantor has a minimum net worth of \$100 million.

By serving as an additional source of capital, nondepository guarantors will help ensure that premium rates do not get too high, especially in the aftermath of a large loss. Due to the competitive nature of the cross-guarantee marketplace, past losses should not be rolled into the future in the form of higher premiums. The ability to recover past losses is an unfortunate feature of the present federal deposit insurance monopoly because this recovery process effectively taxes well-managed banks and thrifts to pay for inept government regulation. This effective subsidy of the bad by the good is just one of the many aspects of federal deposit insurance impeding the economic recovery now underway.

Because guaranteed banks and thrifts will automatically qualify as guarantors, if they believe premiums are too high relative to expected future losses, they can sign on to more cross-guarantee contracts as guarantors to capture some of the presumed premium overcharging. This action will enable these institutions to "net down" the cost of their own guarantees and also to bid premium rates back down to a reasonable level. No guaranteed institution, though, will be required to be a guarantor.

### *Dealing with Failures*

Bank and thrift failures will be relatively rare under the cross-guarantee system, largely because market-driven cross-guarantee premiums will deter unwise risk-taking and stimulate turnarounds and recapitalizations, especially in larger banks and thrifts, when losses have weakened the institution. However, failures will occur, largely among smaller institutions that can quickly sink into insolvency. The Petri bill authorizes guarantors to take over a failing bank or thrift if it violates contractual covenants, such as not maintaining sufficient capital relative to the risks it has assumed. Because guarantors will

have a stronger incentive than regulators to minimize losses, they will close failing banks and thrifts much more quickly. Privatizing the closure decision may turn out to be one of the most important payoffs from cross-guarantees.

Guarantors also will be permitted to take over a guaranteed institution if they cancel its contract or its contract expires and the institution cannot obtain a new contract. By not providing a new contract, the marketplace will have signaled that the institution has failed. However, to protect the integrity of the cross-guarantee system, no bank or thrift will ever be permitted to operate for even one second without having a cross-guarantee contract in force.

Failed banks and thrifts will be resolved under special provisions of the federal Bankruptcy Code rather than in a government-run receivership, as is now the case. Title III of the Petri bill as it will be reintroduced in late 1993 will enact these special provisions. The primary purpose of the bankruptcy proceeding will be to allocate the failed institution's insolvency loss between its guarantors, standing in the shoes of the institution's guaranteed depositors and other guaranteed creditors, and its unguaranteed creditors. However, under no circumstance will the Bankruptcy Court be permitted to alter or compromise the institution's cross-guarantee contract. In effect, an insolvent bank's or thrift's creditors will be protected against any loss whatsoever, regardless of the fate of the failed institution.

## Conclusion

Computer technology in less than two decades has made obsolete the traditional regulatory model for banking that evolved over many decades. The new regulatory model proposed in this paper honors the potential of the new technology; likewise, the new technology makes the operation of cross-guarantees more feasible than ever.

Just as the former communist world is shaking off central planning, so too must the market economies discard regulatory models that attempt to micromanage individual banking firms. The time has come to bring *perestroika* to American banking. The Petri bill will do just that.

Apart from bringing much needed deposit insurance reform to banking, the Petri bill will deliver three even greater benefits. Risk-sensitive pricing of cross-guarantees, by promoting wiser lending, will sharply curb the flow of underpriced credit into emerging speculative bubbles, steering the economy away from painful asset deflations. At the same time, cross-guarantees will permit banks and thrifts to

accurately match their capital and risk-control systems to the financial risks they have assumed, eliminating much of the dangerous and inefficient regulatory arbitraging that has emerged in recent years. Finally, Americans will enjoy greater confidence in the stability of their banks and thrifts through the assurance of a 100 percent guarantee of their bank and thrift deposits and most other depository institution liabilities, without any taxpayer risk.

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## PRIVATIZING DEPOSIT INSURANCE: THE ELY PROPOSAL

*Gary Gorton*

Despite the recent reports of high bank earnings during 1992, apparently due to a fortuitous term structure shift, the U.S. banking system is not well. Over the last 15 years the return on assets or the return on (book or market) equity shows a downward trend (for banks over \$300 million in total assets), while charge-offs have been increasing. Moreover, bank failures have been rising at a dramatic rate since 1980, as have FDIC payouts. To address these problems Bert Ely has proposed an innovative revamping of the Federal Deposit Insurance Corporation. The respective proposed law is the "Taxpayer Protection, Deposit Insurance Reform, and Regulatory Relief Act of 1992 (H.R. 6069), introduced by Representative Tom Petri (R.-Wis.). The proposal would privatize deposit insurance, the idea being to free the federal government from the onerous expenses associated with a system that appears to be inappropriate in the current financial environment. In this comment I briefly consider the merits of the Ely proposal.

### The Ely Proposal

Briefly, the basic features of the Ely proposal are as follows:

- A system of reinsurance (across private firms) would be mandated to spread the risk of losses on bank deposits;
- Insurance premia would (presumably) be "risk-based" (since the reinsurance market would be competitive);
- The proposal would only be activated if a critical number of institutions opted to join;
- Each reinsuring syndicate (composed of financial and/or non-financial firms) would be allowed to employ an agent at the bank being insured in order to "monitor" the bank;

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- The decision to close a bank would be made by the private insurers, rather than by the government;
- Government insurance of deposits would continue during a transition period;
- The federal government would monitor banks only to ensure that they were obtaining the private insurance in accordance with the proposed law.

Privatizing deposit insurance in this way 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 the value of the bank's charter, an intangible asset, is low enough (Merton 1977, Marcus 1990, and Keeley 1990). The proposal shifts the role of monitoring banks from the government, which currently examines and disciplines banks, to the private guarantors.

### Banking Panics and the History of Private Insurance

The purpose of deposit insurance is to prevent banking panics. A banking panic is a situation in which depositors at a large number of banks, more or less simultaneously, demand that their deposits be converted into cash in such large amounts that the banking system cannot honor their demands at par. A panic should be distinguished from a bank run in which depositors at a single bank demand conversion of their deposits into cash.

During historical banking panics the banking system was insolvent because bank assets could not be converted into cash to honor depositor demands. The reason for this problem has to do with the unique features of bank loans which, for the most part, make them nontraded securities. Recent research suggests that the role of banks is to monitor borrowers and produce credit-risk analyses of their condition (e.g., Gorton and Kahn 1993). Other securities, particularly corporate bonds, cannot accomplish these goals because the bondholders are dispersed. Consequently, free riding makes monitoring and information production by bondholders difficult.

In order to induce banks to perform these roles it is necessary to put them at risk for nonperformance. Thus, by forcing the bank to hold the loans it originates, bank equity will suffer losses if the bank does not monitor or inaccurately produces information about the borrower. It is difficult to sell loans because if they are sold, the bank has no incentive to perform these functions. Consequently, buyers typically will not be interested in purchasing loans (though see Gorton and Pennacchi 1993).

As a result of the nontradability of bank loans, bank assets are very difficult to value. There are no market prices of loans and many banks do not have traded equity. In fact, even in modern times it is not clear to what extent bank equity prices provide information which accurately distinguishes one bank from another. Banks may well know the value of their assets, but there is no way for a bank to credibly convey this information to market participants without markets for their assets. Paradoxically, if there were markets for bank loans, we would not need banks in the sense that we have historically understood this term (see Gorton and Pennacchi 1992).

Banking panics happened fairly regularly during the pre-Federal Reserve period of American history: 1857, 1873, 1884, 1893, 1907, and 1914. Banking panics occurred at business cycle peaks when depositors had reason to believe that a recession was coming. During a recession some banks fail because their borrowers fail. Because of the information asymmetry about the value of bank assets, depositors had no way of knowing which banks would fail (Gorton 1985a, 1988; Calomiris and Gorton 1991). Prior to 1914, however, there was a system in which banks themselves privately supplied a form of deposit insurance during banking panics.

Private bank clearinghouses were originally started in the United States (in New York City in 1853) to minimize the costs of clearing checks. But they quickly evolved into organizations which internalized the risk of banking panics. Since individual banks could not convert their assets into cash during a panic, the clearinghouse created an internal market which allowed member banks to discount assets with the clearinghouse and receive "clearinghouse certificates" which (toward the later part of the century) could be used to redeem deposits and functioned as a medium of exchange. These certificates were the liabilities of all the clearinghouse member banks jointly. Consequently, a depositor who received such a certificate in place of a deposit was insured against his particular bank failing (but not against the entire clearinghouse failing—an event which never occurred). In this sense the clearinghouse issued a kind of deposit insurance (Gorton 1985b; Gorton and Mullineaux 1987).

While the clearinghouse system did not prevent panics, the losses on deposits and the number of bank failures was very small, basically an order of magnitude smaller than those that occurred during the Great Depression when neither the clearinghouse system nor FDIC insurance existed. The important features of the clearinghouse system were: (1) the ability to create private money, i.e., the clearinghouse certificates; (2) the ability to monitor member bank risk-taking effectively due to severity of the penalty; (3) secrecy which did not allow

the public to know which banks were discounting the most assets; (4) the ability to suspend convertibility of deposits into currency.

Without a market for bank assets, the assets cannot be converted into cash in order for banks to demonstrate their solvency to depositors. As a result, in a panic the banking system is insolvent, with the attendant disruptions of the means of payment. The important point is that banking panics are systemic events, that is, the risk which has public policy implications is not the risk of this or that bank being run and failing, but the risk that the entire system becomes insolvent in the specific sense that markets for bank assets do not exist. Any proposal to change the deposit insurance system must be one which does not risk a banking panic.

### Assessing the Ely Proposal

In order for the Ely proposal to prevent panics depositors need to believe that the reinsurance system can honor their deposits if there is a banking panic. The reinsurance system essentially substitutes the assets of the insurers for the assets of the insured bank (since bank assets cannot be quickly sold). If there is a panic or a run on an individual bank, the assets of the insurer must be sold to honor the liabilities of the bank. Note that it is not clear that the insurer would know the value of the bank's assets, but, in any case, would be contractually obligated to honor the bank's liabilities.

It appears that the spirit of the proposal concerns the failure of individual banks, rather than a banking panic. The whole idea of reinsurance is that it reduces the likelihood that all of the firms in the insuring syndicate will be insolvent at the same time making it quite probable that a bank's obligations could be honored. Indeed, if one bank fails, then the insurer will not be selling its assets at the same time as all other insurers, and to the extent that the insurer's assets are marketable, they could be sold to honor the banks obligations. But, the failure of individual banks is not the main concern of deposit insurance.

What would happen if there were a banking panic? All insurers would have to convert their assets into cash at the same time. Even if their assets were less information intensive than bank loans, it is not clear that this could occur at prices which would allow the insurers to honor the obligations of all banks at once. This is especially true to the extent that there is mutual insurance, where the loans of one bank are providing the backing for another bank's obligations. (One need only look at the speed with which the Resolution Trust Company (RTC) is selling thrift assets to see how long it takes to sell sizeable amounts.)

It does not seem obvious that the reinsurance system would be able to honor all banks' deposits during a panic. Note that to determine whether the backing of the insurers is sufficient it is *not* a matter of comparing the total value of the assets of the insurers to the amount of deposits being insured. The total value of the assets is likely to be a different number in the event of a banking panic.

One might imagine that the insurers would hold only assets that are very easy to value, e.g., cash, government securities, high-grade, short-term, commercial paper. In this case, it would be transparent to depositors which banks had insurers which were in trouble because the insurers' assets could be easily valued. This is the logic of narrow banking proposals; the information asymmetry is eliminated at one stroke. In the Ely proposal, however, there are no restrictions on what assets the insuring syndicates would be allowed to hold. In fact, the proposal imagines that other financial firms, such as insurance companies and other banks, would form the syndicates. Since the assets of these firms are difficult to value it seems quite likely that there could be a banking panic under this system.

The proposal does not seem to adequately address the fact that panics are systemic events. Recall that the clearinghouse system was able to avoid the issue of selling assets because of its ability to create money. In the Ely proposal the Federal Reserve's discount window would be available, but it would not be secret (as was the clearinghouse system's discounting procedure). Without secrecy it is not clear that any bank or insurer would use the discount window because such an action would publicly draw attention to that firm's self-perceived weakness. This problem occurred during the Great Depression when the discount window was available, but was not used by banks.

Because the proposal does not address the systemic event of a panic, it is not clear when the insurers would be obligated to honor their liabilities to banks. During a banking panic there is little distinction between the solvency of this or that bank and the solvency of the system. If banks can suspend convertibility, then as information is gradually revealed, this distinction can be made. But, the proposal is phrased in terms of the "failure" of individual banks. If insurers did not immediately honor their banks' liabilities, then the panic is on, and it is of little consequence that at some later date losses might be covered.

The prospect that insurers would not or could not honor banks' liabilities quickly enough raises the question of whether the government would intervene in the event of a panic. The difficulty with this prospect is that if market participants conjecture that the government would, in fact, intervene, then that conjecture can be self-fulfilling.

In similar experiments with deposit insurance in other parts of the world the government has intervened *ex post*. A recent example of the problem occurred in Chile (de la Cuadra and Valdes 1992). It is difficult to see how the government can precommit to not intervening. The proposal does not address this issue.

Another problem with the proposal concerns the pricing of the insurance premia. That insurance premia would be risk-based presumes that loans can be valued. But, there is a dilemma: if it is possible for market participants (in this case, the insurers) to accurately value (nontraded) loans, then we do not need deposit insurance because there is no longer asymmetric information and, consequently, no danger of panics. Depositors can also value loans and distinguish between banks. On the other hand, if there is asymmetric information, then accurate pricing is not possible and no amount of reinsurance can hedge a systemic risk of banking panic.

The notion of risk-based insurance premia is a limited one. Some improvements in measuring the risk of bank portfolios can be made, because there are degrees of information asymmetry. But, the view that private agents can accurately price the risk of bank loans seems without foundation.

### Is Deposit Insurance the Problem?

So far I have assumed that deposit insurance as presently constituted is at the root of recent problems in banking. The argument goes as follows. With flat-rate insurance premia bank equity holders can increase the value of their claims, at the expense of the FDIC, by engaging in riskier activities. Bank equityholders have an incentive to engage in this moral hazard when the value of bank charters is sufficiently low. No one disagrees that if the value of the charter is low enough, or if the value of equity is low enough, that equityholders will behave this way. In fact, this problem appears to have characterized some thrift behavior.

But, thrifts are not commercial banks and simple extrapolation from the experience of thrifts to the situation of the banks is inaccurate. Unlike the thrift industry there has been no large stock which eliminated large amounts of commercial bank equity (like the rise in interest rates during the 1970s did for thrifts). Also, it is clear that banks are valuable franchises even if their charters have lost some value due to competition from nonbanks and new markets.

If deposit insurance is not the problem, then what does explain the recent behavior of the U.S. banking system? In recent work with Richard Rosen (Gorton and Rosen 1992) we argue that the problems emanate from corporate control issues in commercial banking in the

face of sustained competitive pressure from nonbanks and new markets. We test this hypothesis against the hypothesis of moral hazard due to fixed price deposit insurance. Here I briefly summarize what we found.

One difficulty with the moral hazard argument is that it assumes that equityholders make the lending decisions at banks. But, in fact, managers make such decisions. It is well-known that managers may have different objectives than outside shareholders. For example, empirical evidence for nonfinancial firms suggests that managers are excessively conservative from the viewpoint of outside shareholders.

Whether managers's incentives are aligned with those of outside shareholders or not depends on the amount of stock they own in their bank. If this fraction is very large, then they are essentially the owners and they behave as such. If it is lower, they may be *entrenched*, i.e., it is costly to remove them and they pursue their own interests rather than those of outside shareholders. In the face of competition in which the demand for bank services (on the asset side of the balance sheet) has declined, entrenched bank managers may find that they face no good lending opportunities. Outside equityholders would like to remove these "bad" managers and shrink the bank, moving resources from banking. We show that entrenched managers will make more risky loans in order to gamble on continuation of their jobs. That is, by gambling for high profits they may be able to appear to have good opportunities. This will allow them to keep their jobs. Managers whose interests are aligned with outside shareholders do not mind if the bank shrinks or is closed.

This corporate control hypothesis has a prediction which is the opposite of the moral hazard hypothesis. Simply put, think of a manager with stock ownership of over 50 percent. The moral hazard hypothesis predicts that this will be a bank which engages in risky activities because the equityholder can make this decision unimpeded. But, the corporate control hypothesis argues the opposite: this bank will not engage in risky activities. Rather, banks engaging in risky activities will be those where managers have relatively low stock ownership fraction. Such managers care more about continuing their jobs as heads of large organizations.

We test these two competing hypotheses by examining which types of banks, according to the stock ownership shares of insiders, engage in various kinds of lending activities, ordered by risk and return. The results are clear: the moral hazard hypothesis is rejected in favor of the corporate control hypothesis.

The corporate control hypothesis clearly has much different implications for public policy concerning banks than does the moral hazard

hypothesis. But, the main point is that casually assuming that commercial banks are akin to thrifts in that deposit insurance is the culprit is not a useful beginning point for proposals to reform bank regulations.

## Conclusion

If private firms can assess nontraded bank loans, then so can other market participants, making government deposit insurance and the Ely proposal unnecessary. On the other hand, if banking panics are still a possibility, then the Ely proposal appears incapable of preventing them, making government intervention highly likely. Hence the basic problem presumed by the proposal would not be solved. But, in any case, the proposal presumes that government fixed-rate deposit insurance is the cause of the problems in the banking industry. There is no evidence for this view. On the contrary, the evidence suggests that it is *not* the problem. Consequently, even if the proposal would work to prevent panics, it would not prevent bank failures.

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