The decline of private deposit insurance in the United States A comment

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William English's paper is a rare combination of thoughtful economic analysis with detailed research into the institutional and political background within which recent private-deposit insurance funds arose and were regulated. He integrates specific examples, statistical information, and economic theory to provide a convincing case that flaws in design and implementation underlay the numerous recent failures of various forms of mutual deposit insurance. The failed sytstems had much in common: (1) they allowed free exit (often with premium contributions in tact) by participants who feared costly failures and collected meagre premiums. This meant that they could not provide credible protection in the wake of the failure of even one large member institution. (2) The failure of large institutions (often only one) was the proximate cause of fund bankruptcy. (3) The failures were directly linked to fraudulent activity by bankers, regulators, and politicians who often violated regulations with impunity. (4) Regulatory powers were extremely limited in most cases. (5) Regulators failed to collect information or to act upon information they did possess to preempt or punish fraudulent activity, even when they had the ability to do so.

By presenting the various cases together and teasing out their similarities English is able to argue convincingly that the cases of fraud and regulatory failure resulted from common perversities in the incentives for individual behavior within these systems, rather than from the unpredictable crookedness of a few individuals. If there is a gap in the paper, it is the absence of an explanation for the *common timing* of so much fraud, which was the proximate cause of the collapse of these various systems. As English's statistics and

discussion show, virtually all of the failures happened over the last 10 years. Why did so many systems fail as the result of fraud in this decade? Was the similarity in timing a coincidence, or is there a link between common economic conditions and the near simultaneity of the collapse of these systems? How can one reconcile an explanation that revolves around changing economic conditions with the fact that collapse was caused by the fraudulent activities of a few large institutions?

In attempting to answer these questions, I divide my discussion into three parts. First, I analyse the economic constraints that a private, state-mandated deposit insurance system must satisfy. I argue that greater risk-taking during booms and increased incidence of fraud during economic declines are important ingredients of a coherent story of the timing of deposit-insurance fund collapses, and that these tendencies are magnified by the peculiar economic constraints that underlie private-deposit insurance. In particular, one might expect that private funds would be more likely to encourage fraud than government-backed insurance funds.

Second, to illustrate the argument, I summarize some of my earlier research on the boom and collapse of deposit-insurance funds from 1914 to 1930, and link the observed historical patterns to similar trends in the 1970s and 1980s. While there are many similarities between the booms and collapses of these two epochs, there also seem to be important differences between the early twentieth-century experiences and those of the private funds in the last decade. Most notably, in contrast to recent experience, in the 1920s system collapse typically involved widespread simultaneous failures of many-member institutions (rather than the failure of one or two very large members), and outright fraud seems to have been relatively less important than excessive risk-taking by insured members.

Third, and finally, I take up the question of appropriate regulatory response in light of these arguments.

Formation, destabilization, and collapse of private funds

Let us begin by assuming, as English does, that government assistance to private, state-mandated deposit-insurance funds is not anticipated (equivalently for what follows, one can assume that a significant number of unsophisticated depositors expect full government bailout, as long as a significant fraction of depositors do not). For deposit insurance to create perverse incentives in such systems, there must be some institutions that take advantage of a subsidy from flat-rate deposit insurance to undertake excessive risk or to misappropriate depositors' funds. Furthermore, there must be an initial period during which depositors view insurance as somewhat credible (they need not regard it as perfectly credible). If not, depositors would not allow the

managers of financial intermediaries to choose excessively risky investments or to misappropriate funds.

Thus, for insurance to be effective, and for it to provide perverse incentives for some members in the absence of government backing, there must be "cross-subsidization" within the insurance system. The institutions that lobby for deposit insurance (presumably those who plan to reap the subsidy) must expect to receive a transfer from other prospective members. Whatever "subsidies" are received by some members as the result of flat-rate deposit insurance must be exactly offset by "taxes" on other member institutions. The first question to address about such funds, therefore, is why any members would be willing to subsidize the risk-taking of other member institutions.

"Charter value" provides a potential explanation of cross-susidization. The net benefits of a charter for a subsidizing institution in the privately insured system must exceed the net benefits that institution would get from an alternative chartering form (for example, a federally insured charter). Furthermore, given the potential for free exit from the system, this constraint must hold continuously (net of switching costs), not only at the time a subsidizing member joins the system but for the entire period that it remains in the system.

The satisfaction of this condition provides guidance for understanding (1) the restrictions on the premiums charged in such systems; (2) how systems fall into trouble; and (3) how the risk-taking incentives of institutions differ at various points during the process of a system's collapse.

The premium charged in the system cannot be too large, or else subsidizing members will leave (or never join). It may even be necessary to allow exit from the system in the face of a large collapse; otherwise subsidizing institutions would not join in the first place. Insurance can be thought of as state-contingent. If small losses occur, depositors know they will be protected; if large losses occur, depositors know that they will not. Insurance can still provide cross-subsidization and encourage excessive risk-taking so long as there are some states of the world in which it will be credible (i.e., some states in which small losses will be paid for by subsidizing banks). From this perspective, many of the design flaws in private, state-mandated deposit insurance (like small fees and freedom of exit) may be inherent in the type of system, rather than evidence of an error in the structure of the law.

This framework also helps one understand how such systems unravel, why their unraveling occurs when it does, and why the collapse is often precipitated by fraud (the propensity for which seems higher in the private systems than in the federally insured systems). The process involves three stages: the undertaking of excessive risk by some members; a poor realization on high-risk loan portfolios – with asymmetric information initially about the extent of members' likely losses; and "second-round" risk-taking and

fraud as a desperation measure in response to these adverse shocks. It is important that in the second stage there be asymmetric information about risky members' losses, because otherwise depositors would run the system prior to the fraud-induced collapse. The importance of fraud, once there has been a poor economic shock to risky members, can be understood in two related ways. Fraud can provide a fast means of risk-taking, or a means for absconding. Fraud often is a vehicle for undertaking extraordinary risk to try to reverse the losses of a financial institution. Alternatively, fraud may simply be a vehicle for transferring funds out of the bank. Calomiris and Kahn (1991) construct a model in which the banker's decision to abscond depends on the realization on his loan portfolio. When good realizations occur, the banker finds it worthwhile to pay off depositors and retain control over the bank; when bad realizations occur, the value of the bank charter is too low, and the banker decides to abscond rather than repay his debt. Evidence on the links among risk-taking, adverse shocks, and fraud comes from regulators' lists of the causes of bank failures, which often list illegal dealings and excessive risk-taking as joint explanations of failure (see the discussion in Calomiris and Kahn, 1991).

In a privately insured system fraud may be particularly pronounced because, unlike federally insured institutions, privately insured institutions cannot avoid runs by depositors once their large losses, *or those of their fellow members*, become common knowledge. This encourages banks to move quickly to reverse losses through fraud, and/or simply absond before it is too late. A federally insured institution would not have to worry about the potential of a run and, therefore, would have less extreme incentives for drastic action and fraud after an initial adverse shock.

According to the description of the conditions for the emergence and unraveling of private, state-mandated insurance funds outlined above, private insurance funds collapse when there are large "upper tails" for member institutions to bet on, followed by very adverse realizations on risky investments. This story has some attractive features. First, it can help explain why for many years these private insurance funds survived. Unlike the 1960s, expansion during the 1970s in agriculture, oil production, and real estate offered new opportunities for greater risk-taking (a large upper tail to bet on), and perhaps more importantly, were soon followed by sharp reversals in the value of these investments. The fact that some disturbances happened in many states simultaneously helps to explain the timing of the propensity for fraud by members adversely affected by economic shocks (farmland and eastern urban real estate value declines, and oil price collapse).

The collapses in economic fundamentals that occurred in the 1980s cannot have been viewed as very likely, otherwise cross-subsidization and depositor expectations of protection would not have existed. That is not to say that

system collapse was "just bad luck." Rather, it was a small-probability large event that (at least some) people understood in advance would not be protected by insurance.

It is also worth emphasizing that deposit insurance can itself help to generate the boom-and-bust cycle that ultimately is its own undoing. Carey (1989) argues that loan subsidies for farmers in the 1970s through the semipublic Farm Credit System helped to temporarily inflate the value of land. Because it is difficult or impossible to take short positions in land, subsidies for farm lending to expand cultivation will allow optimists (those willing to borrow) to bid up the price of land. Pessimists' votes do not count because of the lack of short-selling. This will make land look better than it is as collateral for loans and create further lending and further rises in land values.

Deposit insurance has much the same effect as a loan subsidy. It also leads to excessive risk-taking in part by placing funds in the hands of optimists. It puts deposits in the hands of people (e.g., inexperienced rural-unit bankers and their clients) who otherwise would not qualify for them. These people may undertake excessive risk because of a moral-hazard problem, as in Merton (1977); but alternatively, these bankers and farmers may undertake risk unknowingly because of excessive optimism. Without deposit insurance, depositors would not allow excessively optimistic people to control their funds, but with deposit insurance, optimists will be able to bid for funds and promote excessive expansion. As Carey (1989) shows, excessive optimism is amplified and initially confirmed by the bubble in asset values which the transfer of funds to optimists generates. Thus, in addition to the more traditional views of deposit-insurance's flaws as involving moral hazard and adverse selection, there is an additional cost generated by the tolerance for fools.

Historical perspectives on the boom-and-bust cycle

There are many similarities between the experiences of the private, state-mandated deposit-insurance systems of the early twentieth century and those of the post-World War II era, many of which have been ably discussed by English. Consistent with my earlier discussion, I want to focus on a dimension he neglects, namely, the similarities between the boom-and-bust cycles of 1914-1930 and 1970-1985. Both involved substantial deterioration in the relative prices of certain commodities, notably agriculture, in both periods, and oil in the latter period (Calomiris, Hubbard, and Stock, 1986; Carey, 1989; Calomiris, 1990, 1992a).

After the agricultural boom during World War I (which a reasonable "pessimist" would have regarded as temporary) came a sudden collapse in prices and land values that brought U.S. agriculture to its knees. Declines in

land values and increases in farm foreclosure rates in the 1920s have never been exceeded, before or since. For 1921-1940 foreclosure rates averaged more than five times the highest average levels for any other decade from 1914 to 1980. In 13 of the hardest-hit states farm foreclosure rates exceeded 4 percent per year for the period for which data are available by state (1926-1930). Agricultural banks failed at a high rate.

While the adverse shock following World War I affected all banking systems in states producing grains, cotton, and livestock, there are reasons to believe that state systems with deposit insurance (all of which were primarily agricultural, unit-banking states) fared worse. As I have argued elsewhere (Calomiris, 1989, 1990, 1992a), these states showed unusually high growth in bank assets during the boom relative to national banks in their respective states (Table 1), even when controlling for a variety of other variables (Table 2). Furthermore, as predicted by theory, states with mandatory deposit insurance (which implied greater cross-subsidization of risk among banks) saw much larger, and more statistically significant increases in bank assets during the boom. It should be noted that the excessive growth indicated by the dummy variables for insurance in Table 2 understates the effect of insurance, since they take land expansion as exogenous (contrary to the Carey, 1989, model discussed above).

Another perspective on the excessive expansion and risk-taking of banks during the boom is illustrated in Table 3. Here I present four complementary gauges of deposit risk for four different groups of banks, as a means of comparing the riskiness of banking in the three free-entry compulsory-insurance systems in operation throughout the 1920s (Nebraska, North Dakota, and South Dakota) with three other uninsured groups (national banks in those three states, state-chartered unit banks in western states, and a subset of state-chartered western unit banks of states "contiguous" to the insured-system states. From the theory and history of banking, we know that higher capital ratios, higher reserve ratios, large size (diversification of idiosyncratic risk), and less systematic loan risk each would contribute to a reduction in the riskiness of bank deposits in the absence of insurance. One way to test for an effect from insurance on bank risk-taking is to compare insured and uninsured systems along these dimensions. Bank asset growth rates during the agricultural boom serve as a rough proxy for systematic loan portfolio risk. The other variables are measured as the ratio of the book value of capital and surplus to total book value of assets, the ratio of loans to assets (an inverse reserve ratio), and average bank size. As Table 3 shows, the insured banks showed greater riskiness by all four criteria relative to all three groups of banks. Deposit insurance promoted higher growth by smaller new banks, and these banks had higher ratios of loans to assets and lower ratios of capital to assets than other banks.

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Table 1:
Insured State Banks and National Banks in Three States

	1908	1915	1920	1929	1931
NEBRASKA					
National Banks					
TA growth[1]	0.93	30.01	76.89	-13.32	3.09
Number	209	212	188	158	165
TA/Number	613	785	1.566	1.615	1.595
$(K + S)/\text{TA}$	0.16	0.17	0.11	0.10	0.10
State Banks					
TA growth[1]	-2.30	77.00	153.96	-21.38	-39.44
Number	628	803	1,037	784	584
TA/Number	123	170	335	349	283
$(K + S)/\text{TA}$	0.19	0.18	0.12	0.12	0.15
NORTH DAKOTA					
National Banks					
TA growth[1]	3.76	66.11	91.13	-13.93	-11.30
Number	131	153	181	125	98
TA/Number	245	348	563	702	794
$(K + S)/\text{TA}$	0.20	0.16	0.11	0.10	0.11
State Banks					
TA growth[1]	1.13	139.23	154.86	-49.89	-29.77
Number	421	630	718	309	205
TA/Number	69	111	248	289	306
$(K + S)/\text{TA}$	0.23	0.18	0.11	0.12	0.15
SOUTH DAKOTA					
National Banks					
TA growth[1]	4.03	77.28	117.63	-30.86	-6.57
Number	89	111	136	93	92
TA/Number	341	485	862	871	822
$(K + S)/\text{TA}$	0.16	0.14	0.09	0.09	0.11
State Banks					
TA growth[1]	3.69	66.00	191.26	-52.89	-32.83
Number	412	490	543	303	228
TA/Number	103	143	376	318	283
$(K + S)/\text{TA}$	0.16	0.16	0.09	0.11	0.15

[1]Total asset growth is defined as the percentage change in assets over the following periods: 1907-1908, 1908-1915, 1915-1920, 1920-1929, 1929-1931.
Sources: Calomiris (1992a).

Table 2:
Regression Results:
Easly Asset Growth of State-Charted Banks[a]

Dependent Variable:
Growth in total assets of state-chartered banks, 1914-1920

Independent Variables	Coefficient	Standard Error	Significance Level
Intercept	0.101	0.465	0.829
National bank growth	0.681	0.147	0.000
(Reserve center) x (National bank growth)[b]	-0.132	0.060	0.038
Growth in land values, 1914-1920	0.555	0.333	0.107
Ratio of farm to non-farm population	-0.283	0.654	0.669
Presence of voluntary or compulsory insurance	0.518	0.165	0.004

$R^2 = 0.670$

$\bar{R}^2 = 0.607$

Dependent Variable:
Growth in total assets of state-chartered banks, 1914-1920

Independent Variables	Coefficient	Standard Error	Significance Level
Intercept	0.156	0.468	0.741
National bank growth	0.682	0.147	0.000
(Reserve center) x (National bank growth)[b]	-0.115	0.063	0.080
Growth in land values, 1914-1920	0.526	0.334	0.127
Ratio of farm to non-farm population	-0.328	0.655	0.621
Presence of voluntary insurance	0.327	0.251	0.205
Presence of compulsory insurance	0.609	0.189	0.004

$R^2 = 0.683$

$\bar{R}^2 = 0.607$

[a]Asset growth is defined as the log difference of total assets. All variables are defined at the state level for a sample of 32 agricultural states.
[b]National bank growth in each state is used as a control for state-chartered bank growth. In reserve-center states, national bank growth may be larger, as it reflects growth of correspondent banks outside of the state, as well. To control for this difference, I interact national banking growth with an indicator variable for states with reserve centers.
Sources: Calomiris (1992a).

Table 3:
Risk Characteristics of Four Groups of Banking Systems

	3 Insured Systems[a]	National Banks in 3 Insured States	15 Uninsured Western Unit-Banking State Systems[b]	9 "Contiguous" Uninsured Unit-Banking States[c]
Average Bank Size (\$000)[d]	320	997	622	502
$\left(\frac{Capital+Surplus}{TotalAssets}\right)^{d}$	0.107	0.107	0.125	0.130
Growth rate for 1914 to 1920[d] (percent)	185	114	128	141
Ratio of Loans to total assets[d]	0.76	0.70	0.70	0.72

[a] Nebraska, North Dakota, and South Dakota.

[b] Arkansas, Colorado, Idaho, Illinois, Indiana, Iowa, Minnesota, Missouri, Montana, Nevada, New Mexico, Oregon, Utah, Wisconsin, and Wyoming.

[c] Colorado, Idaho, Iowa, Minnesota, Missouri, Montana, New Mexico, Utah, and Wyoming.

[d] All data are arithmetic averages of statistics of banking systems within each group for the year 1920, unless otherwise noted.

Sources: Calomiris (1992a).

Table 4 looks at the ex post performance of the insured state banks in comparison to other banking systems in states that experiencd severe agricultural decline in the 1920s. I use the total asset shortfall of failed banks relative to the remaining capital of surviving banks as a measure of the severity of banking-system asset decline. For the three free-entry, long-lived, compulsory deposit insurance systems (state banks in Nebraska, North Dakota, and South Dakota), this measure is much larger for state-chartered banks than it is for national banks in those states, or for state banks elsewhere. Many of these other states experienced foreclosure and land-value decline comparable to those of the three depoit-insurance states.

Together, I think these data provide convincing evidence of the effect of deposit insurance on increased risk-taking during the boom, which translated into increased losses during the post-World War I bust. An interesting feature of the collapse of these systems, which distinguishes them from the current ones, is that they did not collapse because of the fraud of a few large banks. While isolated failure by fradulent large banks had been important in Oklahoma in 1909, and possibly in the stillborn insurance system of Washington in 1921, the other systems collapsed under the weight of a sudden, common, observable adverse shock.

Why was fraud less important as a proximate cause of the demise of these systems than it was in the recent past? One could argue there was little asymmetric information about the future of the insurance systems after the sudden post-World War I collapse, and thus after that point, in many states insurance ceased to provide much of an incentive for risk-taking or fraud.

To sum up, the historical collapse of private insurance systems in the 1920s seem to have much in common with the widespread failures of federally and privately insured thrifts and agricultural banks in the 1980s. The relatively greater importance of fraud and failure by a few large institutions in explaining the collapse of private insurance systems now, compared to the historical experience outlined above and the experience of federally insured institutions, may be due to two special circumstances of today's private funds. First, the shocks that buffeted them were not as severe and sudden as those that hit the similar insured banking systems of the 1920s. This gave a greater latitude for second-round risk-taking and fraud under asymmetric information. Second, unlike the current federal insurance schemes, privately insured institutions provided stronger incentives to commit fraud once times turned bad, and the collapse of the systems could occur quickly thereafter, given the mutual nature of insurance and freedom of exit. In other words, the two types of systems entail similar incentives for risk-taking but different patterns of collapse, depending on the suddenness, severity, and commonness of information regarding the shocks that are associated with their demise.

Table 4:
Estimated Asset Shortfalls of Failed Banks Relative to
Remaining-Bank Equity in "Severe-Failure" States

	National Banks						
	Deposits of Suspended Banks ($000) 1921-30[a]	Number of Liquidations Relative to Suspensions[b]	Size Ratio[c]	Rate of Asset Shortfall[d]	Estimated Shortfall[e]	Total Bank Equity ($000) June 1930	
Arizona	1,256	0.67	0.83	0.50	349	3,815	
Colorado	11,003	0.94	0.45	0.40	1,862	13,776	
Georgia	16,538	0.84	0.09	0.49	613	39,064	
Idaho	10,601	0.81	0.65	0.53	2,958	4,612	
Iowa	55,984	0.79	0.50	0.31	6,855	35,750	
Minnesota	28,338	0.97	0.59	0.42	6,812	69,387	
Montana	16,287	0.87	0.44	0.66	4,115	9,999	
Nebraska	13,695	0.80	0.94	0.56	5,767	26,083	
North Dakota	17,438	0.84	0.80	0.55	6,445	9,210	
Oklahoma	27,364	0.72	0.70	0.57	7,861	41,251	
South Carolina	12,153	0.92	0.57	0.49	3,123	11,665	
South Dakota	21,109	0.93	0.60	0.49	5,772	8,477	
Wyoming	9,154	0.91	0.45	0.30	1,125	4,819	

	State-Chartered Banks						All Banks
	Deposits of Suspended Banks ($000) 1921-30[a]	Number of Liquidations Relative to Suspensions[b]	Size Ratio[c]	Rate of Asset Shortfall[d]	Estimated Shortfall[e]	Total Bank Equity ($000) June 1930	Ratio of Shortfall to Equity[f]
Arizona	15,056	0.80	0.06	0.09	65	8,496	0.03
Colorado	12,187	0.95	0.95	0.32	3,520	10,273	0.22
Georgia	46,318	0.75	0.70	0.56	13,618	39,805	0.18
Idaho	9,185	0.85	0.63	0.51	2,509	4,983	0.57
Iowa	138,995	0.75	0.66	0.46	31,649	74,935	0.35
Minnesota	80,634	0.77	0.47	0.52	15,174	38,417	0.20
Montana	31,361	0.89	0.47	0.48	6,297	9,947	0.52
Nebraska	78,093	0.85	1.04	0.65	44,872	27,760	0.94
North Dakota	45,199	0.92	1.05	0.83	36,240	9,695	2.26
Oklahoma	38,986	0.79	0.28	0.44	3,794	11,493	0.22
South Carolina	50,970	0.91	0.58	0.34	9,147	17,069	0.43
South Dakota	91,619	0.77	1.00	0.76	53,615	10,848	3.07
Wyoming	7,536	0.80	0.48	0.46	1,331	3,844	0.28

[a]Deposits are defined at the time of bank suspension.
[b]The number of bank liquidations relative to suspensions measures the proportion of suspended banks that were liquidated.
[c] The average size of liquidated banks is divided by the average size of suspended banks to produce this ratio.
[d]The rate of asset shortfall equals 1 minus the ratio of the value of liquidated assets to deposit liabilities.
[e]The estimated shortfall is the product of the preceding four columns.
[f] The all-bank ratio of shortfall to equity divides estimated asset shortfall for state and national banks by the equity of surviving banks of both types.
Sources: Calomiris (1992a).

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Reforming deposit insurance

Rather than restate in detail arguments I have made elsewhere, or summarize all of the potential solutions to the incentive problems inherent in deposit insurance, I will discuss the broad categories of choices and make a few specific points.

The solutions being proposed can be divided into three categories: so-called "narrow-banking" proposals that limit the coverage of insurance to transactions balances collateralized by essentially riskless assets (without relying on changes in the pricing of insurance, increased banking capital, or improved supervision); proposals that argue for the feasibility of accurate pricing or insurance premia; and those that allow broad banking activities and insensitive insurance premia, but which focus on the incentives of the bankers. In the latter category I would include all proposals to introduce private discipline through capital requirements (possibly in the form of subordinated debt) and other means. The relative desirability of these solutions depends on whether deposit insurance of some form (private or public) is desirable. I think insurance continues to be desirable, and I think the government should have a continuing (limited) role in its provision.

First, so long as the business of banking involves the delegation of monitoring and investment decisions to intermediaries, there will be moments of significant asymmetric information between intermediaries and their depositors. An observable macroeconomic shock with an unobservable incidence across banks creates an externality that can lead to a bank run even on banks that are unaffected by the shock (Calomiris and Gorton, 1991). As long as intermediaries lend in "information-intensive" markets, and issue shorter-term deposits than loans, this externality will be potentially important. Thus, "narrow-banking" insurance schemes may not provide adequate protection against negative externalities among intermediaries and banking panics if the maturity-mismatching problem and the asymmetric-information problem continue to be important characteristics of uninsured (non-narrow) portions of intermediaries' balance sheets.

Is this situation likely to persist? Calomiris and Kahn (1991) argue that short-term debt is fundamental in banking as part of the solution to the agency (delegated-monitoring) problem between bankers and depositors. But Gorton and Pennacchi (1991) recently have argued that asymmetric information problems in banking have been reduced, and cite evidence from loan sales without recourse to support their view. While I agree that this evidence shows that an increasing amount of bank-lending can be "marked to market," I think much of bank-lending remains outside this category. Comovements in bank stock prices (often referred to as "contagion") have, for example, been viewed as evidence that confusion regarding the incidence of shocks among

banks is of continuing importance.

The problems of banking panics, of course, might be dealt with most effectively through private coalitions of nationwide branching banks (Calomiris, 1990, 1992a, 1992b). But a reason for continuing to have government involved in insurance of payment-system accounts is that — even if this were not desirable from the standpoint of economic theory — the government would be likely to provide ex post coverage to bail out banks. Given that problem, it is better to have the government's involvement defined as specifically as possible to reduce ad hoc bailouts to favor special interests.

Would having backup federal insurance for private mutual insurers encourage excessive risk-taking? It depends on the way backup coverage is designed. If the government provides assistance to coalitions in the form of a large deductible with an increasing proportion of coverage by the government as losses rise, then banks will not be able to benefit from taking on high risk as a group (unless banks can collude to make their portfolio risks perfectly correlated and very large). The first banks to fail will generate large costs for the others. For sufficiently large capital ratios (say 10 percent), and sufficiently small numbers of members in each coalition, mutual insurance and self-regulation could be relied upon as an effective disciplinary device. Here the main function of government backup protection would be to make ad hoc intervention to save a particular bank avoidable for the government and, therefore, to increase the stability of the system.

Unfortunately, there is little chance for such a deep reform of deposit insurance today. If the large losses of recent years did not produce real reform, neither will experiences in the next few years - when we are likely to see improvement in bank earnings and reductions in failure rates. Indeed, given the current absence of an obvious upper tail on which to bet, it may be some time before we see another boom-and-bust debacle related to deposit insurance. In the meantime, politicians, regulators, and the public may conclude that random fraud and exogenous shocks, rather than incentive problems, caused the collapse of the 1980s. The next time there is a boom followed by a crash, it is likely they will be proven wrong, once again, by the large common failure rates, losses, and frauds of insured institutions. Perhaps reform at that juncture will be more informed by that collapse than current policy has been by the debacles of the 1920s or the 1980s.

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