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Remarks by  
Alan Greenspan  
Chairman  
Board of Governors of the Federal Reserve System  
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Mike Moskow and his colleagues have shown truly remarkable judgment in selecting not only interesting, but also timely and important, themes for their conferences. They have done so again this year.

The safety net, along with our improved understanding of how to use monetary and fiscal policies, has played a critical role in this country in eliminating bank runs, in assuaging financial crises, and arguably in reducing the number and amplitude of economic contractions in the past sixty years. Deposit insurance, the discount window, and access to Fedwire and daylight overdrafts provide depository institutions and financial market participants with safety, liquidity, and solvency unheard of in previous years. These benefits, however, have come with a cost: distortions in the price signals that are used to allocate resources, induced excessive risk-taking, and, to limit the resultant moral hazard, greater government supervision and regulation. Clearly, the latter carries with it attendant inefficiencies and limits on innovation. It is to these issues that I wish to turn.

Since its beginnings, banking has been a business with two salient characteristics: risk-taking (that is, extending credit) and leverage (by which I mean, borrowing significant portions of the funds used to finance credit extensions). These classic intermediation functions provide the bank with reduced risk through loan-portfolio diversification. In addition, they provide savers and other asset holders with expanded asset choices and borrowers with a greater number of funding options. In so doing, intermediation contributes significantly to a more efficient allocation of real resources and, hence, to higher levels of economic activity.

But there has always been an Achilles' heel in such intermediation. Bad judgments, bad luck, or changes in regional or other macroeconomic conditions can cause bank borrowers to default. Bank creditors--historically their depositors--either in response to adversity or, for that matter, any reason, might decide to withdraw their funds. In either event, the bank could fail--because of illiquidity or insolvency or both. These crises could, of course, happen to any business. Any firm could have bad assets or inadequate funding and fail as a result. What is different about leveraged financial intermediaries is first, that the claims on banks are such important assets to a wide spectrum of economic agents, and second, the possibility, however remote, of a chain reaction, a cascading sequence of defaults that could culminate in financial implosion. Such events could have a substantial adverse impact on the real economy.

Historically, both bank owners and bank depositors have understood this problem. And, acting in their own self-interest, each group has tried to limit its risks--loss of their equity or their deposits. That is, banks were supervised by the market, with government oversight initially limited to chartering and trying to ensure at least minimum specie reserves to meet demand for repayment of banks' circulating note liabilities. Brokers and other arbitrageurs soon emerged, and their evaluation of the quality of individual banks was instrumental in establishing market prices--discounts--on the notes of individual banks. By collecting notes that were issued in excessive amounts and presenting them for payment, regional clearing systems also served as a limit on the banks with perhaps excessive risk appetites.

In short, market discipline in one form or another was the major governor of bank risk-taking from the early years of the Republic. Advancing technology--telegraph,

railroad, and transatlantic cable--disseminated information, the raw material for market discipline, ever more rapidly. In this environment, banks competed for reputation, and hence deposits, by advertising their high capital ratios. Indeed, high levels of equity capital had generally been necessary to induce the public to deposit its funds or to accept bank notes. Equity also played an important role in protecting bank owners from the short-term vicissitudes of lending. Equity capital ratios declined throughout the nineteenth century as increased real-time information capabilities lowered risk premiums embodied in equity contracts, but also because of bank risk-sharing through correspondent relationships, wider supervision, and state and, later, federal note collateral requirements. Equity capital ratios, which were as high as 50 percent in the 1830s, were still a third in the 1860s and more than 15 percent at the time the Federal Reserve began operations in 1914.

But if market discipline was such an attractive governor for managing risk, why were the nineteenth and early twentieth centuries punctuated by those periodic banking collapses known to historians as panics? "Panic" was, in fact, a good description, since participants felt it necessary, during those periodic disruptions, to rush to the bank window to obtain their share of what all understood was the limited stock of liquidity before being beaten in the race by others driven by the same incentive. The reason for these panics, arguably, was the inflexibility of the banking system, more specifically limits on the maximum amount of currency outstanding associated with a specie reserve, whose limited quantity acted as a severe, and often sudden, constraint whenever conditions put a stress on liquidity. The National Bank Act of 1863, an endeavor to assist in the debt financing of the Civil War, made matters worse by requiring that national

bank notes be collateralized by federal government securities. In effect, Congress put a limit on the ability of banks to honor currency demands above the amount that could be collateralized by these specific bank assets. The inflexibility of currency to seasonal demands, especially those associated with the harvest, put severe strains on financial centers. Writing in 1910 for the National Monetary Commission, whose report was instrumental in the creation of the Federal Reserve System, Edwin Kemmerer noted, “The evidence ...points to a tendency for panics to occur during the seasons normally characterized by stringent money markets.”<sup>1</sup> With the demise of the Second Bank of the United States in 1836, the nation had no central bank that could provide flexibility to our banking system by liquefying perfectly safe assets as required. The Federal Reserve Act of 1913 was specifically designed to address the need for both an “elastic currency” and a source of liquidity to both the banking system and to individual banks.

Of course, the mere existence of a central bank is not enough. The monetary authorities must know what to do. Many argue, for example, that the Federal Reserve did not provide sufficient liquidity in the early 1930s to avoid the conversion of a severe, but not unusual, decline into a massive economic contraction. Policymakers at the time, employing the best information and theory available to them, did not provide the needed liquidity, business annals suggest, because they feared possible adverse adjustments under the gold standard, continued distortions from speculation and, especially, inflation. More generally, they believed that excesses developed earlier had to be wrung out of the financial system as the base for future expansion. Scholars, with the benefit of hindsight, have suggested that an easier stance of monetary policy in 1930-32 and an aggressive use

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<sup>1</sup> “Seasonal Variations in Demands for Currency and Capital”, Report of the National Monetary Commission (1910), p.223.

of the discount window in 1933 could have made a significant difference. To be sure, there were insolvent banks with poor assets. But, at some stage, depositors, fearful of losing the race to others, rushed to their bank for the liquidity that even the solvent banks could not provide. When that occurred, not only did many banks fail, but the surviving banks husbanded the sought-after liquidity and simply ceased to fulfill their reason for being, to take risk by making loans.

The collapsed banking system and the associated Great Depression clearly shaped a bank regulatory structure that only began to change in recent years and still retains most of the safety net that was constructed seventy years ago. Congress responded to the Depression-traumatized banking system and devastated economy by creating a national deposit insurance system. It was designed, of course, to provide depositors with an extra measure of protection from loss, initially quite modest. By deterring liquidity panics, deposit insurance could also shield the aggregate real economy from some of the worst effects of instability in the banking system. In combination with the discount window at a central bank that now clearly understands its responsibility to prevent major financial market disruption, deposit insurance has made an anachronism of the widespread currency drains that dominated banking literature in the nineteenth and early twentieth centuries. The result has been that the United States has not suffered a financial panic or systemic bank run in more than sixty years, despite a significant increase in bank failures in the late 1980s and early 1990s.

This record, I think, largely reflects the safety net, whose existence, as much as its use, has helped to sustain confidence. I do not, of course, want to downplay the importance of other changing economic structures, macroeconomic policies, and plain

good luck. But neither should the benefits of the safety net be overlooked. Mere reference to the availability of the discount window during both the savings and loan crisis and the aftermath of the 1987 stock market contraction arguably served to greatly limit real demands for liquidity at a time of potentially significant financial distress, although, in the events, the actual use of the window was modest.

Increased macroeconomic stability is a real benefit and should not be taken lightly. But this benefit, as I noted, is not purchased without cost to the real economy. The safety net lowers the risk premium on bank liabilities, encouraging banks to operate with higher-risk portfolios and lower capital--to less than 4 percent equity at our largest banks in 1974, for example. That is, the safety net weakens the connection between portfolio and leverage risks, on the one hand, and depositor and other liability costs on the other. Insured depositors are simply indifferent, and other creditors too often less sensitive than they would be at other entities, to the risk taken by the bank because of both the reality and the perception of their own protection by the government. Part of this sense of assurance comes from the enhanced prudential supervision of banking organizations required both to protect the government's interest as insurer and to replace the market discipline that bank management and depositors themselves used to provide but feel they no longer need, given the perceived guarantees of the safety net and supervision. A kind of vicious circle of government replacement of market oversight has been clearly set in motion.

The result is a distortion in real resource allocation in our economy. The safety net enables banks to accumulate larger, riskier asset portfolios than would be possible in an intermediation process driven solely by market forces. In the absence of the safety

net, these higher lending risks would have to be reflected in some combination of higher deposit costs, more liquid asset holdings, or a larger capital base. Or, conversely, these adjustments would have constrained the risk-taking by banks. But, with the safety net, lower interest rates and higher credit availability are accorded riskier borrowers, benefiting speculative and riskier ventures at the expense of sounder ones. Indeed, the safety net, other things being equal, as I noted earlier, facilitates the ability of riskier borrowers to translate their potential credit demands to effective control over resources, crowding out projects with higher prospective risk-adjusted returns. To be sure, the regulatory authorities, in an effort both to protect the taxpayer's interest and to avoid financial market disruptions, seek to discourage excessive risk taking. But rules, regulations, and supervision cannot substitute for market signals; they can attempt only to filter out--and not always successfully--the worst cases of uneconomic risk taking. And, enhanced efforts to do so intensify the perception of private parties that their responsibility for self-protecting diligence is reduced. Moreover, they add to misallocation of resources because of the necessary inflexibility and bluntness that accompanies governmental action.

What options then are available to society to reduce the downsides of the safety net?

To be sure, the safety net as we know it is a product of the Great Depression, and that economic disaster was the result of a combination of events unlikely to recur. In addition, the moral-hazard costs of the safety net are significant. Nonetheless, the safety net, by providing ongoing access to real resources, has become capitalized into a broad spectrum of asset values. It is now an embedded part of our social and economic



framework, for good or ill. Viewed in its most favorable light, the safety net does guard against those once-in-a-century or so breakdowns in market forces, however induced. The long absence of a fire, or of an economic and financial conflagration, does not suggest that we should cancel the fire insurance policy or the safety net.

But, I do think that as a society we ought to explore what we can do at the margin to retain the economic benefits and lower the economic costs of the safety net. We ought to be careful that we do not, through safety net expansion, increase the marginal costs more than the marginal benefits. A look back to the pre-safety-net era might be helpful as part of that exploration.

I have in the past suggested that to lessen the moral hazard of the safety net and to improve supervision and regulation, public policy should attempt to simulate, in so far as possible, what markets alone might do, or at least to create market-type incentives. To do so would, of course, move us closer to the period of pre-safety-net incentives while avoiding, one hopes, the distortions of that regime. For example, *solvent* banks must remain assured that they will be able to liquefy their sound assets at times of liquidity distress, but ideally, we would otherwise like banks to be managed as if there were no safety net. That is, if we retain the safety net, we ought to price and otherwise manage it so that the banking system is as close as possible to the one the market alone would provide.

Clearly one of those steps would be better pricing of safety-net access. The Federal Deposit Insurance Corporation has proposed some useful initiatives to move in that direction. The usual suggested premiums for deposit insurance are, of course, far from those that would fully eliminate the subsidy that insurance provides to depository

institutions and their borrowers and depositors, especially at times of financial crisis. Indeed, to eliminate the subsidy in deposit insurance, the FDIC insurance premium would have to be set high enough to cover the extreme-loss tail of the distribution of possible outcomes and thus the perceived costs of systemic risk. Since so high a rate appears politically infeasible, the subsidy in deposit insurance cannot be fully eliminated. Moreover, no private insurer will be able to match the actual FDIC premium *and* cover its risk from the extreme-loss tail. Obviously, if premiums were fully priced, the level of insured deposits would be significantly lower.

But even if we have chosen not to go that far, more risk-sensitive pricing is nonetheless helpful, and prudential regulation has already begun to move in the right direction to reduce the safety net subsidy. It has increasingly become risk-focused on processes, policies, and procedures for managing risk--with transaction-testing to ensure these are being used--rather than on-balance-sheet analysis. Supervision and examination policies are on a track to become even more risk-focused with the evolving new Basel Capital Accord. As you know, the first pillar of the proposed new accord contemplates that the larger, more sophisticated banks will use internal risk classifications of their credit portfolios, validated by the supervisor, for pricing, loan-loss reserving, and most important, for determining their minimum capital requirements.

This approach moves us further down the road of making capital requirements sensitive to an *individual* bank's risk profile and exposure. And, it seeks to do so in a way that ensures that there are not, as it were, two sets of books, by requiring that the parameters used to determine regulatory capital are the same parameters that management also uses to run the bank. Far more important for my topic today is that the

proposed capital requirement better simulates what an informed market and management would require for bank capital. As a result, minimum *regulatory* equity capital might fall for some banks but rise for others on the basis of their portfolio risk profiles. What needs underlining is the new factor in determining credit risk policies: Taking on more risk will increase capital costs.

In addition, regulatory capital minimums, even when more risk sensitive, remain minimums, and the proposed accord assumes that banks will hold a level of *economic* capital above those minimums. Economic capital, determined by management, will reflect managers' desired securities ratings and cost of funds, as well as their banks' operational and other noncredit risks. Supervisory oversight, however, will review actual or economic capital in light of examiners' evaluation of banks' internal models and their policies and procedures. Such reviews, the so-called second pillar of the proposed accord, are also risk-based and seek to simulate what bank managers and the market would do if there were no safety net. If they want to emphasize their capital strength or if their systems are falling behind, banks will choose, or be induced, to hold more capital.

There is a third pillar to this approach, one that I believe is critical: market discipline. The real pre-safety-net discipline was from the market, and we need to adopt policies that promote private counterparty supervision as the first line of defense for a safe and sound banking system. Uninsured counterparties must price higher or simply not deal with banking organizations that take on excessive risk.

For private market discipline to be effective, there are, in my judgment, two prerequisites.

The first is *disclosure*. Counterparties need information on which to make informed decisions about the riskiness of bank claims. Banks in this country already disclose a considerable amount of information, and there is clear evidence that markets already use that information to impose some risk premium on uninsured bank claims. But the quantity and quality of such disclosure is uneven, and all entities could, should, and may soon be required to disclose more and better data. We are doing our part to ensure that banking organizations maintain appropriate information and provide more information to those that are asked to assume more prudential monitoring. Later this morning, Governor Meyer will describe our evolving disclosure policies with more specificity.

Expanded disclosure will be critical to enhanced market discipline, but the additional information will be irrelevant unless counterparties believe that they are, in fact, at risk. That is why the second prerequisite to effective market discipline is the belief by uninsured creditors that at least they *may* be at risk of loss. Uninsured counterparties have little reason to engage in risk analysis, let alone act on such analysis, if they believe that they will always be made whole under a de facto too-big-to-fail policy by government's recourse to the procedure for exception to the least-cost resolution requirements of FDICIA (the Federal Deposit Insurance Corporation Improvement Act). Let me remind you that the ten largest U.S. banking organizations fund only about one-fourth of their worldwide banking assets with insured deposits. Let me also remind you that the least-cost resolution exception does *not* require that all uninsured creditors be made whole, but rather only that they be made no worse off than they would have been if

the bank were liquidated. The potential for greater market discipline at large institutions is substantial.

As a central banker, I can conceive of rare situations where events may require that the FDIC and other governmental resources be used to temporarily sustain a failing institution pending its managed liquidation. But indefinitely propping up insolvent intermediaries is the road to stagnation and substantial resource misallocation, as recent history attests. Unlike brick-and-mortar enterprises, financial intermediaries can expand and contract very rapidly. As weak intermediaries contract, the markets can, and do, quickly replace the profitable services of the displaced intermediary.

Indeed, if the government protects all creditors, or is generally *believed* to protect all creditors, the other efforts to reduce the costs of the safety net will be of little benefit. The implications are similar if the public does not, or cannot, distinguish a bank from its affiliates. As financial consolidation continues, and as banking organizations take advantage of a wider range of activities, the perception that all creditors of large banks, let alone of their affiliates, are protected by the safety net is a recipe for a vast misallocation of resources and increasingly intrusive supervision.

In conclusion, let me state the obvious. The purpose of banking, finance, and intermediation is to facilitate the production and trade of goods and services. Standards of living rise when the cash flows from obsolescent, low-productivity capital are employed to finance newer, cutting-edge, technologies--the process that Joseph Schumpeter many decades ago labeled "creative destruction."

Financial markets best serve this process if market forces are given free rein. Yet society's willingness for this process to go wholly unchecked is limited, especially for

financial institutions. The perceived value of stability has countered the advantages of raw competitive creative destruction. While valuing the benefits of stability that the safety net confers, we nonetheless need to recognize that the benefits are not without cost. In this context, reform of the safety net must remain on the agenda. I believe this means being very cautious about purposefully or inadvertently extending the scope and reach of the safety net. It also means supervisory reform to create, as best we can, inducements to bank behavior similar to those that would exist with no safety net. And, it means, I think, that there be a presumption that uninsured claimants are at risk.