

Wanted:

Bank Regulators Who Act More Like the Market

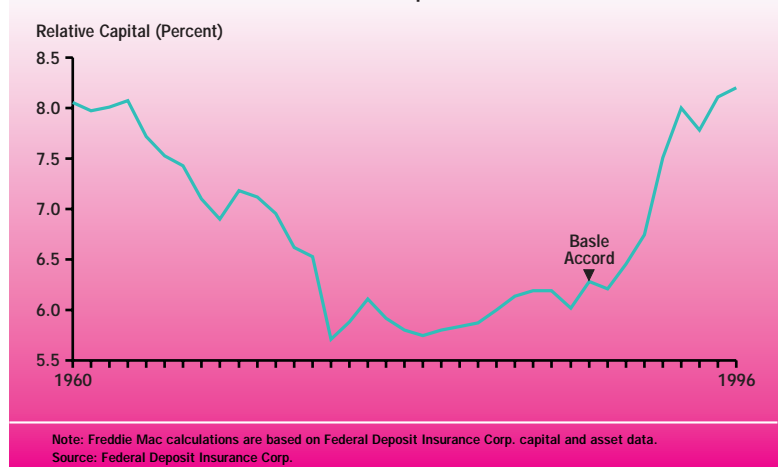
by Alan Greenspan

IN THIS TENTH ANNIVERSARY year of the [Basle] Accord, its architects can look back with pride at the role played by the regulation in reversing the decades-long decline in bank capital cushions (*Exhibit 1*). At the time the Accord was drafted, the use of differential risk weights to distinguish among broad asset categories represented a truly innovative and . . . effective approach to formulating prudential regulations. The risk-based capital rules also set the stage for the emergence of more general risk-based policies within the supervisory process.

. . . [O]bservers both within the regulatory agencies and [within] the banking industry itself are raising warning flags about the current standard. These concerns pertain to the rapid technological, financial and institutional changes that are rendering the regulatory capital framework less effectual, if not on the verge of becoming

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EXHIBIT 1: Bank Capital Levels



Bank capital, scaled by total industry assets, fell steadily from 1960 to 1975 and remained at low levels for an extended period. Capital levels did not begin to recover significantly until shortly after publication of the 1988 Basle Accord, which set an international banking standard for determining capital adequacy while taking into account the relative risk of bank assets.

outmoded, with respect to our largest, most complex banking organizations. In particular, it is argued that the heightened complexity of these large banks' risk-taking activities, along with the expanding scope of regulatory capital arbitrage, may cause capital ratios as calculated under the existing rules to become increasingly misleading.

. . . [C]apital regulation will necessarily evolve over time as the banking and financial sectors themselves evolve. Thus, it should not be surprising that we constantly need to assess possible new approaches to old problems,

even as new problems become apparent. Nor should the continual search for new regulatory procedures be construed as suggesting that existing policies were ill-suited to the times for which they were developed or will be ill-suited for those banking systems at an earlier stage of development.

Indeed, so long as we adhere in principle to a common prudential standard, it is appropriate that differing regulatory regimes may exist side by side at any point in time, responding to differing conditions between banking systems or across

individual banks within a single system. . . . Given evolving financial markets, the question is not *whether* the Basle standard will be changed, but *how* and *why* each new round of change will occur, and to which market segment it will apply.

When the Accord was being crafted, many supervisors may have had an implicit notion of what they meant by soundness—they probably meant the likelihood of a bank becoming insolvent. While by no means the only one, this is a perfectly reasonable definition of soundness. Indeed, insolvency probability is the standard explicitly used within the internal risk-measurement and capital-allocation systems of our major banks. That is, many of the large banks explicitly calculate the amount of capital they need in order to reduce to a targeted percentage the probability, over a given time horizon, that losses would exceed the allocated capital and drive the bank into insolvency.

But whereas our largest banks have explicitly set their own internal soundness standards, regulators really have not. Rather, the Basle Accord set a minimum *capital ratio*, not a maximum *insolvency probability*. Capital, being the difference between assets and liabilities, is of course an abstraction. Thus, it was well understood at the time that the likelihood of insolvency is determined by the level of capital a bank holds, the maturities of

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its assets and liabilities and the riskiness of its portfolio. In an attempt to relate capital requirements to risk, the Accord divided assets into four risk buckets, corresponding to minimum total capital requirements of zero percent, 1.6 percent, 4.0 percent and 8.0 percent, respectively. Indeed, much of the complexity of the formal capital requirements arises from rules stipulating which risk positions fit into which of the four capital buckets.

Despite the attempt to make capital requirements at least somewhat risk-based, the main criticisms of the Accord, at least as applied to the activities of our largest, most complex banking organizations, appear to be warranted. In particular, I would note three: First, the formal capital ratio requirements, because they do not flow from

any particular insolvency probability standard, are, for the most part, arbitrary. All corporate loans, for example, are placed into a single 8-percent bucket. Second, the requirements account for **credit risk** and **market risk**, but not explicitly for **operating [risk]** and other forms of risk that may also be important. Third, except for **trading-account** activities, the capital standards do not take account of **hedging**, diversification and differences in risk-management techniques, especially portfolio management.

These deficiencies were understood even as the Accord was being crafted. Indeed, it was in response to these concerns that, for much of the 1990s, regulatory agencies have focused on improving supervisory oversight of capital adequacy on a bank-by-bank basis. In recent years, the focus of supervisory efforts in the United States has been on the internal risk-measurement and [risk-] management processes of banks. This emphasis on internal processes has been driven partly by the need to make supervisory policies more risk-focused in light of the increasing complexity of banking activities. In addition, this approach reinforces market incentives that have prompted banks themselves to invest heavily in recent years to improve their management-information systems and internal systems for quantifying, pricing and managing risk.

While it is appropriate that supervisory procedures evolve to encompass the changes in industry practices, we must also be sure that improvements in both the form and content of the formal capital regulations keep pace. Inappropriate regulatory capital standards, whether too low or too high in specific circumstances, can entail significant economic costs [see “Why Care About Capital, Anyway?”, page 3]. This resource-allocation effect of capital regulations is seen most clearly by comparing the Basle standard with the internal **economic capital** allocation processes of some of our largest banking companies. For internal purposes, these large institutions attempt explicitly to quantify their credit, market and operating risks by estimating **loss-probability distributions** for various risk positions. Enough economic [capital], as distinct from **regulatory capital**, is then allocated to each risk position to satisfy the institution’s own standard for insolvency probability [see “When Only the Best Will Do: Best Practices in Capital Allocation,” page 43]. Within credit-risk models, for example, capital for internal purposes often is allocated so as to hypothetically cover 99.9 percent or more of the estimated loss-probability distribution.

These internal capital-allocation models have much to teach the supervisor, and are

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critical to understanding the possible misallocative effects of inappropriate capital rules. For example, while the Basle standard lumps all corporate loans into the 8-percent capital bucket, the banks’ internal capital allocations for individual loans vary considerably—from less than 1 percent to well over 30 percent—depending on the estimated riskiness of the position in question. In the case where a group of loans attracts an *internal* capital charge that is very low compared to the Basle 8-percent standard, the bank has a strong incentive to undertake regulatory capital arbitrage to structure the risk position in a manner that allows it to be reclassified into a lower *regulatory* risk category [see “The Regulators’ Challenge: Equal Capital for Equal Risk,” page 11]. At present, securitization is,

without a doubt, the major tool used by large U.S. banks to engage in such arbitrage.

Regulatory capital arbitrage . . . is not necessarily undesirable. In many cases, regulatory capital arbitrage acts as a safety-valve for attenuating the adverse effects of those regulatory capital requirements that are well in excess of the levels warranted by a specific activity’s underlying economic risk. Absent such arbitrage, a regulatory capital requirement that is inappropriately high for the economic risk of a particular activity could cause a bank to exit that relatively low-risk business by preventing the bank from earning an acceptable rate of return on its capital. That is, arbitrage may appropriately lower the effective capital requirements against some safe activities that banks would otherwise be forced to drop by the effects of regulation.

It is clear that our major banks have become quite efficient at engaging in such desirable forms of regulatory capital arbitrage through securitization and other devices. However, such arbitrage is not costless and therefore [is] not without implications for resource allocation. Interestingly, one reason why the formal capital standards do not include very many risk buckets is that regulators did not want to influence how banks make resource-allocation decisions. Ironically, the “one-size-fits-all”

standard does just that, by forcing the bank into expending effort to negate the capital standard, or to exploit it, whenever there is a significant disparity between the relatively arbitrary standard and internal, *economic* capital requirements.

The inconsistencies between internally required economic capital and the regulatory capital standard create another type of problem—nominally high regulatory capital ratios can be used to mask the true level of insolvency probability. For example, consider the case where the bank's own risk analysis calls for a 15-percent internal economic capital assessment against its portfolio. If the bank actually holds 12-percent capital, it would, in all likelihood, be deemed to be “well-capitalized” in a regulatory sense, even though it might be under-capitalized in the economic sense.

The possibility that regulatory capital ratios may mask true insolvency probability becomes more acute as banks arbitrage away inappropriately high capital requirements on their safest assets by removing these assets from the balance sheet via securitization. The issue is not solely whether capital requirements on the bank's residual risk in the *securitized* assets are appropriate. We should also be concerned with the sufficiency of regulatory capital requirements on the assets remaining on the book. In the

extreme, such “cherry-picking” would result in only those assets left on the balance sheet for which *economic* capital allocations are greater than the 8-percent *regulatory* standard.

Given these difficulties with the one-size-fits-all nature of our current capital regulations, it is understandable that calls have arisen for reform of the Basle standard. It is, however, premature to try to predict exactly how the next generation of prudential standards will evolve. One set of possibilities revolves around market-based tools and incentives. Indeed, as banks' internal risk-measurement and [risk-]management technologies improve, and as the depth and sophistication of financial markets increase, bank supervisors should continually find ways to incorporate market advances into their prudential

policies where appropriate. Two potentially promising applications of this principle have been discussed One is the use of internal credit-risk models as a possible substitute for, or complement to, the current structure of *ratio-based* capital regulations. Another approach goes one step further and uses market-like incentives to reward and encourage improvements in internal risk-measurement and [risk-]management practices.

. . . [A] reasonable principle for setting regulatory soundness standards is to act much as the market would if there were no **safety net** and all market participants were fully informed. For example, requiring all of our regulated financial institutions to maintain insolvency probabilities that are equivalent to a triple-A rating standard would be demonstrably too stringent because there are very few such entities among *unregulated* financial institutions *not* subject to the safety net. That is, the markets are telling us that the value of the financial firm is not, in general, maximized at default probabilities reflected in triple-A ratings. This suggests, in turn, that regulated financial intermediaries cannot maximize their value to the overall economy if they are forced to operate at unreasonably high soundness levels.

Nor should we require individual banks to hold capital in amounts sufficient to fully

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protect against those rare systemic events which, in any event, may render standard probability evaluation moot. The management of systemic risk is properly the job of the central banks. Individual banks should not be required to hold capital against the possibility of overall financial breakdown. Indeed, central banks, by their existence, appropriately offer a form of catastrophe insurance to banks against such events.

Conversely, permitting regulated institutions that benefit from the safety net to take risky positions that, in the absence of the net, would earn them junk-bond ratings for their liabilities, is clearly inappropriate. In such a world, our goals of protecting taxpayers and reducing the misallocative effects of the safety net simply would not be realized. Ultimately, the setting of soundness standards should achieve a complex balance—remembering that the goals of prudential regulation should be weighed against the need to permit banks to perform their essential risk-taking activities. Thus, capital standards should be structured to reflect the lines of business and degree of risk-taking in which the individual bank chooses to engage.

A second principle should be to continue linking strong supervisory analysis and judgment with rational regulatory standards. In a banking environment characterized by continuing

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technological advances, this means placing an emphasis on constantly improving our supervisory techniques. In the context of bank capital adequacy, supervisors increasingly must be able to assess sophisticated internal credit-risk measurement systems, as well as gauge the impact of the continued development in securitization and credit derivative markets. It is critical that supervisors incorporate, where practical, the risk-analysis tools being developed and used on a daily basis within the banking industry itself. If we do not use the best analytical tools available and place these tools in the hands of highly trained and motivated supervisory personnel, then we cannot hope to supervise under our basic principle—supervision as if there were no safety net.

Third, we have no choice but

to continue to plan for a successor to the simple risk-weighting approach to capital requirements embodied within the current regulatory standard. While it is unclear at present exactly what that successor might be, it seems clear that adding more and more layers of arbitrary regulation would be counterproductive. We should, rather, look for ways to harness market tools and market-like incentives wherever possible, by using banks' own policies, behaviors and technologies in improving the supervisory process.

Finally, we should always remind ourselves that supervision and regulation are neither infallible nor likely to prove sufficient to meet all our intended goals. Put another way, the Basle standard and the bank examination process, even if both are structured in optimal fashion, are a second line of support for bank soundness. Supervision and regulation can never be a substitute for a bank's own internal scrutiny of its counterparties, as well as the market's scrutiny of the bank. Therefore, we should not, for example, abandon efforts to contain the scope of the safety net or to press for increases in the quantity and quality of financial disclosures by regulated institutions.

If we follow these basic prescriptions, I suspect that history will look favorably on our attempts at crafting regulatory policy. SMM