
Market Discipline in Bank Regulation

Panacea or Paradox?

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FIONA C. MACLACHLAN

Central bankers speak of three pillars supporting the achievement of their objectives: regulation, supervision, and market discipline. Recently, the third pillar—market discipline—has received greater attention as the increasing size and complexity of financial services firms has placed strain on the other two pillars, raising concerns about systemic risk. The Basel Committee on Banking Supervision (2001) makes reference to the three-pillar approach in its recent proposal for a New Basel Capital Accord. In the proposal, the recommendations regarding market discipline relate mainly to greater public disclosure of each bank's condition. Central bankers at the Federal Reserve System, including Governor Laurence H. Meyer (1999) and Minneapolis Federal Reserve Bank president Gary Stern (1999), advocate a more specific policy mandating that large banks issue subordinated-debt securities. *Subordinated debt* (subdebt) is a bank liability representing borrowing that, in the event of default, would be paid only after all other liabilities had been discharged. Aware of the potential for significant loss, investors in subdebt are especially sensitive to the risk of default, and their perception of increases in that risk will be reflected in lower market valuations and hence higher yields for subdebt. Policy involving mandatory subordinated debt employs such a change in market valuation as a signal for regulator response. Because it is the market that sends the signal, this policy is associated with the market discipline pillar of the central bankers' triad.

Fiona C. Maclachlan is an associate professor in the Department of Economics and Finance at Manhattan College, Riverdale, New York.

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The 1999 Gramm-Leach-Bliley Act called for the Federal Reserve Board and the secretary of the Treasury to study the feasibility and desirability of subdebt proposals. The study, released in January 2001, concluded that adoption of a subordinated-debt policy potentially might improve the safety and soundness of the banking system, but recommended that more evidence be gathered before legislators embed subdebt policy in the law.

The idea of market discipline operating in a highly regulated and protected industry seems somewhat paradoxical. Bankers and their stakeholders factor the existence of a safety net into their decision making. One wonders how market discipline can exert much pressure in the safety-net environment. I explore that general question here by examining specific subdebt proposals. I find that only the proposals that rely on a strict rule employ something approaching market discipline. Proposals that involve regulatory discretion actually pertain more to the other two pillars of the banking support triad—supervision and regulation. In addition, we have strong reasons to expect that if a subdebt policy were adopted, it would involve regulator discretion.

The Case for Market Discipline

The safety net that banks and their stakeholders have come to expect includes deposit insurance and a lender of last resort. Stanley Fischer (1999) notes that lenders of last resort play two roles: one as crisis lender, another as crisis manager. In the latter role, the lender of last resort brings together private lenders to help a troubled institution. C. Goodhart and D. Schoemaker (1995) conclude from their study of modern banking crises that organizing concerted lending is the most common bailout procedure for lenders of last resort.

The moral hazard problems associated with the safety net are widely recognized (Short and Robinson 1998). In relation to deposit insurance, the problem is that depositors no longer discipline the banks by refusing to place their money in risky institutions. The lender of last resort further insulates banks from the downside consequences of risky activities. The traditional approach to dealing with moral hazard involves a combination of supervision, regulation of bank activities, and capital standards. Each component poses problems.

Regulations are static, but the financial environment is dynamic. For example, regulations put in place at the time deposit insurance was adopted in the United States in the 1930s created serious problems for banks when economic conditions changed and interest rates rose to unprecedented levels in the 1970s and 1980s. Regulations restricting the range of assets prevented banks from taking advantage of the principle of diversification. Savings and loan (S&L) institutions, in particular, ran into trouble because their lack of diversification led to substantial interest-rate risk exposure. Interest-rate ceilings gave rise to disintermediation as depositors pulled their money out of banks in search of market rates of return.

Supervisors may not have incentives to do an adequate job—the same principal-agent problem that arises whenever government agents are given the responsibility of acting in the public interest. Typically, supervisors do not bear the cost when they do a poor job of discovering excessive risk and of forcing banks to take corrective action. Bankers, on the other hand, may attempt to hide their exposure to excessive risk, and in some cases they may reward regulators who turn a blind eye to it. The S&L crisis brought to light the related problem of regulatory forbearance (Kane 1989). When regulators close an institution, they effectively admit that they did not do their job properly by dealing with the institution's problems earlier. They were tempted to allow the bank to stay open, hoping that the situation would right itself. Regulators have a bias toward keeping banks open (even under the more stringent rules of the FDIC Improvement Act), and an appreciation of that bias encourages bankers to take on more risk than they otherwise would.

Capital requirements are necessary because in the presence of a safety net, bank owners are tempted to leverage their stake. In the absence of a safety net, banks would maintain an adequate cushion of capital because, without it, they could not borrow. The bank's capital serves to absorb losses, allowing the bank to remain solvent through hard times. Under early regulations, capital requirements were a fixed proportion of assets. With this rule, a bias prevails toward taking on greater risk: a dollar of assets carries a given capital cost, and a dollar of high-risk assets carries a higher expected rate of return; therefore, a profit-maximizing bank invests in the high-risk assets. The Basel Accord of 1988 aimed to reduce this incentive by making required capital a fixed proportion of *risk-adjusted* assets. This solution was not perfect, however, because banks attempt to undermine capital standards by engaging in regulatory capital arbitrage (Jones 1999). If a certain class of assets requires a given level of capital, the incentive is to adjust the portfolio in favor of the highest-yielding (also highest-risk) assets in that class. Banks also shift risk off the balance sheet by means of an ever-expanding array of new financial contracts. Regulators revise the standards to reflect changes in the banks' activities, but it is not clear that they can keep up.

Regulatory capital arbitrage is one manifestation of the underlying problem that thwarts all attempts to establish regulations. Those subject to the regulations adapt to them, usually in ways that reduce their effectiveness: they employ actions sometimes called "gaming the system." Regulators can change the rules, of course, but it is difficult for them to keep ahead of motivated financial entrepreneurs.

The rationale for the use of market discipline is to minimize the problems that plague traditional methods of dealing with moral hazard. The main problem plaguing regulations—that they are static in a dynamic environment—should not arise under market discipline. With market discipline, the banks' motivated, capable, and adaptable financial entrepreneurs are pitted against equally motivated, capable, and adaptable investors. Gaming the system ceases to be a sound strategy for the banks because investors focus on genuine risk taking rather than on adherence to regulations. A

problem of asymmetric information remains as banks try to conceal information that would adversely affect their yields, but subdebt investors could probably force more disclosure than banks currently provide the market (Kaufman and Litan 2000).

The Case for Subdebt as a Means of Market Discipline

Market discipline might be achieved through a policy employing any type of liability that is not protected by insurance. Currently, banks are subject to a certain amount of market discipline through the issuance of large denomination deposits. A market perception of increased risk raises the cost of funds, and in extreme cases banks may experience a run on the large denomination deposits, as happened at Continental Illinois National Bank in the early 1980s. Regulators refer to what happens in the market for uninsured deposits as *direct market discipline*: increasing risk leads to an increased cost and reduced availability of funding, and therefore constrains the banks' risk taking.

In discussions of subordinated debt, regulators note the potential for *indirect market discipline* (Federal Reserve Study Group 1999), which occurs when regulators or stakeholders use the yields on a bank's subdebt as a signal of its condition. If all large banks were required to issue the same type of subdebt, regulators would have an easy means of comparing banks' default risk. The banks with the highest-yield subdebt could be singled out for prompt corrective action or more rigorous examination.

Subordinated debt is viewed as having advantages over uninsured deposits as a means of promoting both direct and indirect market discipline. One argument is that subdebt, having longer maturity, is less susceptible to runs. During any month, the value of subdebt that needs to be rolled over is a small proportion of the total outstanding. Hence, the bank is not pressed to redeem the debt all at once and has more time to resolve its problems. A deterioration of a bank's condition can be met with price adjustments as investors value its outstanding debt at lower prices or with quantity adjustments as investors curtail their lending. With subordinated debt, in contrast to uninsured deposits, the price adjustment is the only sort available in the short run.

Another argument for subdebt is that because of its junior status, its yield should be more sensitive to changes in risk than are the yields of large denomination deposits. In the event of bank failure, subordinated debt holders will be the last in line for recovery of their claims. However, the hypothesis that the yield of subdebt is more sensitive to risk than the return on uninsured deposits is difficult to confirm empirically. One reason is that yields on subdebt securities reflect their liquidity as well as the perception of default risk, complicating the relationship. Because large denomination deposits are short term, they are all fairly liquid, creating a consistently low illiquidity premium across banks. The longer maturity of subdebt, on the other hand, implies that investors will be more concerned about the liquidity of those securities. Banks with

issues that trade in thin secondary markets or do not trade at all will find that yields incorporate a relatively larger illiquidity premium. Another factor posing difficulty for attempts to verify empirically the relationship between measures of risk and subdebt yields has to do with selection bias. Banks with riskier assets may refrain from issuing subdebt, thus biasing the observation set.

Still another problem has to do with identifying the correct model of the determination of subdebt yields. The implicit model in many studies is that subdebt investors price the securities according to the perceived level of risk of the bank's assets and activities (see Flannery 1998 for a review of the literature). It is also plausible to suppose, however, that investors price the risk that regulators will close the bank. The two hypotheses are not necessarily equivalent, for at least two reasons. First, any discrepancy between regulators and investors in their capability and motivation to detect excessive risk taking could cause the implications of the two theories to diverge. Second, as investors perceive that regulators are concerned with systemic risk, those investors will be less likely to discipline a bank considered too big to (be allowed to) fail.

Discipline and Discretion

If investors are pricing the risk of a bank's closure rather than the riskiness of the bank's assets and activities, then market discipline is not operating in the same way it does when the market directly determines a firm's closure. Given the safety net in banking, bank failure is usually the regulators' judgment call. As long as regulators are expected keep a bank open, the bank can continue to issue liabilities. Empirical studies that link subdebt yields to accounting measures of risk may not evince market discipline; they may show only that regulators pay attention to accounting measures of risk and that investors are aware that they are doing so.

Early proponents of subdebt policy, sensitive to the danger of regulatory discretion interfering with market discipline, called for rule-based policy. For example, L. D. Wall (1989) proposes a scheme involving a simple strict rule. Banks would issue puttable subdebt with a par value greater than 4 percent of risk-adjusted assets. If a bank were to become both unable to maintain the required ratio of subdebt to risk-adjusted assets and unable to redeem the bonds when investors wished to exercise the put option, the bank would be closed. The problem with this scheme is its credibility. Closing a bank is costly, and the traditional regulatory bias is toward corrective action—that is, working with the bank's managers to strengthen its balance sheet and pull it out of danger. Closure of an apparently solvent bank unable to satisfy Wall's rule would put pressure on regulators to relax the rule. Bank managers might argue that investors are reacting to a false rumor or that some other factor unrelated to their own actual performance is causing problems in the subdebt market. If those arguments had some merit, yet the regulators proceeded to close the bank, the bank's shareholders might sue, as some did when their institutions were closed in the wake

of the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) of 1989. The pressure on regulators to relax the rule would be intense, and investors anticipating a cave-in to the pressure might treat the rule-based policy as though it were a discretionary policy.

Charles Calomiris (1999) has outlined a proposal in which banks would be required to reduce their risky assets if they cannot issue subdebt at a rate of interest less than a given spread (say, 50 basis points) above the risk-free rate. The Calomiris plan, at first sight, appears to have more credibility. It would require a bank unable to issue low-yield subordinated debt to contract its nonreserve assets so as to maintain a fixed ratio of subdebt to nonreserve assets. As an example, he suggests that 2 percent of the nonreserve assets be funded by two-year subordinated notes with one out of every twenty-four of the outstanding issues maturing each month. Thus, a bank unable to issue the notes in a given month would be required to reduce its nonreserve assets by 4.17 percent. A conceivable problem is that once a bank begins contracting its balance sheet, it may prove difficult for the bank to improve market perception of its soundness. A downward spiral would be possible, especially because the assets finding their way off the balance sheet would typically be the stronger ones. The asset contraction might take place as loans were repaid. That process would lead to an increased proportion of problem loans because, by definition, problem loans are those not being repaid. The asset contraction might also take place through loan sales, but, again, the most saleable loans would be those with less credit risk. In addition, the perception that the bank is in trouble might create difficulties in maintaining its deposit base. If the market believes that once a bank gets into trouble, it will be unable to recover and bring its yield in line with the required minimum rate, then the Calomiris plan becomes like the Wall plan: the rule will force the bank to close. In that event, the credibility problem associated with the Wall proposal also applies to the Calomiris plan: if the market does not believe the rule-based policy is credible, then it will treat it as though it were a discretionary policy.

The type of policy we might most realistically expect to be adopted involves overt regulatory discretion. For example, Evanoff and Wall (2001) recommend that subdebt yields serve as triggers for prompt corrective action. Those yields would serve as just one more piece of information from the banks that the regulators would consider before deciding what to do. In this case, the principal-agent problem of bank supervision discussed earlier would reemerge, and the effect of market discipline would be muted. Investors would no longer consider only the bank's activities when appraising its subdebt; the important consideration would be the regulator response to its activities. The relevant risk factor would be whether the regulator will close the bank. If the investors believe either in the bank's ability to "game the system" by successfully disguising real risks or in the bank's political clout to sway the authorities to intervene when large loans go bad, then they will reward the bank with a low yield on its subdebt. Market discipline would give way to guesses about regulatory discretion.

Concluding Remarks

Proposals involving subordinated debt appear at first sight to offer a promising approach to dealing with the moral hazard associated with the bank safety net. Market discipline should keep banks honest in the sense that they will pay less attention to getting around regulations and more to improving their real condition. However, in order for market discipline to operate as it should, the subdebt policy must be credibly rule based. Policy in which regulators are allowed discretion in determining the response to low market valuations of a bank's subdebt muddies the market's valuation process. Investors focus on the risk that the regulator will close the bank, a reflection not so much of the bank's fundamentals as of the regulator's capability and motivation to determine those fundamentals and to respond to them appropriately.

In the two rule-based schemes I described, the question of credibility arises. Investors might reasonably regard the schemes as excessively strict and anticipate that a bank forced to take the drastic required action might successfully appeal by demonstrating that its exposure to risk does not exceed that of comparable banks. Much depends on one's belief about the efficiency of securities markets. If one believes that subdebt security prices always reflect bank fundamentals, a bank's successful appeal on the basis of factual evidence of its soundness would not pose a serious threat. If, however, one believes that securities prices can become disengaged from the fundamentals and that a bank's subdebt might suffer from speculative excesses and contagion effects, then a rule-based policy seems less workable. In interviews with market participants, the Federal Reserve Study Group on Subordinated Notes and Debentures found that "interviewees argued that prices can be subject to a fair amount of noise, particularly on a daily basis, and can be quite misleading in times of systemwide financial distress" (1999, 16).

This credibility problem with rule-based proposals leads me to expect that if a subdebt policy is adopted, it will be more along the lines of Evanoff and Wall's (2000) plan than of Wall's (1989) plan or Calomiris's (1999) plan. In that event, one might wonder whether the benefits of the policy will exceed its costs. Under a discretionary policy, the benefit of requiring banks to issue subdebt is that the market price of the subdebt securities provides regulators with additional, market-derived information. It is uncertain, however, that the subdebt price will clearly reflect investors' appraisal of bank risk taking because it might also reflect their guesses about regulator response. Offsetting the dubious benefit of providing regulators with additional information would be the additional cost imposed on banks that currently do not find it in their interest to issue subdebt or to issue as much as the policy would prescribe. The largest banks will be at a relative advantage not only because they would pay a smaller illiquidity premium and bear lower issuance costs than banks with smaller issues, but also because they might benefit from a lower risk premium based on their "too big to fail" status.

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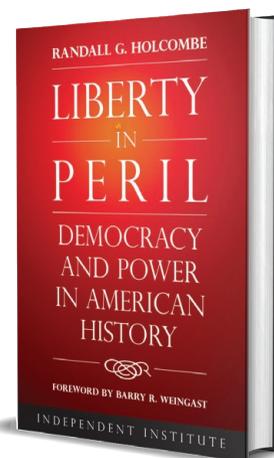
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