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## **MARKET DISCIPLINE AND SUPERVISORY DISCRETION IN BANKING: REINFORCING OR CONFLICTING PILLARS OF BASEL II?**

**David VanHoose**

**Abstract:** This paper examines the market-discipline and supervisory-process “pillars” of the Basel II framework. It reviews the key features of these Basel II pillars and discusses and evaluates associated conceptual issues in relation to theoretical predictions and empirical findings in the academic literature. One conclusion is that while the market-discipline pillar is for many nations a potentially useful first step toward improving bank information disclosure, this pillar of Basel II falls short of promoting effective market monitoring by private investors or encouraging the utilization of market signals by both investors and bank regulators. A second conclusion is that the Basel II supervisory-process pillar is completely misguided in its reliance on regulatory discretion, so that implementation of this pillar could potentially have counterproductive safety-and-soundness impacts. Thus, the market-discipline pillar does not go far enough in the direction suggested by academic research, and the supervisory-process pillar actually goes in the wrong direction.

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# MARKET DISCIPLINE AND SUPERVISORY DISCRETION IN BANKING: REINFORCING OR CONFLICTING PILLARS OF BASEL II?

David VanHoose

## 1. Introduction

As described by Bordo (2003), there has been an historical oscillation of financial stability policies across objectives of management, resolution, and prevention. Following three decades in which national governments and regulators placed primary weight on management and resolution of financial crises, the primary objective of governments and regulatory agencies during the 2000s has been the prevention of crises. The culmination of official efforts aimed at crisis prevention is the international bank regulation and supervision framework that has come to be known as “Basel II.”

The regulatory framers of the proposed Basel II framework have presently slated a phased implementation in participating countries beginning in 2009. In their description of the framework, they suggest an analogy in which the framework is an elevated foundation resting on three “pillars.” Pillar 1 is a redesigned system of risk-based capital requirements. Pillar 2 is a guideline for supervisory review, and Pillar 3 is a set of rules intended to promote market discipline. Perhaps consistent with one prominent description of the new framework (Bank for International Settlements, 2006), in which more than 80 percent of the body of the document is devoted to discussion of the first pillar, the academic literature so far has shone the largest spotlight on the plan’s implications for capital adequacy regulation [see, for instance, Santos (2001) and VanHoose (2006, 2007)].

Until recently, academic researchers have focused considerably less attention on the Basel II framework’s proposed second and third pillars. There is a growing understanding, however, that the analogy offered by the framers of Basel II is

appropriate. Basel II is unlikely to provide participating nations' banking systems with either a level playing field or a stable foundation unless all three pillars are sufficiently well designed and structured to hold their weight. The presumption in most discussions of the Basel II pillars is that in practice they will prove to be reinforcing.

This paper evaluates this common presumption. The following section provides a basic overview of the Basel II guidelines regarding market discipline and the supervisory review process. In light of recent research on market discipline and bank regulatory policy, Sections 3 and 4 review and discuss conceptual issues associated with the market-discipline pillar and supervisory-review pillar, respectively. Section 5 concludes by evaluating whether the present Basel II guidelines regarding the two pillars are likely to reinforce or conflict—thereby resulting in productive or counterproductive outcomes for bank safety and soundness.

## **2. An Overview of Basel II's Other Two Pillars**

The basic structure of Basel II is laid out in Bank for International Settlements (2006). The discussion of Pillars 2 and 3 is evenly split across 38 pages of this document. The following is a summary of the essential aspects of this document's discussion of market discipline and the supervisory review process planned for implementation under Basel II.

### ***2.1 The Market Discipline Pillar of Basel II***

According to the Bank for International Settlements (2006, p. 226), a key pillar of the Basel II framework is to

...encourage market discipline by developing a set of disclosure requirements which will allow market participants to assess key pieces of information on the scope of application, capital, risk exposures, risk assessment procedures, and hence the capital adequacy of the institution.

Nevertheless, although the BIS document states that “in principle, banks’ disclosures should be consistent with how [a bank’s] senior management and the board of directors assess and manage the risks of the bank,” there are no explicit provisions in the Basel II framework for penalizing banks that fail to disclose information. Indeed, the BIS document admits an “...aware[ness] that supervisors have different powers available to them to achieve the disclosure requirements.” It suggests that

There are a number of existing mechanisms by which supervisors may enforce requirements. These vary from country to country and range from ‘moral suasion’ through dialogue with the bank’s management (in order to change the latter’s behavior), to reprimands to financial penalties.

The market discipline portion of the BIS document (p. 227) goes on to suggest that “A bank should decide which disclosures are relevant for it based on the materiality concept,” namely that “[i]nformation should be regarded as material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making strategic decisions.

The BIS document provides tables (pp. 229-241) outlining requirements for the release of qualitative and quantitative information regarding a bank’s capital structure and capital adequacy, which the bank would calculate as part of the process of satisfying the Pillar 1 capital requirements. It concludes by suggesting that these information releases should be made on a semi-annual basis by most banks and on a quarterly basis by other “large internationally active banks and other significant banks” (p. 228).

As to other disclosures, the BIS states that “banks should have a formal disclosure policy approved by the board of directors.” This policy should address “the bank’s approach for determining what disclosures it will make and the internal controls over the disclosure process.” Furthermore, the BIS suggests that “banks should implement a process for assessing the appropriateness of their disclosures, including validation and frequency of them.”

## ***2.2 The Supervisory Review Process Pillar of Basel II***

Basel II's supervisory review process pillar entails "four key principles" (Bank for International Settlements (2006). The first of these is as follows:

Principle 1: Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels (p. 205)

The document goes on to state, among other things, that "Supervisors will typically require (or encourage) banks to operate with a buffer, over and above the Pillar 1 standard..." and that "[f]or banks to fall below minimum regulatory capital requirements is a serious matter[, which] may place banks in breach of the relevant law and/or prompt non-discretionary corrective action on the part of supervisors."

Obviously, this principle focuses on the Pillar 1 capital requirements. Clearly, it grants national regulators considerable discretion regarding how to determine if banks are well, adequately, or inadequately capitalized relative to the minimum ratios specified by the Basel II agreement.

This is followed by the next principle:

Principle 2: Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the results of this process (p. 209),

which again focuses on Pillar 1. Left unstated are how and when supervisors should undertake reviews of banks' internal assessments and strategies. In the supplementary two-page discussion of Principle 2, the BIS document refers only to "periodic review" that may involve on- or off-site examinations or discussions, external auditing, and "periodic reporting." In addition, the document is silent about what "appropriate supervisory actions" might be undertaken if national regulators are unsatisfied after conducting such reviews.

The next principle of the supervisory review process specified by the BIS document is

Principle 3: Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum (p. 211).

Once more, this principle focuses on Pillar 1. In the brief discussion of Principle 3, the document states that “supervisors will need to consider whether the particular features of the markets for which they are responsible are adequately covered,” and that [s]upervisors will typically require (or encourage) banks to operate with a buffer, over and above the Pillar 1 standard.” In addition, it suggests:

There are several means available to supervisors for ensuring that individual banks are operating with adequate levels of capital. Among other methods, the supervisory may set trigger and target capital ratios or define categories above minimum ratios (e.g., well capitalized and adequately capitalized) for identifying the capitalization level of the bank.

The final principle is as follows:

Principle 4: Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored (p. 212).

The BIS document’s detailed discussion of Principle 4 is sufficiently brief that it can be quoted in full:

Supervisors should consider a range of options if they become concerned that a bank is not meeting the requirements embodied in the supervisory principles outlined above. These actions may include intensifying the monitoring of the bank, restricting the payment of dividends, requiring the bank to prepare and implement a satisfactory capital adequacy restoration plan, and requiring the bank to raise additional capital immediately. Supervisors should have the discretion to use the tools suited to the circumstances of the bank and its operating environment.

The permanent solution to banks’ difficulties is not always increased capital. However, some of the required measures (such as improving systems and

controls) may take a period of time to implement. Therefore, increased capital might be used as an interim measure while permanent measures to improve the bank's position are being put in place. Once these permanent measures have been put in place and have been seen by supervisors to be effective, the interim increase in capital requirements can be removed.

Clearly, Principles 3 and 4 allow a wide scope of regulatory flexibility in the setting of minimum capital standards. Indeed, taken together, Principles 3 and 4 provide a national regulator with the discretion to pursue responses ranging from "encouraging" a bank to abide by the Pillar 1 capital standards to more stringent reactions. It is also clear that under Basel II, regulators possess considerable discretion to give a bank considerable time to adjust capital positions in the event of inadequacy.

### **3. Evaluating the Market Discipline Pillar: Conceptual Issues**

As the forgoing discussion makes clear, the heart of the market discipline pillar of Basel II is the disclosure of information by banks, particularly in relation to their capital positions. Under Basel II, national banking supervisors' responsibilities include ensuring that banks establish policies for information disclosure, with such disclosure taking place either semi-annually or quarterly.

Left unstated in the Basel II document is a discussion of the extent to which Basel II's "market discipline" provisions might be consistent with the concept of market discipline as understood by academic researchers, banking practitioners, and bank depositors and investors. To what extent are the disclosure guidelines of Basel II likely to promote "discipline" by the market? To what degree are these guidelines likely to promote increased safety and soundness of the banking system? Answering these questions requires undertaking a brief review of the literature on market discipline in banking.

### ***3.1 Market Discipline in Banking***

As discussed in detail by Lane (1993), market discipline refers to the provision of signals, typically in the form of cutbacks in sources of funds used to finance asset portfolios, which provide incentives for borrowing institutions to engage in solvency-promoting behaviors. Banks obtain their funds by issuing deposits, other debts that typically are subordinate to deposits in the event of failure, and shares of equity ownership that are subordinate to both deposits and other debts. Thus, applying the market discipline concept to the banking industry focuses attention on the potential for funds supply responses on the part of depositors, other debt holders, or equity owners to induce banks to undertake actions consistent with promoting solvency.

#### ***3.1.1 Conditions for Market Signals to Effectively Discipline Banks***

As Flannery (2001) suggests, a key aspect of the market discipline process involves actions in which suppliers of funds engage to exercise market influence. Depositors can respond to available information indicating perceived bank distress by reducing their supply of funds held in deposit accounts; that is, by maintaining present deposit levels only if a higher market deposit return is forthcoming or, alternatively, cutting back deposit holdings at an unchanged market deposit rate. Likewise, debt holders can signal a perception of bank difficulties by expressing their willingness to hold bank debt at current levels only if a higher debt return is forthcoming or by reducing their holdings of bank debts at current rates of return. Investors can respond by reducing their demand for shares of ownership, that is, by being willing to hold current equity shares only at lower prices or to reduce equity ownership at current prices. In addition, as stockholders they can place pressure on bank management to alter the structure of its balance sheet to rein in risks or possibly even replace the bank's present management.

In general suppliers of funds to banks can react in one of two ways. One possible response could occur along the *intensive margin*. That is, depositors, debt holders, or equity owners can respond to a perception of greater bank solvency risk by reducing the quantity of funds supplied to the bank or, alternatively, standing willing to continue supplying the same quantity of funds at a higher rate of return. Alternatively, suppliers of funds can respond along the *extensive margin*. That is, they can entirely cut off their supply of funds to the endangered institution.

As noted by Flannery (2001), the market influence aspect of the market discipline process cannot take place unless another part of that process is effective: Namely, suppliers of funds to banks must be able to engage in market monitoring, meaning that they must be able to evaluate changes in the risk characteristics and financial conditions of banks. Thus, timely, appropriate financial data and other pertinent information regarding the bank's condition and management must be available in sufficient quantity.

Several conditions must be satisfied for depositors, holders of bank debt, and/or owners of bank equity to be able to perceive bank weakness, to respond to that perception, and through their market responses to induce corrective action at banks. First, these suppliers of funds to banks must have correct information at appropriate times. In addition, to be able to infer the implications of that information, depositors, debt holders, and equity owners must have sufficient information about banks' management, capital structure, and risk exposures.

Second, to be induced to provide appropriate market signals, suppliers of funds must have incentives to react to perceived changes in the probability of bank insolvency; namely, suppliers' own funds must be at risk in the event of bank failure. Thus, depositors, debt holders, and/or equity owners must not believe that banks will be bailed out by regulators, which in turn requires that regulators must be able to credibly commit not to bail out uninsured investors. If these conditions are satisfied, then

suppliers of funds to a bank will react to a perceived increase in risk of insolvency at that institution along intensive and/or extensive margins, thereby providing signals of perceived institutional distress.

Third, the market signals to a bank encountering a perceived change in its creditworthiness must be visible to all interested parties, including all depositors, debt holders, and equity owners. This means that the markets in which suppliers of funds to banks participate—markets for bank deposits, subordinated debt, and equity—must be open and active. In this way, when suppliers of funds who have perceived a deterioration in a particular bank’s solvency position respond along intensive and/or extensive margins, the total quantity of funds supplied to that bank will decline, generating both a decrease in available funding for the affected bank and an increase in the market rate that this institution must pay to obtain funding.

Finally, an affected bank must respond to these market signals in a solvency-promoting manner. This means that incentives must exist that induce a bank’s existing management to respond by reducing risk exposures or for equity owners to replace the affected bank’s current management with new management attuned to failure risks.

### ***3.1.2 Potential Benefits and Costs of Market Discipline in Banking***

In a particularly comprehensive review of the concept of market discipline in banking, Hamalainen *et al.* (2003) enumerate several potential social benefits that might be made possible by effective market discipline. The most obvious of these is the possible reduction in the extent of moral hazard problems arising from government insurance guarantees to depositors. Another is the possibility that the threat of market discipline could improve cost efficiency through persistent pressures for the most effective management.

In addition, if private recognition and response times are faster than those of regulators, market discipline might aid regulators in screening “bad banks” from “good

banks” and prompt regulators to move more quickly than they otherwise might to seek resolutions in the event of imminent failure. In principle, to the extent that market discipline acts as a check on management, the burden of proof that a specific bank is not experiencing difficulties indicated by the market would thereby be shifted from regulators to managers, enabling society to reduce the regulatory burden imposed upon the banking system as a whole.

Conceivably, there are also potential negative by-products associated with market discipline of the banking industry. Widespread perceptions of significantly higher failure probabilities could induce most suppliers of funds to banks to respond along extensive margins, resulting in bank runs. To the extent that sophisticated savers have an advantage in observing and reacting to market information, it is also possible that unsophisticated savers might be at greater risk of incurring proportionately greater costs if failures occur. In addition, larger banks able to bring more resources to bear to provide the information required to permit market discipline could thereby possess a cost advantage over smaller banks. Furthermore, banks in more developed nations with open and active public debt and equity markets could have advantages over banks in less developed countries with relatively closed and inactive markets for debt and equity. Finally, to the extent that suppliers of funds persistently form faulty perceptions and thereby transmit false market signals, other market participants and regulators arguably engage in misguided reactions.

### ***3.1.3 Evaluating Bank Market Discipline under Basel I***

The potential for market discipline to complement or perhaps even serve as a substitute for bank supervision and regulation has long been recognized [see, for instance, Gilbert (1990)]. In light of Basel II's emphasis on market discipline in relation to explicit capital regulation, however, it is appropriate to focus on existing evidence regarding bank market discipline since the advent of capital requirements under the first Basel Accord, or "Basel I."

In light of the preceding discussion, a key issue is whether suppliers of funds are able to perceive changes in banks' risk profiles. Flannery (1998) provides a detailed review of this evidence through the mid-1990s and concludes that this evidence generally supports a role for market discipline in supplementing regulatory supervision. For instance, Flannery's own work with Sorescu (1996) indicates that investors can rationally distinguish among risks taken by major U.S. banks, especially during periods when subordinate debt is more clearly not covered by government guarantees, and that spreads between yields on subordinated debt and yields on Treasury securities with the same maturities have some leading indicator properties over capital adequacy measures in predicting bank condition.

More recently, Distinguin, Rous, and Tarazi (2006) have utilized a logit early warning model to test whether accounting data and equity markets assist in predicting distress among European banks. They do find some evidence that market-based indicators have predictive power for assessing the degree of bank stress, but only for banks that rely less heavily on insured deposits.

Flannery, Kwan, and Nimalendran (2004) examine stocks of large bank holding companies, which they compare with matched nonfinancial companies, and find that bank holding company stocks have similar trading properties to those of matched nonfinancial firms. Stocks of smaller bank holding companies, they find, trade much less frequently but have spreads similar to those of matched nonfinancial companies.

They conclude that bank holding company stocks appear to be no more informationally opaque than other stocks, although it is possible that regulatory supervision could promote transparency.

Morgan (2002) explores the issue of “bank opacity” by investigating bond rating disagreements between Moody’s and Standard & Poor’s. The data he examines suggests that as compared with other industries, the rating agencies disagree more sharply when evaluating the bond issues of banks. In particular, Morgan finds that bank loans and trading assets are a significant source of disagreement between the two bond raters. These factors, he suggests, indicate that banking is indeed characterized by a degree of opaqueness not present in other industries. Building on Morgan’s work, Iannotta (2007) studies ratings differences with respect to bonds issued by European banks and reaches generally comparable conclusions.

Nevertheless, Morgan and Stiroh (2001), who examine market spreads on nearly 500 new bonds issued by U.S. banks and bank holding companies in primary markets, find that these spreads widen with riskier asset mixes. They note that this result indicates that subordinated debt markets are able to price risk structures of bank asset portfolios. Morgan and Stiroh caution, however, that banks are most likely to enter primary debt markets when investors’ perceptions of bank risks are more favorable. Nevertheless, they also suggest that the fact that their results apply to a period (1993-1998) of especially good times for U.S. banks, indicating that debt markets provide clear signals of asset risk differentials across banks even when overall industry risk is relatively low.

In a different approach to evaluating subordinated-debt yield spreads as indicators of bank risk, Evanoff and Wall (2001) compare the relative performance of capital ratios versus subordinated-debt spreads as predictors of regulatory ratings of banks. They find that debt spreads have significantly more predictive power than all

capital ratios except the Tier 1 ratio, in which debt spreads are only marginally better predictors of future ratings by regulators.

Several researchers have sought to determine whether market rates of return on bank liabilities incorporate more or less information than the traditional regulatory process. Cannata and Quagliarello (2005) examine Italian bank data and conclude that bank stock price movements generally reflect information obtained in supervisory examinations. In an analysis of U.S. data, Berger, Davies, and Flannery (2000) find that with the exception of on-site inspections, supervisory assessments are less predictive of future changes in performance than equity or bond market indicators, except when a recent on-site inspection has occurred.

Nevertheless, work by Berger and Davies (1998) and DeYoung, Flannery, Lang, and Soresco (2001) find that bank examinations provide new information that market prices do not immediately reflect, suggesting that regulation may uncover information more readily than markets for bank debts. DeYoung *et al.* suggest that regulators' abilities to force revelations are more likely to uncover "bad" private information. They also find that new information uncovered by supervisory examinations influences bank values [though Cole and Gunther (1998) offer evidence that the value of private information obtained in bank examinations vanishes within six months] and that subordinated debenture prices do not immediately reflect this information. DeYoung *et al.* also suggest that when information obtained by supervisory examinations is released, market prices reflect not only the information itself but the likely regulatory actions implied by the information.

In light of the heavy regulatory presence in banking markets, disentangling the effects of regulatory stances and practices on market discipline poses a challenge. Covitz, Hancock, and Kwast (2004) seek to do so by considering bank subordinated-debt spreads relative to rates on comparable-maturity Treasury securities during three separate regulatory regimes: the too-big-to-fail period of 1985-1987, the purchase-and-

assumption period of 1988-1992, and the post-FDICIA period of 1993-2002. They find that these spreads were responsive to bank-specific risks in all three regimes but that the sensitivity of spreads to risks increased following the transition from the first regime to the second. Spread sensitivities to risks decreased following the transition to the third regime, perhaps indicating a perception that FDICIA provisions reduced downside risk for investors.

There is only limited evidence regarding whether uninsured depositors are able to perceive and respond to market signals of bank risks. Birchler and Maechler (2001) examine Swiss data and find that variations in bank-specific fundamentals explain as much as 75 percent of the variation in a bank's uninsured deposits. In addition, Park and Peristiani (1998) estimate a logit model of U.S. thrift institution failures and find that riskier thrifts pay higher deposit rates and attract smaller amounts of uninsured deposit funds. Furthermore, McDill and Maechler (2003) empirically model the behavior of uninsured deposits in the U.S. banking sector as an autoregressive process and find that uninsured deposits in a variety of institutions respond to changes in fundamentals including the capitalization, relative size, and type of institution. In a case study of the Comptroller of the Currency's corrective actions against Hamilton Bank between 2000 and its ultimate failure in early 2002, Davenport and McDill (2006) document that business holders of uninsured deposits were particularly sensitive to news of the bank's deteriorating conditions—that is, the business supply of deposits was relatively more elastic.

As discussed in section 2, requiring banks to formulate processes for disclosure of information is the heart of the Basel II “market discipline” pillar, which in turn builds on the Basel I framework's emphasis on regular and accurate financial reporting. Supporting this emphasis is evidence that improved systems for disclosure of financial data do appear to promote a safer banking system. For instance, Podpiera (2006) finds evidence in panel data from 65 nations' banking systems during the 1998-2002 period

that adherence to this and other “core principles” of the Basel I framework improved bank performances. Likewise, in a study examining Moody’s financial-strength rating for more than 200 banks in 39 countries, Demirgüç-Kunt, Detragiache, and Tressel (2006) conclude that nations adhering to Basel I requirements to regularly and accurately report financial data have sounder banks. Furthermore, in a study of data from 729 banks in 32 nations, Nier and Baumann (2006) find evidence that stronger market discipline induced by larger shares of uninsured liabilities and disclosure requirements boosts banks’ capital positions, particularly in countries with more competitive banking systems.

Clearly, effective market discipline in banking requires for market participants to be informed about banks’ risk profiles. Immediate knowledge of risks, however, is private information of banks’ managers. Theoretical analysis of information transmission by firms suggests that full disclosure is unlikely to be a privately optimal outcome. In Verrecchia’s (1983) model, for instance, investors recognize that the release of information by a firm’s managers could entail proprietary costs for the firm and thus are willing to accept a discretionary managerial decision to withhold a certain “threshold” quantity of information. Another example is Boot and Thakor (2001), who provide an analysis suggesting that the quantity and type of information a firm chooses to disclose depends on whether the private managerial information complements or substitutes for public information already possessed by investors. Complementary information disclosure, they conclude, strengthens private investors’ incentives to acquire information, while substitute disclosure weakens these incentives. In addition, Boot and Schmeits (2000) point out that the effectiveness of market discipline also influences and is itself influenced by the degree of conglomeration within financial institutions. They suggest that effective market discipline reduces the gains from conglomeration, while increased conglomeration tends to undermine the process and resulting benefits of market discipline.

Östberg (2006) notes that empirical evidence indicates that disclosure of information typically raises a firm's market value, yet he suggests that it may not be in the interest of those controlling the firm to fully disclose all information if they desire to expropriate a portion of investment returns. In Östberg's framework, therefore, a supervisor contemplating a policy mandating disclosure faces a trade-off: Lower disclosure standards encourage socially costly expropriations by firm insiders, but tougher disclosure standards reduce the returns of the insiders and thereby discourages their investment. Thus, mandatory disclosure rules potentially could have counterproductive effects in Östberg's model. Finally, Chen and Hasan (2006) develop a theoretical model in which greater informational transparency on the part of banks tends to boost the likelihood of bank runs, unless bank informational disclosures clarify to depositors the a bank's problems are idiosyncratic rather than systemic.

Jordan, Peek, and Rosengren (2000) provide empirical evidence on bank information disclosure by focusing on market reactions to bank supervisory actions. They find that market reactions are stronger when banks failed to voluntarily announce deteriorating conditions than reactions that take place with respect to actual deteriorations; that is, investors appear to "punish" banks for withholding relevant information. Jordan *et al.* find little evidence of contagion effects arising from announcements of supervisory actions, however.

Like any other firms, banks have considerable discretion in their transmission of information. Furthermore, banks may be able to influence the information content of market signals via their timing of earning postings and balance-sheet adjustments, as discussed by Landsman (2006). Indeed, Karaoglu (2005), who takes into account various motivations for transfers of loans to third parties via loan sales and securitizations, finds evidence that U.S. bank holding companies use gains from loan transfers in part to influence both reported earnings and regulatory capital. Of course, banks can seek to influence market signals through their choice of how much

information to disclose and the timing such disclosures. Gunther and Moore (2003), who examine data from U.S. commercial banks between 1996 and 1998, find that banks with worse financial conditions are more likely to understate financial losses. Additionally, they conclude that the timing of supervisory examinations influences the accuracy of disclosures, with disclosure of adverse results more likely to occur in quarters in which supervisory examinations take place.

In a particularly creative study, Ashcraft and Bleakley (2006) use federal funds payments data to measure shocks to reserve balances, which in turn are used to identify the federal funds supply curve faced by an individual borrowing bank. On the one hand, their analysis indicates that funds suppliers do respond to adverse changes in public information about a bank's credit quality. On the other hand, Ashcraft and Bleakley find that banks themselves respond by increasing leverage to offset future earnings effects, thereby managing the real information content of disclosures. Furthermore, they conclude that public measures of a bank's loan portfolio performance only provide information about future loan losses in quarters in which a bank is examined by regulators. The supply of funds does not respond during an examination quarter, however, which Ashcraft and Bleakely suggest indicates that investors are unaware of information management by banks.

Thus, on one hand, there is considerable evidence that bond and equity investors respond sufficiently to available information about banks' risk characteristics to induce movements in rates of return. There is much less evidence regarding the use of and responses to information on the part of uninsured depositors, but what evidence exists indicates that depositors, like investors, utilize and react to available information about banks' risks. On the other hand, there is also a good deal of evidence indicating that the presence of government guarantees conditions the responses of suppliers of funds to banks to available risk information. Evidence also suggests that banks have discretionary capabilities to withhold certain information or to engage in income-

statement and/or balance-sheet adjustments that influence the informational content of disclosures they do make.

There is little research delving into whether bank managers actually respond to market signals. One study, by Bliss and Flannery (2000), examines effects of equity prices of U.S. bank holding companies on managerial actions including adjustment of leverage, the number of employees, and uninsured liabilities in relation to insured liabilities and total assets. Their conclusion is that variations in prices of bank stocks do not appear to strongly influence regular managerial actions.

#### ***3.1.4 Proposed Mechanisms for Enhancing Bank Market Discipline***

The corporate governance literature [see, for instance, Crabbe and Post (1994) and Billett *et al.* (1998)] suggests that in most industries, investors are well placed to control or influence borrower behavior in primary markets. As noted by Prowse (1997), however, distortions of market-based governance incentives by government guarantees and/or regulatory mechanisms can weaken the ability of investors to discipline firms. Even in a world in which investors have full information and market signals are clear to all participants, markets will fail to discipline banks if government policies create conditions that insulate managers from the signals that markets transmit to them. In banking, deposit insurance and regulatory policies such as a too-big-to-fail doctrine likely account for the conclusions obtained by Bliss and Flannery (2000) as well as for variations in market reactions to information in different regulatory regimes noted in several of the previously discussed studies.

In light of the ability of so many depositors to obtain deposit insurance coverage by spreading their deposit funds across accounts at multiple institutions, researchers have focused considerable attention on subordinated debt markets as a source of market discipline for both public and privately held banks. As Saunders (2001) discusses, in principle markets for bank equity and subordinated debt should provide equally useful

information, and indeed Allen and Gottesman (2006) find evidence supporting the integration of bank equity and bond markets. As Saunders notes, however, explicit U.S. legal changes in the early 1990s expressly freed subordinated debts from “too-big-to-fail” guarantees. Thus, suppliers of funds to banks via these debt markets should be particularly responsive to information about bank risks, and like regulators, bondholders in these markets have long downside risks. Thus, to the extent that banks rely upon subordinate debt issues to fund their asset portfolios, the markets for these debt instruments could well be a potential channel for market discipline even in the world’s heavily regulated banking systems. Consistent with this presumption, Ashcraft (2006) finds evidence suggesting that larger shares of regulatory capital allocated to subordinated debt are associated with a greater likelihood that distressed banks experience positive outcomes.

Maclachlan (2001) suggests that “the idea of market discipline operating in highly regulated and protected industry seems somewhat paradoxical.” Nevertheless, numerous authors have floated and discussed a number of proposals for making the issuance of bank subordinated debt mandatory, for purposes of regulatory use of the information revealed by subordinated debt yield spreads [see, for instance, Evanoff and Wall (2000), Bliss (2001), Calomiris (1999), and Kwast et al. (1999)]. Among the features included in typical mandatory-subordinated-debt proposals are the following:

- (1) The inclusion of no-bailout clauses in debt contract provisions to ensure debt holders have strong incentives to monitor banks’ risk profiles.
- (2) Restrictions on holdings by bank insiders.
- (3) A requirement for subordinated-debt instrument maturities to be sufficiently long enough that perceived failure risks are priced but short enough that bank must go to market regularly to roll over debt; most proposals suggest maturities from 1 to 5 years.

- (4) A requirement of staggered issue dates to ensure a significant number of diverse debt holders at any given time and thereby make a consistent market signal more likely.
- (5) A requirement for debt instruments to be issued in minimum denominations large enough to ensure holders will have strong incentives to monitor risks.
- (6) Integration into the Basel capital-requirements regime to raise the profile of subordinated debt for disciplinary purposes.
- (7) The inclusion of corrective-action rules, such as debt covenants imposing stricter sanctions as bank performance deteriorates [which Goyal (2005) finds already tend to become more common in subordinated-debt issues when overall banking industry risks increase], prompt corrective regulatory response to inability to issue new debt [see, for instance, Llewellyn and Mayes (2003)], and puttable debt arrangements permitting debt holders to exercise “put” options on issuers at any time, triggering regulatory response.

Among the rationales for mandatory subordinated-debt issuance is the suggestion by Lang and Robertson (2002) that such an approach would replace regulators’ subjective judgment with market signals and with likely only a moderate increase in the risk sensitivity of banks’ costs. In addition, Calomiris and Powell (2001) argue that this approach would eliminate “plausible deniability” for regulatory inaction, thereby giving bank supervisors less latitude for forbearance in dealing with failing banks.

Nevertheless, mandatory subordinated-debt proposals raise almost as many issues as they have been intended to resolve. For instance, Hancock and Kwast (2001) find that subordinated debt spreads are most consistent across alternative sources of data for the most liquid U.S. bonds, which typically are those issued more recently, in relatively large amounts, and by numerous medium-to-large-sized U.S. banks. Yet Sironi (2001) documents that trading in European markets for subordinated debt tend to

be heavily concentrated among issues of the largest European banks and that the secondary market for these instruments is relatively illiquid. Undoubtedly, such markets are even thinner in less developed nations. Thus, it is unclear whether market discipline is likely to be as effective in some locales as it might be in more diverse and liquid U.S. markets.

In addition, as discussed by Park and Peristiani (2007), bank stockholders can either be “enemies” of regulators, by condoning increased risk taking on the part of banks with option values that outweigh their charter values, or “allies,” by penalizing risky strategies of low-option-value institutions. As a bank’s risk of failure increases, equity holders are more likely to switch from “ally” to “enemy” status. Using Tobin’s Q to infer bank charter values, Park and Peristiani estimate that a switching point for U.S. banks during the 1986-1992 period occurred at a point at which there was an annual failure probability of 17 percent.

Item (7) in the above listing of features appearing in mandatory subordinated-debt proposals raises a crucial issue: Assuming that signals revealed by markets for bank liabilities really do reveal useful information for disciplining banks, how should bank regulators utilize the information? Should supervisory corrective action be immediate or gradual? On one hand, immediate supervisory actions could increase likelihood of immediate failure, while progressively stricter sanctions might give management some time to save a weakened bank. On the other hand, a gradualist approach to corrective action could simply give the bank’s management more time to weaken the institution further and increase closure costs assumed by regulators on the part of society; if so, some kind of “rule-based” corrective action triggered by market signals might be appropriate. These issues, of course, relate to the supervisory review process pillar of Basel II.

#### **4. The Supervisory Review Process Pillar: Conceptual Issues**

A number of observers are highly critical of the wide scope for regulatory discretion granted by supervisory review process pillar of Basel II. For instance, Hamalainen, Hall, and Howcroft (2003) critiques the Basel II standards for failing to include provisions aimed at avoiding regulatory forbearance. In addition, the Shadow Financial Regulatory Committee (2001) concludes:

Increased discretion for banks and regulators would likely result in increased opportunities for risk arbitrage by banks and greater potential for regulatory forbearance, both of which undermine effective capital regulation. Regulatory evaluations of bank risk and capital requirements would differ across banks within the same country and across countries, depending on bank choices and differences in the latitude regulators in particular countries grant banks. The number, complexity, and opaqueness of the new rules established under the Basel proposal would add to regulatory forbearance by making it harder to hold regulators accountable for their judgments about bank risk. It is worth noting that American and British regulators currently do not agree even about the appropriate method to measure the probability of loan default using historical data. Given that absence of agreement, the potential for regulatory inconsistency is great.

Several assumptions are implicit in criticisms such as these. One, of course, is that discretionary policymaking is inferior to policymaking based on a system of rules. A second assumption is that rapid corrective action is typically more likely to avoid social losses than a gradualist approach. A third assumption is that international coordination of bank regulation is desirable. Let's consider each of these in turn.

##### ***4.1 Supervisory Review: Discretion versus Rules***

A traditional assumption of national governments' efforts to regulate banks is that the supervisors' monopoly powers enable them to effectively induce management actions that less-precise disciplining effects of markets may be unable to generate. Of course, inherent difficulties associated with government regulation of financial institutions are well known. Regulation can be inefficient and sometimes can create incentive-perverse outcomes, such as unintended expansions of moral-hazard problems.

In addition, bank regulators can be slow to adjust to institutional and market changes; perhaps incapable of adapting to complexities of large, multifaceted financial institutions. This can lead to regulatory forbearance in the face of suspected weaknesses at troubled institutions.

Are actions triggered by pre-specified events preferable to discretion in bank regulation? There is now a considerable literature—with a scope well beyond the bounds of this paper [but see Mishkin (2006) for a useful discussion in the context of bank regulation]—weighing rules versus discretion in economic policymaking. The key message of this literature is that a discretionary policymaker faces a time-inconsistency problem: A non-credible announcement by a policymaker that it will engage in a certain future course of action ultimately has little force if agents recognize that the discretionary policymaker in fact is willing to diverge from its pre-announced intention.

Thus, a policymaker truly interested in attaining a set of policy objectives is more likely to succeed in this endeavor by developing a “commitment technology,” typically in the form of an institutional structure aimed at ensuring that clear policy rules can be created and that all agents can be assured that they will be followed. This fundamental conclusion, of course, supports arguments against discretion in bank regulatory policy, hence the general presupposition in most of the literature in favor of rules, such as capital and/or market-signal triggers for regulatory actions.

#### ***4.2 Supervisory Review: How Tough Should a Policy Rule Really Be?***

The appropriate form and speed of actions specified in regulatory rules is nonetheless a subject of continuing debate. In a two-period banking model examining a setting with deposit insurance and a discount window, Sleet and Smith (2000) suggest that promptly closing troubled banks may not always be appropriate. This conclusion arises naturally enough, however, given their assumption that there are social costs

associated with bank closures. In a setting in which entrepreneurs trade off the gains from expropriating funds acquired from bank loans against lost collateral, Kocherlakota and Shim (2005) find that optimal regulation entails forbearance if the probability of a collapse of collateral value is relatively low, *ex ante*, but requires prompt closure of problem banks otherwise. In a separate study applying a dynamic financial model of bank-regulator interaction, capital regulation, private information about returns, costly liquidation, and capabilities to hide risks, Shim (2006) argues that a policy of randomized bank closures or bailouts is preferable to one entailing prompt corrective action without a bailout option. (This conclusion, however, may be at least partly contingent on Shim's assumption of risk-based deposit insurance.) Thus, to date, the theoretical literature suggests that prompt action to close banks is not necessarily the optimal supervisory policy.

Of course, weighed against such theoretical ambiguities are the practical experiences of regulators in a number of the world's nations during the 1980s and 1990s. In the case of the U.S. savings institutions crisis of the 1980s, for instance, soundings of alarms by Kane (1985) and others were answered by regulatory forbearance instead of corrective action by regulators. The result, as documented in considerable detail by Kane (1989), Barth (1991), and White (1991), was a huge loss to the U.S. deposit insurance system. Based on that experience, the U.S. Congress enacted the FDIC Improvement Act of 1991, which among other things required the FDIC to set up a clear set of rules to guide prompt corrective action to close failing institutions. Hence the presupposition employed by Hamalainen *et al.* and the Shadow Financial Regulatory Committee in their assessments noted above.

#### ***4.3 Supervisory Review: When Is International Coordination Appropriate?***

Relatively little work has been done to study the issue of whether international coordination of regulatory supervisory rules is truly appropriate. Holthausen and

Rønde (2005) develop a theoretical framework analyzing the behavior of regulators that examine activities of a multinational bank that operates in two countries. A host-country regulator provides information about the bank's activities to the regulator in the home country in which the bank is based. If the interests of the regulators do not coincide, the host-country regulator fails to provide full information to the home-country regulator, resulting in situations in which the bank either is not closed when it should be or is closed when it should not be. When regulators have divergent interests, social welfare can be improved by establishing a multinational regulator—that is, a system of fully coordinating national regulators—to make closure decisions.

Dell'Araccia and Marquez (2006) also examine a two-country model, in which banking systems are integrated and, as a result of structural interdependence between the two nations' banking systems, externalities induce competing regulators to choose suboptimally low standards. In their model, centralizing regulation by placing the responsibility for standard-setting with a supranational authority internalizes these externalities and hence beneficially eliminates this problem. There is a cost, however, arising from reduced flexibility to adjust to cross-country banking differences, however. Dell'Araccia and Marquez conclude that optimally trading off the benefit and cost of centralization implies that centralized regulation is more likely to be socially optimal for nations with relatively homogeneous banking systems. They also find, however, that obtaining the social optimum via supranational regulation requires establishing tougher supervisory standards than those that would have been established by the competing national regulator with the highest standards out of the entire set of regulators.

## **5. Basel II, Market Discipline, and Supervisory Review: Reinforcing or Conflicting Pillars?**

In light of the preceding discussion, what can be concluded about the potential for the Basel II market-discipline and supervisory-review pillars to reinforce or conflict with one another or the capital-regulation pillar? If they are potentially conflicting, what changes could be made to strengthen the pillars of the Basel II framework?

### ***5.1 Basel II and Market Discipline: A Solid Pillar?***

Clearly, the central “market discipline” element of the Basel II framework is disclosure of information relating to the capital requirements pillar of the framework. Consistent with theory discussed earlier, Basel II’s requirement does not mandate full disclosure of all information. The requirement only dictates establishment of policies and timelines for disclosure of certain specific types of data.

The framework is silent about other market discipline elements, however. Outside of the explicit treatment of the mix of qualitative versus quantitative information relating to capital adequacy vis-à-vis the framework’s explicit requirements, Basel II provides little explicit guidance about disclosures of other “material” information. Decisions about other disclosures deemed appropriate are generally left to banks’ directors and, presumably, the varying levels of “moral suasion” or explicit requirements determined by national regulators.

As discussed by a number of observers, such as Hamalainen, Hall, and Howcroft (2003), Basel II provides no assurances that any debt holders will regard themselves at risk. It also specifies no provisions for creating market signals with links to regulatory actions. In actuality, the “market discipline” pillar is misnamed. Clearly, Basel II does provide a foundation for satisfying a *necessary* condition for market discipline: namely, the disclosure of at least a body of information—mostly information focused on a bank’s balance-sheet status in relation to its capital—at certain points of time to permit

some measure of market monitoring. There is little indication, however, that Basel II's framers contemplated *sufficient* conditions to enable markets to discipline via effective monitoring and the provision of well-formed and clear market signals.

In short, in relation to the literature discussed above, Basel II's "market discipline pillar" can only be regarded as a first step toward providing a foundation for market discipline in nations that adopt the regulatory framework. Of course, for many nations this would be a significant first step. As documented by Barth, Caprio, and Levine (2004, 2006), a lack of informational transparency is a key failing in many countries' banking systems. Indeed, one might sum up the main conclusion of their commendable international review of bank regulations by one sentence: "[O]ur findings indicate that supervision works best when it facilitates market monitoring." Viewed from this perspective, full implementation of the market discipline pillar of Basel II by participating nations could result in dramatic improvements in banking systems around the globe.

Nevertheless, from the perspective of those who might have hoped that regulators would mean more than just "market disclosure," Basel II falls far short of the idea of "market discipline" contemplated by most of the academic literature. For banks in many developed nations, satisfying the "market discipline" pillar primarily will entail incurring significant expenses to bring measurement and reporting systems into line with statutory requirements. The actual informational content of resulting disclosures is likely to be improved only in the sense that all banks will be reporting information gleaned from utilization of similar methodologies ("internal-ratings-based" measurement approaches for large banks and a "standardized approach" for smaller banks). Certainly, uniformity of greater measurement methods that feed into reporting should assist funds suppliers in comparing across institutions. Furthermore, to the extent that new risk measures are better than old measures and new reporting systems are improvements over old systems, sizeable market-monitoring benefits could be

forthcoming. In the absence of hard empirical evidence, it is not apparent that the flow of social benefits accruing to developed nations will necessarily exceed the stream of associated social costs incurred in those countries.

### ***5.2 Supervisory Review Guidelines under Basel II: Is There Really a “Process”?***

As noted in Section 2, Basel II’s “process” for supervisory review allows for considerable variation in regulatory standards. The fledgling theoretical literature noted in Section 4 suggests that under certain circumstances this approach might be appropriate. But if heterogeneities across banking systems are really so pronounced that such latitude for discretion in enforcement of coordinated international standards is permissible, then that literature would also suggest that perhaps internationally coordinated standards are not really appropriate.

Specifying such a wide range of discretion for national bank regulators in fact fails to lay out any true “process” for national governments choosing to “buy into” the Basel II framework. The Basel II guidelines for the supervisory review pillar essentially can be summed up by a single sentence quoted in Section 2: ***“Supervisors should have the discretion to use the tools suited to the circumstances of the bank and its operating environment.”*** Ultimately, Basel II includes no provisions requiring national regulators to specify clearly announced rules that will guide their supervision procedures. It also is silent regarding regulatory rules governing enforcement actions against poorly managed, troubled institutions. Thus, owners and managers of banks under Basel II presumably will operate under internationally coordinated standards that effectively will be enforced however their national supervisors see fit to enforce them. In effect, instead of ensuring that Basel II establishes supervisory standards at least as tough as those of the most stringent national regulator, as the above-discussed analysis by Dell’Ariccia and Marquez (2006) suggests would be appropriate, the framers of

Basel II have opted to allow each participating nation the discretion to “race to the bottom” of the range of international standards.

Thus, the supervisory process pillar is unambiguously the weakest of the three Basel II pillars. As conceived, the supervisory process pillar alone is unlikely to do anything to promote increased bank safety and soundness. Indeed, Barth, Caprio, and Levine (2004, 2006) provide strong evidence that Basel II’s promotion of considerable scope for regulatory discretion could well be counterproductive. Their comprehensive analysis of cross-country regulatory practices suggests that nations that have granted greater discretion to bank supervisors have tended to have banking systems that exhibit less development, more corruption, and poorer overall operating performances. To the extent that the supervisory process pillar “blesses” greater discretion on the part of national regulators, its existence actually could prove to be detrimental to global banking development and stability. Thus, Kaufman (2006) is probably correct in concluding that a U.S.-style prompt-corrective-action rule is a superior substitute for Basel II’s supervisory-process pillar.

### ***5.3 Self-Reinforcements versus Cross-Conflicts among the Basel II Pillars: The Analysis by Decamps, Rochet, and Roger (2004)***

Although Llewellyn and Mayes (2003) and others have examined commonsensical conditions for market discipline and prompt corrective action by regulators to be complementary, surprisingly little research has been focused on analyzing the joint interactions among the three types of pillars laid out in the Basel II framework. One exception, by Decamps, Rochet, and Roger (2004), utilizes a continuous-time-finance model to analyze implied market and book values of a representative bank with and without capital requirements, regulatory auditing, and market discipline. In the setting of their theoretical model, a representative bank receives one of two cash flows, depending on whether it incurs a monitoring cost to use

a “good technology” to monitor its cash flow. Failing to incur this cost and opting for a “bad technology” invariably yields a negative cash flow. As long as the monitoring cost is relatively “small,” there is a range of outcomes across which the market value of utilizing the good technology is less than the market value of using the bad technology, in which case a bank evades monitoring and increases its failure likelihood. If the monitoring cost is sufficiently large, bank shareholders voluntarily choose to shut down the bank.

In applying their model to Basel II’s three pillars, Decamps *et al.* consider the regulatory imposition of a capital (“solvency”) requirement, under which banks become illiquid before they become insolvent. This allows the regulator to determine when the cash flow is sufficiently small (or, equivalently, the monitoring cost is sufficiently high) that the bank will opt for the “bad technology.” The regulator can then respond by closing the bank. If banks’ cash flows are unobservable to regulators without prohibitively costly monitoring, then a higher capital ratio would be required to deter shirking.

Decamps *et al.* find additionally that a subordinated-debt payoff contingent on a bank’s cash flow would reveal the cash flow and thereby save the regulator from having to incur the cash-flow monitoring cost. Furthermore, the regulator can infer a cash flow below which it will audit the bank. Thus, mixing an audit policy, capital regulation, and monitoring of yields on subordinated debt generates an optimal Basel II-style three-pillar mix—provided that market securities prices are not so volatile that they fail to yield information about actual cash flows.

Key assumptions employed by Decamps *et al.* are very revealing, however. First, they assume that regulators *require* banks to hold subordinated debt, which they show within the context of their model reduces the bank’s market value but allows for a lower capital requirement while inducing the bank to choose the good technology. Second, they assume that regulators are free from political interference and follow *rules*

for bank closures when cash flows and market signals from subordinated-debt yields signal imminent failures. Under these assumptions, Decamps *et al.* show that the three pillars of capital regulation, market discipline, and a supervisory process can be reinforcing.

Of course, the Basel II framework does not require banks to issue minimum amounts of subordinated debt, nor does it contain provisions for national regulators to monitor yields on bank debt issues. Furthermore, Basel II's implicit dismissal of rules in favor of discretion—indeed, of potentially politically motivated discretion—is the antithesis of a rules-based approach presumed in the analysis of Decamps *et al.* Thus, Decamps *et al.*'s analysis of a theoretically ideal three-pillar regulatory strategy highlights the fundamental shortcomings of Basel II ultimately implied by the preceding discussion in this section: an insufficient attention to the useful regulatory role of market discipline and an inappropriate reliance on supervisory discretion.

## **6. Conclusion**

Nearly all interested parties have agreed that the Basel I bank regulatory framework has given insufficient attention to the roles of market discipline and national supervisory processes. In addition to revamping capital requirements, therefore, the proposed Basel II system includes provisions relating to additional market-discipline and supervisory-process “pillars” of new international standards for bank regulation.

This paper has reviewed conceptual issues associated with these additional two pillars of the Basel II framework. Although the academic literature reaches a variety of conclusions about the relative effectiveness and desirability of including market discipline as a fundamental aspect of bank regulation, it is clear that the “market discipline” aspects of Basel II represent at best minimal innovations for most well-developed banking systems. Only in nations with less-developed banking sectors are the market disclosure features likely to have clearly significantly positive spillovers for

bank safety and soundness. The Basel II framework utterly ignores the potentially useful signaling roles of market discipline that have been identified in the academic literature.

The proposed Basel II system also eschews any consideration of how market discipline might usefully feed into the supervisory process. Furthermore, instead of orienting the supervisory process around clearly specified rules for addressing failures of banks to meet capital-requirement and/or market discipline standards, the framers of Basel II have opted to promote highly discretionary supervision of banks by national regulators. In sum, the market-discipline pillar of the Basel II framework has some merits, but it falls well short of stronger market-discipline standards that the academic literature indicates could generate significant social benefits.

Most aspects of the supervisory-process pillar are not just misguided. They are wrong-headed and potentially counterproductive. The supervisory-process pillar relies on policy discretion over policy rules. Consequently, this pillar allows for considerable variation in supervisory enforcement of the Basel II framework. Indeed, this pillar's reliance on discretion could promote a "race to the bottom" in implementation of Basel II standards.

The market-discipline and supervisory-process pillars of Basel II are unlikely to prove strongly reinforcing. Indeed, there is a distinct possibility that in practice they could conflict to such an extent that adoption of Basel II could ultimately undermine rather than contribute to bank safety and soundness.

To sum up, the market discipline pillar falls short, and the supervisory process pillar is misguided. Irrespective of the merits of Basel II-style capital regulation, the proposed market-discipline pillar is not likely to provide strong reinforcement to the capital-requirements pillar, particularly in developed nations. The supervisory-process pillar has no reinforcing properties vis-à-vis the other pillars and if implemented could well undercut merits those two pillars otherwise have to offer.

Put most bluntly, the market-discipline pillar does not go far enough in the right direction, and the supervisory-process pillar goes too far in exactly the wrong direction. Nations contemplating participation in Basel II would be well-served by renewed efforts on the part of national regulatory officials to revisit the market-discipline and supervisory-process pillars. At a minimum, the market-discipline pillar would be significantly improved by requiring national regulators to begin studying the informational properties of market signals in bank debt markets for possible use in corrective-action policies. Instead of counseling discretion in response to both market signals and information derived from supervisory audits, national regulators would be better served by encouragement to develop clearly specified rules governing appropriate policy responses. Barring such changes, countries that have expressed plans to adhere to the Basel II framework may wish to rethink their positions. At a minimum, as suggested by Kane (2006), they may wish to undertake further negotiations aimed at strengthening the market discipline pillar and re-orienting the supervisory-process pillar before finalizing their adoptions.

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