THE CREDIT RATING INDUSTRY: AN INDUSTRIAL ORGANIZATION ANALYSIS

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Abstract

The June 1999 and January 2001 proposals by the Bank for International Settlements (BIS) Basel Committee on Banking Supervision to include borrowers' credit ratings in assessments of the adequacy of banks' capital have heightened general interest in the credit rating industry: Who the industry's firms are; what they do; how they do it; and what the consequences of their actions are. This paper uses the structure-behavior-performance paradigm of "industrial organization" to shed light on the credit rating industry and to provide a framework for arranging initial observations and developing questions for further analysis.

A striking fact about the structure of the industry in the U.S. is its persistent fewness of incumbents. There have never been more than five general-purpose bond rating firms; currently there are only three. Network effects -- users' desires for consistency of rating categories across issuers -- are surely part of the explanation. But, for the past 25 years, regulatory restrictions (by the Securities and Exchange Commission) on who can be a "nationally recognized statistical rating organization" (NRSRO) have surely also played a role.

A curious part of the behavior of the rating firms is their coverage and their pricing. Hypotheses to explain this behavior are explored.

Although only limited information on profitability is available, it appears that bond rating is quite profitable. A growing regulatory demand for ratings (for safety-and-soundness regulation by bank regulators, insurance regulators, pension fund regulators, and securities regulators) and a regulatory limitation on supply surely are contributory factors. The BIS proposals, if adopted, will accentuate these trends for the U.S. and other industrial countries.

There is an alternative to these growing regulatory pressures. It would involve the safety-and-soundness regulators' becoming more directly involved in regulatory judgments, rather than abdicating these judgments to private-sector bond rating firms. The SEC, and its counterparts abroad, could then vacate their roles as the certifier of credit rating firms.

These suggestions do not mean that the credit rating firms should be prevented from playing a continuing role in helping issuers and investors pierce the fog of asymmetric information in financial markets. But that role should be determined by the market participants themselves, not by additional regulation that artificially increases demand and restricts supply. The latter is a recipe for

shortages, rents, and distortions. This is not a welcome prospect.

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I. Introduction

The June 1999 and January 2001 proposals by the Bank for International Settlements (BIS) Basel Committee on Banking Supervision[1] to include borrowers' credit ratings in assessments of the adequacy of banks' capital[2] have heightened general interest in the credit rating industry: Who the industry's firms are; what they do; how they do it; and what the consequences of their actions are. This paper will use the methodology of "industrial organization" to shed light on the credit rating industry.[3]

The typical "industrial organization" study of an "industry" uses the structure-behavior-performance paradigm as its mode of analysis:[4] The industry's structure (e.g., numbers of buyers

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[1] See BIS (1999; 2001a; 2001b). Since the January 2001 proposal constitutes a revision and modification of the June 1999 proposal, I will refer to the January 2001 version as the BIS proposal.

[2] The borrowers' credit ratings are part of the Basel Committee's "standardised approach to credit risk;" see BIS (2001b). The proposal also permits banks to use "foundation" or "advanced" internal ratings-based approaches, depending on the ability of the banks to meet rigorous supervisory standards.

[3] This paper will focus primarily on bond rating firms.

[4] See, for example, Scherer and Ross (1990) or Carlton and Perloff (1994).

and sellers, the degree of seller and buyer concentration, conditions of entry, the extent and importance of regulation, etc.) is described and analyzed; the implications of that structure for behavior (e.g., pricing, products, advertising, R&D, entry, regulatory behaviors and influences) and performance (e.g., profitability, efficiency, regulatory consequences) are predicted; and then measures of actual behavior and performance are gathered and compared to the predictions, with suitable analysis and discussion.

This study of the credit rating industry will explore some of these traditional aspects of industrial organization.[5] But many of the interesting aspects of this industry transcend these limited questions; and data/information limitations are likely to restrict my ability to answer others.

Nevertheless, the structure-behavior-performance paradigm will inform this investigation of the credit rating industry and provide a framework for arranging initial observations and developing questions for further analysis. <u>It illuminates the special role that government regulation in the U.S. has played and continues to play in increasing the demand for the services of the credit rating industry while also limiting the supply of credit rating firms.</u> It also illuminates the ways in which the BIS proposal will accentuate this trend.

The remainder of this paper will proceed as follows: Section II will briefly discuss the rationale for the existence of credit rating agencies. The following sections will then develop the structure-behavior-performance themes: Section III will discuss the structure of the industry: the major firms in the industry and some of their characteristics. A striking feature of this structure is the fewness of the number of credit rating firms in any country. We will offer some hypotheses as to the reasons that underlie this fewness. Section IV will discuss the behavior of the firms in this industry: specifically, their pricing and product behavior. Section V will analyze performance.

[5] Other studies of the industry can be found in Ederington and Yawitz (1987), Wilson (1987, ch. 9), Cantor and Packer (1995), Fridson (1999), Partnoy (1999), and BIS (2000).

Section VI will address policy -- regulatory -- issues concerning credit rating firms in the U.S. Section VII will address the BIS proposal and its implications for regulation of credit rating firms. And Section VIII will provide a brief conclusion.

The discussion in this paper will tend to focus on the credit rating industry in the U.S., since information is more readily available for these firms.[6] But, wherever possible, the discussion will extend to non-U.S. firms as well. Also, the most attention will be given to rating behavior with respect to corporate debt, because more information is available in this area.

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[6] Even a study by the BIS (2000), though it developed information about non-U.S. firms, provided relatively more information about the U.S. firms.

II. Why Credit Rating Firms?[7]

The historical logic underlying the existence of credit rating firms has clearly resided within a basic problem of finance: How do lenders determine the creditworthiness of potential borrowers and assure themselves of the continued soundness of borrowers after a loan has been extended? Specialist lenders -- financial intermediaries such as banks and other depositories, insurance companies, pension funds, and finance companies -- may be able to develop the necessary information themselves, or turn to specialist credit bureaus. Similarly, when corporations borrow in public debt markets -- issue bonds -- many of these same specialist lenders (as well as mutual funds) may be able to generate their own information. But non-specialist lenders -- e.g., the general public -- may well need help in developing information about bond issuers; and even specialist lenders may want help when they venture beyond their traditional boundaries of lending (e.g., lending to new or unfamiliar bond markets).

In sum, credit rating firms can help lenders pierce the fog of asymmetric information that surrounds lending relationships.[8] Equivalently, credit rating firms can help borrowers (and their credit qualities) emerge from that same fog. Further, for bonds -- where hundreds or thousands of

[7] Standard terminology for the firms in the credit rating industry is to refer to them as "agencies". But this terminology makes them sound as if somehow they are different from other enterprises -- they are not -- or they might be part of a "government agency". To avoid any of these connotations, this paper will refer to them as "firms".

[8] Fridson (1999) proposes a variant on this theme. Though (he claims) the direct participants in bond markets are sufficiently knowledgeable that they do not need credit raters and ratings, he recognizes that there are less knowledgeable entities -- e.g., the buyers of bond mutual funds, or the claimants of pension funds -- that employ agents (the mutual fund or pension fund managers), and the ratings permit the mutual or pension fund shareholders more easily to assure themselves against errant behavior by their agents (who commit to investing the shareholders' funds only in bonds that are at or above a specified rating). At its base, Fridson's argument is the same as that in the text.

lenders may hold the debt of a single issuer -- the "public good" nature of information means that a specialized credit rater that disseminates its information can reduce or eliminate the duplication of information-generation efforts in which the separate bondholders might otherwise engage, as well as allowing holders of small tranches to avoid the high per unit costs that their own investigations might require.[9]

This potential role for rating firms, though, begs a logical next-step question: How does the non-specialist bondholder come to trust the judgment of a rating firm? Here, the long-run reputation of the rating firm in its assessments of large numbers of bonds over time -- which surely will be a broader experience and exposure than any individual bondholder is likely to have -- must be the crucial element in conveying trust to the bondholder.

Since the 1930s, however, the presence of a <u>growing regulatory demand</u> for rating services in the U.S. has meant that the decisions concerning the incumbent rating firms' fog-piercing services have not been solely those of financial markets' participants. The BIS proposals, if adopted, will substantially expand those regulatory demands. And, since the 1970s, <u>regulatory restrictions on supply</u> have tended to favor incumbents over entrants. Accordingly, though the logic of why financial markets might want credit rating firms' assistance in fog piercing remains impeccable, the actual practice of regulation has meant that the current presence of the major incumbents is no automatic assurance that they continue to meet a market test. This issue will receive extensive treatment in Section VI.

[9] These arguments supporting the logic of a potential role for credit rating firms in financial markets can also be found in BIS (2000).

III. Structure

A. The United States

There are currently three major bond rating firms in the U.S.: Moody's; Standard & Poors (S&P); and Fitch.[10] Moody's is currently a freestanding company that is highly specialized on rating activities.[11] S&P's credit rating activities are only part of the larger financial information services that are provided by S&P, which in turn is owned by McGraw-Hill. Fitch is owned by a French company, FIMALAC.[12]

Of the three rating firms, Moody's and S&P are by far the largest. Since Moody's is freestanding, data about it (as of 1999/2000) are most readily presented. These data are found in Table 1.

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[10] In addition to the three major firms, there are specialized and smaller firms: A.M. Best devotes itself solely to the insurance industry and the ability of insurance companies to honor their insurance obligations and their debt obligations; Lace Financial focus on a mix of banks, other depositories, and title insurance companies; KMV provides estimates of borrower companies' default probabilities for banks, insurance companies, and other lending institutions in North America, Europe, and the Pacific rim; and Egan-Jones Ratings Company provides credit ratings and research on U.S. corporate debt.

[11] Moody's was spun off by Dun & Bradstreet in the summer of 2000; Dun & Bradstreet had bought Moody's in 1962.

[12] Until the end of 2000 Fitch referred to itself as Fitch IBCA but now seems to prefer Fitch, which will be used in this paper. Fitch merged with IBCA (a UK firm) in 1997, and the combined entity was subsequently bought by FIMALAC. In June 2000 Fitch bought Duff & Phelps. As of February 2001 Duff & Phelps was still being maintained as a separate brand name, within Fitch. In December 2000 Fitch absorbed Thomson BankWatch.

Table 1: Some Characteristics of the Three Major Bond Rating Firms in the U.S.

Moody's:[13]

- Annual revenues: $602 million (2000); about 70% arises in the U.S.; about 90% is derived from bond rating
- Annual (after tax) net income: $158 million (2000)
- Assets: $300 million (2000)
- Employees: 1,500, including 700 analysts
- Coverage:
    - -- over $30 trillion in debt issuances (ratings and analysis)
    - -- 143,000 corporate, government, public finance issuances
    - -- 4,200 corporate relationships
    - -- 100 countries (offices in 14 countries)

S&P:[14]

- Coverage:
    - -- well in excess of $11 trillion in debt issuances
    - -- more than 38,000 corporate, sovereign, municipal, and financial institution issuers
    - -- more than 98,000 issuances
    - -- more than 86 countries (offices in 16 countries)

Fitch:[15]

- Annual revenues: $260 million (2000)
- Employees: 1,100
- Coverage:
    - -- 75 countries (offices in 16 countries)

[13] Sources include Fridson (1999), and the Moody's website.

[14] The sources are Fridson (1999), S&P (1999), and personal communication from S&P personnel.

[15] Source: Fitch website.

The first ratings were issued by Moody's in 1909.[16] Poor's Publishing Company followed in 1916, the Standard Statistics Company began issuing ratings in 1922,[17] and the Fitch Publishing Company began its ratings in 1924. Since then the number of U.S. general-purpose rating firms[18] in existence at any given time has fluctuated only narrowly between three and five.

B. Outside the U.S.

As the data in Table 1 indicate, all three U.S. firms have substantial presences outside the U.S., typically through branch offices. The survey data in the BIS (2000) report indicate that Moody's and S&P provide extensive ratings coverage in Europe; Moody's provides more coverage in Asia than does S&P, but the relative coverage is reversed for Latin America.

In addition to the major U.S. rating firms and their branch offices, there are at least 35-40 additional credit rating firms in operation outside the U.S. that can be readily identified.[19] From the BIS (2000) report and the affiliates listed by Moody's, S&P, Fitch, and Duff & Phelps, the locations of identified credit rating firms that are headquartered outside the U.S. are indicated in Table 2.

[16] More extensive historical detail on the bond rating industry can be found in Sylla (2001).

[17] S&P was formed through the merger of the two firms in 1941; McGraw-Hill absorbed S&P in 1966.

[18] This excludes the narrower and smaller firms noted above.

[19] The BIS (2000) report identifies a total of 28 firms, primarily from the G10 countries, including Moody's, S&P, Fitch, and Duff & Phelps. The report includes the specialized firms, such as A.M. Best, KMV, Lace Financial, and Egan-Jones, as well as Dun & Bradstreet, which offers credit ratings on millions of firms but does not do specific bond ratings. The report includes the Canadian Bond Rating Service, which was subsequently (October 2000) absorbed by S&P, and Thomson BankWatch, which was absorbed by Fitch in December 2000. The websites of Moody's, S&P, Fitch, and Duff & Phelps (prior to its absorption by Fitch) list as affiliates another 20 credit rating firms outside the G10. The report mentions estimates of 130-150 credit rating firms in existence worldwide.

Table 2: Headquarters Country and Numbers of Prominent Credit Rating Firms outside the United States (as of October 2000)
(excludes branch offices of Moody's, S&P, and Fitch)

Argentina: 1
Bangladesh: 1
Brazil: 1
Canada: 1
Chile: 2
China: 2
Columbia: 1
Cyprus: 1
Egypt: 1
France: 1
Germany: 2
India: 3
Indonesia: 1
Italy: 1
Israel: 1
Japan: 3
Korea: 3
Malaysia: 1
Pakistan: 2
Peru: 1
Russia: 1
South Africa: 1
Sweden: 2
Taiwan: 1
Tunisia: 1
Venezuela: 1

Sources: BIS (2000); rating firms' websites

Some of the firms listed in Table 2 are national in their focus; others aim for a more global presence.

C. Why So Few?

As was mentioned in the Introduction, a striking "fact" about these structural characteristics is the fewness of the numbers. The U.S. currently has only three general-purpose bond rating firms[20] and has never had more than five in operation at any given time. India, Japan, and Korea have only three; Chile, China, Germany, Pakistan, and Sweden each have only two; the remaining countries have only one each. It is also striking that the U.K., despite its prominence as an international finance center, has no bond rating agency headquartered in the country.[21]

The fewness of the number of bond rating firms outside of the U.S. (and the U.K.) is probably best explained by the less well developed corporate bond markets in these countries (as compared with the U.S.) and hence a lesser need for specialized institutions to help pierce the asymmetric information fog in bond markets.[22]

But what about the U.S.? The fewness of the bond rating firms contrasts sharply with the thousands of stock analysts, employed by hundreds of securities firms, who regularly offer opinions about companies' equity share price prospects. Why are there so many of the latter (none of whom command the sweeping authority of Moody's and S&P) and so few of the former?

First, it is easy to understand why the bond rating firms have chosen to remain separate

[20] Fitch, the third of the three U.S. bond rating firms, is owned by a French company.

[21] IBCA was originally headquartered in the U.K.

[22] These countries have tended to stress bank-supplied loans as their sources of finance for companies; and, since the countries tend to be more geographically compact than is the U.S. and they encouraged nationwide branching, the banks themselves could be effective information gatherers.

("independent") from the borrowers and lenders themselves.[23] This structure minimizes conflicts (and appearances of conflicts) of interest. It is the same principle that keeps Consumers Union as a freestanding entity that accepts no advertising in its publication Consumer Reports.

But what about fewness? There are a few possibilities. First, in 1975 the U.S. Securities and Exchange Commission (SEC) initiated the designation of bond rating firms as "nationally recognized statistical rating organizations" (NRSROs). At the time of the initial designation, the SEC "grandfathered" Moody's, S&P, and Fitch. It subsequently designated Duff & Phelps (1982) and McCarthy, Crisanti & Maffei (MCM) (1983) as NRSROs (MCM was absorbed by Duff & Phelps in 1991), and designated IBCA (1991) and Thomson BankWatch (1992) as NRSROs for banks and financial institutions. The SEC has not granted the NRSRO designation to any new entities since then,[24] despite applications by non-U.S. firms. Indeed, IBCA's frustration with its inability to expand its NRSRO designation beyond bank ratings was a major factor underlying IBCA's purchase of Fitch in 1997.

Regulation, then, is currently limiting entry.[25] But this cannot explain the fewness before 1975. Instead, the explanation may be partly based on economies of scale and scope and of standardization: Reputation is vital for a bond rating firm. Reputation gets built by having extensive experience with a wide range of bond issues. And lenders (bondholders) may well prefer having only a few standardized ratings and raters, so that the lenders can more readily make

[23] Security Pacific Bank tried to buy Duff & Phelps in 1984, but the Federal Reserve Board effectively killed the deal by ruling that the post-merger Duff & Phelps would no longer be able to issue public ratings.

[24] In January 1999 the SEC "upgraded" Thomson BankWatch's status from a specialized NRSRO to a general-purpose NRSRO. In December 2000 Thomson BankWatch was absorbed by Fitch.

[25] The SEC in 1997 proposed formal criteria for designating NRSROs. It has not finalized any action. I will return to this regulation in Section VI.

comparisons of the ratings of issues and issuers based on a relatively straightforward "probability of default" judgment on the part of the rater. By contrast, the process of predicting outcomes for equity instruments may well be considerably more complex (since the extent of gain and loss are important considerations) and more judgmental; investors may well be more open to varied opinions from many sources, none of which command sweeping authority.

IV. Behavior

A. Pricing.

1. Who pays? Until the early 1970s the major credit rating firms earned their incomes by selling publications (containing their ratings) and related materials. In essence, they were charging the bondholders for the information provided.

In 1970 Moody's and Fitch began to charge the issuers for the ratings; S&P followed suit a few years later.[26] The bulk of their ratings-related incomes now come from issuer fees.

This change in the early 1970s coincides with the spread of low-cost photocopying; the issuers were going to have difficulties in preventing free-riding on the publication of their information. Also, in 1970 the default by the Penn Central on $82 million in commercial paper, followed by liquidity crises by other short-term issuers and their defaults, was a defining moment that focused both issuers and investors on the risks of such issuances. Issuers were more desirous of reassuring nervous investors of the quality of their issuances and actively sought ratings. Charging the issuers for the ratings naturally followed.[27]

2. The structure of fees.

Both Moody's and S&P follow similar patterns with respect to pricing and coverage of corporate issuances: They state that they will rate and make public all (or virtually all) SEC-registered corporate bonds, whether requested or not by the issuer. If the issuer does not request the rating, then the rating firm will simply do the rating on the basis of publicly available information.

[26] S&P had begun to charge fees to municipal bond issuers in 1968.

[27] It is worth noting, however, that the smaller rating firms that were noted in Section III charge investors and lenders, not issuers, for their ratings. The BIS (2000) notes that this is a more general pattern internationally.

If the issuer requests the rating, then it gets the privilege of sharing its information with the rating firm, but it must pay a one-time fee. Both Moody's and S&P have the following "list prices" for the requested ratings: 3.25 basis points[28] on issues up to $500 million, with a minimum fee of $25,000 and a maximum of $125,000 (S&P) or $130,000 (Moody's); both charge an additional 2 basis points on amounts above $500 million (S&P caps the amount at $200,000; it also has a one-time fee of $25,000 for first-time issuers). Both offer negotiated rates for frequent issuers and offer quarterly charges on amounts outstanding for issuers of commercial paper.

S&P states that it does only solicited ratings for structured securities and non-U.S. company bonds. Moody's, however, does unsolicited as well as solicited ratings of such securities.

By contrast, both Fitch and Duff & Phelps (before its merger with Fitch) have only done solicited ratings of any type of security. With respect to corporate securities, either or both have been asked to provide a rating most often when the two "major" rating firms have split in their ratings. Apparently, in such instances issuers hope that the additional rating will be on the more favorable side. Also, Duff & Phelps did not make its ratings public unless the issuer requested that it do so. The structure of both issuers' fee schedules have been similar to that of Moody's and S&P; but, as would be expected from firms that are perceived to be more peripheral, their fee levels have been lower (2.5 basis points for Fitch; 2.75 basis points for Duff & Phelps).

Let us return to the fee structures of Moody's and S&P. Virtually all corporate issuers request a listing, believing that the opportunity to present their financial "story" directly to the rating firms offers a sufficiently high probability of improving their ratings (and thus lowering their issuing costs) so as to justify the fees.

At first glance, this complete or near-complete set of request-responses by issuers indicates that Moody's and S&P -- collectively, if not individually -- are not charging sufficiently high fees so

[28] This information is from Fridson (1999).

as to maximize their profits. If the demand by issuers for ratings has the "usual" properties of a demand relationship -- at very high fees only a few issuers would request ratings, at somewhat lower fees more issuers would request ratings, at yet lower fees even more issuers would request ratings, etc. -- Moody's and S&P should be able jointly to increase their profits by raising their prices/fees (but consequently losing some customers) until reaching the standard monopoly maximizing point.[29] This point is not affected by the commitment by the rating firms to rate all corporate issues, whether requested or not. Under this commitment, the costs of ratings are a fixed obligation, and the only relevant marginal costs are the extra costs that are incurred in dealing with a requester.

So, why don't they raise their prices? First, there may be a sharp kink in the demand curve at the point where the price paid just offsets the reduction in issuance costs. But this kink would have to be uniform for all issuers and to be present just above 3.25 basis points for the current schedule to be a maximizing one. This is possible, but it seems unlikely.

Second, oligopolistic rivalry (a la Bertrand[30]) may be such that each firm may fear that if it initiates a price rise, the other will not follow and the initiator will lose too much in rating fees; i.e., its perceived demand (given its fears that the other will not "cooperate" in a price increase) may be quite elastic.

Third, the "list price" schedule described above may be actually paid by only a few issuers, while the rest negotiate lower fees; i.e., the rating firms may be practicing first-degree price discrimination, which would yield a maximizing outcome that results in nearly all buyers'

[29] I.e., the point at which $P = MC/(1+1/E_D)$. In this formula P is the price charged by the monopolist, MC is the monopolist's marginal costs, and E_D is the elasticity of the demand curve facing the monopolist.

[30] See, for example, Pindyk and Rubinfeld (2001, ch. 12).

remaining in the market.

Fourth, so long as the rating firms continue to commit to rate all corporate issues, whether requested or not, the ratings firms may be uneasy about seeing too many issuers drop their requests, since the unsolicited ratings that follow may be (or may be perceived as) less reliable, thereby damaging the reputations of the raters. But, if that were true, why do the raters persist in their commitment to do unsolicited ratings? Or why don't they announce that unsolicited ratings are less reliable than solicited ratings.[31]

In sum, the pattern of near-ubiquity of requested ratings by corporate issuers is a puzzle to which we can only supply some partially satisfactory answers.

B. Spread of coverage.

As the financial markets developed new debt instruments in the 1970s and the following decades, the ratings firms expanded their coverage from the corporate and municipal debt that had been their mainstays to these new instruments. It appears that the smaller credit rating firms were more aggressive in expanding this coverage.

[31] On this point, Moody's and S&P appear to want to have the best of both worlds: They aren't prepared to admit that unsolicited ratings are less reliable; yet their encouragement of requests and the concomitant sharing of issuers' information clearly indicates the opposite.

V. Performance

A. Profits.

The typical industrial organization assessment of performance begins with a report of profits. Supra-normal profits may be an indicator of the exercise of market power,[32] although the vagaries of accounting data require considerable caution if they are used to generate rates of return that are to be compared to a competitive standard.[33]

The only credit rating firm for which stand-alone profit data are available is Moody's, and only for 1995-2000. In Table 3 we present Moody's profits (after-tax net income) and total assets for each of those years, as well as the ratio of the two and the simple average of the six years of ratios.[34] As can be seen, the ratio ranges from 28.3% to 55.0%, with an average for the six years of 44.0%. Even within the possible range of vagaries of accounting, this magnitude of return is breathtaking. It certainly raises the suspicion that Moody's is able to exercise market power.[35]

[32] They may also just indicate returns to superior efficiency or intangible investments in intellectual capital.

[33] See, for example, Benston (1983) and Fisher (1983).

[34] The proposed balance sheet for Moody's for 2000 shows a negative net worth at the end of 1999, so profits as a fraction of net worth would not be a meaningful number.

[35] If, however, Moody's is exercising first-degree price discrimination, as was suggested as a possibility in Section IV, then there may be little quantity distortion arising as a consequence of this market power. This argument can also be found in BIS (2000).

Table 3: Net Income (after tax) and Total Assets of Moody's, 1995-2000
($ millions)

	Net Income	Total Assets	NI/TA
1995	$88.2	$217.8	40.5%
1996	77.0	271.8	28.3
1997	105.9	266.5	39.7
1998	142.0	296.2	47.9
1999	155.6	283.1	55.0
2000	158.5	300 (est.)	52.8
Avg., 1995-2000	-	-	44.0%

Sources: Dun & Bradstreet (2000); Moody's website.

One other issue, related to the pricing of ratings, is worthy of discussion: As was mentioned in Section IV, the "list price" fee structure for Moody's and S&P involves higher fees for larger issues. It seems unlikely that larger issues regularly involve larger costs of rating (although some larger issues may involve greater complexity, and the rating firms' legal exposure surely rises with issue size). This fee structure may well be another indication of the rating firms' earning rents.

B. Innovation.

A second measure of performance is the extent and sources of innovation in an industry. There is no absolute standard against which an industry can be judged, and judgments with respect to innovation in the credit rating industry do seem particularly difficult.

It does seem to be the case, however, that innovations -- such as expanding the ratings to non-traditional instruments, and adding finer gradations to ratings -- have often (though not always) been initiated by the smaller rating firms, with the larger two then following.[36] This finding, plus the lower fees that the smaller firms charge, indicates that competition brings the same beneficial effects to this industry that it does in others.

C. Moral hazard behavior.

For bond rating firms, the temptations for moral hazard or opportunistic behavior are constantly present. A rating firm might offer to improve an issuer's rating in return for a higher fee. Or it might threaten that an unsolicited rating would be substantially lower than a requested (fee-based) rating.

There have not been widespread instances of such moral hazard behavior on the part of the rating firms. Apparently, their institutional concerns about their long-run reputations have been

[36] See Cantor and Packer (1995).

sufficiently strong so as to keep the moral hazard tendencies in check.[37]

D. Efficacy.

Beyond the question of market power, there is the persistent question of whether the rating firms provide any extra information to the bond markets. It is well known that the ratings do correlate well with average default rates: higher rated issues default less frequently than do lower rated issues.[38] But this result alone is no indicator of whether the rating firms provide extra and useful information. The ratings might simply be reflecting financial market outcomes (e.g., the interest spreads of various bond issues against comparable Treasury obligations), rather than the other way around.

Instead, a better test might be whether a change in a rating causes a significant change in financial market spreads (i.e., the rating change is providing new information to the financial markets) or whether the financial markets remain unchanged (i.e., the markets already "knew" about the change in the company's underlying condition that inspired the rating change).[39] Recent evidence indicates that the ratings changes do provide significant new information to the financial markets.[40] Even this evidence, however, does not provide a definitive answer to the question of efficacy. If the financial markets otherwise would have soon (say, a day later) learned anyway the

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[37] There have been some errors in judgment -- e.g., in the Orange County debacle; see Figlewski and White (1995) and Jorion (1995). And there have been allegations that Moody's has used low unsolicited ratings as a means to punish issuers for not requesting ratings; see Partnoy (1999).

[38] See, for example, BIS (2000).

[39] Another potential test, which (to my knowledge) has not been undertaken, would be to examine the role of ratings in the market response to initial public offerings of bonds. Unfortunately, even this test would be subject to the ambiguities and criticism discussed in the text below.

[40] For a summary, see Jewell and Livingston (1999).

underlying information that inspired the rating change, then the social benefits of the rating firms' additional information in terms of the financial markets' improved pricing of risk may not be worth the costs. In addition, as is discussed in Section VI, safety-and-soundness regulators of financial firms currently use the bond rating firms' ratings extensively for regulatory purposes. Consequently, a change in the rating of a bond (say, a downgrade) may cause the bond to cross a regulatory threshold (e.g., "investment grade") and thereby change how the regulated financial firms (e.g., banks, insurance companies, pension funds) treat the bond (e.g., how much capital they must hold, or even whether they can continue to own the bond); or the rating change brings the bond closer to a regulatory threshold and thereby increases the likelihood of crossing that threshold in the future. Thus, the new information that the change in a rating brings to the financial markets may be only about the change in the bond's regulatory status rather than any new information about the likelihood of default.[41]

Further, the rating firms' accuracies are not perfect; there is variance around the average default rates embodied in each rating.[42] Large variances mean greater noise and inconsistencies in

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[41] To my knowledge, there are no studies that try to measure the additional information that bond rating firms provide to the financial markets at the time of the initial flotation of a security. Even if such studies existed, however, they would still be susceptible to the interpretation problem described in the text: Does a rating firm's ratings convey additional information to the financial markets about default probabilities, or does it just convey information about the likely regulatory treatment of the security?

[42] See Altman and Saunders (2001). As these authors explain, information about borrowers' defaults ought to be incorporated in the regulatory process of specifying banks' capital requirements, in the following way: The <u>expected</u> (mean) default and loss rates that are predicted for a loan or an investment should be the basis for a bank's required <u>loan-loss reserves</u> (provisions) for an asset. It is the <u>unexpected</u> defaults and losses -- the unfavorable "tail" of the distribution of returns (for which the variance may be a proxy) -- that should be the basis for the bank's required <u>capital</u> for the asset. And, of course, when considering the entire portfolio of a bank, correlations of returns among assets must also be considered. (The inclusion of the effects of hedges is a clear example.)

the ratings. Also, though the ratings do represent relative risks (on average) reasonably well, they are less reliable as indicators of absolute credit risks; default probabilities associated with specific rating levels have drifted over time.[43]

In sum, it is unclear whether the incumbent bond rating firms' continued existence passes an unambiguous "market test" of their value for financial market participants. This conclusion may appear surprising, since the major incumbent credit rating firms have persisted and prospered. But the safety-and-soundness (prudential) regulation of financial institutions in the U.S. has forced those institutions to make use of ratings in their purchase and holding decisions with respect to bonds. Thus the rating firms have likely received an artificial lift in their business from this regulation. We now turn to a more detailed discussion of regulation and how it affects the bond rating industry.

[43] See Cantor and Packer (1995).

VI. Policy Issues (I): U.S. Financial Regulation

In Section III we briefly mentioned that the SEC since 1975 has designated rating firms as "nationally rated statistical rating organizations" (NRSROs) and has used this regulation to limit entry into the U.S. industry. At the end of Section V we briefly discussed the safety-and-soundness (prudential) regulation that requires financial institutions to use the NRSROs' ratings. We now consider these regulatory impacts in greater depth. We will begin with the safety-and-soundness regulation.

A. Safety-and-soundness regulation.

The safety-and-soundness regulation of financial institutions -- notably banks and other depositories, insurance companies, and defined-benefit pension funds -- in the U.S. has a long history. The general goal is to protect the liability holders of such institutions from the losses that would arise from the insolvencies of the institutions, as well as specifically to preserve the systemic stability of the banking system.[44] As part of those schemes, regulators have attempted to limit the riskiness of the assets that such institutions hold. And, beginning in 1931 regulators have grafted bond ratings into these limitations, either by banning the holding of securities that fall below a specified grade[45] or by specifying capital requirements for holding the securities that are geared to their ratings.[46] In addition, the SEC has employed the same tools for safety regulation of broker-

[44] See, for example, White (1991a; 2001).

[45] For example, banks and savings institutions are not permitted to hold bonds that are below "investment grade" (BBB) level.

[46] For example, state insurance regulators gear the capital requirements of insurance companies to the risk categories -- as determined by ratings -- of the assets that they hold. The use of ratings by insurance regulators developed in the 1930s and 1940s; see Hickman (1958, pp. 284-287).

dealers and of money market mutual funds.[47]

The net effect of these requirements is to create a specific demand for ratings that might not be present in the absence of this specific manifestation of safety-and-soundness regulation. But whose ratings can be used for these regulatory purposes? Until 1975 this question remained unaddressed.[48] In that year, however, when the SEC applied a net capital rule to broker dealers, it specified securities ratings as the basis for the "haircuts" (percentage reductions in the value of owned securities) that would be required for calculating net capital. The SEC apparently realized that by specifying ratings it thereby had to address the "whose ratings" question, and it created the NRSRO category. Since then, other regulatory agencies and the Congress have adopted the NRSRO terminology and accepted the SEC designees within that category.

B. NRSRO regulation.

As was discussed in Section III, the SEC last approved a new general-purpose NRSRO in 1983; it last approved a new specialist (banks and financial institutions) NRSRO in 1992.[49] Applicants, including rating agencies that are headquartered in other countries, have applied; the SEC has not acted. In essence, the SEC's behavior has raised an absolute barrier to entry, thereby limiting supply.

In 1994 and again in 1997 the SEC proposed regulations that would formalize its criteria for

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[47] Cantor and Packer (1995), Partnoy (1999), and BIS (2000) list the requirements by various regulatory authorities and by the Congress that involve the use of bond ratings.

[48] The regulatory language at the time referred only to "recognized rating manuals". Apparently, it was understood that the raters would be Moody's, S&P, and Fitch, the three incumbents. See Hickman (1958, pp. 144-145).

[49] In January 1999 it "upgraded" Thomson BankWatch from a specialist NRSRO to a general-purpose NRSRO. In December 2000 Thomson BankWatch was absorbed into Fitch.

designating and monitoring NRSROs.[50] The attributes of a rating firm that the SEC proposes to use as its criteria for designating NRSROs are as follows (the following language is taken directly from the proposed regulation):

1) national recognition, which means that the rating organization is recognized as an issuer of credible and reliable ratings by the predominant users of securities ratings in the United States;

2) adequate staffing, financial resources, and organizational structure to ensure that it can issue credible and reliable ratings of the debt of issuers, including the ability to operate independently of economic pressures or control by companies it rates and a sufficient number of staff members qualified in terms of education and expertise to thoroughly and competently evaluate an issuer's credit;

3) use of systematic rating procedures that are designed to ensure credible and accurate ratings;

4) extent of contacts with the management of issuers, including access to senior level management of the issuers; and

5) internal procedures to prevent misuse of non-public information and compliance with these procedures.

The SEC has taken no action on these proposals, and seems in no hurry to do so. In the interim, however, the supply-limiting effect of the de facto ban on new NRSRO designations remains intertwined with the demand-enhancing effect of the expanding safety-and-soundness regulation discussed above. It is not surprising that Moody's can earn such handsome profits in this environment.

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[50] The proposed criteria are those that the SEC has used less formally in its (infrequent) decisions to grant a NRSRO designation. Those designations have come through "no action" letters issued by the SEC staff.

C. An appraisal of NRSRO regulation.

It is easy to be sympathetic to the SEC's difficult task of specifying the criteria that define a NRSRO. Financial regulators (including the SEC) have created a demand for ratings, but (until the SEC established the NRSRO category in 1975) had not themselves specified the identities and qualifications of the raters. In the absence of any certifying of the competency of rating firms, there would be nothing to prevent the establishment of bogus "rating" firms that would indiscriminately offer investment grade ratings to any security at any time. The ratings-based facet of safety-and-soundness regulation would be wholly compromised.

Accordingly, so long as regulators use ratings as indicators of safety, someone will have to certify who is a competent rating firm. It is to the SEC's credit that it realized that this task had to be done. But this is not a task that is within the SEC's normal area of expertise. The agency's lack of enthusiasm for the task is understandable -- but it is unfortunate, since it has raised the serious barrier to entry described above.

There is, however, a straightforward and superior alternative: Safety-and-soundness regulators could cease relying on the rating firms for safety judgments and instead could directly limit financial institutions' asset risks by bringing market-based information immediately into the process -- for example, by specifying asset ownership limits or capital requirements based on assets' yield spreads directly rather than by specifying them indirectly through rating requirements.[51] Without the rating requirements by financial regulators, the SEC would not have to certify

[51] This has been proposed by Partnoy (1999). If yield spreads by themselves are not a sufficient indicator of safety, other measures -- e.g., price volatility -- could be included as well. Or regulators could adopt an approach akin to the "foundation" or "advanced" approaches proposed by the BIS, whereby regulators would ask banks to provide systematic justifications -- which could include internal systems or reliance on third parties' judgments -- for the risk assessments that they are using for individual or classes of assets. The crucial element is that the regulators themselves should determine the criteria or directly assess the banks' judgments, rather than delegating the decisions to rating firms.

NRSROs, and the rating firms' fates -- incumbent and entrant alike -- would be left to the financial markets, where they belong.[52] The participants in the financial markets, on their own, would decide whether and which rating firms provide enough help in piercing the asymmetric information fog of these markets so as to justify the firms' costs and fees.[53]

If financial regulators insist on continuing to delegate these safety determinations to the rating firms, however, then someone will have to be the certifier of competent rating firms; and the SEC is probably as good a candidate to be a certifier as is any other financial regulatory agency. But then the SEC must cease being an artificial barrier to entry and must make a good faith effort to certify as NRSROs all capable candidates.

In this context, then, what criteria should the SEC use to certify NRSROs, and how do its 1997 proposed criteria measure up? The answer to the first question will help answer the second.

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[52] There is a potential criticism of this outcome: Currently, the bond rating firms' decisions as to default probabilities are the ones that are incorporated into the regulatory decisions as to which bonds regulated financial firms can hold. My proposal would substitute a government "monopoly" -- regulators' judgments -- in developing the criteria concerning default probabilities, in place of the more diverse (albeit limited by regulation) bond rating firms' judgments. In response to this criticism, I offer the following: First, under the current regime, regulators' still make the ultimate judgments as to how the bond raters' "output" should be incorporated into the rules that govern regulated financial firms; and a concomitant aspect of that process has been a restriction on the supply of bond raters. Further, under a system of multiple regulators -- for the different categories of regulated financial firms, as well as the substantial diversity created by state regulators as well as federal regulators -- the regulatory judgments concerning default probabilities are likely to maintain some diversity. In this, as in many other areas, government would be unlikely to "speak" with a single voice, and that would be all to the good; and a greater diversity of "voices" might well arise among the bond rating firms. For a discussion of the benefits of competition among regulators, see Scott (1977).

[53] It is worth noting that this removal of ratings from safety-and-soundness regulation has been the position advocated by Moody's in its letters and filings to the SEC; see Moody's (1994; 1995; 1998) and Cantor (2001). The same general idea has been enunciated by S&P in its comments on the initial version of the Basel proposal; see S&P (1999), which is reproduced as Griep and de Stefano (2001).

Since the need to certify NRSROs rests on the regulators' delegation of safety decisions to the rating firms and on the possibility that bogus rating firms could indiscriminately distribute favorable ratings, the SEC must make judgments about the accuracy/efficacy/competency of a rating firm with respect to the relevant safety issues. Since the rating firms focus on the likelihood of default with respect to specific securities and the safety-and-soundness regulators appear to be satisfied in relying on those judgments, the SEC will have to assess a rating firm's performance in this regard.[54] Another way of stating this proposition is that the SEC must judge the <u>outputs</u> of the rating firms.

Against this standard, the SEC's 1997 proposed criteria do not hold up well. The "national recognition" criterion appears to be an indirect market test of performance: if a rating firm was not performing well, it might cease to retain a national following. But in the current context of only three general-purpose rating firms and a substantial regulation-driven demand for those firms' rating services, a national following for the current incumbents is all but guaranteed; and the task of a new or small rating firm to attract national recognition is made substantially harder than it otherwise would be by its lack of a NRSRO designation while three incumbents have NRSRO designations. If a company executive has to decide which rating firm(s) to spend time telling his/her company's financial "story" to, it seems highly likely that the executive will choose an incumbent NRSRO -- whose favorable rating can qualify the company's securities for favorable regulatory treatment -- over any non-NRSRO.

Further, foreign credit rating firms may have substantial expertise abroad; but their lack of <u>U.S.</u> "national recognition" dooms their prospects for NRSRO designation.

[54] If this task seems too onerous for the SEC, then the agency ought seriously to consider the alternative: specify safety requirements directly, and then abolish the NRSRO category and the certification that goes with it. Such action might inspire other safety-and-soundness regulators similarly to specify their safety requirements directly.

In essence, the "national recognition" criterion creates a "Catch 22" barrier to entry.[55]

The remaining four criteria (adequate resources; systematic procedures; adequate contacts;[56] internal procedures) are measures of inputs, not output. Smaller firms or firms with innovative rating technologies will be at a disadvantage if judged by these criteria.[57]

In sum, if the SEC cannot or is unwilling to exit from the NRSRO designation field, then it must become serious about certifying qualified firms, and it must re-focus its criteria toward output-oriented measures.

[55] The entry barrier nature of this criterion has also been noticed by the Antitrust Division of the U.S. Department of Justice; see USDOJ (1998).

[56] To the extent that the discussion concerning a non-NRSRO's likely difficulties in gaining the time and attention of bond issuers is valid, then this criterion also qualifies as a "Catch 22".

[57] Also, as the U.S. Department of Justice has pointed out, if a rating firm provides unsolicited ratings, as well as solicited ratings, it would appear to fail to satisfy the fourth criterion and possibly the third; see USDOJ (1998). The use of unsolicited ratings should not be discouraged, so long as the unsolicited nature of the rating is made known.

VII. Policy Issues (II): The BIS Proposal

A. The international context.

The U.S. is not alone in using ratings as a basis for bank safety-and-soundness regulation. The BIS (2000) report includes a survey indicating that of the other eleven countries that (with the U.S.) are the members of the Basel Committee on Banking Supervision (BCBS),[58] ten use credit ratings as part of bank regulation;[59] of an additional six "interesting" countries[60] five use ratings.[61]

Though these other countries' use of ratings is not as extensive as is found in the U.S., their use nevertheless raises the same question of "whose ratings?" in these countries that we addressed in Section VI for the U.S.. The BIS (2000) report's survey further indicates that all but one of the rating-using countries have explicit criteria for determining which rating firms shall be recognized for the country's regulatory purposes.[62] The criteria reported are heavily weighted toward measuring inputs or the use of market recognition, similar to the criteria used by the U.S. However, some of the countries have been more expansive in their recognition practices. For example, at the time of the survey, the U.K. and Australia each recognized ten credit rating firms (including firms headquartered in the U.S., Canada, France, and Japan), and France and the Netherlands each

[58] The other members are Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Sweden, Switzerland, and the U.K.

[59] Germany does not.

[60] Australia, Argentina, Chile, Hong Kong, Mexico, and New Zealand.

[61] Mexico does not.

[62] New Zealand is the exception. New Zealand's use of ratings is through required disclosure: A bank must report publicly whether or not it has a rating (and the details of the rating and the identity of the rater) on its senior unsecured long-term debt.

recognized nine.[63]

B. Implications of the BIS "standardised approach" proposal.

The BIS proposal -- the "standardised approach to credit risk," which would gear banks' capital requirements to the credit ratings of the publicly traded debt of their borrowers -- will clearly increase greatly the demand for ratings in the U.S and the other BCBS countries, as well as in other countries that want to follow the Basel guidelines. Though the greater "granularity" and risk sensitivity for banks' capital requirements provided by the BIS proposal is certainly a welcome improvement over the 1988 Basel Accord,[64] the "standardised approach" raises the same central issues of certification of credit rating firms that currently bedevil the U.S.

The BIS recognizes that the reliability of the credit rating firms -- the BIS uses the phrase "external credit assessment institutions" (ECAIs) -- is crucial for the "standardised approach" to be effective and that bank regulators must certify the ECAIs. The proposal specifies six criteria that an ECAI must satisfy:[65]

1) Objectivity: rigorous methodology and historical validity of its credit assessments;

2) Independence: not subject to economic or political pressures;

3) International access/transparency: assessments available to both domestic and foreign institutions; the general methodology should be publicly available;

4) Disclosure: both qualitative (e.g., definition of default, time horizon) and quantitative (actual default rates in each assessment category; transition rates from one assessment category to another over time);

[63] Even if the post-survey mergers among credit rating firms were taken into account, the numbers of recognized firms would be seven and six, respectively.

[64] See BIS (1988).

[65] See BIS (2001b).

5) Resources: sufficient resources to carry out high quality credit assessments, including on-going contacts with the managements of the assessed entities; assessments to be based on methodologies combining qualitative and quantitative approaches; and

6) Credibility: independent parties' use of assessments; existence of internal procedures to prevent the misuse of confidential information.

Though the BIS is somewhat more sensitive to "output" considerations (e.g., historical validity of an ECAI's methods) than are the SEC's proposed regulations, the proposal is nevertheless heavily oriented toward specifying inputs and thus will tend to favor large incumbents over smaller innovative entrants. Adoption of the BIS proposal in its current form is thus likely to raise worldwide barriers to entry into the credit rating industry.

The expanded regulatory use of ratings internationally, which would follow from the BIS proposal, raises other dangers as well. First, if countries are going to be using ratings for financial (safety and soundness) regulatory purposes, will they be more likely to regulate directly the entities -- the rating firms -- that generate the ratings, so as to yield the rating "quality" that the financial regulators desire?[66] Further, with respect to ratings of sovereign debt, what happens if a country is unhappy with the rating (or a rating change) of its debt by an approved rating firm? Will a rating firm's approval status (which would be important for its ability to rate corporate and other non-sovereign debt) in a country be contingent on its delivering "acceptable" ratings?[67]

C. Alternatives to the BIS "standardised approach" proposal.

[66] Of course, by setting the criteria for approval, financial regulators are already -- indirectly or implicitly -- regulating the rating firms; but regulation could well be more direct, explicit, and intrusive.

[67] In the absence of an approval process for credit rating firms, a country has far less leverage over a rating firm about whose ratings it is unhappy.

As was true for the SEC's proposed NRSRO regulations, there are superior alternatives to the BIS's proposal. At a minimum, the BIS should reformulate its criteria for certification so that they focus exclusively on outputs, not on inputs.

More fundamentally, the extended regulation/certification of credit rating firms by the SEC's counterparts abroad, as well as by the SEC, which is an unavoidable part of the BIS proposal, is not a sensible direction for bank regulation to go, for the reasons discussed above. Instead, to deal with credit risk issues and with bank capital issues more broadly, the BIS's approach to bank capital requirements should proceed as follows:

First, to the extent that a bank's borrower has traded debt securities outstanding, the pricing/spreads of those securities should be directly incorporated into the capital requirement for the bank's loans to that borrower.[68] Second, bank regulators should require that all banks use market value accounting (MVA) for all of their assets, liabilities, and off-balance-sheet items, in place of the largely backward-looking cost-oriented accounting system of generally accepted accounting principles (GAAP) that prevails today.[69] MVA reports ought to be expected from banks on a far more frequent basis than the current end-of-quarter basis; after all, banks do not get into trouble solely on the last day of each quarter. The eventual goal in a digital era ought to be real-time reporting.

Third, as a supplement to MVA, bank regulators must require forward-looking stress tests

[68] Or, as was suggested above in the U.S. context, volatility could be included in the regulatory consideration of risk; or regulators could adopt an approach akin to the "foundation" or "advanced" approaches, whereby regulators would ask banks to provide systematic justifications -- which could include internal systems or reliance on third parties' judgments -- for the risk assessments that they are using for individual or classes of assets. The crucial element is that the regulators themselves should determine the criteria or directly assess the banks' judgments, rather than delegating the decisions to rating firms.

[69] See White (1991a, 1991b, 1998) for further discussion.

to be part of banks' capital requirements. Stress tests ought to be part of the auditor's obligation.[70] The accounting profession ought to be able to look to the Financial Accounting Standards Board (FASB) in the U.S and/or the International Accounting Standards Committee for guidance in developing stress-test standards. Fourth, in conjunction with a focus on stress tests, bank regulators ought to refocus their concerns about capital to the following paradigm concerning the riskiness of assets: Loan loss reserves (provisions) are intended to protect the bank's solvency against the expected (mean) losses associated with an asset; capital is intended to protect the bank's solvency against the unexpected losses (the unfavorable tail of the distribution of possible losses) associated with an asset.[71] Fifth, subordinated debt ought to be part of banks' required capital structure.[72]

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[70] Since accountants are already certified, no new regulatory/certification mechanisms would be necessary.

[71] And, of course, with respect to the capital required for a bank's overall portfolio, correlations among asset returns must be considered.

[72] For further discussion of subordinated debt, see Federal Reserve System and U.S. Department of the Treasury (2000).

VII. Conclusion

The industrial organization of the credit rating industry is an important area for future research, especially in the international arena. This essay has only scratched the surface.

Nevertheless, the analysis of this paper has revealed the important role that regulation plays in this industry: by increasing the demand for ratings, and by limiting the supply of rating firms. The Basel proposal will only exacerbate the demand for ratings but not solve the problem of how credit rating firms should be certified.

There is a better way. It would make more extensive use of market information. It would use market spreads directly as indicators of the riskiness of assets, and it would use market value accounting, forward-looking stress tests, and subordinated debt as vital components of the process of determining adequate capital for banks.

These suggestions do not mean that the credit rating firms should be prevented from playing a continuing role in helping issuers and investors pierce the fog of asymmetric information. But that role should be determined by the market participants themselves, not by additional regulation that artificially increases demand and restricts supply. The latter is a recipe for shortages, rents, and distortions. This is not a welcome prospect.

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