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## 1. AN HISTORICAL PRIMER ON THE BUSINESS OF CREDIT RATING

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### ABSTRACT

In capital market history, credit rating agencies were relatively late to appear, being less than a century old. John Moody founded the first rating agency in 1909, in the United States, which in comparison with other countries had a large private bond market and an investing class clamoring for better information. Extensive research by W.B. Hickman and others established that credit rating agencies were able to provide investors with good information on bond quality and the probability of default, but that the agencies' record was not appreciably different from implicit ratings of public regulatory authorities and the bond market's own ratings indicated by interest rate spreads. The paper concludes with a discussion of various rationales that have been given for the success of credit rating agencies as businesses in the United States and, increasingly, the world.

When the business of bond credit ratings by independent rating agencies began in the United States early in the twentieth century, bond markets—and capital markets generally—had already existed for at least three centuries. Moreover, for at least two centuries, these old capital markets were to an extent even ‘global.’ That in itself indicates that agency credit ratings are hardly an integral part of capital market history. It also raises several questions. Why did credit rating agencies first appear when (1909) and where (the United States) they did in history? What has been the experience of capital market participants with agency credit ratings since they did appear? And what roles do agency ratings now play in those markets, which in recent decades have again become global, to an even greater extent than previously in history?

This essay explores the historical origins of agency bond ratings and the experience the capital markets have had with them in the twentieth century. The latter is pretty much a U.S. story until the 1970s, when the modern globalization of capital markets initiated a rerun of the U.S. story on a worldwide scale. Issues to be addressed include, in part 1, how and why the capital markets were able to function without agency bond ratings for so much their history, and why the agency rating business arose when it did. Part 2 examines the U.S. experience with agency ratings from their inception early in the century to the 1970s, with reference to the markets for both corporate and state and local governmental debt. Part 3 discusses the globalization of the agency bond rating business that has accompanied the globalization of capital markets since the 1970s, with some discussion of various rationales or explanations of the continuing importance of agency ratings in U.S. and global capital markets.

## 1. ORIGINS

John Moody is credited with initiating agency bond ratings, in the United States in 1909. Exactly three centuries earlier, in 1609, the Dutch revolutionized domestic and international finance by inventing the common stock—that of the Dutch East India Company—and founding a proto-central bank, the Wisselbank or Bank of Amsterdam. In 1609, the Dutch had already had a government bond market for some decades.<sup>1</sup> Shortly thereafter, the Dutch Republic had in place, in one form or another, all of the key components of a modern financial system: a strong public credit, a stable money, elements of a banking system, a central bank of sorts, and securities markets. The Dutch Republic went on to become the leading economy of the seventeenth century.

In 1688, the English emulated the Dutch in the most flattering of ways, by inviting the Dutch leader, William of Orange, to be their king. William brought experienced Dutch financiers with him to England, and in short order England, too, had all the key components of a modern financial system—the Bank of England, for example, was founded in 1694. England, of course, went on to have the first industrial revolution and to become the leading economy of the world in the eighteenth and nineteenth centuries.<sup>2</sup>

A century later in the newly independent United States, Alexander Hamilton, the Founding Father most aware of the Dutch, English (and also French) financial precedents, worked to put in place, in even shorter order, a similarly modern financial system during his term as the first Secretary of the Treasury, 1789–1795. By 1795, the United States, essentially a bankrupt country before 1789, had strong public finances, a stable dollar based on specie, a banking system, a central bank, and bond and stock markets in several cities. And just as the English had succeeded the Dutch in economic and financial leadership, the Americans went on within a century to succeed the English as the world's pre-eminent national economy.<sup>3</sup>

This thumbnail sketch of the history of leading financial systems and capital markets indicates that bond ratings by independent agencies, an innovation of the

twentieth century, came along rather late in that history. By the time of John Moody's bond rating innovation in 1909, Dutch investors had been buying bonds for three centuries, English investors for two, and American investors for one century, all the time without the benefit of agency ratings. Why?  
To answer that question, we need to ask what the investors expected when they bought bonds. A bond is a contract. I, the bond investor, part with my money now. You, the borrower, pledge that in return for receiving my funds now, you will make specified, scheduled payments to me in the future. Bond rating agencies claim that their ratings provide me with an indication of your ability (and willingness) to live up to the terms of the contract. That might include a notion of the probability that the funds will be returned with interest according to the schedule, and also an indication, should the contract go into default, of how much of the funds lent will be returned, and when.

For much of the four-century history of modern capital markets, at least in the Dutch, English, and American cases, the question of a rating was likely moot. Most bond investing was in the public, or sovereign, debts of nations and governments that investors trusted as being willing and able to honor their commitments. In the eighteenth century, only a few countries with representative governments, notably the Dutch, the English, and the Americans, fell into that category. More joined that initial group over the course of the nineteenth century.

Historian Niall Ferguson tells an interesting story of how the bond market nearly two centuries ago encouraged governments to become responsible and representative. In the aftermath of the Napoleonic Wars, the Prussian government desired to float a loan in London in order to avoid the political problems that would come if it attempted to do so at home. The Prussians in 1817 approached Nathan M. Rothschild, head of the London branch of the famous European banking house. Nathan Rothschild laid down the law to the Prussians, saying that because of their absolutist form of government, it would be necessary to provide lands as security for any loan:

[T]o induce British Capitalists to invest their money in a loan to a foreign government upon reasonable terms, it will be of the first importance that the plan of such a loan should as much as possible be assimilated to the established system of borrowing for the public service in England, and above all things that some security, beyond the mere good faith of the government . . . should be held out to the lenders. . . . Without some security of this description any attempt to raise a considerable sum in England for a foreign Power would be hopeless[:] the late investments of British subjects in the French funds have proceeded upon the general belief that in consequence of the representative system now established in that Country, the sanction of the Chamber to the national debt incurred by the Government affords a guarantee to the Public Creditor which could not be found in a Contract with any Sovereign uncontrolled in the exercise of the executive powers.

Ferguson summarizes this by saying, "In other words, a constitutional monarchy was seen in London as a better credit-risk than a neo-absolutist regime."<sup>4</sup> As more countries, in Europe and around the world, adopted constitutions and representative forms of government during the nineteenth century the international bond

market grew in scale and scope. But it was for the most part a market in sovereign debts. Businesses in Europe met most of their external capital needs by means of bank loans and stock issues.

The United States was in a different position. Its economy was of continental proportions, its development projects grand in scale, and its individual enterprises larger than elsewhere. The U.S. banking system, while knit together by correspondent relationships, nonetheless remained fragmented along state lines, with almost all banks chartered and regulated until 1863 by individual states. Compared to European states, where war was the progenitor of national debts, in the United States sovereign debts, federal and state, were relatively minor. The U.S. government in fact entirely paid off its national debt in 1836 (and at the start of the twenty-first century is at least contemplating doing that again). From 1817 to the 1840s, a good number of U.S. states issued sovereign bonded debts in domestic and international markets to build canals and finance other infrastructure projects, but they largely withdrew from doing so after nine states defaulted on these debts in the early 1840s. As the country urbanized, local governments increasingly replaced states as public bond issuers, but state and local bond markets were dwarfed by the private sector, corporate bond market.

The crying capital need of the United States during much of the nineteenth century was for funds to build railroads, to open up and knit together an economy of continental proportions. Before the advent of railroads in the late 1820s, the United States had already developed the corporate form of competitive enterprise to a greater extent than any other country. The corporation from the 1790s forward was the typical form of banking and insurance enterprises, as well as of some transportation and manufacturing enterprises. Most U.S. railroads, despite some governmental assistance, were also organized and raised capital as private corporations. Prior to the middle of the century, railroad corporations were relatively small (compared to their later scale), were located in settled parts of the country, and were able to finance construction and operations with bank credit and stock issues. After 1850, however, railroad corporations grew larger, with enlarged capital needs, and they expanded into unsettled and undeveloped territories where there were few local banks and investors willing to finance them. The solution to the problem of financing U.S. railroads was the development of a huge market, both domestic and international, in the bonded debt of U.S. railroad corporations. The corporate bond market, essentially a railroad bond market in its early decades, can properly be viewed as an American financial innovation that later spread to the rest of the world. By the time John Moody began to rate bonds, the U.S. corporate bond market was several magnitudes larger than that of any other country.<sup>5</sup>

It was no accident of history, then, that Moody, the originator of the bond-rating agency, was an American, or that his original ratings were entirely for the bonded debts of U.S. railroads. The year was 1909, relatively late in the game given that the railroad bond market dated back to the 1850s, if not even earlier. It is evident that the corporate bond market, like the sovereign, bond market, could develop for a

good long time without the benefit of independent agency ratings. How was that possible? And what led to the innovation of agency ratings?

To answer those questions, we need to examine three historical developments, again largely American, that have to do with the ways in which lenders, creditors, and equity investors get information about borrowers, debtors, and equity shares that corporations issue. One is the credit-reporting (not rating) agency. Another is the specialized financial press. A third is the investment banker. In a sense, the bond-rating agency innovated by Moody in 1909 represents a fusion of functions performed by these three institutions that preceded it.

*Credit-Reporting Agencies.* When most business was local, as it pretty much was in the early decades of U.S. history, transactions were between people who knew each other. As the scale and geographical scope of transactions expanded in a large economy in which resources, human and other, were mobile, the need for information on suppliers and customers of whom a businessperson had no personal knowledge increased. At first, letters of recommendation from someone known sufficed; the recommender might be one with whom the businessperson had already done business, or a respected member of the prospective new supplier's or customer's community, perhaps a banker or a lawyer.

Such informal channels sufficed for a time, but by the 1830s the expanding scale and scope of American business gave rise to a new institution, the specialized credit-reporting agency. The history of one of these agencies is well documented, and it ties in directly with the related business of credit ratings. In 1841, Lewis Tappan, a New York dry goods and silk merchant who in the course of his business had compiled extensive records on the creditworthiness of his customers, decided to specialize on the provision of commercial information. Tappan founded the Mercantile Agency, which gathered through a network of agents and sold to subscribers information on the business standing and creditworthiness of businesses all over the United States. The Mercantile Agency became R.G. Dun and Company in 1859. The company's subscribers, which included wholesalers, importers, manufacturers, banks, and insurance companies, grew from 7,000 in the 1870s to 40,000 in the 1880s, and by 1900 its reports covered more than a million businesses.<sup>6</sup>

John Bradstreet of Cincinnati founded a similar firm in 1849, and by 1857 was publishing what apparently was the world's first commercial rating book. The Dun and the Bradstreet companies merged in 1933 to form Dun & Bradstreet. In 1962, Dun & Bradstreet acquired Moody's Investors Service, the bond rating agency that John Moody had begun in 1909.<sup>7</sup> Thus the closely related businesses of credit reporting and bond rating came together under one corporate roof, although they apparently still operate as independent organizations.<sup>8</sup>

*The Specialized Business/Financial Press.* Railroad corporations were America's and perhaps the world's first big businesses, in the sense of multi-divisional enterprises operating over large geographical expanses and employing cadres of professional managers. The first was the Baltimore and Ohio, which began in 1828. By 1832, the industry was reported on by a specialized publication, *The American Railroad*

*Journal.* The journal came into its own as a publication for investors when Henry Varnum Poor (1812–1905) became its editor in 1849, Poor gathered and published systematic information on the property of railroads, their assets, liabilities and earnings during his editorship of the journal, 1849–1862. After the American Civil War, Poor and his son started a firm to publish *Poor's Manual of the Railroads of the United States*, an annual volume that first appeared in 1868. The manual reported financial and operating statistics covering several years for most of the major American railroads. It was widely recognized as the authoritative source of such information for several decades.

After Henry Poor's death in 1905, and after John Moody began his ratings of railroad bonds in 1909, the Poor company itself in 1916 entered the bond rating business, a natural outgrowth of the financial and operating information it compiled and sold. The company merged with Standard Statistics, another information and ratings company, in 1941, to form Standard & Poor's (S&P). S&P in the 1960s was taken over by McGraw Hill, the publishing giant.<sup>9</sup> Nearly a century later, Moody's and S&P, the original ratings agencies, remain by far the world's largest such firms. *Investment Bankers.* Before the first summary ratings of railroad bonds appeared in 1909, why were investors willing to purchase such securities? One reason is that innovative journalists such as Henry Varnum Poor got into the business of supplying comparative information on the assets and earning power of the companies.

Possibly a more important reason is that investment bankers, the financial intermediaries who underwrote, purchased, and distributed the securities from railroad corporations, put their reputations (reputational capital, in the modern jargon) on the line in every such deal. The investment banker was the consummate insider. The banker insisted that securities issuers provide all relevant information related to company operations on an ongoing basis to him, sometimes by insisting that he or his banking associates be given seats on the board of directors of corporations. In this way the banker could size up the character of company entrepreneurs and managers, and continue to monitor company affairs.

As an intermediary, the investment banker, besides being the person to whom an enterprise needing large sums of capital increasingly turned, also had access to the suppliers of capital through a vast network, often international, in which the banker's reputation counted for a lot. Yankee houses such as J.P. Morgan & Company and its predecessor firms had affiliated houses in London and Paris, where European investors were cultivated and served up American securities. The U.S. banking houses of German-Jewish immigrants such as Kuhn Loeb & Co., Seligman Brothers, and Goldman Sachs were similarly tied in to pools of European investment capital, often through family and other personal connections in the old world.

Old-time investment bankers had a difficult time understanding why—in the United States—taking an active monitoring role in corporate affairs would raise suspicions of banker dominance, a money trust, financial capitalism, and so on. Since they had sold securities of the corporations to their investing clients, it seemed natural, even a reputation-protecting duty, to take such an interest. What they failed to realize, perhaps, is that as the size of the U.S. investing class expanded, the resent-

ment was more over the bankers' access to inside or privileged information, not over supposed banker dominance of corporations. Why should not all potential investors have access to the same information as the 'bankers'? It was a powerful argument, one that in the 1930s would lead to mandatory disclosure laws for issuers of securities, and to the Securities and Exchange Commission.

Even at the turn of the twentieth century, however, there were increasing demands from investors and financial regulators for wider disclosure of corporate operational and financial information. Such information availability, of course, might weaken the role of investment bankers as certifiers of the quality of securities, and also undermine their profits. J.P. Morgan himself, shortly before he died in 1913, is said to have complained that all business soon would have to be done with glass pockets. By that time, John Moody had already responded to the public's request for more, and more convenient, publicly available information on the quality of investments with his railroad bond ratings. Other firms were also about to enter the ratings business. These developments represented a transfer of some of the investment banker's reputational capital as a certifier of the quality of bonds and other securities to the ratings agency. The next section examines how well the agencies performed in their innovative reputational role.

## 2. RATINGS AGENCY PERFORMANCE, 1909–1960S

*The U.S. Corporate Bond Market.* We are fortunate that research projects of the National Bureau of Economic Research studied U.S. corporate bond quality, including the performance of bond rating agencies, during a long period of six decades when corporate bond markets and the business of ratings agencies were for the most part confined to the United States.<sup>10</sup>

The key results of the major NBER study are contained in W. Braddock Hickman's *Corporate Bond Quality and Investor Experience* (1958). Hickman's data included all large (defined as \$5 million or more) "straight" corporate bond issues (defined as fixed-income, single-maturity bonds offered by railroad, public utility, and industrial corporations and held by the investing public) made in the United States from 1900 to 1943, and a representative 10 percent sample of smaller straight issues of less than \$5 million. Excluded were real estate mortgage bonds and the bonds of financial corporations. The total par value of the straight corporate bonds issued during the 44 years of the study came to \$71.5 billion; of that amount, 93 percent was in the form of regular offerings, and 7 percent resulted from contract modifications and exchanges growing out of corporate reorganizations.

Hickman described the aggregate experience of most of the corporate bonds over the entire 44-year period as follows:

The 93 percent of regular offerings breaks down into 12 percent paid in full at maturity, 37 percent called, 18 percent defaulted, and 26 percent outstanding on January 1, 1944 with a perfect contractual record through that date. [There was a] zero loss rate on the issues paid in full at maturity . . . (realized yield equaled promised yield). On the defaulted issues the

average life-span loss was 3.7 percent. But the remarkable fact is that capital losses on defaulted issues were just offset by capital gains on irregular offerings and on regular offerings called or selling in 1944 above amortized book value. The weighted average of promised and realized yields on total offerings both worked out at 5.6 percent, so that for the universe of corporate bonds the net loss rate was zero. This finding is a tribute to the ability of domestic business corporations to service their long-term obligations in a turbulent period of forty-four years during which there was a great war, a great depression, and the start of a second great war.<sup>11</sup>

Although the “remarkable fact” of a zero net loss rate held for the whole period, it was not true of particular subperiods. For bonds issued and extinguished during 1900–1931, the default rate was 17 percent, and the promised-at-offering and realized yields were 6.2 and 6.4 percent. For bonds issued and extinguished in the period 1932–1943, only 4 percent defaulted, and the promised and realized yields were 4.9 and 6 percent. But for bonds issued before 1932 and extinguished after that date, 23 percent defaulted, and the promised yield (5.4 percent) was greater than the realized yield (4.6 percent).

The zero net loss rate for the whole period might be an artifact of interest-rate history. U.S. interest rates were low in 1900, but even lower—close to all time lows—near the end of World War II, the end of Hickman’s period.<sup>12</sup> So a declining interest rate trend may account for a good part of the capital gains on bonds that offset losses from defaults.

Hickman’s summary of default rates, yields and loss rates is presented in Table 1, reproduced from his 1958 book. A most useful aspect of his work for our purposes is the analysis of bond market experience in terms of three different forms of ratings as prospective quality measures that might be of use to investors. These are, first, the independent agency ratings, a composite average of the ratings of Moody’s, Standard & Poor’s (or its two predecessor organizations, Standard Statistics and Poor\$), and Fitch; second, the ratings implied by legal investment lists for savings banks adopted by regulatory authorities in the states of Maine, Massachusetts, and New York; and third, a marker rating given by the yield spread of a particular bond issue over the “basic” or lowest yield of a corporate bond of the same maturity.

All three of the prospective quality measures performed quite well over the period, in the sense of predicting both lesser or greater default rates, and the risk-return trade-off (the greater the risk of default, the greater the return earned). Composite agency ratings I through IV, corresponding to the top four ratings—the “investment grade” issues—of the ratings agencies show lower default rates (and default rates that rise as one moves from higher to lower rated issues) than the lower, non-investment-grade issues lumped together in composite rating categories V–IX. Promised and realized yields also line up pretty much as one would expect if the ratings agencies were indeed effective at predicting bond quality, as do loss rates.

Hickman attributed the similarities of results achieved by the ratings of the agencies, the legal lists, and the market to their using essentially the same information to arrive at their ratings:

**Table 1. Life-Span Default Rates, Yields, and Loss Rates for Bonds Classified by Industry, Quality, and Other Characteristics at Offering, 1900–1943**

	Default Rate	Promised Yield	Realised Yield	Loss Rate
All Industries	17.3%	5.3%	5.4%	-0.1%
Railroads	28.1	5.5	5.2	0.3
Public utilities	10.6	5.0	5.4	-0.4
Industrials	14.8	5.4	5.8	-0.4
<i>Agency Rating</i>				
I	5.9	4.5	5.1	-0.6
II	6.0	4.6	5.0	-0.4
III	13.4	4.9	5.0	-0.1
IV	19.1	5.4	5.7	-0.3
V–IX	42.4	9.5	8.6	0.9
No rating	28.6	4.8	4.6	0.2
<i>Legal Status</i>				
Legal in Maine	7.1	4.0	4.9	-0.9
Not legal in Maine	19.2	5.5	5.5	0.0
Legal in Massachusetts	7.6	4.0	4.7	-0.7
Not legal in Massachusetts	18.5	5.4	5.5	-0.1
Legal in New York	9.0	4.0	4.5	-0.5
Not legal in New York	18.8	5.5	5.5	0.0
<i>Market Rating</i>				
Under 1/2%	10.5%	3.8%	3.9%	-0.1%
1/2–1	13.9	4.5	4.7	-0.2
1–2	20.7	5.4	5.5	-0.1
2% and over	32.4	9.3	9.5	-0.2
<i>Times-Charge-Earned Ratio</i>				
3.0 and over	2.1	4.0	4.9	-0.9
2.0–2.9	4.0	4.3	5.1	-0.8
1.5–1.9	17.9	4.7	5.0	-0.3
1.0–1.4	34.1	6.8	6.4	0.4
Under 1.0	35.0	6.2	6.0	0.2
<i>Ratio of Net Income to Gross Income</i>				
25% and over	3.3	4.5	5.0	-0.5
20–24	11.6	4.6	4.6	0.0
15–19	12.7	4.4	4.8	-0.4
10–14	17.6	5.1	5.3	-0.2
Under 10%	27.5	5.0	5.0	0.0
Negative	17.2	8.9	10.7	-1.8
<i>Lien Position</i>				
Secured	18.8	5.3	5.4	-0.1
Unsecured	13.6	5.3	5.3	0.0
<i>Size of Issue</i>				
\$50 million and over	16.3	4.9	5.0	-0.1
20–49	16.4	5.2	5.7	-0.5
5–19	19.0	5.7	5.5	0.2
Under \$5 million	24.9	6.3	6.1	0.2
<i>Asset Size of Obligor</i>				
\$200 million and over	16.4	5.4	5.3	0.1
100–199	17.0	5.0	5.8	-0.8
5–99	18.8	5.6	5.7	-0.1
Under \$5 million	23.6	6.6	6.6	0.0

Source: W. Braddock Hickman, *Corporate Bond Quality and Investor Experience* (Princeton: Princeton University Press, 1958) pp. 10–11.

The results thus provide confirmation of the reasonableness of the quality measures generally used by investors in selecting corporate bond investments. The similarity of the patterns of default experience when classified by the major quality measures arises from the fact that the same basic information is utilized under each of the ratings systems. That is to say, the investment agencies, the legal lists, and the market typically assigned high rankings to the large issues of large obligors on which the fixed charges were earned a large number of times at the offering.<sup>13</sup>

A less encouraging similarity of the three ratings systems is shown in Table 1 by the industry group breakdowns. The default rate was greater for railroads than for public utilities and industrials. Yet when the bonds were offered, "the investment agencies, legal lists, and market all favored rails... As a general rule, the various rating systems were efficient in ranking issues within an industry but were less successful in judging default risks as between major industrial groups."<sup>14</sup>

There were also some differences among the three rating systems, especially between the market ratings and the other two, agencies and legal lists. For most of the periods he studied, Hickman found that "the market was less stable than either the agency ratings or the legal lists, in the sense that the proportion of the total volume of outstanding issues rated high grade by the market at the beginning of a given period that was still so rated at the end of that period was below the corresponding proportion based on legal bonds and agency ratings." It was obvious that market ratings were "extremely sensitive" to bond market conditions:

Being so sensitive, the market rating usually reflects changes in the credit standing of obligors more promptly than other ratings do. As a result, default rates over four-year periods were usually lower for high-grade outstandings selected by market rating than for equal volumes of high grades selected by agency rating or legal status. Life-span experience on bond offerings showed just the reverse; defaults were heavier among the market-selected high grades than among equal volumes rated high grade by the agencies or included in the legal lists.

The reason again is the extreme sensitivity amounting almost to instability of the market rating to changing conditions, with the result that a fixed market-rating standard applied at offering picks up a disproportionately large volume of offerings in years of market optimism and a disproportionately small volume in years of market pessimism. Since bonds offered in years of market optimism fared worse than those offered in other years, life-span default rates were higher on offerings selected by a fixed-market-rating applied to all offerings over the full period studied than on offerings selected by agency rating.<sup>15</sup>

The market, however, was better than agency ratings at predicting default risks over shorter periods of four and one years. Hickman therefore concluded, "the market rating was unstable over time, but was an efficient device for ranking offerings and outstandings at any given moment in order of the risk of subsequent default."<sup>16</sup>

Hickman was surprised to find that agency ratings conformed more to business cycles than did market ratings. Agency upgrades expanded in 6 of 6 business-cycle expansions and contracted in 5 of 6 business-cycle contractions, whereas market ratings "show little sensitivity to business cycles."<sup>17</sup>

It is a curious fact that agency ratings should prove so sensitive to the short-run ups and downs of business, since it is frequently stated that they measure "intrinsic quality," which would seem to imply a degree of permanence inconsistent with cyclical fluctuations. In view of the conservatism of the investment agencies in the 1920s, and the excellence of their long-term forecasts of life-span default risk at offering, it is unlikely that they were affected by changes in investor confidence during business cycles. A more likely hypothesis . . . is that the cyclical behavior of the ratings reflects the sensitivity of the various financial ratios on which they are based.<sup>18</sup>

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Hickman voiced concern about the cyclical behavior of agency ratings upgrades in good times and downgrades in bad times when they happened to be used in conjunction with financial regulation, which now, a half century later, is still a concern. In Hickman's era, issues in the top four grades of agency ratings were eligible for purchase by commercial banks and were usually accepted at book value for purposes of life insurance company and commercial bank asset valuation, whereas defaulted issues and lower-grade issues had to be marked to market, and the capital loss had to be charged against a financial institution's surplus account. This meant, said Hickman, that

the surplus accounts of the financial intermediaries were cyclically unstable: they expanded during good times when issues were upgraded and shrank during bad times when issues were downgraded. If the downgraded issues were not sold, the capital losses were frequently paper ones, since many downgraded issues were promptly upgraded during the next business expansion.<sup>19</sup>

Although the ability of ratings agencies to change ratings when business conditions changed, with downgrades closely related to defaults, impressed Hickman, he also noted, "Under present valuation rules, the implication is that capital values and surplus accounts tend to shrink during business contractions at the very time when some assurance of financial stability is most needed by investment intermediaries and their beneficiaries."<sup>19</sup>

A major, and anomalous, finding of Hickman, revealed clearly in Table 1, is that non-investment-grade bonds had a much higher realized yield to investors after taking account of loss rates than might have been expected, in comparison with the yields of investment-grade issues. Hickman reasoned that a bond return consisted of a pure (or basic) yield, a risk premium, and a reward for assuming risk, and he wondered why large (perhaps institutional) bond investors who could diversify and eliminate much of the risk of investing in particular issues did not do so in order to earn the higher returns on low-grade bonds. He noted,

Such investors, who through their bidding largely determine the prices and promised yields of corporate bonds, are able to diversify adequately and thus do not require a specific premium for risk bearing. The investment intermediaries are, however, closely regulated as to the type and quality of securities that may be purchased and their investment officers, through their close ties with the general public and their directors, would be embarrassed if their

portfolios contained a large volume of defaulted obligations, even though no loss should ultimately result. As a general rule, institutional investors are fairly conservative and place a premium on quality, just as do small investors who seek to avoid ruinous default losses through the purchase of high-grade bonds. The result is that promised yields on low grades—averaged over long investment periods—are more than sufficient to offset default losses, so that realized yields on low grades are high. These institutional considerations rest on personal observation rather than on statistical evidence.<sup>20</sup>

Whatever the explanation, this (as an aside) is the finding that so impressed Michael Milken when he read Hickman's book. Subsequently it led Milken to develop an active market for high-yield or "junk" bonds during the 1970s and 1980s, a major financial innovation of the period.

On the whole, Hickman concluded that agency and market ratings had performed quite well in the first half of the century. Each type of rating had some features where it was better at doing what it was intended to do than the other, but neither was dominant. Similarities outweighed differences. Hickman was concerned about the use of agency ratings for regulatory purposes. That use might accentuate financial difficulties in a business contraction, just when measures should be taken to alleviate such difficulties. But that was not a disadvantage of agency ratings. If market ratings were used in the same way for regulatory purposes, the situation might even have been worse, which may be why some regulatory authorities at the time discontinued use of market-based ratings.

Thomas Atkinson's 1967 NBER study, *Trends in Corporate Bond Quality*, was something of an update of Hickman's studies, but far more modest in scope. It covered the period from 1944 to 1965, a different and more stable economic and bond environment from the earlier one Hickman had studied. From 1945 to 1965, less than 0.1 percent (about 0.5 billion dollars) of the volume of corporate bonds outstanding went into default, compared to 1.7 percent during 1900–1943. Most of the defaults were in the railroad industry.<sup>21</sup>

Another important difference between the two eras had to do with direct placements of bonds compared with public offerings. In Hickman's period, direct placements of cash offerings were but 7 percent of the total amount marketed, whereas from 1948 to 1965, direct placements accounted for 46 percent of the total. There were advantages, Atkinson argued, to borrowers and lenders in direct placements. Borrowers paid a slightly higher interest rate, but gained flexibility and assured financing as compared with public offerings. Lenders gained the higher interest rate in return for giving up a degree of marketability.<sup>22</sup>

Although the bond market grew absolutely in the postwar decades, its share of corporate financing declined. One reason was that corporate earnings were higher and more stable, generating more internal funds for financing and less need to rely on bonds. Another reason was that commercial banks introduced term loans as an alternative to bond financing. As an institution-based rather than market-based method of financing, the term loan had some kinship with the direct placement of bonds.

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Given postwar stability and prosperity, it is hardly surprising that most bonds were investment grade. From 1944 to 1965, 93.5 percent of bonds (like Hickman, Atkinson excluded, real estate and finance bonds) fell into the top four agency ratings signifying investment grade. In Hickman's era, the corresponding figure was 83 percent of rated public offerings.<sup>23</sup>

Atkinson did not make any detailed study of agency ratings as predictors of default, perhaps because so few bonds defaulted. He did, however, find one difference between the postwar era and Hickman's era. Hickman provided evidence that agency ratings tended to be pro-cyclical, rising in expansions and declining in contractions. In contrast, according to Atkinson,

Agency ratings of public offerings are not consistently related to postwar business cycles. In two cycles quality has a positive conformity and two an inverse conformity. Weakening in quality is seemingly not related to the volume of bond offerings.<sup>24</sup>

Although the quality of bonds overall was higher in the postwar era than in Hickman's era, Atkinson pointed to a deterioration in quality toward the end of his period, in the early 1960s. He also noted that convertible bonds were increasingly used, and that these were of lower quality in both Hickman's and his era. This perhaps was an early indicator of troubles ahead.

Given stable U.S. economic conditions (strong economic growth punctuated by few and mild recessions) and stable financial conditions (a near absence of bond defaults, for example), it is not surprising that agency bond ratings mattered little in the quarter century after World War II. In the foreword to Atkinson's short book, in which agency ratings are treated as almost an afterthought, James Early wrote, "the postwar years have been so free of bond defaults that one might conclude that no quality problem exists."<sup>25</sup> The leading agencies apparently employed only a few analysts each, with revenues coming from the sale of research reports.<sup>26</sup>

The *U.S. State and Local Bond Market*. Moody's began to rate U.S. state and local government bonds in 1919, a decade after ratings began for the bonds of railroad corporations. By that time the market for such bonds was more than a century old, confirming the long lag of ratings behind capital market developments. Moreover, Standard and Poor's did not begin to rate state and local bonds until the early 1950s.<sup>27</sup>

The state and local debt market expanded rapidly in the century before agency ratings began. From an estimated \$13 million in 1825, it expanded to \$260 million by 1843 (when it was considerably larger than the U.S. national debt), to \$1.1 billion by 1880, and to \$2 billion shortly after the turn of the twentieth century.<sup>28</sup>

The first default on state and local debt, the city of Mobile, Alabama, came in 1839, after which there is a continuous history of defaults with four periods of large-scale defaults. The first was 1839–1843, when twelve state and local governments whose indebtedness of \$125 million was more than half of total defaulted; \$13.8 million of debt was repudiated and \$1.3 million of interest due was never paid. The second period was 1873–1879, when units with approximately a quarter

of the \$1 billion outstanding defaulted and the total loss of principal and interest was \$150 million. A third period of widespread defaults came in the years 1893–1899, when units with \$130 million of debt, about 10 percent of the total outstanding defaulted, and about \$25 million of principal and interest was lost. The Great Depression of the 1930s brought the fourth and last period of major defaults. From 1929 to 1937, units with \$2.85 billion of indebtedness, representing some 15 percent of the average outstanding state and local indebtedness, for the period, defaulted. In the end, however, the total loss of principal and interest was relatively minor compared with earlier debt crises. The Depression-era losses were about \$100 million, or half of one percent of state and local indebtedness, and 70 percent of these losses were settled under a new Federal Municipal Bankruptcy Act enacted in 1937.<sup>29</sup>

State and local defaults were relatively minor in the two decades of prosperity after World War II. They came to some \$325 million during 1945–1965, which was only 0.3 percent of total state and local debt outstanding. Much of this was concentrated in revenue bonds, particularly those issued by the West Virginia Turnpike and the Calumet Skyway in the Chicago area. Permanent losses were only \$8–9 million, with most of these settled under the Municipal Bankruptcy Act.<sup>30</sup>

How well did ratings agencies perform in assessing probabilities of defaults in the state and local debt markets? Hempel studied 264 agency-rated issues that defaulted in the Great Depression era; although these issues were small in numbers compared to the total defaults of that era, they did represent more than three-fourths of the dollar value of defaulted state and local debt. Here is how he described his findings:

The proportionate totals . . . show that 78 per cent of the defaulted issues were rated Aa or better in 1929. The defaulting issues rated Aa or better in 1929 constituted 94.4 per cent of the total dollar value of the 264 issues. . . . The large proportion of defaulting state and local issues in the top rating categories appears to be partly explained by the large percentage of issues in the top rating categories in 1929–53 per cent of all rated issues were rated Aaa, 24 per cent were rated Aa, 18 per cent were rated A, and 5 per cent were rated Baa or lower. Furthermore, the ratings at that time appear to be biased in favor of large governmental units. Nearly 98 per cent of the 310 cities with populations over 30,000 were rated Aa or better. Nevertheless, it is disturbing that such a high proportion of the 264 defaulting issues were rated Aa or better in 1929.<sup>31</sup>

As the Depression unfolded, ratings were, of course, downgraded. Of the 264 defaulting issues, 70–80 percent were rated Aa or better from 1929 to 1931. But by 1933–1934, fewer than 10 percent were so rated. But, Hempel notes, “This reflection would not have been of much benefit to the investor who bought one of the ‘high quality’ Aaa or Aa rated issues in 1931.”<sup>32</sup>

After the Depression and up to the time Hempel wrote his book (published in 1971), only six rated state and local bond issues defaulted. Defaults were more numerous, but not all state and local issues were rated. All six of the post-Depression defaulting bonds were limited liability obligations (e.g., revenue bonds),

and three were rated by Moody’s only after they had gone into default. Hempel detected that by the postwar era the ratings agencies had eliminated their bias in favor of large issuers as a result of the Depression experience. Since defaults were so few, as was the case with corporate bonds, Hempel did not think that any strong conclusions could be drawn in evaluating ratings agency performance.<sup>33</sup>

The most favorable conclusion one can derive from the past payment performance of rated state and local issues is that the new and more sophisticated rating processes started in the mid-1930s (after the weak performance before the mid-1930s) are largely uncontested as an indicator of prospective quality. In spite of the lack of historical proof, the consensus opinions of groups of sophisticated bond analysts (i.e., agency ratings) are analyzed as meaningful indicators of prospective quality.<sup>34</sup>

Like Atkinson in the case of corporate bonds, Hempel thought that the high ratings and negligible default experience in the state and local sector of the bond market reflected the greater macroeconomic stability of the quarter century after 1945 as much as anything else.

But by the time Atkinson and Hempel wrote, change was in the air. U.S. economic and financial conditions were becoming less stable by the late 1960s. Controls imposed on short- and long-term capital flows, imposed for balance of payments reason, more or less closed the U.S. capital markets to the rest of the world in the 1960s. That changed when the Bretton Woods system collapsed in the early 1970s, giving way to flexible international exchange rates. A new era of financial globalization emerged. These environmental changes would create new opportunities for the ratings agencies.

### 3. GLOBALIZATION OF CREDIT RATINGS, 1970S–2000

*Historical Parallels.* Credit rating agencies expanded rapidly from the 1970s through the 1990s, much as they did from 1909, when John Moody introduced the concept, to the 1930s. In each period, the expansion started slowly and then gathered steam as the early entrants became larger and new entrants appeared. Such parallels between the two periods of agency expansion suggest to a historian that similar forces may have been at work in them. What might those forces have been?

The early twentieth-century appearance and growth of rating agencies was pretty much a U.S. development. The main reason is that the United States, largely because of large-scale railroad development under corporate auspices (the governmental role in railroad development was larger in most other countries) created a corporate bond market much larger than elsewhere, and the country also had a rapidly growing state and local bond market.

Two additional developments contributed. One was that firms in industries other than the railroad sector, in particular public utility and the manufacturing firms, sought access to the bond markets. Second, rising average levels of income and wealth in the United States greatly expanded the potential and actual numbers of investors. In earlier times only the very wealthy, a tiny minority in both Europe and

America, were interested in bond investments, and leading investment and merchant banking houses on both sides of the Atlantic were capable of serving as certifiers of bond quality for that minority. But the old-time investment banking houses, increasingly under attack in the United States (the Money Trust investigation of 1912–1913, for example), were not in a good position to meet the demands of an expanding class of investors for certifications of bond quality. That was John Moody's entrepreneurial insight in 1909.

The Great War of 1914–1918 helped the process along. Because of it the United States replaced England as the world's financial center, becoming the banker of the victorious allies. U.S. participation in the war led to massive amounts of public debt creation and the mass-marketing of bonds to the growing class of investors. A new central bank, the Federal Reserve System, created much of the money for investors to buy the government bonds, and then went on after the war to increase investor confidence in the financial stability of the country.

During the 1920s the federal government paid down much of its debt, freeing up funds for investors to reinvest. The decade was quite a prosperous one in America but marked by financial turbulence in much of the world. Over its course, the U.S. bond market, both for domestic and foreign as well as sovereign and private issues, grew by leaps and bounds. The investing classes needed bond ratings to sort out the great variety of issues with which they were presented. Ratings agencies addressed that need, supplementing if not actually taking over functions once performed by investment bankers. According to Braddock Hickman, the agencies did a pretty good job of sorting bonds into quality groupings. Their reputational capital grew, even with financial regulatory authorities. By the 1930s, U.S. regulators were incorporating agency ratings into their regulations.<sup>34</sup>

Some six decades later, history repeated itself or, as Mark Twain said, at least rhymed. Now, however, the whole world was America. The role of World War I and the breakdown of the classical gold standard was taken over by the Cold War floating-exchange rate regime of the Bretton Woods System. The latter's replacement by a and financial globalization. The prosperity of the postwar decades expanded the class market and the OPEC cartel redistributed the world's capital resources, as had happened at the time of World War I. More and more sovereign states and private corporations from around the world appeared in the markets as issuers of bonds. International agencies such as the International Monetary Fund served to make international investors more confident of financial stability, just as the Federal Reserve had done earlier in the century. And financial regulatory authorities, now on an international scale, began to incorporate agency ratings into their regulations.

*Rating Agency Expansion.* Like causes often lead to like effects. There were no ratings agencies in the United States until 1909, and then in two decades they appeared and became pillars of the investment community. By the 1960s and early 1970s, as we saw earlier, those agencies had become small and relatively moribund;

the U.S. bond market was too safe for them to matter much, and the rest of the world generated little business.

In 1996, two decades later, journalist Thomas Friedman in a television interview would say,

There are two superpowers in the world today in my opinion. There's the United States and there's Moody's Bond Rating Service. The United States can destroy you by dropping bombs, and Moody's can destroy you by downgrading your bonds. And believe me, it's not clear sometimes who's more powerful.<sup>35</sup>

Like skilled surfboarders, the ratings agencies once again caught a large wave of financial development and rode it. Agency expansion began slowly at first, and then picked up steam. Even the leading agencies had but a handful of analysts at start of the 1970s. Partnroy reports that by 1980 S&P has 30 professionals in its industrial group, a number that grew to 40 by 1986 (he doesn't report the numbers in other groups). By 1995, in contrast, "S&P had 800 analysts and a total staff of 1,200; Moody's has expanded at a similar rate, to 560 analysts and a total staff of 1,700."<sup>36</sup> The growth of agency employment obviously reflected a growth in the business of credit rating.

The number of rated issuers has increased by the same order of magnitude. In 1975, 600 new bonds were rated, increasing the number of outstanding rated corporate bonds to 5,500. Today [2000], Moody's rates 20,000 public and private issuers in the U.S., and about 1,200 non-U.S. issuers, both corporations and sovereign states; S&P rates slightly fewer in each category. Moody's rates \$5 trillion worth of securities; S&P rates \$2 trillion. Moody's and S&P thus dominate the world's business of rating government and corporate debt.<sup>37</sup>

If the credit rating agency itself was the key innovation of the earlier era, the key innovation underlying the recent era of agency growth is likely an innovation in the way agencies finance their operations. From 1909 to the 1970s, revenues came from selling agency reports to subscribers. Investors and other users of the information provided by the agencies essentially paid for it. Starting in the 1970s, the agencies shifted their main revenue source from investors and users to the issuers of securities. Now nearly all of the leading agencies' revenue comes from fees, usually a few basis points of the amount of the issue rated, charged to issuers.<sup>38</sup> This raises the question of what those who pay for agency ratings receive in return.

*What do the rating agencies do to earn their keep?* The traditional answer to this question is that the agencies gather and analyze all sorts of pertinent financial and other information, and then use it to provide a rating of the intrinsic value or quality of a security as a convenient way for investors to judge quality and make investment decisions. With every rating, the agency puts its reputation on the line. Hickman showed that during the first half of the twentieth century in the United States, the agencies did a pretty good job. Their ratings did provide investors with information that reflected the likelihood that an issue would go into default, and guidance as to

the loss consequences of such events. But they were not the only such source of information. Market-based ratings performed about as well as agency ratings.

Since publicly available sources of information pertinent to investment values are far greater than they were in the day when rating agencies first appeared, and since the markets themselves (partly because more information is available) have become more efficient, many question whether the continuing success of the agencies rests on their reputational capital. If the markets in the Hickman era from 1900 to 1944 could do about as good a job of rating securities as the agencies did, presumably they can do an even better job of it now, with better information and better technologies. So why do the agencies continue to exist and even thrive?

*Partnoy's Complaint.* Partnoy takes a cynical view. He argues with some vehemence that the agencies are in the business of selling regulatory licenses. This view is less a critique of the agencies per se than it is of financial regulatory authorities that adopt and use agency ratings in their regulatory procedures:

The regulatory license view is quite simple. Absent regulation incorporating ratings, the regulatory license view agrees with the reputational capital view: rating agencies sell information and survive based on their ability to accumulate and retain reputational capital. However, once regulation is passed that incorporates ratings, rating agencies begin to sell not only information but also valuable property rights associated with compliance with the regulation.<sup>39</sup>

Regulators at the U.S. federal and state levels began to use agency ratings for regulatory purposes in the 1930s. This was controversial at the time, but the controversies died out in subsequent decades when U.S. economic conditions were good and most bond issues were investment grade with few going into default. When those favorable economic and bond-market conditions disappeared in the early 1970s, the practice of incorporating agency ratings was revived and expanded, with the SEC going even so far in 1973 to designate certain rating agencies as “Nationally Recognized Statistical Ratings Organizations.”<sup>40</sup>

Interestingly, it was around this time that the agencies shifted to the practice of charging issuers for ratings and earning most of their revenues from such charges. The regulatory-license hypothesis would explain this by saying that once an agency rating was important to the acceptance of a new bond issue, in the sense of determining whether regulated financial intermediaries could buy it all and under what terms, the issuer would have a strong incentive to purchase a rating from a rating agency, particularly if it had been designated by the regulator as a “Nationally Recognized Statistical Rating Organization.” Do such designations create rents for established agencies that are so designated? Do they increase the likelihood of conflicts of interest and other potential abuses?

*Agency Theory and the Ratings Agencies.* Another explanation of the persistence of ratings agencies when market ratings might do as good or better a job of sorting securities by quality is based on agency theory. An older variant of it is that independent rating agencies, by rating bonds when issued and continuing to monitor the issuing company after the issue, solved a principal-agent problem between

investors and company managers. Without this continued monitoring and the threat of ratings downgrades, managers might engage in opportunistic behavior to better their own and/or stockholders' positions at the expense of bondholders.<sup>41</sup>

A newer and more finance-grounded variant of the agency approach to explaining ratings agencies is that they help to resolve conflicts of interest that might otherwise exist among the owners of financial assets, the institutions (both public and private) that guarantee the assets, and the asset managers that act as agents for the principals or owners. An asset manager, for example, might be tempted for legitimate or illegitimate reasons to invest the funds of principals in high-risk assets, to the potential detriment of the owners and possibly guarantors of the assets. Agency bond ratings could be used as one way of constraining the asset managers from acting in such a way. As Martin Fridson, a proponent of this newer view of the independent rating agencies, puts it,

By prohibiting their asset managers from investing in or retaining bonds of less than a specified rating, asset-owners and asset-guarantors can significantly limit their risk, even though they lack the expertise to quantify that risk themselves.<sup>42</sup>

It is hardly a perfect system, Fridson notes while pointing to some of the drawbacks of it, but it is a method of constraining and disciplining the behavior of asset managers and issuers at a low monitoring cost.

#### 4. CONCLUSION

There is now nearly a century of experience with independent-agency bond ratings in the United States. Many of the issues that arise in recent discussions, such as the rationale for ratings and the ability to gauge the likelihood of repayment, came up in earlier studies of the U.S. experience. The issues that seem most relevant now have to do with the use of agency ratings for purposes of financial regulation. If ratings are used, for example, to help in determining the capital adequacy of financial intermediaries, the underlying rationale would rest at least in part on thinking that such a use would help to prevent or alleviate financial crises. In that connection, it is worth recalling Braddock Hickman's concern that such a use conceivably might make a financial crisis worse than it otherwise might have been, or perhaps even cause a crisis when business contractions lead to ratings downgrades.

Partnoy's complaint that the use of agency ratings for regulatory purposes puts the agencies into the business of selling regulatory licenses also needs to be taken seriously. The U.S. Comptroller of the Currency in 1936 issued a regulation prohibiting banks from purchasing investment securities with characteristics that were “distinctly or predominantly speculative,” and then added that “the terms employed . . . may be found in recognized rating manuals, and where there is doubt as to the eligibility of a security for purchase, such eligibility must be supported by not less than two ratings manuals.” The latter phrasing referring to recognized raters was attacked as placing too much authority in the private rating agencies, and on that ground it was deleted from the regulation in 1938, although in a less formal way

it remained in effect with regulators.<sup>43</sup> The designation of “Nationally Recognized Statistical Ratings Organizations” some four decades later in the United States brought back what had been abandoned in 1938. Should representative governments be in the business of passing out such designations if the designees are thereby allowed to profit from selling regulatory licenses? Or, if ratings are to be incorporated in financial regulations, is it possible that regulatory authorities have a responsibility to come up with, and apply, their own ratings? If the answer is, “No,” then why not contract out other regulatory functions, such as bank examinations, to private contractors?

#### NOTES

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1. Larry Neal, *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason* (Cambridge: Cambridge University Press, 1990).
2. Ibid., and P.G.M. Dickson, *The Financial Revolution in England: A Study in the Development of Public Credit, 1688-1756* (London: Macmillan, 1967).
3. Richard Sylla, “U.S. Securities Markets and the Banking System, 1790-1840,” *Federal Reserve Bank of St. Louis Review* 80 (May/June 1998), 83-98; and “Emerging Markets in History: The United States, Japan, and Argentina,” in R. Sato, et al., eds., *Global Competition and Integration* (Boston: Kluwer Academic Publishers, 1999), 427-46.
4. Niall Ferguson, *The House of Rothschild: Money’s Prophets, 1798-1848* (York: Viking, 1998), 123.
5. Raymond W. Goldsmith, *Comparative National Balance Sheets: A Study of Twenty Countries, 1688-1978* (Chicago: University of Chicago Press, 1985) is the only source I am aware of that offers a tolerably consistent set of data allowing one to compare historical bond market developments across countries. His data appear to indicate that as early as 1850 the U.S. corporate bond market was as large or larger than that of countries such as Great Britain and France, and that by the eve of World War I, it was on the order of three times larger than those of the other two countries. The data, however, are rough, and such comparisons remain charged with ambiguities.
6. James D. Norris, R. G. Dun & Co., *1841-1900: The Development of Credit Reporting in the Nineteenth Century* (Westport, CT: Greenwood Press, 1978); Rowena Olegario, “Credit Reporting Agencies: What Can Developing Countries Learn from the U.S. Experience,” paper presented at the World Bank Summer Research Workshop on Market Institutions, July 17-19, 2000.
7. James H. Madison, “The Evolution of Commercial Credit Reporting Agencies in Nineteenth-Century America,” *Business History Review* 48 (Summer 1974), 164-86; Richard Cantor and Frank Packer, “The Credit Rating industry,” *Federal Reserve Bank of New York Quarterly Review* (Summer/Fall 1994), with a paper of the same authors and title in *The Journal of Fixed Income* (December 1995), 10-34.
8. . . . Moody’s officials say D&B and Moody’s do not exchange data or methodological advices.” Bank for International Settlements, Basel Committee on Banking Supervision Working Papers (No. 3, August 2000), *Credit Ratings and Complementary Sources of Credit Quality Information*, p. 73.
9. Alfred D. Chandler, *Henry Vanum Poor: Business Editor, Analyst and Reformer* (Cambridge: Harvard University Press, 1956) (Chandler, the noted business historian, is Poor’s great-grandson); Cantor and Packer, loc. cit.
10. The major NBER study was conducted in the 1940s and 1950s under the leadership of W. Braddock Hickman, with the comprehensive results contained in three volumes by him: *The Volume of Corporate Bond Financing since 1900* (1955), *Corporate Bond Quality and Investor Experience* (1958), and *Statistical Measures of Corporate Bond Financing since 1900* (1960). All three volumes were published by Princeton University Press for NBER. The smaller study, a follow-up to the Hickman study, is that of Thomas R. Atkinson, *Trends in Corporate Bond Quality* (New York: NBER, 1967, distributed by Columbia University Press). It extend the Hickman study, which analyzed the period 1900-1944, to the mid 1960s.

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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 United States 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 26 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 reo-

## 2. THE CREDIT RATING INDUSTRY: AN INDUSTRIAL ORGANIZATION ANALYSIS

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ulators, and securities regulators) and a regulatory limitation on supply surely are contributory factors. The BIS proposals, if adopted, will accentuate these trends for the United States 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 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, distortions, and stifled innovation. This is not a welcome prospect.

## I. INTRODUCTION

The June 1999 and January 2001 proposals by the Bank for International Settlements (BIS) Basel Committee on Banking Supervision<sup>1</sup> to include borrowers' credit ratings in assessments of the adequacy of banks' capital<sup>2</sup> 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 focusing primarily on bond rating firms.

The typical "industrial organization" study of an "industry" uses the structure-behavior-performance paradigm as its mode of analysis.<sup>3</sup> The industry's structure (e.g., numbers of buyers 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.<sup>4</sup> 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. It illuminates the special role that government regulation in the United States 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. 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. Section VI will address policy (regulatory) issues concerning credit rating firms in the United States. 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 United States, because information is more readily available for these firms.<sup>5</sup> 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.

## II. WHY CREDIT RATING FIRMS?

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., when they lend to borrowers in new or unfamiliar bond markets).

In sum, credit rating firms can help lenders pierce the fog of asymmetric information that surrounds lending relationships.<sup>6</sup> Equivalently, credit rating firms can help borrowers (and their credit qualities) emerge from that same fog. Further, for bonds—where hundreds or thousands of 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.<sup>8</sup>

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 *growing regulatory demand* for rating services in the United States 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, *regulatory restrictions on supply* 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.

### III. STRUCTURE

#### A. The United States

There are currently three major bond rating firms in the United States: Moody's, Standard & Poor's (S&P); and Fitch.<sup>9</sup> Moody's is currently a freestanding company that is highly specialized on rating activities.<sup>10</sup> 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.<sup>11</sup>

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.

The first ratings were issued by Moody's in 1909.<sup>15</sup> Poor's Publishing Company followed in 1916, the Standard Statistics Company began issuing ratings in 1922, and the Fitch Publishing Company began its ratings in 1924.<sup>16</sup> Since then the number of U.S. general-purpose rating firms in existence at any given time has fluctuated only narrowly between three and five.<sup>17</sup>

#### B. Outside the United States

As the data in Table 1 indicate, all three U.S. firms have substantial presences outside the United States, 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 United States that can be readily identified.<sup>18</sup> 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 United States are indicated in Table 2.

**Table 1. Some Characteristics of the Three Major Bond Rating Firms in the United States**

<i>Moody's:</i> <sup>12</sup>	<ul style="list-style-type: none"> <li>— Annual revenues: \$602 million (2000); 71% arises in the United States; 86% is derived from bond rating</li> <li>— Annual (after tax) net income: \$158 million (2000)</li> <li>— Assets: \$398 million (2000)</li> <li>— Employees: 1,500, including 700 analysts</li> <li>— Coverage: <ul style="list-style-type: none"> <li>— over \$30 trillion in debt issuances (ratings and analysis)</li> <li>— 143,000 corporate, government, public finance issuances</li> <li>— 15,000 structured transactions</li> <li>— 4,200 corporate relationships</li> <li>— more than 100 countries</li> <li>— offices in 14 countries</li> </ul> </li> </ul>
<i>Standard &amp; Poor's:</i> <sup>13</sup>	<ul style="list-style-type: none"> <li>— Coverage: <ul style="list-style-type: none"> <li>— well in excess of \$11 trillion in debt issuances</li> <li>— more than 38,000 corporate, sovereign, municipal, and financial institution issuers</li> <li>— more than 98,000 issuances</li> <li>— more than 86 countries</li> <li>— offices in 16 countries</li> </ul> </li> </ul>
<i>Fitch:</i> <sup>14</sup>	<ul style="list-style-type: none"> <li>— Annual revenues: \$260 million (2000)</li> <li>— Employees: 1,100</li> <li>— Coverage: <ul style="list-style-type: none"> <li>— 75 countries</li> <li>— offices in 16 countries</li> </ul> </li> </ul>

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 United States currently has only three general-purpose bond rating firms<sup>19</sup> 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 United Kingdom, despite its prominence as an international finance center, has no bond rating agency headquartered in that country.<sup>20</sup>

The fewness of the number of bond rating firms outside of the United States (and the United Kingdom) is probably best explained by the less well developed corporate bond markets in these countries (as compared with the United States) and hence a lesser need for specialized institutions to help pierce the asymmetric information fog in bond markets.<sup>21</sup>

But what about the United States? 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?

**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, Standard & Poor's, 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	

Source: BIS (2000); rating firms' websites.

First, it is easy to understand why the bond rating firms have chosen to remain separate ("independent") from the borrowers and lenders themselves.<sup>22</sup> 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,<sup>23</sup> 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.<sup>24</sup> 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 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.<sup>25</sup> 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 nervous 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.<sup>26</sup>

###### 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. 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<sup>27</sup> 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 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.<sup>28</sup> 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<sup>29</sup>) 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 remaining in the market.

Fourth, so long as the rating firms continue to commit to rate all corporate issues whether requested or not, the rating 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.<sup>30</sup>

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.

## 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,<sup>31</sup> 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.<sup>32</sup>

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.<sup>33</sup> 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.<sup>34</sup>

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.

**Table 3. Net Income (after tax) and Total Assets of Moody's, 1995–2000 (\$ millions)**

	Net Income	Total Assets	Net Income/Total Assets
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	274.8	56.6
2000	158.5	398.3	39.8
Average 1995–2000	—	—	42.1%

Source: Dun & Bradstreet (2000); Moody's (2001).

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.<sup>35</sup> 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 sufficiently strong so as to keep the moral hazard tendencies in check.<sup>36</sup>

### 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.<sup>37</sup> 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).<sup>38</sup> Recent evidence indicates that the ratings changes do provide significant new information to the financial markets.<sup>39</sup> 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 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.<sup>40</sup>

Further, the rating firms' accuracies are not perfect; there is variance around the average default rates embodied in each rating.<sup>41</sup> Large variances mean greater noise and inconsistencies in 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.<sup>42</sup>

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 United States 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.<sup>43</sup> We now turn to a more detailed discussion of regulation and how it affects the bond rating industry.

## 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 United States 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.<sup>44</sup> 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<sup>45</sup> or by specifying capital requirements for holding the securities that are geared to their ratings.<sup>46</sup> In addition, the SEC has

employed the same tools for safety regulation of broker-dealers and of money market mutual funds.<sup>47</sup>

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.<sup>48</sup> 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 designee 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.<sup>49</sup> 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 designating and monitoring NRSROs.<sup>50</sup> 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.

#### 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.<sup>51</sup>

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.<sup>52</sup> 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.<sup>53</sup> 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.

Without the rating requirements by financial regulators, the SEC would not have to certify NRSROs, and the rating firms’ fates—incumbent and entrant alike—would be left to the financial markets, where they belong.<sup>54</sup> 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.<sup>55</sup>

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 arti-

ficial 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. 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.<sup>56</sup> Another way of stating this proposition is that the SEC must judge the *outputs* 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.S. "national recognition" dooms their prospects for NRSRO designation. *In essence, the "national recognition" criterion creates a "Catch 22" barrier to entry.*<sup>57</sup>

The remaining four criteria (adequate resources; systematic procedures; adequate contacts;<sup>58</sup> 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.<sup>59</sup>

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.*

## VII. POLICY ISSUES (II): THE BIS PROPOSAL

### A. The International Context

The United States 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 United States) are the members of the Basel

Committee on Banking Supervision (BCBS),<sup>60</sup> ten use credit ratings as part of bank regulation,<sup>61</sup> of an additional six "interesting" countries,<sup>62</sup> five use ratings.<sup>63</sup>

Though these other countries' use of ratings is not as extensive as is found in the United States, their use nevertheless raises the same question of "whose ratings?" in these countries that we addressed in Section VI for the United States. 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.<sup>64</sup> The criteria reported are heavily weighted toward measuring inputs or the use of market recognition, similar to the criteria used by the United States. However, some of the countries have been more expansive in their recognition practices. For example, at the time of the survey, the United Kingdom and Australia each recognized ten credit rating firms (including firms headquartered in the United States, Canada, France, and Japan), and France and the Netherlands each recognized nine.<sup>65</sup>

### 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 United States 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,<sup>66</sup> the "standardised approach" raises the same central issues of certification of credit rating firms that currently bedevil the United States.

The BIS recognizes that the reliability of the credit rating firms—the BIS uses the phrase "external credit assessment institutions" (ECAs)—is crucial for the "standardised approach" to be effective and that bank regulators must certify the ECAs. The proposal specifies six criteria that an ECAI must satisfy:<sup>67</sup>

- (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);
- (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 ECAT’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?<sup>68</sup> 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?<sup>69</sup>

### C. Alternatives to the BIS “Standardised Approach” Proposal

As was true for the SEC’s proposed NRSRO regulations, there are superior alternatives to the BIS 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.<sup>70</sup> 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.<sup>71</sup> 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 to be part of banks’ capital requirements. Stress tests ought to be part of the auditor’s obligation.<sup>72</sup> The accounting profession ought to be able to look to the Financial 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 risk-

iness 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.<sup>73</sup> Fifth, subordinated debt ought to be part of banks’ required capital structure.<sup>74</sup>

### VIII. 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 in 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 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, distortions, and stifled innovation. This is not a welcome prospect.

### NOTES

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

4. Other studies of the industry can be found in Eddington and Yawitz (1987), Wilson (1987, ch. 9), Cantor and Packer (1995), Fridson (1999), Partnoy (1999), BIS (2000), and Schwartz (2002).

5. 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.

6. 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”.

7. 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.

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

9. 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.

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

11. 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.

12. Sources include Fridson (1999), Moody's (2001), and the Moody's website.

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

14. Source: Fitch Website.

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

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

17. This excludes the narrow and smaller firms noted above.

18. 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.

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

20. IBCA was originally headquartered in the United Kingdom.

21. 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 United States and they encouraged nationwide branching, the banks themselves could be effective information gatherers.

22. 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.

23. 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.

24. 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.

25. S&P had begun to charge fees to municipal bond issuers in 1968.

26. 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.

27. This information is from Fridson (1999).

28. 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.

29. See, for example, Pindyk and Rubinfeld (2001, ch. 12).

30. 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.

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

32. See, for example, Benson (1983), Fisher and McGowan (1983), and Fisher (1984).

33. The 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. It is clear that important assets for Moody's are its institutional knowledge and reputational capital, which are not capitalized on its balance sheet. Still, the same is true for many other financial services firms, most of which earn returns on assets that are far smaller than that of Moody's. Though some of Moody's important assets are embodied in the human capital of its employees—the assets that walk out the door every day at 5:00 pm—they presumably are being paid the market value of the returns on that capital, which counts as a cost on Moody's profit-and-loss statement.

34. 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).

35. See Cantor and Packer (1995).

36. 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).

37. See, for example, BIS (2000).

38. 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.

39. For a summary, see Jewell and Livingston (1999).

40. 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?

41. 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 *expected* (mean) default and loss rates that are predicted for a loan or an investment should be the basis for a bank's required *loan-loss reserves* (provisions) for an asset. It is the *unexpected* 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 *capital* 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.)

42. See Cantor and Packer (1995).

43. It has been claimed that, when informed of the death of former President Calvin Coolidge in 1933, Dorothy Parker responded, “How can they tell?” (Simpson 1988). In a similar vein, when confronted by any claim that the NRSROs have met a market test, this author is inclined to ask, “How can we tell?”

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).

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.

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.

51. For a brief discussion of a similar regulatory problem with “questionable ratings” in Argentina, see Calomiris and Powell (2000).

52. This has been proposed by Partnoy (1999).

53. Of course, as part of the risk assessment, the regulators would ask whether the regulated institution is getting paid adequately for the risks that it has assumed, whether its loan loss reserves are adequate for the expected (mean) risk of loss, and whether its capital is adequate for the absorption of unexpected losses.

54. There is a potential criticism of this outcome: Currently, the bond rating firms’ decisions as to which bonds 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) and White (1996a, 1996b).

55. 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).

56. 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.

57. 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).

58. 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 “Catch 22.”

59. 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.

60. The other members are Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Sweden, Switzerland, and the United Kingdom.

61. Germany does not.

62. Australia, Argentina, Chile, Hong Kong, Mexico, and New Zealand.

63. Mexico does not.

64. 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.

65. 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.

66. See BIS (1988).

67. See BIS (2001b).

68. 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. 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.

69. 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.

70. 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.

71. See White (1991a, 1991b, 1998) for further discussion.

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

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

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

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### 3. THE PARADOX OF CREDIT RATINGS

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#### I. INTRODUCTION

Credit ratings pose an interesting paradox. On one hand, credit ratings are enormously valuable and important. Rating agencies have great market influence and even greater market capitalization. Credit rating changes are major news;<sup>2</sup> rating agencies play a major role in every sector of the fixed income market. Credit ratings purport to provide investors with valuable information they need to make informed decisions about purchasing or selling bonds, and credit rating agencies seem to have impressive reputations. The market value of credit ratings was confirmed on September 30, 2000, when Moody's Corp. became a free-standing publicly-traded entity. The market capitalization of Moody's as of April 2002 was more than \$6 billion.

On the other hand, there is overwhelming evidence that credit ratings are of scant informational value. Particularly since the mid-1970s, the informational value of credit ratings has plummeted. There have been multiple unexpected defaults and sudden credit downgrades in recent years, involving major issuers such as Enron Orange County, Mercury Finance, Pacific Gas & Electric, and the governments and banks of several emerging markets countries. Numerous academic studies show that ratings changes lag the market and that the market anticipates ratings changes.<sup>3</sup> The rejoinder to these studies—that ratings are correlated with actual default experience—is misplaced and inadequate, because ratings can be *both* correlated with default *and* have little informational value. Accordingly, such correlation proves nothing. Indeed, it would be surprising to find that ratings—regardless of their infor-

mational value—were *not* correlated with default. Any rating agency with access to the financial press easily could create a track record of such correlation. This paradox—continuing prosperity of credit rating agencies in the face of declining informational value of ratings—has generated extensive debate among commentators. Consider the following colorful quotation from Thomas Friedman; several scholars have cited this quotation as evidence of the power of credit rating agencies:

“There are two superpowers in the world today in my opinion. There’s the United States and there’s Moody’s Bond Rating Service. The United States can destroy you by dropping bombs, and Moody’s can destroy you by downgrading your bonds. And believe me, it’s not clear sometimes who’s more powerful.”<sup>4</sup>

Friedman’s quotation is intriguing, not because it accurately describes the status quo, but because it is so patently absurd. How could Standard & Poor’s be so powerful? Why should Moody’s be worth more than \$6 billion? That, at its core, is the paradox.

My claim—some have dubbed it a “complaint”<sup>5</sup>—is that regulatory dependence on credit ratings explains the paradox.<sup>6</sup> Numerous legal rules and regulations depend substantively on credit ratings, and particularly on the credit ratings of a small number of Nationally Recognized Statistical Ratings Organizations (NRSROs). Moreover, the barriers to entering the NRSRO market are prohibitive. The result is that credit ratings issued by NRSROs are valuable to financial market participants even if their informational content is no greater than that of public information already reflected in the market.

These regulations explain how credit ratings can have great market value but little informational value. Put simply, credit ratings are important because regulations say they are. Credit ratings are valuable as keys to unlock the benefits (or avoid the costs) of various regulatory schemes. I use the term “regulatory licenses” to describe the valuable property rights granted to credit ratings by virtue of ratings-dependent regulation. Regulatory licenses based on NRSRO credit ratings have increased substantially since the mid-1970s, as regulators have relied more and more on credit ratings. To a lesser extent, such regulatory licenses existed as early as the 1930s.

If my claim is correct, ratings-dependent regulation is suboptimal and should be eliminated or, perhaps, replaced by credit spread-dependent regulation. Credit spreads are more accurate than credit ratings and reflect at minimum the information contained in credit ratings. This paper recommends that policymakers avoid creating additional regulatory licenses through new rules that depend substantively on credit ratings, and suggests credit spread-based regulation as an attractive alternative. In particular, this paper suggests that The New Basle Capital Accord, issued for comment on May 31, 2001, is flawed to the extent it incorporates risk weights that depend on credit ratings.

Part II briefly assesses the dominant reputation-based argument regarding credit rating agencies. Part III addresses historical evidence from the 1920s and 1930s

supporting the regulatory license explanation. Part IV explains more recent evidence that regulatory licenses have increased since the mid-1970s. During each of these periods, credit ratings increased in importance notwithstanding abysmal performance by the rating agencies in predicting defaults.

Part V examines the risk of litigation faced by rating agencies. Many scholars argue that rating agencies should not and do not engage in reputation-depleting activity because of the risk of civil liability. In fact, the available evidence indicates that rating agencies’ expected civil liability is very low; rating agencies have not paid substantial damage awards in such litigation and by federal statute are immune from certain types of liability. Part VI concludes and offers some recommendations.

## II. CREDIT RATINGS AND REPUTATION: THE DOMINANT VIEW

Many scholars dispute the regulatory license view of credit ratings, and instead assume the credit-rating industry is competitive and reputation-driven. This view seems to be the dominant one, and the following statements generally are representative:

“Indeed, the only reason that rating agencies are able to charge fees at all is because the public has enough confidence in the integrity of these ratings to find them of value in evaluating the riskiness of investments.”<sup>7</sup>

“Finally, credit rating agencies enhance the capital markets infrastructure by distilling a great deal of information into a single credit rating for a security. That rating reflects the informed judgment of the agency regarding the issuer’s ability to meet the terms of the obligation. Such information is frequently critical to potential investors and could not be acquired otherwise, except at substantial cost.”<sup>8</sup>

“In many markets, intermediaries play a certification role *without any regulatory intervention*. Standard and Poor’s (S&P) and Moody’s, for example, certify the credit risk of company debt.”<sup>9</sup>

“Information intermediaries, such as securities analysts or credit rating agencies, facilitate such conventions by decoding ambiguous signals.”<sup>10</sup>

“The very value of an agency’s ratings, like an accountant’s opinions, lies in their independent, reliable evaluation of a company’s financial data.”<sup>11</sup>

“If the ‘regulatory license’ view is correct, it would deprive the rating agencies of much of their value, at least in well-functioning markets.”<sup>12</sup>

Scholars have employed such reputation-based arguments for centuries.<sup>13</sup> Individuals acquire reputations over time based on their behavior; if an individual’s reputation improves, and other members of society begin to hold that individual in higher esteem, that individual acquires a stock of reputational capital, a reserve of good will, which other parties rely on in transacting with that individual. Reputational capital leads parties to include “trust” as a factor in their decision-making; trust enables parties to reduce the costs of reaching agreement.

Reputational capital and credit ratings are closely related. Rating agencies prosper based on their ability to acquire and retain reputational capital. Raters who invest

in their investigative and decision-making processes (and who therefore generate accurate and valuable ratings) acquire reputational capital; individuals and institutions look to a rater's accumulated reputational capital in deciding whether to rely on the rater or, instead, to undertake independent investigation. Absent other factors, the consumer of a product will purchase a rating if the expected benefit of the rating minus the actual cost of the rating is both positive and greater than the expected benefit of an independent investigation minus the actual cost of such an investigation.

It is undeniable that the success and function of credit rating agencies depends to some extent on trust and credibility. Each credit rating agency depends for its livelihood on its reputation for objectivity and accuracy. If ratings are perceived to be substantially inaccurate, rating agencies will suffer a loss of reputation and there will be incentives for new entrants (although there may be barriers to entry, as well, a topic addressed in Parts III and IV). It also is undeniable that rating agencies publicly express the view that their business depends greatly on reputation. For example, according to Standard & Poor's, "Credibility is fragile. S&P operates with no governmental mandate, subpoena powers, or any other official authority. It simply has a right, as part of the media, to express its opinions in the form of letter symbols."<sup>14</sup> The question remains whether the reputational story is the primary explanation of the credit rating industry, or whether another explanation dominates.

### III. EARLY CREDIT RATINGS PRACTICES AND 1930S REGULATORY LICENSES

One way to answer this question is to examine the credit rating industry during two critical periods of expansion of rating agency power and profit: the 1930s and the period since the mid-1970s. The available evidence indicates that reputational story of credit ratings likely was accurate during the early development of credit rating agencies. Throughout the 1920s, credit ratings were financed entirely from subscription fees, and rating agencies competed to acquire their respective reputations for independence, integrity, and reliability. In a market with low-cost barriers to entry, a rating agency issued inaccurate ratings at its peril. Every time an agency assigned a rating, that agency's name, integrity, and credibility were subject to inspection and critique by the entire investment community. Reputational considerations would have been especially acute in such an environment.

During the 1920s, the credit rating industry resembled a competitive market. Early rating agencies were small and only marginally profitable. By 1929, the agencies' scales were similar in kind. Each agency employed both ordinal (*e.g.*, A, B, C, D) and cardinal (*e.g.*, AAA, AA, A) ratings. Each agency used three subcategories for each broad rating category (*e.g.*, three levels of "As," three levels of "Bs"). It was possible to match each agency's rating symbols one-for-one with each of the other agency's symbols.<sup>15</sup>

Moreover, although the agencies did not agree on every rating, ratings were loosely correlated and there was a certain amount of rating "inflation" evident in each of the agency's scales. The vast majority of ratings were in the A category. Very

few bonds were rated C or lower. A representative sample chosen for one study was as follows:<sup>16</sup>

*Distribution of Issues by Ratings, July 15, 1929*

Rating	Fitch	Moody	Poor	Standard
A+	147	97	68	78
A	64	63	89	93
A-	80	99	110	104
B+	40	59	61	40
B	17	25	22	26
B-	4	2	7	16
C+	3			4
C				
C-				
D+				
Unrated	8	18	1	1

Following the Crash of 1929, numerous ratings were abruptly lowered following the rating agencies' failure to anticipate the rapid decline in the prices of hundreds of bond issues, and the increases in defaults. For example, in 1929, all four rating agencies gave the Chicago, Rock Island & Pacific 4.0% bonds of 1988 their highest rating. From 1929 to 1933, the rating agencies gave the issue their second-highest rating. By 1934, the issue was in default.<sup>17</sup>

Notwithstanding the large number of abrupt ratings changes (mostly downgrades) in the early 1930s and the considerable lag between the time market prices incorporated negative information about bond issues and the time credit ratings incorporated such information, credit ratings continued to be a respected and important institution in the bond market through the period. Indeed, rating agencies and credit ratings became much more important to both investors and issuers during this period. During the 1930s, demand for credit ratings increased, as investors became concerned about high bond default rates and credit risk.

Yet there is reason to doubt the agencies' ability to generate valuable informational during this period. Rating agencies claimed their information was from unique sources, but much of it obviously was from publicly available investment news. The rating agencies did not dramatically change their methodologies during this period. Most bond issues during the 1930s were not rated until after they were distributed, a sign that credit ratings were viewed as valuable only in the secondary market, not in the primary market for new issues (where the agencies' information arguably should have been of much greater value).<sup>18</sup>

During the 1920s, institutions had used credit ratings in various and limited ways. Banks used credit ratings merely as a check on their own findings. Insurance companies placed less weight on ratings, and relied more on their own analysts.

Industrial companies consultant ratings because of their “recognized publicity value.”<sup>19</sup>

By the 1930s, credit ratings were assuming a much more important role. The relative liquidity of highly-rated bonds increased. There was extensive anecdotal evidence that credit rating changes increasingly led to bond price changes, and the leading academic studies during this period confirmed this evidence.<sup>20</sup>

This increase in the importance of ratings during a time of poor rating agency performance is paradoxical. More puzzling still, the advances of credit rating agencies during the 1930s were short lived. By the 1940s, the agencies were contracting and the demand for credit rating was stagnant. The rating agencies were struggling when John Moody died in 1958.<sup>21</sup> By the 1960s, the rating agencies employed only half-a-dozen analysts each, and generated revenues primarily from the sale of published research reports.<sup>22</sup>

In addition, there is no substantial evidence that the informational value of credit ratings increased during the period from the 1920s through the 1960s. Studies of credit ratings from the later portion of this period confirm the findings of the 1930s studies: credit ratings generated little or no informational value and merely reflected information already incorporated into market prices.<sup>23</sup>

What, then, explains the ratings renaissance of the 1930s? My claim is that extensive regulatory licenses were created during this period (as regulators began incorporating credit ratings into substantive regulations), and that these licenses generated valuable property rights in credit ratings. These valuable regulatory licenses enabled rating agencies to flourish during the 1930s, notwithstanding the fact that the informational value of ratings had plummeted.

A close examination of the regulatory changes during the 1930s supports this regulatory license explanation. At the time, the Federal Reserve Board had virtually unlimited power to direct the character of member banks' bond holdings.<sup>24</sup> In 1930, the Federal Reserve began using bond ratings in their examination of the portfolios of member banks. Gustav Osterhus, of the Federal Reserve Bank of New York, devised a system for weighting a bank's entire portfolio based on credit ratings, so that the portfolio's “safety” or “desirability” could be expressed in a single number, referred to as a “desirability weighting.”<sup>25</sup>

In 1931, the United States Treasury Department, through the Comptroller of the Currency, adopted credit ratings as proper measures of the quality of the national banks' bond accounts. Specifically, the Comptroller ruled that bonds rated BBB (or an equivalent rating) or higher could be carried at cost, but bonds with lower ratings (including defaulted bonds) required fractional write-offs.<sup>26</sup> This ruling received wide attention at the time, including a front-page article in *The Wall Street Journal*.<sup>27</sup>

Other rules incorporating credit ratings soon followed. Many state banking superintendents adopted the Comptroller's plan during the following years.<sup>28</sup> State regulators began designating certain securities as “legal” investments for savings banks and trust funds. The result was that savings banks and trust funds were required to invest large sums in such qualified securities, known as “legals”; conversely, savings

banks and trust funds were unable to buy securities they otherwise would have purchased, including highly-rated securities, because those securities were not designated as “legal.”

Amendments to the federal Banking Act in 1935 provided that national banks could purchase only securities that fit the definition of “investment securities” as prescribed by the Comptroller of the Currency.<sup>29</sup> Similarly, Section 9 of the Federal Reserve Act provided that state member banks were subject to the same limitations. Then, on February 15, 1936, the Comptroller issued the following ruling:

“By virtue of the authority vested in the Comptroller of the Currency by . . . Paragraph Seventh of Section 5136 of the Revised Statutes, the following regulation is promulgated as to further limitations and restrictions on the purchase and sale of investment securities for the bank's own account, supplemental to the specific limitations and restrictions of the statute. . . . (3) The purchase of “investment securities” in which the investment characteristics are distinctly and predominantly speculative, or “investment securities” of a lower designated standard than those which are distinctly and predominantly speculative is prohibited. \*

\*The terms employed herein may be found in recognized rating manuals, and where there is doubt as to the eligibility of a security for purchase, such eligibility must be supported by not less than two rating manuals.”<sup>30</sup>

This ruling created the most valuable regulatory licenses to date, and was a shot in the arm for the rating agencies. Of the approximately 2,000 listed and publicly-traded bond issues, more than 1,000 failed the Comptroller's definition of “investment securities.”<sup>31</sup> In one day, the Comptroller had slashed in half the universe of publicly-traded bonds banks could purchase. Market participants objected that the ruling would create a false sense of security that banks could safely buy and hold a bond, based on its credit rating, even though such ratings were based solely on past performance and were not necessarily accurate predictors of future performance.

Prior to these regulatory changes, many institutions—especially banks—had purchased bonds rated lower than BBB. After 1936, these regulations essentially prohibited banks, pension funds, insurance companies and other institutions from holding low-rated bonds altogether.

Not surprisingly, these regulations markedly increased the value of obtaining a good credit rating, specifically a minimum BBB rating, and it is no coincidence that credit ratings became more important and valuable following these changes in regulation. Moreover, before the adoption of these regulations, rating agencies had not rated bonds until *after* they were issued. The new regulations created incentives for bond issuers to obtain a rating *before* the bonds were issued. Bond issuers were forced to look to the rating agencies as sources of authority concerning their bond issues, regardless of what information the rating agencies generated. Not surprisingly, ratings became much more common during the following years. Within a few years after the 1936 Comptroller's ruling, the leading commentator on credit ratings wrote, “It is unanimously asserted by the rating agencies that the use of bond ratings today is

greater than ever before and that the use of and reliance on the ratings is growing year by year.”<sup>32</sup>

It is unlikely that the increase in the importance of credit ratings during the 1930s was due primarily to new information the agencies were providing to investors. Instead, credit rating-dependent regulation created regulatory licenses, which generated profits for rating agencies notwithstanding their reputational constraints. The regulatory license view thus explains the paradox of credit ratings during this period. Rating agencies became more important and more profitable, not because they generated more valuable information, but because they began selling more valuable regulatory licenses.

#### IV. NRSROS AND EXPANDING REGULATORY LICENSES POST-1973

A similar story can be told about the period since 1973. When Penn Central defaulted in 1970 on \$82 million of commercial paper, investors began demanding more sophisticated levels of research, and the rating agencies—still relatively small and without substantial reputational capital, especially given their failure to anticipate this default—were not in a position to satisfy the demand.

Yet, sure enough, beginning in the mid-1970s, the credit rating industry began to become more influential and more profitable. The changes were dramatic. In 1980, there were 30 professionals working in the S&P Industrials group (even by 1986, there still were only 40); today, S&P and Moody’s employ thousands of professionals.<sup>33</sup> In 1975, only 600 new bond issues were rated, increasing the number of outstanding rated corporate bonds to 5,500; today, S&P Moody’s rate 20,000 public and private issuers in the United States, \$5 trillion of securities in aggregate.<sup>34</sup> Perhaps the most important change in the credit rating agencies’ approach since the mid-1970s has been their means of generating revenue. Today, issuers—not investors—pay fees to the rating agencies. Ninety-five percent of the agencies’ annual revenue is from issuer fees, typically 2 to 3 basis points of a bond’s face amount. Fees are higher for complex or structured deals.

What accounts for this recent growth in size and profitability? Is it possible that the increased value of ratings is due to increased informational value? The evidence indicates not. During this period, credit rating policy did not change substantially. Even rating scales are similar to those in use during the 1930s. Rating agency analysts track the credit quality of up to 35 companies each, and are paid significantly less than similarly-placed professionals on Wall Street. Both S&P and Moody’s have high levels of staff turnover, modest salary levels and limited upward mobility; moreover, investment banks poach the best rating agency employees.<sup>35</sup> These factors limit the ability of rating agencies to generate valuable information.

In addition, the process agencies use today to generate ratings does not obtain any obvious advantages over competing information providers and analysts. Credit rating agencies do not independently verify information supplied to them by issuers, and all rating agencies get the same data. Both Moody’s and S&P make rating determinations in secret. The agencies never describe their terms or analysis precisely or

say, for example, that a particular rating has a particular probability of default) and they stress that the ratings are qualitative and judgmental. This secretive, qualitative process is not the type of process one would expect if the agencies had survived based on their ability to accumulate reputational capital. On the other hand, such processes make it more likely that an agency would be able to survive in a non-competitive market; if the rating process had been public or quantitative (rather than qualitative), other market entrants easily could have duplicated the rating agencies’ technology and methodology.

Notwithstanding these limitations on rating agencies, the increase in the economic value of ratings has been substantial. Moody’s has operating margins of nearly 50 percent, more than triple those of other financial services firms, and Moody’s financial ratios are more than double those of other firms.<sup>36</sup> Moody’s market capitalization is more than 10 percent of Goldman Sachs’, even though Moody’s assets are only 0.1 percent of Goldman’s. Annual rating industry revenues in aggregate are in the range of a billion dollars.

These are big numbers not typically associated with a commodity business like information publication. It is incredible that all of this value stems from an increase in the informational content of ratings. Yet economically rational issuers will not pay more for a rating than the expected benefit of the rating. Therefore, the issuer must expect that the rating—and the informational content associated with the rating—will lower the issuer’s cost of capital by at least the cost of the rating. Put another way, issuers must expect that they are able to save at least two to three basis points on an issue by having an agency rate it. What is the value issuers are willing to pay for, if it is not information?

One answer is that credit ratings are valuable because of an increase in regulatory licenses. Just as an increase in regulatory licenses explains the growth of rating agencies during the 1930s, so might such an increase explain the more recent expansion and increased profitability of the modern credit rating agency.

Again, according to the regulatory license view) ratings are valuable, not because they are accurate and credible, but because they are the key to reducing costs associated with regulation. In theory, rating agencies have good reason to avoid conflicts of interest and to protect the accuracy of their ratings, because they need to preserve their reputations. However, once the ratings of a small number of credit rating agencies are enshrined by regulators who incorporate credit ratings into substantive regulation, the markets become less vigilant about the agencies’ reputations. Just as rating agencies will sell information until the marginal cost of acquiring and transferring information exceeds the marginal benefit from issuer fees, rating agencies will sell regulatory licenses until the marginal cost of acquiring and transferring regulatory licenses exceeds the marginal benefit from issuer fees.

From 1940 to 1973, there was little growth in regulatory licenses. Regulatory dependence on credit ratings did not change much; there was no major new credit rating-dependent regulation. During the same time, as noted above, credit ratings did not become significantly more important or valuable.

The increase in regulatory dependence on credit ratings began in 1973 when, following the credit crises of the early 1970s, the SEC adopted Rule 15c3-1,<sup>37</sup> the first securities rule formally incorporated credit ratings, and thereby approved the use of certain credit rating agencies as NRSROs.<sup>38</sup> Rule 15c3-1 set forth certain broker-dealer “haircut” requirements, and required a different haircut for securities based on credit ratings assigned by NRSROs. More importantly, as the initial source of the term NRSRO, Rule 15c3-1 effectively froze the then-approved credit rating agencies (e.g., S&P, Moody’s, Duff & Phelps, and Fitch) as acceptable for rating purposes, and severely limited the possibilities for new entrants. Since 1973, there have been credit-rating dependent rules and regulations promulgated under the Securities Act of 1933, the Securities Exchange Act of 1934, the Investment Company Act of 1940, and various banking, insurance, pension, and real estate regulations. NRSROs even have been cited in a few federal district court opinions.<sup>39</sup> A complete discussion of these rules and regulations is well beyond the scope of this paper.<sup>40</sup> Nevertheless, it is possible to get a picture of the growth of credit rating-based regulation over time by analyzing the increase in the number of published regulations and other related materials in each of several substantive areas. Interestingly, the United States Code—the body of federal statutes—contains relatively few references to NRSROs and credit ratings. The eight references to the term NRSRO in the United States Code are listed below.

*Recent United States Code Provisions Depending on NRSRO-Ratings*

- Title 12, Banks and Banking
  - § 24a—Requirements for national banks
  - § 1831e—Activities of savings associations
  - § 4519—Authority to provide for review of enterprises by rating organizations
- Title 15, Commerce and Trade
  - § 78c(41)—Definition of the term “mortgage related security”
  - § 78c(a)(41)—Mortgage-related security must be in one of top categories
- Title 20, Education
  - § 1132f-1—Student Loan Marketing Association minimum rating requirements
- Title 23, Highways
  - § 181(11)—Definitions applicable to federal aid requirements
- Title 47, Telecommunications
  - § 1103(d)(2)(D)(i)(II)—Requirements for approval of loan guarantees

These recent statutory provisions make it clear that credit ratings are valuable in particular areas. However, these eight laws cannot be the source of any dominating regulatory dependence on NRSRO ratings. To some extent these statutes simply establish a framework for a set of regulations promulgated pursuant the statutes. These regulations are found in the Code of Federal Regulations, where there are sixty recent provisions that rely explicitly on the NRSRO designation. These regulations primarily relate to the banking and securities industries. The breakdown of these regulations by Title is as follows:

	<i>Recent Code of Federal Regulations Depending on NRSRO-Ratings</i>
Title 12, Banks and Banking	36
Title 17, Commodity and Securities Exchanges	22
Title 34, Education	1
Title 49, Transportation	1

A representative sample of these regulations is set forth below:

- Securities Exchange Act Rule 15c3-1 (setting forth certain broker-dealer “haircut” requirements)
  - Securities Act Rule 134 (permitting issuers to disclose certain debt ratings in “tombstone” advertisements)
  - Investment Company Act of 1940, Rule 2a-7 (using NRSRO ratings to determine money market funds’ permissible investments; a rated security is an eligible investment if it has been rated in one of the two highest ratings for short-term debt by the required number of NRSROs)
  - Investment Company Act Rule 3a-7 (provision excluding certain structured financings from the Investment Company Act if they were rated in one of the two highest rating categories by at least one NRSRO)
  - Investment Company Act Rule 10f-3 (exemption permitting investment companies to purchase municipal bonds underwritten by an affiliate during the underwriting period if the bonds were rated investment grade by at least one NRSRO, or rated in one of the three highest ratings by at least one NRSRO if the municipality has been in existence for less than three years)
  - 12 C.F.R. § 704.2, 704 App. A (Federal Reserve Board regulations, Reg. T, relying on NRSRO status)
  - 12 C.F.R. § 910.6 (Federal Housing Finance Board permission to modify regulation if an NRSRO determines that change a bond’s provisions will not result in a ratings downgrade)
  - 24 C.F.R. § 266.100 (Housing and Urban Development Housing Finance Agency Requirements that potential Housing Finance Agencies be rated “top tier” by an NRSRO and maintain an overall “A” rating for their bonds)
- As with the statutes, these regulations are the source of multiple regulatory licenses. State legislation and regulation in certain areas—particularly in insurance—also depends substantively on NRSRO ratings. These statutes and regulation show a steady increase in the willingness of legislators and regulators to make written provisions *explicitly* depend on credit ratings, although they are not the sole source of regulatory licenses.
- The primary source of credit rating-dependent regulation is more indirect and implicit, and more difficult to quantify. This dependence stems primarily from the formal and informal reliance by particular regulatory agencies who—in their day-to-day business—issue letters, orders, releases, and rules that depend on NRSRO ratings.

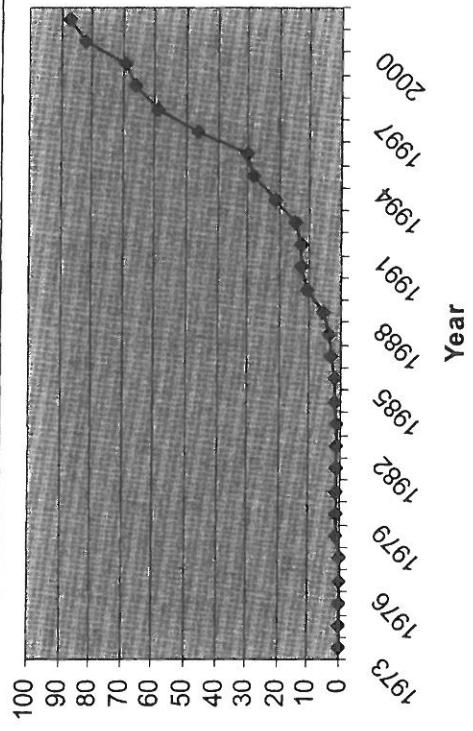


Figure 1. Federal Banking Agency References to NRSRO  
Source: Lexis searches of Federal Banking Agency Database.

The evidence of the increase in this type of ratings-based regulation is largely anecdotal. For example, NRSRO-based rules have been crucial in recent banking regulation reform.<sup>41</sup> One way to capture this anecdotal evidence more precisely is to calculate the annual references to particular ratings-based terms in databases compiling various agency decisions. These calculations (see Figure 1) show clearly there has been an enormous increase in NRSRO-based rules, regulations, and decisions since 1973.

The same evidence exists for securities regulation (see Figure 2). Each year, the Securities and Exchange Commission issues no-action letters and releases governing various aspects of the securities markets. These databases show similar growth in terms of references to credit-rating based rules, regulations, and decisions.

When this data is viewed on a year-by-year basis (see Figure 3), it also is apparent that the number of NRSRO references increases during periods of difficulty in financial markets, when regulation and regulatory decisions are likely to be more important or frequent. In particular, note the increase in references surrounding the market "crash" of 1987 and the decline in references during the relative calm of the early 1990s.

One final set of evidence regarding the importance of rating-dependent regulation relates to the growth in ratings-driven transactions. In a previous paper,<sup>42</sup> I discussed three recent financial market developments—ineaccuracies in credit spread estimation, increases in ratings-driven transactions, and the growth of credit derivatives—which are not consistent with the notion that credit rating agencies have survived based on their ability to accumulate and retain reputational capital. I mention them here simply as additional shortcomings to the view that rating agencies have prospered based on their reputation for quality. Each development high-

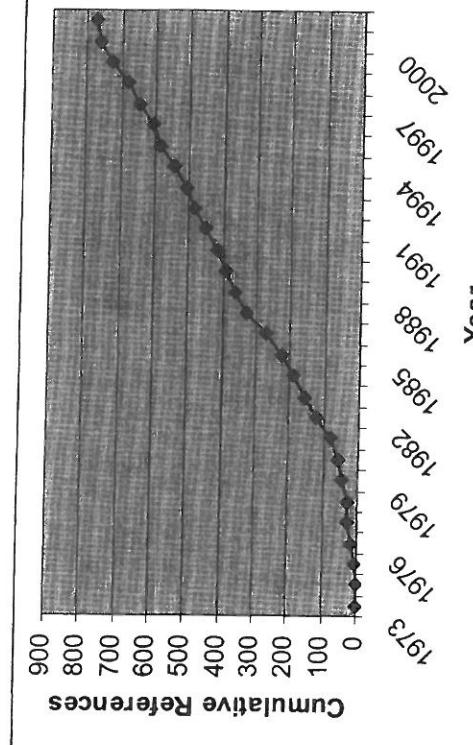


Figure 2. Securities References to NRSRO (Cumulative)  
Source: Lexis searches of Securities No-Action Letters and Releases Database.

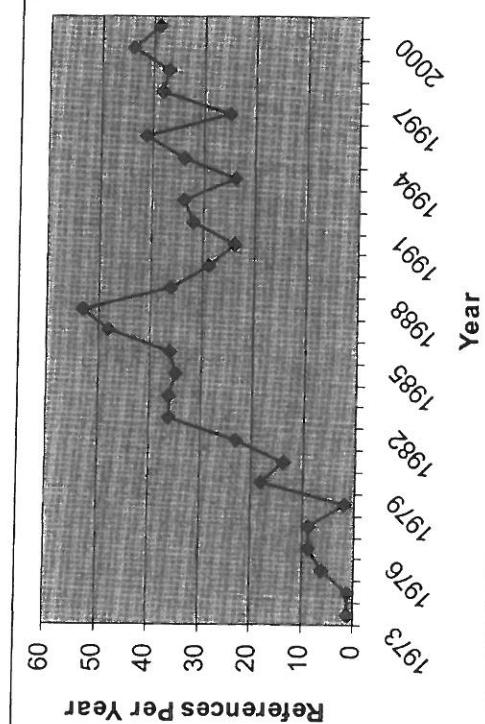


Figure 3. Securities References to NRSRO  
Source: Lexis searches of Securities No-Action Letters and Releases Database.

lights serious flaws in the rating process, and raises questions about the informational content of ratings. Inaccuracies in credit spread estimation show that credit ratings do not accurately capture credit risk over time. Increases in ratings-driven transactions show that market participants are engaging in transactions to obtain more favorable ratings based on factors other than improved credit quality. The growth of credit derivatives shows how financial market innovation has generated regulatory arbitrage opportunities which both undercut and exploit credit ratings.

These market developments make sense only if the regulatory license view carries some weight.

In sum, the evidence demonstrates that the regulatory dependence on credit ratings has increased since 1973. By employing ratings as a tool of regulation, regulators have fundamentally changed the nature of the product rating agencies sell, as issuers pay rating fees to purchase, not only credibility with the investor community, but also a license from regulators. The web of regulation added from 1973 until today has given the rating agencies a valuable and powerful franchise in selling regulatory licenses. Those lucky few rating agencies now have a product to sell regardless of whether they maintain credibility with the investor community.

#### V. RATING AGENCIES AND LITIGATION

Some scholars have argued that even if the regulatory license view is correct, rating agencies nevertheless are constrained by potential civil liability. As the argument goes, even if rating agencies are benefiting from rating-dependent regulation, they still must factor in the expect costs of litigation, including both the cost of defending lawsuits and any damage awards or settlements. Rating agencies will not undertake activities with substantial expected litigation costs (unless, presumably, these activities also generated substantial benefits). The assumption throughout this argument is that the rating agencies face a substantial risk of civil liability. For example, Professors Smith & Walter cite “the extremely litigious environment in the United States and the ability to bring civil actions in U.S. courts in the event of problems incurred elsewhere in the world.”<sup>43</sup>

These assumptions are incorrect. Perhaps most importantly, credit rating agencies are *immune from liability* for misstatements in a registration statement under Section 11 of the Securities Act of 1933. Securities Act Rule 436 explicitly provides that NRSRO are exempt from liability as an expert under Section 11.<sup>44</sup> Simply put, rating agencies are protected by law from the risks of “gatekeeper” liability faced by other financial intermediaries.

Moreover, courts have not indicated a willingness to impose liability on rating agencies for other alleged federal and state violations. Although court decisions from the early 1920s were consistent in the view that rating agencies had been able to accumulate and retain reputational capital rating agencies, there is no evidence that rating agencies face substantial litigation risk in the United States. Early cases relied on ratings as evidence of the propriety of bond purchases in assessing whether fiduciaries had satisfied their duties, but did not impose liability on rating agencies. For example, an 1897 court in *In re Bartol*, addressing a challenge of a trustee’s purchase of an electric railway bond, referred to *Poor’s Manual* of 1890 in holding that “[i]t must be conceded under the evidence, that the trustees used all the care that a person of ordinary care and prudence would use in determining upon an investment of his personal funds.”<sup>45</sup> Likewise, in *In re Detre’s Estate*, a 1922 court relied on a Moody’s rating in finding that a trust properly purchased certain

bonds: “[In Moody’s *Manual* for 1914, these . . . bonds are rated: Security, very high; Solability, good; net rating, A.”<sup>46</sup> And in *In re Winburn’s Will*, a 1931 court relied on the ratings given by Moody’s, holding that “[t]here is a distinction between seasoned securities of this character here involved and investments in speculative securities.”<sup>47</sup>

Recent cases are no different. The mere fact that rating agencies have been sued (on grounds other than Section 11, including state common law claims) is not evidence that the rating agencies’ expected litigation costs are high. Of course, it is true that rating agencies have been sued following a number of defaults. These suits have included class action litigation related to the Washington Public Power Supply System default in 1983, claims related to the Executive Life bankruptcy in 1991, a suit by the Jefferson County, Colorado, School District against Moody’s in 1995, and claims by Orange County, California, based on professional negligence, against S&P in 1996.<sup>48</sup>

The only common element to these cases is that the rating agencies win. The suits typically are dismissed or settled on favorable terms to the rating agencies. For example, Orange County’s \$2 billion suit against S&P netted a paltry settlement of \$140,000, roughly 0.007% of the claimed damages.<sup>49</sup> The record of plaintiffs bringing cases against rating agencies has been abysmal because the rating agencies have defended successfully with two arguments: (1) credit ratings are speech, which is privileged in the United States, and (2) credit ratings are extensively disclaimed and are not a recommendation to buy, sell, or hold securities. Judges seem willing to accept these arguments. Accordingly, the fact that rating agencies are sued is not evidence that they face substantial litigation risk, especially in the United States, where financial intermediaries are sued frequently as a matter of course. The rating agencies have not been alone as defendants, and their co-defendants have fared much worse; investment banking defendants settled Orange County’s litigation for hundreds of millions of dollars in aggregate.

Antitrust lawsuits against rating agencies have fared no better. The Department of Justice investigated Moody’s for unfair competition, based on Moody’s practice of issuing unsolicited or “hostile” ratings, regardless of whether the borrower has requested that it be rated, but ultimately decided, not to prosecute those claims.<sup>50</sup> Civil antitrust claims—such as those brought by the Jefferson County School District in 1995 and Information Resources, Inc. in 1996—have suffered similar fates. That is not to say that all judges are impressed with the rating agencies’ expertise. In one prominent federal appellate decision in 1999, Judge Diane Wood dismissed a claim against McGraw-Hill (S&P’s parent) by an investor, Maurice Quinn, who had purchased \$1.29 million of A-rated collateralized mortgage obligations, which were downgraded to CCC and defaulted soon thereafter.<sup>51</sup> The investor sued for negligent misrepresentation and breach of contract. Judge Wood (in an opinion joined by judges Richard Posner and Harlington Wood, Jr.) upheld the dismissal of the claim, on the ground that it was unreasonable for the investor to rely on an S&P credit rating. The closing words of her opinion are worth citing in their entirety, if only for the disdain they show S&P:

"While it is unfortunate that Quinn lost money, and we take him at his word that he would not have bought the bonds without the S&P 'A' rating, any reliance he may have placed on that rating to reassure himself about the underlying soundness of the bonds was not reasonable."<sup>52</sup>

The irony is clear: at the same time virtually every financial regulator in the United States is relying substantively on credit ratings, a few smart judges in Chicago are saying such reliance by an investor is unreasonable.

## VI. PROPOSALS AND CONCLUSION

One implication of regulatory license view is the following simple proposal: eliminate the regulatory dependence on credit ratings. The primary objection to eliminating regulatory dependence on credit ratings is the perceived need for substantive financial market regulation. Without a substitute for credit ratings in particular regulation, creating a free market in ratings would require eliminating vast swaths of the regulatory regime as it relates to financial services companies.

Some commentators might support such deregulation. For those who do not, credit ratings must be replaced with some alternative basis for substantive regulation. Here it is: in place of credit ratings, simply use credit spreads. Credit spreads already incorporate the information contained in credit ratings. They are at least as accurate as credit ratings. And because credit spreads are determined by the market as a whole, not by any individual entity or entities, a credit spread-based system would not create regulatory licenses for any approved agency.

Credit spreads can be measured in an objective way at the time of purchase and periodically thereafter. Financial market participants generally agree on the methodology used to calculate credit spreads. Any differences in methodology could be resolved by a requirement that bondholders obtain a valuation from more than party, or that the valuation be reasonable. Average or median spread could be calculated over time, to avoid immediate forced sales due to temporary price movements.

Credit spreads can be measured at the time of purchase, although such measurement would less reliable than in the secondary market. Regulators and investors considering the regulation of bond purchases could take into account pre-issuance estimates of credit spreads (*i.e.*, "price talk"), much in the same way investors now rely on pre-issuance estimates of credit ratings, which are not issued until the bonds are issued (when credit spreads first are available at the same time).

One obvious application of this proposal is the risk weights from The New Basel Capital Accord, Jan. 2001, which are set forth below in Table 1.

Commentators have addressed numerous criticisms of The New Basel Capital Accord, and this paper does not take a position as to those criticisms. Rather, the point here is that to the extent the Basel Committee decides to employ categorical risk weights, it would be better if those weights depended on credit spreads than on credit ratings. Such a change to the proposed Accord would be a straightforward exercise. Table 2 (below) is suggestive:

**Table 1.** Proposed Basle Risk Weights for Various Obligors and Credit Ratings

	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-
Sovereigns	0%	20%	50%	100%	150%
Banks	20%	50%	100%	100%	150%
Banks (short-term)	20%	20%	20%	50%	150%
Corporates	20%	50%	100%	100%	150%

**Table 2.** Alternative to Proposed Basle Risk Weights for Various Obligors and Credit Spreads

	T-minus to T + 75 bp	T + 75 bp to T + 150 bp	T + 150 bp to T + 250 bp	T + 250 bp to T + 500 bp	>T + 500 bp
Sovereigns	0%	20%	50%	100%	150%
Banks	20%	50%	100%	100%	150%
Banks (short-term)	20%	20%	20%	50%	150%
Corporates	20%	50%	100%	100%	150%

These credit spread categories are for illustrative purposes only, and this paper is agnostic as to the level of credit spreads in each category. As noted above, if there are concerns about the volatility of credit spreads (compared to credit ratings), regulators could use an average or median spread over time. If there are concerns about liquidity and the ability to determine credit spreads in illiquid markets, regulators could include provisions for multiple valuations, with an obligation for regulated entities providing values to provide a "fair valuation." The credit spread approach is straightforward and easy to implement. At minimum, regulators should experiment with incorporating credit spreads in some portion of NRSRO-based regulation.

Manuel Conthe of the World Bank began the March 2001 conference on credit ratings with a reference to J.P. Morgan's aphorism that it is not money, but rather character, that leads to success in the financial markets. This paper has attempted to demonstrate that the view of credit rating agencies prospering based on their good character—a reputation for generating credible and accurate information—is not supported by history or economic analysis. Instead, the rating agencies have thrived, profited, and become exceedingly powerful by selling regulatory licenses, the right to be in compliance with various rules and regulations. With respect to credit ratings at least, it seems that it is money rather than character that has led to success.

## NOTES

1. Professor, University of San Diego School of Law. I am grateful for comments from participants in a conference on The Role of Credit Reporting Systems in the International Economy, sponsored by the University of Maryland Center for International Economics, the New York University Stern School of Business, and the World Bank, and held at the World Bank in Washington, D.C., on March 1–2, 2001, and particularly to Professors Richard Levich and Lawrence White, and to the University of San Diego School of Law for financial support.

2. Professor Kenneth Lehn has argued credit ratings *must* have substantial informational content because of the hundreds of stories that appear in the financial press about bond rating changes issued by the major rating agencies. *See* Kenneth Lehn, *Letter to Jonathan G. Katz, Secretary, SEC*, Dec. 5, 1994, at 4 (available at SEC office headquarters, file no. S7-23-94; copy on file with author). This argument ignores the fact that credit ratings can have value other than informational value.
3. *See, e.g.*, Galen Hite & Arthur Warga, *The Effect of Bond Rating Changes on Bond Price Performance*, FINANCIAL ANALYSTS JOURNAL, May/June 1997, at 35-47.
4. *Interview with Thomas L. Friedman*, THE NEWS HOUR WITH JIM LEHRER (PBS television broadcast, Feb. 13, 1996).
5. *See* Richard Sylla, *A Historical Primer on the Business of Credit Ratings*, 2001 working paper, at 25-26.
6. A few commentators have proffered alternative explanations, which are not necessarily inconsistent with my argument that regulatory dependence substantially explains the paradox. In the 1970s, L. Macdonald Wakeman explained the paradox based on the rating agencies' ability to attest to the quality of an issue and monitor a bond's risk so that management did not engage in behavior to benefit shareholders at the bondholders' expense. (Martin Fridson recently has reiterated this view. See Martin S. Fridson, *Why Do Bond Rating Agencies Exist?*, Merrill Lynch Extra Credit, Nov./Dec. 1999.) However, this agency cost rationale does not explain why bondholders could not write covenants to protect themselves, or why investors or other groups could not also provide such a monitoring function, or why—if the agencies' true purpose was monitoring management to protect bondholders—this purpose was not highlighted by the agencies or by investors or even by management as an important or relevant role.
7. Jonathan R. Macey, *Wall Street Versus Main Street: How Ignorance, Hyperbole, and Fear Lead to Regulation*, 65 U. CHI. L. REV. 1487 (1998).
8. Susan M. Phillips & Alan N. Rechtschaffen, *International Banking Activities: The Role of the Federal Reserve Bank in Domestic Capital Markets*, 21 FORDHAM INT'L L.J. 1754, 1762-63 (1998).
9. Stephen Choi, *Marker Lessons for Gatekeepers*, 92 NW. U.L. REV. 916, 934 (1998) (emphasis added).
10. George G. Triantaf & Ronald J. Daniels, *The Role of Debt in Interactive Corporate Governance*, 83 CALIF. L. REV. 1073, 1110 (1995).
11. Gregory Husman, *What Standard of Care Should Govern the World's Shortest Editorials?: Analysis of Bond Rating Agency Liability*, 75 CORNELL L. REV. 411, 426 (1990).
12. Roy C. Smith & Ingo Walter, *Rating Agencies: Is There An Agency Issue?*, 2001 working paper, at 33.
13. *See, e.g.*, Adam Smith, *Lectures on Justice, Police, Revenue, and Arms*, EDWIN CANNAN, ED., 253-54 (Augustus M. Kelley, New York 1964).
14. *See* Standard & Poor's DEBT RATING CRITERIA: INDUSTRIAL OVERVIEW 3 (1986).
15. The single exception to this one-for-one matching was Moody's which did not use the D category of ratings at the time.
16. *See* GILBERT HAROLD, *BOND RATINGS AS AN INVESTMENT GUIDE: AN APPRAISAL OF THEIR EFFECTIVENESS* 90 (1938).
17. HAROLD, *BOND RATINGS AS AN INVESTMENT GUIDE*, at 46.
18. HAROLD, *BOND RATINGS AS AN INVESTMENT GUIDE*, at 21.
19. HAROLD, *BOND RATINGS AS AN INVESTMENT GUIDE*, at 22.
20. *See* Gustav Osterhus, *Flaw-Tester for Bond Lists*, 29 AM. BANKERS ASSOC. J., Aug. 1931, at 67; *see also* Gilbert Harold, *Accuracy in Reading the Investment Spectrum*, 27 AM. BANKERS ASSOC. J., July 1934, at 32.
21. *See* Richard House, *Ratings Trouble*, INSTITUTIONAL INV., Oct. 1999, at 245.
22. *Id.*
23. *See* George E. Pinches & J. Clay Singleton, *The Adjustment of Stock Prices to Bond Rating Changes*, 33 J. FIN. 29, 38 (1978). There were numerous studies of the effects of credit rating changes on market prices in the *Journal of Finance* during this period, in part because the performance of the rating agencies had been so abysmal. *See, e.g.*, Frank K. Reilly & Michael D. Joehnk, *The Current Status of Rating Agencies and Proposals for Limited Oversight of Such Agencies*, 30

*Association Between Market-Dominated Risk Measures for Bonds and Bond Ratings*, 31 J. FIN. 1387 (1976); George E. Pinches & Kent A. Mingo, *A Multivariate Analysis of Industrial Bond Ratings*, 28 J. FIN. 1 (1973).

24. *See Conditions of Membership in the Federal Reserve System*, at 1 (mimeographed bulletin, Federal Reserve Board, Washington, 1933); *Membership of State Banks and Trust Companies*, *Regulation H*, at 5 (Federal Reserve Board, Washington, 1930).

25. *See* Gustav Osterhus, *Flaw-Tester Bond Lists*, 29 AM. BANKERS ASSOC. J., Aug. 1931, at 68ff.

26. Mimeographed ruling issued by J.W. Pole, then Comptroller of the Currency, not dated, although other references indicated that the ruling was made on September 11, 1931, see 133 THE COMMERCIAL AND FINANCIAL CHRONICLE 1672 (Sept. 12, 1931).

27. *See* WALL ST. J., Sept. 12, 1931, at 1, 5.

28. *See* HAROLD, *BOND RATINGS AS AN INVESTMENT GUIDE*, at 27-28 (citing adoptions of Montana, Mississippi, Alabama, Oregon, Ohio, and New York).

29. Paragraph 7 of Section 5136 of the Revised Statutes of the U.S., as amended by Section 308 of the Banking Act of 1935.

30. Regulations governing the Purchase of Investment Securities, and Further Defining the Term "Investment Securities" as Used in Section 5136 of the Revised Statutes as Amended by the "Banking Act of 1935," Sec. II, issued by the United States Comptroller of the Currency, Washington, February 15, 1936.

31. HAROLD, *BOND RATINGS AS AN INVESTMENT GUIDE*, at 31.

32. HAROLD, *BOND RATINGS AS AN INVESTMENT GUIDE*, at 35; *see also id.* at v.

33. *See* S&P DEBT RATINGS CRITERIA, at v.

34. *See* Pinches & Singleton, at 31.

35. House, *Ratings Trouble*, at 245.

36. Moody's Corp. 10Q Statements.

37. 17 C.F.R. § 240.15c-3-1.

38. *See Notice of Revision Proposed Amendments to Rule 15c-1 under the Securities Exchange Act of 1934*, Release No. 34-10,525, 1973 SEC LEXIS 2309 (Nov. 29, 1973) ("The Commission to a limited extent has also recognized the usefulness of the nationally recognized statistical rating organizations as a basis for establishing a dividing line for securities with a greater or lesser degree of market volatility"). The term "NRSRO" is mentioned in Rule 15c-1, but is not defined in any other regulation; other regulations simply refer to Rule 15c-1. *See, e.g.*, 17 C.F.R. 270.2a-7 (Rule 2a-7, defining the term "as that term is used in Rule 15c-1").

39. As of June 2001, the terra NRSRO had been cited in only three federal cases, and in only tangential ways. *See* UBS Asset Mgmt. v. Wood Gundy Corp., 914 F. Supp. 66 (1996) (using term in reference to allegation of misrepresentation in sale of securities); Heiko v. EDIC, 1995 U.S. Dist. LEXIS 3407 (Mar. 15, 1995) (using term in definition of "mortgage-related security"); SEC v. Drexel Burnham Lambert Inc., 1989 U.S. Dist. LEXIS 10383 (1989) (using term to define "below investment grade fixed income security" in constructing remedy).

40. For a more complete treatment, see Frank Partnoy, *The Siskel and Ebert of Financial Markets: Two Thumbs Down for the Credit Rating Agencies*, 77 WASH. U.L.Q. 619 (1999).

41. *See* Federal Reserve Regulation H. (Mar. 14, 2000) (interim rule establishing NRSRO-based criteria for financial subsidiaries of banks).

42. *See* Frank Partnoy, Siskel & Ebert, at \*\*.

43. Smith & Walter, at 35.

44. *See also* Item 10(c) of Regulation S-K.

45. 182 Pa. 407, 38 A. 527 (1897).

46. 273 Pa. 341, 117 A. 54 (1922).

47. 249 N.Y. Supp. 758, 762 (1931).

48. *See* Cantor & Packer, *The Credit Rating Industry*, at 4; Francis A. Bottini, Jr. *An Examination of the Current Status of Rating Agencies and Proposals for Limited Oversight of Such Agencies*, 30

SANDIBGOL, REV. 579, 584–95 (1993); County of Orangev. McGraw-Hill Cos., No. SA 94-22272 JR (June 11, 1996).

49. See Partiloy, *Siskel and Ebert*, at 690–703.

50. See, e.g., Suzanne Woolley, et al., *Now It's Moody's Turn for a Review*, *BUS. WEEK*, April 8, 1996, at 116.

51. See Quiumi v. McGraw-Hill, 168 F.3d 331 (7<sup>th</sup> Cir. 1999).

52. *Id.* at 336.

## DISCUSSION

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Professor Sylla's paper (Chapter 1, "A Historical Primer on the Business of Credit Rating") is an excellent overview of the causes of the rise of the rating agencies. He ties it to the investment banks' loss of credibility as certifiers of bond quality, and the proliferation in the number of issues. Of course, I am pleased that he has given some exposure to my own thesis about ratings as a cost-effective monitoring process. That, I can tell you, is the result many years of thinking about the problem of the role of the rating agencies and the economic basis for them.

Professor Sylla could of course go into much more detailed discussion of the history of the rating agencies. That would be out of the scope of this paper, but one event of interest to the audience is the entry of Duff & Phelps into the rating agency business in the mid-1970s. While it may be true that there should be fewer constraints on the market for ratings, the Duff & Phelps entry is a good example of effective market response in the wake of some very prominent bankruptcies, like the Penn Central Transportation Company and W.T. Grant.

There was a perception in the market that the established rating agencies, having operated for a long time in a comparatively stable rating environment, had gotten a little set in their ways. Moody's and S&P themselves eventually responded to the changed circumstances, but in the meantime an organization that had been in a related business saw an opportunity to begin providing credit rating information on a more finely tuned scale. Some of the changes that came about at the other agencies were at least accelerated by Duff & Phelps's entrepreneurial response to that opportunity.

As far as the role of the investment banks as certifiers, there is some discussion in the paper about the investment banks being surprised that their certification was not viewed as adequate. The investment banks were puzzled when investors demanded that there be more opinion and more information. Why, they wondered, was this necessary? What was unsatisfactory about the job that they were doing? This touches on the issue of reputational capital, which is given a great deal of credence in the academic literature, and in my view, too much. There was actually a paper a few years ago that demonstrated that the Treasury bond scandal that almost brought down Salomon Brothers a few years ago never happened. It could not have happened, because the company wouldn't have sacrificed its reputational capital to get involved in something so sordid. The only flaw in this thesis was that the Treasury bond scandal did happen.

The idea of reputational capital, that the investment banks wouldn't put their name on a deal that didn't have merits, is perfectly plausible if the market is not an oligopoly. The fact is, investment banking has a limited field of competitors. Firms are forever getting put in the penalty box, as the phrase goes. The institutional investors say, "You picked us off on this trade, or we're unhappy with that deal, so we're going to slap you on the wrist by not doing any business with you for the next month or the next six months." Of course, there are only about a half dozen bulge bracket firms to deal with, so when one firm gets out of the penalty box, someone else goes in. This rotating process makes the institutions feel a little better about being victimized, but it doesn't really accomplish anything.

So when you think about reputational capital, look at the Trust Indenture Act of 1940. You will notice it says that a unanimous vote of the bondholders is required to repeal or alter the core provisions of the indenture. You might ask why is that provision there? Well, one of the gimmicks used by the investment banks, which was discussed in the investigations following the stock market crash in 1929, is that they would buy up 51 percent of a bond and then vote to eliminate the coupon on the bond. They would then split the profits from the interest cost savings with the issuer. This wasn't exactly acting as a certifier and protecting the interest of the bondholders. It's not a surprise that the investment banks lost their credibility and that there was a need for another party, because there were some very clear conflicts of interest. These could be resolved only with some third parties being in the picture.

Turning to the Hickman (1958) study of corporate bond rating performance, I refer to it as the so-called Hickman study. It was published by the National Bureau of Economic Research (NBER). W. Braddock Hickman, to give him his due, was an important figure who later became the President of the Federal Reserve Bank of Cleveland. He was actually the successor to a fellow by the name of Harold Fraine who began this study and then had to step aside because he took a job with the American Council of Life Insurance after the end of World War II.

Hickman, in short, picked up the project at a comparatively late stage, but got the credit for it. I wrote an article on Fraine that appeared in the *Financial Analysts Journal* in 1994. I hope it did something to revive his reputation, because he was a

very important figure in the development of credit research. Fraine came to different conclusions than Hickman about the question of the net zero losses that Professor Sylla referred to. The conclusion of the NBER study would have been quite different if Fraine had personally overseen it to completion.

One of the results of the so-called Hickman study, allegedly, was that a graduate student by the name of Michael Milken stumbled across the findings and discovered that the lower-rated bonds had produced higher net returns than the higher-rated bonds. Supposedly, Milken had the brainstorm of creating a market for lower-rated securities. Milken himself doesn't state that this was the way that it happened. But that's the legend that has grown up about it.

Drexel Burnham somewhat overstated the conclusions that Hickman came to, using the study to say, "Here is our certification. This is the academic research that supports what we're doing." I believe Hickman really had very little to do with the origins of today's high yield bond market. There was a high yield bond business at Drexel Firestone before Milken arrived in 1970.

Harold Fraine had studied the performance of lower-rated bonds as early as an article he published in 1937. Arthur Stone Dewing at the Harvard Business School published an analysis of the superiority or non-superiority of high yield bonds in 1926. So there is quite a bit of a history well before Milken allegedly stumbled upon Hickman's research and experienced his great enlightenment. On the whole, the main use made of the academic research by the Drexel forces consisted of overstating the conclusions of Hickman and of a later study done by Marshall Blume, Donald Keim and Sandeep Patel (1991) at the Wharton School.

One other point worth commenting on in Professor Sylla's paper is Thomas Friedman's statement about Moody's tremendous power to destroy a company. He suggests that almost worse than dropping bombs on a country is to downgrade its ratings. This is really a case of shooting the messenger. It is very much like the criticism of the rating agencies back in the mid-1970s, at the time of the New York City fiscal crisis. Critics alleged that the rating agencies were destroying New York by downgrading its ratings, knocking the city out of the credit markets, and causing a collapse.

In reality, New York was bankrupt. The city's fiscal policies had been wildly irresponsible. If there was a valid criticism, it was that the agencies were not harsh enough in their judgment. Yet there were talks of Congressional investigations. The politicians were saying, in effect, "How dare they go out and publish independent opinions?" It was a brazen attempt to eliminate any sort of market force from the process and put the government in control of certifying its own credit quality. I think that would have been disastrous. In light of this history, we need to be a bit cautious about statements like Friedman's.

Finally, there is a throw-away line in the paper, at the very end, about contracting out bank examinations to private contractors. I don't think this is a frivolous idea at all. It should be explored seriously. In my opinion, it's ridiculous that someone like myself, making a reasonable income and working in the area of credit analysis, is not required to take any responsibility whatsoever for the safety of his

savings: My main criterion for picking a bank is who has the branch closest to my workplace. If I have to walk more than a block, I consider it an imposition. But this behavior is rational, based on my experience. I have made deposits at banks that went under, and the next day they opened up under a different name. They didn't miss a beat.

The idea of having some sort of a deductible, as you would in any other insurance policy, certainly ought to be explored. Such a plan would create an entrepreneurial opportunity for credit rating companies. And it would be a market-based solution, much less vulnerable than the present regulatory system to interference by the political process.

Politically motivated intervention was very clearly a big part of the problem in the S&L crisis. Potential warnings were prevented from coming to light by friendly Congressmen who, by the way, were receiving large campaign contributions from the very thriffs that were creating the problem. There is anecdotal evidence of the banking regulators being waved off by members of Congress, who then later complained, "Why weren't we warned? Why weren't we informed about the \$150 billion problem in the thrift industry?" These professions of ignorance were preposterous.

In short, if there were some sort of deductible and a larger market element to depositor insurance, it would be a very, very healthy thing. This issue is peripheral to Professor Sylla's paper. Still, it casts light on a lot of the issues that have been raised at this session about the comparative usefulness of market forces and government intervention in providing effective control of credit risk.

#### NOTE

Presented at a conference on "Rating Agencies in the Global Financial System" held at the Stern School of Business, New York University, June 1, 2001.

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## DISCUSSION

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Each of these three papers evaluates how external analysts can help an institution assess the condition of its counterparties. The Smith-Walter paper (Chapter 12, "Rating Agencies: Is There an Agency Issue?") and the White paper (Chapter 2, "The Credit Rating Industry: An Industrial Organization Analysis") reach dramatically different conclusions about essential features of the credit rating process. These differences have extremely important implications for on-going revisions to the 1988 Basel Accord on bank capital regulation. The Barron-Staten paper ("The Value of Comprehensive Credit Reports: Lessons from the United States Experience") stands somewhat apart from the other two, so I will treat it first.<sup>1</sup>

### 1. THE THREE PAPERS

Barron and Staten evaluate how privacy issues relate to credit availability in various parts of a society. I was initially puzzled about the importance of their paper's topic. However, the authors have convinced me that they are dealing with really fundamental aspects of the financial system's "plumbing." They argue that providing credit to a broad range of borrowers requires that lenders be able to identify individual customers' default probabilities. If all customers' look alike, a lender must price as if the borrowers most likely to accept her credit offer are the least well-off. This may lead lenders to ration applicants for reasons first identified by Stiglitz and Weiss (1981). When the lender knows little about his applicant pool, only the obviously qualified applicants receive credit. Barron and Staten conclude that limiting the type

of information a credit bureau may collect makes it harder for lenders to identify all the credit-worthy applicants. Hence credit availability (to the less-prosperous-looking) is inversely related to privacy. If well-off citizens limit credit information in the interests of their privacy, lower-quality borrowers bear at least some of the cost. The paper presents a novel, important perspective on credit markets, and I recommend that you examine it.

Smith and Walter study the credit rating industry's history and present competitive situation. They conclude that the rating industry today is socially valuable, at least in the relatively developed capital markets of the United States and Western Europe. Issuing firms seem to benefit from the information provided in bond ratings, because they pay substantial fees for the privilege of being rated. The raters' high profits indicate that they add value to financial markets. As a guarantee against morally hazardous behavior, the rating agencies have posted their quasi-rents: if the agencies cut corners, their ratings will be worth less to investors and issuing firms will no longer pay high fees. Smith and Walter thus conclude that the small number of rating firms is not a competitive problem, but a response to the inability of private firms to internalize the full social benefits of their evaluations. The rating agencies' rents must be maintained and protected if the industry's success is to endure. Toward the end of their paper, the authors explicitly conjecture that increasing competition in financial markets might deprive the rating agencies of rents and eliminate their (historically) valuable services from the marketplace. Smith and Walter also recognize that less developed capital markets may be less amenable to the type of equilibrium found in, for example, the United States. It is an important, but still unresolved, question whether the developed-economy rating firms can provide expertise and impose appropriate standards on their foreign partners, or if the opacity of some foreign capital market simply cannot be overcome by private firms at this time.

White provides an "industrial organization" analysis of the credit rating industry, with conclusions that sometimes contrast sharply with those of his NYU colleagues. For a start, White is unabashedly skeptical about the *social value* of rating agencies: 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. (page 20)

In White's view, the rating firms' undeniably lucrative profits could reflect merely a contrived, supervisory demand for ratings, combined with government-maintained barriers to entry. If bonds are rated only to satisfy supervisors, there is no guarantee that the ratings provide net social benefits. Indeed, there is no guarantee that informed market participants even take the ratings seriously.

If ratings have passed no market test for efficacy, increasing supervisory reliance on external ratings seems like a giant step in the wrong direction. Yet White points out that the first proposed implementation of "Basel II" capital standards would greatly enhance the impact of ratings on financial market allocations.<sup>2</sup> Are credit

rations the best way to assess bank condition? White argues that the banks' security prices may provide better information about bank credit exposures:

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. (page 20)

In asserting the benefits of market prices over ratings, White highlights the most basic conceptual question underlying the development of Basel II capital standards: whose judgment(s) about risk are worth noting? This topic warrants explicit discussion.

## 2. RISK-BASED SUPERVISION

The 1988 Basel Accord formalized the idea that capital regulation should reflect a firm's measured (estimated) risk exposure. The Accord may also represent the pinnacle of government supervisors' willingness to assess financial firms' credit risk themselves. Shortly after the Accord was implemented, financial supervisors began to suggest that discerning the true risk exposure of regulated firms posed an increasingly severe challenge. Moreover, these difficulties were most severe at the world's largest financial firms, which are also the firms that it is most important to supervise effectively. Hence we have the Basel Committee's emphatic reliance on "market discipline" as one of its three Pillars of appropriate supervision.

The underlying supervisory challenge is to identify risk exposures accurately and early. The Basel II deliberations highlight a new form of supervisory question: who can best do this assessment? The "old-fashioned" approach to supervision can be represented in Figure 1: the supervisor sends its own people into a bank to assess risk, then reacts to what they find. This arrangement turned out to be fraught with agency problems, both between the supervisory board and their employees and between the board and their "principals," the taxpayers. Nevertheless, alternative evaluation systems are not problem-free.

Figure 2 represents the apparent Basel II approach, which seeks to delegate risk assessments—at least partially—to private parties. The list of potential private parties includes:

- Rating agencies, whose evaluations of borrower condition would determine required capital levels under the proposed "standard" Basel II approach to a credit risk.
- The regulated firms' internal models, which create the need for a reliable certification of each firm's model.
- Market debenture prices (as suggested in White's paper here) or perhaps a range of publicly traded instruments.<sup>3</sup>

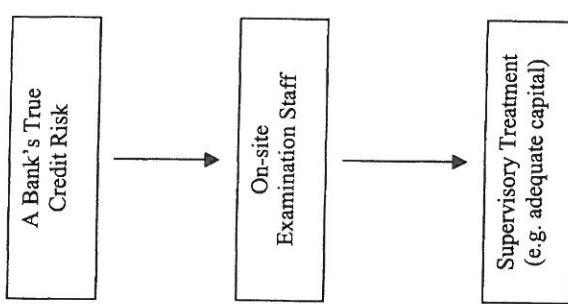


Figure 1. "Traditional" Bank Supervision

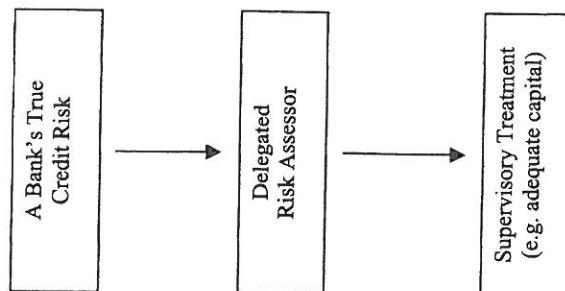


Figure 2. Basel II's Delegation of Credit Evaluation

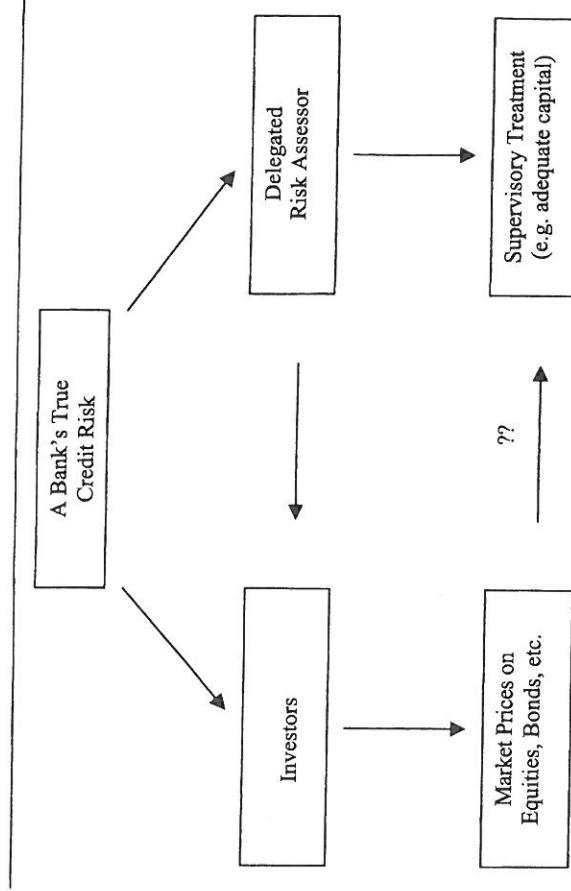


Figure 3. Combined Sources of Credit Evaluation

- Accountants or auditors, via market value accounting or certification of internal models.

It would be amazing indeed if one or the other of these risk evaluators emerged as clearly dominant. More likely, we will ultimately need to *combine* separate opinions to maximize social utility, while (inevitably) falling short of perfection.

A great deal of empirical research indicates that financial markets can be extremely efficient (in the technical sense). Market prices may also provide the best evaluation of firm condition, because investors keep securities in their portfolios only if prices reflect their best assessment of the associated risks. Figure 3 represents how market prices might complement another risk evaluator. Investors' information set might include the other risk assessors' opinions (e.g. bond ratings), and investors will strive to influence bank performance themselves, in addition to the pressures generated by supervisors.

Of course, market prices are not perfect. Theoretical pitfalls include information externalities, delegated portfolio management, and incentives to move prices temporarily for private purpose (as in the old "triple witching hour" plays). Even so, security prices have a lot to recommend them when financial markets are sufficiently developed and deep. The key question is how we identify whether the market prices are "accurate enough."

A country's financial infrastructure determines how reliable its financial sector prices are. In the absence of arguably accurate market prices, the problem of assessing regulated firms' risk exposure becomes much more challenging. But the problem

is not the poor market prices *per se*, but rather the underlying institutional conditions. Without transparent financial statements, numerous competing investors, adequate supervision of information release, and so forth, *any* external assessment of firm risk will be subject to large errors and long delays in these countries. The possibility of importing “developed country” expertise in ratings seems worth investigating, but there is no obvious reason why outsiders can overcome indigenous market inadequacies that derive from, for example, poor creditor rights, information opacity, or an inadequate judicial system.<sup>4</sup>

### 3. CONCLUSIONS

Regardless of the state of a country’s financial models, supervisors need to understand the agency costs and information problems associated with relying on private parties to assess the risk of regulated firms. For example, bond investors will not appropriately monitor bank risks in the presence of a conjectural government bailout policy. (Basel discussion of the Third Pillar often seems to pay insufficient attention to this economic truism.) The decision to delegate an important component of risk assessment constitutes a qualitative change from traditional supervisory oversight, and hence necessitates careful consideration of all the potential information sources—including the credit rating agencies. Although direct supervisory evaluations have arguably been problematic in the past, supervisory decision-makers also must be aware of the incentive problems associated with relying on someone else’s assessments of bank risk.

### NOTES

Presented at a conference on ‘The Role of Credit Reporting Systems in the International Economy’ held at the World Bank in Washington D.C. on March 1, 2001.

1. “The Value of Comprehensive Credit Reports: Lessons from the U.S. Experience” by John M. Barron and Michael Staten was presented at the World Bank conference on March 1, 2001. The paper is published in Margaret Miller (ed.), *Credit Reporting Systems and the International Economy*, Cambridge, MA: MIT Press, 2002 (forthcoming).

2. Since these papers were first presented, the Basel Committee has decided to re-visit many of the issues in their January 2001 proposal. The Committee expresses its “desire” to maintain equivalent capital levels regardless of whether a bank chooses the standard (ratings-based) approach to measuring its credit risk, or implements a firm-specific model of credit risk exposure (the Internal Ratings Based approach). See The Committee’s June 25, 2001 press release, “Update on the New Basel Capital Accord,” available from [www.bis.org](http://www.bis.org).

3. Flannery (2001) points out that market price information could constitute merely one input to the supervisory process, or sufficiently large changes in market prices could mandate specific supervisory reactions (as in Evanoff and Wall [2000]). It is not implausible that the “best” market signals might depend on how supervisors will use the information.

4. It may thus be suboptimal to implement Basel I or Basel II in countries whose financial infrastructure differs radically from that of the Basel Committee member states.

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