Using the Tools of Industrial Organization to Illuminate the Credit Rating Industry

Lawrence J. White  
Stern School of Business  
New York University  
Lwhite@stern.nyu.edu

Abstract

Until slightly more than a decade ago, the credit rating industry was largely a little-recognized and little-understood part of the financial system “plumbing”. This obscurity changed with the financial crisis of 2008 and its aftermath. After a few years of intensive attention, however, the CRAs have retreated back to semi-obscurity and attract little media or political attention. The tools of industrial organization (IO) can help us understand this industry: its structure; its behavior; and its outcomes; and the public policies that are likely to improve its functioning.

Keywords: credit rating agency (CRA); prudential regulation; barriers to entry; asymmetric information

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I. Introduction.

Until slightly more than a decade ago, the credit rating industry was largely a little-recognized and little-understood part of the financial system “plumbing”. Although the term “AAA” had widespread use as an indicator of high quality generally – and maybe the user understood that the term sometimes involved the rating of bonds – little more was usually known about the industry and its functioning.

This obscurity changed with the financial crisis of 2008 and its aftermath. The major credit rating agencies (CRAs) – Moody’s, Standard & Poor’s (S&P), and Fitch – had clearly played a role in the run-up to the crisis. In the wake of the crisis, the CRAs’ senior executives testified before congressional committees and special inquiry commissions, and media coverage of the major CRAs expanded commensurately. The Dodd-Frank Act of 2010 extended the regulatory powers of the U.S. Securities and Exchange Commission (SEC) vis-à-vis a major part of the CRA industry. In the wake of the sovereign debt crisis in Europe that followed the financial crisis in the U.S., European attention was focused on the major CRAs as well, and a similar regulatory regime was put in place.

A decade later the CRAs have retreated back to semi-obscurity and attract little media or political attention.

The tools of industrial organization (IO) can help us understand this industry: its structure; its behavior; and its outcomes; and the public policies that are likely to improve its functioning.1

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1 This paper draws on and summarizes the research that can be found in White (2013, 2016, 2019). The focus will be on the U.S. industry; more detail on the European experience can be found in White (2019) and in the sources that are cited there.
II. What the CRAs Do.

At the heart of any lending/borrowing relationship is a central question: What is the likelihood that the borrower will repay the lender? Lenders want to know about the creditworthiness of potential borrowers before granting a loan and also want to be able to monitor an actual borrower during the term of the loan. Creditworthy borrowers want to be able credibly to convey their creditworthiness to lenders. But this central question is clouded with informational fog – “asymmetric information” – since the prospective borrowers are likely to know more about their true creditworthiness than are the lenders; and credibly conveying their creditworthiness may be difficult for prospective borrowers.

Since this is an asymmetric information issue, the gathering and analyzing of information are central to addressing it. Lenders typically want information about prospective borrowers that will help the lender determine whether to lend to a borrower and on what terms. But gathering and processing/analyzing information are activities that require expertise and scale. Thus, unless the lender has scale itself and can thereby justify the development of an in-house (vertically integrated) capability/expertise to collect and analyze the data, the lender is likely to turn to third-party specialists.

For publicly traded bonds, those third-party specialists have tended to be CRAs. These are enterprises that gather information about the creditworthiness of bond-issuing entities and that provide publicly available “ratings” – typically a letter grade, such as “AA+” or “BBB-” – that is the CRA’s judgment/opinion as to the creditworthiness of the issuer’s bonds. The idea of a publicly available bond rating goes back to 1909, when John Moody’s company published its first set of ratings of railroad bonds.
III. Structure.

The CRA industry is concentrated. Annual data that have been compiled by the SEC since 2010 for the CRAs that it regulates show that S&P accounts for about half of all bond ratings outstanding; Moody’s accounts for about a third; Fitch accounts for a little less than a sixth; and the remaining (smaller) regulated CRAs (there are currently seven) account for about 4% of outstanding ratings. The SEC’s compilations of annual company revenues show a roughly similar pattern of shares.²

A concentrated “seller” structure appears to have prevailed since at least the 1940s. The 1941 merger of the Standard Statistics Co. with Poor’s Publishing Co., to form S&P, was the last major internal structural event for the industry.

Why has the industry structure been so concentrated and so stable? After all, entry would appear to be relatively easy: This is not a capital-intensive industry; there are no patented or specialized technologies that would protect incumbents. Anyone can open an office, hang out a shingle, and call him/herself a credit rating agency.

However, this is an industry where a reputation for having good judgment about the creditworthiness of borrowers is important; and, when bonds can have lives of 30 years or more, a reputation can take a long time to build and maintain. In essence, a CRA must invest in reputation. Further, bond investors are unlikely to be interested in only a few bond issuances; they are likely to want information – with, at least, relative (horizontal) consistency of standards across issuances – for a wide array of potential bond investments. This would argue that scale – along with a breadth of expertise – would matter as well.

² The latest set of SEC compilations are found in U.S. SEC (2017); the data cover 2016 and earlier years.
At least as important: Since the mid 1930s, there has been an additional, powerful barrier to entry: government regulation. Beginning in 1936, bank prudential regulators in the U.S. required that banks use the bond ratings that were provided by the major CRAs for the banks’ decisions as to what bonds were suitable for the banks’ portfolios. In essence, if banks wanted to hold bonds in their portfolios, those bonds were required to be “investment grade” – as determined by the major CRAs. In the following decades, insurance prudential regulators in the U.S. installed a more graduated – but still CRA-ratings-based – regulatory system for the bond holdings of insurance companies. And in the 1970s the U.S. Department of Labor (DOL) used a similar system for pension funds’ bond holdings.

These CRA-based prudential regulatory structures meant that the major CRAs had a guaranteed clientele for their ratings: In the first instance, the regulated financial institutions would need to know what bonds they could hold and on what terms; and, in addition, the other participants in the bond market would likely want to know which bonds the regulated financial institutions could (or could more readily) hold. Further it meant that smaller CRAs – the ratings of which didn’t matter for these financial regulatory purposes – would have a difficult time gaining the attention of bond market participants.

This system was formalized in 1975, when the SEC created the category of “nationally recognized statistical rating organization” (NRSRO) as the designation for the CRAs whose ratings should be heeded for these regulatory purposes. The SEC promptly selected Moody’s, S&P, and Fitch as NRSROs.

During the following 25 years, the SEC designated only four additional CRAs as NRSROs. But mergers among these entrants and with Fitch meant that by the end of 2000 the number of NRSROs was back to the original three that had been selected in 1975: In essence,
the SEC had become a massive barrier to entry: There had been no net new entry over these 25 years.

In the decade of the 2000s, the Congress took notice of this barrier and passed legislation in 2006 that formalized the SEC’s regulation of the NRSROs, including formal criteria for the designation of a NRSRO (which the SEC had never developed); implicit was the expectation that the SEC would designate additional NRSROs. The SEC heeded this message, and today there are 10 NRSROs; but, as was discussed above, the three largest remain overwhelmingly dominant. Also, the number of NRSROs has remained stagnant at 10 since 2008. The SEC has once again become a barrier to entry.

It is important to note that, in addition to the NRSROs, there are other entities that provide creditworthiness information about bond issuers. These include smaller CRAs that have not been designated as NRSROs; other firms that may not describe themselves as CRAs but that nevertheless generate creditworthiness information about bonds and their issuers – albeit, providing this information to specific bond buyers/investors, rather than making the information publicly available; and also included should be the “fixed-income” analysts at securities firms who provide this kind of creditworthiness information to the securities traders at these firms and to the investor clients of these firms. Nevertheless, it is clear that the large CRAs dominate this industry.

One other important structural feature is worth noting: the clientele for the CRAs’ ratings. The bond markets are largely a “wholesale” market: The buyers, sellers, and holders of bonds are financial institutions of various kinds (including banks, insurance companies, pension funds, mutual funds, hedge funds, asset managers, etc.). Households are largely not involved.
Consequently, the potential users of the creditworthiness information that the CRAs generate – the bond “investors” – are the bond portfolio managers at financial institutions.

Finally, recall that this is a market for creditworthiness information: Not only are the lenders (the bond investors) interested in ascertaining the creditworthiness of potential and actual borrowers, but also the borrowers should be interested in being able to convey their “story” to prospective lenders. This is thus a “two-sided market”, and a CRA provides a “platform” that intermediates between the two sides.

IV. Behavior.

In many IO studies, the industry behavior that is of most interest is pricing. However, the prices that the CRAs charge for ratings are confidential and not readily ascertained.

Instead, the major focus has been on their “business model”: how they earn the revenue that allows them to stay in business. For nine of the 10 NRSROs, their current model is one of “issuer pays”: The issuer pays the CRA for the rating, which is then distributed publicly for free.3

This was not the original business model: When John Moody’s company first offered publicly available ratings for railroad bonds in 1909, bundles of ratings were published in books – “rating manuals” – that bond investors bought. The business model was thus the standard publishing model: readers/users pay.4 When other enterprises entered the bond rating field in the following two decades, they adopted the same publishing model.

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3 One small NRSRO has an “investor pays” or subscription model. In addition, the nine NRSROs that employ the issuer-pays model also offer greater elaboration of their creditworthiness views to investors, in return for (investor-paid) fees.
4 Individual issuers likely also bought the manuals, so as to learn of the ratings of their bonds. But investors were surely the intended audience.
In the late 1960s and early 1970s, however, the industry’s business model switched to the current issuer-pays model.\(^5\) The reasons for this switch have not had a thorough historical examination; but the following seem to be reasonable “pieces of the puzzle”:

- The late 1960s and early 1970s were the period when high-speed, inexpensive photocopying came into widespread use in the U.S. The CRAs may well have believed that their ability to charge fees to investors for the rating manuals would be undercut by this inexpensive photocopying. A business model whereby the issuer paid for the rating was not threatened by inexpensive photocopying.

- The CRAs may have belatedly realized that the prudential regulatory changes that began in the 1930s meant that the issuers really did need the CRAs’ ratings and would consequently be willing to pay for those ratings.

- As was pointed out above, the CRAs can be considered to be platforms that are in the middle of a two-sided market of bond issuers and bond investors. Which side pays the fees in a two-sided market can be highly idiosyncratic.

The issuer-pays model has an obvious problem of short-run moral hazard: A CRA may “cater” to the bond issuer – so as to retain the issuer’s business – in the form of assigning a higher rating than the CRA’s analysis otherwise indicates is appropriate.\(^6\) This potential problem was recognized at the time that the industry shifted to the new model; 40 years later, it was repeatedly stressed by the industry’s critics in the aftermath of the financial crisis of 2008.

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\(^5\) It is worth noting that the switch occurred piece-meal over a period of years. There does not appear to have been any coordinated or collusive effort.

\(^6\) The higher rating, in turn, would be expected to translate into a lower interest rate that the issuer has to pay to the bond holders and thus generate higher profits for the issuer.
But, as the Klein and Leffler (1981) model reminds us, if the CRA wants to stay in business over the longer run, it will care about its long-run reputation for being an accurate and reliable provider of creditworthiness information: in the first-instance, so that the potential users of that CRA’s ratings believe them to be useful; and, in turn, so that the issuers will find it worthwhile to pay for accurate ratings. So long as the potential short-run gains from catering don’t overwhelm the gains from maintaining a favorable long-run reputation, the moral hazard problem will be held in check.

V. Performance.

The metric of performance that is of most concern in this industry is the accuracy of the CRAs’ predictions as to the creditworthiness of the bonds that they rate. As a generalization, the “track record” of the industry is good: High-rated bonds rarely default; low-rated bonds default more frequently. This was true before the change in business model, and it generally held true for about 30 years after the change\textsuperscript{7} – despite the short-run moral hazard problem. The long-run-reputation aspect of Klein-Leffler model had held up.

However, in the aftermath of the financial crisis of 2008, it is clear that the major CRAs had catered to the issuers of sub-prime residential mortgage-backed securities (RMBS) during the previous decade: The initial ratings for these securities were too high; the subsequent downgrades were a major contributor to the financial crisis.

\textsuperscript{7} There were some exceptions – the most noteworthy of which was the fact that the major CRAs had “investment grade” ratings on Enron bonds until five days before that company declared bankruptcy. These exceptions – though they attracted public attention at the time – were not considered to be symptoms of a larger systematic problem.
Why did the issuer-pays model not “blow up” during those 30 years after the business model changed? But then, why did it blow up during the first decade of the 21st century? Insights from IO can help shed light on these questions.

For the discussion that follows, it is worth remembering that almost all of the bonds that were rated during the non-problematic 30 years were the “plain vanilla” corporate, municipal, and sovereign debt that the CRAs had been rating for decades – and also that the ratings on these categories of bonds did not become a problem immediately before (or during) the financial crisis, nor have they been a problem since then. The bond ratings that proved problematic in the decade immediately prior to the financial crisis of 2008 were for sub-prime RMBS (which largely disappeared after 2008).

Some important characteristics of the bond issuers and of the bond raters can help illuminate the reasons for these outcomes.

The number of issuers. For plain vanilla bonds, the numbers of issuers are in the thousands. No single issuer is important enough to tempt a CRA to do a “favor” for that issuer and thereby put at risk the CRA’s longer-run reputation.

By contrast, the largest dozen RMBS issuers accounted for 80-90% of RMBS issuances, and the volumes were large: Hundreds of billions of dollars of sub-prime RMBS were issued annually during the decade of the 2000s. Consequently, there was much greater potency to the threat by a major RMBS issuer to take its business – current and expected future – to a different CRA if its request for a more favorable rating on its current bonds was not granted.
**The profit margins.** The profit margins on RMBS ratings were substantially larger than on plain vanilla bonds. This reinforced the possibility that a CRA would pay more attention to a request for a favor from an RMBS issuer than from a plain vanilla issuer.

**Information transparency/opaqueness.** The issuers of plain vanilla bonds are publicly traded companies or governments. The former have extensive information disclosure requirements that are mandated by the SEC; the latter have legislatively mandated disclosure requirements. In both cases, the information-rich environments in which their bonds are rated increase the likelihood that an outside analyst might detect an anomalous “special” rating – which, in turn, would increase a CRA’s hesitations about granting such a favor in the first place.

By contrast, RMBS issuers did not make public the details on the hundreds of individual underlying mortgages that comprised an individual RMBS; often, only averages were available. Also, the structuring of the typical RMBS into multiple “tranches” of greater or lesser seniority meant considerable additional complexity for any analysis of the creditworthiness of the individual tranches – which were each given ratings. Consequently, it would be harder for an outside analyst to spot anomalous ratings – which, in turn, might make a CRA more willing to take the risk of granting a special favor to a RMBS issuer.

**The familiarity of the rating methodologies.** The methodologies for rating plain vanilla bonds were well established and understood. This would make the detection of anomalies by outside analysts more likely and also make easier the supervision of lower-level CRA analysts by senior managers, and thereby decrease the likelihood of anomalous or erratic operations-level behavior.
By contrast, the rating methodology for structured financial was relatively new. Again, this would have made both internal reviews and external critiques harder.

**Easier manipulation by the issuers.** The financial situations of plain vanilla bond issuers change slowly. In the short run, there is little that an issuer can do that might provide a pretext for a higher-than-deserved rating.

By contrast, an RMBS was composed of an indefinite number (but in the hundreds) of underlying mortgages; consequently, it was possible for the issuer to manipulate the mortgage components so as to provide the basis (or the pretext) for a more favorable rating.

In sum: There are understandable reasons why the issuer-pays model did not blow up for 30 years – and still has not done so – in the area of plain vanilla bond ratings; but also why the model became problematic for RMBS ratings.

VI. Public Policy.

As the preceding sections have indicated, public policy has had a significant influence on this industry, in two ways: First, starting in the 1930s, financial regulators required that the major CRAs’ bond ratings be heeded when financial institutions held bonds; and second, from 1975 to 2000 and again since 2008, the SEC has been a barrier to entry.

In addition, the Dodd-Frank Act of 2010 had two policy thrusts vis-à-vis the NRSROs: In one direction, the Act required that the SEC expand its regulation of the NRSROs, with greater emphasis on preventing conflicts of interest and increasing transparency. Although this approach has yielded more data about the industry (some of which were cited above) than was previously available, little else appears to have been accomplished – except that the NRSROs’ costs of regulatory compliance have increased; since these costs often have a significant fixed
component, this has placed the smaller NRSROs and potential entrants (which are usually small) at a disadvantage.

Dodd-Frank’s second direction was strong encouragement for federal financial regulators to eliminate their prudential regulatory mandates that their regulated institutions use ratings in their bond investment decisions. By 2016 the bank regulators and the SEC had done so; but the DOL continues to require the use of ratings in its prudential regulation of pension funds; and the 50 state insurance regulatory agencies (which were not covered by the Dodd-Frank Act) continue to use ratings for their prudential regulation as well.

There are (at least) three possible directions for public policy: One would be to maintain the status quo: continued regulation of the NRSROs, and the restricted use of the NRSROs’ ratings for prudential regulation. A second would be expanded regulation of the NRSROs, in the hope that the conflicts of the issuer-pays business model could be minimized (or perhaps, even that model itself could be eliminated). The third direction would be to pare back NRSRO regulation – and ideally even eliminate it and eliminate the NRSRO category itself.

This author favors the third route. After all, the potential users of the CRAs’ ratings are primarily bond portfolio managers at financial institutions, who should be able to make informed decisions about their sources of creditworthiness information. It is far from clear that these portfolio managers need the SEC’s help in this regard. Further, the bank regulators and the SEC appear to be comfortable with prudential regulation that no longer mandates the use of ratings. Absent a consumer-protection justification or a prudential regulatory justification, there is no good argument for maintaining the NRSRO category – which only adds to regulatory compliance costs and discourages entry and the potential innovations that might accompany entry.
VII. Conclusion.

IO methodology provides a robust toolkit that can provide insights for a wide range of industries. The CRA industry is one of them.

References


