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Do Credit Rating Agencies Inflate Their Ratings? A Review

Kee-Hong Bae, Hamdi Driss,
Gordon S. Roberts

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Transformation

FinTech/RegTech

- 8 **Opinion: Open APIs and Open Banking: Assessing the Impact on the European Payments Industry and Seizing the Opportunities**
Thomas Egner
- 14 **Algorithmic Regulation: Automating Financial Compliance Monitoring and Regulation Using AI and Blockchain**
Philip Treleaven, Bogdan Batrinca
- 22 **RegTech is the New Black – The Growth of RegTech Demand and Investment**
Kari S. Larsen, Shariq Gilani
- 30 **From “Blockchain Hype” to a Real Business Case for Financial Markets**
Massimo Morini
- 41 **Trade Finance Disrupted: A Blockchain Use Case**
André Brunner, Nourdine Abderrahmane, Arjun Muralidharan, Patrick Halfpap, Oliver Süme, Stephan Zimprich
- 49 **Towards a Standards-Based Technology Architecture for RegTech**
Tom Butler
- 60 **Machine Learning: A Revolution in Risk Management and Compliance?**
Bart van Liebergen
- 68 **Data-centered Dependencies and Opportunities for Robotics Process Automation in Banking**
Sandeep Vishnu, Vipul Agochiya, Ranjit Palkar

Investments

- 78 **John Bull Can’t Stand Two Percent: QE’s Depressing Implications for Investment**
Jason M. Thomas
- 90 **Do Credit Rating Agencies Inflate Their Ratings? A Review**
Kee-Hong Bae, Hamdi Driss, Gordon S. Roberts

- 101 **The Power of “Negative Beta”: Why Every Portfolio Should Include Private Equity**
Andrew Freeman, Iordanis Karagiannidis, D. Sykes Wilford
- 111 **Downside Risk Protection of Retirement Assets: A New Approach**
Atanu Saha, Alex Rinaudo
- 121 **The Asset Management Industry, Systemic Risk, and Macroprudential Policy**
Claude Lopez
- 129 **The Role of Asset Owners in the Market for Investment Research: Where Are the Fiduciary Capitalists?**
Alistair Haig, Neil Scarth
- 136 **Risk, Data, and the Barcodes of Finance**
Allan D. Grody

Banking

- 159 **Opinion: Risk Culture: Risk Prevention Starts With the Individual**
Ulrich Hunziker
- 164 **The Troubled Future of Global Banking**
Brad Hintz, Roy C. Smith
- 177 **Policy Response Asymmetry and the Increasing Risks From Rising Government Debt Level**
Blu Putnam, Erik Norland
- 187 **Public Disclosure and Risk-adjusted Performance at Bank Holding Companies**
Beverly Hirtle
- 207 **What do New Forms of Finance Mean for Emerging Markets?**
M. S. Mohanty

Do Credit Rating Agencies Inflate Their Ratings? A Review

Kee-Hong Bae – Professor of Finance and Bob Finlayson Chair in International Finance, Schulich School of Business, York University

Hamdi Driss – Assistant Professor of Finance, Sobey School of Business, Saint Mary's University

Gordon S. Roberts – Professor Emeritus and Senior Scholar, Schulich School of Business, York University¹

Abstract

In this paper, we review the academic evidence on the roles and quality of credit ratings and structure our review around questions that are of interest to academics, professionals, and regulators alike. We review the evidence on how ratings affect market prices and corporate policies and discuss how incentive problems arising from the unique structure of the credit rating industry can adversely affect ratings quality. In particular, our discussion focuses on the issues of conflicts of interest, competition, and ratings shopping and their implications for ratings inflation. Our review identifies opportunities for future research on credit ratings.

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INTRODUCTION

The financial crisis of 2007–2009 demonstrated dramatically the shortcomings of ratings for structured products. Severe conflicts of interest, competition among credit rating agencies (CRAs), and ratings shopping by issuers appear to have conspired to create a systematic upward bias in ratings. To illustrate the severity of ratings inflation in structured product markets, White (2010, p. 221) notes that “As of June 30, 2009, 90 percent of the collateralized debt obligation tranches that were issued between 2005 and 2007 and that were originally rated AAA by Standard & Poor’s had been downgraded, with 80 percent downgraded below investment grade.”

Do these severe limitations also apply to the ratings of corporate debt? Despite the travails of bond ratings during the crisis, participants in the corporate bond market continue to attach weight to corporate ratings: corporate bond issuers undertake restructuring to prevent downgrades, and ratings are built into regulations reinforcing investors’ preferences for bonds with investment grade ratings. Are these practices well-founded in light of the evidence of financial research on the role of CRAs, possible conflicts of interest, and possible ratings inflation? Of interest to potential users of ratings – bond issuers and investors – this question is the focus of the current survey article.

We begin in Section 2 with a brief review of the three principal roles that CRAs play in capital markets. First, CRAs produce information about the credit quality of bond issues and issuers. Second, their ratings have a regulatory impact on the investment choices of institutional investors and financial institutions. Third, CRAs play a certification role as possession of a favorable bond rating opens the door for issuers to raise debt funding in capital markets.²

In performing the three roles described above, CRAs may be subject to conflicts of interest arising from their issuer-pays business model, which could produce an incentive to cater to issuers by producing overly optimistic ratings. As will be discussed in Section 3, this potential conflict of interest is constrained by a desire to preserve reputation capital necessary for future business. Significant evidence of catering to issuers has been uncovered in the concentrated and lucrative market of structured products, whereas such catering seems far less prevalent in the less lucrative market of corporate bonds.

Closely related to conflicts of interest is the question of how increased competition from the entry of new CRAs impacts ratings quality. Section 4 addresses this issue beginning with the trade-off discussed earlier between pressures to cater to

issuers versus the desire to preserve reputation capital. Here, the evidence points to a dual role for competition. In the structured products market, increased competition among CRAs is strongly associated with a positive bias in ratings. For corporate bonds, there are results on both sides, and the issue remains open for future research.

In Section 5, we take up the topic of ratings shopping under which issuers seek ratings from several CRAs and select the most favorable. While there is widespread anecdotal evidence that such shopping occurs, the overall take-away from the empirical literature is weak, likely due to limitations of research design. Researchers cannot observe ratings that were requested by issuers but dropped because they were not the most favorable.

In the conclusion, we examine implications for financial best practices.

THE ROLES OF CRAS

CRAs specialize in gathering and analyzing public and private information and offering expert opinions about the creditworthiness of debt securities and their issuers. They play a central role in capital markets by helping to bridge the information gap between investors and issuers. Ratings reveal credit-relevant information that influences the prices of debt securities. Aside from their impact through an information channel, ratings can also affect market prices through a regulation channel because they form a focal point for investment rules and regulations that restrict the investment activities of certain institutional investors. For example, banks and insurance companies typically face higher capital requirements for holding debt securities with lower ratings; mutual funds and pension funds are often restricted in the amount of speculative (BB rating or lower) debt they can hold.³

In this section, we provide a brief review of the literature on the roles of CRAs in capital markets. We begin by reviewing the main findings on their information production function. Next, we discuss key papers investigating the regulatory impact of

2 Driss et al. (2016) review studies on the impact of bond ratings on financing.

3 See, for example, Kisgen and Strahan (2010) for a detailed description of ratings-dependent investment rules and regulations.

ratings. Finally, we review recent papers on the certification role of CRAs – whereby CRAs facilitate issuers’ access to capital markets.

The question of whether bond ratings have information value has been the subject of extensive research. An early strand of literature investigates the relation between yield spreads and bond ratings, controlling for issue- and issuer-level characteristics [e.g., Ederington et al. (1987); Liu and Thakor (1984)]. The general picture that emerges from this literature is that bond ratings have power in explaining the cross-section of yield spreads, consistent with the ability of ratings to classify credit risk. Using an event study approach, another strand of literature examines investors’ responses to the announcements of rating changes in the context of bond and/or stock markets [e.g., Dichev and Piotroski (2001); Goh and Ederington (1993); Grier and Katz (1976); Griffin and Sanvicente (1982); Hettenhouse and Sartoris (1976); Hand et al. (1992); Ingram et al. (1983); Weinstein (1977)]. The consensus in this literature is that rating downgrades are associated with a statistically significant and economically large negative market reaction, whereas the positive market response to rating upgrades is generally smaller and less significant. For example, using Moody’s bond ratings changes between 1970 and 1997, Dichev and Piotroski (2001) report a three-day abnormal average return of -1.97% (0.48%) for downgrades (upgrades). However, there is one important caveat associated with the results of this literature. It is unclear whether the documented market reaction to rating changes exclusively reflects incremental information specific to these rating changes or simply captures concurrent public information that affects market prices.

Two studies attempt to address this identification issue by exploiting exogenous shocks to the information content of ratings. Kliger and Sarig (2000) use Moody’s 1982 refinement of its ratings system (e.g., a refinement upgrade from A to A1 or a refinement downgrade from A to A3) and argue that this refinement was not accompanied by any fundamental change in the issuers’ risks. They show that “debt value increases (decreases) and equity value falls (rises) when Moody’s announces better- (worse-) than expected ratings”. In another study, Jorion et al. (2005) exploit the implementation of Regulation Fair Disclosure (Reg FD) on October 23, 2000 to study the information content of credit ratings. Reg FD prohibits U.S. public companies from making selective disclosure of non-public information to market participants, such as institutional investors and equity analysts. However, an exemption was granted to CRAs, which allowed credit analysts to have access to confidential information that is no longer made available to other market participants. Consistent with the information function of CRAs,

Jorion et al. find that both rating downgrades and upgrades have become more informative following Reg FD.

Ratings can also affect market prices through a regulatory channel, as shown in Kisgen and Strahan (2010) and Bongaerts et al. (2012). In 2003, DBRS was certified by the Securities and Exchange Commission (SEC) as a Nationally Recognized Statistical Ratings Organization (NRSRO), thereby qualifying DBRS’s ratings to be used in ratings-based investment rules and regulations. Kisgen and Strahan (2010) examine issuers whose ratings were in place prior to DBRS’s certification and find that when DBRS rated bonds higher than Moody’s and S&P, the rated issuers’ cost of debt declined, particularly around the investment grade boundary of BB+/BBB-. However, in cases in which a DBRS’s rating was the same or lower than those of competing CRAs, no yield impact occurred. Because the effect only works in one direction, i.e., when the DBRS’s rating is higher, it is consistent with a regulatory effect, but is inconsistent with DBRS enjoying better reputation following its SEC’s certification. Bongaerts et al. examine multiple credit ratings and, in particular, the role of Fitch as the third opinion provider after Moody’s and S&P. They document that on average, Fitch’s ratings are more optimistic, consistent with earlier research by Cantor and Packer (1997). Focusing on the demand for multiple ratings by issuing firms, Bongaerts et al. find support for their regulatory certification hypothesis: for cases in which Moody’s and S&P’s ratings are split and on opposite sides of the investment grade boundary of BB+/BBB-, a Fitch’s rating acts as a tiebreaker and likely improves the issuer’s standing with regulators.

Several studies provide evidence that CRAs play the role of certifiers in credit markets, thereby facilitating firms’ access to debt financing. Driss et al. (2016) examine Moody’s issuer-level credit watches with direction downgrade over the period 1992 to 2014 and offer evidence consistent with the certification role of CRAs. A credit watch with direction downgrade occurs when a CRA observes a deterioration in a rated issuer’s credit quality and announces that it is monitoring the issuer with a plan either to confirm the rating if the deterioration is reversed or to downgrade the issuer. In other words, during a credit watch a CRA apparently influences a borrower to address issues weakening credit quality and assigns a confirmed rating if such actions occur. Since a confirmed rating constitutes a certification of the borrower by the CRA, credit watches afford an opportunity to study whether such certification works in practice to facilitate access to borrowing. Driss et al. find that in 27% of the cases Moody’s confirmed the issuer’s rating after an average watch period of 142 days, and in the remaining 73% of the watches the issue was downgraded after a mean period of 93 days.

They examine corporate characteristics for four quarters before and after the watch period. Supporting the view that confirmed ratings constitute valuable certification, firms with confirmed ratings after the watch period achieve significant growth in long-term debt financing and total investment expenditures – a finding that does not apply to downgraded firms. Further, firms with confirmed ratings outperform firms with downgraded ratings exhibiting higher operating income and return on assets ratios after the watch period. In addition, this effect is stronger for firms with greater financial constraints or enhanced information asymmetry, indicating that CRA certification is more valuable to such borrowers.

Other prominent studies on CRA certification include Sufi (2009), who exploits the introduction of syndicated bank loan ratings by Moody's and S&P in 1995 and shows that CRA certification has real effects on corporate financing and investment policies. Specifically, Sufi finds that the introduction of bank loan ratings caused an increase in the use of debt financing and investment activities of the firms that obtain a rating. Tang (2006) uses Moody's 1982 refinement of its ratings system as in Kliger and Sarig (2000) to show that firms with higher refined ratings (e.g., refinement of Baa rating to Baa1 as opposed to Baa3) have better access to credit markets and invest more capital, consistent with a CRA certification effect. Finally, Faulkender and Petersen (2006) show that firms with a bond rating choose significantly higher levels of debt financing than non-rated firms, indicating that CRA certification can effectively facilitate firms' access to debt financing.

In summary, the literature provides consistent evidence that credit ratings influence market prices not only because they contain credit-relevant information but also because they restrict institutional investment choices through ratings-based investment rules and regulations. Further, the certification services of CRAs facilitate firms' access to credit markets and have a real positive impact on the economy. Despite these valuable functions, CRAs have come under intense scrutiny, particularly in the wake of the 2007-2009 financial crisis. They have been accused of exacerbating the financial crisis and misleading investors by offering unduly favorable ratings to highly risky mortgage-related securities. Below, we discuss how conflicts of interest and competition among CRAs can affect the quality of credit ratings and potentially result in inflated ratings.

CONFLICTS OF INTEREST

What does economic theory tell us about the role of information producers? In an ideal world, information producers would provide valuable and unbiased information to help alleviate information asymmetries about economic variables whose values are unknown ex-ante [Diamond (1984); Millon and Thakor (1985); Ramikrishnan and Thakor (1984)]. Central to this result is the assumption that information producers have a compensation scheme that depends on the quality of the information produced. In reality, CRAs are compensated differently. Most CRAs adopt the issuer-pays business model, whereby they earn their income from the issuers seeking ratings for the securities they sell. This compensation structure creates an obvious conflict of interest and provides CRAs with an incentive to cater to issuers to attract business. Offsetting this potential conflict of interest, CRAs have their reputation capital at stake. They face an incentive to provide unbiased ratings to avoid irrevocable damage to their reputation in the long run. The trade-off faced by CRAs between maintaining reputation to increase future rents and catering to issuers to increase current rents is the subject of several papers.

Covitz and Harrison (2003) examine one important way that CRAs could cater to issuers – delaying rating downgrades. This delay preserves the issuer's cost of funding, avoids possible covenant triggers, and gives the issuer time to restore its credit quality. However, it is possible that investors have the ability to foresee and incorporate delayed downgrades into their bond pricing, in which case we would observe higher spreads prior to any CRA action. To test the degree to which CRAs act in the interest of issuers by delaying downgrades, two cases in which the incentive to delay could be significant are examined: (a) the case of a CRA receiving important fees from large issuers with many bonds outstanding and (b) the case in which a potential downgrade moves a bond's rating from the investment grade to the high yield category (a fallen angel). Using a database of around 2,000 rating changes by S&P and Moody's between 1997 and 2002, including 773 upgrades and 1,234 downgrades, Covitz and Harrison find that anticipation is significantly less for large issuers and fallen angels. These results are not consistent with the conflicts of interest hypothesis but rather support the view that reputation effects dominate and are in keeping with popular views about CRAs during the 1990s: "Indeed the major complaint about the rating agencies during this era was not that they were too compliant to issuers' wishes but that they were too tough and too powerful. This view was epitomized by the New York Times columnist Thomas L. Friedman's remarks in a Public Broadcasting System (PBS) "News Hour" interview on February 13,

1996: ‘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’ [Quoted in White (2010)].”

The issuer-pays model emerged in the 1970s. According to White (2010), there were several reasons for this shift from the earlier approach of investor-pays model. The first reason arose from changing technology: with the introduction of Xerox machines, investors did not need to buy ratings manuals but could substitute photocopies. This made it more attractive to sell ratings to issuers. Further, when Penn Central Railroad went bankrupt in 1970, bond issuers became focused on the need for ratings to underwrite the quality of their debt, and CRAs sought to capture the resulting rents. Jiang et al. (2012) exploit a quasi-natural experiment and examine how S&P’s ratings for corporate bonds changed when S&P made the shift in its business model in 1974. Benchmarked against Moody’s, which was already working on an issuer-pays basis, S&P’s ratings were lower before the shift and became similar to Moody’s’ thereafter. Consistent with significant conflicts of interest in the issuer-pays model of CRAs, Jiang et al. find that S&P’s ratings increased more for lower credit quality bonds or bonds issued by larger and more frequent bond issuers.

Using a sample between 1999 and 2009, Strobl and Xia (2012) compare U.S. corporate bond ratings from two competing CRAs with different business models: S&P with an issuer-pays approach versus Egan-Jones Rating Company (EJR), which collects its fees from investors. The authors identify three measures of conflicts of interest faced by S&P and examine the impact of such measures on ratings inflation measured by the extent to which S&P’s ratings are more optimistic. Their first metric for conflicts of interest is the amount of outstanding short-term debt, with larger values indicating greater likelihood of future debt issues that could bring more business to the CRA. A second measure is based on past ratings business and its concentration with S&P. Issuers with lower concentration may be more likely to switch CRAs, and thus the researchers hypothesize that S&P is more likely to issue favorable ratings to retain their business. Third, conflicts of interest may be heightened for issuers with recently-appointed CEOs and CFOs, as such firms may be more likely to switch CRAs. Consistent with the predictions, Strobl and Xia find that each of their three measures of conflicts of interest is associated with significantly higher ratings by S&P, averaging one-fifth of a rating notch. Further, the research finds no evidence that investors adjust for S&P’s rating bias in their bond pricing,

indicating that they are unaware of S&P’s incentives to assign friendly ratings due to conflicts of interest.

Market concentration could create an incentive for a CRA to inflate ratings [Frenkel (2015)]. In a market, such as structured products, with few issuers that repeatedly interact with a CRA, severe conflicts of interest could influence the CRA to seek a private reputation for leniency with issuers. Unlike the corporate bond market, which has many individual issuers, the structured products market is an oligopoly dominated by a few investment banks working closely with CRAs in designing the products [White (2010)]. These securitizing investment banks could exert pressure on CRAs for higher ratings that would facilitate the profitable distribution of structured products, as well as threaten to shift business to a competing CRA if displeased. In support of this view, Griffin and Tang (2012) document positive adjustments to credit ratings for CDOs by a major CRA. They show that such adjustments were quite common with only a 0.49 correlation between the percentage of published AAA ratings and the percentage of AAA ratings that would be obtained under the CRA’s credit risk model. These adjustments and other forms of over-optimism by CRAs on structured products led to 60 percent of global structured products being rated AAA in 2007, while only 1 percent of corporate issues qualified for the top rating [Coval et al. (2009)].

In the market for corporate ratings, a similar effect occurs in which CRAs provide more favorable ratings for long-standing customers. Mählmann (2011) finds that ratings inflation for corporate bonds increases with the duration of the relationship between a CRA and a rated firm over the sample period 1986-2005. To illustrate, his study shows that an issuer with an 11-year relationship with a CRA enjoys a rating of approximately 0.6 notches higher than that of a similar firm with only a one-year relationship with the CRA. Follow-up tests on default rates show that this higher rating is not associated with stronger credit quality; on the contrary, bonds issued by companies with long-standing relationships with CRAs have higher credit risk in yield spread tests. The research identifies a “dark side” to long-standing relationships between issuers and CRAs in that ratings may be inflated.

Other researchers have also identified a motivation for a CRA to become more generous with ratings. Mathis et al. (2009) model CRA incentives in the face of reputation effects. Limited to a monopoly CRA, but taking into account reputation effects, they identify reputation cycles in which CRAs become more optimistic over time and predict that CRA incentives to be truthful weaken when there is more business in a given product. As expressed by White (2010): “It is not surprising

that the members of a tight, protected oligopoly might become complacent and less worried about the problems of protecting their long-term reputations". He et al. (2012) provide empirical support for this prediction. They find that over the period 2000-2006 large issuers of mortgage-backed securities (MBS) received AAA ratings for greater proportions of their issues and that these larger issues had poorer ex-post performance, as measured by subsequent price drops.

Overall, there is significant evidence that CRAs catered to issuers by providing favorable ratings for structured products leading up to the recent financial crisis. In the corporate bond market, however, catering to issuers appears to be far more moderate.

COMPETITION

Since the onset of the 2007-2009 financial crisis, the issue of whether competition among CRAs improves the quality of credit ratings has often been raised in policy debates. In economics, a competitive product market generally leads to lower prices and/or better product quality. Despite the virtues of competition, its impact on ratings quality is conceptually unclear due to the peculiar structure of the credit rating industry. Most CRAs adopt the issuer-pays business model, whereby they are paid by the firms they rate. The conflict of interest inherent in this business model gives issuers an incentive to shop around for favorable ratings. In turn, this issuer behavior pressures CRAs into offering friendly ratings to quickly ramp up their market shares.

Offsetting this potential conflict of interest, CRAs have reputation concerns. They face an incentive to provide unbiased ratings to avoid damage to their reputations in the long run. The trade-off faced by CRAs between maintaining reputation to increase future rents and catering to issuers to increase current rents makes the impact of competition among CRAs on ratings quality ambiguous. On the one hand, competition can reinforce the disciplining role of reputation due to the potential loss of market share in the future, which increases reputational costs and leads to improvement in ratings quality. On the other hand, competition may erode future profits leading to more focus on short-term profits and thereby result in greater ratings inflation.

Consistent with the latter view, several theoretical studies show that CRAs are more likely to issue inflated ratings in response to competitive pressure [Bolton et al. (2012); Camanho

et al. (2012)]. Other studies further show that CRAs' incentives to issue inflated ratings are stronger when (a) the rated securities are complex [Mathis et al. (2009)], (b) ratings are issued during a boom period [Bar-Issac and Shapiro (2013)], (c) the incentives for regulatory arbitrage exist [Archarya and Richardson (2009); Acharya et al. (2013); Opp et al. (2013)], or (d) issuers shop around for favorable ratings [Bongaerts et al. (2012)]. Frenkel (2015) presents a theory predicting that a CRA has an incentive to inflate ratings in a market with few issuers who repeatedly interact with the CRA (a concentrated market). In a concentrated market, such as the market of structured products, conflicts of interest are so severe that a CRA may be incentivized to develop a private reputation for rating leniency among issuers.

Consistent with these theories, ratings inflation has been shown to be particularly serious in the structured products market, wherein CRAs have systematically made upward adjustments beyond their rating models to gain market share. Numerous studies provide compelling evidence on upward biased ratings in the structured bond markets [Ashcraft et al. (2010); Baghai and Becker (2016); Benmelech and Dlugosz (2009); Cohen and Manuszak (2013); Coval et al. (2009); Griffin et al. (2013); Griffin and Tang (2012); He et al. (2011, 2012)].

While the evidence on the negative impact of competition on ratings quality in the structured bond markets is well-documented, there remains ongoing controversy over whether competition affects ratings quality in the corporate bond market. If ratings inflation exists in the corporate bond market, its extent could differ from that in the structured bond markets for several reasons. First, unlike structured bonds, corporate bonds are simple in their features and their ratings are mainly determined by issuers' fundamentals. These differences make the rating process of corporate bonds more transparent and easier for investors to understand than that of structured bonds. Consequently, ratings inflation in the corporate bond market, if it exists, can be more easily detected, making CRAs less likely to inflate their ratings for corporate bonds. Second, while the corporate bond market has many issuers, the structured bond market is dominated by a small number of large financial institutions. The corporate bond market tends to be less concentrated than the structured bond market, so the bargaining power of corporate issuers against CRAs is smaller than that of issuers in the structured bond market. These arguments imply that ratings inflation should be more prevalent in the structured bond than in the corporate bond market.

The empirical evidence on the relation between competition and ratings quality in the corporate bond market is limited and

mixed. Supporting the view that competition among CRAs results in ratings inflation, Becker and Milbourn (2011) find that Fitch's market share – their measure of the competitive pressure Fitch exerts on the two incumbent CRAs, S&P and Moody's – in a particular industry is positively correlated with the incumbents' ratings for firms in that industry during the period 1995–2006. They interpret this result as evidence that increased competition from Fitch led S&P and Moody's to offer friendly ratings.

Challenging the findings by Becker and Milbourn (2011), Bae et al. (2015) find no relation between Fitch's market share and ratings. They argue that Fitch's market share is subject to an endogeneity problem. Since Fitch's market share is an industry-level variable capturing Fitch's presence in a particular industry-year, the regression model likely suffers from an omitted variable problem in that certain industry characteristics affect both Fitch's market share and credit ratings. In support of their argument, they find that the positive effect of Fitch's market share on the level of ratings issued by S&P and Moody's disappears once the endogeneity bias caused by unobservable industry effects is controlled for. This result suggests that competition does not cause ratings inflation.

The size of a CRA may play a role in how it trades off upholding a reputation for quality ratings against catering to issuers with friendly ratings. For instance, the current profits foregone from lost market share are likely bigger than the loss in reputation capital in the future for a small CRA facing severe competition from larger CRAs. In a recent paper, Bae et al. (2016) test this prediction using Canada-based DBRS, which competes against the big three U.S. CRAs (S&P, Moody's, and Fitch). They show that competition from the big three in the Canadian corporate rating market appears to incentivize DBRS to assign favorable ratings to Canadian bonds over a sample period from 2004 to 2012. The competition effect is particularly stronger for bonds of issuers relying heavily on debt financing, having greater concerns about their ratings, or for which DBRS faces stronger conflicts of interest. Their credit spread analysis shows that for Canadian bonds, investors are less responsive to DBRS's ratings than to the U.S. CRAs' ratings, particularly when competition from the U.S. CRAs is intensive. Their evidence supports the view that reputation concerns are not an effective disciplining mechanism for small CRAs facing competitive pressure from their larger peers.

A few articles document the benefits of competition on ratings quality. Doherty et al. (2012) examine the market for insurance ratings. Using S&P's entry into the insurance ratings market previously covered by a monopolist, A.M. Best, they test the

impact of entry (i.e., competition) on the quality of ratings. They find that S&P required higher rating standards to assign a rating similar to the one assigned by A.M. Best and that higher-than-average quality insurers in each rating category of A.M. Best chose to receive a second rating from S&P. Their findings indicate that insurers of the same quality received a lower rating by the new entrant relative to the incumbent, suggesting that CRAs deflate rather than inflate their ratings in response to competitive pressure.

In a similar vein, Xia (2014) examines how the quality of ratings issued by an incumbent issuer-paid CRA (S&P) responds to the entry of Egan-Jones Rating Company (EJR), an investor-paid CRA. He finds a significant improvement in the quality of S&P's ratings following EJR's rating initiations: S&P's rating levels are shifted downward, ratings are more responsive to market-based risk measures, and S&P's rating changes are associated with stronger market reactions. These findings suggest that increased competition among CRAs in fact improves ratings quality.

Overall, there is strong evidence that competition among CRAs led to a systematic upward bias in the ratings of structured products. By contrast, the literature offers conflicting results on the impact of competition in the corporate rating market. These inconclusive results suggest that the impact of competition on ratings quality in the corporate bond market remains an open empirical question that warrants further research.

RATINGS SHOPPING

Ratings shopping is a practice whereby an issuer solicits ratings from multiple CRAs and then selects the CRA(s) that will assign the most favorable rating(s) relative to its (their) competitors. There is a widespread belief among market participants, investors, and regulators alike that ratings shopping has been a pervasive practice in the credit rating industry, particularly for structured finance products. Anecdotal evidence abounds. For example, Luchetti and Ng (2010) note that "Real-estate investment firm Redwood Trust Inc. approached two credit-rating firms early this year to rate a new mortgage-bond offering. It was an important deal, the first of its kind in two years. One of the firms, Standard & Poor's, expressed reservations about parts of the deal. Redwood chose Moody's Investors Service – and in April sold more than \$200 million of bonds carrying Moody's top rating of triple-A, without a hitch." In another example, "Fitch Group's new chief executive said Credit Suisse Group AG dropped the firm's rating from a mortgage-backed

security because Fitch took a harsher view than two rivals that assigned triple-A ratings to the deal.” [Neumann (2012)].

Both ratings shopping (by issuers) and competition among CRAs can result in inflated ratings. However, unlike the competition story, ratings shopping does not necessarily require that CRAs be subject to incentive problems that may cause them to inflate ratings. Ratings shopping reflects selection bias in ratings caused by issuers’ strategic choices rather than by perverse incentives on the part of CRAs. Even when CRAs maintain their ratings standards and offer unbiased ratings on average,⁴ ratings inflation may arise because of the ability of issuers to obtain ratings from multiple CRAs and then to select and disclose the most favorable rating(s). In this scenario, the published ratings will be upward biased relative to the ratings we would observe in a shopping-free market.

The extant literature attempts to answer a number of important questions regarding ratings shopping. How relevant and pervasive is this phenomenon? How does it relate to the complexity of rated assets or the business cycle? Do firms benefit from engaging in ratings shopping? Do investors account for ratings shopping in their pricing of rated assets? In what follows, we seek to answer these questions in the context of the existing theoretical and empirical literature.

Numerous theoretical studies model ratings shopping in different settings. Skreta and Veldkamp (2009) develop an equilibrium model in which investors do not rationally account for an upward bias in published ratings due to the ability of issuers to choose among potential raters. They show that an issuer’s incentive to shop strengthens with the complexity of rated assets – when the potential for disagreement on the same rating for a given asset is greatest among CRAs. Their theory predicts that ratings shopping is pervasive and that ratings exhibit a systematic bias in markets of complex credit products, such as mortgage-backed securities (MBSs) and collateralized debt obligations (CDOs), but is somewhat limited in traditional bond markets.

Bolton et al. (2012) develop a rich theoretical model in which ratings inflation emerges from a sufficiently high fraction of naïve investors who take ratings at face value. The model shows that in equilibrium, two distortions of market efficiency may occur. First, the presence of multiple CRAs (e.g., a duopoly versus a monopoly) facilitates ratings shopping, which in turn may lead to ratings inflation. Second, ratings inflation is more likely to occur during economic booms as more investors are likely to accept ratings uncritically and/or when CRAs are less likely to be concerned about their reputation costs in

the form of lower future profits associated with ratings mistakes. This prediction is consistent with the theoretical modeling by Mathis et al. (2009) and empirical results in Ashcraft et al. (2010).

More recently, Sangiorgi and Spatt (2016) present a model of ratings shopping without making the restrictive assumption of naïve investors. They show that even under rationality, ratings inflation can emerge when an issuer selectively discloses to the market a subset of the solicited ratings. In turn, selective disclosure of ratings causes uncertainty in the market about whether there are any undisclosed ratings, which results in inefficient investment decisions and misallocation of resources in the economy.

The empirical evidence on ratings shopping in the corporate bond rating market is mixed. Becker and Milbourn (2011) investigate changes in the quality of bond ratings from S&P and Moody’s in response to the material entry of Fitch to the competitive landscape during the 1995-2006 period. Although their overall results point to a competition story as discussed above, they present one piece of evidence that lends support to the presence of ratings shopping in the corporate rating market. They find that Fitch tends to rate bonds with a low rating from the incumbents, suggesting that issuers disappointed with their existing ratings from S&P and/or Moody’s tend to solicit an additional rating from Fitch.

In an early study, Cantor and Packer (1997) document that bond ratings from Fitch and Duff & Phelps are higher than those assigned by Moody’s and S&P. They argue that the observed bond rating differences result from divergence in rating scales across CRAs rather than sample selection bias. In a follow-up study, Bongaerts et al. (2012) examine corporate bond issuers’ demand for an additional rating from Fitch, conditional on already having a rating from Moody’s and S&P, and test three possible explanations for this phenomenon: (a) information production – an additional Fitch’s rating adds value-relevant information, (b) ratings shopping – issuers disappointed with their existing ratings from Moody’s and S&P shop for better ratings from Fitch, and (c) regulatory certification – Fitch plays the role of a tiebreaker at the high-yield (HY)–investment-grade (IG) boundary. Bongaerts et al. find evidence that adding a Fitch’s rating is not associated with lower bond yields unless Fitch rates the issue IG when Moody’s and S&P’s

⁴ The CRAs provide unbiased ratings on average but their models are noisy in a way their ratings reflect some positive and negative errors.

are on opposite sides of the HY-IG boundary, in which case the yield improves by about 40 basis point. This evidence is consistent with Fitch's ratings having regulatory certification effects, but is inconsistent with the information production hypothesis. Further, Bongaerts et al. show that Fitch's ratings are particularly optimistic for bonds rated just below IG or bonds for which Fitch plays the role of a tiebreaker around the HY-IG boundary. Although the evidence seems to be consistent with the regulatory certification hypothesis, it could also be interpreted as being supportive of the ratings shopping explanation because ratings shopping incentives are expected to be stronger around the HY-IG boundary than elsewhere.

A possible explanation for the weak empirical evidence on ratings shopping for corporate bonds is sample selection bias. Most empirical studies focus on a sample of ratings in which issuers solicit an additional rating from a third CRA (typically Fitch), conditional on already having ratings from Moody's and S&P. Such a sample suffers from selection bias because issuers who engage in ratings shopping and end up with only one published rating (from Fitch), after hiding the less favorable ratings (from Moody's and S&P), will not be covered. Thus, any shopping-related bias in published ratings will be difficult to detect and likely understated.

To the best of our knowledge, Kronlund (2016) is the only exception to date, examining ratings shopping in the sense that issuers shop for multiple ratings, withhold lower ratings, and only publish the higher ones. Kronlund finds that for issuers with only one rating, a CRA that rated the issuer's bonds higher than the other CRAs last year is more likely to be the CRA that the issuer solicits, suggesting that the published ratings are more representative of the favorable opinions. Consistent with the asset complexity prediction of Skreta and Veldkamp (2009), Kronlund shows that this bias is strongest among junior and long-term bonds, which are more complex to rate. Kronlund also finds that bond investors account for shopping-related bias in ratings and demand higher yields, a finding that is at odds with the naïve investor assumption made by Skreta and Veldkamp (2009) and Bolton et al. (2012), but is consistent with the rationality assumption of Sangiorgi and Spatt (2016). Finally, Kronlund investigates ratings shopping motives and finds strong evidence that issuers engage in ratings shopping primarily for regulatory arbitrage purposes.

There are two recent major studies investigating the phenomenon of ratings shopping in the structured product domain: (a) Griffin et al. (2013), who provide evidence against ratings shopping in the CDO market; and (b) He et al. (2015), who offer evidence in support of ratings shopping in the MBS market.

Using a sample of CDOs from 1997 to 2007, Griffin et al. document that nearly 85% of all AAA CDO capital with a rating from either Moody's or S&P also receives a rating from the other CRA. For dual-rated tranches with at least one AAA rating, they find that more than 96% of the capital receives identical AAA ratings from Moody's and S&P. Thus, it appears that dual certification and agreement on the same rating is the norm for highly-rated CDO tranches. This is inconsistent with ratings shopping, which posits that only the most favorable rating(s) will be purchased and reported. Griffin et al. conduct a more direct test of ratings shopping by comparing the yield spreads and default rates of AAA CDO tranches rated by both Moody's and S&P with those of AAA CDO tranches rated by only one of them. They find that although the latter are associated with larger yield spreads, they actually experienced fewer defaults, implying that the ratings provided by only one CRA are not of lower quality, inconsistent with a ratings shopping story.

He et al. use a sample of MBS deals originated and issued between 2000 and 2006 and find evidence in favor of ratings shopping for non-AAA rated MBS tranches. They first document that non-AAA rated tranches are significantly more likely to receive only one rating than AAA rated tranches, which suggests that ratings shopping appears more likely among non-AAA rated tranches. Consistent with this observation, they find that single-rated tranches experience larger losses than multi-rated ones. Interestingly, investors seem to recognize and take ratings shopping into consideration when pricing non-AAA rated tranches. He et al. find that initial yields predict future losses for non-AAA rated tranches, but not for multi-rated ones.

Overall, the evidence on ratings shopping seems to be inconclusive not only in the traditional corporate bond markets, for which the potential for ratings shopping is presumably limited, but also in the more complex structured product markets, despite the extensive anecdotal evidence at hand. In our view, this mixed evidence likely reflects the empirical difficulties encountered by researchers. At the center of these difficulties is the opaque nature of the solicitation process. For example, researchers typically do not observe unpublished ratings that were solicited by issuers. Worse, researchers do not observe how the CRAs that were not solicited would have rated, so they cannot determine whether the published ratings are higher than those that were unsolicited. In our view, future research on this topic will primarily focus on addressing these identification issues.

CONCLUSION

Ratings have a dual role: they affect market prices not only because they provide credit-relevant information but also because they form a focal point for investment rules and regulations that restrict the investment activities of certain institutional investors. Further, the certification services of CRAs appear to facilitate firm access to capital markets and to have positive real effects on the economy.

However, a recent strand of literature focuses on CRAs' incentive problems arising from the peculiar structure of the credit rating industry and offers several alarming findings. Reputation concerns appear insufficient to offset the severe conflicts of interest inherent in the issuer-pays business model, whereby CRAs are paid by the issuers they are supposed to rate objectively. Increased competition among CRAs worsens this perverse incentive as CRAs seek to cater to issuers' preferences to gain market share. Aside from CRAs' incentive problems, the ability of issuers to shop around for ratings from multiple CRAs and to select and disclose the most favorable one(s) leads to a systematic upward bias in published ratings. While there seems to be consensus in the literature that these findings hold true in the context of structured product markets, it is premature to conclude that they also apply to the realm of corporate bonds. Indeed, the evidence on inflation in corporate bond ratings due to conflict of interests is mixed and inconclusive. Further, it is unclear whether competition among CRAs improves or worsens the quality of corporate bond ratings. In our view, future research on these topics should focus on resolving identification issues, such as how to correctly measure competition among CRAs and how to resolve empirical difficulties related to the opaque nature of the ratings solicitation process.

These conclusions suggest that when corporate CFOs engage in financial restructuring and other actions to preserve favorable bond ratings, they are acting in the interests of shareholders to avoid higher costs of capital and to preserve access to debt financing. Investors and regulators correctly regard bond ratings as useful information about credit risk. Nonetheless, bond investors remain somewhat skeptical about ratings quality: they discriminate among CRAs when ratings are split and appear to price bonds based on independent research as well.

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