

An Inquiry into the Feedback Effects of Credit Ratings

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Group project. Collaborator names and student identifiers are omitted from this public copy.

Introduction

At a time when disclosure was optional and optimism abundant, John Moody first began rating railroad companies in 1901. The Great Depression exposed the fragility of that system, prompting the New Deal era. The U.S. government formed the SEC in 1934 to mandate transparency, but regulators still lacked a way to systematically classify the safety of corporate debt. In 1936, the U.S. Department of the Treasury ruled that banks could not invest in speculative securities but rather abide by specified rating classifications. Moody's and Standard's rating scales would define which bonds were "investment-grade", transforming ratings from optional advice to legally binding standards.

The ultimate result was an increase in spreads between BBB-rated and BB-rated bonds (Kisgen and Strahan, 2010). Over time, U.S. financial regulation became increasingly entangled with credit ratings. In 1989, savings and loans were prohibited from holding junk bonds (Kisgen and Strahan, 2010). In 1993, Basel proposals required internationally active banks to hold extra capital against non-investment grade securities. Insurers were subjected to higher capital requirements for lower-rated bonds and the SEC's rule 2a-7 added further rigidity by restricting money market funds to A+/A1 securities. Furthermore, investment-grade bond funds could not hold more than 5% in junk and were forced to sell past B ratings.

As it turned out, this amount of regulation was still insufficient. Anyone with a typewriter and a logo could open an arbitrary rating agency, allowing investors to surmount new restrictions by providing conveniently lenient ratings (Kisgen and Strahan, 2010). In response, the SEC created the NRSRO system in 1975 (Kisgen and Strahan, 2010), immediately appointing Moody's, S&P, and Fitch. Between 1975 and 2000, the effective number of firms within this category remained unchanged (Kisgen and Strahan, 2010), prompting Congress to pass the 2006 Credit Rating Agency Reform Act to formalize NRSRO qualification standards. By 2009, ten NRSROs existed in total, yet the "balance of power" was

maintained. As of 2025, the “Big Three” continue to dominate the market among the ten NRSROs: S&P and Moody’s control roughly 40% each, with Fitch holding another 15%.

This report examines the implications of the “Big Three” oligopoly in the context of three key case studies – DBRS, the Great Financial Crisis, and the notorious bankruptcy of Lehman Brothers. Particularly, the paper revolves around the feedback effects of credit ratings – and what they mean to regulatory agencies.

Feedback Effects

A single credit rating can determine whether investors may hold a firm’s debt, how much capital investors must post, and whether a company retains access to commercial paper or obtains a rating change. Because so many hinges on CRAs, ratings no longer merely reflect a firm’s condition – they can alter it. This is the essence of feedback effects: ratings shape markets, and markets in turn reshape ratings. In his highly influential formal model on the feedback effects of credit ratings, Gustavo Manso (Manso, 2013) models the interaction between a firm and a CRA as a dynamic game in which a firm’s interest payments depend on its credit rating. Because ratings affect borrowing costs, and borrowing costs affect default risk, ratings and firm behaviour reinforce each other in a process termed *strategic complementarity*.

Ederington and Goh (1998) find that rating downgrades trigger significant declines in stock prices and prompt analysts to cut their earnings forecasts sharply. They show that these reactions stem from the downgrade itself rather than from prior negative information or simultaneous earnings announcements. Similarly, a 2010 paper (Kisgen and Strahan, 2010), exploits DBRS’s appointment in 2003 to NRSRO status as a quasi-natural experiment to quantify the economy significance of certification. The authors show that because regulations restrict investors to bonds above certain rating thresholds, ratings directly influence bond yields and therefore firms’ cost of capital (Kisgen and Strahan, 2010). Therein lies the issue, DBRS’s

regulatory status should have had no impact on the information content of its ratings – only their regulatory relevance.

Yet the authors find that firms DBRS rated more favourably than the “Big Three” experienced a nearly 55-basis-point reduction in yields once DBRS became an NRSRO. Given that the spread in their 2003 sample between BBB- and BB+ ratings was roughly 150 basis points, their estimate suggests that over one-third of the investment-grade spread was attributable to regulatory effects.

The findings confirm the enormous power CRAs continue to wield – because the Big Three’s market dominance remains intact. This leaves minimal room for error, contingent on CRAs consistently following an accurate rating policy.

The 2008 Global Financial Crisis

The Global Financial Crisis stands as the most devastating real-world demonstration of what happens when such a policy is abandoned – and a clear lesson about the dangers of an oligopoly. While CRAs did not play an exclusive role in the financial crisis, they allowed conflicts of interest, flawed models, and inflated ratings to flourish unchecked. Pre-2006, regulators did not impose transparency requirements, did not audit rating methodologies, and did not require agencies to demonstrate the reliability of their models. As a result, complex MBSs and CDO tranches received AAA ratings despite being backed by subprime collateral. Investors relied heavily on these ratings, which eventually included over three trillion dollars of mortgages to homebuyers with bad credit and undocumented incomes (Bloomberg, 2008).

It’s all about Survival

Manso shows that the interaction between a firm and a CRA forms a game of strategic equilibria. In the “soft” equilibrium, the agency assigns slightly optimistic ratings, resulting in lower coupons, lower default probabilities, and a higher chance of survival. In a “tough” equilibrium, the agency assigns more negative ratings, pushing yields up and increasing default

probability. The theoretical framework explains how CRAs can materially affect a firm's probability of survival even when the agency merely intends to provide accurate assessments.

The key implication of the model is the possibility of credit-cliff dynamics, that “even when rating agencies pursue an accurate rating policy, multi-notch downgrades or immediate default may occur in response to small shocks to fundamentals.” (Manso, 2009).

As the financial crisis began to unfold in 2007, CRAs issued rapid and severe downgrades, often from investment grade to junk status. Because regulations required institutional investors to hold only investment-grade assets, these sharp downgrades triggered immediate fire sales and severe market dislocations. At the same time, many companies had rating-trigger clauses tied to financing contracts – agreements that would automatically tighten financing terms after a downgrade. For instance, in 2001, Enron's downgrade activated \$3.9 billion in accelerated debt obligations, which virtually killed the firm. S&P reported in 2002 that over 87.5% of firms at the time were exposed to such triggers (Kisgen, 2007).

The economy was inevitably pushed into a credit-cliff dynamic, making a definitive meltdown imminent. The series of feedback effects the CRAs set in motion culminated in the infamous collapse of Lehman Brothers – a textbook illustration of Manso's statement. The company's survival ultimately hinged on maintaining its investment-grade rating, to retain access to short-term financing. Once CRAs issued a sequence of rapid downgrades, the firm was effectively blacklisted from obtaining short-term funding.

Just like that, Lehman's fate was sealed, and the financial system tipped into freefall. Between 2007-2008, CRAs unleashed mass downgrades on vast volumes of structured products, setting off a widespread turmoil as rating-based mandates and triggers cascaded through the economy. Manso's conclusion is unmistakable: rating agencies must consider not only the accuracy of their assessments but also the systemic consequences their ratings can unleash (Manso, 2009).

Cost of Capital and Corporate Decisions

Managers will shape their decision-making to maintain or achieve a certain target rating. Hence, changing the company's capital structure by issuing equity, debt, or buy back said debt allows management to influence their company's status (Kisgen, 2007). Indeed, when a company needs outside capital to fund new projects and is threatened by a downgrade, near an upgrade or when a change in rating has happened, managers will issue equity rather than debt compared to firms who have a secured rating. This generates endogenous adjustments in the corporate capital structure that feeds back into the cost of capital.

In his analysis, Kisgen (2007) finds that firms are less concerned about a change within the same general rating level compared to a change from one letter to the other. Hence, when companies' rating is in the top third or top bottom of a specific level, they are more likely to reduce leverage. That is because of managers' fear of triggered costs, effects of regulations on bond investors. Most importantly, ratings bear signals about the information a rating agency has about a specific company made invisible to investors, impacting the perceived "quality" of the firm.

This behaviour is strongest for companies at the BB+/BBB- threshold. A downgrade would mean losing the access to the CP market and pushing the bonds into more illiquid, higher spread segment. Implying cost of capital increase expectations from managers pushing them to adopt more defensive financing decisions to manipulate the credit metric by mitigating the loss of rating or the facilitation of an upgrade.

Reform post Great Recession

An important dimension of the debate on the feedback effects of credit ratings is how the SEC got CRAs under control by altering their behaviour and market influence post-crisis.

In 2010, lawmakers passed the Dodd-Frank Act, providing provisions for the SEC to implement new regulations, with an increase of legal and regulatory penalties to CRAs for

issuing inaccurate ratings. Dimitrov et al. (2015) explain that the two fundamental provisions from the Dodd-Frank, increased CRAs' liability and strengthened the SEC enforcement. Moreover, their empirical findings focused the strong support of the "reputation theory" which states that an increase in legal and regulatory penalties create asymmetric risks for CRAs. It means that SEC can punish CRAs for awarding ratings that are "too optimistic" but won't impose any sanctions for "too pessimistic" ratings (Dimitrov, Palia and Tang, 2015). This is incentivising CRAs to avoid liability by issuing systematically lower and more conservative ratings. This leads to false warnings and less informative downgrades which impact the quality of ratings.

Alternatively, new and stricter regulations through the Dodd-Frank act, with the help of the SEC, should have pushed CRAs to make more accurate and informative ratings by investing in due diligence to improve their methodology (Dimitrov, Palia and Tang, 2015). In contrast, the general response of the CRAs was focused on reputation-protection behaviours which could mean that feedback effects evolved with the 2008 recession.

Conclusion

In conclusion, the SEC's federal oversight post-crisis clearly demonstrates that regulatory enforcement shapes CRA rating behaviour. This report's analysis shows that the dynamics between credit ratings and corporate behaviour creates strategic feedback loops that trigger the amplification of systemic risk. Building on Manso's empirical findings, further research should focus on the interactions of corporate investment decisions with rating policies, as well as how one firm's downgrade can pressure another's.

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