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Credit rating industry: A helicopter tour of stylized facts and recent theories ☆

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ABSTRACT

The recent subprime crisis and the ongoing Euro zone crisis have generated an enormous interest in the credit rating industry not only among economists but also among average citizens. As a consequence, we have seen an explosion of the economic literature on the industry. The objective of this survey is to introduce readers to the key stylized facts of the credit rating industry and to the recent theoretical economic literature on this industry.

1. Introduction

The recent subprime crisis and the ongoing Euro zone crisis have generated an enormous interest in the credit rating industry not only among economists but also among average citizens. As a consequence, we have seen an explosion of the economic literature on the industry. The objective of this survey is to introduce readers to the key stylized facts of the credit rating industry and to the recent theoretical economic literature on this industry. This survey can be of interest to researchers working on industrial organization since quality certification is a major issue in industrial organization and credit rating agencies (CRAs) provide information about quality of financial obligations such as bonds.

After providing basic stylized facts (Section 2), we review the recent theoretical literature (Section 3) and propose some directions for future research (Section 4).

2. Stylized facts

2.1. Historical and regulatory background

John Moody was credited with initiating the first bond-rating agency, in the United States in 1909, which was entirely focused on railroad bonds. According to Sylla (2002), a historian of finance, Moody's bond-rating agency represents a fusion of functions performed by the following three institutions that preceded it, namely credit-reporting agencies, specialized financial press, and investment bankers.

First, starting from the middle of the nineteenth century, credit-reporting agencies sold subscribers information on business standing and creditworthiness of all sorts of businesses in U.S. Some of these agencies used to sell *commercial rating books*. Second, there were specialized publications reporting on the railroad corporations, which were America's first big businesses in the sense of multi-divisional enterprises operating over large geographical expanses. They published information on the property of railroads, their assets, liabilities and earnings. Poor's Manual of the Railroads of the United States, which started in 1868, was one such publication. Third, investment bankers acted as financial intermediaries between investors and railroad corporations issuing bonds by making use of inside information.

At the turn of the twentieth century, as the size of U.S. investing class expanded, there were increasing demands from investors for wider disclosure of the information on the railroad corporations. Moody met such demands by publishing Moody's Analysis of Railroad Investments. This volume collected data, analyzed railroad securities and then condensed the analysis into a single rating symbol. Simplicity sold and Moody's rating system became an instant hit with investors. Success attracted competition. Moody's was followed by Poor's Publishing Company in 1916, the Standard Statistics Company in 1922, and the Fitch Publishing Company in 1924. Poor's and Standard merged in 1941.

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Financial regulators played a crucial role in enhancing the role and power of CRAs.[1] The first regulator to take notice of credit rating was the Federal Reserve System. Beginning in 1930, it implemented a system based on the credit ratings for evaluating the risk of a bank's entire portfolio of bonds. In 1936, the Comptroller of the Currency required that bonds purchased by national banks be rated as of investment grade 'by not less than two ratings manuals' – in modern ratings, this would be equivalent to bonds that were rated BBB– or better on the Standard & Poor's scale.[2]

The next major use of credit ratings by regulators came in 1975 by the Securities and Exchange Commission (SEC). The SEC revised Rule 15c3-I, its 'net capital' rule for broker dealers, requiring mandatory write-downs (or 'haircuts') on the broker's balance sheet for securities which were deemed risky. Instead of elaborately defining the criteria for various levels of risk, the SEC chose to rely on the credit ratings such that the higher the credit rating, the lesser the write-down. However, to guarantee reliability of ratings, the SEC introduced the category of 'Nationally Recognized Statistical Ratings Organizations' (NRSROs). Only the ratings issued by the CRAs with the NRSRO accreditation are relevant for its regulation. With the introduction of NRSROs, the SEC grandfathered Moody's, Standard & Poor's, and Fitch into the category and excluded start-ups and fly-by-night small CRAs.

Once the concept of NRSRO became established, it was quickly adopted for a variety of other regulatory purposes. For instance, in the early 1980s, the SEC limited money market funds to investments in securities that were given a high rating by at least two NRSROs. The insurance industry has also piggybacked on the NRSRO concept: the National Association of Insurance Companies has relied heavily on NRSRO credit ratings and has effectively penalized insurance companies that invest in low-rated or unrated debt.

Whatever the category of institutional investors – federal or state bank, mutual fund, broker-dealer or insurance company – their capital structure is regulated to assure financial solvency. Across a broad range of contexts, state and federal regulators found it simpler to delegate the task of risk assessment to the NRSRO credit-rating agencies. Moreover, on the global level, international bank regulators followed this same path through the Basel Accords. For instance, the "standardized approach" developed by Basel II framework uses credit ratings to determine risk-weights for capital requirement.[3]

The important role that regulation plays for the credit rating industry helps to understand two opposing views of CRAs. The traditional view is to regard CRAs as 'reputation intermediaries' that reduce the information asymmetry between issuers and investors: an issuer uses the reputation of CRAs to send a credible signal that its securities are of above average quality in order to pay a below average interest rate.[4]

Although this reputation intermediary view has been dominant, it is contested by an alternative 'regulatory license' view (Partnoy, 1999). According to this view, ratings are valuable, not because they are accurate and credible, but because they are the key for reducing costs associated with regulation. Rating agencies sell regulatory licenses to issuers. Because investors' regulatory costs are lower when holding bonds with investment grade ratings, issuers' proceeds from selling such bonds are larger than selling bonds with no rating or speculative grade ratings. The value of a regulatory license hence needs not be based on reputational capital as long a CRA has its NRSRO status. This alternative view predicts a 'race to the bottom' among CRAs: competition among CRAs for selling a rather homogenous product of regulatory licenses will induce CRAs to be lax in attributing high rating to attract issuers. As a result, more competition should lead to a decrease in information content of ratings.[5]

Becker and Milbourn (2011) find some evidence of 'race to the bottom' in that the increased competition from Fitch led Moody's and S&P's to decrease information content of ratings by providing higher ratings than before Fitch became a serious competitor. Furthermore, what took place during the recent financial crisis (see Section 2.3) has given credit to the regulatory license view since the major CRAs still remain very powerful even after losing their reputational capital. However, there is some evidence contradicting 'race to the bottom' as well. For instance, Doherty et al. (2011) find that in the case of Standard & Poor's entry into the market for insurance ratings previously covered by a monopolist, A. M. Best, the entrant employed more stringent rating standards than the incumbent. Overall, we think that both views have some elements of truth.

2.2. Fee and market structure

As we have seen, originally, CRAs' revenues came from investor's subscriptions, which is called the 'investor-pays' model. However, in the early 1970s, CRAs switched from the 'investor-pays' model to the 'issuer-pays' model. This happened partly because of the invention of high-speed photocopy machines that made it easier for non-subscribing investors to free-ride on the information in rating books.

In the 'issuer-pays' model, an issuer pays an upfront fee for an assessment of its default risk. In case the issuer asks the CRA to publicize the rating, it will pay an additional fee. More precisely, according to Coffee (2008, pp. 71–72) in a congressional testimony:

> "Today, the rating agencies receives one fee to consult with a client, explain its model, and indicate the likely outcome of the rating process; then, it receives a second fee to actually deliver the rating (if the client wishes to go forward once it has learned the likely outcome). The result is that the client can decide not to seek the rating if it learns that it would be less favorable than it desires; the result is a loss of transparency to the market."

A typical fee on a new long-term corporate bond issue ranges between 4 and 5 basis points of the principal amount. Thus the rating fee for a US$200 million 10-year bond issue would be somewhere in the range of US$80,000 to $100,000 (Langohr and Langohr, 2009, p. 413).

The current fee structure has been criticized for mainly two reasons. First, because it is the issuer who ultimately decides whether a given rating becomes public or not, the issuer can shop for rating. That is, an issuer can ask ratings from multiple CRAs and then publicize only the most favorable ratings. Second, because CRAs are paid by issuers, they might be tempted to please them with favorable ratings and charge the additional fee resulting from publicizing their ratings. Whether CRAs' reputational concerns are strong enough to make these conflicts not relevant is among the central questions many recent papers have tried to answer theoretically and empirically (see Section 3.3).

In terms of the market structure, the credit rating industry is a triopoly (Moody's, Standard & Poor's, Fitch) with the joint dominance of the first two. The SEC designated only four additional firms as NRSROs during the 25 years following the creation of NRSRO category in 1975: Duff & Phelps in 1982, McCarthy, Crisanti & Maffei in 1983, IBCA in 1991 and Thomson BankWatch in 1992. However, mergers

[1] Our description of the regulatory background is based on Coffee (2006).

[2] Ratings bellow BBB– are called non-investment or speculative grades.

[3] See the report from the Joint Forum (2009) for an overview of the use of credit ratings in financial regulations among different countries in the world.

[4] As is illustrated in Section 3, this mechanism works only if the certifying agencies have reputational capital which exceeds the gain from false certification.

[5] For instance, monopoly pricing leads to a higher price than duopoly pricing, implying that competition makes it cheaper for an issuer to buy a high rating. If an issuer's willingness to pay for a high rating is positively correlated with the quality of the project the issuer wants to finance by issuing bonds, we should observe that more competition results in a reduction in information content of high rating.