

How many credit ratings is enough?

Darrell Duffie¹
Graduate School of Business, Stanford University

DRAFT

Remarks for presentation at the
Roundtable on the Desired Standard for Credit Ratings in Israel's Debt Market
Israel Securities Authority
August 10, 2020

Credit rating agencies (CRAs) offer predictive opinions of default risk. It is efficient for many bond investors to delegate the evaluation of default risk to CRAs, rather than for each bond investor to perform this costly work individually. This raises the public-policy question: How many CRAs should be engaged to rate each bond? Other things equal, the larger is the number of ratings opinions, the greater is the information available to bond investors, promoting a more efficient allocation of capital to firms, and of bonds to investors. But other things are rarely equal.

Suppose that two CRAs cover a bond market, as in Israel. If each of the two CRAs knows that it will be engaged to provide a rating on every bond, then it has a reduced incentive to carefully research the credit quality of the bonds that it rates. The total effective information reaching investors could easily be lower than with one rating per bond. It is preferable that each CRA strives for market share by investing in the quality of its ratings opinions. Investors will then rely on the opinions of a CRA with a high reputation for predictive accuracy. Issuers will respond accordingly by assigning more ratings mandates to more accurate CRAs. For the same reason, a more reputable CRA is able to charge higher fees.

With only two national-market CRAs, the socially optimal average number of ratings per bond is presumably between one and two. For larger issuances, or issuances for which there is a higher value to investors of additional credit information, the issuer would more frequently obtain two ratings in order to make a sufficiently compelling case to a sufficient number of investors. Otherwise, one rating is more likely. Hopefully, each CRA would compete to be selected as often as possible by investing in ratings accuracy.

¹Adams Distinguished Professor of Management and Professor of Finance. I am grateful for conversations with Anat Admati, Robby Goldenberg, Yigal Newman, and Avi Sternschuss. I am an independent member of the board of U.S. Dimensional Funds, representing the interests of shareholders of mutual funds, some of which invest in rated corporate bonds. From October 2008 to March 2018, I was a member of the board of directors of Moody's Corporation.

However, if a CRA were to compete instead by catering to the preference among issuers for high ratings, this would increase the number of ratings mandates obtained by the CRA in the short run, but only until market participants become aware of its catering behavior. The market's punishment is then a loss of reputation and a lengthy period of low market share. Regaining reputation is difficult because the CRA has demonstrated its willingness to cater to issuers and also because the CRA's coverage of the market will be reduced. Low coverage limits the ability of the CRA to demonstrate a track record of accurate ratings, and also reduces the ability of investors to compare the CRA's ratings across different firms.

Ratings coverage is crucial. Investors are often interested in how a CRA compares the quality of a new issuance by firm A to the credit qualities of firms B and C. If the CRA does not rate B and C, then the CRA's rating of A is less useful to these investors. For this reason, issuers prefer CRAs whose ratings cover a large fraction of issuers in the market, or of a relevant sector of the market. This can lead to CRAs having concentrated coverage in specific sectors of a bond market, as in Israel. Once a high market share of a CRA in a specific market or sector is established, and provided the CRA maintains its reputation for accuracy, it is relatively difficult for an entrant rating agency to dislodge that CRA's market share.

As the number of CRAs covering a market grows, competition among the CRAs for market share rises, which has both costs and benefits. There is the benefit of more ratings opinions and the potential benefit of competition through ratings quality. But when the number of CRAs gets high enough, each CRA may get a small enough fraction of the pool of available market-wide ratings fees that the value of a maintaining a high reputation goes down, resulting in the perverse effect of lower-quality ratings information.

The greater is the number of CRAs, moreover, the greater is the risk of CRAs "catering" to issuers, and of issuers "shopping" for ratings, both of which reduce the quality of ratings information.² For example, Griffin, Nickerson, and Tang (2013) find that pre-crisis collateralized debt obligations (CDOs) rated by both Moody's and S&P defaulted more frequently than did CDOs rated by only one of these CRAs. CDOs rated by all three of Moody's, S&P, and Fitch defaulted more frequently than did CDOs rated only by S&P and Fitch. These authors also find that a CRA made upward ad-hoc adjustments to its ratings when its standard CDO modeling would have produced a lower rating than the standard modeling of another CRA.

Some issuers under-invest in credit ratings, from a public-policy perspective, because they are concerned that providing more information to the market about their credit quality would generate a higher all-in total cost of debt financing. For example, some issuers who have suffered a sufficient drop in creditworthiness terminate one or more of their agreements with a CRA to have their bonds rated. Moreover, mutual funds and

² See Becker and Milbourn (2011), Benmelech and Dlugosz (2009), Bolton, Freixas, and Shapiro (2012), Bongaerts, Cremers, and Goetzmann (2012), Griffin, Nickerson, and Tang (2013), Kisgen and Strahan (2010), and Nyborg (2016).

some other asset-management firms are often restricted to issuers with an investment-grade rating. With two ratings, a typical policy is to base this criterion on the *lower* of the two ratings. An issuer near the lower edge of investment-grade credit quality that obtains two ratings therefore increases the risk of failing to attract these investment-grade investors, relative to an issuer than obtains a single rating.

The Israel Securities Authority (2020) reports that 16% of rated corporations are rated by both of Israel's CRAs, Midroog and S&P Maalot. Suppose, in the end, that it is better for the marketplace to increase the average number of ratings per issuance from that arising through normal market competition, cost, and strategic behavior. If a higher frequency of joint rating is desirable, one approach would be to subsidize the provision of a second rating by establishing a market-wide trust fund that collects issuance fees and subsidizes each issuer that obtains two ratings.

For instance, suppose the mandated issuance charge collected by the industry trust fund is one quarter of rating fees, and that the subsidy for obtaining a second rating is one third of the total ratings fees. As an illustration, if one CRA is selected by an issuer and the rating fee is 12 basis points of the principal amount of the issuance, the trust fund would collect 3 basis points from the issuer and pay no subsidy. (For simplicity, the collection could be paid by the issuer to the CRA, and then transferred by the CRA to the trust fund, as with the collection of a sales tax.) If the issuer were to instead obtain two ratings, paying 12 basis points for each, then the trust fund would collect a total of 6 basis points and would compensate the issuer with a subsidy of 8 basis points for obtaining the second rating. The net effective cost of obtaining two ratings is then 22 basis points, to be compared by the issuer with a net effective cost of obtaining one rating of 16 basis points.³

The unintended adverse consequences of this sort of tax-and-subsidy scheme, if applied too aggressively, include:

1. Both CRAs could be selected so often, given the subsidy for a second rating, that that neither CRA is sufficiently concerned about its reputation for quality. Total ratings information provided to the market could suffer.
2. Getting a single rating could become so expensive that some issuers would reduce their issuances into the public market, relying instead on private debt issuances, for example to pension funds that rely on their own internal ratings. Public ratings information would then suffer. For public-market investors, there would be a decline in investment opportunities and lower potential diversification.

³For this example, suppose the CRAs have the same fee schedule. The trust fund then breaks even before expenses if the fraction X of issues with two ratings solves the equation $(1-X)/4 + 2X/4 - 2X/3 = 0$, implying that $X = 60\%$. In practice, the tax and subsidy rates can be adjusted dynamically over time so as to break even and address policy objectives.

In summary, the CRA industry is a natural oligopoly in which the socially optimal number of CRAs, and of ratings per issue, is more than one on average, but probably not a lot more.

I am very grateful to the ISA for the opportunity to participate in this Roundtable. I look forward to learning more from other speakers about Israel's corporate debt market.

References

Becker, B., and T. Milbourn (2011) "How Did Increased Competition Affect Credit Ratings?" *Journal of Financial Economics*, Volume 101, pp. 493-514.

Benmelech, E., and J. Dlugosz (2009) "The Credit Rating Crisis," *NBER Macroeconomics Annual*, Volume 24, pp. 161-208.

Bolton, P., X. Freixas, and J. Shapiro (2012) "The Credit Ratings Game," *Journal of Finance*, Volume 67, pp. 85-112.

Bongaerts, D., M. Cremers, and W. Goetzmann (2012) "Tiebreaker: Certification and Multiple Ratings," *Journal of Finance*, Volume 67, pp. 113-152.

Griffin, Nickerson, and Tang (2013) "Rating Shopping or Catering? An Examination of the Response to Competitive Pressure for CDO Credit Ratings," Volume 26, pp. 2270-2310.

Israel Securities Authority (2020) "Credit ratings standards in the Israeli corporate bonds market," Economics Department, Israel Securities Authority, Aug 10, 2020.

Kisgen, D., and P. Strahan (2010) "Do Regulations Based on Credit Ratings Affect Firm Cost of Capital?," *Review of Financial Studies* Volume 23, pp. 4324-4347.

Nyborg, K. (2016) *Collateral Frameworks: The Open Secret of Central Banks*, Cambridge: Cambridge University Press.