“Credit-Rating Shopping, Selection and the Equilibrium Structure of Ratings”

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Selling Information

- “Investor pays” model
  - Conflicts of interest (limited)
  - Difficulty of exclusion
  - Availability of ratings and regulation

- “Issuer/Securitizer pays” model
  - Conflicts of interest (extensive)—Ratings shopping for individual transactions, but also positive views about securitization and tranching
  - Limited incentive for re-rating
  - Issuer chooses which ratings to purchase, publish
Demand for High Ratings

- Information and asset demand
- Net capital rules
- Money market funds; permissible holdings
- “Investment grade” and suitability
- Purchase from agency offering the highest rating
- If multiple ratings at a level required, then nth-order statistic key
- Manufacturing rating, structuring (“regulatory arbitrage”)—AAA meaning very distorted (corporate bonds vs. municipals too)
Spotlight on Credit Rating Agencies

- Scope to mis-value an entire asset class rather than specific loans
- Potential for systemic risk as investors relied upon CRAs
- While reputation weakened, investors and regulators look to CRAs
- Conflict of interest and the payment model
  - “Selection” and rating shopping
- Outsourcing due diligence (especially to few players) is an odd basis for asset management, despite scale economies
  - creating diverse signals
- Move towards reduced regulatory reliance on ratings
Related Regulatory Proposals

- What factors were considered by the rating agency?

- What was the basis of the ratings?
  - Especially important for structured financing (encourage unsolicited ratings)

- Track record disclosure

(Reputation is apparently not powerful enough to force above disclosures)
Reduced Regulatory Reliance on Ratings ??

- Mitigate systemic risk (mis-value an asset class)
- Avoids allowing agencies to sell regulation and amplifies conflict of interest
- Ratings for different products have different meanings--reduce effort to engage in “regulatory arbitrage”
- Encourages decentralized and competing due diligence
- ”Dead on Arrival”: Asset managers like current legal safe harbors
Economics of Selection and Regulation

- “Selection” theme
- Solicited vs. unsolicited ratings
- “Notching”
- Comparative statics of cost, correlation and transparency
- Extension to “winner’s curse”
Solicited vs. Unsolicited Ratings

- Solicited—Issuer purchases

- Unsolicited is voluntary choice of agency
  - Difficult for securitization
  - Regulators discouraged this for several years (were unsolicited ratings punitive?), now trying to promote to limit conflicts of interest from solicited ratings—example of “unintended consequences” and regulation
  - “Conflicts of interest” and the analogy to “second-best” frictions (should we shut down individual frictions?)

- Due to unsolicited ratings hard to charge (incentive constraint) for solicited ones—unless unsolicited ratings tend to be lower
  - Otherwise, no incentive to purchase rating
Why are Unsolicited Ratings Lower than Solicited Ones?

- Otherwise, no incentive to purchase rating
- Motive need not be punitive
- Selection story—Solicited ratings have access to fine details
  - Firms for which that would be beneficial net of cost will pay for a rating
- Are unsolicited ratings artificially low or solicited ratings artificially high due to ratings shopping?
- Which is the important conflict of interest?
Why are Unsolicited Ratings Lower than Solicited Ones? (cont.)

- Unsolicited rating if firm’s estimate is below \( x^* \) and solicit if estimate exceeds \( x^* \). Optimal \( x^* \) is determined by ratings cost.

\[ \begin{align*}
&\text{a} & & x^* & & \text{b} \\
\end{align*} \]

(If cost = 0, then \( x^* = 0 \) as in Akerlof [1970])

- Under ratings shopping firms have choice of which agency or agencies to solicit—reinforces the effect

- Multiple agencies extend the Verrecchia [1983] disclosure intuition
Selectivity Framework

- Agency $i$ possesses own signal about distribution of one-period payoff, $f_i$
  -- simplified view of a rating

- Role of signal is to classify asset for regulatory objectives
  - each agency treated equivalently
  - high ratings desired to minimize need for regulatory capital

- Diverse models, common knowledge

- Goal is to maximize NPV of the issuer
Ratings Shopping

- Implicit shopping uses prior knowledge—can be transparent or somewhat noisy

- Explicit shopping also can be perfect, but depends upon extent of search costs

- Either can produce a substantial selection effect—purchase highest rating identified

- Selectivity even if legal standard based upon at least two ratings (2nd-order statistic in auctions) instead of one

- Charging for indicative rating (NY AG settlement) reduces explicit shopping
  - Need not reduce “selection” because extent of transparency is endogenous (i.e., less noise could result)
  --How do “costs” influence equilibrium regulation?
Selection and Issuer Pays

- “Shadow” or “virtual” ratings are below published ones
  - Does the issuer purchase the “high” or the “low” rating?

- Import of not being rated
  - in general
  - by particular agencies

- Single vs. multiple ratings at a level

- Split ratings (empirical literature—different inferences)
Notching and Competition

- Notching—formulaic haircutting of ratings from other agencies in re-rating components of securitization structures

- Selectivity implies notching; Virtual ratings if not selected typically lower

- 2007 SEC framework allows notching by raters
  - Promotes competition in standards and development of distinct reputations (rationale for 2007 framework)

- Mutual notching due to heterogeneity in models
  - heterogeneity is greatest when correlation in agency signals is least
  - particularly relevant for securitizations

- Example of anti-competitive and punitive effect (via pricing)
  - notching when the different agencies use the same model
Sequential Structure

- Our formal model assumes the decision to solicit additional agencies is sequential—analogy to search.

- If two agencies and costly to solicit, then the second is solicited only if the indicative rating from the first is in an “interior” interval (assuming correlated underlying signals and ratings)—if first indicative rating is very low, then utilize unconditional rating and if initial indicative assessment is very high, then it’s not worth the cost to potentially get a slightly higher one (e.g., suppose already AAA!)
Decision problem at stage 1: thresholds $\bar{S}$, $\bar{S}_1^{(2)}$ and $\bar{S}_1^{(0)}$

- Solicit the observed rating
- Ask for second indicative rating (enter stage 2)
- Not solicit any rating

Decision problem at stage 0: issuer's information threshold $\bar{S}_0$

- Ask for first indicative rating (enter stage 1)
- Not solicit any rating

Issuer's signal $S_0$ vs. Threshold $\bar{S}_0$ vs. Cost for indicative rating.
“Winner’s Curse” and Credit Ratings

- Auction analogy—Should the information content of a rating being “published” be reflected in its rating?

- Should agencies adjust for “winner’s curse” as only purchased when an outlier?
  --What are the ratings supposed to capture?

- If not, should regulators adjust standards to reflect the strength of the “winner’s curse”?—as in auction theory key is cross-sectional dispersion in signals

- Number of signals (agencies), techniques
  --Interpretation of maximum signals changes
  --Selection over likely ratings net of cost
“Winner’s Curse” and Credit Ratings (cont.)

- For example, winner’s curse correction implies ratings decline with more agencies.

- Yet, Becker and Milbourn [2008] document that Fitch entry led to higher (not lower) ratings—competitive (bias) effect—consistent with ratings shopping, but not winner’s curse.
Biases in Ratings and the “Winner’s Curse”

- Agency producing high ratings (first-order stochastic dominance) for a fixed ease of valuation or market share requires more notching downward than reverse (under winner’s curse).

- Agency producing less precise ratings in a space requires more notching downward than agency with more precise ratings (greater "winner’s curse").

- Difficult to value instruments such as securitizations require more notching—regulatory issue emerged only for securitizations as much heterogeneity in valuation needed for large effects.

- Greater selectivity and equilibrium notching for longer-term bonds, lower-rated bonds, and tranches.
Tranching and Securitization

- Basic selection argument does not require tranching or even securitization

- However, magnitudes are much larger due to the extent of heterogeneity in the rating agency’s assessment. Heterogeneity, which arises from instruments being hard to value (as in tranching and securitization), is crucial to selectivity.

- Because these are costly to value, rating agencies have made available a range of techniques—by offering more choices to the borrower these greatly enhance selection.

- When substantial selectivity biases arise, concerns about the reliability of ratings are stronger--What do the ratings mean?
Additional Work on Rating Shopping