

Markets for Financial Information

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“Markets for Financial Information”

Information Production

Information production and access to information play a central role in our financial markets and arguably serves as the lifeblood of the capital markets due to its key role in the pricing of financial assets. Markets for financial information underlie many functions of financial institutions as well as a diverse range of regulatory issues. Much of our securities law focuses upon the timely disclosure of information that is viewed as valuation relevant, including earnings announcements and the trades of corporate insiders.¹ Indeed, a range of types of analysts focus upon interpreting and evaluating regulatory-mandated disclosures that the market views as valuation relevant. Of course, the financial market crisis, itself, has shined additional attention on a number of aspects related to information in the marketplace, and especially upon the role of credit-rating agencies. More broadly, the price declines that developed during the crisis reflect information that had not been emphasized previously by market participants and consequently, strengthened the interest in markets for financial information and related institutions.

¹Timely disclosure is potentially important not only to ensure that information is quickly reflected in pricing, but also to ensure that the firms are not being manipulated. The problems of options grant backdating and options exercise backdating, which were only identified after the passage and implementation of Sarbanes-Oxley, were essentially eliminated by it due to the new legislative requirement that such transactions would be reported within two days—greatly restricting and eliminating the potential lookback option with respect to options grants and exercises. More directly, the extent of backdating is linked in the cross section to the reporting lag, which provides a lower bound on how long the lookback option was utilized. These themes are documented by Lie [2005] and Heron and Lie [2007] in the context of options grants, as well as Cicero [2009] in the context of options exercises.

In parallel, the efficient markets hypothesis highlights the extent to which information is reflected in market prices. Critics of market efficiency have argued that the crisis points to the lack of efficiency in market pricing, but market efficiency does not imply that there is no variability in prices or even that variability is constant.

Under the Securities and Exchange Commission's (SEC's) Regulation FD ("Fair Disclosure"), which was implemented in 2000, companies are barred from selective disclosure of material information—to promote a fair and level playing field with respect to information, even if at the expense of information production. A notable exception under Regulation FD is the exemption afforded to credit-rating agencies, highlighting their special role in the eyes of securities regulators. In particular, firms can discuss matters with rating agencies without requiring Regulation FD disclosure. Consequently, there now is potentially a greater impact from ratings changes than prior to Reg FD as there is potentially less overall information production, while ratings changes are arguably more important.²

Paying for Information

There are a number of important economic themes and business challenges that confront informational intermediaries and that are central to the economics of information dissemination. Perhaps the most basic issue concerns how can an informational intermediary get paid? This is a classic problem in economics—because *after* information is released there would not be an incentive for the recipient to pay and *before* information is provided its value is difficult to assess. Of course, in some contexts the intermediary

²Jorion, Liu and Shi [2005] offer interesting empirical evidence in support of this hypothesis.

gets paid by the users of the information (such as the investors), but one difficulty with this model is that it can be difficult to exclude others from much of the benefit of information.³ In this sense information is a public good (just like a bridge or a traffic light)—the benefits do accrue to many without much incremental cost. This public goods issue is central to the problem in pricing informational services. Historically, the credit-rating agency charged users and provided ratings manuals. With the advent of photocopier technology, exclusion of users became arguably more difficult and the credit-rating agencies moved towards a model in which security issuers paid for ratings.

The problem of the payment model is an endemic one confronting providers of financial information more generally. For example, Wall Street analysts are often paid through pricing bundled services. A key aspect of an issuing firm's choice of investment banker is the prospect of analyst coverage. While analyst coverage is not directly purchased by the issuer (compare to the credit rating agency model), one can view investment banking fees as reflecting a bundle of services. An alternative model for paying for analyst services is through bundled payments by the users. In particular, soft dollar payments reflect bundled (incremental) commissions paid by investors who value access to a broker's research.

The difficulty in the payment model is further illustrated by the case of asset management, such as mutual funds, hedge funds, or specialized managers. In these contexts the public goods problem is resolved by charging the investor based upon the scale of his holdings and even the future value of the portfolio. It is essential to the

³Furthermore, regulatory requirements point to the importance of the information being generally available.

viability of this pricing that the manager's insights and portfolio choices cannot be easily reverse engineered from mandatory portfolio disclosures. Indeed, some observers have suggested that not only are the positions of one's successful rivals studied as a result of various types of SEC-mandated disclosures (such as quarterly filings), but that changes in published net asset value are used to try to reverse engineer the dynamics of rival portfolios between relevant disclosures. Of course, if required disclosures were too frequent or if they were too easy to copy, then that would undercut the ability of an asset manager to charge much for its services. While "window dressing" of portfolios near required disclosures has been severely criticized by regulators because they mislead investors and can distort required periodic disclosures, these also have interesting economic rationales.⁴ In particular, asset managers have a natural interest in protecting their proprietary information and window dressing limits the asset manager's vulnerability to free-riding from copycat investors.⁵ Of course, the interest in disguising holdings wouldn't necessarily arise uniformly across assets due to differences in information content among assets.

One of the major issues identified during the regulatory debate in recent years about credit rating agencies is that the issuer (or securitizer) pays the ratings agency to have its instrument rated. This is certainly a potential concern, but one that should be interpreted through an economics lens. First, it is important to recognize that information is vital to the markets and the issue of paying for information is fraught with economic difficulties.

⁴This rationale does not apply to "portfolio pumping" in which the asset manager trades in an attempt to manipulate the marked price (value) of his holdings at the disclosure time.

⁵Phil Goldstein, who successfully challenged the SEC's hedge fund registration rule, is currently contesting the mandatory "13-f" disclosure of portfolio holdings due to the proprietary nature of the underlying data.

The public goods problem associated with charging a potential user does not leave a simple alternative to the issuer-pay model. Furthermore, the nature of the conflict of interest with the issuer-pay model appears to be less about who writes the check and more about the issuer's ability to make relevant decisions, such as deciding whether to purchase rating(s) and more specifically selecting the rating agencies they prefer, a phenomenon called ratings "shopping" (both of these issues are studied by Sangiorgi, Sokobin and Spatt [2009] and the latter is examined by Skreta and Veldkamp [2009]). The phenomenon of ratings shopping raises some interesting questions about the reliability of ratings and whether purchased ratings are relatively high.

Regulatory Reliance and Systemic Risk

One of the important aspects of ratings concerns the use of ratings in a variety of regulatory processes. Ratings are central to the assessment of risk and capital requirements and the suitability of various assets for holding by money market funds and ownership by various investors. Ratings ultimately effectively determine the regulatory treatment of various issues.

Credit rating agencies are receiving considerable attention in the aftermath of the financial crisis due to their performance and the important role of deteriorating credit in the crisis. Indeed, the crisis emphasized the potential role of credit rating agencies in inducing systemic risk along a number of dimensions. We now recognize that the rating agency model leaves open scope for mis-valuing an entire asset class of assets (such as various types of mortgage instruments, including subprime and Alt-A mortgages) rather

than just individual corporate bonds and loans, pointing out that credit rating agencies are assessing systematic risk as well as idiosyncratic risk. Furthermore, the crisis emphasized how little individual due diligence was being undertaken by investors (even at times by large institutions) and the extent to which the marketplace relied upon ratings and yields. Many investors relied upon the rating agencies and perhaps even more importantly, there was surprising little focus on creating diverse signals as the basis for asset management concerning the relevant instruments. The regulatory process amplifies these concerns because ratings are crucial for determining regulatory treatment. In that sense the reliance by regulators upon ratings reinforces the contribution of ratings to systemic risk and points to an important rationale for attempting to reduce regulatory reliance upon ratings.

Potentially reducing reliance on ratings is an important regulatory issue, but one with which regulators struggle. Regulatory reliance upon ratings is not the only contributor to systemic risk from credit rating agency credit determinations, but potentially an important contributor. This raises the issue of why regulators don't pull back from their use of ratings determined by the rating agencies. One of the concerns of regulators is that absent credit ratings—or at least absent the regulators relying upon credit ratings (but perhaps where ratings were being used in the marketplace) is with what would/could they replace them? There is a range of possible responses to such a question—including nothing (dropping regulatory reliance), having the regulator or supervisor make a determination or assessment (developing internal expertise rather than outsourcing these decisions) and potentially assessing the issuer, outsourcing the supervisory determination (perhaps even to the same credit rating agencies—but avoiding the conflict of interest and ratings

shopping by having the supervisor rather than the issuer select the agency), the use of model-based calibrations and the use of CDS pricing (however, only the most significant companies and instruments have credit-default swap pricing), so that market determinations influence regulatory treatment. An important barrier to pulling back on reliance on ratings are the concerns of the asset management community, which prefers safe harbors with respect to the permitted universes of investible instruments in various contexts.⁶ Of course, the considerable scale economies and potential public goods associated with information production also suggest a potential rationale for some form of regulatory reliance or a supervisory decision.

To the extent that regulators are going to base regulatory treatment upon ratings it is important that ratings standards be comparable across rating agencies and across products being rated. Otherwise, ratings shopping will be more severe and the underlying ratings would not be comparable. Additionally, over the years ratings have had somewhat different meanings in different contexts (to facilitate relative indications within particular contexts) so that the ratings would not be a consistent indicator (e.g., at times even the meaning of a rating for corporate and municipal bonds could differ) on an overall basis, though a consistent measure within a particular context. The underlying phenomena being captured by ratings is multidimensional—such as the probability of loss, the severity of loss, the pricing in states in which losses occur—but this is not reflected in the structure of ratings or how they are utilized in regulatory contexts. Additionally, ratings

⁶SEC requests for comment on the issue of regulatory reliance have resulted in considerable feedback along such lines.

are sticky with respect to their coarse grid and with respect to changes in market information. Of course, ratings changes inherently lag markets.

Conflicts of Interest and Credit Ratings

Regulators often have pointed to a variety of conflicts of interest in the ratings process. Among the issues for which they have been concerned are whether the payment of ratings fees by the issuer leads to an inherent conflict, whether the ability of the issuer to purchase and publish ratings selectively leads to ratings bias (and whether that arises mechanically or because of more aggressive ratings by agencies trying to attract additional ratings business), whether the practice by some rating firms of selling consulting advice to corporate issuers leads to conflict with their ratings business and whether there is an inherent conflict created by issuing unsolicited ratings (e.g., if it were an attempt to pressure or exhort the issuer to purchase a solicited (purchased) rating).

The range of conflicts of interest that involve rating agencies are interesting in their own right and point out that regulating perceived conflicts of interest can be difficult. For example, in the early part of the 21st century regulators were concerned about the conflict of interest created by unsolicited ratings (for which the rating agency would not be paid directly, unlike a rating which the issuer solicits and agrees to pay for a rating).⁷ Because of the empirical evidence that unsolicited ratings tended to be lower than solicited ratings, some critics of unsolicited ratings viewed this evidence as supporting the interpretation that the rating agencies were “punishing” or “extorting” those that didn’t purchase

⁷See Klein [2004] and Spatt [2004].

ratings.⁸ However, the economics of selection provides a natural explanation for why the unsolicited ratings are below the solicited ones (see the explicit analysis in Sangiorgi, Sokobin and Spatt [2009])—namely, that the issuer only incurs the costs of purchasing a rating when his conditional forecast of the rating that would emerge from further analysis by the rating agency (as compared to the unsolicited rating) makes that worthwhile for the issuer. Furthermore, as a byproduct of ratings shopping the ratings selected by the issuer would tend to be higher than ratings not so selected (see Skreta and Veldkamp [2009] and Sangiorgi, Sokobin and Spatt [2009]). The selection theme that is the focus of Sangiorgi, Sokobin and Spatt [2009] highlights that a simple explanation of the empirical evidence comparing unsolicited and solicited ratings could be that either unsolicited ratings are relatively low or that solicited ratings are relatively high.

The theme of ratings shopping is an important one for understanding observed ratings. Issuers have an incentive to select agencies that will offer relatively high ratings (as emphasized in Sangiorgi, Sokobin and Spatt (2009)) so that “shadow” or “virtual” ratings from agencies not selected by the issuer will be below those purchased and published. In effect, the issuer purchases relatively “high” rather than relatively “low” ratings. Not being rated at all or not being rated by a particular agency is not “average” news, but rather unfavorable news, a bit analogous to the “lemons” intuition in a used car market (e.g., Akerlof [1970]). The quality of cars offered for sale is substantially below the unconditional average and can reflect the worst types. These insights offer some perspective for understanding the contrast between single and multiple ratings at a level

⁸See, for example, Bannier, C., P. Behr and A. Guttler [2008]; Butler and Rodgers [2003] and Byoun and Shin [2002].

(an issuer who obtains multiple ratings at a level has demonstrated that he can do so, while a single rating at a level can actually be signifying the issuer would not have been successful in obtaining multiple ratings at that level). Analogously, this perspective also sheds light on the meaning of split ratings.

Sangiorgi, Sokobin and Spatt [2009] push this theme further by pointing to the analogy between an issuer purchasing the highest ratings available and consequently, having its rating published only when the rating agency is relatively optimistic and the bid in a common-value auction being significant only when it reflected an optimistic assessment. In a common-value auction setting bidders will adjust for the “winner’s curse.” This raises some interesting questions about the meaning of ratings. Traditionally, a rating agency’s rating reflects its own assessment of a particular instrument, but the winner’s curse raises questions as to whether a credit rating agency should take into account that its rating is purchased only when the agency is relatively optimistic or whether banking and security regulators should take this into account in interpreting the ratings that are purchased.

From a conflict of interest perspective, the securities regulator recently has been trying to encourage unsolicited ratings by promoting greater transparency in the structure of CDOs to discourage rating shopping. This points to a subtle aspect of trying to manage conflicts of interest. Specifically, was the conflict associated with unsolicited ratings significant or largely hypothetical? Regulators appear to have concluded that unsolicited ratings should be encouraged in order to provide a benchmark for ratings shopping rather than

discouraged. This relates to the relative magnitude of different hypothetical conflicts of interest and why barring all perceived conflicts isn't necessarily the best policy. This also ties closely to basic aspects of the "theory of the second best" in economic theory. In particular, economists recognize that it is not always advantageous to remove particular frictions, when other frictions would remain. Similarly, eliminating certain conflicts of interest can be problematic in that it can amplify the adverse consequences of other conflicts. This seems to be the implicit conclusion of the securities regulator given its current orientation of promoting unsolicited ratings.

The use of unsolicited ratings by the credit rating agencies points to some broader aspects of the rating agency model. The widespread use of unsolicited ratings would help advance the rating agency argument that they are functioning as (financial) journalists and providing neutral opinions (rather than purchased opinions) because it is offering its views across a range of instruments. This certainly would suggest a more compelling basis for the industry's assertion that it is subject to First Amendment ("freedom of the press") protection from legal liability in many instances. In fact, the issue of liability could be a crucial one in light of the performance of credit rating agencies during the financial crisis. Yet the underlying difficulty with the argument is that regulatory pressure forced the credit rating agencies to pull back from the use of unsolicited ratings almost a decade ago until recently. Arguably from the industry perspective, one of the key sources of interest in offering unsolicited ratings was to help protect against liability. In this sense the overall use of unsolicited ratings (though not in a particular situation) is tied to the legal environment facing the rating agencies.

While the First Amendment is essentially a legal issue, it does have important ramifications for the economic issue of liability. An interesting contrast about the application of the First Amendment is that while it applies to rating agencies, it does not apply to Wall Street analysts. Both offer assessments of the value of various (but different) financial instruments, but the provision of unsolicited ratings has allowed credit rating agencies to have positioned themselves as functioning as “financial publishers” entitled to some First Amendment protection.⁹ Of course, the positioning of Wall Street analysts within the financial regulatory system is quite different. For example, we do not rely upon the assessment of Wall Street analysts for regulatory purposes, such as for net capital requirements. Furthermore, analysts are not exempt from the requirement of fair disclosure regulation and arguably were an important target of Regulation FD restrictions on the firm.

To the extent that conflicts are of concern by the regulator, it should be noted that the magnitude of these hypothetical conflicts of interest would be amplified by relying upon ratings for regulatory purposes because the rating agency is placed in a position in which it is permitted to “sell” regulatory treatment, enhancing the value of the ratings. Among the purposes for which regulators sanction ratings provided by rating agencies are net capital standards (by both banking and securities regulators in the United States and globally), suitability requirements and holdings of investment grade securities and permissible holdings of money market funds. Even during the financial market crisis

⁹ For example, *Jefferson County School District No. R-1 vs. Moody’s Investor’s Services*, United States Court of Appeals for the Tenth Circuit, May 4, 1999, 175 F. 3d 848 and *Compuware vs. Moody’s Investors Services*, United States Court of Appeals for the Sixth Circuit, No. 05-1851, August 23, 2007.

some of the approaches used by the Federal Reserve explicitly made reference to certification by the rating agencies.

“Skin in the Game”

One of the central criticisms of credit rating agencies to emerge in the aftermath of the financial crisis is that the ratings agencies did not have “skin in the game”—i.e., the rating agencies did not directly lose from the poor performance of their assessments.¹⁰ Increasingly, “skin in the game” is viewed as a core principle for reforming our financial system.¹¹ The focus upon “skin in the game” is interesting from a different perspective—policymakers often have expressed interest in decision makers obtaining objective assessments from the third parties who are not conflicted (as in third-party valuation experts and financial auditors). The broad theme of objective assessment is particularly relevant for credit rating agencies, because of the nature of their role including the reliance of regulators upon their determinations.

In the context of assessing creditworthiness there is an interesting alternative model, that of direct provision of insurance. This has been a role performed by “monoline” insurers for many years, especially with respect to insuring municipal bonds. It is an interesting alternative to credit rating agencies for assessing creditworthiness, one in which “skin in the game” is at the core of the model. This approach is analogous to title insurance for real estate purchasers. In that context the party performing a title search warrants its work

¹⁰Of course, the rating agencies have incurred considerable costs in the aftermath of their poor performance during the financial crisis as reflected in changes in market value and potential litigation costs.

¹¹This has emerged strikingly in discussions and criticism of the “originate-to-distribute” model for structuring securitizations. Recently, policymakers have called for a 5% retention requirement in such contexts.

by including insurance. Of course, in that context the underlying risk was highly diversifiable, unlike the municipal bond insurance context—where there is substantial correlation among the insured risks raising questions about the viability of the municipal bond insurance. Indeed, the collapse of the monoline insurers reflected such correlation, though after they moved away from their expertise and insured mortgage-backed securities which had a huge aggregate exposure to changes in house prices. More broadly, while “skin in the game” is a sensible principle, many of the entities with substantial “skin in the game” during the crisis, such as the “monoline” insurers and the major Wall Street firms, performed rather poorly (and several, such as Bear Stearns and Lehman Brothers, disappeared).

Reputation and Free Entry

Much of the focus over the years in discussions of the incentives for credit rating agencies has highlighted the importance of rating agencies maintaining and strengthening their reputation. Many economists have rating agencies in mind as a classic example of the potential importance of reputation to markets. This is viewed as even more significant than potential liability in causing appropriate behavior. The argument entails substantial loss of the value of the rating agency franchise in the event of poor performance and a substantial loss of reputation. Certainly, the events of the last several years point to such an extraordinary loss of rating agency reputation. Yet interestingly, the dominant rating agencies from prior to the financial crisis continue to be the key rating agencies today. Furthermore, casual empiricism suggests that the capital market continues to react to ratings changes. These ex post observations are incompatible with a form of the

reputation argument—namely that poor decisions by rating agencies will be disciplined ex post by destroying the value of the firm’s reputation and its franchise, translating into the market not viewing favorably the ratings of such firms and not reacting sharply to ratings changes.¹²

As one attempts to understand the import of the reputation argument it’s helpful to look at such information as the links between past performance of a rating agency and both future market share and changes in price responses to ratings downgrades. At the same time it’s relevant when evaluating market share to take a broad view. The loss in reputation to traditional rating agencies may be accelerating the migration of the rating business to quantitative models and other tools.

One additional observation that may be helpful is the analogy to accounting firms. In that context apparent criminal culpability was quite central in the collapse of Arthur Andersen as it encountered an inability to attract and retain business and then personnel after its conviction for obstruction of justice in 2002, though the conviction was overturned three years later by the U.S. Supreme Court. Arthur Andersen also highlights an especially delicate aspect of “punishment”—the “death penalty” experienced by Arthur Andersen was arguably quite costly to society. The collapse of Arthur Andersen led to a permanent change in the industrial organization of the auditing industry—a change from the “Big Five” to the “Big Four.” In auditing this change has been particularly important because of the lack of global presence of smaller auditors and because of auditor independence

¹²An important issue to explore is how has the market reaction to ratings changed empirically and whether that is compatible with the reputation model.

rules, which greatly reduced further the degree of competition, especially given the specialized nature of much of the auditing work. The issue of punishment is especially crucial in this context because the change in industrial organization not only influences future product market pricing (i.e., the pricing of audit services), but also the ability to impose punishment in the future. Indeed, some observers felt that the use of a deferred prosecution agreement in the 2005 KPMG tax-advice case reflected concern about the costliness of another potential criminal conviction.

Both the current credit rating context and the changes in the industrial organization of the auditing industry raise an interesting question about the potential for entry and the nature of entry barriers. In both contexts there are indications that entry barriers are considerable. In the auditing context it appears that a global presence and expertise with many national auditing standards is required to credibly audit multinationals. While some market participants have revisited their choices of auditors, we have not seen the emergence of a major player to replace Arthur Andersen. Similarly, as we noted in our discussion of credit rating agencies, despite the dramatic loss of reputation of the major rating agencies during the financial crisis a major new competitor has not emerged. While a number of new NRSROs (Nationally Recognized Statistically Ratings Organizations) have been recognized by the SEC since the 2006 changes in the legislative framework for credit-rating agencies, the new entrants are focused on relatively specialized roles. The change in framework could eventually prove significant—previously, even entry of small participants was problematic because of the “chicken and egg” problem, i.e., one had to be “recognized” in the marketplace to receive the NRSRO designation, but that would

have been all but impossible in the prior framework since the marketplace could not “recognize” a firm that lacked the designation.

Concluding Comments

In this paper we have tried to highlight some important aspects of markets for financial information, especially credit rating agencies. We have highlighted a number of features in common and a number of contrasts with other types of financial information intermediaries. We pointed to key aspects of the ratings process and the economic organization of the rating industry. Among the range of issues that we have addressed are fair disclosure, the payment model, regulatory reliance, systemic risk, conflicts of interest, ratings shopping, unsolicited ratings, liability, “skin in the game,” reputation and entry.

While there has been considerable effort to design components of our financial system to be informationally insensitive (e.g., money market funds and the underlying credits, FDIC bank insurance, pricing of acceptable counterparties), the financial crisis highlights that it can be important to allow pricing mechanisms that do discriminate among the underlying risks. The inability to deal with information in the market mechanisms may have been central to the freezing of credit markets that we experienced during the fall of 2008.

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