ECONOMIC CONSEQUENCES OF PROPOSED CHANGES IN NRSRO REGULATION*

by

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I. EXECUTIVE SUMMARY

The financial crisis of 2007-09 has generated considerable consternation about distorted incentives on the part of key players in the financial market, and the extent to which these contributed to the crisis. Indeed, there are some who believe that the crisis was in many ways a credit rating crisis. Financial securities emerging from securitization, such as mortgage-backed securities, represented over $11 trillion worth of outstanding U.S. debt. The majority of these securities were highly rated. In 2007 and 2008, the creditworthiness of structured finance securities experienced unprecedented deterioration, and many of these securities were downgraded. The visibility created by these travails has led to calls for greater regulatory oversight of rating agencies, including the expansion of legal sanctions. Currently, Congress is considering legislation aimed at addressing these issues.

The specific legislation being considered by Congress is the Rate Accountability and Transparency Enhancement Act of 2009, or the RATE Act. It is intended to impose stricter regulation of credit rating agencies, referred to as Nationally Recognized Statistical Rating Organizations, or NRSRO. Although the legislation has many features, the main ones are that the SEC would impose fines and censure a rating agency for failure to ensure that ratings remain current and reliable, and that rating agencies would be required to disclose substantially more information about how a rating was arrived at. This greater information disclosure would pertain to information inputs as well as features of the underlying models used to process them.
Moreover, rating agencies would be subject to a “negligence liability standard,” implying a loss for rating agencies of the current protection afforded to providers of forward-looking statements.

If this legislation is passed, what will be its effect? This is the question I address in this paper. While I have numerous findings that I discuss shortly, the overarching conclusion is that changing the legal liability standard for NRSRO/rating agencies will cause a change in the behavior of these institutions in such a way that ratings are likely to become less informative about the credit risks of securities, less responsive to new information, and downward biased. Conditional on these developments, the borrowing costs of firms will increase and investments by U.S. corporations will decline.

The approach I took was two-pronged. First, I extensively reviewed the academic research in Economics and Finance on credit ratings and the economic implications of legal liability exposure for related economic practices. Second, I relied upon the insights emerging from a theoretical model developed in a companion paper in which we formally analyze the potential effects of increased legal liability for credit rating agencies. In using this two-pronged approach, I used various principles about optimizing behavior of market participants and institutions that are commonly used in Financial Economics research. My main findings are summarized in the figure below:
Figure 1

Possible Consequences of Higher Legal Liability for Credit Rating Agencies

- Reduction in the *de facto* number of rating categories, resulting in ratings providing less precise information about risks.
- Diminished informativeness of ratings in conveying security-specific default risk information as ratings change less due to the arrival of new information.
- Greater reluctance on the part of rating agencies to downgrade securities in response to adverse new information, which means that investors will have less prior warning about deteriorating default-risk conditions.
- Downward bias in ratings as rating agencies seek to protect against the higher legal liability, similar to IPO under-pricing as protection against post-IPO litigation.
- Lesser improvements in borrower creditworthiness due to credit rating agency intervention intended to create incentives for borrowers to strengthen their ratings.
- Contracts and regulations that are ratings-dependent may have to be rewritten, resulting in substantial costs.
- Higher costs of capital for corporations and lower aggregate investment. With less informative ratings, investors will demand higher returns, increasing the rates of return corporations will need on their projects, resulting in investments in fewer projects.

The rest of this executive summary is organized as follows. In the next section, I summarize the lessons learned from surveying the existing literature. Then I explain each of my
main conclusions summarized in Figure 1, which combine the lessons from the existing literature as well as those from my companion paper. Section IV concludes.

I. LESSONS LEARNED FROM THE EXISTING LITERATURE

Let me begin this section by summarizing the major lessons learned from the research that has been done on the subject.

Lesson 1: Credit rating agencies achieve lower information production costs in the economy, lower the costs of capital for borrowers, and improve access to the capital market for borrowers.

Specifically, the research says the following:

◊ The credit rating agency has special expertise in its role as an “information broker,” so it processes complex financial information more effectively than can individual investors.

◊ The credit rating agency is able to resolve incentive conflicts in information production and thereby avail of diversification to lower information production costs.

◊ The credit rating agency can achieve lower information production costs in the economy by eliminating or minimizing duplication in information production across numerous investors.

The consequences of the credit rating agency achieving lower information-production costs in screening issuers of securities are significant. Perhaps the two most important are that: (i) in a competitive capital market, the borrowing costs of issuers are reduced; and (ii) borrowers who might otherwise not have access to credit are able to obtain financing. Consequence (i)
means that borrowers experience a reduction in their weighted average costs of capital, and are therefore able to invest in more projects than they otherwise would. This elevates aggregate (real) investment in the economy and increases economic output (GDP). Consequence (ii) means that projects that would otherwise be rejected because their sponsors are unable to have access to financing will now be accepted, with a resulting increase in real output and employment.

**Lesson 2: Credit rating agencies may also contribute to an improvement in the creditworthiness of rated borrowers.**

While the earlier research was on diversified information producers in general, in recent years there has also been research specifically targeted at credit rating agencies. This more targeted research has examined specific ways in which credit rating agencies add economic value. The research shows that a credit rating agency arises to resolve a specific kind of coordination problem in financial markets. In particular, rating agencies can serve as a “focal point” in driving issuers to take the necessary steps to improve their creditworthiness. Two institutional features are important for this effect. One is “credit watch.” With this, the credit rating agency can alert an issuer that its credit rating is in danger of being downgraded if certain steps are not taken. The second feature is that investors rely on ratings to make their investment decisions. These two features imply that rating agencies can not only play a valuable role in providing relevant information about issuers to investors, but can also contribute to an improvement in the creditworthiness of issuers.
Lesson 3: Certification with respect to regulation and rules-based constraints provide incentives for issuers to shop for multiple credit ratings.

There are many forms of regulation that create a need for issuers to obtain ratings. For example, the SEC allows credit ratings to be used for meeting regulatory requirements that call for a minimum or an average rating value. Until June 2008, the SEC required money-market mutual funds to hold instruments with a credit rating in one of the two short-term higher credit rating categories. They effectively provided a “safe harbor” for mutual funds with respect to litigation over fund failures. Similarly, banking regulations enacted under the Basel II accords rely on NRSRO ratings to determine risk-based capital. Specifically, “risk weights” assigned to different assets for computing capital requirement are linked explicitly to the credit ratings of those assets. U.S. insurance companies are also subject to similar risk-based capital requirements.

Lesson 4: By providing ratings for structured finance (securitization) products, credit rating agencies also help to expand the set of securities that are available for investment to investors constrained by various forms of regulation.

The extensive use of credit ratings in the regulation of financial institutions created a natural demand for highly-rated securities. As I discussed above, minimum capital requirements at banks, insurance companies and broker-dealers depend on the credit ratings of the assets on their balance sheets. Pension funds are also subject to ratings-based investment restrictions. Securitization of relatively high-credit-risk assets enabled these investors to participate in asset classes from which they would normally be prohibited because these assets had unacceptably
high credit risk from a regulatory standpoint. For example, an investor required to hold investment-grade securities could not directly invest in B-rated corporate loans, but could invest in AAA-rated CLO security—created by “tranching” in securitization—backed by a pool of B-rated corporate loans. The process of “tranching” in securitization permitted the creation of securities that had lower credit risk—and hence higher credit ratings—than the underlying asset pool that was securitized. Structured finance securities created by securitization typically carry a higher yield than similarly-rated corporate or sovereign bonds, making them an attractive investment for rating-constrained investors.

Lesson 5: When the instruments being rated are more complex, rating agencies may be more prone to rely on subjective judgment in determining ratings.

The reason is that experience and judgment are useful when the security’s complexity calls for relying on more than just the output of a quantitative model that relies on historical data of limited value.

Lesson 6: Dramatic and unexpected changes in the credit risk of the underlying pool of mortgages being securitized may have caused rating agencies to downgrade large numbers of mortgage-backed securities, to tighten their standards, and to rely less on subjective judgment in assigning ratings, beginning in April 2007.

There is evidence that the accuracy of credit ratings was affected by unprecedented changes in the default characteristics of the underlying mortgage pool that was securitized. In 2006 and 2007, the evidence suggests that the credit risk associated with this pool increased significantly
and in a manner that credit-market participants, including rating agencies, had not anticipated. In what follows, I will argue that many of the developments that pertain to the so-called failures of rating agencies may be better understood in the context of experience-based learning and seismic shifts in the creditworthiness of the mortgage pool than from the supposition that there was willful misrepresentation by the rating agencies.

To understand this reasoning, let us begin by noting that credit rating agencies assign ratings based on both the outputs of their quantitative credit-risk-assessment models as well as their subjective judgment. The quantitative models use as inputs the following variables: average collateral asset default rate, average collateral asset maturity, average pairwise correlations among assets, number of assets in the collateral pool, average recovery rate for collateral assets in the pool, and the default probability criterion. The subjective judgment is meant to account for the multitude of factors that are not part of the formal models but are deemed to be relevant for assessing credit risk.

As I noted previously, this subjectivity becomes more important in the ratings process as the complexity of the securities being rated goes up.

Now, as we know, there was a long period of time prior to the crisis of 2007-09 during which we had an economic boom, with relatively brief downturns, and mortgage default rates of diversified mortgage portfolios were relatively low. The theory of experience-based beliefs suggests that such a long period of low defaults can be predicted to lead to not only a very favorable assessment of credit risk on the part of market participants—including credit rating
agencies—but also a high degree of confidence in the assessments underlying the assigned credit ratings.

However, there were some unprecedented developments underway in the background that would have future consequences for the reliability of ratings. The first of these was the behavior of consumers. As home prices rose, the average homeowner used the increasing home equity value to increase both borrowing and consumption. It has been documented that the average homeowner extracted 25-30 cents for every dollar increase in home equity during 2002-06 and this money was used for consumption rather than purchasing new real estate or paying down credit-card debt. These were then the very borrowers who experienced very high (relative to historical averages) default rates from 2006 to 2008. Estimates show that home-equity-based borrowing was equal to 2.8% of GDP every year from 2002 to 2006, and accounted for 34% of new defaults from 2006 to 2008.

The second related development was that as the home mortgage market experienced rapid growth, the mortgage origination process may itself have become more lax, thereby overstating the collateral quality of mortgage-related CDOs.

It appears that the rating agencies had not become fully aware of the potential ramifications of these background developments until early 2007, probably because these ramifications had not yet become noticeable in observed outcomes. One piece of evidence on this is that there were significant differences between model-predicted default probabilities and the credit-rating-implied default probabilities for rated securities prior to 2007, reflecting a
significant use of subjective elements in the assignment of ratings. But these differences all but vanish after April 2007.

However, the background developments I referred to earlier began to noticeably manifest themselves through a decline in the subprime mortgage market beginning in January 2007. CLO correlations rose after April 2007, indicating that diversification had a lower impact in reducing portfolio risk than it did previously. Defaults on subprime mortgages rose as well.

As evidence emerged that conditions had changed quite dramatically in the mortgage market, the credit rating agencies responded in principally in two ways. First, as I noted in the Introduction, there were numerous ratings downgrades, and many were very significant downgrades. Downgrades were much more likely for securities issued in 2006 and 2007. Second, the rating agencies reduced their reliance on subjective factors in the ratings process. As I noted earlier, differences between model-predicted and ratings-implied default probabilities all but disappeared after April 2007.

Lesson 7: Litigation risk has been a factor that has contributed to significant underpricing of IPOs. In a similar manner, elevated litigation risk for credit rating agencies may lead to a significant downward bias in ratings.

This insight comes from the literature on litigation risk in initial public offerings (IPOs). As is well known, if the price of a security falls significantly relative to the IPO price during the year following the IPO, there is some risk that the parties involved in setting the IPO price will be sued by investors for misrepresentation of information just prior to the IPO. This can make
issuers and their investment bankers averse to the potential litigation risk associated with IPO pricing and could explain why IPOs are materially underpriced on average.

Because IPOs are underpriced on average, the shareholders of the firms going public are essentially “leaving money on the table”. It is a transfer of wealth from the entrepreneurs who launch companies that eventually go public to those who are able to participate in IPOs. Between 1990 and 2009, over $586 billion was left on the table in IPOs.

The important insight of this research is that litigation risk can alter the behavior of those who set IPO prices. Similarly, additional litigation risk will also alter the behavior of credit rating agencies. One possible outcome is that the heightened risk aversion that is likely to accompany greater litigation risk related to lawsuits by investors will cause rating agencies to bias their ratings downward, in a manner akin to the downward bias in IPO prices.

II. THE POTENTIAL EFFECTS OF INCREASED LEGAL LIABILITY FOR NRSROs

In this section I discuss the potential effects of increased legal liability for credit rating agencies due to the adoption of a negligence liability standard. Each point is developed in the context of the existing academic research. Many of the results discussed below are based on a theoretical model of credit-rating-agency behavior and its adaptation in response to increased litigation risk that has been recently developed by a coauthor and me in a companion paper. Others reflect the findings discussed in the literature review in the previous section.
A. The Number of Rating Categories

The key result emerging from the analysis in my companion paper is that in response to a sufficiently-elevated legal liability, credit rating agencies will respond by decreasing the number of rating categories. The intuition for this is as follows. For a rating agency to be held liable ex post for having misrated a firm, one would have to establish that the firm should have been assigned a rating other than the one it was actually assigned. This is easier to establish when there are numerous rating categories than when there are only a few. The reason is that the larger the number of rating categories, the more similar are firms in adjacent rating categories in terms of their default characteristics. This, in turn, means that there are more “close calls” in terms of which specific rating is assigned to a given firm. Moreover, it will take a smaller economic shock to a firm’s financial condition after it has received a rating to move it from one rating category to another. However, since the rating agencies prefer to rate firms “through the business cycle” and not change ratings too often, the rating of the firm may not be revised even though the firm might have been assigned an adjacent rating had the information shock arrived prior to the assignment of the initial rating. The upshot of all this is that the larger the number of rating categories, the higher will be the number of firms whose initially-assigned ratings may no longer be the most accurate ratings, and these firms could easily be assigned ratings from adjacent rating categories. The evidence on the large number of downgrades during this crisis corroborates this.

When the legal liability of the rating agency increases, it recognizes that having more rating categories creates a bigger potential liability because there are more firms ex post for
which investors can claim that the firm should have been assigned a different rating or that its rating should have been revised. Thus, holding fixed the number of rating categories, the likelihood the rating agency will suffer a legal penalty \textit{ex post} for having “misrated” a firm always goes up as its \textit{ex ante} legal liability increases, and this increase is greater when there is a larger number of rating categories.

A reduction in the number of rating categories widens the range of default risks covered by any rating category. This, in turn, makes it more difficult to establish \textit{ex post} that a particular issue was misrated. Moreover, it also obviates the need for the rating agency to engage in more frequent rating changes, since a wider range of possible outcomes is accommodated within each rating category.

Based on this and other considerations, I conclude that a likely consequence of the higher legal penalty on credit ratings is a reduction in the number of rating categories. This will make ratings more “coarse” as indicators of default risk. This increased coarseness means that credit ratings will be more sluggish in responding to changes in the credit risks of the rated securities.

\section*{B. Informativeness of Credit Ratings}

Credit ratings have always provided valuable payoff-relevant information to investors. This has been established both theoretically and empirically; see the literature review in the previous section. If rating agencies respond to greater legal risk by \textit{de facto} reducing the number of rating categories, then ratings will undeniably become less informative to investors.

There are two reasons, both alluded to previously, why this will happen. One is that ratings will simply provide a coarser partitioning of the credit risk space and hence convey less
precise information. The other is that ratings will respond less expeditiously to changes in the economic environment of issuers that cause their credit risks to change.

C. Responsiveness of Ratings to Economic Shocks and the Reluctance to Downgrade

The empirical evidence indicates that there were large numbers of rating downgrades in 2007 and 2008. These downgrades were in response to emerging information about the significant deterioration in credit quality in the subprime mortgage market. In this sense, rating agencies responded fairly expeditiously to new information as it arrived, and took action to incorporate this information into revised credit ratings.

It is interesting to consider how rating agencies might have responded had their legal exposure been greater. Downgrading so many issues may have been perceived as a tacit admission of earlier rating errors, and the associated implications for legal liability might have caused rating agencies to withhold rating downgrades until the new evidence was sufficiently incontrovertible.

Having fewer rating categories would have also meant fewer rating changes in response to the new information that arrived. An issuer might have moved from being among the least risky in a rating category to being among the most risky, but a sufficiently wide category might have still implied the same rating for that issuer.

D. Downward Bias in Ratings

In practice, the increased legal liability for credit rating agencies under the proposed legislation may be asymmetric. The potential liability may be greater if the rating agency is suspected ex post of having inflated its ratings than if it is suspected of having assigned ratings that were too
low. Indeed, this is precisely what has been alleged in the contemporary discussions about the role played by the rating agencies in the current financial crisis.

In this case, elevated legal liability will induce rating agencies to exhibit a downward bias in future ratings. They show that this result holds whether rating agencies keep the number of rating categories fixed or choose to reduce them.

The analogy with IPOs that was discussed in the previous section is also applicable here. As I discussed there, litigation risk has been a contributing factor in the underpricing of IPOs, and U.S. firms have left billions of dollars on the table due to IPO underpricing. By analogy, one may expect downward biased ratings to result from heightened legal liability.

E. Impact of Rating Agencies on Borrower Creditworthiness

The previous section contained a discussion of the Boot, Milbourn and Schmeits (2006) paper which derives the result that key institutional features of credit ratings allow rating agencies to influence issuers to improve their creditworthiness. This is a potentially valuable economic service provided by rating agencies.

With fewer de facto rating categories in response to greater litigation risk, there will be fewer instances in which rating agencies will be able to credibly “threaten” issuers with a potential downgrade by putting them on “credit watch.” This means diminished opportunities for rating agencies to constructively influence issuers to improve their creditworthiness.

F. Rewriting Contracts

I discussed in the previous section that credit ratings are now an integral part of the U.S. financial system in that many forms of regulation use credit ratings and many contracts have
ratings-dependent clauses. Banks, mutual funds, insurance companies and pension funds all rely on credit ratings in some form or the other to satisfy regulatory requirements. Many contracts have covenant-type triggers that depend on ratings. Thus, ratings are pervasive in economic transactions.

If the ratings industry changes significantly due to higher legal liability and rating agencies respond to this by reducing the number of rating categories and also exhibiting a downward bias in ratings, then many contracts and regulations may have to be rewritten. The reason is simple. These regulations and contracts were predicated on a particular interpretation of what ratings meant and how they were assigned. With fewer rating categories and downward biased ratings, this interpretation has to change. Contract terms and regulatory requirements need to adapt as well.

If this does happen, significant costs will be incurred by numerous parties. These are not only the direct costs of rewriting contracts, but also the costs that will arise due to the associated bargaining over changes between the contracting parties.

**G. Borrowing Costs and Corporate Investment**

The discussion thus far has indicated that greater legal liability is likely to make ratings less informative about credit risks and respond more sluggishly to changes in the underlying creditworthiness of the issuers. This means that there will be less informational transparency for investors when it comes to evaluating the risk-return tradeoff for any particular security. According to the existing research, this means that the “adverse selection premium” will go up for issuers and their cost of capital will rise. Simply put, when investors know less about the
default risk of a security, they demand a higher return to be compensated. This, in turn, increases the cost of borrowing for corporations as well as municipalities and state and local governments that issue securities, resulting in a higher cost of capital.

What are the economic consequences of a higher cost of capital for corporations and other issuers? To understand this, note that the cost of borrowing in the capital market is a key element of the weighted average cost of capital for the corporation. Moreover, the weighted average cost of capital is the basis upon which corporations determine the “hurdle rate” they use for capital budgeting. The hurdle rate is simply the minimum rate of return an investment project must be expected to deliver in order for the project to be viewed as creating economic value. An increase in the cost of borrowing implies a higher weighted average cost of capital, which in turn implies a higher hurdle rate for project acceptance. This means fewer projects will qualify, and aggregate investment will decline. This has obvious potential implications for GDP and employment.

For example, suppose a company has two projects, one a 10% return and requiring a $100 million investment, and the other promising a 15% return and requiring a $150 million investment. If the company’s cost of capital and hence its hurdle rate for projects is 8%, it will invest in both projects because both promise a return higher than the hurdle rate. So, the total investment is $250 million. But if the company’s cost of capital rises to 12%, it will only invest in the project promising a 15% return, so its investment declines to $150 million.
III. CONCLUSION

This paper has reviewed the contemporary literature on credit ratings as well as the literature on the impact of litigation risk on the pricing of IPOs in order to assess the potential consequences of making NRSRO subject to a negligence liability standard, thereby removing the existing protection afforded to them as providers of forward-looking information. In addition to the literature review, I have also relied upon my recent theoretical research in which there is a formal model designed to extract predictions about how imposition of the negligence liability standard may affect rating agency behavior.

My overarching conclusion is that an increase in legal liability may result in credit ratings becoming less informative about default risks, less responsive to new information, and downward-biased. This may lead to a higher cost of capital for corporations and less aggregate corporate investment.