

CHAPTER 15

Regulation of Rating Agencies

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15.1 OVERVIEW

Credit rating agencies (CRAs) are firms that offer judgments about the creditworthiness—specifically, the likelihood of default—of debt instruments that are issued by various kinds of entities, such as corporations, governments, and, most recently, securitizers of mortgages and other debt obligations. It has been widely argued that the rating agencies played a central role as enablers in the financial crisis of 2007 to 2009, due to the following two key features of the ratings process.

First, beginning in the 1930s, financial regulation has mandated that rating agencies be the central source of information about the creditworthiness of bonds in U.S. financial markets. More recently, other countries have adopted similar regulations; for example, Japan's Ministry of Finance imposed a requirement in the mid-1980s that only investment-grade companies (i.e., firms rated BBB or higher) could issue corporate bonds. Reinforcing this centrality was the U.S. Securities and Exchange Commission (SEC)'s creation of the Nationally Recognized Statistical Rating Organization (NRSRO) designation in 1975 and its subsequent protective entry barrier around the incumbent NRSROs. The fact that regulators used ratings as their primary source for measuring risk gave a powerful status to NRSROs; see, for example, White (2010).

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Second, the prevalent business model of the major rating agencies is the “issuer pays” model. That is, the issuer of a security both chooses and pays the rating agency for rating the security. This leads to a potential conflict of interest because the rating agency has a financial incentive to pander to issuers in order to be chosen as the rater. Of course, this creates tension with the rating agencies’ mission of providing an objective analysis of credit risk of the security. This tug-of-war between the rating agencies’ reputations for objectivity and their incentives to get business, coupled with their special NRSRO status in regulation, was at the heart of the financial crisis.

In addition, and partly related to the conflict of interest, issues with respect to ratings quality and flaws in the methodology used by rating agencies to rate mortgage-backed securities (MBSs) and structured products were important factors in the crisis.

The Dodd-Frank Act attempts to address these issues comprehensively and contains some significant conceptual improvements to the ratings process by putting in place various measures to improve internal controls and rating accuracy, and by removing regulatory reliance on ratings. The latter is a small step toward shifting the burden of information collection to the users and may improve competitiveness, ratings quality, and innovation in the industry. However, the Act is less forceful in dealing with the problem of incentive misalignment in the “issuer pays” model and in assessing the optimal business model for rating agencies. Furthermore, the legislation appears to substitute heavy oversight and rule making by the SEC for market solutions, which may have some adverse effects. In this chapter, we examine the problematic role of CRAs in the crisis, evaluate the proposals in the Act, and provide suggestions for additional improvements in the ratings process.

15.2 THE CRISIS

The three largest U.S.-based credit rating agencies—Moody’s Investors Service, Standard & Poor’s (S&P), and Fitch Ratings—were clearly central players in the subprime residential mortgage debacle of 2007 to 2008. Their initially favorable ratings were crucial for the successful sale of bonds that were securitized from subprime residential mortgages and similar debt obligations. The sale of these bonds, in turn, was an important underpinning for the U.S. housing boom and bubble of 1998 to 2006. When house prices plateaued in mid-2006 and then began to fall, default rates on the underlying mortgages rose sharply, and the initial ratings proved to be wildly overoptimistic. The prices of mortgage bonds cratered, and massive downgrades of the initially inflated ratings wreaked havoc throughout the U.S. financial system and damaged the financial systems of many other countries as well.

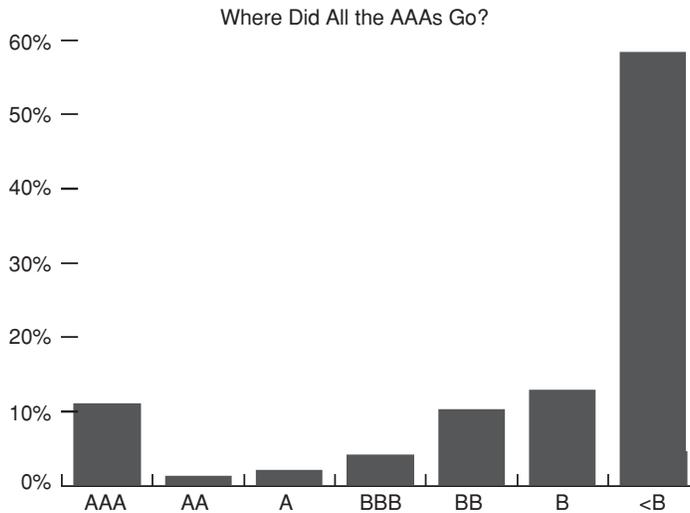


FIGURE 15.1 Ratings Distribution as of June 30, 2009, of Newly Issued AAA-Rated Asset-Backed Securities from 2005 to 2007

Note: S&P rating distribution of 2005 to 2007 issued U.S. AAA-rated ABS CDOs.

Source: International Monetary Fund, *Global Financial Stability Report*, chap. 2, “Restarting Securitization Markets: Policy Proposals and Pitfalls” (October 2009), 93. Web link: www.imf.org/external/pubs/ft/gfsr/2009/02/pdf/text.pdf. (Data source: Standard & Poor’s.)

Figure 15.1 illustrates the extent of the downgrades that were suffered by securities that were tied to the residential mortgage-backed security (RMBS) market. The chart shows that, of all the senior-most asset-backed security (ABS) and collateralized debt obligation (CDO) tranches that were issued between 2005 and 2007 and were originally rated AAA, only about 10 percent were still rated AAA by S&P by the end of June 2009. Meanwhile, almost 60 percent were rated below B, among the lowest rating levels and well below investment grade. Straight private-label residential MBSs (not shown) experienced a similar ratings decline, with 63 percent of AAA-rated securities issued between 2005 and 2007 being downgraded by August 2009 (and 52 percent downgraded to BB or lower).

A key question, therefore, for regulators of rating agencies and also for prudential regulators of financial institutions is whether evidence like that presented in Figure 15.1 shows an inherent flaw in the ratings process or simply reflects an unexpected macroeconomic shock (i.e., bad luck on the part of the credit rating agencies).

There is a plethora of recent academic research, both theoretical and empirical, that sheds light on this question. In the next few subsections, we discuss the literature and focus on three problem areas:

1. The regulatory dependence on ratings and the role of rating requirements in existing regulation.
2. The conflicts of interest that are associated with the business model of the rating agencies.
3. The quality of ratings independent of this conflict of interest.

Regulatory Dependence on Ratings

The consequences of the errors of the major rating agencies' in rating mortgage-backed securities have been so severe because the rating agencies play a central role in the bond markets—a centrality that has been greatly reinforced by the regulatory requirements imposed upon the major institutional investors in these markets. Since the 1930s, prudential regulation has required that banks, insurance companies, pension funds, money market mutual funds, and securities firms must follow the ratings of the major rating agencies in making decisions as to what bonds should be held in their portfolios.

This special role of the rating agencies was crystallized in 1975 when the SEC created a special designation (NRSRO) and immediately ushered the three large rating agencies (Moody's, S&P, and Fitch) into this category. The SEC subsequently became an opaque barrier to entry into the ratings industry, allowing only four more firms to attain the NRSRO designation during the following 25 years. Mergers among the four late entrants and subsequently with Fitch, however, caused the number of NRSROs to shrink back to the original three by year-end 2000. Thus, as the subprime residential mortgage securitization process was gathering steam in the early part of the decade of 2000 to 2009, only three rating firms could provide the ratings—especially the highly valued AAA and AA ratings—that could allow mortgage securitizers' bonds to be held in the portfolios of the prudentially regulated financial institutions.

Sy (2009) provides a good discussion of the Basel Committee on Banking Supervision's analysis of the regulatory uses of credit ratings. This analysis aggregated 17 surveys from a total of 26 separate agencies across 12 different countries, and concludes that credit ratings are an essential part of the regulatory process for identifying assets that are eligible for investment purposes, for determining capital requirements, and for providing an evaluation of credit risk. Key examples include the use of NRSRO ratings in the United States to decide capital charges for broker-dealers and to set credit risk weights for banks under the Basel II Accord.

With respect to the current crisis, this dependence on ratings encouraged prudentially regulated financial institutions to engage in regulatory arbitrage. Specifically, these institutions were encouraged to reach for yield by investing in bonds that were rated as appropriate for the institution but that carried yields that were higher than usual for the bonds in that rating class; the higher yields indicated that the bond markets understood that these bonds were riskier than the rating suggested. Financial institutions could thus take on excessive risk while appearing to abide by the prudential regulatory restrictions. See, for example, the detailed discussion in Calomiris (2009).

Furthermore, since AAA-rated securities were given special status with respect to capital requirements, financial institutions with artificially low costs of funding due to mispriced government guarantees—such as the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac, too-big-to-fail institutions, and Federal Deposit Insurance Corporation (FDIC)-insured depository institutions—had a particular incentive to take carry trades and lever up on these AAA-rated securities. Acharya, Cooley, Richardson, and Walter (2010) argue that this manufacturing of tail risk on certain mortgage-backed securities was central to the financial crisis. While there are numerous examples of regulatory arbitrage by financial institutions during the financial crisis, the following four examples are particularly illuminating:

1. On page 122 of American International Group (AIG)'s 2007 annual report, it was reported that \$379 billion of its \$527 billion credit default swap (CDS) exposure on AAA-rated asset-backed securities sold by AIG's now-infamous Financial Products group was written not for hedging purposes, but to facilitate regulatory capital relief for financial institutions. Regulatory rules had zero capital requirement if an AAA-rated insurance company provided credit enhancement for AAA-rated securities.
2. While the focus of the collapse of AIG has been on its Financial Products division, which lost \$40.8 billion in 2008, it has been much less reported that AIG's Life Insurance and Retirement Services division had similar losses of \$37.5 billion in the same year. These losses stemmed from the Life Insurance and Retirement Services division's failed securities-lending businesses, aggressive variable annuity death benefit provisions, and investment losses on its over \$500 billion asset portfolio. Securities lending is normally considered a low-risk activity because the collateral is invested in safe short-term assets. In this crisis, however, AIG exploited the AAA rating of certain mortgage-backed securities and invested almost two-thirds of its cash collateral in longer maturities ranging from three years to 10 years. This exposed AIG to a maturity mismatch and

consequently large losses if the borrowers of AIG's securities did not roll over their loans (as turned out to be the case in some critical instances, such as Lehman Brothers).

3. Another example of regulatory arbitrage witnessed in the run-up to the crisis was based on exploiting ratings for the purpose of satisfying capital adequacy requirements. Acharya, Schnabl, and Suarez (2010) show that commercial banks established conduits to securitize assets while simultaneously insuring these newly securitized assets using credit guarantees. These credit guarantees were structured to reduce bank capital requirements via the conduits' AAA rating. As we now know, many of the commercial banks involved in this activity became seriously impaired in the crisis. For example, the two largest players, Citigroup and ABN Amro, financed \$93 billion and \$69 billion, respectively, of AAA-rated securities off balance sheet through so-called special purpose vehicles, and both effectively failed.
4. Similarly, in the 18-month period prior to July 2007 (the beginning of the crisis), UBS increased its holdings of AAA-rated nonprime mortgage-backed securities from \$5 billion to more than \$50 billion. Merrill Lynch did likewise. But these numbers were actually small compared with the accumulations of Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System (the other housing GSE). The GSEs held almost \$300 billion of these securities, according to an April 2008 Lehman Brothers report. In fact, as per this report, of the \$1.64 trillion of these securities outstanding, an astonishing 48 percent was held by banks, broker-dealers, and the GSEs.

Conflicts of Interest in the "Issuer Pays" Model

The conflict of interest that is associated with the "issuer pays" model adopted by the major rating agencies in the early 1970s had largely been kept in check by the rating agencies' reputational concerns (see, e.g., Covitz and Harrison 2003). Rating agencies were helped by the fact that there were thousands of issuers of corporate and government debt that they rated, so the threat by any one issuer to take its business elsewhere was not potent. Moreover, the plain-vanilla debt that was being rated was quite transparent, so that errors (accidental or otherwise) would be quickly spotted.

For the mortgage-related structured bonds, however, the conflict of interest was exacerbated, since the volumes of rated bonds were large, the profit margins wide, and issuers far fewer; thus, an issuer's threat to take its business to a different rating agency was far more compelling. For example, Figure 15.2 shows the growing importance of structured products to Moody's during the period from 2002 to 2007. Specifically, the figure

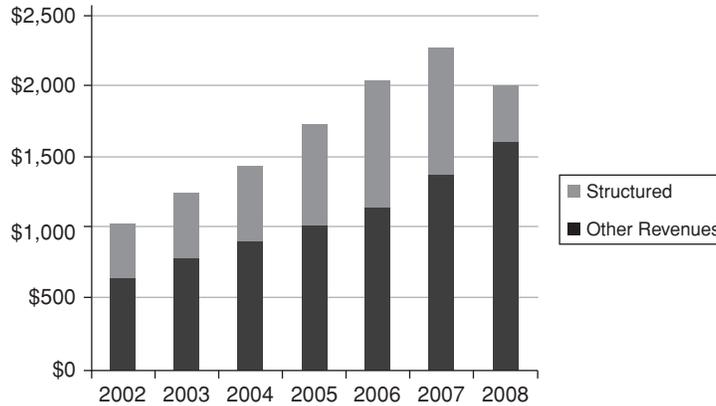


FIGURE 15.2 Moody's Revenues in \$ Millions
Source: Moody's Annual Reports 2002 to 2008.

graphs the breakdown of revenues between structured finance products and the rest of Moody's business.

In addition, the rated securities were far more complex and opaque than plain-vanilla bonds, so that errors were less likely to be spotted quickly. The issuers also figured out how to game the ratings criteria and were perceived to receive debt structuring advice from the rating agencies themselves (see International Monetary Fund 2009).

Most financial market analysts would agree that the current business model of the major CRAs can lead to severe conflicts of interest, which tend to reduce the quality of ratings and the accountability of the rating agencies. The conflicts of interest stem not only from who pays for the rating, but also from the fact that the rating agencies provide other revenue-generating services to the rated companies.

Recent papers—such as Bolton, Freixas, and Shapiro (2008); Mathis, McAndrews, and Rochet (2009); Sangiorgi, Sokobin, and Spatt (2009); and Skreta and Veldkamp (2009), among others—provide a theoretical justification for regulation based on the conflict-of-interest argument. The conflicts of interest that are addressed in these papers include ratings inflation due to the fact that the rating agencies are paid by the issuers, as well as the practice of so-called ratings shopping, whereby the issuer can troll the NRSROs for the best rating. Regulatory suggestions that are provided in these papers with respect to the future of the business model of CRAs are discussed at the end of this chapter.

Given the compelling nature of the conflict-of-interest argument, researchers have developed tests of implications of these theories. In particular,

Ashcraft, Goldsmith-Pinkham, and Vickery (2009) provide a detailed analysis of subprime and Alt-A MBS issuance between 2001 and 2007. While they find that credit ratings on MBSs contain useful information, their overall evidence is fairly damning. Specifically, consistent with Bolton, Freixas, and Shapiro (2008) and Mathis, McAndrews, and Rochet (2009), who argue that ratings inflation is more likely to occur during high-volume periods, Ashcraft et al. (2009) show that during the 2005 to mid-2007 period ratings became increasingly inflated even after adjusting for credit risk and deal characteristics.

The authors also report that for a given credit rating, more opaque MBSs, such as those based on loans with less documentation, perform much worse than other MBSs. This result is consistent with the conclusions of Sangiorgi, Sokobin, and Spatt (2009) and Skreta and Veldkamp (2009), who highlight the importance of transparency. Equally telling evidence on the conflict of interest related to ratings shopping is provided by Benmelech and Dlugosz (2009). They find that tranches that are rated by just one agency, a characteristic that is consistent with ratings shopping, are more likely to be downgraded, and more severely at that.

While the aforementioned papers document issues with the ratings of structured products of residential mortgage-backed securities, these issues also appear relevant for other securities, such as commercial mortgage-backed securities (CMBSs). For example, Stanton and Wallace (2010) analyze the performance of CMBSs before and during the financial crisis. They show that loan underwriting standards did not significantly deteriorate in the period leading up to the crisis, but instead that most of the failure in the CMBS market can be attributed to growing ratings inflation of the higher tranches of CMBSs.

To this point, according to an August 2009 Goldman Sachs report, the evolution of the capital structure of CMBS had changed dramatically during the decade leading up to the crisis. In particular, the report gives the breakdown of the percentage of commercial mortgage pools that are tranced as AAA, AA, A, BBB, BB, and equity. The report provides evidence that the mezzanine subordination level, and therefore credit enhancement, consistently decreased in the decade prior to the crisis. For example, between 1995 and 2007, the range of the pool that was AA-rated went from (26.8%, 21.2%) to (9.5%, 7.2%).

The empirical evidence suggests that conflicts of interest played an important role in the financial crisis. This evidence is supplemented by testimony of employees of the rating agencies to congressional and other regulatory committees. While some of the testimony may be taken with a grain of salt due to different interpretations of events and the fact that some employees may have been disgruntled, the overwhelming part of the

testimony strongly supports the conflict-of-interest story with respect to structured products. According to the testimony, the profit margins that were associated with rating these products took center stage over the firms' providing adequate resources given the growth in this market, and rating quality was generally less emphasized. In fact, some testimony went as far as to claim that ratings methodologies were changed in response to losses in market share.¹

Ratings Quality

Apart from the conflict-of-interest problem, there is another strong argument that can be made against both the quality and the accuracy of the ratings. This was especially the case for structured products, where the CRAs did not seem to fully understand the products that they rated and did not take default correlations into account. Flawed methodologies and data inputs were often used to assign ratings, and investors who relied on these ratings did not always have sufficient information to assess their quality. The methodologies and inputs that were used to rate nonprime residential MBSs (and CDOs backed by RMBSs) were particularly flawed, overestimating the quality of the underlying loans and underestimating the correlation of their performance.

As an example, Hull and White (2009) analyze ex post the risk of MBSs and MBS CDOs that were issued between 2000 and 2007. Using criteria similar to those used by the rating agencies, they look at the variation in AAA tranches under different modeling assumptions, such as loan correlations and recovery rates. They find that, while the AAA ratings assigned to the senior tranches of MBSs were in line with the theoretical models, the AAA ratings assigned to tranches of the mezzanine portion of the MBS CDOs could not be justified. Similar findings are documented by Coval, Jurek, and Stafford (2009) and Griffin and Tang (2009).

Another aspect of ratings quality is the timeliness and accuracy of rating changes. A considerable focus of the regulatory investigation of rating agencies' role in the crisis has been the widespread view that rating agencies were slow to react to the housing collapse in their analysis of structured products. While some see the rigidity of ratings by CRAs in the crisis as evidence of malfeasance, there is a history of CRAs' preference for stable ratings (see, e.g., Altman and Rijken 2004, 2010). CRAs argue that short-term credit quality shifts may lead to rating reversals in the future, and have even cited surveys that show that issuers strongly prefer stability over frequent changes, especially with respect to downgrades. In addition, since there are transaction costs that are associated with changes in portfolio holdings, an institutional investor that is subject to regulatory mandates that are linked

to ratings would prefer to avoid the alterations in portfolios that could be driven by a cyclical down-and-up pattern of ratings fluctuation.²

15.3 PUBLIC INTEREST OBJECTIVES OF RATING REGULATION

If a credit rating is inflated or of low quality, there is little accountability and, in general, almost no incentive for the rating agencies to compete on quality. In fact, competition may actually lower quality as rating agencies compete under the specter of the conflict of interest; see, for example, Bolton, Freixas, and Shapiro (2008) for a theoretical analysis that makes this point.³ As an illustration of the effect of competition on rating agencies, Becker and Milbourn (2008) examine the impact of the increase in Fitch's market share on corporate bond ratings that were provided by Moody's and S&P. They document a decrease in ratings quality with competition. Many researchers have argued that the ratings process for structured products is even more vulnerable to this problem.

Even if the business model of rating agencies were switched to an "investor pays" model and the free-rider problem of investors could be solved, there is still potential for a race to the bottom; that is, prudentially regulated institutions will shop around for the lowest rating that will still satisfy regulatory standards and seek the highest yield subject to that constraint (reaching for yield). This will often entail investing in securities that the market (and perhaps the investor) believes are more risky than the (mistaken) rating indicates. As described earlier, during the crisis many institutional investors, especially large, complex financial institutions (LCFIs), used ratings not only to measure risk internally but also to engage in regulatory arbitrage.

The conflict-of-interest argument and the poor quality of initial ratings of RMBSs have encouraged the development of alternative models and products from firms that estimate ratings and default probabilities that are less subject to these issues.⁴ However, given the fact that ratings by NRSROs are an important part of the regulatory process and a crucial determinant of investment strategies, there is still need for reform.

Any regulation of the rating industry should have a number of important public interest objectives:

- To completely remove or significantly reduce the power and influence that the incumbent CRAs have on the functioning of global capital markets.
- To provide meaningful and accurate information to investors, issuers, regulators, and other major market participants on the probability of

default and loss given default of debt securities issued by firms, financial institutions, and sovereigns and on the derivative instruments that are related to these primary securities, and, by doing so, restore confidence in CRAs and financial markets.

- To remove or reduce the potential conflicts of interest that are inherent in the current business model of CRAs, in particular with respect to the “issuer pays” model.

15.4 THE DODD-FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT (2010)

The severe recent criticism of the rating agencies comes after prior rating debacles involving the Asian crisis of the late 1990s and many fraud-related, but fairly transparent, cases like Enron and WorldCom of the early 2000s. The criticisms in those instances involved the rating agencies’ tardiness in downward rating adjustments. In the case of the mortgage securities ratings, however, the major criticism is aimed at the rating agencies’ *initial*, overly optimistic ratings. It is therefore no surprise that financial regulatory reform has included specific provisions for regulating the credit rating agencies.

Title IX, Subtitle C, “Improvements to the Regulation of Credit Rating Agencies,” proposes legislation to strengthen the regulation of rating agencies and to restore investor confidence in the rating process.

Role of Government

The Dodd-Frank Act (2010) stresses the systemic importance of credit ratings and the public interest nature of the activities and performance of rating agencies as rationales for regulation. A key premise of the Dodd-Frank Act is that conflicts of interest, particularly in the advising of arrangers of structured financial products, as well as the inaccuracy in the rating of such structured financial products, should be addressed.⁵

The Act presents new rules for internal control and governance, independence, transparency, and liability standards. It establishes an Office of Credit Ratings at the SEC to “administer the rules of the Commission (i) with respect to the practices of NRSROs in determining ratings, for the protection of users of credit ratings, and in the public interest; (ii) to promote accuracy in credit ratings issued by NRSROs; and (iii) to ensure that such ratings are not unduly influenced by conflicts of interest.”⁶

The Act requires an internal control structure and annual ratings review process, which gives the SEC the right to suspend or revoke the registration of an NRSRO with respect to a particular class or subclass of securities

if the NRSRO “has failed over a sustained period of time, as determined by the Commission, to produce ratings that are accurate for that class or subclass of securities . . . or does not have adequate financial and managerial resources to consistently produce credit ratings with integrity,” or if rules regarding the separation of ratings and sales and marketing were violated.⁷

The Act further requires that each NRSRO should “publicly disclose information on the initial credit ratings determined by the NRSRO for each type of obligor, security, and money market instrument, and any subsequent changes to such credit ratings, for the purpose of allowing users of credit ratings to evaluate the accuracy of ratings and compare the performance of ratings by different NRSROs.”⁸ In addition, to enhance transparency in rating performance and methodologies, the Act requires that each NRSRO provide comprehensive disclosures on the information, procedures, and methodologies that are used in estimating and changing credit ratings, and stress the potential limitations of the ratings and the types of risks that are not included in the rating (such as liquidity, market, correlation, and other risks). Moreover, the Act requires the rating agencies to provide an explanation or measure of potential volatility for the credit rating, any factors that may lead to a change in the rating, and the sensitivity of the rating to those factors.

Finally, the Act contains various other provisions, the most notable of which removes credit rating agencies and the firms that issue securities from exemption from the SEC’s fair disclosure (FD) rule.⁹

With respect to the role of NRSROs, the legislation is a clear attempt to hold the rating agencies accountable and to open up the system to higher-quality information with respect to the risks of securities. Specifically, we favor the following aspects of the proposals:

- Some regulatory oversight, since regulators are among the largest consumers of ratings through determining capital requirements of financial institutions and prudent rules for investors.
- The periodic audit of ratings that are provided by NRSROs and the ability of the SEC to rescind the NRSRO status based on its findings (at least with respect to a particular class or subclass of securities).

We have concerns, however, about the legislation with respect to the granting and maintenance of NRSRO status. While oversight of NRSROs is needed, some of the provisions are quite onerous in terms of compliance, yet would appear to yield only small benefits. In practice, given their fixed-cost nature, this will impose a relatively heavier burden on innovative start-up NRSROs, thereby strengthening the dominance of the larger rating agencies. Over time, one would hope that the amount of oversight would be

streamlined. In addition, the success of the legislation depends on the ability of the SEC to implement effective oversight—an area in which it has not been particularly successful in the past. One suggestion in this respect would be to explore the creation of the equivalent of the Public Company Accounting Oversight Board (PCAOB) for rating agencies. It is unclear how this would substitute for or complement the Office of Credit Ratings at the SEC, but it seems worthy of consideration.

As a final note, the Act's removal of the FD exemption for rating agencies will clearly reduce the market power of the NRSROs, but may also lead to unintended consequences. Empirical evidence suggests that the removal of the exemption from Regulation FD will reduce the information content of rating changes, and thus may negatively impact the efficiency of financial markets (see Jorion, Liu, and Shi 2005).

Reliance on NRSRO Ratings

With respect to the reliance on NRSRO ratings, the Dodd-Frank Act explicitly calls for the removal of statutory references to credit ratings in federal and state law on financial regulation. In particular, the Act mandates replacement of the language “investment grade” and “non-investment grade”; it especially mandates replacement of the latter by “that does not meet standards of credit-worthiness.” In addition, the Act proposes that federal agencies undertake a review of their reliance on credit ratings, develop different standards of creditworthiness, and amend their regulations to reflect these different standards.¹⁰

We strongly support the removal of specific language that requires regulatory agencies to rely on credit ratings. This is quite important, as ratings are not sufficient to measure the risk of fixed-income securities, as we describe in the next section. Furthermore, we endorse the idea that rating agencies should provide more than a single-point estimate of risk by adding potential stressed outcomes. For example, in addition to a single estimate of default risk, there should be a specification of a reasonable distribution of different outcome scenarios.

But the regulator should also look to other sources for risk measurement. Beyond the default risk estimated by rating agencies, both the regulator and investor need to consider model/misspecification error, liquidity/funding risk, and market risk. The specification of a reasonable distribution of outcome scenarios would have been extremely useful in the subprime mortgage structured finance debacle that led to the crisis. For example, estimates of rating migration under different scenarios of real estate price declines might have highlighted the default risk more clearly and alerted investors more effectively than did a single rating designation.

15.5 DODD-FRANK AND CONFLICTS OF INTEREST

In order to incentivize the rating agencies to do their job effectively, the Dodd-Frank Act defines liability standards for failing to investigate or obtain analysis from independent sources. For example, investors can now bring suit against rating agencies for a knowing or reckless failure to conduct a reasonable investigation of the rated security. Rating agencies are now subject to so-called expert liability; in other words, they are no longer exempt on First Amendment grounds from private rights of action.¹¹ In this respect, the Act proposes that since credit rating agencies effectively play a gatekeeper role in the debt markets and perform commercial evaluative and analytical services on behalf of their clients, they should be subject to the same standards of accountability and liability as are security analysts, investment bankers, and auditors.¹²

As for the independence of rating agencies, the potential conflicts of interest associated with the “issuer pays” model, and the provision of non-rating-related services by rating agencies, the Act prohibits “the sales and marketing considerations of an NRSRO from influencing the production of ratings by the NRSRO.” The Act does not allow compliance officers to work on ratings or sales, and installs a one-year look-back review when an employee of an NRSRO goes to work for an underwriter of a security that is subject to an NRSRO rating.¹³

Most important, however, is the Act’s provision that calls for a two-year study of the credit-rating process for structured finance products and the conflicts of interest that are associated with the “issuer pays” and the “investor pays” models. In particular, the study is to determine the “feasibility of establishing a system in which a public or private utility or a self-regulatory organization assigns Nationally Recognized Statistical Rating Organizations to determine the credit ratings of structured finance products.”¹⁴ The review should include an analysis of mechanisms for determining fees for the NRSROs, metrics for determining the accuracy of credit ratings, and alternative methodologies of creating incentives for the NRSROs to report accurate credit ratings.

While studies are always met with some skepticism, the Act goes further by calling for “a system for the assignment of NRSROs to determine the initial credit ratings of structured finance products, in a manner that prevents the issuer, sponsor, or underwriter of the structured finance product from selecting the NRSRO that will determine the initial credit ratings and monitor such credit ratings. In issuing any rule . . . the Commission shall give thorough consideration to the provisions of . . . section 939D of H.R. 4173 (111th Congress), as passed by the Senate on May 20, 2010, and shall implement the system described in such section 939D unless the Commission

determines that an alternative system would better serve the public interest and the protection of investors.”¹⁵

Section 939D calls for a Ratings Board to be housed in the Office of Credit Ratings at the SEC. The majority of the Ratings Board would be composed of investors in structured finance products, and its purpose would be to assign a rating agency to the issuer for the initial rating of a structured security. That is, the Office of Credit Ratings would install a centralized clearing platform for rating agencies. It would work in three steps:

1. A company that wants its structured debt to be rated would go to the Ratings Board. Depending on the attributes of the security, a flat fee would be assessed.
2. From a sample of approved rating agencies, the Ratings Board would choose, most likely via lottery, the rating agency that rates the security. While this choice could be random, a more palatable lottery design could be based on some degree of excellence, such as the quality of the ratings methodology, the rating agency’s experience at rating this type of debt, some historical perspective on how well the rating agency has rated this type of debt relative to other rating agencies, past audits of the rating agency’s quality, and so forth.
3. For a fee, the rating agency would then proceed to rate the debt. The issuer would be allowed to gather additional ratings, but the initial rating would have to go through this process, which no longer allows the issuer to choose the rater.

Section 939D of HR 4173 was proposed by Senator Al Franken, became known as the “Franken Amendment,” and was passed by a supermajority of the Senate but watered down in conference in trying to reconcile the House and Senate versions of the financial reform bill. The Congress could not agree on how to allocate rating mandates across the various NRSROs; consequently, in a typical congressional compromise, they simply mandated that the SEC conduct a study to determine how to do that.

The legislation addresses the conflict of interest that is associated with the “issuer pays” model to some extent via Section 939D. This reform reduces the scope for ratings shopping and more generally the incentive to inflate ratings without compromising credit rating agencies’ willingness to voice a diversity of opinions. This is because, by construction, removing issuers’ choice of rating agency diminishes the scope for ratings shopping and removes the incentive for rating agencies to attract business by offering favorable ratings. If the Ratings Board uses expertise as a criterion, this reform will also more likely spur competition among rating agencies to produce a higher-quality product. That is, to maintain a strong weight in the

lottery, the rating agency will have incentives to invest resources, innovate, and perform high-quality work. Right now, there is no incentive for the rating agencies to produce quality ratings, because they are not rewarded for doing so. In fact, since issuers pay the raters, one could argue the reverse, leading to a race to the bottom.

Of course, the issue in the end will come down to the outcome of the study and whether regulators will decide to honor the spirit of the Dodd-Frank Act and implement Section 939D of HR 4173 if no better alternative is found. On the one hand, the Act written this way makes sense. There are a number of implementation issues, not the least of which is the payment scheme and the SEC's ability to execute and administer a system of this type. Moreover, one concern about Section 939D of HR 4173 is that it might lead to unintended consequences, such as enshrining the ratings and the raters that are chosen by the lottery as officially sanctioned ratings and again be the only component of risk assessment. On the other hand, the Act might give the SEC too much leeway to implement a meaningless reform that does not adequately address a major cause of the financial crisis: the breakdown in the ratings process due to the combination of the conflict of interest and regulatory reliance on ratings.

This is especially true because the other reforms that are written in the Dodd-Frank Act do not seem sufficient. For example, while the proposal to force more disclosure of preliminary ratings sounds like a step in the right direction, it is easily circumvented. Investment banks are well aware of the methodologies that raters use and can figure out which agency is likely to offer the highest rating. Imposing more uniformity on ratings—by penalizing rating agencies that perform worse than their peers or by dictating ratings methodologies—may reduce the variance of ratings. However, by making ratings more similar, these measures also diminish the additional information content of multiple ratings, which may leave investors—and, more importantly, regulators—less well-informed.

As a final comment, holding the NRSROs accountable for their errors introduces the notion of legal liability. While expanded legal liability will clearly increase their accountability and thus improve their behavior, it may impose considerable costs on the system. By construction, almost any *ex ante* credit rating is wrong *ex post* upon default of the issuer. This could lead to frivolous and unfair lawsuits and may result in a bias toward overestimating the probability of default in published ratings. We therefore prefer to let the market penalize credit rating agencies for inaccurate ratings, which is more along the lines of implementing a business judgment rule and is more consistent with enhanced competition.

In regard to other jurisdictions, given that rating agencies command a special status in terms of regulatory reliance on their product outside the United States, it should not be surprising that rating agencies are also

a prominent part of the regulatory agenda worldwide. Specifically, international proposals by the Group of Twenty (G-20), Britain's Financial Services Authority (FSA), the Financial Stability Board (FSB), the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), and the European Commission of the European Union (EU) all call for stronger (and internationally coordinated) regulatory oversight of registered rating agencies in order to ensure good governance and manage conflicts of interest, and also require an increase in transparency and quality of the rating process. The G-20, the FSA, and the EU proposals recommend the introduction of differentiated ratings for structured products. The OECD proposal focuses on increasing the competitiveness of the rating industry by lowering barriers to entry through simpler registration requirements and by encouraging unsolicited ratings to stimulate the expansion of small credit rating agencies with new business models. The EU and OECD proposals appear to be more explicit in recommending changes in the business model of rating agencies (e.g., the EU proposal suggests an internationally coordinated switch from the "issuer pays" to the "investor pays" model) and a reduction in the use of NRSRO ratings in financial regulation. As described in our analysis of the Dodd-Frank Act, however, increased competition will not necessarily lead to higher-quality ratings; and a switch to the "investor pays" model does not solve the conflict-of-interest problem as long as investors have an incentive to use ratings to exploit capital regulatory requirements.

More recently (on June 2, 2010), the European Commission proposed amendments to the supervisory framework for CRAs, adopted in April 2009, to improve the international coordination of regulatory oversight at the EU level. Under the Commission's current proposal, a new European supervisory authority, the European Security Markets Authority (ESMA), with direct supervisory powers over CRAs, will be established. The ESMA will be responsible for the registration, supervision, and day-to-day monitoring of CRAs, as well as for taking appropriate supervisory measures that range from the issuance of a public notice to the withdrawal of the registration in the event that a CRA is determined to be in breach of the regulation. Although this proposal transfers all supervisory powers to the ESMA, it allows for the possibility that the ESMA may delegate powers back to national authorities, where appropriate, such as on-site inspections for day-to-day monitoring. Furthermore, the proposal allows for the possibility that national authorities may request the ESMA to examine whether the conditions for the withdrawal of a CRA's registration are met or whether the use of credit ratings issued by a CRA should be suspended based on its assessment of a serious and persistent breach of the regulation. However, the responsibility will remain with the ESMA.¹⁶ While we agree with the European Commission's claim that a single central regulator at the EU level may allow the CRAs to operate in a simpler regulatory environment, we

remain concerned about the tremendous faith put in the ability of a central regulator to monitor and evaluate the performance of the rating agencies.

Another aspect of the amendments is that the European Commission requires the issuers of structured finance instruments to provide information not only to the CRA that they choose, but also to all other interested CRAs. This aspect of the amendments appears to be intended to reinforce competition among CRAs, avoiding possible conflicts of interest under the “issuer pays” model, and enhancing transparency and the quality of ratings. We believe that this requirement is a step in the right direction for avoiding possible conflicts of interest and reinforcing competition, and may even form a basis for a hybrid business model in which some of the CRAs disclose their ratings publicly, while others may choose to keep the ratings private and try to sell them to interested investors.

Last, in its June 3, 2010, press release regarding the amendments, the European Commission reiterated its concerns about the lack of competition in the global rating industry and acknowledged its intent to examine further structural solutions, including the establishment of a European CRA or other independent public entities with a stronger role in the issuing of ratings. This acknowledgment confirms our belief that rating agencies will remain present at the top of the regulatory agenda worldwide for quite a while.

15.6 LOOKING FORWARD

In the typical view of the role of ratings in the financial crisis, investors were asleep at the wheel because of the government’s seal of approval of rating agencies. But our analysis shows that ultimately it was not investors who were deceived here but instead it was taxpayers who were deceived. This is how it worked: Because the issuer pays the agency that rates the security, there is a huge conflict of interest to shop the security around until the issuer gets the desired rating, leading to inflated ratings. Thanks to several academic studies and recent testimony by rating agency officials, we now know that this took place. And because the government sets its regulatory structure around these ratings, investors like AIG, Citigroup, ABN Amro, UBS, Fannie Mae, Freddie Mac, and, for that matter, Merrill Lynch and Lehman Brothers, among others, were able to engage in risky activities without having to hold a sufficient capital buffer due to the inflated ratings. Rating agencies acquiesced in this unholy alliance between investors and issuers. The crisis, and the taxpayer-funded bailouts that followed, could not have transpired the way it did without rating agencies planted in the center of the financial system.

The Dodd-Frank Act represents a major change in the way that credit rating agencies would be regulated. The legislation addresses the two core

problems: first, the central role of NRSRO ratings in financial regulation and the dominance of a few rating agencies in the industry; and second, the conflict of interest in the “issuer pays” model and how some investors use these ratings.

Among the largest consumers of rating agencies are the prudential regulators. But their very reliance, coupled with the existing conflicts of interest and possibility for regulatory arbitrage, has made the system less stable. It seems clear that, going forward, the rating agency model needs to be quite different. While the legislation is a major step in the right direction, one would hope that the Dodd-Frank Act would lead to major changes through its commissioned studies. Next, we address the regulatory reliance and conflict of interest issues.

Regulatory Reliance on Ratings

Ratings are not sufficient to measure the risks of fixed-income securities and therefore the risk profiles of financial institutions. There are generally three risk components that need to be evaluated, and although the following comments hold generally for all securities, we illustrate the ideas using structured securities as an example.

Default Risk and Model Risk We do not know enough yet about the process by which the rating agencies evaluated the default probability and expected losses of structured securities. Was their analysis *ex ante* poor quality or are we simply judging them in hindsight? Clearly, the conditions were ripe for abuse—the economics involved with rating structured products, the involvement of the rating agencies in also structuring the products, the aforementioned conflicts of interest, and so on. But we will leave this issue of process aside.

Instead, we want to focus on whether structured products can really be rated in a comparable manner to, for example, corporate bonds. We believe that the answer is no, and regulators need to build this into the way that they treat structured products as possible investments for the finance industry. Structured securities are securities that are backed by a portfolio of loans/bonds/mortgages that are issued on a prioritized basis, known as tranches. Mathematically, the payoffs on these structured securities resemble those of option combinations on the underlying portfolio. If one were to further structure the tranches, such as the so-called CDO-squared formulations, then the payoffs resemble options on options, defined as compound options in the academic and practitioner literature.

Understanding this connection to options is very useful. There is an extensive literature that shows that valuation is highly sensitive to the volatility of the underlying asset for option combinations, and to the volatility

of volatility for compound options. So, for structured products, unless the analysts have near certainty about the volatility and correlations of the underlying loans in the portfolio that they will have to input into their ratings model, the output from their model will be highly unreliable. In fact, both Hull and White (2009) and Coval, Jurek, and Stafford (2009) simulate the sensitivity of the ratings of structured products to assumptions about default correlations and default probabilities and make this very point of unreliability of the model.¹⁷

A rating is an estimate of the likelihood of default and the losses that are associated with default. Estimates can be precise or imprecise, and this degree of precision needs to be incorporated into the regulator's perspective on risk. The point here is that there is no way around this issue. Even in a world where the analyst has modeled the structured product perfectly, small changes in the underlying assumptions can have dramatic effects. As such, these securities have fundamentally different properties than do the plain-vanilla corporate and municipal bonds, which are the traditional securities rated by the NRSROs.

Liquidity/Funding Risk Securities with fundamentally the same risk can offer different rates of return due to different levels of liquidity. A well-known example is provided by off-the-run versus on-the-run Treasury securities.¹⁸ Liquidity is priced because there are times, such as during a crisis, when investors need to convert the securities into cash, and some securities trade in markets where this is difficult to do. Structured products definitely fit into this class, and help explain why some of the so-called supersenior and AAA tranches offered higher yields than were available on plain-vanilla AAA-rated individual securities. Historically, some finance companies may have been holders of illiquid securities because their funding sources (i.e., policyholder premiums, deposits, etc.) were relatively sticky and their overall investment portfolio risk was low. This is not necessarily true anymore. For example, as life insurers have become subject to runs due to the possibility of policyholders' cashing in and increased risk of their investment portfolios due to holdings of variable annuities, a concentration of fixed-income portfolios in illiquid securities may be problematic. Therefore, the regulator should put a higher degree of emphasis on corporate liquidity into portfolio requirements.

Market Risk Even if securities have the same probability of default and expected loss, and have the same liquidity, these securities can offer different rates of return due to their level of market risk. Market risk is especially damaging to insurance companies because the companies get hit both by their fixed-income securities' falling in value along with their other

investments, and because their funding sources begin to dry up as consumers and businesses try to conserve cash. Structured products, especially the safer AA and AAA tranches, are particularly vulnerable in this respect. Almost all of the risk of these securities is market risk, as individual risks of the individual loans/bonds/mortgages have been diversified away (see, for example, Coval, Jurek, and Stafford 2009; Longstaff and Myers 2009). Only in a rare event in which there are widespread defaults will the securities bear losses, but this is when the company can least afford it. Therefore, a corporate bond with the same default probability and expected loss as a structured security should be considered less risky, as much of the former's risk is diversifiable.



Understanding risk is not just about an estimate of expected losses, but also about when those losses occur (i.e., involving both credit and market risk); when the portfolio may become impaired (i.e., liquidity); and how accurately we measure those losses *ex ante*. The regulator needs multidimensional inputs to judge the prudence of the finance company's investment portfolio. This leads to the following implications for the provision of additional information, as pertaining to structured products:

- Along with the rating, a measure of the *ex ante* accuracy (or confidence) of the rating. It may well be the case that certain structured products should not be rated.
- Along with the rating, and its precision, a measure of the securities' liquidity in the secondary market.
- Along with the rating, its precision, and its liquidity, a measure of its market risk.

As an illustration, the AAA tranche of a CDO-squared on a mortgage pool would get, in addition to its AAA rating, a mark of high imprecision, high illiquidity, and high market risk. Additional useful information would be the current market prices of various related securities. There is extensive evidence that market prices tend to have more and earlier information, albeit with much more volatility, about default probabilities and losses than do ratings.

Alternative Business Models

Clearly, the rating agencies' business model needs to be fixed. This has been talked about for years, and the current crisis shows that these concerns are valid. The focus should be on revamping the system, which will increase

competition (and therefore improve quality), and on fixing the conflicts of interest.

However, there is little discussion in the Act of the problem that ratings are currently used by some institutional investors to conduct regulatory arbitrage—that is, simultaneously taking excessive risk while adhering to the regulator’s safety standards because of the NRSROs’ overly optimistic rating. This suggests that alternative models, such as “investor pays,” may suffer from similar abuses and not provide a solution to the rating agencies’ problem, and EU proposals of a possible switch to this model may be premature.

While investors may, indeed, try to game the ratings systems through the arbitrage process, it is clear that the recent criticism of agencies has already motivated a number of new entrants to the credit risk rating industry. These new firms and models may not be NRSRO designates, but will provide investors and regulators with additional estimates of, for example, the probability of default of issuers and also possibly the distribution of possible outcomes. Many of these newcomers are likely to advocate point-in-time statistical models for default assessment that will likely provide more timely, albeit also more volatile, estimates of default than will the traditional through-the-cycle rating process of all the major existing rating agencies. The challenge for institutional investors and their boards is to analyze these new methods in order to determine the value added and to compare their benefits with the additional costs involved.

In terms of sticking with the “issuer pays” model, Bolton, Freixas, and Shapiro (2008) argue that up-front payments to credit rating agencies would eliminate the conflict of interest, and enforced disclosure of all ratings would mitigate the shopping-for-ratings problem. An alternative approach, and one that Section 939D of HR 4173 is directly based on and is highlighted for potential implementation by the Dodd-Frank Act, is provided for in Mathis, McAndrews, and Rochet (2009). (See also Raboy 2009 and Richardson and White 2009.) The main idea is that issuers no longer choose the rating agency, but instead must go through a centralized clearing process. The idea is motivated through both theoretical and empirical work that shows the conflict of interest of issuers choosing rating agencies is a first-order problem for structured finance products. The optimal resolution in Mathis, McAndrews, and Rochet (2009) is such a scheme. The proposals in this chapter as well as in Raboy (2009) and Richardson and White (2009) have the advantage of simultaneously solving the following: (1) the free-rider problem, because the issuer still pays; (2) the conflict of interest problem, because the agency is chosen by the regulating body; and (3) the competition problem, because the regulator’s choice can be based on some degree of excellence, thereby providing the rating agency with incentives to invest

resources, to innovate, and to perform high-quality work. As we mentioned before, however, it does put tremendous faith in the ability of the regulator to monitor and evaluate the rating agencies' performance.

So, we now move forward with new regulation on rating agencies. Many issues are addressed fairly well; others are deferred. We hope that our comments will help in the new studies that are mandated by the new Act.

NOTES

1. See, for example, Financial Crisis Inquiry Commission June 2, 2010, hearings on "Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis," testimony by Mark Froeba and Eric Kolchinsky.
2. In fact, so-called point-in-time models developed by scholars and practitioners, such as structural and Z-Score type procedures, will usually provide more advanced early warning signals of downgrades and defaults than do CRAs that use more conservative through-the-cycle, longer-term criteria. Indeed, Altman and Rijken (2004, 2006) found that rating agencies, on average, wait 1.6 times longer than do multivariate predictive models to signal the rating change; and, when CRAs do change their ratings, the amount of the change (particularly downgrades) is only 0.6 times as much as the change should have been compared with the point-in-time model.
3. In the Skreta and Veldkamp (2009) model, competition also leads to ratings inflation; but this outcome occurs because more (competing) raters—even when they are trying for accurate ratings—provide more opportunities for inadvertent optimistic errors, which the rated firms can then select opportunistically.
4. Indeed, we are aware of at least four new recent efforts in this direction proposed by firms like Morningstar, Inc., Audit Integrity Score, Bloomberg's CRAT score, and the RiskMetrics Group's Z-Metrics approach. One of this chapter's authors (Altman) is involved in the last effort.
5. See Title IX, Subtitle C, Sec. 931, "Findings."
6. See Title IX, Subtitle C, Sec. 932, "Enhanced Regulation, Accountability and Transparency of Nationally Recognized Statistical Rating Organizations."
7. See Title IX, Subtitle C, Sec. 932, "Enhanced Regulation, Accountability and Transparency of Nationally Recognized Statistical Rating Organizations."
8. See Title IX, Subtitle C, Sec. 932, "Enhanced Regulation, Accountability and Transparency of Nationally Recognized Statistical Rating Organizations."
9. See Title IX, Subtitle C, Sec. 939B, "Elimination of Exemption from Fair Disclosure Rule."
10. See Title IX, Subtitle C, Sec. 939, "Removal of Statutory References to Credit Ratings."
11. See Title IX, Subtitle C, Sec. 933, "State of Mind in Private Actions."
12. Note that in this respect the removal of the exemption from Regulation FD for credit rating agencies proposed in the bill and described earlier seems to make

- sense, since it will be hard to justify a differentiation in reporting standards between these different gatekeepers in the financial market.
13. See Title IX, Subtitle C, Sec. 932, “Enhanced Regulation, Accountability and Transparency of Nationally Recognized Statistical Rating Organizations.”
 14. See Title IX, Subtitle C, Sec. 939F, “Study and Rulemaking on Assigned Credit Ratings.”
 15. See Title IX, Subtitle C, Sec. 939F, “Study and Rulemaking on Assigned Credit Ratings.”
 16. <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/10/230>.
 17. One particularly egregious example was the structuring of synthetic collateralized debt obligations (CDOs) built from BBB-rated mezzanine tranches of multiple residential mortgage-backed securities (RMBSs) in the nonprime area. The BBB-rated tranches already represented options on diversified pools of mortgages, so pooling these BBB tranches from a number of RMBSs would not add much additional diversification, which in turn should have greatly affected the assumptions underlying the synthetic CDOs, especially for the higher-rated tranches.
 18. On-the-run Treasury securities are the most recently issued Treasury securities and are more liquid than the other Treasury securities, which are called off-the-run.

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