

Overdependence on Credit Ratings Was a Primary Cause of the Crisis  
Frank Partnoy\*

Eleventh Annual International Banking Conference  
The Federal Reserve Bank of Chicago and the European Central Bank  
Credit Market Turmoil of 2007-08: Implications for Public Policy

Introduction

A primary cause of the recent credit market turmoil was overdependence on credit ratings and credit rating agencies. Without such overdependence, the complex financial instruments, particularly collateralized debt obligations (CDOs) and structured investment vehicles (SIVs), which were at the center of the crisis could not, and would not, have been created or sold. Long-term sustainable policy measures should take into account both regulatory and behavioral overdependence on ratings.

In the first part of the paper, I describe how over time credit rating agencies<sup>1</sup> ceased to play the role of information intermediaries. By the time market participants recently began to securitize large amounts of subprime mortgages, rating agencies were available, not to provide information about the risk associated with the securitized instruments, but to facilitate the use of “regulatory licenses”<sup>2</sup> by enabling structurers to create and maintain tranches of these instruments with unjustifiably high credit ratings. This role went well beyond the standard reputational model of the role of rating agencies.

In the second part of the paper, I suggest how future policy might minimize overdependence on credit ratings, by removing regulatory licenses and by implementing

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\* George E. Barrett Professor of Law and Finance, University of San Diego School of Law.

<sup>1</sup> By credit rating agencies, I am referring to Nationally Recognized Statistical Rating Organizations (NRSROs), as that term was defined during the early 2000s, and in particular to the two major NRSROs, Moody’s Investor Service and Standard & Poor’s Rating Services.

<sup>2</sup> By regulatory license, I mean the property rights associated with the ability of a private entity, rather than a regulator, to determine the substantive effect of legal rules. See Partnoy, Frank, 1999, “The Siskel and Ebert of Financial Markets?: Two Thumbs Down for the Credit Rating Agencies,” *Washington University Law Quarterly*, Vol. 77, pp. 619-712, at 622.

“shock therapy” mechanisms to wean investors off ratings mnemonics. I also analyze how regulators and market participants can learn from the flaws in rating agency models, to avoid repeating similar mistakes. In particular, I focus on the misapplication of historical data with respect to estimates of expected default probability, recovery, and correlation. Finally, I assess how market measures of these estimates, based on actual prices of traded assets, might substitute for credit ratings for both regulatory and behavioral purposes.

#### Some background and theory: reputation vs. regulatory licenses

Historically, information intermediaries have arisen because of information asymmetry between buyers and sellers, particularly in markets where sellers have superior information but cannot costlessly convey this information to buyers.<sup>3</sup> If buyers are economically rational, prices in a market with information asymmetry will reflect the average quality of a product, and sellers with superior products will bear the cost of the information asymmetry. Consequently, sellers in such a market will have an incentive to disclose the superior nature of their product so that they can receive the highest price. In financial markets, to the extent sellers cannot credibly make such disclosures, there are incentives for information intermediaries to play this role.

Information-gathering firms that certify asset quality typically must satisfy three criteria before their certification will be credible to outside investors. First, the certifying agent must have reputational capital at stake in the certification activity. In other words, the certifying agent credibly must be able to pledge that it will suffer a loss, related either to litigation or declining reputation, if its certification is systematically biased or false. Second, this expected loss must exceed the expected gain from false certification. Third,

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<sup>3</sup> Partnoy, 1999, at 633-36.

the agent's services must be costly and the cost must be related to the informational asymmetry between buyer and seller.

In the early debt markets, credit rating agencies evolved to play an informational intermediary role, from the nineteenth century mercantile credit rating agencies through John Moody's application to bonds.<sup>4</sup> Moody's insight was that he could profit by selling to the public a synthesis of complex bond data into a single letter rating.

For the most part, credit rating agencies fit this reputational investor-pay model until the mid-1970s, when, not coincidentally, the Securities and Exchange Commission began relying substantively on credit rating agencies for regulatory purposes and the agencies shifted to an issuer-pay model.<sup>5</sup> As the regulatory dependence on ratings increased, rating agencies became more profitable and also began providing ratings of transactions designed to achieve particular ratings. During the late 1980s and early 1990s, bankers and issuers created a range of highly-rated asset-backed transactions and collateralized bond obligations, as well as derivative product companies, financial guarantor transactions, and AAA-rated arbitrage vehicles. The first SIVs and asset-backed CDOs were created during this period.

As the credit rating agency model shifted from investor-pay to issuer-pay, the conditions necessary for the existence of a well-function information intermediary

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<sup>4</sup> Partnoy, 1999, at 637-38.

<sup>5</sup> More precisely, the regulatory dependence on credit ratings began in 1973, when the SEC proposed amending broker-dealer "haircut" requirements, which set forth the percentage of a financial asset's market value a broker-dealer was required to deduct for the purpose of calculating its net capital requirement. Rule 15c3-1, promulgated two years later, required a different "haircut" based on the credit ratings assigned by Nationally Recognized Statistical Rating Organizations (NRSROs). See 17 C.F.R. 240.15c3-1. Since the mid-1970s, statutes and regulations increasingly have come to depend explicitly on NRSRO ratings. See Partnoy, 1999, at 690-703.

faltered. The rating agencies faced little or no risk of loss from inaccurate ratings, while the potential gains from inaccurate ratings increased. Ratings substantially lagged the revelation of public information about rated issuers and instruments, and rating agencies repeatedly were forced to revise ratings substantially downward. As rating agencies began rating substantially greater numbers of issuers and instruments, the resources expended per rating necessarily declined, and the cost of providing a rating became disconnected from the information gap between investors and issuers. Finally, the rating agencies' businesses became progressively more profitable, even as the informational value of their ratings declined.

During the 1990s, overdependence on credit ratings led many market participants to create highly-rated fixed income instruments that carried attractive yields relative to comparable assets, but that also carried new risks typically not associated with highly-rated bonds. The bond market crisis in 1994-95 was driven by structured notes and other derivatives transactions, including mortgage-backed transactions, which were designed to achieve high ratings, even though they carried other embedded risks. More recently, overdependence on credit ratings played a significant role in the collapse of Enron.<sup>6</sup>

With respect to mortgages, "first-level" securitizations were a response to the investment grade "cliff" noted by W. Braddock Hickman,<sup>7</sup> and later Michael Milken,

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<sup>6</sup> The following assessment from Senator Joseph Lieberman, whose Senate committee held the first hearings on Enron, was typical: "The credit-rating agencies were dismally lax in their coverage of Enron. They didn't ask probing questions and generally accepted at face value whatever Enron's officials chose to tell them. And while they claim to rely primarily on public filings with the SEC, analysts from Standard and Poor's not only did not read Enron's proxy statement, they didn't even know what information it might contain." Senate Committee on Governmental Affairs, press release, "Financial Oversight of Enron: The SEC and Private-Sector Watchdogs" (October 8, 2002).

<sup>7</sup> See Hickman, W. Braddock, 1958, *Corporate Bond Quality and Investor Experience*, National Bureau of Economic Research.

who saw that portfolios of sub-investment grade rated bonds outperformed more highly-rated bonds on a risk adjusted basis. Market participants adapted this insight to mortgages of various types, which could be pooled into new highly-rated fixed income instruments. Surprisingly, this “cliff” persisted over time, in both corporate bond and mortgage markets; the large yield discontinuity between investment grade and below-investment grade ratings did not disappear even after large amounts of securities were issued. To the contrary, in the early 2000s, rating agency models, and assumptions about historical default, recovery, and correlation, suggested that extant mortgage-backed securities could be repackaged and resold in ways that would outperform, not only the mortgage-backed securities themselves, but other comparably rated securities.

#### The growth of “second-level” mortgage securitization

As the credit derivatives market was experiencing record growth, fixed income structurers and investors, with the assistance of credit rating agencies, searched for assets that could be securitized to create highly-rated fixed income instruments with attractive yields relative to comparable investments. For the first time, banks began seriously considering “second-level” securitizations of “first-level” mortgage-backed securities (which were securitizations of mortgages).

The fundamental economic rationale for “second-level” securitizations is not obvious. After all, the underlying mortgage assets already have been securitized. Indeed, the mortgage-backed securities market was already a deep market, driven by high demand from both originators and investors. Mortgage-backed securities were issued in a competitive environment in large numbers, and already were rated by the rating agencies. “First-level” securitization transactions were a response to gaps and

inefficiencies in the underlying market for individual assets. To the extent mortgages were being allocated or bundled inefficiently, or not in ways investors desired, one might have expected that continuous “first-level” securitization would evolve to ameliorate these inefficiencies. Put another way, if there had been a more efficient way of pooling mortgages, or a pocket of unsatisfied demand for particular pool portfolios or structures, investors likely would have demanded it, and then banks would have created and supplied it.

Yet the proliferation of “second-level” mortgage-backed CDOs and SIVs suggested that billions of dollars of “first-level” mortgage-backed securities appeared to be mispriced. Market participants could pool those securities into new special purpose entities with tranching capital structures, and sell the slices of those structures for more than the value of the underlying mortgage-backed securities. These transactions, too, persisted over time, so much so that the appetite for “second-level” mortgage securitizations drove financial intermediaries both to originate new and increasingly risky mortgages, and to create synthetic exposure to mortgages, which then could be resecured through tranching special purpose entities, again at higher prices than the underlying mortgage-backed securities were trading in the market.

To obtain ratings for “second-level” mortgage securitizations, both the structurers and the rating agencies used models based on earlier corporate bond-backed transactions, which provided a methodology for labeling the risks associated with mortgage securities-backed transactions. Bankers increasingly sought to combine the underlying securities and to stratify capital structures in ways that would create new investment grade-rated

securities. In particular, CDOs and SIVs were designed to create large tranches of AAA-rated assets backed by lower-rated mortgage-backed securities.

Even after a mortgage-backed security had been re-securitized through cash-flow based CDOs, market participants suggested that there was no reason why investors couldn't take on exposure to a particular mortgage-backed security more than once. Arrangers created synthetic exposure based on side bets derived from the value of the underlying mortgage-backed securities so that investors could obtain exposure to the performance of a pool of mortgages without having an investment vehicle or special purpose entity actually buy the mortgage-backed securities. Synthetic CDOs and SIVs obtained exposure through derivatives transactions, most commonly credit default swaps.

#### Credit ratings as drivers of "second-level" securitizations

The linchpin of a CDO or a SIV backed in whole or part by synthetic assets was the credit rating. Investors typically did not examine the underlying assets of a synthetic CDO or SIV in any detail or at all. One might criticize them for not doing so, except that the underlying assets frequently were not even specified when the deal was sold. Instead, investors relied on parameters set by the arrangers, bankers, and rating agencies to constrain the assets that could be purchased originally, and held over time.

If the credit rating agencies, and their clients, had used reasonable and accurate models and assumptions, then in principle these transactions might not have been problematic. However, these parties faced financial incentives to use unreasonable and inaccurate assumptions and models to complete deals and thereby earn greater fees. These incentives were especially strong given the expected absence of any reputational consequence, particularly for individuals involved in transactions, who essentially could

sell long-term options obligating their firms while pocketing shorter-term bonuses for themselves. The way to obtain sufficiently attractive ratings to pay the high transaction costs and fees for the various arranging parties, and still generate attractive yields for purchasers was to use models and assumptions that did not reflect the actual risk of the underlying mortgages, including risks that already were impounded in the price of those securities in the market for mortgage-backed securities.<sup>8</sup>

The simplest way to generate unwarranted high ratings was to use outdated and inapplicable historical assumptions with respect to the underlying mortgage-backed securities. The inputs to the relevant models were straightforward: expected default rate, recovery rate upon default, and, for portfolios of assets, the correlation of expected defaults. The rating agencies created models, with the assistance of bankers and arrangers, that generated tranche credit ratings for “second-level” deals based on these inputs. Those models, in turn, typically depended on assumptions with respect to the expected statistical distribution that returns on the underlying collateral would follow.

Given these assumptions and models, arrangers were then free to find collateral that would generate the most attractive tranche yields, subject to ratings-based constraints. The restrictions on collateral typically were based on credit ratings; in other words, the “second-level” securitization methodology depended on previous “first-level” securitization ratings. As the prices of mortgage-backed securities rose, along with housing prices, it was difficult to generate “second-level” deals with highly-rated tranches without using increasingly unreasonable assumptions. As collateral became more expensive and ratings of that collateral lagged increasing market prices, accurate

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<sup>8</sup> Mason, Joseph R. and Joshua Rosner, 2007, “Where Did the Risk Go? How Misapplied Bond Ratings Cause Mortgage Backed Securities and Collateralized Debt Obligation Market Disruptions,” SSRN Working Paper: <http://ssrn.com/abstract=1027475>, May 3, 2007.

and timely ratings would have appeared lower than would have been warranted. This lag provided a rationale for increasingly aggressive assumptions with respect to “second-level” deals.

Paradoxically, when housing prices began to fall, but ratings on “first-level” securitizations did not, the historical ratings methodology made “second-level” securitizations increasingly attractive. If one could buy AAA-rated mortgage-backed securities that had fallen in price, but still use the same historical default, recovery, and correlation assumptions associated with AAA ratings in the relevant model, one could create a highly-rated, high-yielding set of “second-level” transactions. As long as mortgage-backed securities ratings lagged market prices, as those prices declined, CDOs and SIVs backed by that collateral would appear increasingly attractive.

Rating agency assumptions and models did not accurately capture the risk associated with “second-level” securitizations.<sup>9</sup> Default rate assumptions were derived from historical information, including default data about other asset categories as well as asset price correlations, rather than default correlations. Moreover, assumptions for “second-level” deals were based on ratings of mortgage-backed securities, even when both the rating agencies and other participants in the resecuritization transactions were aware that both that the credit quality of the underlying mortgages had declined and that the expected default correlations associated with those mortgages had increased.

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<sup>9</sup> The SEC investigation of the credit rating agencies found that they struggled to adapt to the complexity of mortgage-backed structured finance deals. See Securities and Exchange Commission, 2008, “Summary Report of Issues Identified in the Commission Staff’s Examinations of Select Credit Rating Agencies,” July, at 12 (“One analyst expressed concern that her firm’s model did not capture ‘half’ of the deal’s risk, but that ‘it could be structured by cows and we would rate it.’”). The SEC also found that “Rating agencies made ‘out of model’ adjustments and did not document the rationale for the adjustment.” *Id.* at 14.

Nevertheless, the simulations the agencies ran to calculate tranche ratings were based on stale and inaccurate assumptions.

Rating agency correlation assumptions were particularly important.<sup>10</sup> Inaccurate correlation assumptions based on incorrect statistical models enabled parties to structure deals with high ratings on senior tranches, given that the expected correlation of defaults of mortgage-backed securities was higher than the estimates used for the models.<sup>11</sup> The rating agencies have struggled to understand the importance of correlation assumptions for CDOs and SIVs, even as those assumptions supported a sharply increasing number of “second-level” securitizations. Moody’s conducted an in-depth study of corporate bond correlation, which led to a new Monte Carlo simulation-based market tool in 2004 for measuring the credit risk of synthetic transactions; it revised its methodology for structured finance asset correlations a year later.<sup>12</sup> S&P’s inputs simply remained constant for years.<sup>13</sup> By 2006 and 2007 at the latest, it was apparent that the relevant mortgage asset correlations underlying CDOs and SIVs were significantly higher than the rating agencies had assumed. By February 2008, Moody’s had downgraded at least one tranche of 94.2% of subprime residential mortgage-backed deals it had rated in 2006.<sup>14</sup>

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<sup>10</sup> See Hull, John, and Alan White, 2006, “Valuing Credit Derivatives Using An Implied Copula Approach,” *Journal of Derivatives*, Winter; van Deventer, Donald R., CDOs and the Credit Crisis: Complexity and Model Risk in the Collateralized Debt Obligation Market Are Severe, 2008, *Bank Accounting and Finance*, June, at 7 (“Management has often discovered that the working-level staff has been depending heavily on models, like the copula approach, that were known or should have been known to be wrong.”).

<sup>11</sup> Moody’s Investors Service, 2006, “Moody’s Modeling Approach to Rating Structured Finance Cash Flow CDO Transactions,” September, at 10.

<sup>12</sup> See Moody’s Investors Service, 2005, “Collateralised Debt Obligations: A Moody’s Primer,” March, at 5-6; Moody’s Investors Service, 2005, “Moody’s Revisits its Assumptions Regarding Structured Finance Default (and Asset ) Correlations for CDOs,” June.

<sup>13</sup> See Partnoy, Frank, 2006, “How and Why Credit Rating Agencies Are Not Like Other Gatekeepers,” in *Financial Gatekeepers: Can They Protect Investors?* (Yasuyuki Fuchita and Robert E. Litan, eds.).

<sup>14</sup> See Moody’s Investors Service, 2008, “A Short Guide to Subprime,” March, at 3.

In sum, the proliferation of “second-level” securitization transactions is consistent with substantial overdependence on credit ratings. If ratings had been accurate, or put another way if investors had relied on ratings only to the extent they were accurate, then there would have been little incentive for “second-level” securitizations. But because investors were willing to buy CDO and SIV tranches simply because of their high ratings and high yields, either because of regulatory reliance on ratings or because the mnemonic device of ratings came to play an overly-important private role, CDO and SIV tranches had higher-than-justified ratings, even though they held collateral that already had been securitized. Without overreliance on ratings, investors more likely would have looked through the complexity of CDO and SIV transactions to the underlying mortgage-backed securities, and prices more accurately would have reflected market estimates of default probability, recovery, and correlation.

#### Regulatory vs. behavioral overdependence

To what extent was overdependence on ratings driven by regulation? I previously have argued that rating agencies increasingly sell “regulatory licenses” rather than information, and that ratings are not “opinions,” but instead are keys that unlock the financial markets for regulated entities.<sup>15</sup> Regulators recently have endorsed this explanation, and the SEC has proposed rules to eliminate certain aspects of regulatory dependence on ratings.<sup>16</sup>

In addition, it is apparent that, even putting aside regulatory influences, at least some market participants independently over rely on ratings. At its core, this

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<sup>15</sup> Partnoy, 1999.

<sup>16</sup> See Securities and Exchange Commission, 2008, References to Ratings of Nationally Recognized Statistical Rating Organizations, Release Nos. IC-28327, IA-2751, File No. S7-19-08.

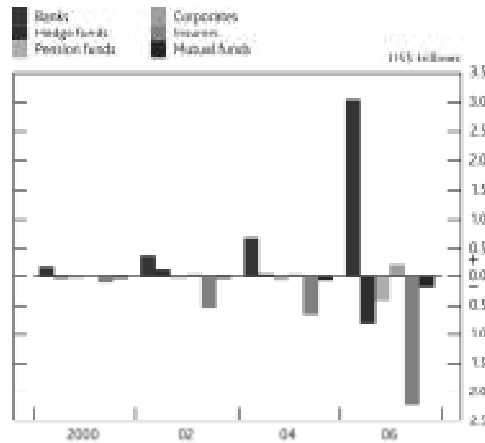
overreliance likely derives from decades of regulatory dependence on ratings, but it has become a more widespread, behavioral phenomenon. Ratings are part of financial culture. Even after the massive dislocation associated with the recent crisis, and the abysmal performance of the rating agencies, market participants have continued to rely on letter ratings. One conclusion is that even if all explicit references to ratings were removed from regulation, some residual implicit overreliance would remain.

An interesting perspective on this behavioral point arises from the fact that the major banks selling “second-level” securitizations also misperceived the risks associated with the highest-rated tranches. Indeed, it appears that bank officers were so confident about the high ratings of super-senior CDO tranches that they concluded that such tranches posed virtually no risk. One reason, if not the primary reason, why they misperceived such risks was overreliance on credit rating agency assumptions and models. Some of this overreliance derived from bank regulations that depend on credit ratings; the rest was cultural.

Most strikingly, sanguine assessments of super-senior risk, and assumptions that senior tranches protected by AAA-rated junior tranches could not default, appeared to be so obviously correct that banks’ exposure to these tranches apparently remained hidden from senior managers, investors, and regulators. No bank publicly disclosed risks associated with super-senior tranches before the crisis began. Bank directors and officers claimed, perhaps falsely, that they were unaware of risks associated with these tranches. Moreover, many regulators apparently were unaware of the exposure as well. The Bank of England, in its Financial Stability Report, noted that banks were net buyers of credit protection in 2006; that estimate apparently did not reflect the large amounts of notional

credit protection sold by banks in super-senior transactions.<sup>17</sup> These estimates are set forth in Chart 1 below.

Chart 1 – Outstanding Global Amounts of Credit Protection Bought By Institutions



Sources: BBA and Bank calculations.

(a) Amounts netted across long and short positions.

Much of the blame for overdependence on ratings can be placed on regulation, and I set forth below some measures designed to eliminate this overdependence. But market participants also independently over relied on ratings. High ratings replaced independent judgment, particularly when “second-level” transactions created the illusion of thick bands of highly-rated protective tranches. The collapse of senior securities of both CDOs and SIVs illustrates that “second-level” securitizations require an analysis of something more than just tranche ratings. Because these instruments are so much more complex than the underlying “first-level” securitizations, they generate a greater need for investigation, and paradoxically are more amenable to overreliance on ratings.

<sup>17</sup> Bank of England, 2008, “Financial Stability Report,” April, Chart 2.17. The Bank for International Settlements had been warning about overreliance on ratings since early 2005. See Committee on the Global Financial System, Bank for International Settlements, 2005, “The Role of Ratings in Structured Finance: Issues and Implications,” January.

### Some policy prescriptions

If the story about overreliance on credit ratings is even partially correct, what is to be done? There are two categories of policy responses, some of which already have been proposed. First, regulators should eliminate explicit reliance on credit ratings. To the extent regulators are concerned that such an approach would leave a substantive void, there are many substitutes for ratings, including market measures of risk, as described below. Second, regulators should implement some form of “shock therapy” to jar market participants from overreliance on ratings. The use of mnemonics is highly path dependent, and unless there are strong reasons for participants to switch, they will not.

With respect to the first point, the SEC already has proposed removing references to NRSROs in its own rules. For example, Rule 2a-7 of the Investment Company Act limits a money market fund’s portfolio investments to securities that have received credit ratings from NRSROs in one of the two highest short-term rating categories.<sup>18</sup> The SEC recommended replacing this NRSRO “regulatory license” with a requirement that money market fund boards of directors determine “that each portfolio instrument presents minimal credit risks.”<sup>19</sup> Likewise, other SEC proposals would replace several other rules that depend explicitly on NRSRO ratings.

Notwithstanding the intense lobbying effort against these proposals, the SEC should implement them as final. Moreover, other regulatory bodies should similarly excise references to credit ratings. In the United States, the most efficient mechanism for doing this would be for Congress formally to remove references from statutes, and then

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<sup>18</sup> See Investment Company Act, Rule 2a-7(a)(10), (21).

<sup>19</sup> See Securities and Exchange Commission, 2008, References to Ratings of Nationally Recognized Statistical Rating Organizations, Release Nos. IC-28327, at 8.

to hold hearings to encourage various agencies to remove any additional remaining references in both formal rules and informal policies.

Perhaps the most important regulatory references to ratings are in international banking regulations, particularly under the Basel II agreement of the Basel Committee on Banking Supervision. Basel II explicitly allows banking regulators to permit banks to use credit ratings from approved rating agencies in calculating their net capital reserve requirements. International regulators should remove this provision, and in place of letter ratings substitute market-based measures, such as credit spreads or credit default swap prices, and/or discretionary estimates of default probability, expected recovery, and correlation. The Bank for International Settlements has long been a leader in publicizing problems associated with the use of ratings in structured finance.<sup>20</sup> It now should explicitly disclaim the use of ratings in regulation generally.

Ratings and rating agencies also have been subsidized by other forms of regulation, and those subsidies should be removed as well. NRSROs are specifically exempt under U.S. securities law from Section 11 liability and Regulation FD; they should not be. Nor should rating agencies be exempt from liability for statutory and common law private claims based on any freedom of speech or journalistic privilege rationales. Historically, the rating agencies have interposed First Amendment objections in civil litigation, with some success.<sup>21</sup> As new cases based on “second-level” securitizations arise, judges should distinguish those prior cases, and make it clear that rating agencies are subject to civil liability and are not protected by any First Amendment

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<sup>20</sup> See Bank for International Settlements, 2005.

<sup>21</sup> See Partnoy, 2006.

privilege. Legislators also should consider clarifying the viability of private rights of action against rating agencies.

The rating agencies' position that ratings are merely "opinions," and therefore are entitled to the same protection as other "speakers," is specious in the context of complex securitization transactions. Ratings of "second-level" securitizations are not protected speech, and rating agencies are doing much more than merely speaking. They have a high level of initial and ongoing involvement in these deals, at early and later stages, and receive significantly higher fees for them. Rating agencies determine the capital cushions that are required for particular tranches; they provide capital matrix parameters that govern the operation of special purpose entity issuers; they are involved in the operation of the issuers on an ongoing basis; they instruct the asset manager regarding the kinds of assets the issuers can acquire, both initially and over time; and the deal documentation for these transactions typically includes descriptions of the simulation models the rating agencies use to determine the relative proportions of an entity's capital structure, as well as the necessarily over-collateralization ratios and triggers, both initially and over time. Moreover, unlike corporate bond transactions, CDOs and SIVs require a much more in depth analysis by the rating agencies, including the use of their mathematical models and assumptions. For these reasons, judges should reject the claim that ratings of "second-level" securitizations are merely "opinions."

With respect to second point regarding "shock therapy," regulators should encourage investors not to apply the same ratings and analysis to corporate bonds versus

structured finance assets.<sup>22</sup> Ratings of these instruments are categorically different, and it was and is a mistake for anyone to use the same mnemonic for each category. A highly-rated CDO does not pose the same risks as other highly-rated securities, including the collateral underlying the CDO. To the extent regulators and investors continue to rely on ratings, which they should not, at minimum their rating-based rules should distinguish between the symbology of corporate bonds and structured finance instruments, if not other categories as well. Ideally, regulators and investors should find independent means of assessing the risks of different investments within different categories. Forcing investors to split ratings among categories should lead private actors to reassess their approach to risk.

Disclosure with respect to credit derivatives and credit rating-based transactions also must improve. Current disclosure of notional amounts and value-at-risk (VAR) does not enable investors to assess the risks associated with default, expected recovery, and correlation of fixed income exposure. One reason for the recent collapse of major financial institutions such as Bear Stearns, Lehman, Fannie Mae, Freddie Mac, and AIG was the lack of transparency with respect to “second-level” securitizations. When no one has enough information to evaluate the risk of portfolios held by financial institutions, the valuation of their issued securities becomes at best a guess. At minimum, bank regulators should require that financial institutions disclose to examiners not only VAR-related measures, but also more robust worst-case analyses and stress tests based on a wide range of assumptions about expected default, recovery, and correlation. Requiring such disclosures also would encourage market participants to rely on these measures directly,

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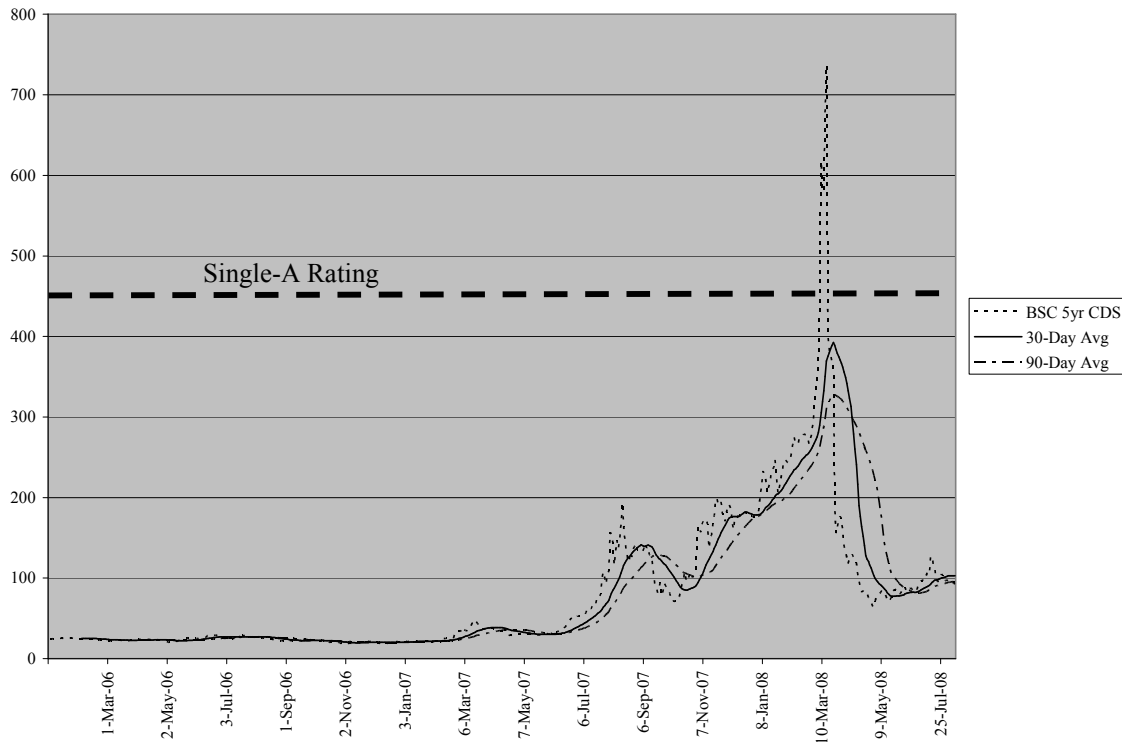
<sup>22</sup> The SEC has proposed such a split. See Securities and Exchange Commission, 2008, Proposed Rules for Nationally Recognized Statistical Rating Organizations, Release No. 34-57967, File No. S7-13-08, June.

instead of letter ratings. It also would encourage dissemination of risk disclosure to bank officers and directors.

As regulators and investors seek substitutes for credit ratings, they should consider looking to market measures and prices. Notwithstanding recent market volatility and dislocations, market prices provided a far more accurate assessment of risk than credit ratings. Such prices and related market measures are available from true information intermediaries, which now play a modern version of the role John Moody originally envisioned in the early twentieth century: providing valuable information about credit risk. Most prominently, Markit Group Limited provides credit default swap pricing and other data that investors could use to assess the risk of their portfolios over time. It would vastly improve policy and market efficiency if regulators and investors relied on this kind of data instead of credit ratings.

An example based on data from Markit is set forth in Chart 2 below. The chart depicts the daily 5-year Bear Stearns senior credit default swap closing spreads, along with a 30- and 90-day rolling average of these spreads. Note that the credit ratings applicable to Bear Stearns's senior debt were constant at single-A throughout this period.

Chart 2 – Bear Stearns 5-Year CDS Market Spreads (bp) (Source: Markit)



To the extent regulators or institutions are concerned about the volatility of market based measures, it would be straightforward to reference a rolling average like one of those depicted above. Reliance on market measures instead of credit ratings likely would have led institutions with exposure to Bear Stearns securities to assess their exposure more closely during the period leading up to that firm’s collapse. Instead of regulating and making investment decisions based on a Bear Stearns credit rating that remained unjustifiably high and unchanged during that bank’s crisis and collapse, regulators and institutions instead could have looked to a rolling average of market measures. Credit default swap spreads provided an early warning to market participants regarding Bear Stearns.

Moreover, the use of market measures would have beneficial ex ante effects, particularly if regulators also adopt the heightened disclosure requirements outlined above. For example, if Bear Stearns officials had known both that their firm would not be rescued and that investors would sell their securities in response to a rapid deterioration in prices, they would have been forced to be more proactive about disclosing risks in advance, particularly with respect to “second-level” securitizations, and perhaps as a result bank employees would not have taken on the key risks that led to the bank’s collapse.

Not every regulator or market participant would need to rely on market measures as a substitute for ratings. Some could rely on professional judgment, as the SEC has suggested in its proposed Rule 2a-7 amendments. Others could rely on third-party information providers. Some might continue to rely on Moody’s and S&P, although the overwhelming evidence suggest that such reliance would be misguided. In any event, a shift to permitting reliance on market-based measures would help discourage overreliance on letter ratings.

Switching to market-based measures is not a radical concept. Indeed, even the credit rating agencies themselves increasingly use market-based measures. Letter ratings essentially have become shorthand labels based on assumptions about key variables: probability of default, expected recovery in the event of default, and correlation. Internally, the rating agencies generate letter ratings based on estimates of these variables.<sup>23</sup> At minimum, regulators and market participants should switch to relying on

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<sup>23</sup> With respect to mortgage-backed securities, prepayment risk also is a relevant variable. Prepayment risk was an important factor during the 1994-95 interest rate crisis, but did not play a major role during the recent sub-prime crisis.

actual estimates of these variables instead of letter ratings that amalgamate the variables in an opaque, outdated, and incomprehensible fashion.

### Conclusion

Causation is a complex concept. It has both “but for” and “proximate” elements. As a matter of “but for” causation, there is a strong argument that credit ratings and credit rating agencies caused the crisis. “Second-level” mortgage-backed securitizations, particularly CDOs and SIVs, explicitly depended on rating agency letter ratings. Without those ratings, the transactions could not, and would not, have happened. Without the ability to obtain high ratings for CDO and SIV tranches, there would have been little appetite for overpriced lower-rated mortgage collateral. Without that appetite, there would have been little pressure leading to the proliferation of sub-prime mortgages, because those mortgages could not have been offloaded through “second-level” securitizations. Without the proliferation of low quality mortgages, there would not have been a dramatic housing market rise and fall, with the attendant ripple effects.

It is more difficult to say whether credit ratings were a “proximate” cause of the crisis, but there are strong arguments here as well. Overreliance on ratings led banks to hold super-senior exposure they otherwise would have assessed more carefully. Overreliance on ratings led regulators to misperceive the extent to which speculation on sub-prime mortgages had spread, or to where. Overreliance on ratings led institutional investors to take on hidden correlation bets, which their directors, officers, and shareholders did not understand.

Overreliance on ratings was a central component of the credit crisis. In responding to the crisis, and in planning and implementing reforms, regulators should not

focus exclusively on proposals related to lending abuses, bank rescues, credit expansion, and macroeconomic or cyclical factors. They should not miss the crucial role of credit ratings.