

# The Information Content of Asset Backed Securities Downgrades and the Motivation behind Them

by

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## Abstract

*We investigate the effects ABS downgrades have on their parents/sponsors, and whether rating agencies downgrade deals independently of the parents' performance. In an ABS transaction, the underlying collateral is moved off-balance sheet, in accordance with the "true sale" assumption of FASB140. Therefore, an ABS downgrade should (a) have no impact on the parent and (b) have no relation to the parent's performance. However, we show that investors treat the deal as an integral part of the parent, given the significantly negative market reaction to the downgrade announcement. Moreover, the market's disciplinary role is also manifested through significant delays in the post downgrade ABS issuance activity for sponsors of downgraded deals. We also show that investors can distinguish "good" securitizers from "bad" ones as there are no such delays for securitizers of non-downgraded ABS deals. Hence in light of the recent economic crisis, proposals for effective regulation should incorporate ABS downgrades as market signals within the supervisory process. Finally, we provide evidence that for some deals, rating agencies consider the parent's financial position, and just like investors, treat the deal as an integral part of the parent.*

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## **I. Introduction**

Between 1996 and 2006, the asset-backed securitization (ABS) market grew by an astonishing 500%, from \$456 billion to \$2.8 trillion in outstanding securities (including non-agency mortgage backed securities, MBS). From 2004 to 2006 alone, special purpose vehicles known as collateralized debt obligations (CDOs), which issue liabilities in the form of rated tranches backed by various ABS, grew by 250%, totaling more than \$550 billion.

Credit rating agencies (CRAs) have played an important role in the growth of the securitization market.<sup>1</sup> Their intimate involvement in the financial engineering of ABS deals, coupled with investors' requirement of a rating agency "approval", affected the marketability of the issued securities. In that process, CRAs moved away from their traditional role of passive credit-quality opinion providers, into the more active role of underwriters (Mason and Rosner, 2007b). As underwriters, CRAs gained superior knowledge about the opacity and complexity of the various ABS instruments, a knowledge that contributed to their status as the de facto regulators of the ABS market. Furthermore, regulators' reliance on credit ratings as risk measures limited the types of portfolios that financial institutions were allowed to hold. Since these regulated institutions desired investing in high-yielding ABS deals, CRAs faced an increased demand for grade inflation, and once risk was underestimated, CRAs could earn record profits by rating ABS deals (Cantor and Packer, 1994; Calomiris 2008).

Underestimation of risk contributed to the tremendous growth of the ABS market, which experienced its first major setback in November 2006. Amidst massive performance deteriorations of subprime mortgages (the underlying collateral for many of the securitization deals), Moody's acknowledged the associated risks and issued "early warnings" for potential

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<sup>1</sup> See Committee of Global Financial System (2005) and Lucchetti and Ng (2007) for an additional discussion on the role of credit rating agencies in the ABS market.

future downgrades, and on July 10th 2007, Moody's downgraded more than 400 deals worth a total of \$5 billion. Standard & Poor's (S&P) followed, only two days later, with 612 downgrades of more than \$7.5 billion worth of ABS deals. As a matter of fact, half of all the downgrades that ever took place in the history of the Home Equity ABS market occurred in the first seven months of 2007 (Ashcraft and Schuermann, 2008). The first signs of the oncoming financial meltdown were evident, and by year end, almost every rated class of Residential Mortgage Backed Securities (RMBS) was downgraded.<sup>2</sup>

The fact that securitization has transformed financial intermediation is unquestionable. Through it, originators can manage interest rate risk, increase liquidity sources, focus on activities in which they possess a comparative advantage, and avoid burdensome regulation.<sup>3</sup> Calomiris and Mason (2004) indicate that as the securitization market evolves, it promotes efficient contracting mechanisms that reduce the need for equity capital to support the deal, mitigating adverse selection costs.

Yet these benefits seem negligible in light of the 2007 panic. Voices criticizing securitization point out that it increases systemic risk due to banks' habit of retaining the equity portion of securitized deals, without having the adequate capital levels on-balance sheet to support it. Moreover, since under certain conditions banks are required to absorb the losses generated by their failed ABS deals, critics question the transactions' ability to truly separate assets from the originator and relocate risk (Stiglitz, 2008; Krugman, 2008). CRAs have also been criticized, particularly regarding their inability to measure risk and appropriately rate the issued securities.

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<sup>2</sup> Herring Richard J. (2008). "The Darker Side of Securitization: How Subprime Lending Led to a Systemic Crisis", Presentation to the Shadow Financial Regulatory Committee.

<sup>3</sup> On the mechanisms and benefits of securitization, see Gorton and Souleles (2006), and Greenbaum and Thakor (2007).

The negative sentiment on securitization raises some important questions: was the market aware of the potential problems before the 2007 turmoil? Were ABS downgrades informative? Could the market discipline “bad” securitizers? Could investors distinguish between “good” and “bad” securitizers? Was the downgrade decision due to the deal’s performance or due to the issuer’s performance?

In this paper we attempt to shed light on the above issues. To that end, we construct a sample of ABS deal downgrades that occurred between 1986 and 2005 by either Moody’s or S&P, and study the downgrade impact on the deal’s ultimate parent. We specifically end our sample period in 2005 to avoid the recently troubled years. We focus on ABS deals for two reasons. First, we can easily identify their ultimate parents/sponsors whereas with CDOs, the identity of originators is unknown due to the CDOs’ opaqueness and complexity. Second, an ABS deal can only be accomplished if the securitized assets are moved off-balance sheet in a “true sale” according to FASB 140. As such, an ABS downgrade can provide the optimal situation to test whether the benefits and risks of owning the assets are truly removed from the originator.

To summarize our results, we demonstrate that the market reaction to an ABS downgrade is significantly negative, indicating that investors do not treat the deal independently from the ultimate parent, and that the securitization’s underlying “true sale” assumption is indeed violated. The most negative announcement returns are associated with downgraded ABS deals sponsored by troubled financial institutions (FIs), suggesting that investors are aware of sponsors’ ability to support poorly performing deals. In addition, market discipline is not limited to a destruction of shareholders’ wealth. Ultimate parents of downgraded deals experience significant delays in their ABS issuance cycles post- downgrade, suggesting that an originator’s ability to securitize

depends on its credit quality. Such delays are not observed for “good” securitizers, those sponsors of ABS deals that do not suffer downgrades.

In light of the recent market turmoil that was driven by a myriad of complex securities (Gorton, 2008) as well as the numerous calls for comprehensive regulatory reforms, our results emphasize that markets were functioning even before the first signs of the upcoming panic in the summer of 2007. Investors are able to incorporate new information promptly into a securitizer’s stock price, and accurately understand changes in its condition as the ability to issue ABS deals post-downgrade is sensitive to the securitizer’s credit quality. Since ABS downgrades provide valuable information and expose securitizers to market discipline, regulatory reforms should consider incorporating such downgrades into the supervisory process. The newly generated information can reduce uncertainty about the relation between securitizers and their off-balance sheet deals, leading to a faster and effective response by supervisors (Flannery, 2001, Caprio, Kunt, and Kane, 2008).

With regards to CRAs, our results indicate that the consideration behind some of the ABS downgrades is *not* independent of the ultimate parent’s financial performance. Downgraded deals sponsored by non-FIs are associated with the sponsors’ poor pre-event stock returns, suggesting that CRAs, just like investors, treat parents and their ABS deals as an integral part. That is not the case for deals sponsored by FIs. Here, CRAs tend to downgrade deals irrespective of sponsors’ pre-event performance, an indication of downgrades driven by deal specific conditions, and potentially greater transparency.

The rest of the paper proceeds by introducing in section II the corporate finance literature on debt downgrades, the accounting treatment of securitization, the importance of implicit recourse, and the unique role carried out by rating agencies in the securitization process. Section

III discusses the sample construction and its characteristics. Section IV examines investors' treatment of ABS deals by focusing on announcement returns and post event stock and operating performance. It continues with evidence on the market discipline faced by sponsors of downgraded ABS deals, and tries to address the question of whether or not investors could distinguish "good" securitizers from "bad" ones. Section V examines whether the rating agencies treat ABS independently from their ultimate parents by investigating the pre-downgrade long term stock performance. Section VI Summarizes and concludes.

## **II. Literature review**

### *II.A. Corporate debt downgrades and security returns*

The earlier corporate finance literature has provided mixed results utilizing bond return data to investigate the impact of rating changes. Weinstein (1977), Wakeman (1978), and Pinches and Singleton (1978), have found no evidence of bond price reaction to rating changes whereas West (1973), Liu and Thakor (1984), and Ederington et al. (1987) have shown that after controlling for firm and issue characteristics, ratings do explain the cross-sectional differences in yield spreads. The strand of literature that study the impact of rating changes on stock returns has been more successful at establishing a relation between the two. Griffin and Sanvicente (1982), Holthausen and Leftwich (1986), Galscock et al. (1987), Cornell, Landsman, and Shapiro (1989), Hand et al (1992), and Dichev and Piotroski (2001) have shown in general that downgrades affect stock returns more significantly than upgrades.

Some researchers argue that the information content of downgrades might be a function of firms' tendency to release favorable information more readily than unfavorable one (Ederington and Goh, 1998). Others suggest that the value of rating changes is limited in

regulated industries, since the monitoring and supervisory activities of regulators increase the flow of information to the capital market. However, Schweitzer, Szewczyk, and Varma (1992) show that negative abnormal returns are associated with unfavorable debt ratings, and that in fact, downgrades of bank holding companies are more pronounced than downgrades of unregulated industrial firms.<sup>4</sup>

The notion that all downgrades are necessarily negative events is challenged by Goh and Ederington (1993). The authors demonstrate empirically that some rating changes are anticipated by market participants, and only downgrades that are associated with deteriorating financial prospects convey new negative information. Klinger and Sarig (2000) employ a different methodology to address a similar question and find evidence consistent with the asset substitution hypothesis. They examine price reactions to rating changes that exclusively reflect rating information (i.e. ratings that are not triggered by fundamental changes in risk), and show that while bond prices react negatively to downgrades, stock prices react positively, leaving overall firm value unchanged.

## *II.B. FASB140 – true sale assumption*

When a typical ABS transaction is initiated, the originator/sponsor sells assets to a bankruptcy-remote third party entity (special purpose vehicle/entity, SPE). In return, the SPE finances the assets by selling different types of securities, representing claims to the cash flows generated by those underlying assets. The Financial Accounting Standard Board Statement 140 (FASB140) provides the accounting and reporting standards for the transfer and servicing of

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<sup>4</sup> Schweitzer et al. (1992) note that regulators may withhold adverse information in order to sustain depositor confidence in a troubled bank, preserve its ability to raise capital, and conceal bad news out of concern for maintaining stability in the banking system as a whole. If regulators do inhibit the flow of information then downgrades should be particularly informative.

financial assets, and the extinguishment of any related liabilities. Moving assets to the SPE (i.e. off-balance sheet) through securitization hinges crucially on the “true sale” assumption envisaged under FASB140.

To constitute a true sale, the asset/collateral must be sold to the SPE, and the asset’s originator cannot retain the benefits and risks of owning the asset. More specifically, a true sale has no terms whereby the sponsor is responsible for the future performance or condition of the collateral. In case a true sale is deemed to have *not* occurred, such as if the originator maintains control over the asset or that the SPE is not bankruptcy remote, FASB 140 stipulates that the collateral must revert to the sponsor’s balance sheet. If the sponsor is a regulated financial institution, then it is required to hold regulatory capital against the full value of such collateral. Meeting the true sale assumption also affects the firm’s financial statements. If the originator does not surrender control over the asset, the transaction resembles secured borrowing, under which the originator reclassifies the financial asset as pledged and records debt for the amount of cash received. If on the other hand control is surrendered, the originator derecognizes the financial asset and records cash for the amount received.<sup>5</sup>

In summery, the ABS structure stipulates that the underlying collateral was moved off-balance sheet and that it should pose no contingent risk to the ultimate parent. An ABS deal downgrade provides a unique setting to investigate whether the market truly considers the deal to be separated form its ultimate parent, and if there are any associated costs due to the downgrade decision.

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<sup>5</sup> See also Dechow and Shakespeare (2009) and Chen, Liu and Ryan (2007) on the accounting for securitization under FASB140.

### *II.C. Implicit recourse and securitization*

Recourse in the banking industry was first discussed by Benvenista and Berger (1987) within the context of standby letters of credit (SLC), the earliest most widely used form of securitization. Securitized SLC offer its purchaser the option of trading in an asset claim for a general bank claim, should the purchased asset default. Hence securitization with recourse is viewed as means of issuing sequential claims on the bank's loan assets, yielding the same risk-sharing benefits of multiclass securities. That off-balance sheet activity which explicitly creates a contingent asset or liability stands in sharp contrast to loan sale activity, a no-recourse, off-balance sheet contract that grew dramatically in volume in the 1980s. Gorton and Pennacchi (1989, 1995) argue that loan sale activity could not have been achieved unless it contained implicit guarantees, allowing loan buyers to sell the loans back to the bank if the underlying borrower underperforms.

In an ABS deal, recourse can be thought of as an agreement between a securitizer/sponsor and investors such that the sponsor guarantees the performance of the securitized assets. Since any explicit agreement to support an underperforming deal beyond contractual obligation will violate the "true sale" assumption of FASB140 (which allowed the assets to be moved off-balance sheet), these guarantees are stated implicitly. The sponsor can provide implicit recourse by (1) selling assets to the SPE at a premium (2) buying assets from the SPE at a discount (3) exchanging performing assets for non-performing assets (4) extending credit enhancement beyond what was explicitly contracted.

Calomiris and Mason (2004) provide a theoretical rationale for the existence of implicit recourse in ABS deals along the lines of efficient contracting. In their view, the combination of excessively high regulatory capital requirements, severe adverse selection problem of valuing

credit card (CC) receivables, and strict institutional prohibition on non-bank CC intermediation, makes bank securitization with recourse the optimal solution to finance CC receivables. Furthermore, such a voluntary contracting mechanism signals the deal's credit quality and allows sponsors to maintain their reputation for consistent credit quality, while enjoying the benefits of off-balance sheet financing.

Gorton and Souleles (2006) take a similar view, noting that investors in CC ABS deals face two problems: the moral hazard problem, because investors cannot verify the effort level exerted by the sponsor in monitoring the underlying asset, and the strategic adverse selection problem, because the sponsor has an incentive to securitize risky assets. While the moral hazard problem is always present in securitization, the sponsor can mitigate the adverse selection problem by committing to subsidize a poorly performing ABS deal through implicit recourse. Furthermore, the authors show that the ability to provide implicit recourse is directly related to the sponsor's financial position, as indicated from the relation between the yield on the senior securitized tranches and the creditworthiness (measured by the senior unsecured bond ratings) of the sponsor.

Since implicit recourse cannot be formally stated, it is not a coincidence that only few events were ever documented, and on the rare occasion that implicit recourse is provided, it is done so in a subtle manner. Higgins and Mason (2004) identify only 17 recourse events by 10 banks relating to CC ABS deals between 1987 and 2001.<sup>6</sup> Even though these events violated FASB140, regulators did not force the banks to move assets back on-balance sheet, and the authors show that in general the market reacted positively to the recourse announcements.

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<sup>6</sup> The implicit recourse literature focuses mainly on ABS deals backed by credit card receivables. These assets that have no fixed maturity, uncertain chargeoffs, and unpredictable payment rates, force the sponsor into an ongoing relationship with the SPE to maintain the collateral's outstanding principal amount at a predetermined level. Hence implicit recourse is more natural in such settings.

Vermilyea et al. (2008) use a more subtle approach to identify implicit recourse. Fraud losses on securitized CC-ABS are incurred by the deal's sponsor, whereas credit losses are borne by ABS investors, hence the classification of losses provides an avenue for implicit recourse. Vermilyea et al. (2008) find that deal underperformance is associated with fraud losses reported by the sponsoring bank.

It is important to note that we do not observe whether our sample firms actually support their deals, yet the downgrade announcement puts the sponsor in a position where honoring implicit recourse and protecting its reputation, given its financial condition, might be necessary.

#### *II.D. Rating agencies and the ABS market*

Rating agencies perform a unique role in the securitization market, and their involvement goes far and beyond of just simply providing passive credit-quality certification. Instead, rating agencies take on a more active approach, controlling not only ratings, but also determining product design standards and security structure (Riddiough and Chiang, 2003). The 2005 report by the Committee on Global Financial System explains the role of CRAs in light of an ABS deal's unique rating requirement:

...tranche rating reflects a judgment about both the credit quality of the underlying collateral asset pool and the extent of credit support that must be provided through the transaction's structure in order for the tranche to receive the rating targeted by the deal's arrangers. Deal origination thus involves obtaining implicit structuring advice by the rating agencies... [and] iterative dialogue with the agencies...This contrasts with traditional bond ratings, where pre-rating discussions between issuers and agencies play a more limited role. (p. 2).

The intimate involvement of rating agencies is not limited to the securitization process itself, but is also evident before hand, as sponsors engage in "ratings shopping", a process by which CRAs estimate how many AAA-rated bonds can be issued against an underlying pool of

assets (Calomiris, 2008; Caprio, Kunt, and Kane, 2008). In fact, Mason and Rosner (2007b) suggest that rating agencies can be considered as underwriters, due their influence on the marketability of a given ABS structure.

Regulation has also contributed to the pivotal role of rating agencies. Capital requirements for depository institutions are based on their assets' credit ratings, and generally, FIs are bound by their ability to hold risky debts. Calomiris (2008) notes that:

By granting enormous regulatory power to rating agencies, the government encouraged rating agencies to compete in relaxing the cost of regulation, allowing them to realize huge profits from fees that they could earn from underestimating risk. (p. 31).

The practice of underestimating risk through grade inflation was concentrated in securitized products and was already evident in the early 1990s (Cantor and Packer, 1994). Moreover, institutional investors, who due to regulation can only invest in highly rated debt, encouraged grade inflation to make the menu of high-yielding securities available for them to purchase. Given the complicated task of rating an ABS transaction, CRAs could charge higher fees than those charged on standard, more traditional corporate debt ratings, and the demand-driven grade inflation was accompanied with record profits.<sup>7</sup>

In conclusion, the rating agencies' significant role in structuring ABS deals along with increased regulatory power lead to a demand-driven grade inflation. It was accompanied by a fast-growing, lucrative product area generating substantial fee-income. Since a financially troubled securitizer is (1) less likely to subsidize an underperforming ABS deal and (2) less likely to securitize future deals with the rating agency (depriving it of rating's fee-income), we conjecture that rating agencies, faced with a downgrade decision, might *not* treat an ABS deal independently from its ultimate parent/sponsor financial performance.

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<sup>7</sup> In 2006 alone, Moody's generated \$667 million from structured finance ratings, representing 44% of revenues that year. Since S&P is a unit of McGraw-Hill Cos., data on fee-income generated of ABS-deal ratings is not available.

### III. Data

We obtain data on ABS deal-downgrades from two sources, Moody's and S&P. A typical observation includes information on its downgrade date, deal and tranche size, sale/maturity date, old/new rating, collateral type, country of issuance, and the reason for the downgrade.<sup>8</sup> In addition, it includes unique identifiers such as a deal's cusip number and series/issuer name. Depending on collateral type, a typical ABS deal might have anywhere between 3 to 50 tranches, and as such a downgrade can be on a single or multiple tranches of the same deal. Furthermore, both agencies can downgrade the *same* tranche or tranches on the *same* date, or *different* tranches of the same deal on the *same* date. Thus for any given date, we should construct our sample such that each tranche represents one deal that is associated with an ultimate parent/sponsor (see Appendix I for detailed steps on sample construction).

Both rating agencies report over 8,300 tranche-downgrades between November 1986 and May 2005 (5,881 by Moody's and 2,461 by S&P). However, roughly 54% of the Moody's downgrades are for CDOs or tobacco settlement tranches issued by Federal/State agencies, for which we cannot obtain data on the tranches' ultimate parents. Screening out these observations reduces our sample to 5,138 tranches.

Our analysis hinges on the identification of the ultimate parent (sponsor/originator) of each downgraded tranche. However, in our data the reported issuer in most cases is not the ultimate parent company but a bankruptcy-remote subsidiary. Usually, such a subsidiary is created by the ultimate parent company solely for the purpose of securitization, and as such will

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<sup>8</sup> The most frequent reason for a Moody's downgrade is a weak deal performance, representing over 60% of total deal downgrades. Another reason is a downgrade of the deal's credit enhancement, as in the case of JCPenny Master Credit Card Trust Series C. On April 30<sup>th</sup>, 1990, Moody's downgraded that deal because the long-term debt rating of Credit Swiss, the bank which provided the letter of credit to the JCPenny deal, was downgraded earlier that year.

have no financial data available. To overcome this issue, we use Moody's Investors Services database and search for each tranche's ultimate parent.

Identifying the ultimate parent does not always guarantee a valid transaction. There are instances in which a downgrade occurs while the deal's originator (the tranche issuer) is either no longer in existence (it was acquired or went bankrupt) or has already sold the deal. For these observations we identify the ultimate parent as the parent's acquirer or the deal's purchaser.<sup>9</sup> In other instances the downgraded tranches are issued by a conduit, which purchases and securitizes (for a fee) assets of smaller institutions. For such conduit-downgrade tranches an ultimate parent cannot be identified. Finally, we require each parent to have data on CRSP and Compustat for at least one year prior to the downgrade. Overall, we are able to identify the ultimate parents of 1,604 tranches.

Since a typical ABS tranche is rated by at least two agencies, our data includes some downgrades by both Moody's and S&P that occur on the same day. Furthermore, there are observations in which multiple tranches of the same deal are downgraded on the same date.<sup>10</sup> Eliminating such cases reduces our sample to 392 tranches/deals. Finally, since we employ an event study methodology, we keep observations of the same parent as long as they are at least one month apart. That requirement reduces our sample to 236 deals. The announcement date is defined as the earlier of (1) the date supplied by the rating agencies, or (2) the date on which a news story about the deal-downgrade appeared. To that end, we employ Factiva to verify the

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<sup>9</sup> Consider the case of Conseco Inc. Any downgrade of a Conseco deal until August 2002 is accredited to Conseco Inc. However, since General Electric Co. (GE) bought Conseco Financial Corp on March 2003, any downgrade post that event is accredited to GE.

<sup>10</sup> For instance, on March 12, 2004, Moody's downgraded 3 tranches from the same deal, Global Franchise Trust 1998-I (ultimate parent - Deutsche Bank AG.). We include in the sample the largest downgraded tranche (Class A-2) of \$115.1 million, representing about 23% of that deal.

accuracy of each reported downgrade and that there are no confounding events.<sup>11</sup> That final screening reduces our sample size to 217 deal-downgrades by 57 ultimate parents.

Figure 1 traces the deal-downgrade distribution over time comparing the downgrade universe with our sample. Most downgrades occur in the latter stages of this time period. Between 1998 and 2005, Moody's (S&P) downgraded about 98% (90%) of its deals. Our sample is fairly similar, including about 80% of the downgrades during that period. The year with the most downgrades is 2004 representing almost 24% of our final sample.

Segregating the sample according to the underlying collateral type, we observe in Table 1 that manufactured housing (MH) accounts for 28% of total deal downgrades. Residential mortgage backed securities (RMBS), home equity loans (HEL), and air craft leases account for 20%, 12% and 10%, respectively. Auto loans, credit cards, and franchise leases are about 5% each. Splitting up the sample by the ultimate parent's two-digit SIC code reveals that the most frequently downgraded deals are sponsored by non-depository (SIC code 61) and depository institutions (SIC code 60), accounting for 30% and 15% respectively.

Overall, 65% of the downgraded deals are sponsored by financial institutions (1 digit SIC code 6). The remaining deals are mainly sponsored by ultimate parents from the following industries: 10% by non-classifiable establishments (SIC code 99), such as Berkshire Hathaway and General Electric Co., 8% by the transportation equipment industry (SIC 37, firms such as Ford and GM), 4% by the transportation services industry (SIC 47, GATX Corp), 3.6% by the lumber and wood products industry (SIC 24, Maxxam Inc.), and 2% by the air transportation

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<sup>11</sup> There are 9 deal-downgrades that occur within two days (-2, +2) of an ultimate parent downgrade. Even though they constitute a contaminated event, we do not discard these observations as they are consistent with our premise that rating agencies might not treat the ABS deal separately from the parent's financial condition. The following event study results are robust to the exclusion of these 9 observations. They are also robust when we conduct the analysis on the contaminated samples of 236 and 392 observations.

(SIC 45, UAL Corp) and automotive repair (SIC 75, Avis Budget Group) industries, respectively.

Sample summary statistics are presented Table 2. A typical parent of a downgraded deal has an average market capitalization of \$32.1 billion, while its average book-to-market value of equity (BME) in year-end prior to the downgrade is 0.67.<sup>12</sup> The typical downgraded tranche size of \$92 million represents about 29% of the total securitized deal size, whereas the mean downgrade of 3 grades corresponds to an average post event credit rating of BB+. Furthermore, the average number of downgraded deals per parent is 3.80, while the average number of days between any two consecutive downgrades related to the same parent is 294.<sup>13</sup> Finally, the average number of days between the deal's issuance and downgrade is 1,291.

The fact that, on average, a downgrade occurs within 3.5 years of the deal's inception is not a coincidence. An important aspect of a typical ABS deal which provides protection to investors (in addition to the senior/subordinated structure) is credit enhancement (CE), which appears in two forms: overcollateralization, achieved when the deal's assets (collateral balance) exceed liabilities (bond balance), and excess spread, which is the difference between the interest paid by the collateral borrowers and the coupon paid to bond holders (net of servicing and administrative fees).<sup>14</sup> Since CE is a function of collateral performance, it accumulates during the life of the transaction until it reaches a predetermined level, and is usually available to investors

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<sup>12</sup> There are two ultimate parents (accounting for 4 deals) with a year-end negative book value of equity (BVE). One deal by United Airlines was downgraded while it reported a negative BVE in 2002. Three deals by Maxxam Inc. were downgraded while it reported a negative BVE between 2002 and 2004.

<sup>13</sup> IndyMac has a total of 19 deal-downgrades where the underlying collateral is either sub-prime RMBS or MH. Between 4/26/1999 and 4/22/2005, IndyMac experienced on average a downgrade once every 3 months. Dropping the IndyMac observations from the analysis does not change the results. Washington Mutual had the longest difference between any two consecutive downgrades. Its first deal downgrade on March 3<sup>rd</sup>, 1995, was followed by a second one almost 10 years later, on December 21<sup>st</sup>, 2004.

<sup>14</sup> In addition to over-collateralization and excess spread, monoline insurers provide secondary credit enhancement by guaranteeing the senior most tranches. Yet their representation in the ABS market has declined considerably. In 1999, almost 30% of ABS deals included an insurer, while by 2003, only 10% had one.

during the first three years, after which it is paid out of the transaction to the residual holders (usually the deal's sponsor). Hence if an ABS deal performs well in its first three years, CE (and its associated protection) is no longer available afterwards, and deteriorating performance leads to a downgrade.

The analysis which follows is conducted along two categories. The first one distinguishes between FIs (1 digit SIC code 6) and non-FIs, since the former are by far the most frequent securitizers (FIs account for 75% of the reported ABS deals on the SDC database from 1970-2006). The second category controls for the ultimate parent's financial condition, which directly impacts its ability to support an underperforming deal or to securitize repeatedly (depriving CRAs of substantial fees, if the parent cannot securitize due to its underperformance). The ultimate parent's financial condition is based on whether the parent is downgraded within six months of the ABS downgrade. Data on an ultimate parent downgrade comes from two sources: the S&P Credit Ratings database and an online news search on Factiva (for those parents that we cannot match with the S&P database). A parent downgrade is defined as an event that occurs within six months of an ABS deal downgrade, and includes either an actual ratings downgrade or an announcement in which the parent was put on the S&P negative credit watch list.

#### **IV. Investors' treatment of ABS deals**

##### *IV. A. Downgrade announcements*

To investigate whether the market considers ABS deals to be separated from their sponsors, we conduct an event study around the date in which rating agencies announce a deal downgrade. The market model is used to estimate market model parameters for an event window

of two and three days, with the CRSP value-weighted return as the market return. The estimation period runs for 250 days, and ends 11 days before the announcement.

We report the event study results in Table 3. For the full sample, the negative and significant two-day CAR of -0.81% ( $p$  value=0.016) indicates that ABS deals are not independent of their sponsors. The (-1, +1) CAR of -1.14% is significant as well at the 5 percent level. The statistically significant wealth losses are similar to those reported in the corporate finance literature, regarding the announcement returns to firms' debt downgrades. The negative market reaction to an ABS deal downgrade not only provides evidence in support of the "true sale" assumption violation (FASB140), but also indicates that the risks of asset ownership still reside with the sponsor.<sup>15</sup>

Segregating announcement returns by firm type and ultimate parent downgrade provides a clear view of investors' perceptions. First, downgrades of ABS deals originated by financial institutions account for the significant results, as the two (three) day CAR of -1.09% (-1.74%) is significant at the five (one) percent level). Second, a deal downgrade that occurs within half a year of a parent's downgrade is informative as well, since the CAR of -1.28% (-1.85%) is significant at the five (ten) percent level. Panel B of Table 3 provides the intersection of these two breakdowns. The majority of downgrades (116) are for ABS deals originated by FIs that did not experience a downgrade, yet the 24 ABS downgrades sponsored by downgraded FIs command on average the most negative three-day CAR of 4.48% ( $p$ -value=0.036).

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<sup>15</sup> A compelling explanation for the negative market reaction, which undermines the true sale assumption violation, relates to originators' practice of retaining the first loss position in their securitized deals. Financial institutions previously retained the junior tranches of their originated deals, the ones with the highest information asymmetry, to help align their origination incentives and alleviate the moral hazard issues faced by investors. However, starting in January 2002, regulatory changes raised minimum capital requirements for banks which retain those junior stakes, discouraging them from holding those assets. As such, one would expect the market reaction to be negative and significant for downgrades that occurred prior to 2002. However, the market reactions for the 89 downgrades in the pre-2002 period are not significant, whereas the market reactions for the 128 downgrades from 2002 onwards are large (-1.09% and -1.40% for the 2 and 3 day event windows, respectively) and significant at the 5 percent level.

The above results are in accordance with the theoretical rational and empirical evidence on implicit recourse. Since the ability to provide implicit recourse is directly related to the sponsor's financial position (Gorton and Souleles, 2006), and since FIs, which are the most frequent securitizers are also the most likely candidates to provide implicit recourse (Higgins and Mason, 2004), the market reacts most negatively to downgraded ABS deals that are sponsored by downgraded FIs.

#### *IV.B. Additional evidence on market discipline –post downgrade ABS activity*

The significant losses in shareholders' wealth upon the announcement of an ABS downgrade may not be the only means by which investors react. Higgins and Mason (2004) document that firms engaged in subsidization of their failed SPEs (via implicit recourse) face long delays before returning to the securitization market. Such evidence is in line with a "punishment period," where investors punish the sponsor by withholding investment in its ABS deals for a certain period if its previous deal performed poorly (Gorton and Souleles, 2006). If market discipline is well functioning, we would expect the ultimate parent of a downgraded ABS deal to face a similar exclusion period, and that the parent's ABS issuance activity will be sensitive to its credit quality.

We examine market access for ultimate parents by comparing the average time between ABS transaction issuances in the pre- and post- downgrade periods. We match our ultimate parents with their ABS activity as reported by the Securities Data Corporation (SDC). We require each parent to have issuance data prior to an ABS deal downgrade, and data on at least one ABS transaction after the deal downgrade. Out of our 217 deals by 57 parents, we are able to match 38 deals by 20 parents with SDC. Next, we calculate the average time, in days, between each consecutive ABS issuance in the pre- downgrade period, and compare that average with the

difference (in days) between the first issuance post-downgrade and the last issuance pre-downgrade. For instance, SDC reports 8 transactions by Maryland National Corp. (MNC) before its ABS downgrade on June 6, 1991, with an average time of 152 days between each consecutive ABS deal. The last pre-downgrade reported deal is on November 2, 1990. The first post-downgrade reported deal is on September 18, 1992. The difference between these two of transactions of 676 days is compared with the pre event issuance frequency of 152 days.

In Table 4 (columns 1-3) we show the comparison of the pre- and post- downgrade market access results. Parents of downgraded deals (i.e., “bad” securitizers) face significant delays returning to the securitization market. For the full sample we observe that the average time laps between issues around the downgrade averages over *five times* the interval between issues prior to the downgrade. That delay is statistically significant at the 5 percent level ( $p$ -value = 0.039). Delays in market access are also observed for the two subgroups of FIs and downgraded parents, where FIs face a “punishment period” that averages over *six times* the interval between issues prior to the downgrade ( $p$  value= 0.096).

Additional evidence on market discipline is presented in panel C of Table 4. We repeat the analysis, only this time we match the downgraded deal type with the same issuance deal type. For example, if the MNC downgraded deal’s collateral is credit cards, we include only the issuance of credit card ABS deals by MNC, as reported by SDC. Similarly to the previous full sample results, ultimate parents face significant delays in issuance activity post downgrade. The average time laps between issues around the downgrade averages over *four times* ( $p$ -value = 0.014) the interval between issues prior to the downgrade.

Overall, the significantly negative market reaction to ABS downgrades, along with abnormal delays in issuance cycle support the view that investors treat ABS deals as an integral

part of their ultimate parents, and that financial markets were functioning prior to the 2007 financial meltdown, as parents' ability to securitize depended on their credit quality. It is important to note that the documented exclusion periods represent conservative estimations, since our SDC matches are likely to be for the largest most frequent securitizers, which almost always return to the ABS market. Smaller, less frequent securitizers (that do not have sufficient data on SDC) are likely to be excluded for longer periods (if not forever) following their ABS deal downgrades.

#### *IV.C. Could investors distinguish "bad" securitizers from "good" ones?*

The fact that ultimate parents/sponsors of downgraded ABS deals return to the market only after experiencing significant delays in their issuance schedule provides compelling evidence in favor of market discipline. Yet this finding is incomplete, as it ignores any potential changes that might affect the overall securitization market. Our premise that investors punish "bad" securitizers will be more conclusive if "good" securitizers, i.e. those that did not experience a deal downgrade, do not face similar delays. Hence a comparison between the issuance cycles of "good" and "bad" securitizers is warranted.

The data on "good" securitizers comes from SDC. We construct a sample such that all active "good" securitizers have at least two deals prior to a downgrade, and at least one deal post-downgrade. To avoid discrepancy, we require the issuance activity for the "good" securitizers to be within the issuance range of the "bad" securitizers. For instance, Advanta Corp. experienced an ABS downgrade on August 13, 1990. Its earliest reported issuance on SDC is on March 25, 1988, while the first issuance after the downgrade was on August 22, 1990. Thus the sample of "good" securitizers includes all ABS issuers between these two dates. Once the sample

is obtained, we follow the above procedure and test if the industry (the good securitizers) experiences similar delays in issuance cycles.

The results presented in columns 4 to 6 of Table 4 complement the conclusion that markets were functioning prior to the recent financial turmoil. Overall, the ABS industry does not exhibit major changes in its issuance cycles. “Good” securitizers access the market on average once every 72 days, and even though the post downgrade issuance frequency goes up to once every 100 days ( $p$  value=0.069), such a one month delay is negligible compared with the significant delays exhibited by “bad” securitizers. A breakdown of the sample to its subgroups presents a similar pattern. Finally, the adjusted delay differences between “bad” and “good” securitizers (final column of Table 4) remain significant as well.

Thus our results are robust to any systematic changes that might have affected the issuance activity of the ABS industry. There is an indication that investors do not treat the ABS market in a systematic fashion, since “good” securitizers do not exhibit delays in issuance activity, and that investors are able to accurately identify and punish “bad” securitizers.

#### *IV.D. Cross sectional regression analysis*

To investigate other potential determinants of the negative announcement returns and the post-event market access activity, we estimate regression models controlling for the following variables: *Size*, measured as the market value of equity, *Downgrade*, measures the severity of the downgrade, *FI*, a dummy variable =1 if the sponsor is a financial institution (1 digit SIC=6), *Parent Downgrade*, a dummy variable =1 if the sponsor was downgraded within half a year of the deal’s downgrade, *Revolving Structure*, a dummy variable =1 if the deal’s underlying assets are either credit cards or home equity loans, and finally *Risk*, firm’s systemic risk defined as the

difference between firm's total and specific risk. Total risk is the standard deviation of daily stock return one year prior to ABS downgrade (excluding the 10 days prior to the event) and specific risk is the standard deviation of the residual from the market model regression. In addition, we include the interaction terms  $FI*(Parent\ downgrade)$  and  $FI*(Risk)$ .

The first set of regression results is reported in Table 5 and relates the 3-day CAR with the above control variables. It indicates that *size* and *revolving structure* are significant variables. The documented negative market reaction to the downgrade announcements is attenuated for larger sponsors, but it is more severe for downgrades related to ABS deals backed by credit cards or home equity loans. These assets, which have no fixed maturities, uncertain chargeoffs, and unpredictable payment rates, force the sponsor into an ongoing relation with its SPE to maintain the size and quality of the underlying pool of assets. This relation is crucial when the collateral underperforms, forcing the sponsor to provide implicit recourse (OCC, 2002). As such, the market reaction is more negative to downgrades of securities backed by revolving collateral because the sponsor has a stronger incentive to support the SPE, avoid early amortization<sup>16</sup>, and maintain its reputation for consistent credit quality over repeated sales.

The second set of regression results reported in Table 5 relates the "punishment period" following the ABS downgrade with the various control variables. As with the CAR results, *size* attenuates market discipline for sponsors of downgraded ABS deals, as larger, more reputable securitizers experience shorter exclusion periods. Similarly, FIs, being the more frequent and larger securitizers, return sooner to the ABS market following their ABS deal downgrades, as the

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<sup>16</sup> Avoiding early amortization is particularly important for regulated FIs. Higgins and Mason (2004) explain that the purpose of early amortization is to repay investors before poor collateral performance leads to loss of principal. In the event of an early amortization, the SPE will no longer purchase new collateral from the sponsor. Hence the sponsor must either accept new collateral on balance sheet or set up a new SPE to accept the collateral. The latter is unlikely given the demonstrated instability of collateral performance. On the other hand, unless the sponsor can raise funds quickly via capital markets, accepting new collateral on balance sheet may result in substantially increased leverage, leading to reduced regulatory capital ratios and, potentially, regulatory insolvency.

coefficient on the *financial institutions* dummy of -2.601 is significant at the 5% level. Finally, troubled FIs, which have experienced a downgrade within half a year of their ABS downgrade, face longer delays given the significantly positive coefficient on the term *FI\*Parent downgrade* (2.719,  $p$ -value=0.036). This is an indicating that the ABS market discipline is well functioning.

In conclusion, even with the relatively low explanatory power of both regressions, there is evidence that rating agencies provide the market with valuable information, and although ABS transactions are originally designated to be off-balance sheet, their downgrades command significant costs to their sponsors. Such costs not only affect shareholders' wealth, but also impact the parents' securitization activity and potentially limiting liquidity.

## **V. Rating agencies' treatment of ABS deals**

### *V.A. Pre-event stock and operating performance*

We turn to investigate whether rating agencies, in their decision to downgrade ABS deals, treat them separately from their parents' performance. Since a financially troubled sponsor is (1) less likely to subsidize an underperforming ABS deal and (2) less likely to securitize future deals with the rating agency (depriving CRAs from future rating fees), CRAs might *not* consider an ABS deal separately from its sponsor. To that end we study whether deteriorating financial conditions of ultimate parents precede deal downgrades. We hypothesize that if rating agencies treat deals independently, then parents' pre-downgrade performance should not matter. More specifically, we would expect poor pre-downgrade performance *only* when ABS downgrades coincide with parent downgrades.

In order to investigate the long term pre event performance, we calculate buy-and-hold abnormal returns (BHAR). First, we obtain the buy-and-hold return (BHR) for our ultimate parents such that

$$BHR_i = \left( \prod_{t=1}^{T_i} (1 + R_{it}) - 1 \right) \times 100\% ,$$

where  $R_{it}$  is the  $i$ th firm's return on the  $t$ th day, and  $T_i$  is the number of trading days in the period following the downgrade. Once the BHR is obtained, we calculate the abnormal BHR as the difference between the ultimate parent and its matched peer

$$BHAR_i = BHR_i^{Parent} - BHR_i^{Peer}$$

Defining peers is crucial in long term analysis. Following the literature standards, our match is on industry (4 digit SIC code), size (market value equity) and book-to-market equity. We choose a peer within the same industry that has the smallest sum of absolute percentage difference in size and book-to-market equity, using financial data from the year preceding the downgrade. We complement the pre-event stock performance analysis by investigating the quarterly operating performance of ABS sponsors leading to and right after the downgrade, using the same matched sample as in the BHAR analysis. The sample size is reduced since we include only one downgrade by any sponsor occurring on the same quarter.

We present the mean and median long-term pre downgrade BHAR results in Table 6. On average, the ultimate parent underperforms its peer by 9% in the year prior to the ABS deal downgrade. The three year pre-event underperformance is more severe, at about 20%. The evidence for the full sample suggests that long-term stock performance might be related to ABS downgrades. The sub-samples reveal that the negative BHARs are driven by non-FIs and downgraded parents, which underperform their respective benchmarks by about 22% in the year prior to the ABS downgrade. The weak stock performance is evident even three years prior to the

deal's downgrade, where non-FIs and downgraded parents experience BHARs of -46% and -57%, respectively.

In panel B of Table 6 we present the intersection between these two sub groups. While the weak stock performance of non-FIs is present regardless of a parent downgrade, the case is not the same for FIs, where the weak pre-event stock performance is *only* observable when the parent is downgraded. FIs that are not downgraded do not underperform relative to their matched peers in the period leading to the ABS downgrade. This is an indication of greater transparency for an ABS deal that is sponsored by a FI, suggesting that the downgrade is due to a poor deal performance, rather than a weak financial position of the parent. This is in sharp contrast to an ABS deal that is sponsored by non-FI. When such a deal is downgraded it is associated with the parent's underperformance, irrespective of a parent downgrade.

We complement the evidence on the pre-downgrade stock underperformance by examining sponsors' quarterly operating performance and capital ratios. These results are reported in Table 7 where adjusted measures correspond to the difference between a sample firm and its matched peer. In this analysis we limit the sample to include only one downgrade by each parent in any given quarter.

From panel A of Table 7 we learn that even though sponsor's raw ROA, ROE and capital ratio remain relatively unchanged in the four quarters leading to the ABS downgrade, the adjusted ROA and capital ratio are significantly weaker prior to the downgrade. Furthermore, the deterioration in the adjusted ROA and ROE measures is significant throughout the period. Panels B and C indicate that the underperformance is particularly severe for non-FIs and downgraded parents. Finally, the subgroups intersection performance measures and capital ratio results in panel D of Table 7 are consistent with the BHARs results reported in panel B of Table 6. These

suggest that deals sponsored by FIs are downgraded irrespective of the sponsor's performance, whereas for deals sponsored by non-FIs, deteriorating financial conditions are present prior to the ABS downgrade.

#### *V.B. Future research*

Future work intends to expand on the existing analyses of credit rating agencies' treatment of ABS deals. Specifically, multivariate regression analysis will complement the evidence on CRAs tendency to downgrade ABS transactions by poorly performing sponsors, controlling for deal specific performance measures. Such measures can be obtained from periodic servicer/trustee report filings with the SEC (10-D), or from the ABSnet database, which compiles various performance measures such as the collateral's delinquency rate, prepayment rate, level of chargeoffs and the deal's excess spread. Evidence on investors' ability to distinguish "bad" securitizers from "good" ones can be extended by considering interest rate spreads and ratings of debt instruments that were issued in the post downgrade period.

## **VI. Conclusion**

The structure of an ABS deal stipulates that the securitized assets are moved off-balance sheet in accordance with the "true sale" assumption envisaged by FASB 140, and as a result, the deal's sponsor maintains neither the benefits nor the associated risks of owning those assets. The results presented in this paper contradict that assumption. By studying the effect of an ABS deal downgrade on its ultimate parent, we show that risk resides with the parent. The significant wealth losses following the downgrade announcements are consistent with the view that

investors treat ABS deals as an integral part of their sponsors, and when weak performance leads to downgrades, investors react and expect the ultimate parents to support their deals.

The market's disciplinary role is not limited to a significant loss in shareholders wealth, but is also manifested through a significant delay in the post-downgrade securitization activity. Such a "punishment period" is not observed for sponsors of ABS deals that did not suffer downgrades. On the other hand, Sponsors of downgraded deals experience long delays in their ABS issuance cycle. Similar delays have been previously documented for sponsors who provide implicit recourse to their underperforming credit card ABS deals. Overall, these findings support the notion that a sponsor's ability to securitize depends on its credit quality, and that in fact, investors can distinguish a "bad" securitizer from a "good" one as the latter's ability to securitize is not hindered.

Our data also allows us to explore the motivation behind some of the downgraded deals. Since rating agencies serve as the de facto regulators of the ABS market and are intimately involved with the issuance process, they can earn substantial fees from structuring and rating those deals. Hence we conjecture that an ABS downgrade might *not* be independent of the ultimate parent's financial position since a financially troubled sponsor is (1) less likely to support an underperforming ABS deal and (2) less likely to securitize future deals with the rating agency (depriving rating agencies from expected fees). Our results confirm that conjecture as the long-term pre-downgrade stock performance of non-FIs that sponsor ABS deals is significantly negative. Deteriorating conditions are also observable in adjusted operating performance measures and capital ratios around the ABS downgrade. Thus rating agencies, just like investors, treat ABS deals as an integral part of their sponsors.

The recent economic crisis raises numerous proposals for changes in regulation, and brings into question the complex risk-shifting activities FIs were involved with, which evidently lead to the unprecedented financial meltdown in the summer of 2007. Proponents of stricter regulation stress that the proliferation of opaque securities financed through off-balance sheet transactions, has made transparency almost nonexistent and risk relocation questionable (Stiglitz, 2008; Krugman, 2008).

Yet tougher regulation is not always warranted. Financial historians point to the significant economic costs that were generated by the post-Depression regulatory changes. Chief among those are the separation of commercial and investment banks, the establishment of deposit insurance, and the entrenchment of entry barriers across regions (Calomiris, 2000). Moreover, tougher regulation that ignores market forces distorts supervisors' incentives and is bound to be inefficient (Caprio, Kunt, and Kane, 2008). If supervisors can incorporate in the monitoring process market signals related to a securitizer's risk, specifically if the signals identify an overlooked problem, then the supervisors' ability to react promptly and correctly is enhanced. Our results indicate that securitizers are *not* shielded from the market's disciplinary forces, and as such, regulatory reforms should consider incorporating ABS downgrades and link on-and-off balance sheet conditions in the supervisory process.

## Reference

- Ashcraft, Adam, and Til Schuermann (2008). "Understanding the Securitization of Subprime Mortgage Credit." Staff Working Paper no. 318, Federal Reserve Bank of New York.
- Benveniste, Lawrence M. and Allen N. Berger (1987) "Securitization with Recourse: An Instrument that Offers Uninsured Bank Depositors Sequential Claims." *Journal of Banking and Finance* 11, 403-24.
- Calomiris, Charles W. (2000). *U.S Bank Regulation in Historical Perspective*, Cambridge University Press.
- Calomiris, Charles W. (2008). "The Subprime Turmoil: What's Old, What's New, and What's Next, Working Paper, Columbia University.
- Calomiris, Charles W. and Joseph R. Mason (2004). "Credit Card Securitization and Regulatory Arbitrage." *Journal of Financial Services Research* 26, 5-26.
- Cantor, Richard, and Frank Packer (1994). "The Credit Rating Industry." *Federal Reserve Bank of New York Quarterly Review*, Vol. 19, Summer-Fall, 1-26.
- Capiro, Gerard, Asli Demirguc-Kunt, and Edward J. Kane (2008). "The 2007 Meltdown in Securitized Assets: Searching for Lessons, Not Scapegoats." Working Paper No. 4756, World Bank.
- Chen, Weitzu, Chi-Chun Liu, and Stephen G. Ryan (2007). "Characteristics of Securitizations that Determines Issuers' Retention of the Risks of the Securitized Assets."
- Committee of Global Financial System (2005). "The Role of Ratings in Structured Finance: Issues and Implications." Available at <http://www.bis.org/publ/cgfs23.htm>.
- Cornell, Bradford., Wayne Landsman, and Alan Shapiro (1989). "Cross-Sectional Regularities in the Response of Stock Prices to Bond Rating Changes." *Journal of Accounting, Auditing, and Finance* 4, 460-79.
- Dechow, Patricia M. and Catherine Shakespeare (2009). "Do Managers Time Securitization Transactions to Obtain Accounting Benefits?" *The Accounting Review* 84, 99-132
- Dichev, Illia D., and Joseph D. Piotroski (2001). "The Long Run Stock Returns Following Bond Rating Changes." *Journal of Finance* 56 (January), 173-203.
- Ederington, Louis H., Jess B. Yawitz, and Brian E. Roberts (1987). "The Informational Content of Bond Ratings." *Journal of Financial Research* 10, 211-26.
- Flannery, Mark J. (2001). "The Faces of Market Discipline." *Journal of Financial Services Research* 20, 107-19.
- Glascok, John R., Wallace N. Davidson, and Glenn V. Henderson (1987). "Announcement Effects of Moody's Bond Rating Changes on Equity Returns." *Quarterly Journal of Business and Economics* 26, 67-78.
- Goh, Jeremy C. and Louis H. Ederington (1993). "Is a Bond Rating Downgrade Bad News, Good News, or no News for Stockholders?" *Journal of Finance* 48, 2001-08.

- Gorton, Gary (2008). "The Panic of 2007", Working Paper, Yale University.
- Gorton, Gary B., and George G. Pennacchi (1989). "Are Loan Sales Really Off-Balance Sheet?" *Journal of Accounting, Auditing, and Finance* 4, 125-45.
- Gorton, Gary B., and George G. Pennacchi (1995). "Banks and Loan Sales Marketing Nonmarketable Assets" *Journal of Monetary Economics* 35, 389-411.
- Gorton, Gary, and Nicholas S. Souleles (2006). "Special Purpose Vehicles and Securitization", with chapter in The Risks of Financial Institutions, edited by Rene Stulz and Mark Carey, University of Chicago Press.
- Greenbaum, Stuart, and Anjan Thakor (2007). *Contemporary Financial Intermediation*, Second Edition Academic Press.
- Griffin, Paul and Antonio Z. Sanvicente (1982). "Common Stock Returns and Rating Changes: A Methodological Comparison." *Journal of Finance* 37 (March), 103-19.
- Hand, John R. M., Robert W. Holthausen, and Richard W. Leftwich (1992). "The Effect of Bond Rating Agency Announcements on Bond and Stock Prices." *Journal of Finance* 47 (June), 733-52.
- Herring Richard J. (2008). "The Darker Side of Securitization: How Subprime Lending Led to a Systemic Crisis", Presentation to the Shadow Financial Regulatory Committee, May 4.
- Higgins, Eric and Joseph R. Mason (2004). "What is the Value of Recourse to Asset Backed Securities: A Study of Credit Card ABS Recourse." *Journal of Banking and Finance* 28 (April), 857-74.
- Holthausen, W. Robert and Richard W. Leftwich (1986). "The Effect of Bond Rating Changes on Common Stock Prices." *Journal of Financial Economics* 17 57-89.
- Kliger, Doron and Oded Sarig (2000). "The Information value of Bond Ratings". *Journal of Finance* 6 (December), 2879-902.
- Krugman, Paul, 2008. "Partying like It's 1929." New York Times, March 21.
- Liu, Pu, and Anjan Thakor (1984). "Interst Yields, Credit Ratings and Economics Characteristics of State Bonds: An Empirical Analysis." *Journal of Money, Credit and Banking* 16, 344-51.
- Lucchetti, Aaron and Serena Ng 2007. "How Rating Firms' Calls Fueled the Subprime Mess" The Wall Street Journal, August 15.
- Mason, Josph R., and Joshua Rosner (2007b). "Where Did the Risk Go? How Misapplied Bond Ratings Cause Mortgage Backed Securities and Collateralized Debt Obligations Market Disruption." Working Paper, Drexel University.
- OCC Guidance (2002). "Interagency Guidance on Implicit Recourse in Asset Securitization".
- Pinches, George E. and Clay J. Singleton (1978). "The Adjustment of Stock Prices to Bond Rating Changes." *Journal of Finance* 33 (March), 29-44.

Riddiough Timothy J., and Risharng Chiang (2003). "Commercial Mortgage Backed Securities: An Exploration into Agency, Innovation, Information, and Learning in Financial Markets." Mimeograph, University of Wisconsin.

Robert, Schweitzer, Samuel Szewczyk S., and Raj Varma (1992). "Bond Rating Agencies and Their Role in Bank Market Discipline." *Journal of Financial Services Research* 6, 249-63.

Stigliz, Joseph, 2008. "Unfettered Market Do Not Lead to Social Well Being."

Vermilyea, Todd A., Elizabeth Webb R., and Andrew A. Kish (2008). "Implicit Recourse and Credit Card Securitizations: What Do Fraud Losses Reveal?" *Journal of Banking and Finance* 32, 1198-1208.

Wakeman, L. (1978). "Bond Rating Agencies and the Capital Markets." Working Paper, University of Rochester.

Weinstein, Mark I. (1977). "The Effect of a Rating Change on Bond Prices." *Journal of Financial Economics* 5 (October), 329-50.

**Figure 1: Yearly ABS Downgrade Frequencies**

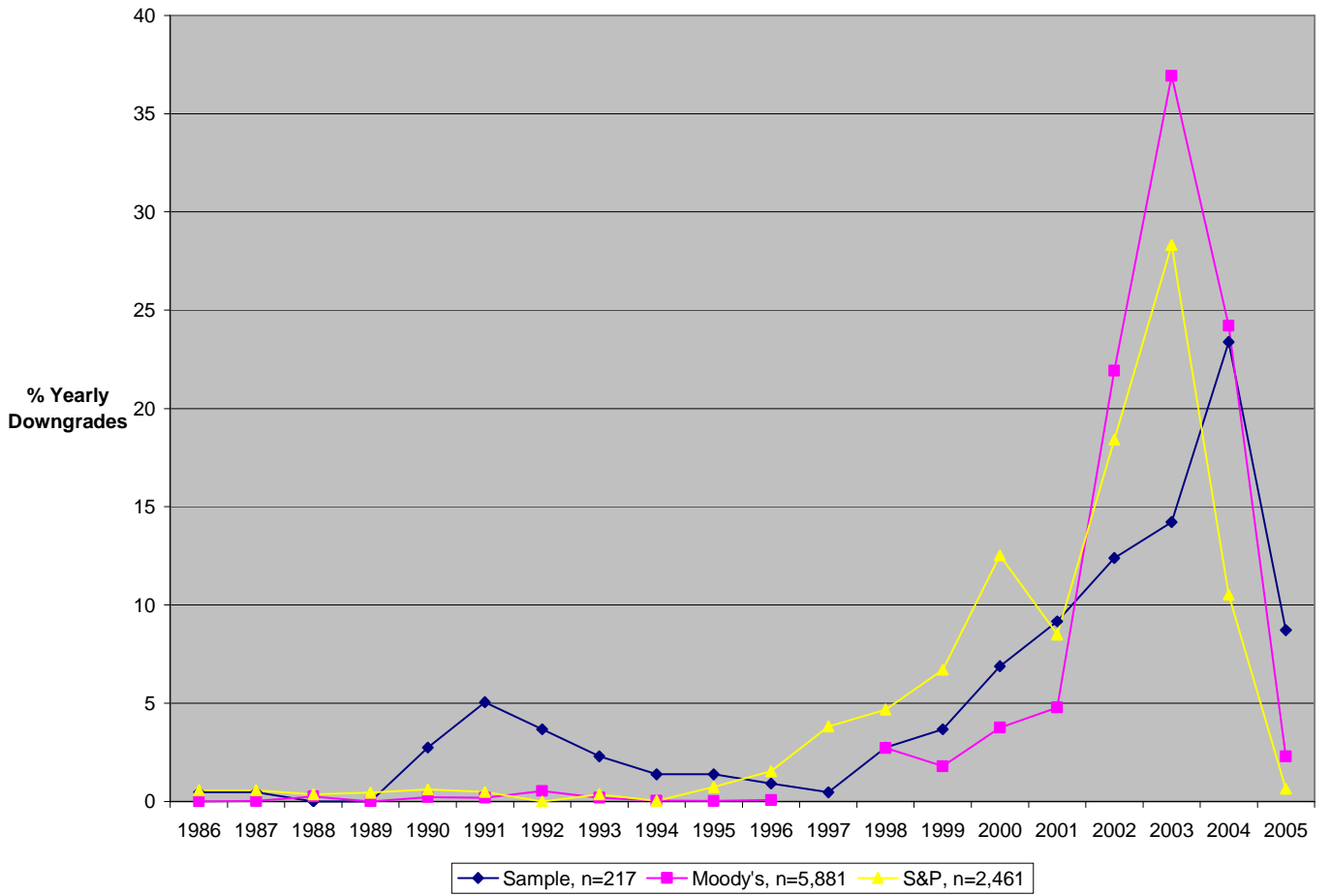


TABLE 1  
Sample Characteristics

Panel A: sample breakdown by underlying collateral type

Collateral Type	Frequency	%
Manufactured housing	61	28.44
RMBS subprime	43	19.72
Home equity loans (HEL)	26	11.93
Aircraft leases	22	10.09
Auto loans	13	5.96
Credit cards	12	5.50
Franchise loans	11	5.05
Equipment leases	5	2.29
Trade receivables	4	1.83
Rental car	4	1.83
Recreational vehicle	3	1.38
Small business loans	3	1.38
Floorplans	1	0.46
Revolving loans	1	0.46
Trade receivables	1	0.46
Other	7	3.21
<b>Total</b>	<b>217</b>	<b>100</b>

Panel B: sample breakdown by Industry

2 digit SIC Industry Classification	SIC code	Freq.	%
Non-depository Credit Institutions	61	67	30.88
Depository institutions	60	34	15.67
Non-classifiable Establishments	99	22	10.14
Security & commodity brokers, dealers, exchanges & services	62	19	8.76
Transportation equipment	37	17	7.83
Holding and other investment offices	67	15	6.91
Transportation services	47	9	4.15
Lumber and wood products, except furniture	24	8	3.69
Transportation by air	45	5	2.30
Insurance carriers	63	5	2.30
Automotive repair, services, and parking	75	4	1.84
Motor freight transportation and warehousing	42	3	1.38
Chemicals and allied products	28	2	0.92
Ind. & Comm. Machinery and Computer equipment	35	2	0.92
Electric, Gas, and Sanitary Services	49	2	0.92
Miscellaneous retail	59	2	0.92
General merchandise stores	53	1	0.46
<b>Total</b>		<b>217</b>	<b>100%</b>

TABLE 2  
Summary Statistics

Descriptive statistics for 217 ABS deal-downgrades by either Moody's or S&P between 1986 and 2005, for which the deal's ultimate parent is identified on CRSP and Compustat. An ultimate parent is either the deal's originator or the deal's acquirer, in case the originator went bankrupt or was acquired prior to the deal's downgrade. A total of 57 parents account for the 217 deals. Multiple deal downgrades of the same parent are within at least one month apart (20 trading days). Market value of equity (MVE) and Book to market equity (BME) are from year end prior to downgrade. Days-to-downgrade is the difference between the downgrade date and the deal's origination date.

	N	Mean	Median	Min	Max	STD
MVE (in 2005 \$millions)	140	32,155	2,572	13.86	430,643.21	76,446.75
Book-to-market equity	140	0.67	0.64	-28.84	7.26	2.96
Tranche (in 2005 \$millions)	217	92.92	28.44	0.76	1772.39	190.93
Deal (in 2005 \$millions)	217	427.48	289.11	13.84	1772.39	376.14
Tranche / deal	217	0.2897	0.0876	0.0019	1.0000	0.3658
Post-downgrade Rating	217	BB+	BB+	D	AA+	-
$\Delta$ rating (# of downgrade notches)	217	3	2	1	15	2.31
Deals per ultimate parent	57	3.80	2	1	19	3.56
Days between downgrades	160	294	131	24	3,581	516
Days-to-downgrade	214	1,291	1,187	30	3,532	669.06

TABLE 3  
Announcement Returns to ABS Downgrades

Cumulative abnormal returns for 217 ABS deal-downgrades by either Moody's or S&P, for which the deal's ultimate parent is identified on CRSP and Compustat. An ultimate parent is either the deal's originator or the deal's acquirer, in case the originator went bankrupt or was acquired prior to the deal's downgrade. A total of 57 parents account for the 217 deals. Multiple deal downgrades of the same parent are within at least one month apart (20 trading days). Financial institutions (FI) are firms with a one-digit SIC code of 6. A parent downgrade is an event that occurred within 6 months of a deal-downgrade in which a rating agency either downgrades the parent, or puts it on a negative watch for a possible downgrade. The market model is used to estimate parameters using daily stock returns with a 250-day estimation period ending 11 days before the announcement date. Market returns are proxied by the CRSP value-weighted returns. *P-values* reported in parentheses.

	N	CAR(-1, 0)	CAR (-1, +1)
Full sample	217	-0.81%** (0.016)	-1.14%** (0.013)
Announcement returns by firm type			
FI (one digit SIC code=6)	140	-1.09%** (0.026)	-1.74%*** (0.008)
Non FI	77	-0.31% (0.358)	-0.05% (0.910)
Announcement returns by parent downgrade			
Downgrade (within ½ year)	59	-1.28%** (0.037)	-1.85%* (0.080)
No downgrade	158	-0.63% (0.115)	-0.88%* (0.076)

Panel B: announcement returns by firm type and parent downgrade

	CAR(-1, 0)		CAR (-1, +1)	
	FI	Non-FI	FI	Non-FI
Downgrade (within ½ a year)	-1.99%* (0.086) [n=24]	-0.79% (0.245) [n=35]	-4.48%** (0.036) [n=24]	-0.05% (0.959) [n=35]
No downgrade	-0.90%* (0.097) [n=116]	0.09% (0.708) [n=42]	-1.18%* (0.073) [n=116]	-0.05% (0.861) [n=42]

\*\*\*, \*\*, \* represents significance at the 1%, 5%, and 10% respectively.

TABLE 4  
Market Access before and around ABS Downgrade

Average time (in days) between ABS issuances by a firm which experiences a deal downgrade, relative to the time difference between the two ABS issuances right before and after the downgrade. ABS deal-downgrades by either Moody's or S&P, for which the deal's ultimate parent is identified on CRSP and Compustat. Sample period between 1986 and 2005. An ultimate parent is either the deal's originator or the deal's acquirer, in case the originator went bankrupt or was acquired prior to the deal's downgrade. Multiple deal downgrades of the same parent are within at least one month apart (20 trading days). Panel A (B, C) includes 20 (19, 17) parents that account for 38 (29, 27) deals for which data on ABS activity is available on SDC. Financial institutions (FI) are firms with a one-digit SIC code of 6. A parent downgrade is an event that occurred within 6 months of a deal-downgrade in which a rating agency either downgrades the parent, or puts it on a negative watch for a possible downgrade. *P-values* reported in parentheses. \*\*\*, \*\*, \* represents significance at the 1%, 5%, and 10% respectively.

	N	Sponsors with downgraded deals			Sponsors without downgraded deals			Industry Adj. Difference
		Pre downgrade ABS issuance frequency (1)	Days between issues around downgrade (2)	Difference (3)	Pre downgrade ABS issuance frequency (4)	Days between issues around downgrade (5)	Difference (6)	
Panel A: all deal-downgrades with prior ABS issuances by ultimate parent								
Full sample	38	110	568	458** (0.039)	72	100	27* (0.069)	430** (0.038)
FI	23	113	694	580* (0.096)	76	108	32 (0.181)	548* (0.092)
Non FI	15	105	375	270 (0.173)	66	86	20 (0.109)	249 (0.180)
Downgrade	14	93	429	355* (0.087)	82	103	20 (0.108)	315* (0.088)
No downgrade	24	120	649	529 (0.117)	66	97	31 (0.173)	497 (0.114)
Panel B: deal-downgrades with at least 3 prior ABS issuances by ultimate parent								
Full sample	29	91	380	288** (0.033)	76	91	15 (0.115)	273** (0.031)
FI	18	82	324	242 (0.109)	75	85	10 (0.400)	232 (0.101)
Non FI	11	105	471	365 (0.181)	77	101	24 (0.176)	341 (0.182)
Downgrade	13	99	304	204 (0.158)	78	92	15 (0.307)	189 (0.156)
No downgrade	16	84	441	357 (0.107)	75	90	15 (0.307)	341 (0.101)
Panel C: deal-downgrades with prior ABS issuances of similar asset type by ultimate parent								
Full sample	27	139	586	446** (0.014)	-	-	-	-
FI	18	132	488	355* (0.058)	-	-	-	-
Non FI	9	154	783	628 (0.136)	-	-	-	-
Downgrade	8	107	472	364 (0.246)	-	-	-	-
No downgrade	19	153	634	481** (0.036)	-	-	-	-

TABLE 5

## The Determinants of Market Reaction to ABS Downgrades and Post Event Securitization Activity

Analysis of market reaction to 217 ABS deal-downgrades sponsored by 57 parents, and the respective securitization activity for 20 parents sponsoring 38 deals for which market access data is available on SDC. Delay in market access is the time difference, in days, between the two ABS issuances right before and after an ABS-deal downgrade (see TABLE4). Financial institution (FI) is a dummy variable equal 1 for ABS deals sponsored by a firm with one-digit SIC code of 6. A parent downgrade is a dummy equal 1 if the deal's sponsor was downgraded within 6 months of the deal-downgrade, in which a rating agency either downgrades the parent, or put it on a negative watch for a possible downgrade. Risk is firm systematic risk defined as the difference between firm's total and specific risk. Total risk is the standard deviation of daily stock return one year prior to ABS downgrade (excluding the 10 days prior to the event) and specific risk is the standard deviation of the residual from the market model regression. Downgrade is the number of grades by which the ABS deal rating is downgraded. Revolving structure is a dummy variable equal 1 if the deal's underlying assets are either credit cards or home equity loans. *P-values* reported in parentheses. \*\*\*, \*\*, \* represents significance at the 1%, 5%, and 10% respectively.

	CAR (-1, +1)	Ln. Delay Market Access
Ln. market value equity	0.004** (0.010)	-0.232* (0.081)
Financial institution (dummy=1)	0.011 (0.412)	-2.601** (0.026)
Parent downgrade (dummy=1)	0.004 (0.706)	-1.565 (0.102)
(FI)*(Parent downgrade)	-0.031 (0.106)	2.719** (0.036)
Risk	1.773 (0.321)	21.978 (0.790)
(FI)*(risk)	-3.601* (0.096)	38.801 (0.738)
Downgrade	0.000 (0.991)	0.298* (0.057)
Revolving structure (dummy=1)	-0.030** (0.012)	0.092 (0.889)
Constant	-0.052** (0.032)	7.767*** (0.000)
Adjusted R <sup>2</sup>	0.0751	0.1291
F-statistics	3.19***	1.69
N	217	38

TABLE 6  
Long Term Pre ABS-Downgrade Stock Performance

Buy-and-hold abnormal returns (BHAR) for 217 ABS deal-downgrades by either Moody's or S&P, for which the deal's ultimate parent is identified on CRSP and Compustat. An ultimate parent is either the deal's originator or the deal's acquirer, in case the originator went bankrupt or was acquired prior to the deal's downgrade. Abnormal returns based on control firms that are matched on Industry (4 digit SIC), size and book-to-market equity. A total of 57 parents account for the 217 deals. Multiple deal downgrades of the same parent are within at least one month apart. Financial institutions (FI) are firms with a one-digit SIC code of 6. A parent downgrade is an event that occurred within 6 months of a deal-downgrade in which a rating agency either downgrades the parent, or puts it on a negative watch for a possible downgrade. *P-values* reported in parentheses. \*\*\*, \*\*, \* represents significance at the 1%, 5%, and 10% respectively.

	N	1 year pre event BHAR		3 year pre event BHAR	
		Mean	Median	Mean	Median
Full sample	217	-9.22% ** (0.041)	-4.80% ** (0.036)	-19.35% ** (0.039)	-12.99% ** (0.010)
FI (one digit SIC code=6)	140	-1.82 (0.766)	1.84 (0.919)	-4.53 (0.736)	-7.54 (0.834)
Non FI	77	-22.67*** ( <i>&lt;0.000</i> )	-16.83*** ( <i>&lt;0.000</i> )	-46.29*** ( <i>&lt;0.000</i> )	-29.80*** ( <i>&lt;0.000</i> )
Downgrade (within ½ year)	59	-21.49*** (0.002)	-18.42*** (0.002)	-57.83*** ( <i>&lt;0.000</i> )	-32.08*** ( <i>&lt;0.000</i> )
No downgrade	158	-4.64 (0.408)	-0.17 (0.581)	-4.98 (0.669)	-2.69 (0.449)

Panel B: mean {median} *pre* ABS deal downgrade buy-and-hold abnormal returns by firm type and parent downgrade

	1 year pre event BHAR		3 year pre event BHAR	
	FI	Non-FI	FI	Non-FI
Downgrade (within ½ a year)	-26.29% * {-25.75%}* [n=24]	-18.20% *** {-18.43%} ** [n=35]	-70.42% *** {-34.29%} *** [n=24]	-49.20% *** {-25.82%} *** [n=35]
No downgrade	3.23% {7.46%} [n=116]	-26.40% *** {-11.17%} *** [n=42]	9.09% {19.69%} [n=116]	-43.87% *** {-36.09%} *** [n=42]

TABLE 7  
Quarterly Operating Performance and Capital Ratio

Median peer adjusted measures (sample firm minus matched peer) for 171 ABS deal-downgrades by either Moody's or S&P, for which the deal's ultimate parent is identified on CRSP and Compustat. An ultimate parent is either the deal's originator or the deal's acquirer, in case the originator went bankrupt or was acquired prior to the deal's downgrade. Adjusted measures based on control firms that are matched on Industry (4 digit SIC), size and book-to-market equity. A total of 54 parents account for the 171 deals. Multiple deal downgrades of the same parent are within at least one quarter apart. Financial institutions (FI) are firms with a one-digit SIC code of 6. A parent downgrade is an event that occurred within 6 months of a deal-downgrade in which a rating agency either downgrades the parent, or puts it on a negative watch for a possible downgrade. Significance based on Wilcoxon sign rank test statistics. \*\*\*, \*\*, \* represents significance at the 1%, 5%, and 10% respectively.

Panel A: raw and adjusted measures, full sample (n=171)

	ROA	ROE	Equity/assets	Adj. ROA	Adj. ROE	Adj. Equity/assets
-4	0.0033	0.0383	0.1028	-0.0008**	0.0034	-0.0300***
-3	0.0033	0.0382	0.0992	-0.0009***	0.0021	-0.0332***
-2	0.0032	0.0347	0.0924	-0.0010***	-0.0007	-0.0333***
-1	0.0033	0.0365	0.0888	-0.0010***	0.0014	-0.0366***
+1	0.0031	0.0374	0.0892	-0.0014***	-0.0006	-0.0370***
$\Delta$ (-1 to +1)	0.0000	0.0005	-0.0005**	-0.0002*	-0.0040**	-0.0025**
$\Delta$ (-4 to +1)	-0.0003***	-0.0029***	-0.0007	-0.0003***	-0.0030***	-0.0007

Panel B: adjusted measures, firm type

	Adj. ROA	Adj. ROE	Adj. Equity/assets	Adj. ROA	Adj. ROE	Adj. Equity/assets
	FI (n=114)			Non FI (n=57)		
-4	-0.0002	0.0032	-0.0056**	-0.0060**	0.0045	-0.2707***
-3	-0.0004	0.0018	-0.0072**	-0.0069***	0.0032	-0.2588***
-2	-0.0007**	-0.0021	-0.0047**	-0.0048	0.0087	-0.2588***
-1	-0.0006	0.0007	-0.0030**	-0.0054*	0.0087	-0.2583***
+1	-0.0009***	-0.0010	-0.0035**	-0.0095***	0.0007	-0.2620***
$\Delta$ (-1 to +1)	-0.0002	-0.0029	-0.0012	-0.0031	-0.0151*	-0.0093***
$\Delta$ (-4 to +1)	-0.0002*	-0.0006	-0.0001	-0.0014***	-0.0103***	-0.0092**

Panel C: adjusted measures, parent downgrade

	Parent downgrade (n=54)			No parent downgrade (n=117)		
	-4	-0.0030**	-0.0064	-0.0440***	-0.0004	0.0054***
-3	-0.0040**	-0.0087	-0.0573***	-0.0007*	0.0032	-0.0225***
-2	-0.0042**	-0.0052	-0.0583***	-0.0009**	0.0002	-0.0231***
-1	-0.0034***	-0.0116**	-0.0606***	-0.0006	0.0059**	-0.0252***
+1	-0.0097***	-0.0295***	-0.0842***	-0.0011**	0.0033	-0.0263***
$\Delta$ (-1 to +1)	-0.0015*	-0.0132*	-0.0073***	-0.0001	-0.0024	-0.0012
$\Delta$ (-4 to +1)	-0.0037***	-0.0295***	-0.0030*	-0.0000	0.0006	-0.0005

Panel D: adjusted measures, by firm type and parent downgrade

	Adj. ROA	Adj. ROE	Adj. Equity/assets	Adj. ROA	Adj. ROE	Adj. Equity/assets`
	FI, Parent downgrade (n=22)			Non-FI, Parent downgrade (n=32)		
-4	-0.0007	0.0006	-0.0128	-0.0056*	-0.0150	-0.1390***
-3	-0.0002	-0.0009	-0.0134	-0.0079**	-0.0270	-0.1555***
-2	0.0000	-0.0002	-0.0153	-0.0055*	-0.0182	-0.1555***
-1	-0.0008*	-0.0050	-0.0165	-0.0072**	-0.0291	-0.1783***
+1	-0.0017***	-0.0163***	-0.0068	-0.0110***	-0.0486	-0.1837***
$\Delta$ (-1 to +1)	-0.0007**	-0.0108**	0.0013	-0.0034	-0.0145	-0.0127***
$\Delta$ (-4 to +1)	-0.0008**	-0.0125***	0.0017	-0.0051***	-0.0385**	-0.0183***
	FI, No Parent downgrade (n=92)			Non-FI, No parent downgrade (n=25)		
-4	0.0000	0.0041*	-0.0042**	-0.0063	0.0115***	-0.2976***
-3	-0.0004	0.0027	-0.0055**	-0.0060	0.0105**	-0.3096***
-2	-0.0008**	-0.0021	-0.0026**	-0.0039	0.0218***	-0.3060***
-1	-0.0004	0.0031	-0.0020**	-0.0037	0.0173***	-0.2805***
+1	-0.0007	0.0020	-0.0034***	-0.0073*	0.0064*	-0.2904***
$\Delta$ (-1 to +1)	0.0000	-0.0014	-0.0012	-0.0031	-0.0151**	-0.0065
$\Delta$ (-4 to +1)	-0.0001	0.0009	-0.0005	-0.0000	-0.0040*	-0.0000

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Appendix I: Sample Construction

No. of tranches	Steps
8,300	Initial sample of downgraded tranches between 1986-2005 by both Moody's and S&P
↓	<ul style="list-style-type: none"> <li>➤ Eliminate tranches related to Tobacco Settlements or those sponsored by State/Federal agencies</li> <li>➤ Eliminate tranches related to Collateralized Debt Obligations (CDOs)</li> </ul>
5,138	
↓	<ul style="list-style-type: none"> <li>➤ Eliminate tranches without an identified ultimate parent (such as Conduits)</li> <li>➤ Eliminate tranches for which the identified parent has no CRSP and Compustat data from at least (t-1) relative to downgrade</li> </ul>
1,604	
↓	<ul style="list-style-type: none"> <li>➤ Eliminate double-counting: downgraded tranches of the same parent by both rating agencies that occur on the same day (i.e. retain the earliest downgrade on that day)</li> <li>➤ Eliminate downgrades of different tranches from the same deal that occur on the same day (retain the largest downgraded tranche)</li> </ul>
392	From this point, each tranche represents a deal
↓	<ul style="list-style-type: none"> <li>➤ Eliminate downgraded deals related to the same parent that occur within less than 1 month apart</li> </ul>
236	
↓	<ul style="list-style-type: none"> <li>➤ Eliminate downgraded deals with an unverified date or with a confounding event</li> </ul>
217 deals by 57 parents	Final sample

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