

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM



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# Report to the Congress on Risk Retention

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October 2010

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Submitted to the Congress pursuant to section 941 of  
the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010

October 2010

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## Executive Summary

Section 941(c) of the Dodd–Frank Wall Street Reform and Consumer Protection Act (the Act, or Dodd–Frank Act) requires that the Board of Governors of the Federal Reserve System (the Board) conduct a study and issue a report not later than 90 days after the date of enactment on the effect of the new risk retention requirements to be developed and implemented by the federal agencies, and of Statements of Financial Accounting Standards Nos. 166 and 167 (FAS 166 and 167).<sup>1,2</sup>

The federal agencies have an additional 180 days from the date of this report to adopt rules to implement the risk retention requirements of section 941. The agencies are continuing to develop these regulations, and thus the effects of a final set of risk retention requirements cannot be analyzed at this time. This report provides information and analysis on the impact of various risk retention and incentive alignment practices for individual classes of asset-backed securities both before and after the recent financial crisis.

The study defines and focuses on eight loan categories and on asset-backed commercial paper (ABCP). ABCP can be backed by a variety of collateral types but represents a sufficiently distinct structure that it warrants separate consideration. These nine categories, which together account for a significant amount of securitization activity, are

1. Nonconforming residential mortgages (RMBS)<sup>3</sup>
2. Commercial mortgages (CMBS)
3. Credit cards
4. Auto loans and leases
5. Student loans (both federally guaranteed and privately issued)
6. Commercial and industrial bank loans (collateralized loan obligations, or CLOs)
7. Equipment loans and leases
8. Dealer floorplan loans
9. ABCP

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<sup>1</sup> The Board of Governors is solely responsible for the content of this report. In preparing this report, the Board consulted and coordinated with the Office of the Comptroller of the Currency, the Office of Thrift Supervision, the Federal Deposit Insurance Corporation, the Federal Housing Finance Agency, and the Securities and Exchange Commission regarding the provisions of section 941(c).

<sup>2</sup> Pub. L. No. 111-203, 124 Stat. 1376 (2010). Section 941(b) of the Act adds a new section 15G to the Securities Exchange Act of 1934, which will be codified at 15 U.S.C. §78o-11.

FAS 166 and 167 were established by the Financial Accounting Standards Board (FASB). FAS 166, *Accounting for Transfers of Financial Assets, an Amendment of FASB Statement No. 140*, is codified within Accounting Standards Codification (ASC) Topic 860, and FAS 167, *Amendments to FASB Interpretation No. 46(R)*, is codified within ASC Topic 810.

<sup>3</sup> This study focuses on so-called private-label securities backed by nonconforming mortgages, which exclude securities guaranteed by an agency of the federal government or by the housing-related government-sponsored enterprises Fannie Mae and Freddie Mac.

For each asset class, the study provides background information, including: a discussion of the economics of securitization, a summary of the underlying collateral, and differences in the securitization “chain” linking originators to investors.

Further, the study examines issuance activity both before and after the crisis. RMBS and CMBS issuance has dropped dramatically since the onset of the financial crisis. In contrast, issuance of most types of consumer and business finance securitizations has rebounded somewhat. However, issuance has recently shifted from the public market to the Rule 144A/private placement market.

The study defines and examines by asset class a number of mechanisms that may improve the alignment of incentives, mitigate credit risk, or both. These mechanisms include retention of securities or underlying loans, overcollateralization, subordination, third-party credit enhancement, representations and warranties, and conditional cash flows. All of these mechanisms involve the securitizer, the originator, or some other party to the securitization process retaining an economic exposure to a securitization. Rulemakers should consider whether these mechanisms are acceptable forms of credit risk retention.

Performance during the crisis varied among asset classes, providing useful evidence on the relative impact of risk retention practices and incentive alignment mechanisms that were in place before the crisis. All asset classes suffered mark-to-market losses during the crisis as investors, and thus liquidity, fled asset-backed securities (ABS). Widespread defaults, in which contractual payments were not made to bondholders, were largely concentrated in ABS backed by real estate. These losses appear to be driven primarily by the large drop in nominal house prices and its effect on loans made to borrowers with weak credit histories, unverified income, or with nontraditional amortization structures.<sup>4</sup> In other cases, such as ABS backed by government student loans, losses were driven by certain problems with the prevalent structures—namely, their reliance on short-term funding markets that were disrupted during the crisis.

The study also addresses the interaction of credit risk retention and accounting standards, including FAS 166 and 167. Depending on the type and amount of risk retention required, a securitizer could become exposed to potentially significant losses of the issuance entity, which could require accounting consolidation when considered with the securitizer’s decision making power over the issuance entity. Given the earnings and regulatory capital consequences of maintaining assets on-balance sheet, companies may be encouraged to structure securitization to again achieve off-balance-sheet treatment. For example, institutions may cede the power over ABS issuance entities by selling servicing rights or distancing themselves from their customers primarily to avoid

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<sup>4</sup> See Kristopher Gerardi, Andreas Lehnert, Shane M. Sherlund, and Paul Willen (2009), “Making Sense of the Subprime Crisis,” in Douglas W. Elmendorf, N. Gregory Mankiw, and Lawrence H. Summers, eds., *Brookings Papers on Economic Activity: Fall 2008* (Washington: Brookings Institution Press), pp. 69–159.

consolidating the assets and liabilities of the issuance entities. Alternatively, the potential interaction of accounting treatment, regulatory capital requirements and new credit risk retention standards may make securitization a less attractive form of financing and may result in lower credit availability.

The extent to which risk retention rules might affect the volume of federally subsidized lending (for example, mortgage, student, and small business loans) varies by type of loan. Because no close private-market substitutes exist at this time for government-guaranteed mortgages or student loans, credit risk retention requirements are unlikely to materially increase the share of government subsidized loans. In contrast, many types of loans to small businesses are routinely securitized in the private market, so the Small Business Administration's (SBA) share of lending is likely to increase if risk retention significantly increases the cost of securitization.

Overall, the study documents considerable heterogeneity across asset classes in securitization chains, deal structure, and incentive alignment mechanisms in place before or after the financial crisis. Thus, this study concludes that simple credit risk retention rules, applied uniformly across assets of all types, are unlikely to achieve the stated objective of the Act—namely, to improve the asset-backed securitization process and protect investors from losses associated with poorly underwritten loans.

Thus, consistent with the flexibility provided in the statute, the Board recommends that rulemakers consider crafting credit risk retention requirements that are tailored to each major class of securitized assets. Such an approach could recognize differences in market practices and conventions, which in many instances exist for sound reasons related to the inherent nature of the type of asset being securitized. Asset class-specific requirements could also more directly address differences in the fundamental incentive problems characteristic of securitizations of each asset type, some of which became evident only during the crisis.

Moreover, the Board recommends that that the following considerations should be taken into account by the agencies responsible for implementing the credit risk retention requirements of the Act in order to help ensure that the regulations promote the purposes of the Act without unnecessarily reducing the supply of credit. Specifically, the rulemaking agencies should:

1. Consider the specific incentive alignment problems to be addressed by each credit risk retention requirement established under the jointly prescribed rules.
2. Consider the economics of asset classes and securitization structure in designing credit risk retention requirements.
3. Consider the potential effect of credit risk retention requirements on the capacity of smaller market participants to comply and remain active in the securitization market.

4. Consider the potential for other incentive alignment mechanisms to function as either an alternative or a complement to mandated credit risk retention.
5. Consider the interaction of credit risk retention with both accounting treatment and regulatory capital requirements.
6. Consider credit risk retention requirements in the context of all the rulemakings required under the Dodd–Frank Act, some of which might magnify the effect of, or influence, the optimal form of credit risk retention requirements.
7. Consider that investors may appropriately demand that originators and securitizers hold alternate forms of risk retention beyond that required by the credit risk retention regulations.
8. Consider that capital markets are, and should remain, dynamic, and thus periodic adjustments to any credit risk retention requirement may be necessary to ensure that the requirements remain effective over the longer term, and do not provide undue incentives to move intermediation into other venues where such requirements are less stringent or may not apply.

## Introduction

Section 941(b) of the Dodd–Frank Wall Street Reform and Consumer Protection Act (the Act, or Dodd–Frank Act) imposes certain credit risk retention obligations on securitizers or originators of assets securitized through the issuance of asset-backed securities (ABS).<sup>5</sup> Section 941 of the Act also requires a number of federal agencies, including the Board of Governors of the Federal Reserve System (the Board), to jointly prescribe regulations implementing the credit risk retention requirements of section 941 of the Act. The implementing regulations must be jointly prescribed by the federal agencies within 270 days of the date of enactment of the Act (which was July 21, 2010). The Act requires that the regulations “establish asset classes with separate rules for securitizers of different classes of assets, including residential mortgages, commercial mortgages, commercial loans, auto loans, and any other asset classes that the Federal banking agencies and the [Securities and Exchange] Commission deem appropriate.”<sup>6</sup>

Section 941(c) of the Act requires that the Board conduct a study and issue a report not later than 90 days after the date of enactment on the effect of the new risk retention requirements to be developed and implemented by the agencies, and of Financial Accounting Standards (FAS) 166 and 167. Specifically, section 941(c) provides as follows:

(c) STUDY ON RISK RETENTION.—

(1) STUDY.—The Board of Governors of the Federal Reserve System, in coordination and consultation with the Comptroller of the Currency, the Director of the Office of Thrift Supervision, the Chairperson of the Federal Deposit Insurance Corporation, and the Securities and Exchange Commission shall conduct a study of the combined impact on each individual class of asset-backed security established under section 15G(c)(2) of the Securities Exchange Act of 1934, as added by subsection (b), of—

(A) the new credit risk retention requirements contained in the amendment made by subsection (b), including the effect credit risk retention requirements have on increasing the market for Federally subsidized loans; and

(B) the Financial Accounting Statements 166 and 167 issued by the Financial Accounting Standards Board.

(2) REPORT.—Not later than 90 days after the date of enactment of this Act, the Board of Governors of the Federal Reserve System shall submit to Congress a report on the study conducted under paragraph (1). Such report shall include statutory and regulatory recommendations for eliminating any negative impacts on the continued viability of the

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<sup>5</sup> See Pub. L. No. 111-203, 124 Stat. 1376 in note 2.

<sup>6</sup> See section 15G(c)(2)(A) of the Securities Exchange Act of 1934 (48 Stat. 881), as added by the Dodd–Frank Act.

asset-backed securitization markets and on the availability of credit for new lending identified by the study conducted under paragraph (1).<sup>7</sup>

Section 941 is intended to help align the interests of key participants in the securitization process, notably securitizers and originators of the assets underlying an ABS transaction, with the interests of investors. The Act requires, as a general matter, that the securitizer or originator retain some of the credit risk of the assets being securitized. By retaining a portion of the credit risk, the securitizer and/or originator will have an incentive to exercise due care in making underwriting decisions, or in selecting assets for securitization purchased from the entities making such decisions. In circumstances where the underlying assets are otherwise underwritten in accordance with sound underwriting standards, the statute expressly provides or allows for exceptions from the risk retention requirement, recognizing that in these circumstances additional incentives to promote the quality of the assets being securitized may not be needed.

The federal agencies have an additional 180 days from the date of this report to adopt rules to implement the risk retention requirements of section 941. The agencies are continuing to develop these regulations, and thus the effects of a final set of risk retention requirements cannot be analyzed at this time. This report provides information and analysis on risk retention and incentive alignment practices for individual classes of asset-backed securities.

## **DEFINITIONS OF ASSET CATEGORIES**

This report focuses on securities backed by eight loan categories and on asset-backed commercial paper (ABCP). ABCP can be backed by a variety of collateral types but represents a sufficiently distinct structure that it warrants separate consideration. These categories account for the bulk of the ABS market, excluding mortgage-backed securities guaranteed by the housing-related government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac. In terms of overall new debt issuance, mortgage-related and other asset-backed securities represent a significant proportion (16 percent) during the period between 2002 and 2010.<sup>8</sup>

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<sup>7</sup> See the appendix for the full text of section 941 of the Act.

<sup>8</sup> This number is calculated as the percent of ABS issuance (excluding agency mortgage-backed securities (MBS)) as a proportion of the total U.S. bond market issuance from 2002 through the third quarter of 2010. Bond market issuance data is from Securities Industry and Financial Markets Association (SIFMA) U.S. Bond Market Issuance. Asset-backed securities (ABS) issuance is the sum of ABS in the Bond Market Issuance Data plus non-agency MBS from the SIFMA U.S. Mortgage-Related Issuance. For more information, see the SIFMA Research and Statistics website at [www.sifma.org/research/research.aspx?ID=10806](http://www.sifma.org/research/research.aspx?ID=10806).

The classes of collateral considered in the report are as follows:

1. Nonconforming residential mortgages (RMBS)<sup>9</sup>
2. Commercial mortgages (CMBS)
3. Credit cards
4. Auto loans and leases
5. Student loans (both federally guaranteed and privately issued)
6. Commercial and industrial bank loans (collateralized loan obligations, or CLOs)
7. Equipment loans and leases
8. Dealer floorplan loans
9. ABCP

Asset classes are further grouped into three broad sectors: real estate (RMBS and CMBS), consumer finance (credit cards, auto loans and leases, and student loans), and business finance (CLOs, equipment loans and leases, and dealer floorplan loans). ABCP is considered separately.

The study does not explicitly address resecuritizations, such as collateralized debt obligations (CDOs) backed by ABS or re-REMICs (resecuritizations of real estate mortgage investment conduits). Given that the credit risk retention provisions of the Act are intended to influence the quality of assets being securitized, it is appropriate for the study to focus on primary securitizations though further analysis of re-securitizations in the context of final rulemaking would be worthwhile.

Because section 941 of the Act exempts RMBS that are backed by mortgages that are insured or guaranteed by a federal agency from the credit risk retention requirements, securitizations backed by the Department of Veterans Affairs (VA), the Federal Housing Administration (FHA), and other agency-guaranteed or agency-insured loans are not in the asset classes defined above. While the statute does not provide a similar exemption for RMBS guaranteed by the housing-related GSEs (Fannie Mae, Freddie Mac, and the Federal Home Loan Banks), these securitizations also are not included within the nonconforming RMBS category as defined for purposes of this report. These entities retained all of the credit risk for the mortgages they securitized; hence, their experience and practices likely offer limited insight regarding the effect of credit risk retention by securitizers when significant credit risk is transferred to ABS investors.

Many other financial assets have been routinely securitized, including utility fees, tax liens, insurance premium finance loans, and aircraft and railcar loans and leases.

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<sup>9</sup> Technically, the collateral category of nonconforming residential mortgages consists of loans securitized by entities other than the housing-related government-sponsored enterprises Fannie Mae and Freddie Mac. Thus, it is possible that some of the loans in this category may, in fact, be conforming but may represent only a small fraction of the pool of underlying loans.

Some of these smaller-volume types of securitizations share many features with the nine broad categories enumerated earlier; for example, securities backed by insurance premium finance loans are structured much like securities backed by credit card loans.<sup>10</sup> Nevertheless, some asset categories may provide important sources of funding to particular markets but may not easily be inserted into the framework considered here because of idiosyncratic features. In addition, new loan types may materialize over time and securitization markets will develop around them.

## **OVERVIEW OF SECURITIZATION**

This section describes the basic mechanics and economics of securitization, defines terms that will be used throughout the report, and briefly highlights the potential for misaligned incentives and information asymmetry in the securitization process.

The term “securitization” generally refers to two separate, though related, activities. First, a financial institution is said to have securitized a pool of financial assets (for example, loans) when it creates securities backed by the cash flows from those assets and sells some or all of these securities to investors. The financial institution may or may not retain responsibility for “servicing”—providing on an ongoing basis some or all of the services necessary to collect payments from borrowers, monitor performance of the loans and distribute the cash flows generated to investors. Second, securitization may also refer, more narrowly, to the process of creating multiple securities with different payment priorities from a pool of underlying loans. For example, a pool of loans may be transformed into a senior tranche that is first in line to receive cash flows and a junior tranche that is last in line to receive cash flows.<sup>11</sup>

Securitization provides economic benefits that may lower the cost of credit to households and businesses. These benefits come from a reduction in the cost of funding, which is accomplished through several different mechanisms. First, firms that specialize in originating new loans and that have more difficulty funding existing loans may use securitization to access more-liquid capital markets for funding. Second, securitization can also create opportunities for more efficient management of the asset–liability duration mismatch generally associated with the funding of long-term loans, for example, with short-term bank deposits. Third, securitization allows the structuring of securities with differing maturity and credit risk profiles from a single pool of assets that appeal to a broad range of investors. Fourth, securitization that involves the transfer of credit risk allows financial institutions that primarily originate loans to particular classes of

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<sup>10</sup> Insurance premium finance loans are extended to small businesses to enable them to pay their property and casualty insurance premiums over time instead of in an upfront payment.

<sup>11</sup> Throughout this discussion, the underlying asset that is being securitized is referred to as a “loan,” although financial assets other than loans, such as leases, tax liens, and mortgage servicing advances, are also routinely securitized.

borrowers, or in particular geographic areas, to limit concentrated exposure to these idiosyncratic risks on their balance sheets.

These benefits are not without cost, however. In particular, during the financial crisis securitization also displayed significant vulnerabilities to informational and incentive problems among various parties involved in the process. The ramifications of these problems have had and continue to have profound effects on many American households.

### **Mechanics of Asset Sales**

Section 941 of the Act defines a “securitizer” to mean “(a) an issuer of an asset-backed security or (b) a person who organizes and initiates an asset-backed securities transaction by selling or transferring assets, either directly or indirectly, including through an affiliate, to the issuer.” The bill defines an “originator” to mean a person who “(a) through extension of credit or otherwise, creates a financial asset that collateralizes an asset-backed security and (b) sells an asset directly or indirectly to a securitizer.”

Throughout, this report uses these definitions of originator and securitizer. However, many others participate in the securitization process, and originators and securitizers can play additional roles in the securitization process. Later, participants are further delineated into aggregators, servicers and underwriters.

An originator makes the initial decision about whether, and on what terms, to extend credit to a household or business and provides initial short-term funding. Originators include banks, thrifts, subsidiaries of bank or thrift holding companies, independent finance companies, and finance companies affiliated with vehicle, equipment, or other types of manufacturers.

The originator may securitize the loans directly or sell them to an aggregator that may buy loans from many different originators. Aggregators are intermediaries between originators and securitizers, and loans may pass through several such parties’ hands before being securitized. Certain periods have seen active wholesale markets for pools of loans suitable for securitization.

The securitizer oversees the creation and sale of the securities backed by loans purchased from originators and aggregators. This process has several components, which may sometimes be divided among separate firms, although this report will generally treat them as if carried out by a single entity.

The securitizer performs the legal and economic requirements for a securitization, including: reviewing loan documents and origination standards, handling any required registration of offer and the sale ABS with the Securities and Exchange Commission (SEC) if a public offering is contemplated, and selling the ABS to investors. The

securitizer engages one or more credit rating agencies to analyze the transaction and assign ratings to securities that reflect the securities' likelihood of default and expected loss given default. Finally, the securitizer hires an investment bank as an underwriter to market the deal, to assist in preparation of the offering documents, to conduct due diligence, and to find investors to purchase the securities. For many ABS transactions, the underwriter and the securitizer are affiliated.

At many stages of the securitization process, originators and securitizers may use interim funding, including ABCP conduits and warehouse lines of credit. Warehouse lines of credit are short-term loans, usually collateralized by the assets being securitized. In some cases, the transaction may be structured in a manner similar to a repurchase agreement, a transaction that involves a sale and subsequent repurchase but has the economics of collateralized borrowing. Often the warehouse lender is also an affiliate of the underwriter in the securitization.

A critical part of the securitization process is structuring the transaction so that the bankruptcy, receivership, or insolvency of parties to the transaction, including the originator, any aggregators and the securitizer, will not affect the ability of the holders of the securities to be paid according to the terms of the securitization. Generally, the structuring involves the sale of the assets to a bankruptcy-remote entity that in turn transfers the assets to either a one-time special purpose vehicle (SPV) created specifically for an individual securitization, or to a master trust that issues new liabilities on an ongoing basis. This latter arrangement is more common for short-maturity, revolving loans such as credit cards or floorplan loans. The key aim of establishing such separation is that the assets transferred into the securitization cannot be seized by creditors upon the bankruptcy or failure of the transferors of such assets. Thus, investors may demand a lower risk premium to purchase the ABS relative to the corporate debt of the parties involved in the transaction, including the originator and securitizer.

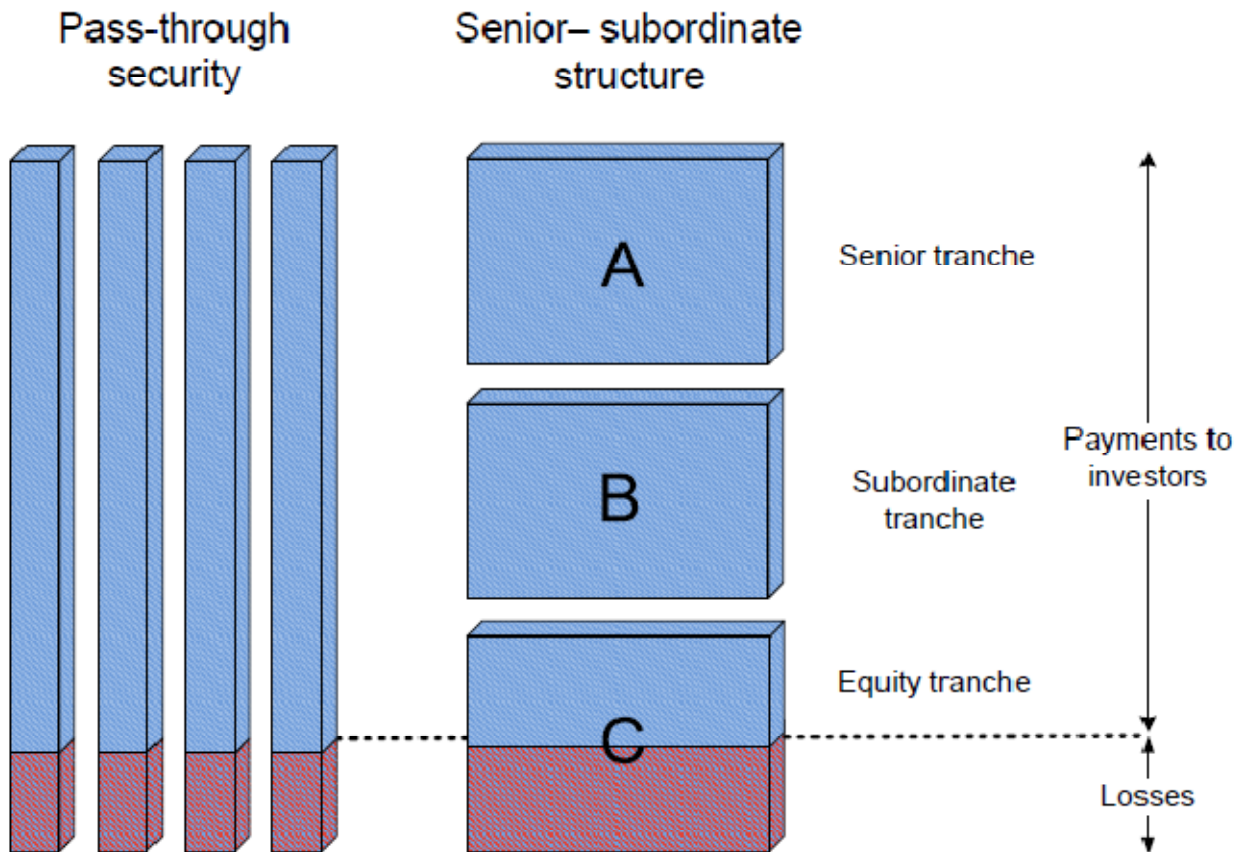
## **Structure of Securities**

The simplest security that a financial institution can create from a pool of loans is a so-called pass-through security. Cash flows from the assets in the pool are distributed on a pro-rata basis to the holders of the securities, much as mutual fund investors receive a share in the gains and losses on a pool of assets. The bulk of these gains and losses are the principal and interest payments made by the underlying borrowers on their loans. If an underlying loan defaults, all investors in a pass-through structure share in the loss equally. Similarly, if a loan prepays, all investors share in the retired principal equally.

This structure is illustrated schematically in the left panel of figure 1. As an example, assume the pool consists of 400 loans. The four bars represent four equal shares in a pass-through security that has been created from the 400 loans. Each pass-through security represents an equal share in the cash flows of the underlying loans. As a result, if the total outstanding principal of the 400 loans is \$400, the outstanding principal

balance of each pass-through security is \$100. As principal and interest payments are received on the 400 loans, one-fourth of these payments are directed to each pass-through security. Loan defaults are also shared proportionally among the securities. In the example, assume 67 of the 400 loans have defaulted. As a result, each pass-through security suffers a reduction in principal of \$16.75, which is depicted in red at the bottom of each bar representing a pass-through security in figure 1. In addition to the reduction in principal, each pass-through security loses the interest payments that would otherwise have been made over the life of the loan.

**Figure 1**  
**Example of a Securitization Structure**



While the pass-through structure just described is rather straightforward, it is neither the only nor the most common way that underlying cash flows are distributed to investors in a securitization. Many securitization structures distribute cash flows to investors through a process commonly referred to as tranching. In a tranching

securitization, the underlying cash flows are allocated to different securities, or tranches, according to a pre-specified prioritization rule, or “waterfall.”

A simple “senior subordinate” securitization made up of three distinct classes, or “tranches,” is depicted in the right panel of figure 1. In this example, each tranche represents a distinct security with an initial principal balance of \$133.33. The three securities, labeled A, B, and C, are referred to as the senior security (A), the subordinate security (B), and the equity security (C). In the senior-subordinate securitization, cash flows from the underlying loans are received by the holders of the senior security until the entire principal balance of the senior security is repaid. After all principal has been repaid to the senior security, loan cash flows are received by the holders of the subordinate security until the entire principal balance of the subordinate security is fully repaid. Once the entire principal balance of the subordinate security has been repaid, all remaining cash flows are received by the holders of the equity security.

Since cash flows are distributed to some securities before others, default losses on the underlying loans are not shared proportionally among the three securities. All losses are initially absorbed by the equity security. Only if losses exceed the principal balance of this equity security, \$133.33 in this example, will the subordinate security absorb any losses. Finally, only if losses are larger than the combined principal balance of the equity and subordinate tranches, \$266.67 in this example, will the senior security absorb any losses. In figure 1, the loan defaults of \$66.67, depicted in red, are large enough to cause losses to the equity security but not large enough to cause losses to either the subordinate or senior security.

The precise size and number of tranches is a key design feature of any securitization. As an example, the securitization could be designed so that the equity security is large enough to absorb losses associated with a normal recession, and the equity and subordinate securities combined are large enough to absorb losses associated with a severe recession. The subordinate tranche could thus be marketed as robust to a normal recession and the senior tranche could be marketed as robust to a severe recession.<sup>12</sup>

Theoretically, if all investors are equally well informed about the outlook for loan losses in recessions and have a common appetite for risk, the pass-through and the senior-subordinate securities would, in the aggregate, trade at the same price in the market. In the earlier pass-through example, the sum of the prices of the pass-through securities would be equal to the sum of the prices of the securities in the senior-subordinate structure, reflecting the fact that both sets of securities are backed by the same underlying assets, which will generate the same cash flows. However, in practice, the sum of the

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<sup>12</sup> Of course, the design of the securities so that cash flows would be expected to continue unimpeded through a period of financial distress in no way precludes the mark-to-market value of the security declining in such an environment, perhaps because of liquidity disruptions. Many ABS that did not default, in the sense that they paid holders the contractual cash flows, nonetheless declined sharply in value for at least some periods during the recent crisis.

prices of the senior-subordinate securities is likely to differ from the sum of the prices of the pass-through securities because investors differ in their risk appetites and expertise with respect to various loan markets. The pass-through security shown here is, of course, highly stylized and omits many important institutional details.

Creating different securities, via a senior-subordinate structure, that appeal to different types of investors can increase the proceeds from underwriting securities backed by a particular pool of assets or, equivalently, reduce the cost of funding the structure. Thus a pool of loans may, in total, be worth more when securitized using a senior-subordinate structure than when using a pass-through structure. Investors specializing in understanding the risk of the underlying loans may find the risk–return profile of the bottommost tranche of certain senior-subordinate securities attractive, because of the assets in the pool, the structure of the securities, or some combination of factors. In addition, some investors might want to acquire assets that pay a high rate of return in periods of economic growth as part of a broader investment strategy. Such investors would be interested in the lower two tranches of the security. Finally, some types of investors would be interested in the relatively safe top tranche, either because of restrictions on the types of securities that they can purchase or because of a low appetite for risk. The return on this senior tranche might be expected to be relatively insensitive to changes in the aggregate state of the economy, barring a historically severe recession.

The information necessary to design senior-subordinate structures far exceeds the requirements for simpler pass-through structures. To generate the desired performance, the amount of subordination protecting the top tranche has to be estimated based on data that, until recently, did not contain information on the performance of many types of loans during a severe recession. If these subordination levels prove inadequate to protect the senior tranches of securities in one asset class, investors might doubt the protection levels in other asset classes, eroding the funding advantage that typically results when loans are securitized. Indeed, the senior-subordinate structure adds economic value relative to simpler structures only to the extent that investors trust that the different subordination levels result in meaningful risk and return opportunities to accommodate a range of risk appetites. The subordination levels are generally set by the securitizer in order to obtain a desired rating from a credit rating agency. The potential incentive problems inherent in this arrangement are beyond the scope of this study and are addressed elsewhere in the Act.<sup>13</sup>

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<sup>13</sup> The Dodd–Frank Act includes a number of provisions relating to credit rating agencies and credit ratings and to the roles they play in the financial sector. Subtitle C of title IX of the Dodd–Frank Act provides for enhanced oversight of the credit rating agencies, as well as increasing the transparency of the ratings process. In addition, the Dodd–Frank Act requires credit ratings to be removed from regulatory and statutory standards. Section 939 of the Act removes references to credit ratings from various federal statutes. The Act also requires each federal agency, after a review of all of its regulations, to remove from each of its regulations any reference to, or requirement of reliance on, credit ratings and substitute a standard of creditworthiness the agency determines is appropriate for the regulation. Title IX of Dodd–

Loans with relatively short maturities or open-ended loans, such as credit cards, are usually securitized using a master trust structure. While similar in principle to the senior-subordinate structure shown in figure 1, master trusts are backed by a constantly changing pool of loans and periodically issue (and retire) senior tranches. The juniormost tranche of such securities, as well as a vertical slice of the portfolio in the master trust, is usually retained by the securitizer, in part to reassure investors about the continuing quality of assets placed in the pool.

## **INCENTIVE AND INFORMATION ISSUES IN SECURITIZATION**

Many parties in the securitization chain have access to information not easily made available to investors in the final securities. For example, originators may have nonpublic, hard-to-acquire or “soft” information about borrowers based on other transactions with them. In addition, participants in the securitization chain may be able to affect the value of the securities in opaque ways, both before and after the sale of the security. For example, securitizers may be able to buy just enough delinquent loans out of a trust so that the deal passes performance triggers, releasing cash reserves to the securitizer.

Over time, if an originator sells relatively bad loans to securitizers, or a securitizer markets poorly structured securities or securities backed by relatively bad loans to investors, its reputation will suffer and securities with which the entity is associated will fetch lower prices. In the short run, however, investors, credit rating agencies, and other market participants might find it hard to detect bad loans or bad behavior because differences in loan quality across securities may become apparent only in downturns and may require several years of data to detect. As a result, this reputation effect may not be sufficient to overcome the “adverse selection” problems associated with securitization. Such problems are characteristic of situations in which one party has better or more complete information than do other parties. One possible solution, of course, is increased or enhanced mandated disclosure of information. In the wake of the financial crisis and the poor performance of many ABS, significant initiatives are under way in this area.<sup>14</sup>

Another source of potential conflict occurs when the originator of the loan continues to service it even after selling it. A loan’s servicer negotiates with the underlying borrower in the event of distress and decides, subject to standards set forth in the relevant pooling and servicing agreements, whether to offer the borrower a reduced payment or to pursue the borrower for full repayment. These different strategies benefit

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Frank additionally requires the Securities and Exchange Commission to carry out a study on an alternative system for rating structured finance products (see section 939F).

<sup>14</sup> See, for example, Securities and Exchange Commission (2010), “SEC Proposes Rules to Increase Investor Protections in Asset-Backed Securities,” press release, April 7, [www.sec.gov/news/press/2010/2010-54.htm](http://www.sec.gov/news/press/2010/2010-54.htm), which provides information on the Securities and Exchange Commission’s proposed rules on disclosure to ABS investors, as well as section 942 of the Act.

different securities holders: Senior tranches usually benefit from aggressive liquidation because principal is returned as quickly as possible, while junior tranches usually benefit from extensions which defer principal losses and extend the period during which payments are received before the principal is written down. If the originator holds a particular tranche and continues to service the underlying loans, it may have an incentive to adopt a particular servicing strategy that benefits the tranche it holds. Of course, by holding the junior most tranche, the originator's incentive to put bad loans into the security is reduced relative to the incentive if the originator holds an interest in a more senior part of the capital structure. This tension is illustrative of the difficulties in simultaneously solving the multiple incentive problems that arise in securitizations: retention of the lower tranche, which provides an incentive for the securitization of higher-quality assets, can also create incentives for the servicer to favor the interests of the holders of the lower tranche over more senior investors.

The fact that incentive problems and informational asymmetries can occur at multiple points in the securitization process does not necessarily mean that protecting investors requires an explicit incentive alignment mechanism for each participant in the chain. As long as at least one party to the chain has sufficient information to detect improper behavior by the other parties in the chain, an incentive alignment mechanism aimed at the informed party should, in turn, induce the informed party to enforce proper behavior by the other members of the chain.

The nature of the significant incentive problems, and the kind of information asymmetry, differs materially across asset classes. In closed-end securitizations, with a static pool of assets, loan quality and servicing may be the most important hidden factors driving the performance of securities. However, in actively managed structures (such as CLOs), where the portfolio composition is subject to ongoing adjustment, the investor faces the problem of properly managing the incentives of the managers delegated to assemble the asset pool.

In response to these varied incentive and information problems, investors have demanded a variety of protective mechanisms that are discussed later in the report in "Mechanisms to Align Incentives and Mitigate Risk." Some of these mechanisms clearly did not perform as investors expected during the strain of the financial crisis.

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## General Description of Asset Classes

This section provides an overview of the nine categories covered by this report. The section describes the types of assets securitized, any significant subcategories within the asset class, the composition of the securitization chain, and the structure of the resulting securities. Many asset classes contain significant variation even within the asset class; accordingly, this report focuses on the most common structures.

### NONCONFORMING RESIDENTIAL MORTGAGES

Mortgages are originated to consumers to purchase a house or property or to refinance an existing mortgage. Nonconforming residential mortgages are loans that do not meet the underwriting criteria for securitization by housing-related GSEs. Nonconforming residential mortgages may be held in portfolio or securitized by private institutions.

Nonconforming loans typically fall into one of three major categories. The first is prime loans that exceed the conforming loan limit, known as “jumbo” loans. The second is near-prime loans that feature reduced documentation, non-traditional amortization schedules, or other risk factors. These loans were typically sold into securities marketed as “alt-A.” The distinction between jumbo and alt-A deals reportedly became blurred late in the credit boom. The third is loans made to borrowers with weak credit histories, known as subprime loans.

Other types of loans securitized by non-agency institutions include second liens (often referred to as home equity loans, or HELs), and nonperforming or underperforming mortgages (referred to as scratch-and-dent loans) that are purchased at large discounts. These loans are not considered nonconforming residential mortgages for the purpose of this report.<sup>15</sup>

Financial institutions often originated a junior lien, such as a home equity line of credit (HELOC), at the same time that they originated the first mortgage. Relatively few of these junior liens were securitized; instead, institutions typically held them in portfolio.

Residential mortgages are originated by a wide variety of market participants including banks, nonbank financial institutions, thrifts, finance companies, investment banks and corporate issuers. Nonconforming mortgages, prior to the crisis, were then

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<sup>15</sup> For purposes of this study, the term *nonconforming residential mortgage* excludes residential mortgages that are insured or guaranteed by an agency of the U.S. government. Securitizations of these mortgages are not covered by the risk retention requirement in section 941 of the Act. These loans, however, are further discussed in the section “Increasing the Market for Federally Subsidized Loans” of this report.

sold to intermediaries or directly to the securitizer. The typical securitizer was a large bank or investment bank. The resulting securities were purchased by a wide variety of investors, with different types of investors targeting securities with different ratings.

The average size of the typical nonprime securitization (subprime and alt-A securities) was approximately \$750 million and included almost 4,000 loans each, although there was wide variation across security type and over time. The average subordination below the triple-A level in these nonprime securitizations ranged from 5 to 20 percent, with lower subordination for ostensibly less risky alt-A deals and higher subordination for subprime deals. In addition, more than 10 percent of nonprime deals had some form of insurance provided by a third party, typically a bond insurer.<sup>16</sup>

## **COMMERCIAL MORTGAGES**

Commercial mortgages finance commercial properties such as office buildings, hotels, apartment buildings, and retail complexes. The loans included in CMBS tend to be backed by larger commercial properties with well-established rental streams and owners who desire long-term financing. The mortgages are typically 10-year, fixed-rate loans with a 30-year amortization schedule and a large balloon payment at maturity, although these mortgages may also have shorter maturities or may be partially or fully interest-only.

Originators of commercial mortgages include insurance companies, commercial banks, investment banks, and conduit lenders. Loans may be pooled in warehouse facilities maintained by large investment banks prior to securitization. Originators, aggregators, securitizers, and underwriters are typically affiliated with one another and may provide services outside the securitization to other participants involved in the securitization process. For example, the investment bank issuing the security may provide short-term financing to conduit lenders to facilitate the origination and warehousing of loans.

CMBS are broadly divided into three categories: conduit, large-loan deals, and fusion.<sup>17</sup> Conduit transactions are composed of a large number, perhaps 150 to 300, of individual fixed-rate commercial loans. Large-loan CMBS are backed by only a few, perhaps 5 to 20, large floating-rate commercial mortgages. Fusion transactions are a hybrid of conduit transactions and large-loan securitizations in which the top 10 mortgage loans usually represent more than 50 percent of the total size of the deal.

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<sup>16</sup> These statistics were taken from Adam Ashcraft, Paul Goldsmith-Pinkham, and James Vickery (2010), "MBS Ratings and the Mortgage Credit Boom," Federal Reserve Bank of New York Staff Reports 449 (New York: Federal Reserve Bank of New York, May).

<sup>17</sup> Securitizations by the GSEs of mortgages collateralized by multifamily housing are excluded from this discussion.

## **CREDIT CARDS**

Consumers and small businesses use credit cards to finance purchases of a wide variety of services or merchandise. Credit cards can be classified into three types: general-purpose credit cards, which can be used for purchases of any type and whose balance may be carried over into the next month; general-purpose charge cards, whose balance must be paid in full each month; and retail credit cards, which can be used for purchases only at a specific retailer. Cards are issued almost exclusively by insured depository institutions, including commercial banks, limited-purpose credit card banks, thrifts, or credit unions. Certain types of these depository institutions may be subsidiaries or affiliates of finance companies or retailers. In a typical credit card securitization, the originator, securitizer, and servicer are affiliated with the same parent entity.

Most credit card ABS use a revolving master trust as the primary securitization structure. Under this structure, one common pool of assets collateralizes all of the outstanding securities. The originator designates credit card accounts that meet certain eligibility criteria as eligible accounts and the outstanding balances on such accounts are sold to the trust, as well as new receivables (the interest payments, principal payments, and fees associated with such account) generated from such accounts. Additional accounts may be allocated to a particular securitization over time. Such new accounts must conform to strict parameters set forth in the securitization documents that are designed to maintain the credit rating of the securities.

The master trust receivables are split between the “investor’s interest” and the “seller’s interest.” The receivables in the investor’s interest collateralize the outstanding notes. The seller’s interest component absorbs fluctuations in the monthly outstanding loan balances. The seller’s interest is a vertical slice of all the receivables in the master trust and receives principal and interest payments in proportion to the share it represents of the master trust. Rating agencies typically require that the seller’s interest component be around 4 to 12 percent of the receivables for the ABS to receive an AAA rating.

The credit card ABS issued by the master trust generally have maturities ranging from 1 to 10 years. Initially, investors in these securities receive only interest payments, and the securitizer uses the principal payments to purchase new receivables from the accounts designated to the master trust. Toward the end of the security’s life, the principal payments accumulate in an account and are released to the investor in one “bullet” payment at the end.

## **AUTO LOANS AND LEASES**

For the purposes of this report, auto loans are loans that are extended to consumers to purchase automobiles, motorcycles, and light trucks. Auto loan ABS are subcategorized

into prime, nonprime, and subprime, corresponding to the credit quality of the underlying borrower. The loans are typically fixed rate with maturities up to 84 months.

Auto loans are originated by commercial banks, thrifts, credit unions, “captive” finance company subsidiaries of vehicle manufacturers, and independent finance companies. Finance companies are typically heavily dependent on securitization for funding. Although some banks and thrifts issue auto securitizations, depository institutions tend to hold a large share of their auto loans in portfolio.

Auto leases are an alternative mechanism to allow consumers to finance the acquisition of a vehicle for a fixed period of time, usually 48 months or less. At the end of the lease term, the consumer can either purchase or return the vehicle. The auto lease market is heavily dominated by the captive finance companies.

In both auto loan and auto lease ABS, the participants in the securitization chain—the originator, securitizer, and servicer—are usually affiliated with the same parent entity. On occasion, securitizers have purchased whole loans from unrelated originators, structured them, and sold them, although this practice has become less common in the wake of the financial crisis.

The most common securitization structure for auto loan and lease ABS is to have senior and subordinate tranches that pay sequentially. There are usually four triple-A tranches with different maturities, with the shortest tranche having an average life of around three months and the remaining tranches having average lives ranging from one to three years. Among the triple-A tranches, cash flows are directed first exclusively to the tranche with the shortest average life, then to other tranches in order of maturity. This practice is known as “time tranching.”

## **STUDENT LOANS**

Student loans come in two types—those guaranteed or originated by the federal government, and those without a government guarantee (so-called private loans). The terms and underwriting of government-guaranteed or government-originated loans are set by the federal government. Private loans are typically taken out by students whose educational expenses exceed the government-guaranteed loan limits.

### **Government-Guaranteed Loans**

Historically, government-guaranteed loans were financed in one of two ways. Under the Federal Family Education Loan Program (FFELP), established in 1965, financial institutions originated the loans and the government guaranteed 97 to 100 percent of the principal and accrued interest in the event that the student defaulted on the loan and the

loan was serviced in accordance with Department of Education guidelines.<sup>18</sup> In 1994, the federal government began originating student loans directly through the William D. Ford Federal Direct Loan Program (FDLP). Each participating college or university could choose whether loans to its students were funded through the FFELP or the FDLP, but the underlying loans offered to students were essentially the same under both programs. On July 1, 2010, the FFELP was eliminated, and all government-guaranteed loans are now originated directly by the federal government.

Although the loans underlying FFELP securitizations are homogeneous, government-guaranteed, and underwritten to government-specified parameters, the securitizations of these loans have historically been surprisingly complex. The ABS can be issued out of discrete trusts or master trusts. Under a discrete trust structure, each security is collateralized by its own pool of assets. Both discrete and master trusts have issued floating-rate notes, auction-rate notes, rate-reset notes, and a variety of other types of securities. The complexity of the structures is due, in part, to uncertainty of the timing of cash flows of the loans, as students can defer payments on their loans while they are in school.

Before the financial crisis, FFELP loans were originated by a variety of commercial banks, thrifts, credit unions, independent finance companies, and nonprofit organizations. Although some of these institutions held the loans on portfolio or securitized the loans themselves, a large majority of the loans were sold to a handful of large banks, finance companies, state agencies, and nonprofit organizations that in turn securitized the loans.

## **Private Student Loans**

Private student loans are a more recent product than FFELP loans. Private student loans are originated and securitized by a much smaller group of financial institutions than FFELP loans, and the secondary market for whole loan sales of private student loans is likewise much less active. For most private loan securitizations, the originator and securitizer are sponsored by the same institution, although at least one of the largest securitizers bought and securitized loans from other financial institutions and acted as an intermediary.

Private student loan securitizations, similar to FFELP securitizations, generally have a senior-subordinate structure with both time tranches and credit tranches, although the subordinate tranches are significantly larger for private student loan securitizations. These securitizations are almost exclusively issued out of a discrete trust, although some nonprofit securitizers co-mingled a small number of private loans with the FFELP loans

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<sup>18</sup> Technically, FFELP loans are guaranteed by a state-level guarantee agency and reinsured by the federal government. In this report, for simplicity, these loans are referred to as “guaranteed” by the federal government.

in their revolving master trusts. Since the financial crisis, private student loan securitizations, like FFELP securitizations, have reduced the number and the maturity of the tranches, and have achieved this reduction by dramatically increasing the overcollateralization of the securities.

## **COLLATERALIZED LOAN OBLIGATIONS**

CLOs involve the securitization of senior secured corporate loans that are typically made to non-investment-grade borrowers. CLOs can be divided into two subcategories: broadly syndicated CLOs and middle-market CLOs. Broadly syndicated CLOs are collateralized by syndicated loans to large borrowers. These loans may be purchased in the primary or secondary market. Consistent with the underlying loans being syndicated, a CLO typically owns a partial interest in a particular loan, while the remainder of the loan is held by other investors, including banks, institutional investors, and other CLOs. Middle-market CLOs are collateralized by loans to relatively smaller borrowers and tend to be securitized by the originator of the loans (for example, a finance company).

A CLO securitization typically begins with the manager engaging an investment bank to provide a warehouse facility to acquire and hold collateral until the acquisition of the portfolio of loans is complete. Collateral selection is primarily the job of the CLO manager. Most CLO managers are not affiliated with commercial or investment banks that arrange syndicate loans, but there are exceptions. For example, a CLO could be managed by the asset management affiliate of a large bank holding company.

CLOs differ from most other securitization vehicles backed by term loans in that the portfolio of loans is actively managed by the CLO manager. Even after the CLO closing, the CLO manager continues to make investment decisions over a specified reinvestment period during which proceeds from sold, maturing, or refinanced loans are reinvested. In most deals, the manager turns over a limited portion of the collateral, generally around 20 percent, each year. To protect investors' interests, the manager's ability to alter the composition of the portfolio is restricted and could be eliminated if the CLO fails to meet certain performance tests.

Prior to the crisis, a typical CLO securitized \$400 million to \$600 million of loans, utilizing multiple debt tranches ranging from AAA down to mezzanine as well as an equity tranche. Cash flows were allocated sequentially according to the waterfall specified in the CLO indenture. The typical contractual maturity of deals was 12 to 15 years, with the reinvestment period spanning the first 5 to 7 years.

Most recently, there have been few CLO securitizations and those that have been issued are smaller, ranging from \$300 million to \$400 million in loans. These deals have had a much simpler structure with fewer debt tranches and a relatively larger equity tranche, leading to lower leverage and more subordination to cushion losses for debt

holders. Legal maturities of deals are now often below 10 years and reinvestment periods have been shortened to as low as 2 years.

## **EQUIPMENT LOANS AND LEASES**

Equipment loans and leases are extended to businesses to facilitate the purchase or lease of business, industrial, and farm equipment, including “large ticket” items such as bulldozers and backhoes and “small ticket” items such as computers and copiers. The businesses that take out these loans tend to be smaller firms. The underlying loans and leases are generally fixed-rate loans with relatively short maturities, similar to auto loans.

Loans and leases for large-ticket items are usually extended by “captive” finance companies affiliated with the equipment manufacturers, whereas loans and leases for small-ticket items are extended by specialty (or “independent”) finance companies. These specialty finance companies may have relationships with multiple equipment vendors. Leases of aircraft, railcars, and container leases are also routinely securitized, but these securitizations are not usually considered “equipment” ABS.

As in auto ABS, the originator, securitizer, and servicer of an equipment loan or lease ABS are usually affiliated with the same parent entity. Likewise, the structure tends to be a discrete trust with senior and subordinate tranches that pay sequentially. There are usually a few triple-A tranches with different maturities, with the shortest tranche typically having an average life of around three months and the remaining tranches having average lives ranging from one to three years. The structure generally includes multiple subordinate tranches and the securitizer often retains the residual interest in the deal, and sometimes the subordinate tranches as well.

## **DEALER FLOORPLAN LOANS**

Dealer floorplan financing is a revolving line of credit that allows merchandise dealers to finance their inventory. The dealer repays the debt as the inventory is sold and can borrow against the line of credit to add new inventory. Auto and non-auto floorplan are considered separate ABS categories. Auto floorplan includes floorplan loans to finance car, light truck, and motorcycle inventory. Non-auto floorplan loans finance other types of dealer inventory, including agricultural, construction, manufacturing, and electronic equipment, as well as appliances.

Auto floorplan loans typically are originated by captive finance companies affiliated with large auto manufacturers, although depository institutions also originate these loans. Non-auto floorplan lines of credit are originated by captive finance companies affiliated with large equipment manufacturers as well as by independent finance companies.

As with credit card receivables, the underlying floorplan receivables have very short lives, generally about 45 to 75 days. This short life corresponds to the average length of time that a vehicle, piece of equipment, or appliance is in the dealer's inventory before it is sold. Because of this short life, floorplan ABS, like credit card ABS, are issued out of master trusts. The structure is very similar to the credit card ABS structure in that there is the "investor's interest" and the "seller's interest," as described in above of this report.

## **ASSET-BACKED COMMERCIAL PAPER**

ABCP is an important source of short-term financing for a variety of underlying loan types. ABCP is a type of liability that is typically issued by a special purpose vehicle (or conduit) sponsored by a financial institution or other securitizer. The commercial paper issued by the conduit is collateralized by the pool of assets, which may change over the lifespan of the SPV. Like other types of commercial paper, the tenor of ABCP is typically short, and the liabilities are "rolled," or refinanced, at regular intervals. Thus, ABCP financed structures generally engage in some degree of maturity transformation, funding longer-term assets with shorter-term liabilities. ABCP is backed by a wide range of assets including auto loans, commercial loans, trade receivables, credit card receivables, student loans, and highly rated securities. Money market mutual funds are the main investors in the ABCP market.

Securitizers of ABCP conduits generally are large U.S. and foreign banks, although mortgage lenders, finance companies, and asset managers have also been active to some extent. The assets may be originated by the bank securitizer (for example, credit card receivables), or the securitizer may aggregate assets from various originators for securitization (for example, trade receivables from various clients of the bank). Securitizers may provide liquidity and credit support to the ABCP conduit, either directly if it is a financial institution or by obtaining lines from other entities.

ABCP can be classified according to the type of support provided by the securitizer or by the types of assets purchased by the SPV. In terms of the type of support, ABCP can either be fully or partially supported. Fully supported programs use an external support facility that provides ABCP investors 100 percent insurance against credit and liquidity risk. Liquidity risk refers to the possibility that funding cannot be rolled. By contrast, partially supported programs provide less than 100 percent insurance against credit and liquidity risk to ABCP investors. These programs use credit enhancements to reduce credit risk on the assets securitized, an outside facility that insures against liquidity risk, or both.

ABCP conduit programs are typically classified as multisellers, single sellers, securities arbitrage programs, structured investment vehicles (SIVs), or hybrid programs. ABCP conduits that mainly purchase receivables and loans from multiple originators

(typically clients of the securitizing bank) are known as multiseller programs. Conduits that exclusively purchase receivables and loans from a single originator (typically the securitizer) are known as single-seller programs. Conduits that purchase highly rated securities and have liquidity facilities that cover 100 percent of the liabilities of the ABCP program are known as securities arbitrage programs. Conduits that purchase highly rated securities without liquidity facilities covering 100 percent of the liabilities of the program are known as SIVs; to compensate for incomplete liquidity support, SIVs typically finance securities that may be relatively easily liquidated and issue a combination of (1) debt with longer maturities than commercial paper and (2) subordinated notes that absorb any first losses incurred by the program. Finally, conduits that combine characteristics of multiseller programs with securities arbitrage programs are known as hybrids.

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## Issuance Activity

This section examines the issuance volume of different ABS classes over time and documents the proportion of issuance occurring in the private placement (or Rule 144A) markets. Private placements are of interest because this method of issuance has less stringent disclosure requirements than a public offering and generally offers less secondary-market liquidity than securities sold through public offerings.

Figure 2 shows the percentage breakdown of total issuance from 2005 to 2009 for each asset class excluding ABCP.<sup>19</sup> As shown, RMBS is the largest category, followed by “other” ABS that are not covered by this report, CMBS, CLOs, credit card ABS, and auto ABS.<sup>20</sup>

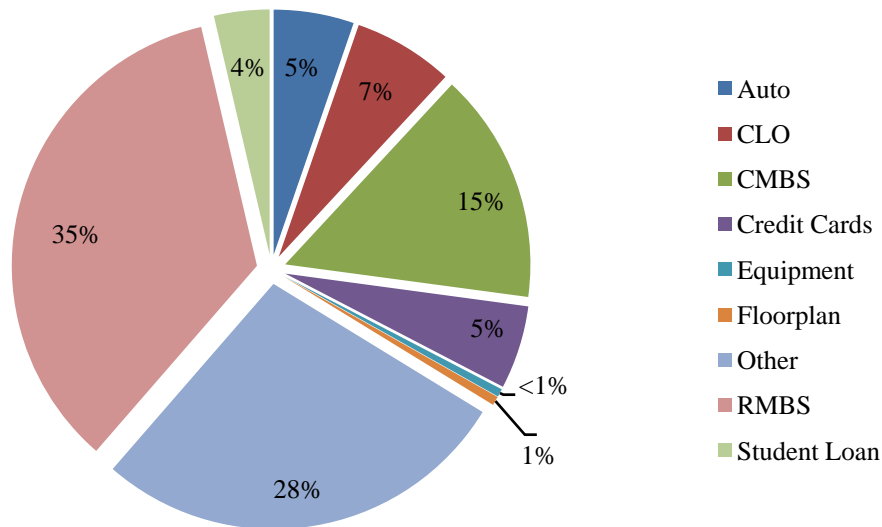
The following subsections explore the variation in issuance among asset classes in more detail.

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<sup>19</sup> Our primary source of data on issuance of ABS backed by nonconforming residential mortgages, credit cards, auto loans and leases, student loans, equipment loans and leases, and dealer floorplans is *Asset-Backed Alert*. These data include issues that are rated by at least one major rating agency, are under the control of a trustee, and are collateralized by a specific asset. Thus, nonrated ABS would not be captured.

<sup>20</sup> The category “other” ABS includes ABS backed by royalties, recreational vehicle loans, servicer advances, small business loans, tax liens, timeshare loans, toll road receivables, trade receivables, transportation, utility receivables, whole business loans, aircraft leases, airline tickets, catastrophe bonds, cell towers, consumer loans, export receivables, franchise fees, franchise loans, guaranteed investment contracts, health-care receivables, home equity lines of credit, high loan-to-value loans (no equity), home equity loans, home-improvement loans, insurance premiums, legal settlements, manufactured housing, miscellaneous, mutual fund fees, natural resources, net interest margin, nonperforming mortgages, non-U.S. residential mortgages, project finance, and remittances.

**Figure 2**  
**Percentage of Dollar Amount of All New Asset-Backed Issuances from 2005 to 2009**



Note: For the definition of “other” asset-backed securities, see text note 20.

Source: JPMorgan Chase, Securities Industry and Financial Markets Association, *Asset-Backed Alert*, and *Commercial Mortgage Alert*.

## REAL ESTATE SECTOR

The real estate sector, whose underlying collateral includes both residential and commercial mortgages, represents the largest component of asset-backed securities. Table 1 presents the dollar amount issued and the number of real estate deals from 2002 to September 2010. As indicated in the table, issuance of securitizations backed by nonconforming residential mortgages plummeted in 2008 and remains virtually nonexistent today.

**Table 1**  
**New Issuance of Real Estate Securitizations from 2002 to 2010, Year to Date**  
(Dollars in millions)

<i>Real Estate</i>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>To 9/2010</b>	<b>Total</b>
Prime mortgages	\$213,993	\$296,617	\$329,219	\$543,064	\$569,217	\$439,458	\$24,760	\$47,875	\$38,986	\$2,503,188
# of deals	501	622	574	752	713	584	83	126	80	4,035
Subprime mortgages	\$73,923	\$99,672	\$174,692	\$181,051	\$154,041	\$202,349	\$3,853	\$207	\$844	\$890,632
# of deals	159	187	247	215	191	276	12	1	4	1,292
<b>RMBS Total</b>	<b>\$287,916</b>	<b>\$396,288</b>	<b>\$503,911</b>	<b>\$724,115</b>	<b>\$723,257</b>	<b>\$641,808</b>	<b>\$28,612</b>	<b>\$48,082</b>	<b>\$39,830</b>	<b>\$3,393,819</b>
# of deals	<b>660</b>	<b>809</b>	<b>821</b>	<b>967</b>	<b>904</b>	<b>860</b>	<b>95</b>	<b>127</b>	<b>84</b>	<b>5,327</b>
<b>CMBS</b>	<b>\$89,900</b>	<b>\$107,354</b>	<b>\$136,986</b>	<b>\$245,883</b>	<b>\$305,714</b>	<b>\$319,863</b>	<b>\$33,583</b>	<b>\$38,750</b>	<b>\$27,297</b>	<b>1,305,329</b>
# of deals	<b>166</b>	<b>198</b>	<b>199</b>	<b>231</b>	<b>258</b>	<b>207</b>	<b>51</b>	<b>71</b>	<b>65</b>	<b>1,446</b>

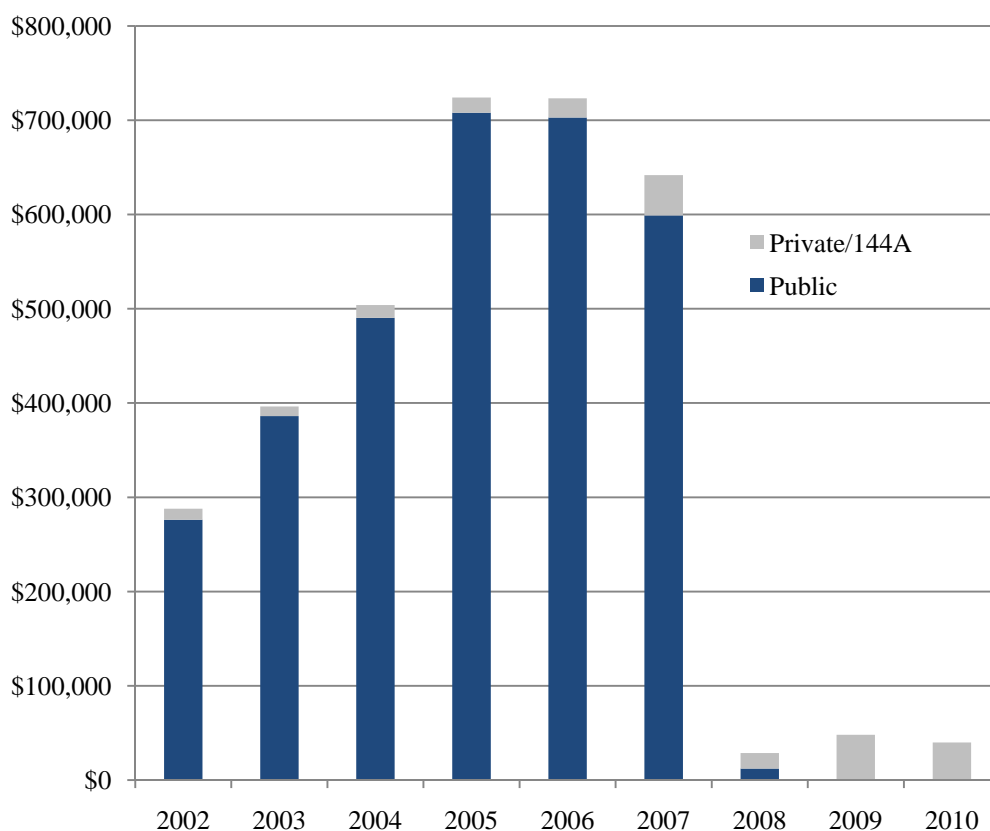
Note: Prime Mortgages, for the purposes of this chart, refer to securities backed by prime first-lien U.S. residential mortgages with weighted average credit score very close to 700 or above. Subprime Mortgages represent securities backed by primarily first-lien U.S. residential mortgages with weighted average credit score less than 700. Securities issued or insured by GSEs are not included herein. More information is available at [www.abalert.com/about\\_abs.php#Data](http://www.abalert.com/about_abs.php#Data).

Source: RMBS data are from *Asset-Backed Alert*; CMBS data are from *Commercial Mortgage Alert*.

Issuance of RMBS backed by nonconforming loans increased significantly in the period before the crisis because of the rapid growth in the volume of originations and the increased percentage of loans securitized. The fraction of subprime mortgages that were securitized increased from less than 50 percent in 2001 to 75 percent in 2006, while the fraction of alt-A mortgages that were securitized increased from less than 20 percent in 2001 to more than 90 percent in 2006.<sup>21</sup>

The overwhelming majority of RMBS deals issued before the crisis were public offers. Since the crisis, the few deals that have come to market (which are often backed by seasoned loans) have been issued in the private/144A market (figure 3).<sup>22</sup>

**Figure 3**  
**All RMBS Issued Publicly and by Private Placement (Rule 144A)**  
(Dollars in millions)



Note: Data are through September 2010.

Source: *Asset-Backed Alert*.

<sup>21</sup>From Adam Ashcraft and Til Schuermann (2008), “Understanding the Securitization of Subprime Mortgage Credit,” Federal Reserve Bank of New York Staff Reports No. 318 (New York: Federal Reserve Bank of New York).

<sup>22</sup>In 2010, only one public offer of newly originated residential mortgages has been made thus far—by Redwood/Sequoia. The size of this offer is \$211.2 million and is not large enough to be shown in the figure above.

## **CONSUMER FINANCE**

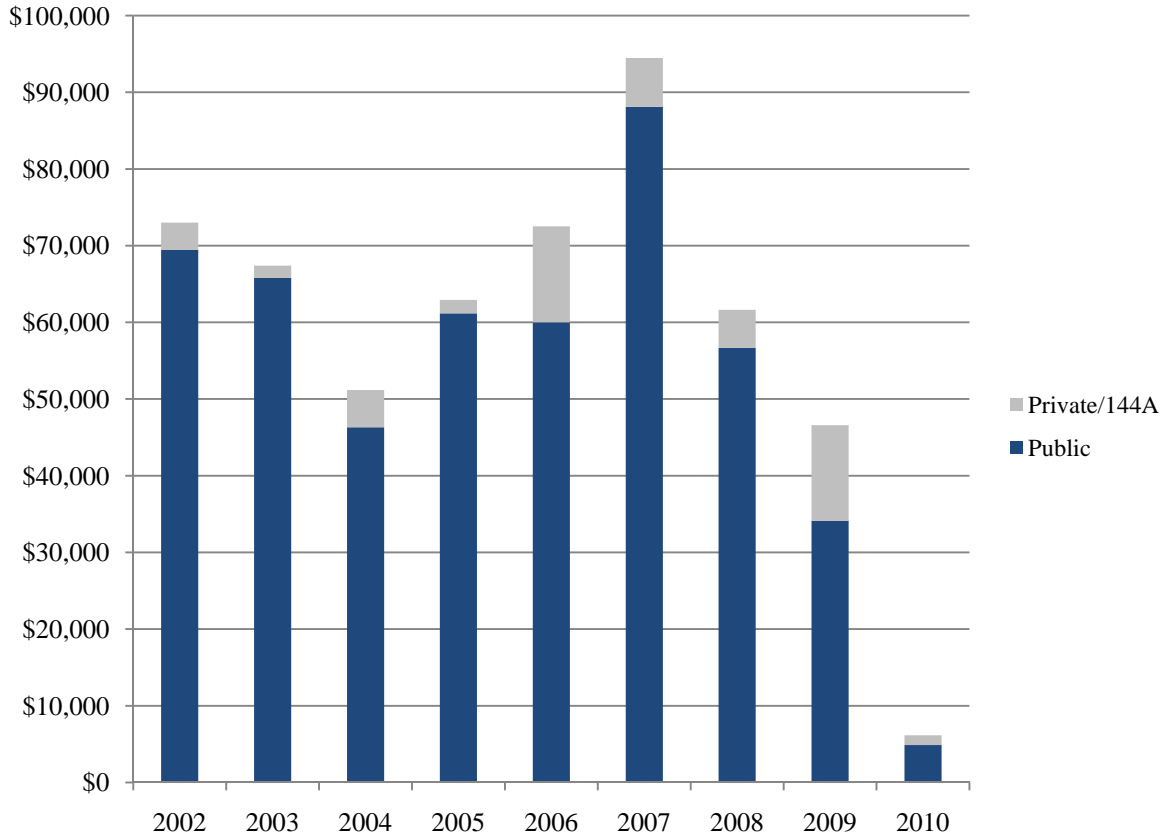
As shown in table 2, issuance in the consumer ABS market, which includes credit cards, auto loans and leases, and student loans, declined dramatically in both number of deals and dollar value after 2007. Unlike the real estate sector, however, consumer ABS has rebounded somewhat since the 2008 market trough.

Credit card issuance came to a near-halt during the strained market conditions at the end of 2008, and then resumed in spring 2009. However, issuance has remained lackluster because of the sharp contraction in revolving credit outstanding. Due to weak consumer demand, reduced credit supply on the part of lenders, and elevated levels of charge-offs, revolving credit fell nearly 10 percent in 2009.<sup>23</sup> In addition, the advent of the FAS 166/167 accounting standards, described in this report in the section “Interaction of Risk Retention and Accounting Standards,” has required securitizers to hold almost all credit card deals on balance sheet. This switch makes securitization a less desirable form of funding, especially since most credit card securitizers are depository institutions, many of which currently enjoy ample access to other sources of funding. As shown in figure 4, private/144A deals are also more common in the period after the crisis.

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<sup>23</sup> See Board of Governors of the Federal Reserve System, Statistical Release G.19, “Consumer Credit,” [www.federalreserve.gov/releases/g19/Current](http://www.federalreserve.gov/releases/g19/Current).

**Figure 4**  
**New Credit Card–Backed Securitizations Issued Publicly**  
**and by Private Placement (Rule 144A)**  
(Dollars in millions)



Note: Data are through September 2010.

Source: *Asset-Backed Alert*.

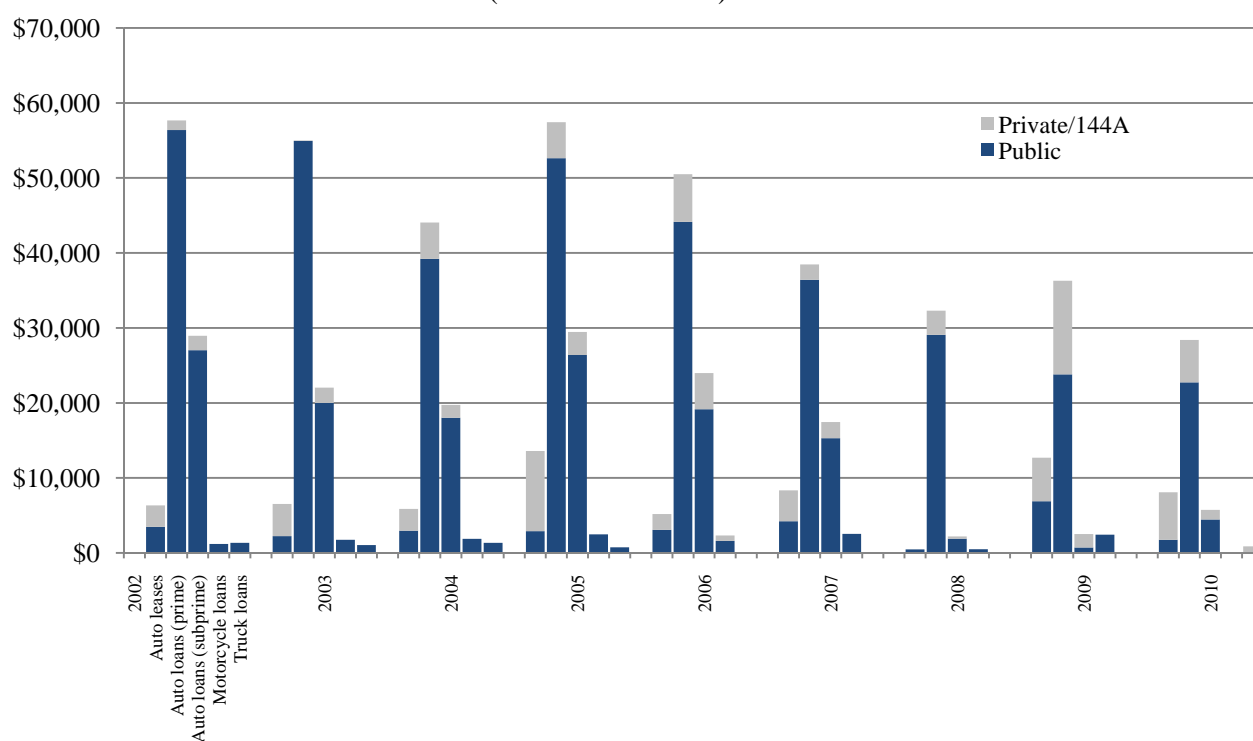
**Table 2**  
**New Issuance of Consumer Finance Securitizations from 2002 to 2010, Year to Date**  
(Dollars in millions)

<i>Consumer Finance</i>	2002	2003	2004	2005	2006	2007	2008	2009	To 9/2010	Total
<b>Credit cards</b>	<b>\$73,004</b>	<b>\$67,385</b>	<b>\$51,188</b>	<b>\$62,916</b>	<b>\$72,518</b>	<b>\$94,470</b>	<b>\$61,628</b>	<b>\$46,581</b>	<b>\$6,149</b>	<b>\$535,839</b>
# of deals	113	108	82	107	120	137	78	51	17	813
Auto leases	\$6,339	\$6,524	\$5,870	13,600	\$5,181	\$8,333	\$475	\$12,702	\$8,079	\$67,103
# of deals	10	12	7	13	6	9	1	13	12	83
Auto loans (prime)	\$57,660	\$54,994	\$44,053	57,423	\$50,506	\$38,462	\$32,301	\$36,301	\$28,397	\$400,097
# of deals	40	39	36	43	39	36	31	30	38	332
Auto loans (subprime)	\$28,949	\$22,033	\$19,732	29,467	\$23,984	\$17,446	\$2,207	\$2,518	\$5,747	\$152,084
# of deals	47	42	34	42	29	24	5	5	12	240
Motorcycle loans	\$1,186	\$1,750	\$1,876	2,480	\$2,330	\$2,532	\$486	\$2,423	\$0	\$15,063
# of deals	2	4	3	4	3	3	1	4	0	24
Truck loans	\$1,350	\$1,050	\$1,350	\$746	\$0	\$0	\$0	\$0	\$881	\$5,377
# of deals	2	2	2	1	0	0	0	0	1	8
<b>Auto Total</b>	<b>\$95,484</b>	<b>\$86,350</b>	<b>\$72,881</b>	<b>\$103,717</b>	<b>\$82,000</b>	<b>\$66,773</b>	<b>\$35,469</b>	<b>\$53,944</b>	<b>\$43,104</b>	<b>\$639,724</b>
# of deals	101	99	82	103	77	72	38	52	63	687
<b>Student loans</b>	<b>\$25,367</b>	<b>\$40,067</b>	<b>\$45,759</b>	<b>\$62,212</b>	<b>\$65,745</b>	<b>\$58,122</b>	<b>\$28,199</b>	<b>\$20,839</b>	<b>\$13,899</b>	<b>\$360,210</b>
# of deals	35	47	39	52	45	41	21	19	22	321

Source: *Asset-Backed Alert*.

Securizations of auto loans and leases, like those of credit cards, dropped dramatically at the end of 2008. Unlike credit card ABS issuance, though, auto ABS issuance returned in 2009 to levels broadly comparable with 2007 issuance. The stronger rebound in the auto ABS category occurred because, among other things, auto lending did not contract nearly as sharply as credit card lending during the economic downturn. As with other consumer securitizations, auto ABS are more commonly issued in the private market following the crisis (figure 5).

**Figure 5**  
**New Auto-Backed Securizations Issued Publicly and by Private Placement (Rule 144A)**  
 (Dollars in millions)



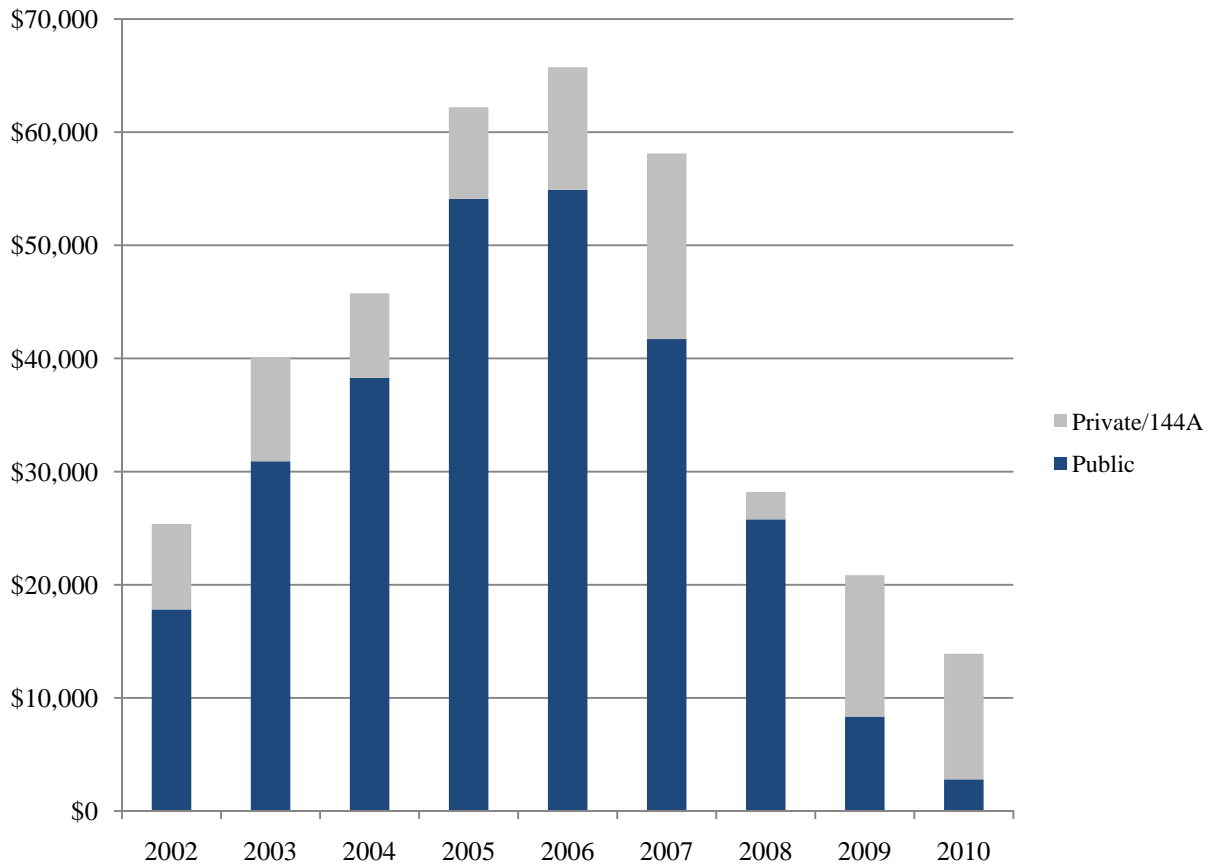
Note: Data are through September 2010.  
 Source: *Asset-Backed Alert*.

Issuance of student loan ABS dropped off in 2008, in line with other consumer sectors, and has not recovered. Securizations of government-guaranteed loans have dropped dramatically because funding is offered on more desirable terms by special Department of Education liquidity programs put in place during the financial crisis. In addition, some securitizers continue to have difficulty accessing the capital markets because of problems associated with auction rate securities (ARS) issued prior to the crisis. Going forward, issuance is expected to remain low because government-guaranteed loans will be offered solely by the

Federal government, which does not fund these loans via securitization. Further, securitizers of private student loans have had difficulty raising capital to fund these assets because of the long maturity of the loans and the recent rise in loan delinquencies.

In the post-crisis period, student loan ABS are among the most heavily reliant on the private markets for issuance, with almost all of the securitizations currently being conducted via the private/144A market (figure 6).

**Figure 6**  
**New Student Loan-Backed Securitizations Issued Publicly**  
**and by Private Placement (Rule 144A)**  
(Dollars in millions)



Note: Data are through September 2010.  
Source: *Asset-Backed Alert*.

## **BUSINESS FINANCE**

For CLOs, there has been little resurgence in issuance volume since 2008, consistent with the low volume of U.S. syndicated loan issuance relative to pre-crisis levels.<sup>24</sup> Historically, CLOs accounted for roughly 60 percent of the investment in leveraged term loans between 2000 and 2006.<sup>25</sup> CLOs invested in nearly \$300 billion of corporate loans and today hold almost half of all outstanding non-investment-grade term loans. In 2009, new CLO issuance was only \$2 billion, compared with \$138 billion in 2007 (table 3). While few CLOs have been issued in 2010 most are smaller deals narrowly focused on specific collateral and investors.

Equipment loan and lease ABS issuance has recovered almost fully since the crisis (table 3), and more of these deals now appear to be issued in the private market (figure 7). Captive finance companies of equipment manufacturers represented at least 75 percent of annual issuance in each of the past five years.

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<sup>24</sup> Loan Syndications and Trading Association (2010), “LSTA Meeting,” presentation to Board staff, September 7, available on the Board’s website under the category “Systemic Designations, Enhanced Prudential Standards, and Banking Supervision & Regulation” at [www.federalreserve.gov/newsevents/reform\\_meetings.htm](http://www.federalreserve.gov/newsevents/reform_meetings.htm).

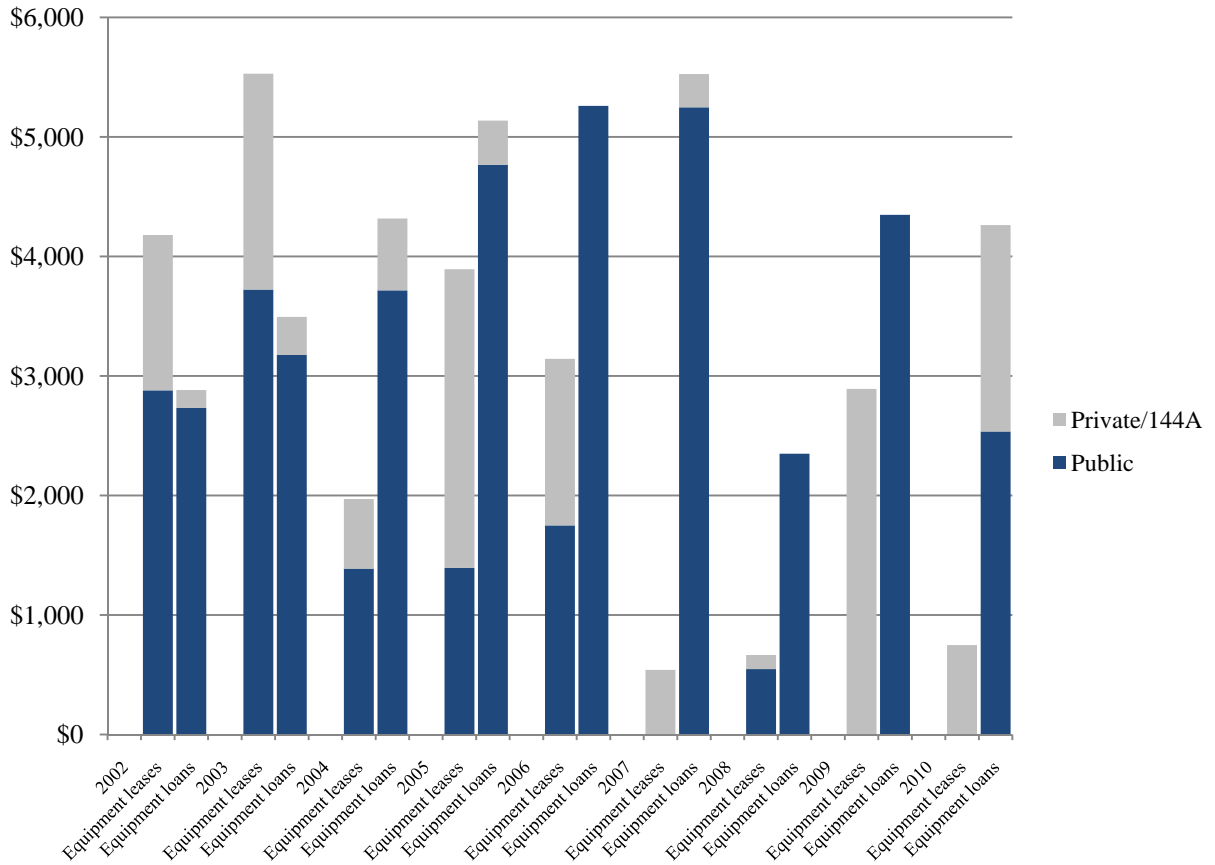
<sup>25</sup> Loan Syndications and Trading Association (2009), “Challenges Facing CLOs...and the Loan Market,” presentation, [www.lsta.org/WorkArea/downloadasset.aspx?id=6170](http://www.lsta.org/WorkArea/downloadasset.aspx?id=6170).

**Table 3**  
**New Issuance of Business Finance Securitizations and ABCP from 2002 to 2010, Year to Date**  
(Dollars in millions)

<i>Business Finance</i>	2002	2003	2004	2005	2006	2007	2008	2009	To 9/2010	Total
<b>CLO</b>	<b>\$30,388</b>	<b>\$22,584</b>	<b>\$32,192</b>	<b>\$69,441</b>	<b>\$171,906</b>	<b>\$138,827</b>	<b>\$27,489</b>	<b>\$2,033</b>	<b>NA</b>	<b>\$494,860</b>
Equipment leases	\$4,180	\$5,528	\$1,971	\$3,893	\$3,144	\$540	\$665	\$2,892	\$748	\$23,561
# of deals	18	14	5	8	7	2	2	4	2	62
Equipment loans	\$2,882	\$3,493	\$4,318	\$5,137	\$5,260	\$5,526	\$2,349	\$4,348	\$4,262	\$37,576
# of deals	4	5	6	6	5	8	4	7	8	53
<b>Equipment Total</b>	<b>\$7,062</b>	<b>\$9,022</b>	<b>\$6,288</b>	<b>\$9,030</b>	<b>\$8,404</b>	<b>\$6,066</b>	<b>\$3,014</b>	<b>\$7,240</b>	<b>\$5,010</b>	<b>\$61,137</b>
# of deals	<b>22</b>	<b>19</b>	<b>11</b>	<b>14</b>	<b>12</b>	<b>10</b>	<b>6</b>	<b>11</b>	<b>10</b>	<b>115</b>
<b>Floorplan loans</b>	<b>\$3,000</b>	<b>\$6,315</b>	<b>\$11,848</b>	<b>\$12,670</b>	<b>\$12,173</b>	<b>\$6,925</b>	<b>\$1,000</b>	<b>\$4,959</b>	<b>\$8,619</b>	<b>\$67,510</b>
# of deals	<b>2</b>	<b>11</b>	<b>10</b>	<b>11</b>	<b>13</b>	<b>8</b>	<b>1</b>	<b>9</b>	<b>12</b>	<b>77</b>
<b>ABCP</b>	<b>NA</b>	<b>\$8,633,591</b>	<b>\$7,746,457</b>	<b>\$9,300,331</b>	<b>\$12,811,588</b>	<b>\$17,546,734</b>	<b>\$16,183,104</b>	<b>\$8,474,867</b>	<b>NA</b>	<b>\$80,696,672</b>
# of deals	<b>NA</b>	<b>412,712</b>	<b>362,711</b>	<b>414,032</b>	<b>531,447</b>	<b>614,039</b>	<b>485,249</b>	<b>270,301</b>	<b>NA</b>	<b>3,090,491</b>

Source: CLO data are from Securities Industry and Financial Markets Association; equipment and floorplan data are from *Asset-Backed Alert*; ABCP data are from Depository Trust and Clearing Corporation.

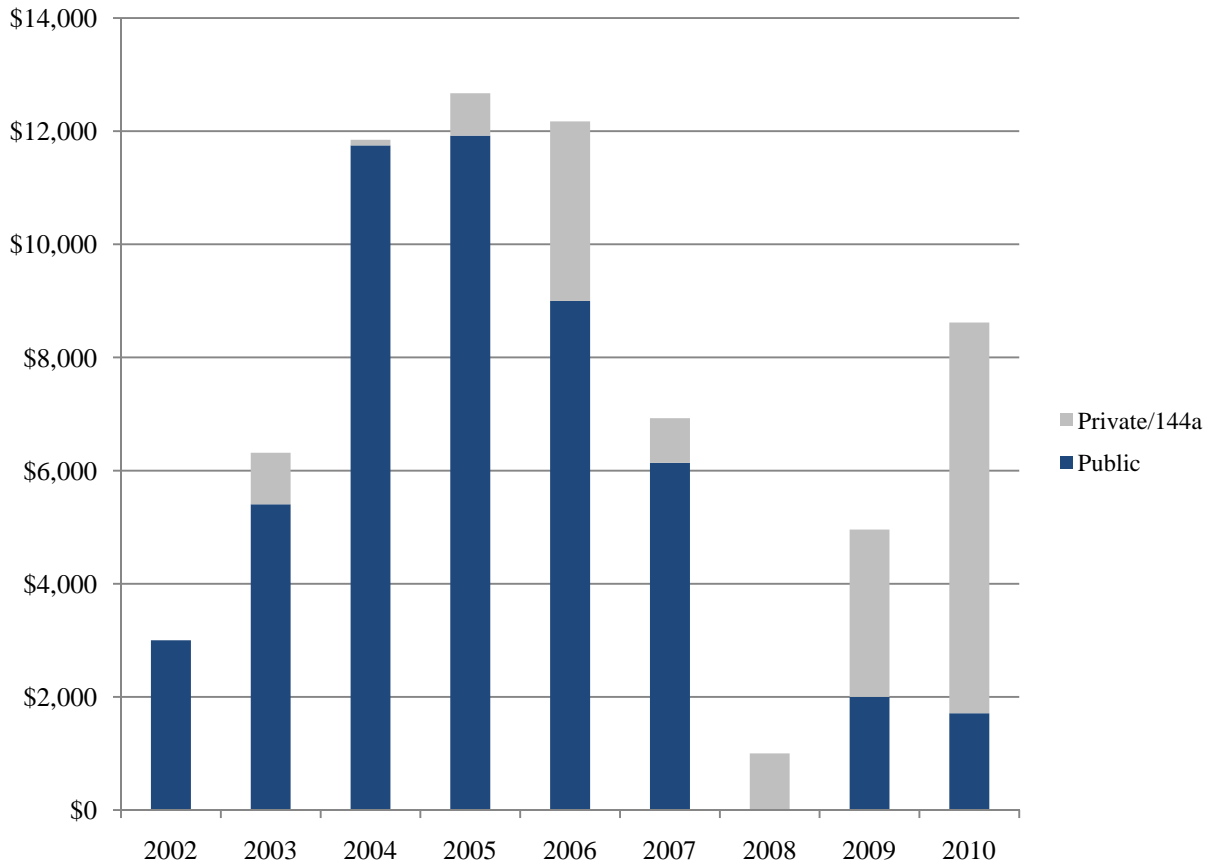
**Figure 7**  
**New Equipment-Backed Securitizations Issued Publicly**  
**and by Private Placement (Rule 144A)**  
 (Dollars in millions)



Note: Data are through September 2010.  
 Source: *Asset-Backed Alert*.

Dealer floorplan ABS had the largest decline in issuance in 2008 of any of the nine asset classes reviewed in this report outside of the real estate sector (table 3). In 2008, there was virtually no issuance of floorplan securitizations. Since that time, however, issuance has reverted to levels more comparable with the pre-crisis period. As with other asset classes, figure 8 indicates that there has been a movement away from the public market toward the private market for issuance.

**Figure 8**  
**New Floorplan-Backed Securitizations Issued Publicly**  
**and by Private Placement (Rule 144A)**  
 (Dollars in millions)



Note: Data are through September 2010.  
 Source: *Asset-Backed Alert*.

## **ASSET-BACKED COMMERCIAL PAPER**

Issuance in the ABCP market has contracted significantly since reaching its peak in August 2007 (table 3).<sup>26</sup> Total ABCP outstanding peaked at \$1.2 trillion, representing 55 percent of the commercial paper market. Several programs faced liquidity challenges in 2007 and were unable to secure funding in the market. A number of subsequent changes to regulatory capital requirements, following the implementation of FAS 167 which brought some of these assets onto the securitizer's balance sheet, may have increased the cost of those facilities. As such, the amount of ABCP outstanding rapidly declined. Issuance in 2009 was \$8 trillion, down from \$17 trillion in 2007.

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<sup>26</sup> It should be noted that a substantial portion of ABCP is issued for very short-term maturities and is frequently rolled over, so annual issuance data reflect higher amounts than other asset classes.

## Mechanisms to Align Incentives and Mitigate Risk

Participants in securitization markets—originators, securitizers, rating agencies, and investors—have come to recognize that investors may have less information than other members of the securitization chain, particularly about the credit quality of the underlying assets. Furthermore, in some cases, the interests of some participants in the securitization may not be aligned with the interests of investors.

Over time, a series of mechanisms has developed to mitigate these incentive and information problems. All mechanisms share to a certain extent two features: They increase overall the odds that an investor is repaid, and they put at least one member of the securitization chain at risk of loss should the assets perform worse than expected. This latter feature is often referred to as “skin in the game.”

The precise form of these mechanisms is influenced by the nature of the incentive or information problem, and by the historical development of each asset class. Mechanisms can differ across asset classes, in part because of the varying nature of the incentive problems and the differences in securitization structures and practices across asset classes.

In some cases, the mechanism applies only to the originator, while in others it applies only to the securitizer. The point in the chain where the mechanism acts is determined by the nature of the incentive or information problem. For example, the originator is likely to face some kind of incentive alignment mechanism, such as representations and warranties (R&W), if so-called soft information (known only to the originator) is crucial to loan performance.

During the financial crisis, some of these mechanisms failed to properly align incentives or to protect investors. Specific mechanisms, while effective in principle, may have failed in practice because they were too weak to overcome the incentive or information problems in a particular asset class.

Common mechanisms include overcollateralization, subordination, third-party credit enhancement, R&W, conditional cash flows, and retention of credit risk. Some of these mechanisms may lead the securitizer or the originator to retain part of the credit risk of a securitization. Each mechanism is described as follows:

- To implement *overcollateralization* the securitizer backs a deal with collateral that has a par value greater than the value of the liabilities sold to investors. For example, a deal with outstanding liabilities having a face value of \$100 might be backed by loans with a combined principal of \$110. In the event of default, the overcollateralization is available to support contractual payments to investors. In the event of no default, the overcollateralization may be returned to the securitizer.

- *Subordination* is related to overcollateralization. The securitizer structures the securitization so that the senior liabilities take losses only if the junior liabilities providing credit support have been completely exhausted by losses; the greater the amount of the credit support below the senior liabilities, the greater the subordination. The most junior liability in a structure is sometimes referred to as the equity piece. Having the originator or the securitizer retain the equity piece may act as an incentive alignment mechanism, because the party retaining the equity piece bears the first loss risk on the underlying assets.
- *Third-party guarantees*, or wraps, are insurance usually written on the seniormost tranche of a securitization. In theory, the insurers providing wraps for asset-backed securities had an incentive, through their exposure to default losses, to monitor the quality of loans backing the securities. It appears, however, that during the height of asset-backed issuance, some of these insurers did not perform adequate due diligence, suffering large losses as a result.
- *Representations and warranties* are factual statements that describe the underwriting standards and other matters with respect to the assets that are the subject of the securitization. R&W may not have begun as incentive alignment or credit enhancement mechanisms. However, the originator is, in principle, required to refund at par the value of the loan should it violate the originator's R&W about its features or should it default within a specified time from origination. During the crisis, some originators failed to repurchase loans that violated R&W.
- *Conditional cash flows* are provisions in securities that release cash from the pool to junior securities or the originator based on the deal's performance. Should delinquency rates fall below predefined trigger levels, for example, cash reserves trapped in the trust, either supplied in advance by the securitizer or created by accumulating excess spread, would be remitted back to the securitizer.<sup>27</sup> These conditional cash flows serve the purpose of providing extra credit support to the senior tranche holders should the underlying loans perform worse than expected. They also should, in principle, give the originator and the securitizer the incentive to deliver lower-risk loans to the pool, in hopes of meeting the triggers and, thereby, receiving the conditional cash flows themselves. The conditions under which cash is released can be

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<sup>27</sup> Excess spread is the difference between the weighted-average coupon from the underlying pool of mortgages and the summation of the weighted-average coupon on the securities issued by the trust and the fees paid to the servicer (as well as any other fees incurred by the trust in executing the securitization deal).

quite complex, with some securities applying a series of tests at a single point in time and others applying tests each month. Examples of conditional cash flows include releases from cash reserve accounts, shifting interest structure, and early amortization.

- *Retention of credit risk* is another key incentive alignment mechanism. Retention, in principle, gives securitizers or originators an explicit pecuniary stake in the performance of their assets. In addition to its incentive benefits, retention has the virtues of being observable by outside parties. The securitizer or originator may retain credit risk by holding some portion of the securities issued to investors. For example, if a securitizer or originator retains a piece of each tranche of securities sold to investors (a vertical slice), the securitizer or originator will retain exposure to the varying degrees of credit risk of the tranche holders. Likewise, an originator or securitizer can retain credit risk by retaining a portion of the subordinate piece of the security (a horizontal slice). Credit risk is concentrated in this security, so retaining even a small part of the subordinate piece exposes the seller to a relatively larger share of the deal's total credit risk.

The recent crisis subjected all of these mechanisms to a severe test. Broadly speaking, with respect to at least some asset classes, representations and warranties, third-party guarantees and conditional cash flows either failed *ex ante* to prevent originators and securitizers from originating low quality loans, or failed *ex post* to limit the losses from poor underwriting practices. Investors in the senior tranches of some securities saw mitigation of losses as a result of overcollateralization and subordination. But, in the case of some other securities, notably RMBS, the size of the cushion was inadequate to protect the seniormost investors. Asset categories where significant retention of risk by participants in the securitization process is common market practice—including auto loans and leases, credit cards, and CLOs—appear to have fared relatively better during the crisis. However, there may be other characteristics of these asset classes, singularly or in combination, which explain their apparent better performance.

The remainder of this section describes the most common incentive alignment and credit enhancement mechanisms used in each of the asset classes covered by this report and the extent to which these mechanisms represent retention of credit risk.

## **NONCONFORMING RESIDENTIAL MORTGAGE-BACKED SECURITIES**

The most common incentive alignment mechanisms used in connection with nonconforming RMBS prior to the financial crisis were third-party wraps, R&W, conditional cash flows, and overcollateralization. Originators typically did not retain any interest in individual mortgages sold for securitization, beyond providing typical

representations and warranties that the loans met certain public underwriting criteria and warranties against early defaults.

Prior to the crisis, securitizers sometimes retained senior tranches. Usually, this retention was the result of the securitizer either being unable to sell all of the senior tranches or wishing to hold these tranches for investment purposes. Securitizers then generally sold the equity tranche, but they sometimes retained it temporarily after closing because of the difficulty in selling this tranche. However, securitizers often ultimately succeeded in selling this piece to other market participants.

Incentive alignment problems may also exist between servicers and investors in the securitization. Servicers can affect the value of mortgage-backed securities through their servicing activities in two ways. First, the servicer of an RMBS deal can reduce its overall value by failing to pursue liquidation or foreclosure alternatives in a timely fashion. To address this problem, RMBS deals set up a master servicer with the authority to oust the servicer in the event of poor performance, rating agencies publish servicer quality ratings, and market participants may keep their own estimates of servicer performance.

Second, the servicer of an RMBS deal can affect the relative value of the senior and junior tranches. By favoring one strategy for dealing with delinquent borrowers over another, the servicer can either extend coupon payments (benefiting junior tranche holders) or recover principal early (benefiting senior tranche holders). Where the servicer has an interest in the first loss position, this problem is particularly acute. Market participants have yet to develop a satisfactory mechanism to address these incentive issues.

## **COMMERCIAL MORTGAGE-BACKED SECURITIES**

All three types of CMBS—conduit, large-loan, and fusion deals—have broadly the same kinds of structures and are characterized by similar incentive alignment and credit enhancement mechanisms. However, the one distinct feature of CMBS as compared with RMBS is the “B piece” buyer.

In most CMBS deals, the most junior tranche, or the B piece, is usually purchased by specialist firms that focus on understanding and managing the credit risk associated with this junior tranche and, indirectly, the underlying loans. Indeed, in many cases the B-piece buyers are the “special servicers,” or servicers tasked with dealing with loans facing imminent default or other problems for the deal. B-piece buyers are thus responsible for managing loans that become troubled during the life of the deal. B-piece buyers may also conduct due diligence on individual loans while the CMBS is being assembled, and may have more information than other investors about the quality of the underlying pool of assets.

Beyond the specialist firms who purchase B pieces, there has been limited long-term credit risk retention in CMBS deals. As in the case of residential mortgage deals, loan sales to a CMBS pool involve the transfer of the entire loan. The sellers normally do not retain any interest in the individual mortgages sold for securitization aside from providing certain representations and warranties.

Otherwise, CMBS credit enhancement primarily takes the form of excess spread and subordinated debt. Unlike nonconforming RMBS, CMBS deals do not make use of overcollateralization or third-party protection in the form of guarantees or other credit enhancements.

## **CREDIT CARD ASSET-BACKED SECURITIES**

Investors in triple-A securities issued by the master trust in a credit card deal are protected by a variety of mechanisms, including seller's interest, excess spread, subordinated tranches, and cash reserve accounts. If the excess spread falls below a certain level, it is trapped in an account for the investor rather than released to the securitizer. If the trust's financial condition continues to deteriorate, the trust enters early amortization. In this situation, all principal payments are directed to investors rather than reinvested in new receivables, thereby effectively subordinating the securitizer. Such an event can create liquidity issues for the securitizer, which will need to find other ways of funding the additional receivables originally intended to be sold to the master trust.

During the financial crisis, the excess spread in many credit card master trusts fell to levels near these critical thresholds. To limit the risk of negative ratings actions, early amortization, and consequent reputational damage, securitizers took a variety of steps to support their trusts. The steps included adding new subordinate tranches, increasing overcollateralization, strengthening spread accounts, raising interest rates and fees on existing accounts, adding higher-quality receivables to the master trust, and removing poorly performing receivables, to the extent allowed. Securitizers also temporarily discounted principal receivables to boost the portfolio yield. In other words, securitizers paid out some of the incoming principal payments to the trust instead of reinvesting the entire principal payments into purchasing new receivables.

Seller's interest, unlike the mechanisms above, is not considered a credit enhancement but may have the effect of aligning the interests of the investor and the securitizer. Seller's interest is designed to absorb fluctuations in the monthly outstanding loan balances. Seller's interest is a vertical slice of all the securitized receivables in the master trust and receives principal and interest payments in proportion to the share it represents of the master trust. Prior to the crisis, the seller's interest was typically 4 to 12 percent of the pool, but the share has increased over the past few years because of changes in the rating agencies' requirements.

## **AUTO LOANS AND LEASING**

Auto ABS contain several features that may serve to protect investors. Excess spread is a common feature and is eventually paid to the securitizer if the deal performs well. The securitizer sometimes retains the subordinate tranches of the deal. In addition, some trusts are overcollateralized. Historically, some subprime and nonprime auto issuers used monoline insurance to “wrap” their deals, but this provision became rare after the credit ratings of bond insurers were downgraded.

The structure contains additional enhancements if the pool includes a significant share of auto loans that have below-market interest rates because of promotions offered by manufacturers. In this case, the securitizer also funds a yield supplement account to support increased cash flow to investors. This yield supplement is typically funded by payments from the manufacturer that are sufficient to make up the market value differential between the below-market-rate loan and a market-rate loan.

## **STUDENT LOANS**

FFELP securitizations are typically structured with triple-A notes that are 97 percent of the security, corresponding to the 97 percent government guarantee on the underlying loans. These structures may have time tranches as well as credit tranches. Student loan securitizers often retain credit risk, either by holding a subordinate tranche or by retaining the residual interest. Securitizers may also pre-fund a reserve account that is released only if the underlying loans perform well and may fund a capitalized interest account. The capitalized interest accounts are funded by the securitizer at closing and are used to make interest payments to investors during times when the student loans are not generating enough cash flow, which may occur when students remain enrolled in educational institutions and thus are permitted to defer interest payments.

As with other types of ABS following the crisis, most private student loan ABS are now issued with greater credit protection, mostly through overcollateralization. Furthermore, the securitization structures have been simplified to a single, heavily overcollateralized rated tranche, thus eliminating any subordinated debt tranches.

## **COLLATERALIZED LOAN OBLIGATIONS**

Unlike other asset classes, CLOs are actively managed, so that in addition to the information and incentive problems inherent to other securitizations, investors must also determine how to align the interests of the CLO manager. This alignment is typically accomplished by compensating the CLO managers using a performance-based fee structure. Management fees are often split into three parts: a base fee (senior to all

noteholders), a subordinate fee (subordinate to all noteholders but senior to equity), and an incentive fee (gain sharing after equity has achieved a target rate of return). Additionally, the CLO manager sometimes retains an interest in the equity tranche, although such retention is not required.

Prior to the crisis, underwriters of the securitization would sometimes retain an interest in the AAA tranches for investment purposes. In addition, because CLOs are backed by syndicated loans, the arranging bank may hold some of the original loan as part of the syndication. If the syndicated loan is then securitized through a CLO, the arranging bank's ownership of part of the loan could be considered originator's risk retention.

In addition to these mechanisms, senior investors are protected by several forms of credit enhancement, including conditional cash flows, overcollateralization, and excess spread. At payment dates, cash flows from the underlying assets are distributed sequentially to CLO investors in order of seniority. Before a given class receives payment, cash flow coverage tests must be passed by all the classes senior to it.

More broadly, debt holders are protected primarily by two types of conditional cash flow tests, one for asset quality and another for cash flow coverage. Asset quality tests restrict the collateral's minimum ratings, industry and obligor limits, minimum spreads, maturity profile, and so on. There are two types of cash flow coverage tests: an overcollateralization (OC) test and an interest coverage (IC) test. The OC test ensures that a minimum amount of collateral secures the rated debt. The IC test ensures that the cash coupon payments generated from the collateral are adequate to pay fees and interest due on the rated notes.

## **EQUIPMENT LOANS AND LEASING**

A wide variety of additional mechanisms are commonly used to provide credit enhancement to holders of equipment ABS, including cash reserve accounts, subordinate debt, and overcollateralization. The securitizer of the deal also provides representations and warranties to the trust regarding the quality of the assets. During the pre-crisis era, deals backed by mid- to large-ticket operating leases often included third-party credit enhancement from bond insurers. Securitizers typically hold the equity piece of an equipment loan or lease deal.

The equipment ABS structure emerged from the financial crisis largely intact, although the rating agencies and the financial markets now require more credit protection for the triple-A tranches. This protection may take the form of larger subordinate tranches, higher overcollateralization, or larger reserve accounts. However, this increase in credit protection has been relatively modest for most structures.

## **DEALER FLOORPLAN LOANS**

Because of their master trust structure, credit enhancements in dealer floorplan ABS are broadly similar to those utilized in credit card ABS. One unique feature of dealer floorplan ABS is the manufacturer buyback feature, in which the manufacturer has the option to buy, at book value, any inventory that the finance company has repossessed from the dealer because of default.

Also similar to credit card ABS, the securitizer of dealer floorplan ABS is typically required to maintain a “seller’s interest” in the master trust, which is equivalent to a vertical slice of all the securitized receivables. Furthermore, the securitizer also typically retains the first-loss (equity) piece of each structure, which may also have a claim on any excess spread.

## **ASSET-BACKED COMMERCIAL PAPER**

Unlike longer-term structured credit, ABCP pools are usually not tranching, with debt holders being repaid proportionally. Excess spread, credit lines, and overcollateralization serve as the primary forms of credit support. A minority of ABCP deals, like structured investment vehicles, issued subordinated notes.

Because ABCP is a short-term form of debt, investors are exposed to liquidity risk, even when the underlying assets are not credit impaired. The most common forms of protection against liquidity risk are backup lines of credit or asset purchase agreements with commercial banks, such as by funding a reserve account or by providing a line of credit. Such support may be specific to an individual transaction or may apply to the entire conduit. During the crisis, some securitizers supported their ABCP beyond their contractual agreements because of concerns about reputational damage.

## Relative Performance during the Crisis

Financial assets, including ABS, suffered significant declines in value during the financial crisis. Broadly speaking, these declines can be attributed to two main factors. First, all structured products were affected by a sudden drop in liquidity in late 2008. In particular, problems in the short-term funding markets led both ABCP conduits and more traditional ABS investors to sharply curtail their demand for ABS.

Second, delinquencies and defaults on the underlying loans were higher than expected for many categories of ABS. For example, delinquency rates surged on many types of residential and commercial mortgages because of falling property prices and the growth of loans to borrowers with poor financial positions. In other cases, loan performance was within expectations but the securitization structure performed poorly. For example, auction rate securities collateralized by government-guaranteed student loans fell in value after the auction mechanism that set interest rates on the securities collapsed.

A preliminary overview of this heterogeneity in ABS performance over the past few years is summarized in table 4. For each asset class, the table shows the share of outstanding securities that are rated CCC+ or lower in January of each year between 2006 and 2010. Securities rated CCC+ or below are considered likely to default. Because ABS are not issued with ratings this low, ABS can only enter this category through downgrades.<sup>28</sup>

As shown in the table, nonconforming prime RMBS, nonprime RMBS, and CMBS experienced significant credit rating downgrades over this period.<sup>29</sup> In 2006, almost none of the outstanding securities in these categories were judged likely to default. By 2010, however, 28 percent of nonconforming prime RMBS, 66 percent of nonprime RMBS, and 16 percent of CMBS are in this category. In contrast, in all years the other ABS categories have very few or no securities rated likely to default.

The following discussion provides more detail on the performance of each asset class over the financial crisis. Performance is assessed by looking at changes in ABS spreads (where available) and in changes in credit ratings before and after the crisis. The discussion focuses on the role that liquidity and loan defaults played in the ABS performance.

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<sup>28</sup> Certain caveats must be kept in mind when relying on ratings data for evidence of performance. First, ratings are often slow to change in response to new information on credit riskiness. Second, our data come from Standard & Poor's, which does not rate all issues in a particular asset class, and thus we may be seeing only a subsample of the market. Third, rating agencies have received a significant amount of criticism regarding the accuracy of their rating models in certain asset classes, particularly RMBS.

<sup>29</sup>As noted earlier, for purposes of this report, the RMBS category includes only non-GSE, non-agency-guaranteed RMBS.

**Table 4**  
**Percentage of Securities Rated CCC+ or Lower (Likely to Default)**  
**by Standard & Poor's as of January of the Year Indicated**

<b>Year</b>	<b>Prime RMBS</b>	<b>Alt A and Subprime RMBS</b>	<b>CMBS</b>	<b>Credit Card</b>	<b>Auto loans and leases</b>	<b>Student loans</b>	<b>Equipment</b>
2006	0.2%	0.2%	1.8%	0.7%	0.0%	0.0%	0.0%
2007	0.2%	0.3%	1.8%	0.8%	0.0%	0.0%	0.0%
2008	0.2%	3.0%	2.0%	0.2%	0.0%	0.0%	0.0%
2009	3.6%	26.3%	4.9%	0.0%	0.0%	0.0%	0.0%
2010	28.3%	66.5%	16.0%	2.2%	0.0%	0.3%	0.0%

Note: Each security is assigned to an asset class based on the collateral type information as indicated by Standard & Poor's.

Source: Standard & Poor's.

## **NONCONFORMING RESIDENTIAL MORTGAGE-BACKED SECURITIES**

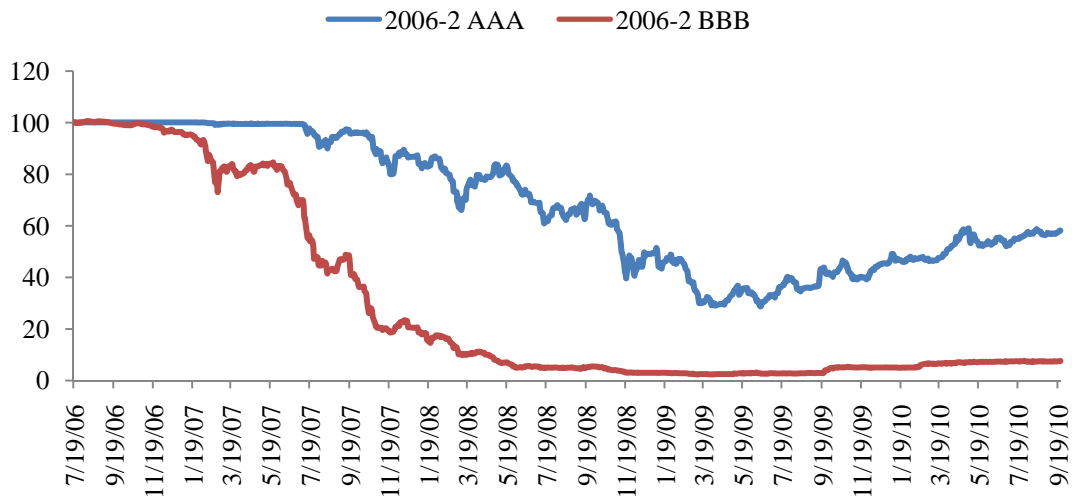
As noted earlier, the residential mortgage market suffered significant losses in value over the financial crisis because of major declines in home values and the growth of lending to financially weaker borrowers. Home mortgage delinquency rates began to rise in late 2007 and are currently at record highs.<sup>30</sup>

Figure 9 shows the triple-A and triple-B tranches of the ABX.HE 2006-2 index, which is an index of the prices of credit default swaps written on subprime MBS. The underlying securities in the ABX.HE 2006-2 were issued in the first half of 2006. Spreads are used as a performance measure for all other asset classes, but spreads are nearly impossible to calculate for subprime RMBS because of the sharp drop in subprime RMBS prices.

The triple-B rated index fell to near zero by mid-2008 and has remained around this level since then. The triple-A index also declined dramatically, although the index has picked up a bit in recent months as investors have reconsidered the value of these securities in light of narrower overall risk spreads, stabilizing home prices and greater understanding of mortgage modification protocols.

<sup>30</sup> See Board of Governors of the Federal Reserve System, "Charge-Off and Delinquency Rates on Loans and Leases at Commercial Banks," statistical release, [www.federalreserve.gov/releases/chargeoff/delallsa.htm](http://www.federalreserve.gov/releases/chargeoff/delallsa.htm).

**Figure 9**  
**ABX.HE Index for 2006-2 Vintage RMBS Securities**



Source: Markit.

The poor performance of nonconforming RMBS is also apparent in the large number of downgrades. Table 5 shows ratings transitions for nonconforming prime RMBS in the year indicated.<sup>31</sup> Note that the table only indicates transitions across major rating categories. Thus, this and other tables showing rating transitions do not show upgrades or downgrades within these categories.

In 2006, no triple-A securities were downgraded, and, in fact, the only downgrades were from “speculative” to “likely to default.” The picture is quite different so far in 2010, when 9 percent of securities rated triple-A have been downgraded to “investment grade,” 23 percent of securities rated investment grade have been downgraded to “speculative,” and 48 percent of securities rated speculative have been downgraded to “likely to default.”

<sup>31</sup>The credit rating transition tables in this section are estimated by Federal Reserve Board staff using the Standard & Poor’s (S&P) RatingsXpress data. These statistics are for securities issued by U.S. entities in U.S. dollars, carrying a local currency rating, and having a rating on the scale of AAA to D. Each security is assigned to an asset class based on the collateral type information provided by S&P. For example, the asset class “prime RMBS” includes all securities whose collateral type is recognized by S&P as “RMBSPRIME.” Similarly, the asset class “subprime alt-A” includes all securities with collateral type “RMBSUBPRM” or “RMBSALTA.” Securities backed by collateral that mixes multiple types of assets are not included. Including such securities does not materially change the estimates.

**Table 5**  
**Percentage of Nonconforming Prime RMBS–Rated Securities with Ratings Changes**  
**in the Year Indicated from 2006 to 2010**

Year	Number of Issues Rated at the Beginning of Year	Rating Change Direction	Ratings Changes over the Year				
			AAA to/from IG	AAA to/from Speculative	IG to/from Speculative	IG to/from Likely to Default	Speculative to/from Likely to Default
2006	15,499	Downgrades	0.0	0.0	0.0	0.0	0.3
		Upgrades	0.5	0.0	0.6	0.0	0.0
2007	18,259	Downgrades	0.0	0.0	0.2	0.0	0.7
		Upgrades	1.1	0.0	0.5	0.0	0.0
2008	20,370	Downgrades	7.7	1.9	5.3	4.5	26.4
		Upgrades	0.5	0.0	0.4	0.0	0.0
2009	19,949	Downgrades	11.8	10.2	15.7	46.6	77.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2010	19,327	Downgrades	8.6	1.7	22.5	11.2	47.6
		Upgrades	0.1	0.0	0.0	0.0	0.0

Note: Upgrades and downgrades are expressed as a percentage of all rated securitizations in a specified year. “Investment Grade” (IG) are ratings from AA+ to BBB-, “Speculative” are from BB+ to B-, and “Likely to Default” are CCC+ and below.

Source: Standard & Poor’s.

The deterioration in performance for nonconforming nonprime RMBS, which encompasses alt-A and subprime RMBS (table 6), is considerably more severe. As with nonconforming prime RMBS, almost no nonconforming nonprime RMBS were downgraded across major categories in 2006. In 2010, however, downgrades were widespread, with 9 percent of outstanding triple-A securities downgraded to “investment grade,” 16 percent of investment-grade securities downgraded to “speculative,” and 39 percent of speculative securities downgraded to “likely to default.”

**Table 6**  
**Percentage of Nonconforming Nonprime RMBS–Rated Securities**  
**with Ratings Changes in the Year Indicated from 2006 to 2010**

Year	Number of Issues Rated at the Beginning of Year	Rating Change Direction	Ratings Changes over the Year				
			AAA to/from IG	AAA to/from Speculative	IG to/from Speculative	IG to/from Likely to Default	Speculative to/from Likely to Default
2006	23,586	Downgrades	0.0	0.0	0.2	0.0	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2007	37,579	Downgrades	0.1	0.0	10.1	3.4	28.4
		Upgrades	0.2	0.0	0.1	0.0	0.0
2008	46,070	Downgrades	10.2	15.1	13.5	37.6	74.6
		Upgrades	0.0	0.0	0.0	0.1	0.1
2009	45,134	Downgrades	9.0	11.3	13.6	53.3	91.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2010	45,445	Downgrades	8.9	3.1	15.9	11.1	39.0
		Upgrades	0.0	0.0	0.0	0.0	0.0

Note: Upgrades and downgrades are expressed as a percentage of all rated securitizations in a specified year. “Investment Grade” (IG) are ratings from AA+ to BBB-, “Speculative” are from BB+ to B-, and “Likely to Default” are CCC+ and below.

Source: Standard & Poor’s.

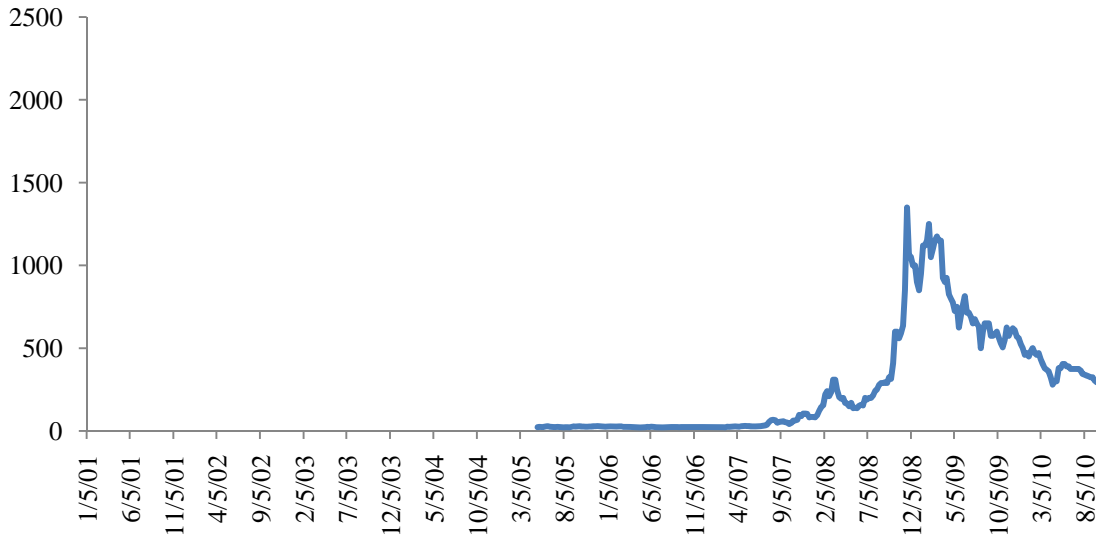
## COMMERCIAL MORTGAGE-BACKED SECURITIES

Delinquency rates on commercial mortgages began to rise in early 2007 and are now at the same elevated levels that prevailed during the late 1980s and early 1990s, the prior period of distress for this asset class.<sup>32</sup> Delinquency rates on commercial mortgages, like those on residential mortgages, are high, in part, because of poor underwriting and steep declines in the value of commercial real estate.

Spreads are used to assess performance, and move inversely to prices. An increase in spreads, therefore, indicates a deterioration in performance. As shown in figure 10, spreads on triple-A rated CMBS securities climbed sharply in 2008 and 2009 but have since partially fallen. Some of the rise and subsequent decline in spreads points to the effect of diminished liquidity at the height of the crisis. However, the fact that spreads remain elevated, even in 2010, likely reflects problems with the underlying collateral.

<sup>32</sup> See Board of Governors, “Charge-Off and Delinquency Rates,” in note 30.

**Figure 10**  
**Fixed-Rate Spread over Swap for 10-Year AAA-Rated CMBS**



Source: JPMorgan Chase.

Although downgrades are common in CMBS by the end of the 2006–10 period, the downgrades, as shown in table 7, had not become as widespread or as severe as for nonconforming nonprime RMBS. In 2006, only a handful of securities were upgraded or downgraded across major rating categories, and the share of upgrades was slightly higher than the share of downgrades.

In 2009, 7 percent of triple-A securities were downgraded to “investment grade,” 19 percent of investment-grade securities were downgraded to “speculative,” and 30 percent of speculative deals were downgraded to “likely to default.”

**Table 7**  
**Percentage of CMBS-Rated Securities with Ratings Changes**  
**in the Year Indicated from 2006 to 2009**

Year	Number of Issues Rated at the Beginning of Year	Rating Change Direction	Ratings Changes over Year				
			AAA to/from IG	AAA to/from Speculative	IG to/from Speculative	IG to/from Likely to Default	Speculative to/from Likely to Default
2006	5,255	Downgrades	0.0	0.0	0.1	0.0	0.6
		Upgrades	1.0	0.0	0.1	0.0	0.0
2007	7,483	Downgrades	0.0	0.0	0.5	0.0	1.0
		Upgrades	4.9	0.9	1.7	0.7	2.2
2008	7,208	Downgrades	0.3	0.0	2.0	0.4	9.4
		Upgrades	1.9	0.0	0.6	0.0	0.7
2009	7,125	Downgrades	7.3	1.7	19.3	5.4	29.8
		Upgrades	0.2	0.0	0.1	0.0	0.0
2010	8,129	Downgrades	3.3	0.1	12.2	1.6	18.6
		Upgrades	0.3	0.0	0.1	0.0	0.2

Note: Upgrades and downgrades are expressed as a percentage of all rated securitizations in a specified year. “Investment Grade” (IG) are ratings from AA+ to BBB-, “Speculative” are from BB+ to B-, and “Likely to Default” are CCC+ and below.

Source: Standard & Poor’s.

## CREDIT CARDS

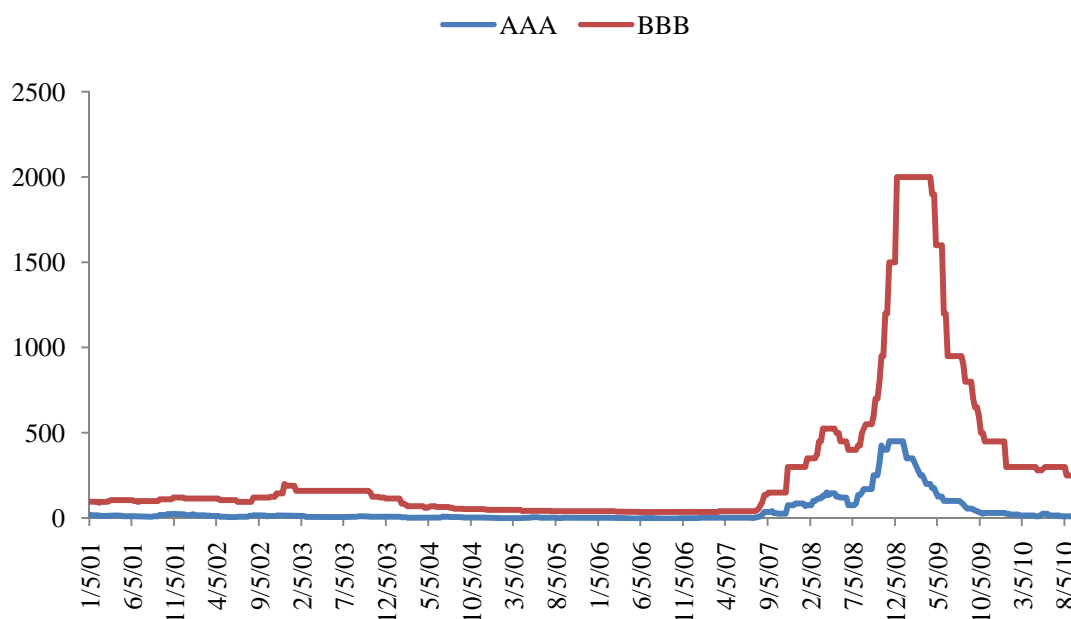
Credit card delinquency rates rose markedly in 2008 and 2009, peaking at 6.75 percent in the second quarter of 2009.<sup>33</sup> The rise in delinquencies was predominantly due to the sharp increase in unemployment. Despite this increase in delinquency rates, most credit card ABS performed well through the financial crisis—in part because many securitizers supported their master trusts rather than risk the reputational damage that could result from negative rating actions or early amortization. Securitizers added new subordinate tranches, increased over collateralization, strengthened spread accounts, raised interest rates and fees on existing accounts; and added higher-quality receivables to the master trust and removed poorly performing receivables, to the extent allowed. Securitizers also temporarily discounted principal receivables to boost the portfolio yield.

<sup>33</sup> For delinquency rates for credit card loans held by commercial banks, see Board of Governors, “Charge-Off and Delinquency Rates,” in note 30.

The only master trust that experienced widespread downgrades was that of Advanta Bank Corporation, a securitizer of small business credit cards.<sup>34</sup> After experiencing charge-offs more than twice the industry average, Advanta’s master trust entered early amortization in June 2009. The most junior tranche was fully written down in August 2009, but the senior tranches are still expected to pay off in full.

Spreads on credit card ABS (figure 11) widened sharply during the peak of the financial crisis, but have since considerably narrowed. By late 2009, spreads on triple-A rated credit card ABS had returned to pre-crisis levels.

**Figure 11**  
**Fixed-Rate Spreads over Swaps for 2-year AAA- and BBB-Rated Credit Card ABS**



Source: Citigroup.

Likewise, downgrades of credit card ABS were rare during the 2006–10 period, even during the height of the crisis. The only significant cluster of downgrades involved movements from “speculative” to “likely to default” in 2009. As shown in table 8, only 3 percent of triple-A securities were downgraded to investment grade in 2008, and 4 percent to speculative in 2009, with significantly smaller shares downgraded in other years.

<sup>34</sup> Advanta’s parent company, Advanta Corporation, filed for bankruptcy in November 2009, and Advanta Bank Corporation was taken over by the Federal Deposit Insurance Corporation on March 19, 2010.

**Table 8**  
**Percentage of Credit Card–Rated Securities with Ratings Changes**  
**in the Year Indicated from 2006 to 2009**

Year	Number of Issues Rated at the Beginning of Year	Rating Change Direction	Ratings Changes over Year				
			AAA to/from IG	AAA to/from Speculative	IG to/from Speculative	IG to/from Likely to Default	Speculative to/from Likely to Default
2006	581	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	1.4	0.0	0.0	0.0	0.0
2007	715	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2008	685	Downgrades	2.6	0.0	1.5	0.0	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2009	584	Downgrades	0.3	3.8	0.0	2.4	29.4
		Upgrades	0.0	0.0	17.6	0.0	0.0
2010	546	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0

Note: Upgrades and downgrades are expressed as a percentage of all rated securitizations in a specified year. “Investment Grade” (IG) are ratings from AA+ to BBB-, “Speculative” are from BB+ to B-, and “Likely to Default” are CCC+ and below.

Source: Standard & Poor’s.

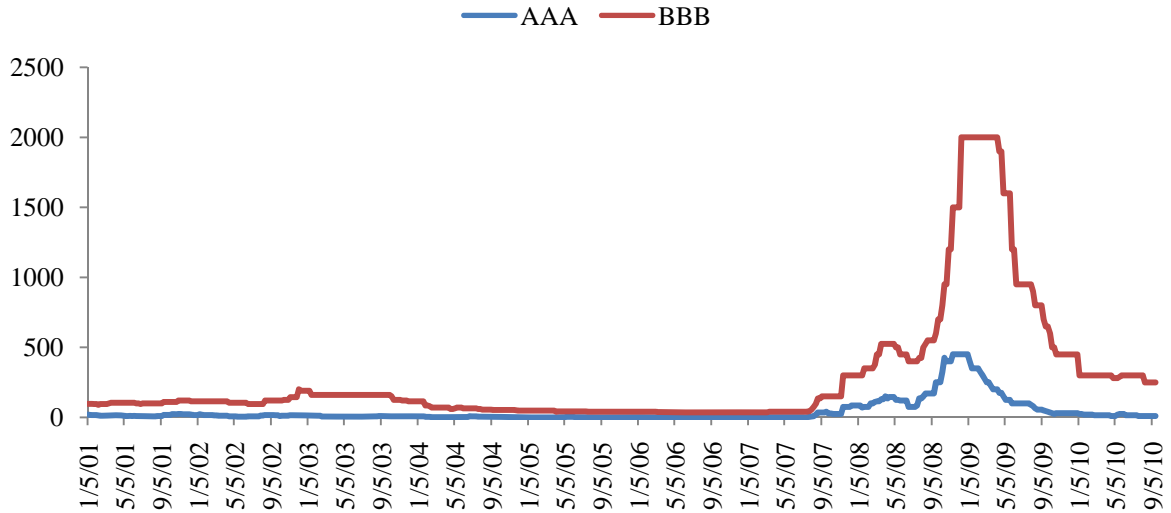
## AUTO LOANS AND LEASES

Delinquency rates on auto loans increased considerably during the financial crisis but remained near the high end of their historical range. Auto loan and lease ABS structures are designed to withstand this level of stress, and almost all performed well during the financial crisis. In fact, few, if any, triple-A tranches of auto ABS have experienced a principal write-down in the nearly 25 years of issuance. This strong performance is partly a function of the auto ABS structure. Because the underlying loans pay down fairly quickly, the level of credit enhancement increases over the life of the deal as the senior tranches pay down much quicker than the subordinate tranches.

The credit rating downgrades of auto loan and lease ABS that did occur are largely confined to nonprime auto ABS with third-party insurance that guaranteed timely payment of principal and interest. When the credit ratings of the monoline bond insurers were downgraded, the auto ABS that relied on such guarantees were also downgraded.

In line with the strong performance, spreads on prime auto ABS rose in line with other structured products during the financial crisis (figure 12) but have since returned to pre-crisis levels.

**Figure 12**  
**Fixed-Rate Spreads over Swaps for 2-year AAA- and BBB-Rated Prime Auto ABS**



Source: Citigroup.

The ratings transitions data also indicate that auto loan structures performed well during the crisis, as almost no triple-A auto ABS were downgraded in any year but 2008 (table 9). In addition, some investment-grade auto ABS were upgraded to triple-A in every year over this period. Auto lease ABS, although not shown, also demonstrated strong performance.

**Table 9**  
**Percentage of Auto Loan Rated Securities with Ratings Changes**  
**in the Year Indicated from 2006 to 2009**

Year	Number of Issues Rated at the Beginning of Year	Rating Change Direction	Ratings Changes over Year				
			AAA to/from IG	AAA to/from Speculative	IG to/from Speculative	IG to/from Likely to Default	Speculative to/from Likely to Default
2006	635	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	8.3	0.0	14.3	0.0	0.0
2007	861	Downgrades	0.2	0.0	0.5	0.0	0.0
		Upgrades	32.2	0.0	31.6	0.0	0.0
2008	679	Downgrades	13.8	0.0	0.0	0.0	0.0
		Upgrades	5.4	0.0	0.0	0.0	0.0
2009	560	Downgrades	0.3	0.0	0.4	0.0	0.0
		Upgrades	15.6	4.5	31.8	0.0	0.0
2010	426	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	4.2	0.0	7.1	0.0	0.0

Note: Upgrades and downgrades are expressed as a percentage of all rated securitizations in a specified year. “Investment Grade” (IG) are ratings from AA+ to BBB-, “Speculative” are from BB+ to B-, and “Likely to Default” are CCC+ and below.

Source: Standard & Poor’s.

## STUDENT LOANS

For student loan ABS collateralized by government-guaranteed loans, the presence of the government guarantee insured that these asset pools performed reasonably well during the financial crisis. However, the structures themselves experienced some problems.

Student loans can have maturities as long as 30 years, and even during the height of the credit boom it was somewhat difficult to sell long-maturity securities. Consequently, many structures include securities that had long legal maturities, but are designed to perform as shorter-term notes. These securities include variable-rate demand notes, which have explicit liquidity support through a letter of credit provided by a financial institution; auction rate securities, which have implicit liquidity support from a broker-dealer; and rate-reset notes, which have to be remarketed after an initial three- to seven-year period. All three types of securities experienced problems during the financial crisis, with the ARS market, described in more detail later in the report, collapsing completely.

Although ARS have long contractual maturities, the interest rates are reset at auctions held at fixed intervals, typically about 28 days. At these auctions, investors can choose to hold, sell, or increase their security holdings, with the auctions determining the lowest interest rate that clears the market for the next period. Historically, if demand for the securities was insufficient to establish a reasonable interest rate, dealers would step in to support the auction. However, dealers are under no legal obligation to intervene. As the financial crisis intensified, most major dealers withdrew their support in early February 2008 and the auctions began to fail in large numbers.

When auctions fail, the interest rates on the ABS are set to maximum “penalty rates” established by the bond indenture.<sup>35</sup> The structures are not designed to withstand extended periods of penalty rates. In fact, prior to the crisis, many of the securities were undercollateralized at issuance, with the expectation that excess spread would be retained by the structure so that, when combined with the student loan assets, the structure would reach parity over time. With penalty rates eating into or eliminating the excess spread, rating agencies anticipated that some of these securities could suffer a principal loss. Subsequent rating agency downgrades of these bonds were then widespread.

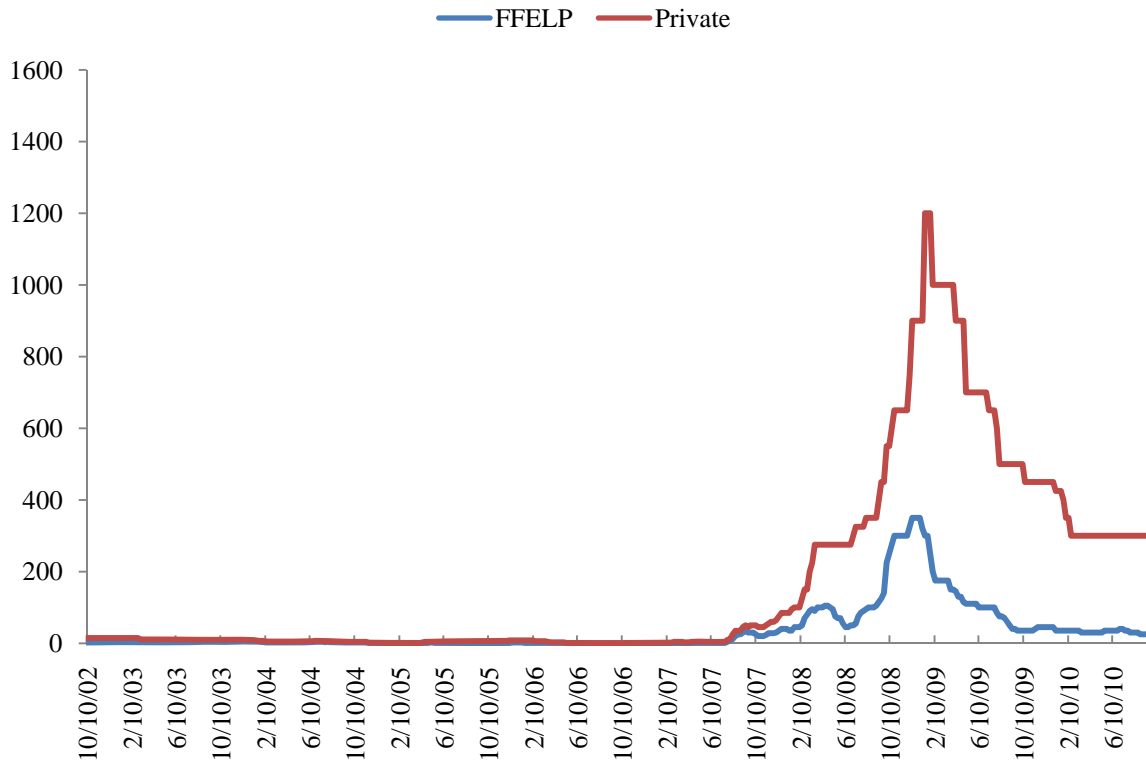
For student loan ABS collateralized by private student loans, the performance of the student loans deteriorated beyond analyst expectations. Because private loans are a relatively new product, their performance had not been tested previously during an extended economic downturn. In addition, other ABS were downgraded when the monoline bond insurer that wrapped the transactions was downgraded.

Spreads on government-guaranteed student loan ABS rose in the financial crisis (figure 13), along with other fixed-income products, but have since returned to near pre-crisis levels. This spread series excludes ARS, so it may not reflect the full measure of the strains in that market. Spreads on private student loan ABS remain significantly above pre-crisis levels, in large part because of ongoing concerns about the performance of private student loans during a severe recession.

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<sup>35</sup> Many indentures also contain provisions capping the amount of interest that is payable.

**Figure 13**  
**Floating-Rate Spreads over 3-month LIBOR for 3-year AAA-rated FFELP**  
**and Private Student Loan ABS**



Source: JPMorgan Chase.

As indicated earlier, a large share of student loan auction rate securities backed by government-guaranteed loans were downgraded by one or two notches when the auctions entered a period of prolonged failure. However, because of the strength of the underlying government-guaranteed collateral, more severe downgrades were uncommon. Downgrades of private student loans have also generally been one or two notches. This pattern is confirmed by table 10, which displays only a few downgrades across major rating categories.

**Table 10**  
**Percentage of FFELP and Private Student Loan–Rated Securities with Ratings**  
**Changes in the Year Indicated from 2006 to 2009**

Year	Number of Issues Rated at the Beginning of Year	Rating Change Direction	Ratings Changes Over Year				
			AAA to/from IG	AAA to/from Speculative	IG to/from Speculative	IG to/from Likely to Default	Speculative to/from Likely to Default
2006	1,929	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2007	2,264	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2008	2,094	Downgrades	17.5	0.0	0.0	0.0	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2009	2,115	Downgrades	2.3	0.1	0.0	0.8	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2010	2,068	Downgrades	4.7	0.8	6.2	1.3	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0

Note: Upgrades and downgrades are expressed as a percentage of all rated securitizations in a specified year. “Investment Grade” (IG) are ratings from AA+ to BBB-, “Speculative” are from BB+ to B-, and “Likely to Default” are CCC+ and below.

Source: Standard & Poor’s.

## COLLATERALIZED LOAN OBLIGATIONS

Public data on rating transitions for CLOs at this level of granularity is limited, but Moody’s *CLO Interest* newsletter from April 2010 provides some information on rating transitions between December 2008 and December 2009. During that time, 65 percent of triple-A tranches were downgraded, most of them (75 percent) to Aa. Lower-rated tranches were generally downgraded at a higher frequency (84 percent of Aa, and nearly 100 percent of A, Baa, Ba, and B) and tended to fall by more notches.<sup>36</sup>

Despite fairly widespread downgrades, there were only a few actual defaults. Defaults in the underlying collateral—syndicated corporate loans—were limited, with CLO collateral defaults peaking at 6.5 percent in June 2009.<sup>37</sup> The relative transparency of the asset pool and the relative simplicity of the structures may also have played a role, in addition to the credit enhancements and incentive alignment mechanisms discussed earlier.

<sup>36</sup> Moody’s Investors Service (2010), *CLO Interest*, newsletter, April.

<sup>37</sup> Moody’s Investors Service (2010), *CLO Interest*, newsletter, August.

Breaches of overcollateralization triggers peaked in June 2009, with 57 percent of CLOs failing minimum OC tests. Since then, most deals have cured and only 10 percent are still in breach of minimum OC levels as of September 2010.<sup>38</sup> Some estimates suggest that 15 percent of outstanding CLO deals have had at least one tranche upgraded since mid-2009 despite the toughening of rating standards. Mezzanine tranches have reportedly accounted for most of the recent upgrades.

## **EQUIPMENT LOANS AND LEASING**

Equipment loan and lease ABS in general, and the triple-A rated securities, in particular, have displayed strong performance throughout the financial crisis. As with auto ABS, the short maturity of the underlying equipment loans means that the level of credit enhancement increases over the life of the security. However, because of the sharp contraction in residential and commercial construction, and the resulting effect on the market prices of construction equipment, ABS with higher concentrations of construction equipment loans have realized material performance deterioration versus earlier vintages and are performing worse than ABS collateralized by other types of equipment loans.

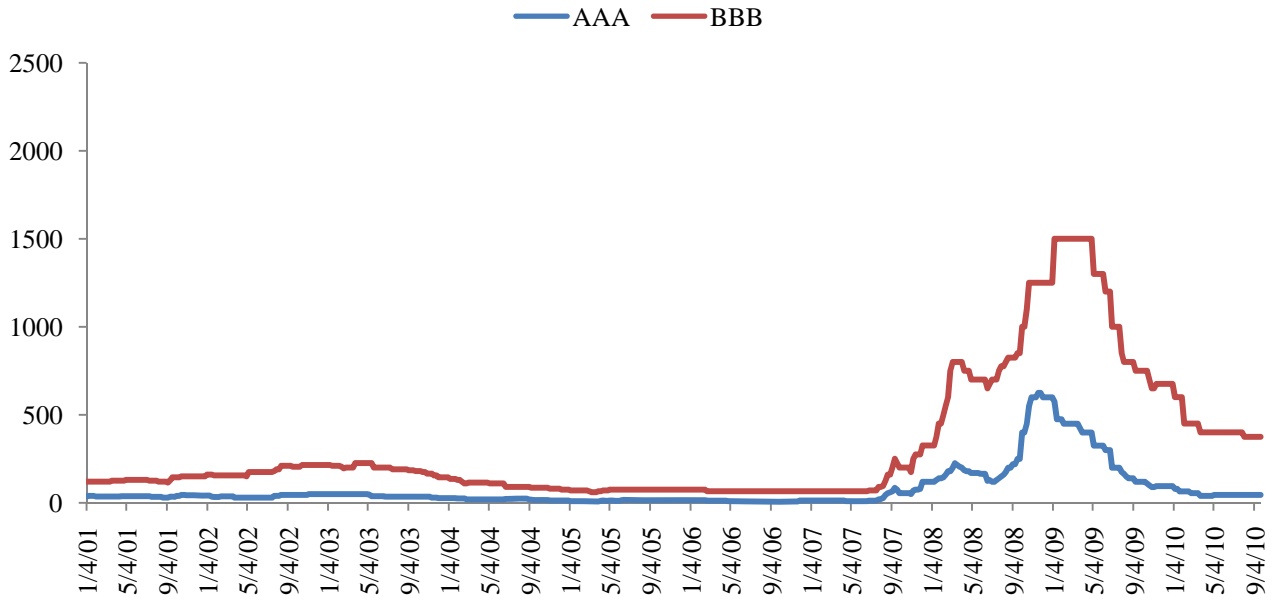
As in the auto sector, most of the downgrades that have occurred have been associated with the downgrades of the monoline bond insurers. Smaller specialty finance companies often used this insurance to “wrap” their transactions because specialty companies have less access to the capital markets than the captive finance companies associated with equipment manufacturers. However, the downgrades not related to bond insurer ratings have been relatively small, usually on the order of one or two notches.

Spreads on triple-A rated equipment ABS surged in line with other fixed-income products in late 2008 (figure 14), but rapidly declined as the effects of the financial crisis eased throughout 2009.

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<sup>38</sup> See Loan Syndications and Trading Association, “LSTA Meeting,” in note 24.

**Figure 14**  
**Fixed-Rate Spreads over Swaps for 3-year AAA- and BBB-Rated**  
**Equipment Loan ABS**



Source: JPMorgan Chase.

As shown in table 11, a handful of equipment ABS classes have experienced downgrades, but most securities have had stable performance or even upgrades over time.

**Table 11**  
**Percentage of Equipment-Rated Securities with Ratings Changes**  
**in the Year Indicated from 2006 to 2009**

Year	Total Number of Issues Rated at the Beginning of Year	Rating Change Direction	Ratings Changes over Year				
			AAA to/from IG	AAA to/from Speculative	IG to/from Speculative	IG to/from Likely to Default	Speculative to/from Likely to Default
2006	141	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	0.0	0.0	0.0	0.0	0.0
2007	175	Downgrades	0.0	0.0	0.0	0.0	0.0
		Upgrades	25.9	0.0	0.0	0.0	0.0
2008	135	Downgrades	1.0	0.0	0.0	0.0	0.0
		Upgrades	5.9	0.0	0.0	0.0	0.0
2009	85	Downgrades	0.0	0.0	3.6	0.0	0.0
		Upgrades	7.1	0.0	0.0	0.0	0.0
2010	61	Downgrades	0.0	0.0	0.0	0.0	100.0*
		Upgrades	4.8	0.0	0.0	0.0	0.0

Note: Upgrades and downgrades are expressed as a percentage of all rated securitizations in a specified year. "Investment Grade" (IG) are ratings from AA+ to BBB-, "Speculative" are from BB+ to B-, and "Likely to Default" are CCC+ and below.

\*The 100% reflects the downgrade of the single security in this category.

Source: Standard & Poor's.

## DEALER FLOORPLAN LOANS

Dealer floorplan loans have performed fairly well during the financial crisis, in part because manufacturers often intervene in the event of default. Generally, as long as the manufacturer is in healthy financial condition, it will purchase the repossessed inventory at or close to full value when a dealer defaults because the manufacturer can likely resell the inventory to another dealer and recoup all its cost.

As a result, the strength of the manufacturer can play a role in the ABS rating. During the financial crisis, the decline in auto sales meant that inventory stayed on dealer lots for longer periods of time. The bankruptcy filings of General Motors (GM) and Chrysler led to the early amortization of some or all of their floorplan transactions. However, the triple-A tranches of both the Chrysler and GM securitizations were paid in full.

## ASSET-BACKED COMMERCIAL PAPER

In August 2007, the ABCP market came under severe stress as certain mortgage loans began to experience worse-than-expected delinquency rates.<sup>39</sup> As the market value of the mortgage loans declined, the values of related RMBS and CDOs also came under pressure and overwhelming uncertainty prevailed in the market. At the same time, some ABCP programs began failing conditional cash flow tests. In particular, three single-seller vehicles failed:

1. *Broadhollow Funding LLC*. A program termination event was triggered that required the conduit to liquidate its mortgage loans following the bankruptcy filing of its parent, American Home Mortgage Investment Corp., on August 6, 2007. Of note, the conduits extendibility feature was triggered at a rate well below market rates. As such, money market funds became increasingly wary of owning paper with such features and began to exit the market in short order.
2. *Ottimo Funding Ltd*. This market value program backed by private-label RMBS was unable to issue new ABCP on the heels of the Broadhollow event, triggering liquidation of its portfolio.
3. *Luminent Star Funding Statutory Trust I*. On August 7, 2007, this RMBS-backed market value extendible program triggered a 45-day liquidation period for its portfolio.

The market rapidly contracted, with total outstanding ABCP falling \$190 billion in August 2007 and then another \$160 billion through the remainder of the year. Single-seller programs that specialized in purchasing and warehousing mortgages fell from \$23 billion to \$2 billion. Standards & Poor's reported that between August 2007 and July 2008, 27 ABCP conduits dedicated solely or in part to securities arbitrage, including market value programs, exited the market. Mortgage single-seller programs also experienced significant distress.

The market deteriorated further in autumn 2008, when a money market mutual fund "broke the buck" following the bankruptcy of Lehman Brothers. ABCP conduit access to credit was significantly impaired as money market funds sought to reduce exposure to commercial paper.

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<sup>39</sup> Information for this section comes from Moody's Investors Service (2008), *2007 Review and 2008 Outlook: US Asset-Backed Commercial Paper* (Moody's: New York, February); and Daniel M. Covitz, Nellie Liang, and Gustavo A. Suarez (2009), "The Evolution of a Financial Crisis: Panic in the Asset-Backed Commercial Paper Market," Finance and Economics Discussion Series 2009-36 (Washington: Board of Governors of the Federal Reserve System, August).

## **Interaction of Risk Retention and Accounting Standards**

This section summarizes the primary accounting standards relevant to the issuance of ABS and discusses the potential combined effect of risk retention requirements, those accounting standards, and regulatory capital requirements. Depending upon the type and amount of risk retention required and the type of power a securitizer or originator has to direct the activities of entities used to issue ABS, originators or securitizers may be required to maintain securitized assets and corresponding liabilities on their balance sheets. This result may have negative earnings effects and may lead to higher capital charges for companies subject to regulatory capital requirements. This section also discusses potential unintended consequences associated with certain types of risk retention.

### **SUMMARY OF CURRENT SALE ACCOUNTING AND CONSOLIDATION REQUIREMENTS**

As discussed in detail earlier in this study, the issuance of ABS commonly involves an originator transferring assets to a special purpose entity. That special purpose entity or another special purpose entity then issues securities supported by cash flows from the assets held. The transactions and arrangements involved in the issuance of ABS are primarily addressed by the following generally accepted accounting principles issued by the Financial Accounting Standards Board (FASB): Accounting Standards Codification Topic 860, Transfers and Servicing (ASC 860, commonly called FAS 166); and FASB Accounting Standards Codification Topic 810, Consolidation (ASC 810, commonly called FAS 167).

ASC 860 addresses whether securitizations and other transfers of financial assets are treated as sales or financings. ASC 810 addresses whether legal entities often used in securitization and other structured finance transactions should be included in the consolidated financial statements of any one of the parties involved in the transaction. Together, this guidance determines the extent to which a securitization transaction is on- or off-balance sheet of the originator, securitizer, or another company.

Amendments to both ASC 860 and ASC 810 were effective for companies' first annual reporting period that began after November 15, 2009. In general, the amendments implemented by most companies at the beginning of 2010 resulted in more securitized assets and associated liabilities being reported on-balance sheet, as opposed to off-balance sheet.

To determine the accounting for a securitization or other similar asset-backed transaction, an originator or securitizer must first establish whether it is required to

consolidate the special purpose entity from which ABS were issued. Then, if it held the assets on–balance sheet prior to the securitization, it must establish whether its transfer of assets to the entity qualifies as a sale for accounting purposes. Control is the premise for both determinations.

A securitizer would be required to consolidate the entity that issues the ABS if it has a controlling financial interest in that entity. It would have a controlling financial interest if its involvement with the entity has both of the following characteristics:

1. The power to direct the activities of the special purpose entity that most significantly affect the entity’s economic performance
2. The obligation to absorb losses of the entity that could potentially be significant to the entity or the right to receive benefits from the entity that could potentially be significant to the entity

In short, a securitizer would be the primary beneficiary of a special purpose entity and be required to consolidate the entity if it has *power* over the most significant activities of the entity and it is exposed to *benefits* (including losses) of the entity. The analysis and determination require judgment and consideration of all the facts and circumstances pertaining to a company’s involvement with a special purpose entity.

In the second step, companies that held securitized assets on–balance sheet prior to their securitization must determine whether the transfer of assets to an unconsolidated special purpose entity qualifies as a sale transaction for accounting purposes. Broadly speaking, the transaction must (1) legally isolate the transferred assets from the seller, (2) permit the buyer to pledge and resell the assets (or interests backed by those assets), and (3) not permit the seller to take back the transferred assets.

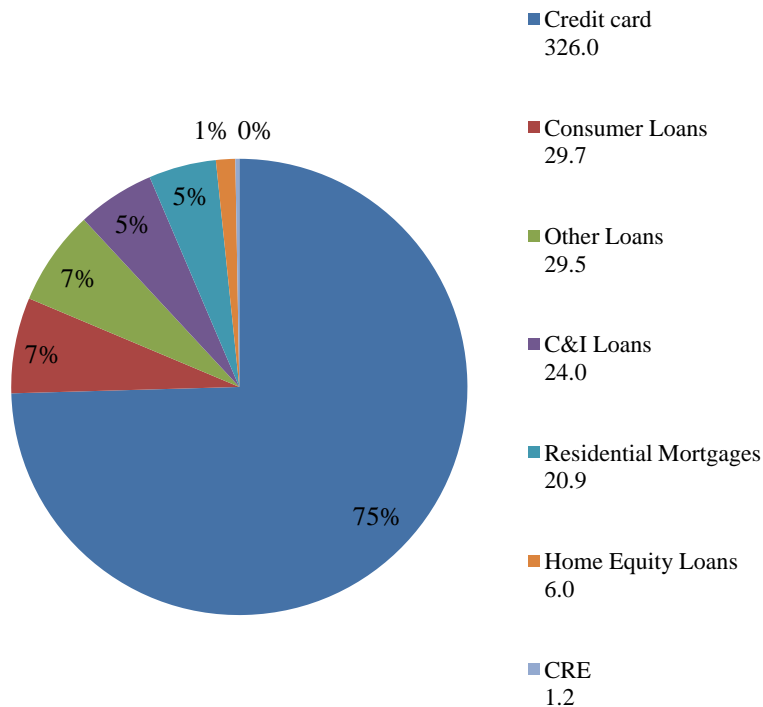
## **CURRENT CONSOLIDATION PRACTICES BY ASSET CLASS**

One of the objectives underlying the approach governing the accounting for ABS issuance was to improve transparency by reporting more assets and liabilities on–balance sheet, as opposed to off–balance sheet. In part, the accounting changes described above responded to concerns that important risks, obligations, and information about leverage were not clear because assets and liabilities were not included in the balance sheets of originators and securitizers. Indeed, implementation of the accounting changes succeeded in bringing some assets and liabilities back onto balance sheets.

Based on regulatory data reported to the agencies, commercial banks consolidated approximately \$437 billion of loans, \$326 billion of which were securitized credit card receivables, as a result of the accounting changes that became effective in 2010. The following pie chart (figure 15) provides information about other types of loans that were

consolidated by commercial banks as a result of implementing the accounting changes at the beginning of 2010.

**Figure 15**  
**FAS 167 Loan Consolidation by Asset Class**



Source: Federal Reserve Board, Statistical Release H.8, "Assets and Liabilities of Commercial Banks in the United States."

Commercial banks were not the only companies that consolidated significant amounts of financial assets as a result of implementing the accounting changes at the beginning of 2010. Some financial institutions that had sponsored and currently manage CDOs and CLOs consolidated those arrangements and most, if not all, financial institutions sponsoring ABCP conduits consolidated those programs. Firms outside the financial services industry, including large industrial companies, also consolidated asset-backed financing structures.

While the balance sheet treatment for issuance of ABS can vary depending on the specifics involved in structuring transactions and depending on the distribution of economic interest among investors and entities affiliated with the transaction, table 12

provides observations of general practices by asset class based on the practices of major securitizers within the class.

**Table 12**  
**Change in Consolidation Practices after FAS 167 by Asset Class**

<b>Asset category</b>	<b>Prior to FAS 167</b>	<b>After FAS 167</b>
ABCP	Generally off-balance sheet for the securitizer and the originator.	Generally, ABCP conduits were required to be consolidated by their securitizers, bringing the conduit's assets (often senior interests in underlying receivables) and liabilities on-balance sheet.
Auto loans and leases	Generally, but not entirely, on-balance sheet for the originator/securitizer, who were usually the same party.	Generally no change. Auto loans were required to be consolidated for the originator/securitizer. In some cases, previously off-balance-sheet structures were required to be consolidated.
CLOs	Generally off-balance sheet.	Some securitization trusts were required to be consolidated. Others were not required to be consolidated. Must consider subclasses to identify trends for more-specific types of structures.
CMBS	Generally off-balance sheet for the originator/securitizer, who were usually the same party.	Generally, the B-piece buyer who is also the special servicer is required to consolidate the mortgage loans and liabilities on its balance sheet.
Credit cards	Generally off-balance sheet for the originator/securitizer, who were usually the same party.	Generally, credit card securitizers were required to consolidate credit card master trusts.
Dealer floorplan loans	Generally on-balance sheet treatment.	Generally, no change. Dealer floorplan loans were required to be consolidated by the originator/securitizer.
Equipment loans and leases	Generally off-balance sheet for the originator/securitizer, who were usually the same party.	Some but not all securitization trusts were required to be consolidated. Must consider subclasses to identify trends for more specific types of underlying assets.
RMBS	Generally off-balance sheet for the securitizer and the originator, who were usually the same party.	Relatively few private-label securitization trusts were required to be consolidated by the securitizer.
Student loans	Generally off-balance sheet for the originator and securitizer.	Student loan securitizers generally were required to consolidate student loan trusts.

## **POTENTIAL INTERACTION BETWEEN RISK RETENTION AND ACCOUNTING TREATMENT**

Risk retention applied to a securitizer would require that party to consolidate the securitized assets if it results in the securitizer being identified as the primary beneficiary for the special purpose entity used to issue ABS. As described above, the primary beneficiary has a controlling financial interest in a special purpose entity and should

consolidate the entity if it has *power* over the most significant activities of the entity and it is exposed to *benefits* (or losses) of the entity.

By design, the accounting guidance does not provide a quantitative bright line threshold for determining what “could potentially be significant” for purposes of determining whether an entity is required to consolidate. Currently, many in the industry believe that, as an order of magnitude, a 5 percent pro rata share of the beneficial interests issued by a securitization trust might not meet the threshold of an interest that could potentially be significant barring some additional interest in the economic performance of the arrangement. Pro rata risk retention at between 5 to 10 percent would be closer to being potentially significant, requiring closer scrutiny of the facts and circumstances. At some level above 10 percent is where many view a pro rata share of the beneficial interests to potentially be significant. Such clarity has not formed with respect to the retention of subordinated or first-loss shares of risk but most seem to agree that a subordinated share could be potentially significant at a lower threshold than the threshold for a pro rata share of the beneficial interests.

Depending on the type and amount of risk retention required, a securitizer could become exposed to benefits of the issuance entity for accounting purposes because of the incremental effect of the risk retention requirement. Although it does not appear that risk retention affects a securitizer’s power over the issuance entity, it may affect the capacity in which the securitizer is using its power as either an agent or a principal, which also has the potential to affect the consolidation analysis.

Risk retention applied to the originator or holder of assets that are securitized by a third-party aggregator would require the originator or holder to continue to recognize the assets if it were to prevent sale accounting treatment under ASC 860. As described above, a transfer of assets broadly speaking must do all of the following in order to qualify for sale accounting treatment:

1. Legally isolate the transferred assets from the seller
2. Permit the buyer to pledge and resell the assets (or in the case of a securitization, permit the third-party interest holders to sell their interests)
3. Not permit the seller to take back the transferred assets

A recourse agreement requiring the originator or holder of assets to absorb a percentage of the credit loss for the assets after sale would not appear to negate any of the three items above unless the recourse agreement was so significant as to challenge the legal isolation discussed in the first item. Accordingly, careful consideration and further analysis would be warranted if a risk retention requirement was contemplated that would require originators or holders of assets to retain risk that may be a significant proportion of all the credit risk associated with the assets.

A risk retention scheme that requires the originator or holder of assets to retain a subordinated interest directly in each securitized asset may require the originator or holder to continue to recognize the entire assets, including the proportion backing the senior interests. In addition to the three requirements applicable to sales of whole assets described above, ASC 860 requires that the transferred financial assets be either an entire financial asset, a group of entire financial assets, or a pro rata ownership interest in an entire financial asset. A subordinated ownership interest in an entire financial asset would not represent a pro rata ownership interest in that entire financial asset because credit risk would be concentrated in the subordinated portion. Risk retention schemes that are designed in relation to ownership interests directly in an entire financial asset itself, rather than in a beneficial interest in an entity that holds an entire financial asset, should be evaluated against the definition of a participating interest in ASC 860 to determine whether they could require an originator or holder to continue to record assets transferred to a third-party securitizer, with a corresponding liability to that securitizer.

## **ACCOUNTING TREATMENT OF VERTICAL VERSUS HORIZONTAL RISK RETENTION**

Determining whether benefits could potentially be significant in relation to a special purpose entity requires consideration of all potential scenarios, not just those that are probable or likely to occur. A proper assessment of potential significance for a horizontal or vertical strip would require consideration of the significance of the strip in relation to the economic performance of the asset-backed entity. As mentioned previously, retention of a subordinated horizontal strip of risk is considered more likely than retention of a vertical strip to provide the holder with benefits that could potentially be significant in relation to the issuance entity. Therefore, if power is also present, a subordinated horizontal strip of risk retained is more likely to result in accounting consolidation.

## **DISCUSSION OF REGULATORY CAPITAL TREATMENT**

The capital rules of the federal banking agencies generally use the accounting treatment of an exposure as a starting point for assessing regulatory capital requirements for that exposure.<sup>40</sup> For example, if certain assets of a banking organization are transferred to a

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<sup>40</sup> The agencies' regulatory capital regime for banking organizations incorporates both leverage and risk-based measures. For leverage measures, see 12 C.F.R. pt. 3 (Office of the Comptroller of the Currency, or OCC); 12 C.F.R. pt. 208, appendix B, and 12 C.F.R. pt. 225, appendix D (Board); 12 C.F.R. pt. 325.3 (Federal Deposit Insurance Corporation, or FDIC); and 12 C.F.R. pt. 567.8 (Office of Thrift Supervision, or OTS). For general risk-based capital rules, see 12 C.F.R. pt. 3, appendix A (OCC); 12 C.F.R. pts. 208 and 225, appendix A (Board); 12 C.F.R. pt. 325, appendix A (FDIC); and 12 C.F.R. pt. 567, subpart B (OTS). For advanced risk-based rules, see 12 C.F.R. pt. 3, appendix C (OCC); 12 C.F.R. pt. 208, appendix F, and 12 C.F.R. pt. 225, appendix G (Board); 12 C.F.R. pt. 325, appendix D (FDIC); and 12 C.F.R. pt. 567, appendix C (OTS).

special purpose entity but remain on the banking organization's balance sheet, the special purpose entity's assets are risk weighted like other consolidated assets for risk-based capital purposes. However, if the assets are securitized through sale to a special purpose entity that the banking organization does not consolidate for accounting purposes, generally the banking organization is required to hold risk-based capital only against its contractual exposures to the special purpose entity. The contractual exposures may take the form of on-balance sheet exposures such as ABS and residual interests, and off-balance sheet exposures such as liquidity facilities. Since the accounting changes implemented at the beginning of 2010 generally increased the amount of exposures recognized on banking organizations' balance sheets, they also resulted in higher regulatory capital requirements for those banking organizations.

Under the agencies' leverage capital requirements, tier 1 capital is assessed against a measure of a banking organization's total assets, net of the allowance for loan and lease losses and certain other exposures. Therefore, previously unconsolidated assets that now must be recognized on a banking organization's balance sheet will increase the denominator of the banking organization's leverage ratio. Although the accounting changes also affected the numerator of the risk-based and leverage capital ratios, in many cases both the risk-based and leverage capital ratios of affected banking organizations were negatively affected as a result of the consolidation.

## **IDENTIFYING POTENTIAL FOR EFFECT ON CURRENT MARKET PRACTICE**

From a regulatory capital perspective, the agencies responsible for developing rules under section 941 of the Act will need to assess the incremental effect that a risk retention requirement would have on the consolidation analyses of originators and securitizers, which could lead to higher capital charges for regulated institutions. Considering the broad asset classes depicted in table 12, two of the nine asset classes, RMBS and CMBS, appear to warrant special attention as the rulemakers consider potential ancillary accounting and regulatory capital consequences of a risk retention requirement.

Some private-label RMBS were required to be consolidated by securitizers, but other private-label RMBS were not consolidated either because the securitizer did not have power over the issuance entity or because they held less than potentially significant amounts of economic interest in the issuance entity. Some securitizers actively sold subordinated beneficial interests issued from RMBS entities in order to avoid the potential adverse effect on their profitability or capital adequacy requirements as a result of consolidating the underlying mortgage loans upon implementation of the accounting changes described above. If those securitizers were required to retain interests in future private-label RMBS, consolidation of those future private-label RMBS may be required.

Some CMBS were consolidated by special servicers, who generally are neither the originators of commercial mortgage loans nor the securitizer of such loans, because

they hold lower-quality beneficial interests in the securitization entity and they service the underlying loans in the event of default. It is quite likely that the special servicer would remain primary beneficiary for CMBS entities. However, the securitizer may be required to consolidate if risk retention requirements result in it holding an economic interest that could potentially be significant to the CMBS entities and it has the ability to unilaterally remove the special servicer.

In addition to the two broad asset classes already discussed, risk retention has the potential to affect consolidation analyses in other asset classes and subclasses. Among the asset classes addressed in this study, for example, CLO and equipment loan and leasing structures were consolidated by securitizers in certain situations and not in other situations depending on the nature of the securitization arrangement and the economics underlying various types of transactions in each class. It is likely that other asset classes and subclasses not addressed in this study are similar in that regard.

## **POTENTIAL REGULATORY EFFECTS ON MANDATED RISK RETENTION**

If the risk retention requirements crafted by agency rulemakers have an ancillary effect of increased instances of consolidation of the assets and liabilities of an ABS entity, the agencies should consider the incentives that such an outcome would create. First, as described above, regulatory capital requirements for banking institutions generally follow accounting treatment in the sense that consolidated assets must be risk weighted in a manner similar to assets that have not been securitized. In addition, on-balance-sheet assets will be subject to impairment analysis on a periodic basis or fair value measurement. Assets that require an allowance for credit losses, including loans and leases, will affect earnings and regulatory capital. Assets measured at fair value, including many securities, also will affect earnings and regulatory capital.

Such effects on earnings and capital may continue to encourage institutions to engage in deal structuring for the purpose of achieving off-balance-sheet treatment. Instead of solely economic factors determining an appropriate level of credit and liquidity protection necessary for ABS issuances, institutions might desire to retain only the minimum level of risk required by regulation if the minimum level enables the institution to avoid consolidation.

Similarly, companies may be encouraged as a result of those earnings and capital effects to avoid consolidating assets and liabilities by ceding power over issuance entities when it is not feasible to limit benefits to an amount that is not potentially significant. For example, institutions may cede power over ABS issuance entities, which in some cases results from their ability to manage assets held by the issuance entities, by selling servicing rights or distancing themselves from their customers in order to avoid consolidating the assets and liabilities of the issuance entities.

The rulemaking agencies should consider the earnings and regulatory capital effects described above and the structuring incentives such effects could create. It may be that the rulemaking agencies could reduce some of the negative effects of credit risk retention requirements by changing current regulatory capital and accounting rules. However, rulemaking agencies, with responsibility for regulatory capital and accounting standards, would need to consider the costs and benefits of such changes.

The rulemaking agencies may wish to consider whether consolidation of assets onto the balance sheet of an originator or securitizer, where required under current accounting standards, helps achieve the objectives of section 941 of the Act and, thereby, should influence the size or the form of the credit risk retention requirement. If securitized assets remain on the balance sheet of a securitizer or originator, credit losses on those assets will affect that entity's financial statements, and the securitizer or originator will have to hold regulatory or economic capital to support those assets. In these ways, the securitizer or originator maintains an economic interest in the securitized assets. Consolidation can also increase transparency and accountability through the reporting and corporate governance requirements applicable to public companies.

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# Increasing the Market for Federally Subsidized Loans

This section examines the effect of credit risk retention requirements on the market for federally subsidized loans in three asset classes: mortgages, student loans, and small business loans.

## MORTGAGES

The federal government explicitly insures certain mortgages originated by lenders approved by the Federal Housing Administration and guarantees mortgages originated by the Department of Veterans Affairs, the Farm Service Agency (FSA), the Rural Housing Service (RHS), and the Department of Housing and Urban Development's Office of Public and Indian Housing (PIH). Ginnie Mae guarantees mortgage-backed securities collateralized by the cash flows from loans insured or guaranteed by the FHA, VA, RHS, and PIH, whereas FSA mortgages are sold to, and then securitized by, Farmer Mac. Farmer Mac and Ginnie Mae securitizations, backed by guaranteed or insured residential, multifamily or health-care facility loans, are excluded from risk retention requirements by the Dodd-Frank Act.

Of these programs, the FHA program is targeted at the largest number of potential homebuyers, and so this study focuses on the effect of credit risk retention on FHA-insured mortgages. In contrast, other programs are targeted to very specific groups (veterans, farmers, lower-income borrowers living in rural areas, and Native Americans), and so the effects of risk retention on the other programs are likely to be bounded by the sizes of the targeted groups. In 2009, the FHA insured 1.8 million mortgages, compared with less than 500,000 mortgages guaranteed by the other programs combined.

As of September 2010, homebuyers intending to finance their purchases with FHA-insured mortgages must meet a number of conditions to qualify, including the following:

- Meet FHA credit qualifications
- Provide a down payment that is at least 3.5 percent of the purchase price
- Purchase one- to four-unit structures
- Take out a loan no larger than the conforming loan limit in the buyer's state or metropolitan statistical area

Borrowers with FHA-insured mortgages typically pay lower interest rates than those on comparable conventional mortgages, if such mortgages are even available. However, they must purchase mortgage default insurance, which can add to loan costs. Historically, lower-income borrowers, borrowers with impaired credit histories who

would otherwise not qualify for a conventional loan, and first-time homebuyers with little money for a down payment have financed home purchases with FHA-insured mortgages. In recent years, the share of new home mortgages backed by the FHA has grown substantially and, together with the other government-guaranteed loans, account for 54 percent of all home-purchase lending in 2009.

Although part of the increase in FHA lending is likely due to the collapse of the subprime and alt-A mortgage sectors, tightening standards by Fannie Mae and Freddie Mac, private mortgage insurers and traditional originators of piggyback loans have also played a major role.

The extent to which risk retention rules might affect the volume of FHA-insured lending depends on whether a higher cost of funding conventional mortgages through securitization induces lenders to originate FHA-insured loans instead. Alternatively, if originators of conventional loans pass along the higher funding costs to borrowers, borrowers might prefer to take out FHA loans. In the current environment, private-label residential mortgage securitization is negligible. Borrower's private mortgage insurance remains expensive and hard to get. Banks continue to charge a premium in general for holding loans on portfolio, and show little appetite for loans with high loan-to-value ratios. Given the limited number of substitutes currently available, it is difficult to see how risk retention requirements could increase the FHA market share further.

However, as house prices stabilize and the risk of further house price declines wanes, the volume of private lending will likely increase. As this process unfolds, initial securitizations will likely be dominated by loans originated to borrowers with strong credit histories and large equity cushions. Such borrowers likely would not have otherwise taken out FHA-insured loans.

Hence it is likely to be quite some time before risk retention rules might affect the pace of FHA-insured lending. Furthermore, the extent to which private lending resumes to potential FHA borrowers—that is, those with impaired credit histories or low down payments—will depend not only on the risk retention rules but also on a host of other factors. For example, changes in fees for FHA-insured mortgages, changes in the pricing of private mortgage insurance, and changes to the regulatory and supervisory framework may also have a material effect on the mortgage market.

## **STUDENT LOANS**

The federal government funds four types of student loans:

1. *Subsidized Stafford loans* are need-based loans available to undergraduate and graduate students for educational expenses. The federal government pays the interest while the student is in school and for six months thereafter. For loans disbursed between July 1, 2010 and June 30, 2011, interest rates for loans to

undergraduates are fixed at 4.5 percent. In total, an undergraduate can borrow up to \$23,000 in subsidized Stafford loans for educational expenses. Lower limits apply to the amount that can be borrowed in any given year. During the 2008–09 school year, an estimated \$32 billion of subsidized Stafford loans were originated.<sup>41</sup>

2. *Unsubsidized Stafford loans* are loans available to undergraduate and graduate students regardless of financial need. Although interest accrues while a student is in school, payments can be deferred until six months after a student leaves school. The current rate of interest is 6.8 percent. In total, an undergraduate can borrow up to \$31,000 in subsidized and unsubsidized Stafford loans for educational expenses.<sup>42</sup> Lower limits apply to the amount that can be borrowed in any given year. During the 2008–09 school year, an estimated \$39 billion of unsubsidized Stafford loans were originated.<sup>43</sup>
3. *Perkins loans* are loans for undergraduate and graduate students with exceptional financial need. Loans are made by participating schools with government funds. The interest rate is fixed at 5 percent. In total, an undergraduate can borrow up to \$27,500 and a graduate student can borrow up to \$60,000, with lower limits applying in any given year. During the 2008–09 school year, an estimated \$1 billion of Perkins loans were originated.<sup>44</sup>
4. *PLUS loans* are available to graduate and professional students and to parents of dependent undergraduate students. The current rate of interest is 7.9 percent. Loan applicants can borrow up to the total cost of attendance, minus any financial aid. Unlike the Stafford and Perkins programs, the loan applicant must pass a credit check in order to receive funds. During the 2008–09 school year, an estimated \$12 billion of PLUS loans were originated.<sup>45</sup>

Because new loan originations under FFELP have ceased, risk retention requirements will not increase the share of new loans originated by the federal government at the expense of private-sector FFELP originations. However, many financial institutions hold significant legacy portfolios of FFELP loans, and some still sell these loans to each other. Risk retention requirements may damp these whole loan sales if it becomes more costly to finance these loans via securitization.

If whole loan sales and securitization become less viable outlets for these legacy portfolios, financial institutions may sell these loans to the Federal government. When

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<sup>41</sup> See Sandy Baum, Kathleen Payea, and Patricia Steele (2009), *Trends in Student Aid* (Washington: The College Board).

<sup>42</sup> Higher limits apply to the amounts that can be borrowed by independent undergraduate students, undergraduates whose parents do not qualify for a PLUS loan, and graduate students.

<sup>43</sup> See Baum, Payea, and Steele, *Trends in Student Aid*, in note 41.

<sup>44</sup> See Baum, Payea, and Steele, *Trends in Student Aid*, in note 41.

<sup>45</sup> See Baum, Payea, and Steele, *Trends in Student Aid*, in note 41.

the financial crisis made originating FFELP loans unprofitable, the Congress enacted the Ensuring Continued Access to Student Loans Act of 2008 (Pub. L. No. 110-227), which gave the Department of Education the power to purchase Stafford and PLUS loans with a first disbursement date no earlier than October 1, 2003, and no later than July 1, 2009.<sup>46</sup>

One of the ways in which the Department of Education exercised this authority was to provide a liquidity backstop to an industry-led ABCP conduit collateralized by FFELP loans. In addition to purchasing loans if the commercial paper does not roll for an extended period, the department will also purchase the loan collateral—if the lender so requests—on a date near the end of the conduit’s five-year maturity, specifically 45 days before January 19, 2014.

If risk retention requirements make securitizations of legacy FFELP loans less viable, private lenders may be more likely to sell the loan collateral to the Department of Education when the conduit matures. As of September 9, 2010, the funding note balances of the conduit totaled \$39 billion. The funding balances will likely be somewhat lower in late 2013 because the underlying student loans will have amortized and because lenders could only add new loans to the conduit through July 1, 2010.

Risk retention requirements could also hinder the ongoing efforts to restructure or redeem the outstanding student loan auction rate securities. Many ARS investors have attempted to restructure the securities but, to date, these restructuring efforts have not been particularly successful, as \$64 billion of the original \$80 billion in student loan ARS remain outstanding.<sup>47</sup> However, it is expected that as spreads on other fixed-income products decline, restructuring student loan ARS may be more viable. Risk retention requirements might complicate these restructuring efforts if the requirements increase the cost of securitization.

Students can also obtain so-called private or alternative student loans from private financial institutions for educational expenses in excess of the government loan limits. These loans typically carry higher interest rates and fees than government loans and have fewer borrower protections. Private student loan originations have contracted in recent years, falling from \$22 billion in the 2007–08 school year to an estimated \$11 billion in the 2008–09 school year.<sup>48</sup> Several factors contributed to this contraction, including an increase in government loan limits that diverted borrowers to the government market; difficulties in the securitization market that reduced the amount of funds available for loan originations; and high losses on outstanding loans due to the sharp rise in unemployment that damped lender enthusiasm for new loan originations.

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<sup>46</sup> On October 7, 2008, President George W. Bush signed into law a one-year extension of the Ensuring Continued Access to Student Loans Act.

<sup>47</sup> Pluris Valuation Advisors, LLC (2010), *Auction Rate Securities Holders Survey* (New York: Pluris, September).

<sup>48</sup> See Baum, Payea, and Steele, *Trends in Student Aid*, in note 41.

Risk retention requirements may increase the cost of funding of private student loan originations and thus damp lender enthusiasm for this market even further. However, a contraction in the private student loan market likely would not increase the market for government loans. As the terms are generally more favorable on government loans, students are advised to maximize their government options before turning to private loans. Indeed, the study on private student loans mandated under section 1077 of the Dodd–Frank Act instructs researchers to examine whether students are following this advice.

## **SMALL BUSINESS LOANS**

The primary provider of government-guaranteed small business loans is the Small Business Administration (SBA). The SBA offers two main loan programs for small businesses: the 7(a) program and the 504 program. These loans are designed for borrowers who cannot find funding on a conventional basis. Historically, such loans have accounted for less than 5 percent of all small business borrowing, but they account for a much larger share of long-term small business lending. The 7(a) program is larger, with over \$9.3 billion in loans originated in 2009, compared with \$3.8 billion in 504 loans.

### **7(a) Loans**

7(a) loans can be obtained for a variety of general business purposes, including working capital, machinery and equipment, furniture and fixtures, and land and buildings. The loans are for up to 10 years for working capital and generally up to 25 years for fixed assets.

Most U.S. banks participate in the 7(a) program, as do some nonbank lenders. Participating lenders agree to structure loans according to SBA requirements and receive a guarantee from the SBA on 50 to 85 percent of the loan. Historically, borrowers have also paid a guarantee fee to the SBA. The American Recovery and Reinvestment Act of 2009 and the Small Business Jobs Act of 2010 have temporarily eliminated this fee and raised most guarantees to 90 percent.

Once the loan is originated and fully disbursed, the lender has the option to sell the guaranteed portion into the secondary market. Broker–dealers pool these guaranteed portions into a security that carries an unconditional guarantee of timely payment of principal and interest. Unguaranteed portions of 7(a) loans are rarely securitized.<sup>49</sup>

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<sup>49</sup> Before the financial crisis, nondepository institutions sometimes securitized the nonguaranteed part of the loan. These securitizations are not guaranteed by the government and are not included in this report.

Hence, originators of 7(a) loans typically hold a minimum of 10 percent and up to 50 percent of the loan principal in their portfolio.

## **504 Loans**

The 504 program provides long-term, fixed-rate financing so that small businesses can acquire fixed assets such as real estate or equipment for expansion or modernization. The funding is delivered by certified development companies, which are private, nonprofit corporations set up to contribute to the economic development of their communities.

These loans are structured in three pieces: The first piece, accounting for 50 percent of the loan proceeds, is a first-lien loan held by the lender. The second piece, accounting for 40 percent of the loan, is funded by debentures issued and guaranteed by the SBA. Finally, the third piece is a 10 percent down payment or equity provided by the small business borrower.

In addition to loans from the SBA, small business owners fund their businesses with lines of credit, commercial mortgages, equipment and motor vehicle loans, credit card loans, and sometimes loans from trade credit suppliers. Many small business owners also use personal assets as collateral for some types of business loans and sometimes use proceeds from home equity and personal credit cards as well. Some of these loans are often funded by securitization—in particular, equipment loans and leases, motor vehicle loans, mortgages, credit card loans, floorplan loans, and insurance premium finance loans. If risk retention requirements make these loans more expensive or unavailable, small business owners may turn to SBA loans.

However, credit lines—the most common form of credit extended to small businesses—are generally originated by banks and held on portfolio. For these types of loans, risk retention may result in only a small, if any, increase in demand for SBA loans.

## Recommendations

This section presents “statutory and regulatory recommendations for eliminating any negative impacts on the continued viability of the asset-backed securitization markets and on the availability of credit for new lending identified by the study” as required by section 941 of the Act. One of the goals of the Dodd–Frank Act is to improve the incentive alignment between various participants in the securitization chain by requiring that securitizers or originators maintain exposure to the credit risk of assets they securitize. These incentives should encourage the application of sound underwriting standards by both the originator and securitizer in connection with the assets that are securitized.

In light of the heterogeneity of asset classes and securitization structures, practices and performance, the Board recommends that rulemakers consider crafting credit risk retention requirements that are tailored to each major class of securitized assets. This approach is consistent with the flexibility provided in the statute and would recognize differences in market practices and conventions, which in many instances exist for sound reasons related to the inherent nature of the type of asset being securitized. Asset-class-specific requirements could also more directly address differences in the fundamental incentive problems characteristic of securitizations of each asset type, some of which became evident only during the crisis.

Moreover, the following considerations should be taken into account by the agencies responsible for implementing the credit risk retention requirements of section 941(b) of the Act in order to help ensure that the regulations promote the purposes of section 941 of the Act without unnecessarily reducing the supply or increasing the cost of credit. Specifically, the rulemaking agencies should:

1. *Consider the specific incentive alignment problems to be addressed by each credit risk retention requirement established under the jointly prescribed rules.* By requiring that securitizers or originators retain a portion of the credit risk of securitized assets (unless the assets meet high quality underwriting standards), section 941 of the Act appears primarily aimed at reducing the potential incentive of an originator or securitizer to securitize poor quality assets. However, there are other potential incentive alignment problems, such as those between investors and managers of an actively managed pool, which could also be mitigated through credit risk retention standards. In order for market participants and other interested parties to understand the intention of the new regulations as well as to provide meaningful comments on proposed rules, the intended effect of proposed credit risk retention requirements should be transparent.
2. *Consider the economics of asset classes and securitization structure in designing credit risk retention requirements.* Given the degree of

heterogeneity in all aspects of securitization, a single approach to credit risk retention could curtail credit availability in certain sectors of the securitization market. A single universal approach would also not adequately take into consideration different forms of credit risk retention, which may differ by asset category. Further, such an approach is unlikely to be effective in achieving the stated aims of the statute across a broad spectrum of asset categories where securitization practices differ markedly.

3. *Consider the potential effect of credit risk retention requirements on the capacity of smaller market participants to comply and remain active in the securitization market.* Regulators should be mindful of the potential for certain forms of risk retention, combined with regulatory capital and accounting standards, to indirectly encourage further consolidation of financial services firms, which may raise other public policy concerns.
4. *Consider the potential for other incentive alignment mechanisms to function as either an alternative or a complement to mandated credit risk retention.* Some of these mechanisms include:
  - Overcollateralization
  - Subordination
  - Third-party credit enhancements
  - Representations and warranties
  - Conditional cash flows
5. *Consider the interaction of credit risk retention with both accounting treatment and regulatory capital requirements.* These interactions may have a significant effect on the cost and availability of credit. While it is possible that either capital or accounting standards could be adjusted, ex post, to remediate potentially negative consequences of risk retention requirements on credit availability, it also is true that such adjustments may not be made, or may not be made within the time that the credit risk retention requirements must go into effect.
6. *Consider credit risk retention requirements in the context of all the rulemakings required under the Dodd–Frank Act, some of which might magnify the effect of, or influence, the optimal form of credit risk retention requirements.* In principle, rulemakings in other areas could affect securitization in a manner that should be considered in the design of credit risk retention requirements. Retention requirements that would, if imposed in isolation, have modest effects on the provision of credit through securitization channels could, in combination with other regulatory initiatives, significantly impede the availability of financing. In other instances, rulemakings under distinct sections of the Act might more efficiently address the same objectives as credit risk retention requirements.

7. *Consider that investors may appropriately demand that originators and securitizers hold alternate forms of risk retention beyond that required by the credit risk retention regulations.* The possible need for additional or different incentive alignment mechanisms, for example, to address idiosyncratic features of assets or characteristics of securitization chain participants, should be considered in evaluating the effect of credit risk retention requirements on the availability of credit. Even if regulators require risk retention that varies by asset class, it may be the case that investors demand alternate or additional forms of retention.
  
8. *Consider that capital markets are, and should remain, dynamic, and thus periodic adjustments to any credit risk retention requirement may be necessary to ensure that the requirements remain effective over the longer term, and do not provide undue incentives to move intermediation into other venues where such requirements are less stringent or may not apply.* Market practices may change over time. Accordingly, credit risk retention requirements that are appropriate in light of current market practices may, if not modified over time, fail to achieve their objectives or have unintended consequences. An undesirable outcome would be the migration of securitization activity to unregulated entities or to offshore jurisdictions that generate less information for investors and provide less transparency to regulators.

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# Appendix

## Subtitle D—Improvements to the Asset-Backed Securitization Process

### SEC. 941. REGULATION OF CREDIT RISK RETENTION.

(a) DEFINITION OF ASSET-BACKED SECURITY.—Section 3(a) of the Securities Exchange Act of 1934 (15 U.S.C. 78c(a)) is amended by adding at the end the following:

“(77) ASSET-BACKED SECURITY.—The term ‘asset-backed security’—

(A) means a fixed-income or other security collateralized by any type of self-liquidating financial asset (including a loan, a lease, a mortgage, or a secured or unsecured receivable) that allows the holder of the security to receive payments that depend primarily on cash flow from the asset, including—

- (i) a collateralized mortgage obligation;
- (ii) a collateralized debt obligation;
- (iii) a collateralized bond obligation;
- (iv) a collateralized debt obligation of asset-backed securities;
- (v) a collateralized debt obligation of collateralized debt obligations; and
- (vi) a security that the Commission, by rule, determines to be an asset-backed security for purposes of this section; and

(B) does not include a security issued by a finance subsidiary held by the parent company or a company controlled by the parent company, if none of the securities issued by the finance subsidiary are held by an entity that is not controlled by the parent company.”

(b) CREDIT RISK RETENTION.—The Securities Exchange Act of 1934 (15 U.S.C. 78a et seq.) is amended by inserting after section 15F, as added by this Act, the following:

“SEC. 15G. CREDIT RISK RETENTION.

(a) DEFINITIONS.—In this section—

(1) the term ‘Federal banking agencies’ means the Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, and the Federal Deposit Insurance Corporation;

(2) the term ‘insured depository institution’ has the same meaning as in section 3(c) of the Federal Deposit Insurance Act (12 U.S.C. 1813(c));

(3) the term ‘securitizer’ means—

- (A) an issuer of an asset-backed security; or
- (B) a person who organizes and initiates an asset-backed securities transaction by selling or transferring assets, either directly or indirectly, including through an affiliate, to the issuer; and

- (4) the term ‘originator’ means a person who—
- (A) through the extension of credit or otherwise, creates a financial asset that collateralizes an asset-backed security; and
  - (B) sells an asset directly or indirectly to a securitizer.

(b) REGULATIONS REQUIRED.—

(1) IN GENERAL.—Not later than 270 days after the date of enactment of this section, the Federal banking agencies and the Commission shall jointly prescribe regulations to require any securitizer to retain an economic interest in a portion of the credit risk for any asset that the securitizer, through the issuance of an asset-backed security, transfers, sells, or conveys to a third party.

(2) RESIDENTIAL MORTGAGES.—Not later than 270 days after the date of the enactment of this section, the Federal banking agencies, the Commission, the Secretary of Housing and Urban Development, and the Federal Housing Finance Agency, shall jointly prescribe regulations to require any securitizer to retain an economic interest in a portion of the credit risk for any residential mortgage asset that the securitizer, through the issuance of an asset-backed security, transfers, sells, or conveys to a third party.

(c) STANDARDS FOR REGULATIONS.—

- (1) STANDARDS.—The regulations prescribed under subsection (b) shall—
- (A) prohibit a securitizer from directly or indirectly hedging or otherwise transferring the credit risk that the securitizer is required to retain with respect to an asset;
  - (B) require a securitizer to retain—
    - (i) not less than 5 percent of the credit risk for any asset—
      - (I) that is not a qualified residential mortgage that is transferred, sold, or conveyed through the issuance of an asset-backed security by the securitizer; or
      - (II) that is a qualified residential mortgage that is transferred, sold, or conveyed through the issuance of an asset-backed security by the securitizer, if 1 or more of the assets that collateralize the asset-backed security are not qualified residential mortgages; or
    - (ii) less than 5 percent of the credit risk for an asset that is not a qualified residential mortgage that is transferred, sold, or conveyed through the issuance of an asset-backed security by the securitizer, if the originator of the asset meets the underwriting standards prescribed under paragraph (2)(B);
  - (C) specify—
    - (i) the permissible forms of risk retention for purposes of this section;
    - (ii) the minimum duration of the risk retention required under this section; and
    - (iii) that a securitizer is not required to retain any part of the credit risk for an asset that is transferred, sold or conveyed through the issuance of an asset-backed security by the securitizer, if all of the assets that collateralize the asset-backed security are qualified residential mortgages;
  - (D) apply, regardless of whether the securitizer is an insured depository institution;

(E) with respect to a commercial mortgage, specify the permissible types, forms, and amounts of risk retention that would meet the requirements of subparagraph (b), which in the determination of the federal banking agencies and the commission may include—

- (i) retention of a specified amount or percentage of the total credit risk of the asset;
- (ii) retention of the first-loss position by a third-party purchaser that specifically negotiates for the purchase of such first loss position, holds adequate financial resources to back losses, provides due diligence on all individual assets in the pool before the issuance of the asset-backed securities, and meets the same standards for risk retention as the Federal banking agencies and the Commission require of the securitizer;
- (iii) a determination by the Federal banking agencies and the Commission that the underwriting standards and controls for the asset are adequate; and
- (iv) provision of adequate representations and warranties and related enforcement mechanisms; and

(F) establish appropriate standards for retention of an economic interest with respect to collateralized debt obligations, securities collateralized by collateralized debt obligations, and similar instruments collateralized by other asset-backed securities; and

(G) provide for—

- (i) a total or partial exemption of any securitization, as may be appropriate in the public interest and for the protection of investors;
- (ii) a total or partial exemption for the securitization of an asset issued or guaranteed by the United States, or an agency of the United States, as the Federal banking agencies and the Commission jointly determine appropriate in the public interest and for the protection of investors, except that, for purposes of this clause, the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation are not agencies of the United States;
- (iii) a total or partial exemption for any asset-backed security that is a security issued or guaranteed by any State of the United States, or by any political subdivision of a State or territory, or by any public instrumentality of a State or territory that is exempt from the registration requirements of the Securities Act of 1933 by reason of section 3(a)(2) of that Act (15 U.S.C. 77c(a)(2)), or a security defined as a qualified scholarship funding bond in section 150(d)(2) of the Internal Revenue Code of 1986, as may be appropriate in the public interest and for the protection of investors; and
- (iv) the allocation of risk retention obligations between a securitizer and an originator in the case of a securitizer that purchases assets from an originator, as the Federal banking agencies and the Commission jointly determine appropriate.

(2) ASSET CLASSES.—

(A) ASSET CLASSES.—The regulations prescribed under subsection (b) shall establish asset classes with separate rules for securitizers of different classes of assets, including residential mortgages, commercial mortgages, commercial loans, auto loans, and any other class of assets that the Federal banking agencies and the Commission deem appropriate.

(B) CONTENTS.—For each asset class established under subparagraph (A), the regulations prescribed under subsection (b) shall include underwriting standards established by the Federal banking agencies that specify the terms, conditions, and characteristics of a loan within the asset class that indicate a low credit risk with respect to the loan.

(d) ORIGINATORS.—In determining how to allocate risk retention obligations between a securitizer and an originator under subsection (c)(1)(E)(iv), the Federal banking agencies and the Commission shall—

(1) reduce the percentage of risk retention obligations required of the securitizer by the percentage of risk retention obligations required of the originator; and

(2) consider—

(A) whether the assets sold to the securitizer have terms, conditions, and characteristics that reflect low credit risk;

(B) whether the form or volume of transactions in securitization markets creates incentives for imprudent origination of the type of loan or asset to be sold to the securitizer; and

(C) the potential impact of the risk retention obligations on the access of consumers and businesses to credit on reasonable terms, which may not include the transfer of credit risk to a third party.

(e) EXEMPTIONS, EXCEPTIONS, AND ADJUSTMENTS.—

(1) IN GENERAL.—The Federal banking agencies and the Commission may jointly adopt or issue exemptions, exceptions, or adjustments to the rules issued under this section, including exemptions, exceptions, or adjustments for classes of institutions or assets relating to the risk retention requirement and the prohibition on hedging under subsection (c)(1).

(2) APPLICABLE STANDARDS.—Any exemption, exception, or adjustment adopted or issued by the Federal banking agencies and the Commission under this paragraph shall—

(A) help ensure high quality underwriting standards for the securitizers and originators of assets that are securitized or available for securitization; and

(B) encourage appropriate risk management practices by the securitizers and originators of assets, improve the access of consumers and businesses to credit on reasonable terms, or otherwise be in the public interest and for the protection of investors.

(3) CERTAIN INSTITUTIONS AND PROGRAMS EXEMPT.—

(A) FARM CREDIT SYSTEM INSTITUTIONS.—Notwithstanding any other provision of this section, the requirements of this section shall not apply to any loan or other financial asset made, insured, guaranteed, or purchased by any institution that is subject to the supervision of the Farm Credit Administration, including the Federal Agricultural Mortgage Corporation.

(B) OTHER FEDERAL PROGRAMS.—This section shall not apply to any residential, multifamily, or health care facility mortgage loan asset, or securitization based directly or indirectly on such an asset, which is insured or guaranteed by the United States or an agency of the United States. For purposes of this subsection, the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, and the Federal home loan banks shall not be considered an agency of the United States.

(4) EXEMPTION FOR QUALIFIED RESIDENTIAL MORTGAGES.—

(A) IN GENERAL.—The Federal banking agencies, the Commission, the Secretary of Housing and Urban Development, and the Director of the Federal Housing Finance Agency shall jointly issue regulations to exempt qualified residential mortgages from the risk retention requirements of this subsection.

(B) QUALIFIED RESIDENTIAL MORTGAGE.—The Federal banking agencies, the Commission, the Secretary of Housing and Urban Development, and the Director of the Federal Housing Finance Agency shall jointly define the term 'qualified residential mortgage' for purposes of this subsection, taking into consideration underwriting and product features that historical loan performance data indicate result in a lower risk of default, such as—

(i) documentation and verification of the financial resources relied upon to qualify the mortgagor;

(ii) standards with respect to—

(I) the residual income of the mortgagor after all monthly obligations;

(II) the ratio of the housing payments of the mortgagor to the monthly income of the mortgagor;

(III) the ratio of total monthly installment payments of the mortgagor to the income of the mortgagor;

(iii) mitigating the potential for payment shock on adjustable rate mortgages through product features and underwriting standards;

(iv) mortgage guarantee insurance or other types of insurance or credit enhancement obtained at the time of origination, to the extent such insurance or credit enhancement reduces the risk of default; and

(v) prohibiting or restricting the use of balloon payments, negative amortization, prepayment penalties, interest-only payments, and other features that have been demonstrated to exhibit a higher risk of borrower default.

(C) LIMITATION ON DEFINITION.—The Federal banking agencies, the Commission, the Secretary of Housing and Urban Development, and the Director of the Federal Housing Finance Agency in defining the term 'qualified residential mortgage', as required by subparagraph (B), shall define that term to be no broader than the definition 'qualified mortgage' as the term is defined under section 129C(c)(2) of the Truth in Lending Act, as amended by the Consumer Financial Protection Act of 2010, and regulations adopted thereunder.

(5) CONDITION FOR QUALIFIED RESIDENTIAL MORTGAGE EXEMPTION.—

The regulations issued under paragraph (4) shall provide that an asset-backed security that is collateralized by tranches of other asset-backed securities shall not be exempt from the risk retention requirements of this subsection.

(6) CERTIFICATION.—The Commission shall require an issuer to certify, for each issuance of an asset-backed security collateralized exclusively by qualified residential mortgages, that the issuer has evaluated the effectiveness of the internal supervisory controls of the issuer with respect to the process for ensuring that all assets that collateralize the asset-backed security are qualified residential mortgages.

(f) ENFORCEMENT.—The regulations issued under this section shall be enforced by—

(1) the appropriate Federal banking agency, with respect to any securitizer that is an insured depository institution; and

(2) the Commission, with respect to any securitizer that is not an insured depository institution.

(g) **AUTHORITY OF COMMISSION.**—The authority of the Commission under this section shall be in addition to the authority of the Commission to otherwise enforce the securities laws.

(h) **AUTHORITY TO COORDINATE ON RULEMAKING.**—The Chairperson of the Financial Stability Oversight Council shall coordinate all joint rulemaking required under this section.

(i) **EFFECTIVE DATE OF REGULATIONS.**—The regulations issued under this section shall become effective—

(1) with respect to securitizers and originators of asset-backed securities backed by residential mortgages, 1 year after the date on which final rules under this section are published in the Federal Register; and

(2) with respect to securitizers and originators of all other classes of asset-backed securities, 2 years after the date on which final rules under this section are published in the Federal Register.”

(c) **STUDY ON RISK RETENTION.**—

(1) **STUDY.**—The Board of Governors of the Federal Reserve System, in coordination and consultation with the Comptroller of the Currency, the Director of the Office of Thrift Supervision, the Chairperson of the Federal Deposit Insurance Corporation, and the Securities and Exchange Commission shall conduct a study of the combined impact on each individual class of asset-backed security established under section 15G(c)(2) of the Securities Exchange Act of 1934, as added by subsection (b), of—

(A) the new credit risk retention requirements contained in the amendment made by subsection (b), including the effect credit risk retention requirements have on increasing the market for Federally subsidized loans; and

(B) the Financial Accounting Statements 166 and 167 issued by the Financial Accounting Standards Board.

(2) **REPORT.**—Not later than 90 days after the date of enactment of this Act, the Board of Governors of the Federal Reserve System shall submit to Congress a report on the study conducted under paragraph (1). Such report shall include statutory and regulatory recommendations for eliminating any negative impacts on the continued viability of the asset-backed securitization markets and on the availability of credit for new lending identified by the study conducted under paragraph (1).