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ASSET-BACKED SECURITIES

MOODY'S
INVESTORS SERVICE

RATING
METHODOLOGY

Moody's Approach to Rating US Private Student Loan-Backed Securities

This rating methodology replaces *Moody's Approach to Rating US Private Student Loan-Backed Securities* published in November 2020. We clarified our approach on guarantees in the "Pool Size" section, and we made limited editorial updates.

1. Introduction

This methodology outlines our approach for rating private student loan asset-backed securities (ABS) issued in the United States.

Our credit analysis of US private student loan ABS involves review of the credit quality and cash flow characteristics of the underlying loans, servicing and collections quality, the structural features of the transaction (including cash flow allocation mechanisms, interest rate mismatches, credit enhancement and liquidity support), the legal structure, and operational risk.

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This report describes the various risks associated with private student loan-backed securitizations and our analysis of those risks including:

- Credit risk - whether investors are protected against losses on the underlying assets
- Liquidity risk - whether there will be enough cash to pay interest on scheduled interest payment dates
- Maturity risk - whether there will be enough cash to pay all principal by the legal final maturity of the security
- Servicing risk
- Interest rate and basis risk and
- Legal and operational risk.

2. Methodology Overview

2.1. Conceptual Framework

Our conceptual framework for analyzing transactions backed by private student loans includes multiple steps. In the first step, we estimate the expected lifetime net loss rate of the pool of student loans to be securitized. Then, for the given loan pool, we assess the amount of credit enhancement we would deem to be consistent with a Aaa rating in a single-class generic structure, given the characteristics of the loan pool and assuming that the amount of credit enhancement throughout the life of the security were known with certainty. We call that the Aaa level of credit enhancement.

Conceptually, the Aaa level of credit enhancement is the amount of protection that, on a probability-weighted basis, would result in an "expected" level of losses on the securities consistent with a Aaa rating. In other words, in some scenarios, losses on the pool of assets would exceed the amount of credit enhancement and investors would lose the difference, while in other scenarios losses on the assets would be less than the protection and investors would not suffer a loss. The expected loss for a security is the probability-weighted average of the investor losses across the different scenarios.

We have benchmark levels of expected losses for the different rating levels.[1] The Aaa level of credit enhancement for a security is the amount of credit enhancement in the generic structure that would lead to an expected level of investor loss consistent with the established Aaa benchmark. With that credit enhancement, a tranche could withstand exactly that much of pool loan losses without investors suffering a loss; therefore, we sometimes refer to the Aaa level of credit enhancement as the Aaa level of (pool loan) losses. Similarly, lower levels of credit enhancement would be consistent with our benchmark expected investor losses for each of the lower rating levels.

The following example illustrates the conceptual framework under simplified assumptions. Exhibit 1 is a probability distribution for the losses on a particular pool of loans. The exhibit shows the possible future loss scenarios for the pool of loans over its life on the horizontal axis and the probabilities of those scenarios on the vertical axis; the curve shows the combinations of scenarios and their associated probabilities for the particular pool.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on ratings.moodys.com for the most updated credit rating action information and rating history.

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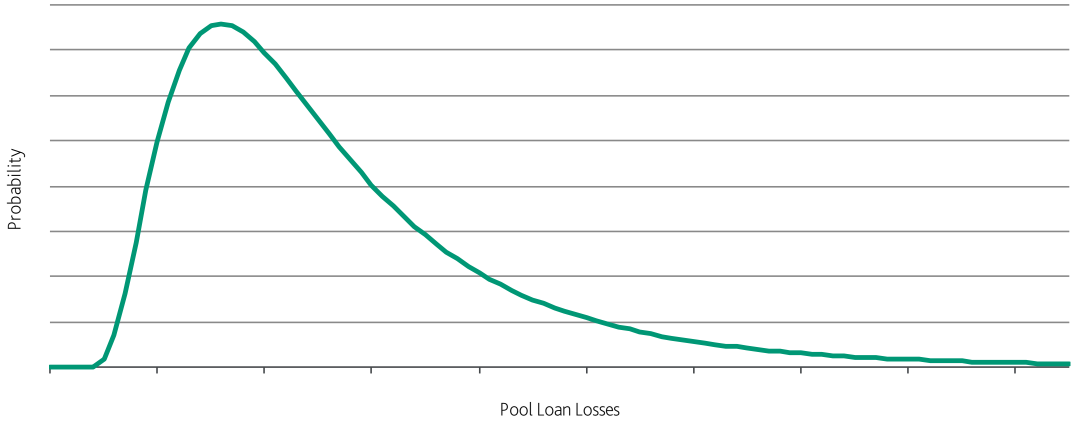
[1] For more information, see our discussion of Idealized Probabilities of Default and Expected Losses in *Rating Symbols and Definitions*. A link can be found in the "Moody's Related Publication" section.

EXHIBIT 1

Probability Distribution of Pool Loan Losses



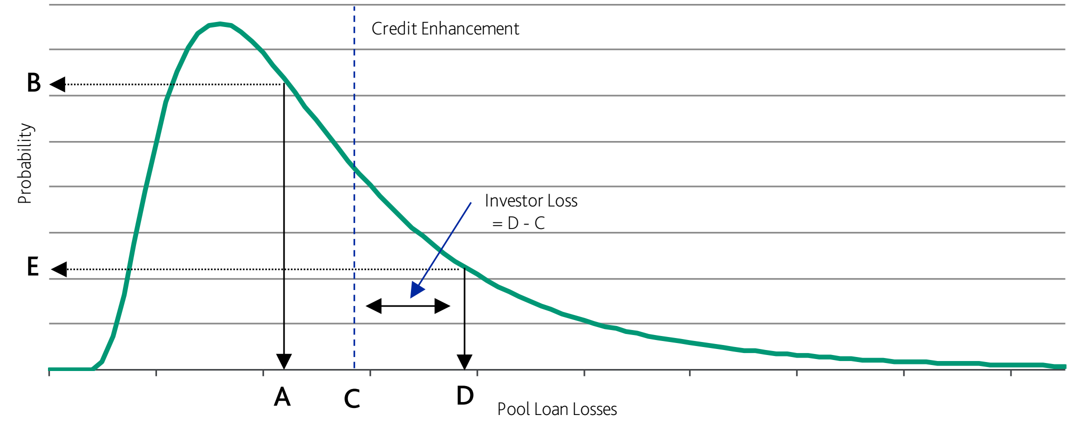
Source: Moody's Investors Service

Assume the loans are securitized in a single-tranche security, and there is C amount of credit enhancement. Exhibit 2 shows the implications for investors of two possible pool-loss scenarios. With pool losses equal to A, which is less than C, investors do not suffer a loss, since the credit enhancement is more than enough to cover the pool losses. That pool loss has a probability of occurrence of B. On the other hand, with pool losses equal to D, which is greater than the credit enhancement, investors would suffer a loss equal to D-C, since the credit enhancement is sufficient to cover only part of the pool loss. The probability of a pool loss equal to D is E, as shown in the exhibit.

All of the loss scenarios less than (i.e., to the left of) the credit enhancement, like A, result in no loss to investors. On the other hand, pool losses to the right of C, like D, result in investor losses of varying amounts. As part of our analysis, we calculate the probability-weighted average amount of those investor losses and compare that expected loss to its established benchmarks to determine the rating.

EXHIBIT 2

Determining Investor Losses and their Probabilities



Source: Moody's Investors Service

2.2. Evaluation of Loan Pool Characteristics

The curves in Exhibit 1 and Exhibit 2 are depictions of our view of the likelihoods of possible future scenarios for the particular pool of assets being securitized. That view is based on our analysis of the characteristics of the pool of loans, such as whether the borrower has a co-signer, the credit scores of the borrowers (and/or co-signers), the schools attended by the borrowers, level of affordability such as free cash flow and debt-to-income and whether (1) the loans (or underlying loans for a refinancing loan) were disbursed directly to the schools and were school certified (school channel loans) or (2) the loans were disbursed directly to the borrower and were not school certified (direct-to-consumer or DTC loans). In section 3 below, we describe the characteristics we view to be the most important determinants of the future credit performance of a pool of loans. We also discuss in that section how we use historical performance data from existing or past pools with similar characteristics to help inform our view of various future scenario likelihoods for the loan pool being securitized. We refer to that process as "benchmarking."

Typically, historical performance data for comparable pools is limited. As a result, it is difficult to estimate a full probability distribution directly. Instead, we make an assumption about the general shape of the distribution and then estimate its mean and variance to obtain the full distribution. This is described more fully in section 3.

We estimate the variability of the loss estimate for private student loans indirectly to assess the level of credit enhancement that would be consistent with a Aaa rating (i.e., the Aaa level of credit enhancement) for the given asset pool, based on the pool loan characteristics and the historical performance and Aaa credit enhancement levels of comparable pools.

Using the assumption that the distribution is lognormally distributed, we then combine our estimate of the mean and the subjectively determined Aaa level of credit enhancement to infer the variance of the distribution, and therefore to determine the full probability distribution consistent with the asset pool. We then use the specific probability distribution to determine the level of credit enhancement (for this specific pool in a generic structure) that would be consistent with our expected loss benchmark for each rating level, in a manner similar to that described above for the Aaa level of credit enhancement.

2.3. Evaluation of Securitization Structural Features Using Cash Flow Analysis

As mentioned earlier in this section, the structure used to determine the Aaa level of credit enhancement is simple and generic. However, actual securitizations of private student loans are complex and varied. Generally, the complexities arise from uncertainty regarding the timing of asset cash flows or from structural features that allocate those cash flows in varying ways. In section 4, we discuss the characteristics of private student loans that make the timing of their cash flows particularly uncertain. In addition, we describe some of the important structural features in private student loan securitizations that affect the credit risk of the securities, including mismatches between the interest rates on the assets and liabilities, different forms of subordination, varieties of other types of credit protection, provisions that allow loans to be added to the original pool of loans over time, and triggers that can alter cash flow allocations in different ways among the securitization's many parties under specified circumstances.

To analyze the net effects of cash flow timing uncertainties and structural features, we examine the results of cash flow modeling of the securities under varying sets of assumptions. Those assumptions represent a level of stress that we view as consistent with the rating of a particular tranche; typically, those stresses are more severe for highly rated securities than for lowly rated securities. We would consider a security consistent with a particular rating only if investors would be paid in full in a scenario where both pool losses and the other variables were stressed to a level deemed appropriate for that rating. We refer to this part of our analysis as "cash flow analysis" or "cash flow runs." We model our cash flow stress scenarios using a cash flow model designed to capture underlying student loan characteristics and transaction payment priorities.

For example, one of the reasons that the timing of cash flows is uncertain is because of uncertainty regarding the amount of principal that will be prepaid each period. Prepayments accelerate the amortization of the loans (i.e., lower the pool's average life), reducing the time that excess spread is earned, thereby reducing the dollar amount of excess spread earned over the life of the transaction. Consequently, the amount of "cushion" to absorb losses that is provided by the periodic cash flows of the assets (i.e., excess spread) depends on the uncertain prepayment speed of the pool.

Therefore, although we may have determined the amount of credit enhancement that would be necessary to be consistent with a Aaa rating (as described above), the amount of credit enhancement that will actually be available to protect investors is not known with certainty. Under highly stressful environments there will be less available and under less stressful environments there will be more. Our methodology incorporates a higher level of stress on the prepayment rate for more highly rated securities. Therefore, to determine whether a tranche has, for example, a Aaa level of credit enhancement (and, therefore, is consistent with a Aaa rating), we examine whether the tranche will pay investors in full when both (1) losses are at the Aaa level (as described earlier in this section[2]) and (2) the prepayment rate is highly stressed, that is, when it is unusually high. If tranche investors would not be paid in full in the stressed environment by the legal final maturity date, we would not consider the security consistent with the target rating. In such cases, issuers often propose changes to the credit enhancement or structure, and we will rerun our analysis to make another determination based on the alterations.

In section 5, we describe how we examine cash flow runs that test the extent to which investors will be paid back as promised when both pool losses and a variety of other variables are stressed to a level deemed appropriate for a certain rating level. Included in that analysis is an assessment of whether investors are protected against losses on the underlying assets (i.e., a credit stress analysis) as well as whether there will be sufficient cash on hand to make payments by promised dates, such as whether there will be enough cash to pay interest on scheduled interest payment dates (i.e., a liquidity stress analysis) and all principal by the legal final maturity of the security (i.e., a maturity stress analysis). The stressed cash flow runs typically involve the following variables:

- The level and timing of loan defaults and recoveries
- Voluntary prepayment speeds and paths
- The rates at which servicers allow borrowers to temporarily suspend payments (i.e., enter deferment or forbearance status)
- The percentage of borrowers who drop out of school (i.e., the time patterns of when borrowers start to make payments on their loans (i.e., when they enter repayment status)
- Movement of the market interest rates that affect the spread between the rates on the loans and on the securities (including the effects of derivative contracts added to the transaction as hedges)
- Interest rates on cash accounts;
- The extent to which borrowers earn discounts on payments (borrower benefits)
- Characteristics of new loans added to the trust after the transaction closing date (i.e., during pre-funding and/or revolving periods)[3]

Each is described in more detail in section 5.

2.4. Rating Approach

The initial rating analysis begins with a review of the quality of the data and of the parties who originate and service the loans that form the collateral for the transaction. The underlying collateral pool, the cash flow stresses (which incorporate the assessment of the originator and the servicer), and the transaction structure are input into the cash flow model, which determines the cash flows to the individual tranches of the securitization that is supported by the collateral pool. The cash flow analysis is used by the rating committee as a major part of its analysis of the rating level consistent with the proposed credit enhancement levels for the different tranches.[4] Those preliminary results lead to model outputs. The ratings we assign reflect both quantitative and qualitative considerations. Our analysis takes into account not only the collateral loss distribution and transaction structure, but also the experience and expertise of transaction parties, the roles and responsibilities of such transaction parties, and legal protections. The synthesis of this quantitative and qualitative information leads to a rating for each specific tranche determined through analysis and judgment by a rating committee.

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[2] See section 2.1 under the heading, "Conceptual Framework."

[3] See sections 4 and 5 for more information on pre-funding and revolving structures.

3. Expected Lifetime Net Loss and Volatility Consistent with Aaa Rating

3.1. Introduction

Unlike Federal Family Education Loan Program (FFELP), private student loans do not benefit from a federal guarantee. Therefore, private student loans are subject to increased credit risk. The observed variability in net losses is attributable mainly to the widely varying characteristics of private student loan pools across issuers, partially because practices regarding marketing, underwriting, accounting, and collections typically are not dictated by regulation or legislation.[5]

As described in section 2, the first step in our analysis for a private student loan-backed security is to assess the likelihoods of the possible net losses that may be realized on the pool of loans. To simplify the analysis, we make an assumption about the general shape of the probability distribution (e.g., by assuming a lognormal distribution) of net losses and then focus on estimating the distribution's mean and variance.

In analyzing net losses, we separately evaluate the two components, (1) gross defaults and (2) recoveries. That enables us to explicitly assess the extent to which recoveries might not be realized until after the security has matured; that risk depends on the maturity of the security and the composition of the asset pool. For example, recoveries on many defaulted student loans are typically collected over a long period (i.e., often in the range of 6 to 12 years); therefore, for securities with shorter maturities, investors will not benefit from the recoveries realized after maturity. In addition, the split of net losses between defaults and recoveries has implications for the credit protection provided by the transaction, as described in section 5.4.1.

In section 3.2 we describe the factors that influence the level and timing of gross defaults. In section 3.3 we outline the analytical tools we use to project a pool's expected cumulative gross default rate, based in part on historical performance information. To guide those projections, we identify, to the extent possible, past pools with similar characteristics and examine the historical performance of those comparable "benchmark" pools, whether they were originated by the same or different lenders.[6] In addition, we make adjustments to the historical performance information of the benchmark pools to account for differences in pool characteristics among the pools being compared. In section 3.3.2 we also describe some of the limitations of the data that are typically provided to us and the implications for our analyses.

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[4] To achieve the desired rating for an individual tranche, the cash flows on the underlying assets must be sufficient under the applicable scenarios to pay timely interest and full principal on the tranche by the legal final maturity. For example, in order to get a suggested rating of "single-A" from the cash flow analysis, the "single-A" security must pass the "single-A" stress case.

[5] The exception is that private student lenders that are banks are governed by banking regulations.

[6] Private student loan balances (principal plus accrued interest) are considered in default (i.e., they are written off) once they are deemed uncollectible in accordance with the issuer's policies and procedures. Policies of non-bank lenders are not governed by industry regulatory bodies and are not standardized. Therefore, the point at which student loan issuers write off loans varies widely, generally from 120 days delinquent to 270 days delinquent. Consequently, the reported default, recovery and delinquency rates on student loan pools are not easily comparable across issuers. We typically make a qualitative adjustment to such metrics to make such inter-issuer comparisons more meaningful.

In section 3.4, we detail the analysis of recoveries. In section 3.5, we describe some of the difficulties in estimating the pool net loss variance and instead of a direct estimate of the variance how we use a benchmarked Aaa level of credit enhancement to infer the variability of the distribution of net losses. We also discuss some of the factors that affect the variability of net losses, including servicing quality; concentrations within the pool; the quality, quantity and relevance of data; and structures that allow additional loans to be added over the life of the security (i.e., pre-funding and revolving structures), adding uncertainty to the precise characteristics of the loan pool. section 3.6 describes the typical set of information that we request from an issuer when rating a new private student loan securitization.

3.2. Student Loan Characteristics and Default Rate Performance

To arrive at an expected lifetime gross default rate projection for a pool of private student loans, we consider the following factors.

3.2.1. Presence of a Co-signer

Private student loan borrowers qualify for loans by meeting specific underwriting criteria. When the student borrower fails to meet the minimum credit underwriting standards of the issuer – often because of a lack of credit history, sometimes referred to as a "thin" credit file – some lenders may require the borrower to obtain a co-signer with a deeper credit history who meets the minimum criteria. Sometimes, a co-signer is added to lower the interest rate of the loans. The co-signer is often a parent but can also be a legal guardian or other individual, representing a second potential source of repayment for the lender. The co-signer is legally bound to make payments on the student loan when those payments are not made by the student. In most cases, lenders only require the co-signer to meet the underwriting requirements to be qualified for the loan. In some cases, though, both the co-signer and the student borrower are required to meet certain minimum underwriting criteria.

3.2.2. Credit Scores

Credit scores can provide important information about the level of default risk associated with private student loans. A credit score[7] is an evaluation of the creditworthiness of a borrower, based on information on a borrower's credit history, including (but not limited to) payment history on utility payments, store cards, credit cards, mortgage loans, auto loans and student loans. That history is typically compiled in a report[8] and "scored" based on algorithms. Student loan lenders typically use a credit score as an input in their underwriting of loan applicants.

Most private student loan issuers originate loans across a broad spectrum of credit quality, and their portfolios and the pools they securitize reflect a broad distribution of FICO scores. In comparing credit scores for a pool underlying a new transaction to those of historical pools, we account for whether the scores are reported for the student borrower, the co-signer, or both. For those default estimates that rely on the scores of only the student borrowers, we also adjust our estimates of the variability of future default behavior, accounting for the fact that those borrowers typically have limited credit histories (thin credit files), making the scores somewhat less reliable as predictors of future behavior. In addition, credit scores generally are less reliable for anticipating defaults on student loans than for defaults on shorter-term consumer loans, since the scores typically are designed to predict the probability of becoming delinquent over a short-term horizon.

3.2.3. Origination Channel and School Certification

Issuers of securities backed by pools of private student loans have sold transactions with a portion of direct-to-consumer (DTC) loans. DTC loans are disbursed directly to the student borrower and/or co-signer and are not school-certified regarding enrollment status and the loan amount, unlike the more traditional school channel loans. In addition, DTC loans primarily are marketed directly to the borrower(s) and not through school financial aid offices. DTC loans typically do not have the safeguards inherent in school channel loans that mitigate the risks that borrowed funds will not be used for education or that students will take on excessive or unnecessarily expensive debt. As a result, we expect default rates and losses on DTC loans to be higher than on school channel loans. For example, Moody's expected lifetime default rate for DTC loan portfolios ranges from roughly 1.25 to 3 times the expected rate for school channel loan portfolios.

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[7] Fair Isaac Corporation (FICO) is the industry's credit score provider and the score is known as a FICO score.

[8] There are three major credit bureaus that record credit information – Equifax Inc., TransUnion LLC, and Experian plc.

3.2.4. School and Degree Type

Our analysis also incorporates the types of schools attended by borrowers in the loan pool. In particular, we have found that pools with high concentrations of borrowers in proprietary or vocational schools tend to have higher lifetime cumulative default rates. As a result, our cumulative default rate expectations for loans to borrowers who attend proprietary or vocational schools are considerably higher than for loans to those who attend two- or four-year non-profit institutions.

We have also observed that default performance tends to differ by the type of degree sought by the borrower. For example, loans made to borrowers pursuing professional degrees[9] tend to perform better than those made to borrowers pursuing bachelor's degrees. The differing default rates by degree type probably reflect differences in the likelihood that a borrower will (1) drop out, (2) obtain employment, and (3) earn a stable income that is sufficient to repay the loan.

3.2.5. Borrowers Who Drop Out of School

Students in the early stages of higher education tend to drop out at a higher rate than those who have already invested more time and money. Furthermore, those who eventually drop out tend to default at a higher rate than those who stay in school and graduate. Thus, in analyzing the likely effect of dropouts on a pool's default rate, we incorporate the distribution of borrowers by class year. For example, if there are an unusually high percentage of borrowers entering their freshman or sophomore year in a pool to be securitized, we may increase our expected cumulative default rate to account for the higher expected percentage of borrowers who could drop out of school.

3.2.6. Loan Payment Options

The payment type a student borrower chooses can impact the expected default rate of a pool of private student loans. Typically, private student loan issuers offer at least one of three payment options to borrowers.

- **Immediate repayment**: the borrower begins to pay principal and interest while the student is in school, much like that of a conventional, fully amortizing loan;
- **Interest only**: the borrower pays only interest while the student is in school and thereafter pays principal and interest; or
- **Fully deferred**: the borrower defers principal and interest payments while the student is in school and thereafter pays principal and interest. Interest typically accrues during the in-school deferment period and is capitalized[10] at the start of repayment (typically six months after the student graduates), resulting in a higher outstanding loan balance when repayment begins.

Performance information has shown that immediate repayment and interest only loans could carry lower default rates than fully deferred loans. Having a loan immediately enter interest or full repayment after origination eliminates the negative amortization of the loan during the in-school period. Furthermore, it allows the lender to be in communication with the borrower during the in-school period and establishes early habits and responsibility of payment.

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[9] Examples of professional degrees include Doctor of Medicine (MD), Doctor of Dental Surgery (DDS), Doctor of Veterinary Medicine (DVM), and Juris Doctor (JD).

[10] Capitalized interest is accrued interest added to the borrower's outstanding principal. Subsequent interest accrues on the new total principal balance, which includes any capitalized interest.

3.2.7. Exceptions and Reliability of Underwriting Standards

In evaluating a lender's underwriting standards, we assess not only the specified lending criteria, but the controls the lender uses to ensure those criteria are implemented consistently. Such controls would include performance monitoring and audits of the underwriting function, performed by either the issuer or a third-party. In addition, we evaluate the extent to which a lender allows individual loan underwriters to deviate from the lender's specified underwriting standards. A lender's guidelines may specifically permit those "exceptions" to be made on individual loans, usually when a loan has some compensating factors; for example, it may permit a debt-to-income ratio that is higher than its standard maximum as long as the credit score is higher than some specified level. We expect that in limited circumstances such exceptions may be in line with prudent lending standards. However, pervasive use of exceptions could lead to unreliable and inconsistent underwriting and possibly to credit performance that is inconsistent with expectations.

3.2.8. Forbearance Policies

Loans that are in forbearance likely otherwise would have been in delinquency or default. Consequently, we adjust our interpretation of delinquency and default data in light of forbearance rates, especially in interpreting (1) the extent to which delinquency rates serve as early warning signals about future default rates and (2) the effectiveness of a securitization's triggers that are based on a pool's gross default or net loss rates. Those two points are discussed in more detail in sections 3.3.5 and 4.4.1.

Most private student loan lenders use flexibility in addressing the payment needs of financially distressed borrowers through the use of payment forbearance, that is, by allowing a temporary suspension of payments, giving the borrower time to resolve his or her financial difficulties. A lender typically will offer to place a loan in forbearance status if a borrower has difficulty in obtaining his or her first job after graduation or if the borrower becomes unemployed or experiences some other economic hardship or due to a natural disaster. While the loan is in forbearance, the borrower usually is not required to make interest or principal payments. Interest accrues during the forbearance period and is typically capitalized when repayment resumes, resulting in a higher outstanding loan balance when repayment begins. That higher balance typically is amortized over the repayment period that had been remaining at the start of the forbearance period. Therefore, forbearance usually increases the term of the loan by the length of the forbearance period.[11]

Forbearance policies vary widely from lender to lender and are typically not governed by industry regulations.[12] The forbearance period generally varies from six to 24 months. Additional forbearance may be granted by servicers for addressing the needs of borrowers impacted by disaster. Some lenders adhere to specified criteria that restrict the number of forbearance periods that can be approved within a particular time period or over the life of the loan. For example, forbearance may be limited to no more than two instances over the life of the loan, with a maximum term of six months for each occurrence. In addition, some issuers require evidence of the borrower's need for forbearance by requiring detailed documentation verifying the financial hardship (such as proof of unemployment). In contrast, other lenders grant forbearance more liberally and may have no general limitation as to the length of forbearance and/or may not require documentation to support the claim of financial distress.

As a result of these divergent forbearance policies, the utilization of forbearance in private student loan pools varies from lender to lender. Typically, the forbearance utilization rate ranges on student loan portfolios (i.e., at any point in time, the percentage of the repayment portfolio that is in forbearance) can be up to around 20%. Furthermore, lenders occasionally change their forbearance criteria over time, resulting in changes in their portfolio's forbearance utilization rate. Forbearance utilization is typically highest in the initial years of repayment, as students juggle their loan repayment with other financial obligations such as rent and car payments and with the search for employment.

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[11] In some cases, the length of the repayment period is not increased by the amount of time the loan is in forbearance, which means that the monthly payment increases compared to the pre-forbearance monthly payment once the borrower reenters repayment.

[12] The exception is that the forbearance policies of private student lenders that are banks are governed by banking regulations.

Generally, a loan that is put into forbearance status is a "troubled" loan that, in the absence of forbearance, likely would be delinquent. In the right circumstances, forbearance can avert a default by giving distressed borrowers additional time to resolve temporary financial difficulties by obtaining employment and income to support their debt obligations. However, if the borrower cannot resolve the payment difficulties or is ultimately unwilling to make the loan payments, then granting forbearance only serves to delay delinquencies and defaults. In this situation, forbearance can conceal delinquencies and defaults that otherwise would have occurred. Overall, we view portfolios with high rates of forbearance as higher-risk portfolios, everything else being equal.

In addition to having a higher likelihood of default, we expect loans that have been in forbearance to have a higher severity of loss if they do default. That is because loans that are placed in forbearance typically accrue interest during the forbearance period, building up the principal balance; consequently, when the loan defaults, more principal would tend to be lost than on a similar loan for which forbearance was not granted.

3.2.9. Servicer Quality

As with any portfolio of unsecured consumer loans, the quality of the servicing of private student loans is essential to maintaining the credit quality of the portfolio. The degree of the impact of servicing quality is dependent on the credit quality of the asset pool: high-credit-quality pools require less collection efforts and hence the servicer's quality is less important for those pools than for low-credit-quality pools that require more intense collection efforts.

The effort a servicer devotes to preventing and curing borrower defaults and the steps a servicer takes to minimize losses if a borrower does default are critical to the ultimate performance of any private student loan securitization. Of equal importance is the financial and operational stability of a servicer. A disruption in servicing can lead to a significant deterioration in the quality of servicing and the credit quality of the portfolio. Hence, in assigning ratings, we review the quality of the servicing of the transaction, which includes (1) **servicer ability** and (2) **servicing stability**.

In private student loan securitizations, the servicer's responsibilities typically include the collection of student loan payments and remittance of those payments to the trustee, calculation of payments due on the loans, reporting loan payments, and the management of, or the collection activity on, delinquent loans.[13] These responsibilities are detailed in the servicing agreement, which is part of the transaction documents.

Unlike with FFELP loans, no uniform servicing standards exist in the private student loan sector. The focus of our servicer reviews is on early awareness of potential payment problems of loans that are in repayment status (i.e., default aversion), post-default collections and loan fraud prevention. In analyzing private student loan securitizations, we typically consider servicer risk assessments in our estimates of the expected net pool loss and the variability of loss.

Servicer ability includes the areas of collections and loss mitigation. We typically conduct an on-site review of a servicer, which includes an evaluation of the servicer's effectiveness in default prevention, collections strategies (including the use and control of third-party collectors), and recovery programs. We evaluate the effectiveness of a servicer in moving delinquent borrowers to paying status – thereby preventing defaults –

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[13] Sometimes management of or the collection activity on delinquent loans is the responsibility of the administrator.

by analyzing the servicer's historical delinquency roll rates (i.e., the percentage of receivables that advanced from one delinquency stage to the next), default rates, and cure rates (i.e., the percentage of delinquent loans that reverted back to "current" status). We examine the techniques and tools used by the servicer, including the use of scorecards on delinquent or defaulted accounts to determine the most effective way to deploy collection resources, automated dialers to efficiently contact borrowers, "champion-challenger" strategies to determine the most effective outside collection vendors, and loan counseling to help borrowers avoid default. In addition, we assess the responsiveness and quality of customer service.

Servicing stability is one of the primary drivers of the variability of future losses and will be discussed in more detail in section 3.5.1.5. To assess the likelihood and extent of potential future servicing interruptions, we review the transaction's servicing stability, which includes the financial and operational stability of the servicer and the back-up servicing arrangement, if any.

3.3. Static Pool Analysis to Estimate Expected Lifetime Pool Default Rates

In analyzing a private student loan ABS transaction, we establish a lifetime gross default rate expectation for the transaction's underlying pool by analyzing historical performance data of similar pools (of the originator or other lenders), based on the characteristics of the loans in the pool. We assess the characteristics of a private student loan pool based on aggregate pool-wide data, since information on a loan-by-loan basis generally is not available.

The focus of this approach is on projecting the cumulative default rate of the overall pool and the time pattern of the defaults. Data regarding credit performance of the historical originations by the sponsor (and/or other similar sponsors) are analyzed and an expected lifetime default rate for the underlying pool of private student loans is established along with an estimate of the uncertainty, or variability, of the default rate. Variability tends to be lower in securitizations that have (1) a large pool with no significant borrower concentrations (i.e., a "granular" pool) and (2) abundant data regarding historical credit performance of pools that have characteristics similar to the proposed pool. A granular pool ensures that the default of any given credit will not have a material detrimental impact on the overall pool; therefore, determining the credit quality of each individual credit is less important. Abundant historical performance data of pools through varying business conditions tends to make the estimates of the lifetime expected default rate more reliable.

Sponsors of private student loan securitizations usually provide us with two types of historical data. *Portfolio* data typically tracks the defaults that occurred in each period as a percentage of that period's repayment loan balance[14] of the issuer's overall portfolio, whose composition changes over time. *Static pool* data, on the other hand, shows the ratio of cumulative gross defaults to the origination loan balance[15] (or repayment loan balance) for a static pool of assets that was originated (or entered repayment) within a particular period.[16] The origination period or period in which the loans entered repayment are sometimes referred to as the "vintage" of the loans, and the static pool analysis is therefore sometimes called "vintage analysis."

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[14] Repayment loan balance is defined as the pool balance less the loan balances of borrowers still in school or in their grace periods. The repayment balance (but not the originated balance) includes the interest accrued during the in-school and grace periods.

[15] Origination loan balance is defined as the balance of the loan at the time the loan was disbursed.

[16] The origination period is the period in which the loan was disbursed to the student. The repayment period is the period during which payments of principal and interest are required on the loan. The repayment period typically follows any applicable in-school or grace period.

Portfolio default data, while helpful in giving an up-to-date view of an issuer's overall performance, are difficult to interpret and apply to the potential future defaults on a new pool of securitized loans because (1) changes in the size of a portfolio can cause changes in observed default rates that are independent of trends in the true underlying credit quality of the loans,[17] (2) the overall portfolio can contain a mixture of loans originated under different origination and underwriting standards over time, and (3) the portion of the portfolio that is in repayment varies over time, depending in part on how long students stay in school, so it may be unclear if trends in default rates are being caused by changes in the underlying credit quality of the loans or changes in the portion of the portfolio that is in repayment.[18]

In addition, portfolio default data do not provide useful information on the timing of defaults for a fixed pool of loans and on how variable defaults have been on similar pools in the past.

In analyzing a pool that is being securitized, we are typically concerned with a fixed pool of amortizing loans over its life.[19] Hence, static pool data, which also follow a fixed pool of assets over its life, are more directly applicable (than portfolio data) to projecting the potential magnitude of defaults for a new pool of assets over its life and for analyzing the timing of defaults. Static pool data also enable us to analyze default trends across sequences of different static pools, which can reveal changes in credit quality, both positive and negative, that may be applicable to the pool underlying the transaction to be rated.

3.3.1. Static Pool Cumulative Default Analysis

In projecting the lifetime cumulative default rate on a pool of loans underlying a new securitization, we examine the default experience of similar pools of loans in the past. For example, if we had observed the lifetime experiences of 100 pools of similar loans over a wide range of economic environments, it might be reasonable to calculate the average cumulative default rate on those pools as a measure of what we would expect on the relatively new pool of assets. Furthermore, we might calculate the variance of the past lifetime cumulative defaults as a measure of the variability, or uncertainty, of that projection.

However, static pool data usually is somewhat fragmentary and not completely comparable to the securitized pool. For example, only some, if any, of an originator's prior static pools may have completely paid down at the point the new securitization is being rated; however, although only partially complete, we would like to glean whatever information we can from those “incomplete” pools. Exhibit 3 shows static pool default data for a sample private student loan originator. In that example, the static pool performance history encompasses 72 months of data for the oldest vintage, which has paid down to a pool factor of 30%. Given that the pools in the example are not fully paid-down, there are more defaults likely to be incurred in these static pools over their remaining lives. Using the information from these partially completed pools, we project the cumulative default rate over the remaining life of each pool (see Appendix I).

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[17] In order to understand how the "true" default rate can be masked by the growth in a portfolio, consider the following example: If a portfolio grows from $2 billion to $3 billion from month zero to month six, and if the portfolio experiences $15 million in defaults in month six, then the typically calculated default rate in month six would be 6% per annum ($15 million x 12 / $3 billion). However, if the servicer charges off loans at six months, then none of the loans originated between month zero and month six could be subject to default at month six -- instead, only the $2 billion balance at month zero could be subject to default at month six, and this can be thought of as the true "balance-at-risk." Therefore, a better measure of the "true" portfolio default rate would be to divide the monthly defaults by the balance-at-risk, yielding an adjusted default rate in month six of 9% per annum ($15 million x 12 / $2 billion).

[18] The in-school period can vary significantly from borrower to borrower, depending on the time remaining to graduation and whether the student enrolls in a graduate degree program.

[19] Some student loan transactions allow additional loans to be acquired into the trust after closing for a specified period (i.e., pre-funding and recycling periods). See sections 4 and 5 for more information on pre-funding and recycling periods.

Exhibit 3 represents an example of a private student loan originator's historical static pool default information. The default data are segregated by the year the borrowers entered repayment. Each vintage includes all loans that entered repayment in a particular year; the data for each vintage form a column. The original loan balance (disbursed balance) at the start of the repayment period is recorded for each vintage in the second row of the table. The data in the main body of the table represent the percentage of the disbursed balance that defaulted in each six-month period following the year the loan entered repayment; therefore, each of the data points represents the cumulative default rate experienced by the loans in a particular vintage. A loan is regarded as defaulted if it becomes more than a certain number of days past due, as determined by the default policy of the issuer.

EXHIBIT 3

Sample Historical Static Pool Cumulative Default Rates by Repayment Vintage

Repayment Year	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Disbursed Balance	**$597m**	**$363m**	**$455m**	**$489m**	**$626m**	**$889m**
Current Pool Factor	**30%**	**37%**	**45%**	**55%**	**67%**	**82%**
Months in Repayment	**Panel A: Cumulative default Rates**					
0	0.00	0.02	0.05	0.01	0.01	0.01
6	1.80	1.28	1.20	1.18	1.11	0.76
12	3.20	2.28	2.25	2.05	1.91	1.42
18	4.33	3.18	3.10	3.15	2.67	
24	5.30	4.18	4.07	4.00	3.34	
30	6.20	5.04	4.92	4.80		
36	6.98	5.79	5.67	5.45		
42	7.82	6.42	6.33			
48	8.64	7.07	6.86			
54	9.34	7.57				
60	9.96	7.97				
66	10.47					
72	10.87					

Source: Moody's Investors Service

One of the outputs of our static pool projections is an average default timing curve (also called the base case default timing curve). (See Appendix I for a discussion of the calculation of the average default timing curve.) We use the default timing curve to extrapolate the defaults to date on a securitized pool to project lifetime defaults of the pool. The curve shows, in each period, the percentage of the lifetime cumulative defaults that had been experienced (or were projected to be experienced) on similar pools in the past. For example, Exhibit 4 shows a cumulative default timing curve in which the loan pool experienced 53% of its lifetime defaults three years after the start of repayment.[20] Therefore, if the securitized pool has been in repayment for three years (and is otherwise similar to the loans in the pools in Exhibit 4) and has experienced a cumulative default rate of 5.6%, then we would project an "expected" cumulative default rate of 10.5% (i.e., 5.6% / 53%) on the pool.

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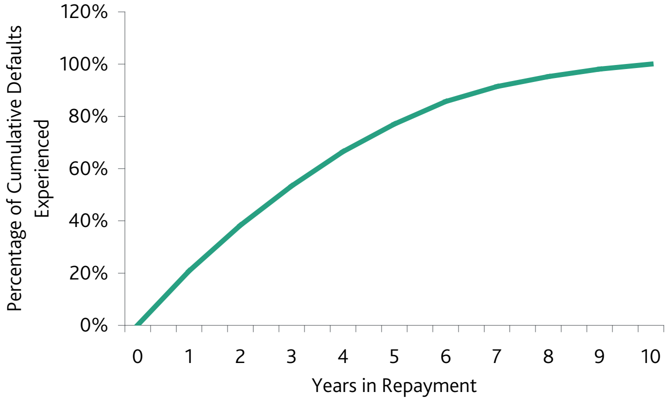
[20] Typically, cumulative default rates in private student loan pools increase rapidly in the first three to five years after loans first enter repayment. Then the rates decelerate and fall to a relatively lower, "steady state" level for the remaining life of the loans.

EXHIBIT 4

Cumulative Default Timing Curve



Source: Moody's Investors Service

3.3.2. Limitations of Static Pool Data for Expected Default Projections

3.3.2.1. AFFECT ON VARIABILITY

Although static pool data is useful in analyzing defaults, it is subject to certain limitations. For instance, projections based on limited data are inherently less precise than projections based on more complete sets of data. When data are limited or the historical data are based on loans that do not have the same characteristics as the loans being securitized, we have less confidence in the projections that we make; the estimates of future performance are more "variable" and the transaction, because of the higher uncertainty, is riskier (everything else being equal). Therefore, the credit enhancement level that we would consider consistent with a particular rating would typically be higher for transactions with limited data, to offset the greater risk from the data variability. Conversely, the level of credit enhancement would be lower for issuers that are able to provide more comprehensive relevant information on their private student loan programs. In certain cases, high ratings may not be obtainable if there is limited historical data or the historical data are based on loans that do not have the same characteristics as the loans being securitized.

3.3.2.2. UNCERTAINTY ASSOCIATED WITH DATA AVERAGES

Optimally, we would assess the likelihood that each individual loan would default based on each loan's characteristics and on the performance behavior of similar loans in the past. However, as mentioned earlier, such loan-level data is typically not available in private student loan transactions. Instead, we are sometimes simply presented with the average of a characteristic across all of the loans in a pool. For example, we may know that the pool has an average FICO score of 700. However, the implications of that average score for future performance scenarios would be different if, on the one hand, every loan in the pool had a score of 700 or if, on the other hand, half of the loans had a score of 800 and half had a score of 600.[21] In addition, the absence of loan-by-loan data could hide the fact that some loans might have particular combinations of factors that would be expected to make the loans particularly high-credit-quality or low-credit-quality. Again, the additional uncertainty means more risk for investors.

When we are provided with data on the average value of a characteristic across the pool, or on stratifications of the factor (e.g., how much of the overall pool balance falls within various ranges of the particular factor), we project defaults based on the performance of prior pools with similar characteristics. The precision of those projections is limited by the number of comparable prior pools. The limitations are most severe when the credit mix for an originator has changed significantly over time or where there are multiple key credit characteristics, which makes it difficult to find historical pools that match the securitized pool in all of the credit dimensions simultaneously. In such cases, the default projection for a pool is based on a subjective extrapolation from the historical data of pools that have somewhat different underlying characteristics.

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[21] In the first case, we might expect the pool to perform fairly well even in moderate economic downturns, which would not be expected to impair the ability of the borrowers with 700 scores. However, in the second case, much of the half of the pool with 600 scores might be expected to be impaired in that same scenario.

3.3.2.3. BENEFIT OF POOL STRATIFICATION DATA

Default performance can be projected more accurately in situations where we have historical performance data not only for an entire pool but also for sub-pools underlying the pool, and if the performance of the sub-pools is stratified (bucketed) by one or more key credit characteristics of the entire pool. Then, to derive a default projection for a pool, we either look for benchmark pools with similar stratifications or weigh the defaults from each of the stratified buckets in the proportions found in the pool that is being securitized. In the latter case, we neutralize the differences in aggregate credit characteristics between the historical pools and the subject pool by quantitative means, thereby improving the precision of our projection.

For example, an originator may have tracked the performance of vintages broken down by origination channel and for each of those origination channels, by FICO bucket. If there were, for example, two origination channels and five FICO buckets, there would be 10 total buckets for which historical performance data would be provided. If such bucket performance were provided, then our analysis would project the cumulative default rate of the securitized pool based on the historical performance of the disaggregated buckets but weighted by the bucket-mix of the securitized pool.[22]

3.3.2.4. IS THE PAST REPRESENTATIVE OF THE FUTURE?

To arrive at the estimate of the expected cumulative default rate, the projections for the various repayment vintages need to be synthesized into a single default projection for the pool to be securitized. If the various repayment vintages that have been analyzed have similar credit characteristics to the securitized pool, and were originated and serviced with similar standards, and if the historical period of analysis encompasses economic environments that are generally consistent with the potential future environments during the life of the securitized pool, then it might be reasonable to derive the default projection for the securitized pool as the average of the projections for the various analyzed vintages.

However, static pool information is less valuable as an analytical tool when inferences about the future cannot appropriately be drawn from historical information. Historical static pool information, for example, may not capture the current economic trends reflected in the pool of loans that is being securitized. In addition, historical static pool default performance could be affected by period-specific factors. For example, if the originator has recently made material changes to its credit underwriting guidelines, servicing and/or collections policies, or has expanded or shifted its operations into new markets, the characteristics of the pool of loans to be securitized may be different from those originated under the historical environment. If the performance of the older vintages appears to differ from that of the more recent vintages due to those changes in underwriting, originations strategies, or collections policies, etc., the older vintages can be excluded from the analysis or weighted less, or the data can be adjusted to account for the differences.

3.3.3. Specific Factors to Consider in Static Pool Data Analysis

3.3.3.1. TIME SINCE ORIGINATION OR SECURITIZATION VERSUS TIME SINCE START OF REPAYMENT

For student loans, the starting point of a vintage and of the default curve is at the start of repayment,[23] not at the origination of the loan. That is because students typically are not required to make interest and principal payments on their loans while in school or during the grace period[24] after graduation, and therefore cannot default during those periods. Furthermore, since students typically take out a new loan for each year of attendance, each borrower is likely to have several student loans with the same lender originated at different times, but with the same starting repayment date. Hence, grouping student loans into static pools according to the start of their repayment period means that each borrower's individual loans are placed in the same static pool. Since borrowers with multiple student loans who default tend to default on all of the loans at once, organizing the data by the starting date of repayment has the advantage of associating the same default period with each of the defaulting loans.

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[22] The projection of the cumulative default rate would also take into account the consistency of servicing techniques and origination guidelines, including the use of exceptions, among other things.

[23] Except for immediate repayment loans as the starting point of a vintage and of the default curve would be the start of origination of the loan.

[24] Most student loan issuers offer a six-month grace period after the student graduates. In this period, the student does not make any interest or principal payments, however interest continues to accrue.

Furthermore, grouping student loans into static pools at the time of origination or at the time of securitization makes it difficult to assess default trends and timing. The in-school deferment period can vary significantly from borrower to borrower, depending on the time remaining to graduation and whether the student subsequently enrolls in a graduate degree program.[25] Thus, borrowers with the same origination dates enter repayment and become subject to default at different points in time, rendering data organized by origination dates less reliable in providing a true picture of the default timing curve.

Some issuers of private student loan-backed securities that are issued out of master trusts track static pools by the year the security was issued (i.e., the security year). For static pools tracked by security year, each vintage would consist of loans financed with the proceeds of the same bond issuance. Analyzing static pool information presented in this manner would have the same difficulties as described above since students with loans in the same security year would enter repayment at different points in time. The default timing curve is further complicated by the fact that new loans with potentially different repayment start dates typically are added to existing security years over time through the master trust's pre-funding and revolving features.[26] Again, we would assess the greater uncertainty – and, therefore, risk – associated with data that is not organized by date of repayment in determining the level of credit enhancement that it would consider consistent with a particular rating level.

3.3.3.2. STATIC POOL DATA GROUPED BY ACTUAL REPAYMENT DATE VERSUS ANTICIPATED REPAYMENT DATE

Some issuers group static pool data by the *actual* starting date of repayment while others group them by the *anticipated* date stated by the borrower in the loan application. However, based on historical information, approximately 20% to 30%[27] of students leave school before their anticipated graduation date, either because they graduate early, transfer to another school or drop out.[28] Furthermore, others may graduate later than anticipated. Therefore, using the anticipated repayment date as the basis of the default timing curve would not, in some cases, incorporate the true timing of defaults relative to the time the borrower actually becomes subject to the possibility of default. As a result, we view projections based on the anticipated repayment start date as somewhat less reliable and more uncertain.

3.3.3.3. ACCRUED INTEREST IN STATIC POOL DATA

As discussed earlier, many private student loan programs permit borrowers to defer interest and principal payments while they are in their school and grace periods. The interest accrues for student loans in these non-paying statuses. The capitalized interest is generally added to the principal balance of the loan, thereby increasing the outstanding principal balance of the loan.

When issuers report static pool default information by repayment vintage, some issuers report the sum of defaulted principal and accrued interest (i.e., principal plus interest accrued while the loans were in-school and grace, deferment or forbearance) as a percentage of the original disbursed balance (i.e., principal only) and some issuers report the sum of defaulted principal and accrued interest as a percentage of the repayment balance (i.e., principal plus interest accrued while the loans were in-school or grace)[29] When comparing static pool information among issuers, we adjust the data to normalize for this difference.

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[25] If a student enters repayment for a period and then returns to graduate school, that borrower remains in the initial repayment vintage.

[26] During the pre-funding period, bond proceeds are deposited into a pre-funding account to be used to originate additional student loans. During a revolving period, principal collections and excess spread from the underlying student loan pool are used to originate additional student loans.

[27] The type of school attended, and the type of degree attained influences these percentages.

[28] See section 5.4.3 for a discussion of how we incorporate into our cash flow analysis the effects of students who drop out of school.

3.3.4. Expected Lifetime Default Projections for Seasoned Pools: Seasoning Adjustment

We make adjustments to historical static pool performance data to account for the “seasoning” of loans[30] in new securitizations; that is, loans that have been in repayment for some time before the securitization. Vintage static pool performance is generally presented starting from the year the borrower first entered repayment. However, the default projection for the securitized pool is concerned with the expected performance only during the life of the securitization, thus excluding the defaults and amortization that would normally occur while the loans "seasoned" prior to the securitization closing. Sometimes the impact of seasoning can be taken into account by analyzing the performance of prior securitizations that have similar pool characteristics and similar seasoning to those of the securitized pool being analyzed. However, if there is an insufficient number of such representative securitized pools to rely upon, our default projection for the securitized pool would be based on the analysis of the performance of the unseasoned vintages with certain adjustments made for the impact of seasoning. This adjustment would account for both the amount of defaults and the amount of principal amortization (through scheduled payments, prepayments and defaults) that the seasoned pool likely has already experienced.[31] An example of the adjustment for seasoning is shown in Exhibit 5 below:

EXHIBIT 5

Consider an unseasoned pool with a balance of $125 million (i.e., principal balance plus interest accrued while the borrower was in-school and grace is equal to $125) at the start of repayment and an expected cumulative default rate of 10% (i.e., $12.5 million defaults). Suppose after the first 12 months in repayment, the outstanding pool balance is $100 million. Then the pool factor is 80% (i.e., $100 million /$125 million); that is, 20% of the pool amortized in the first year due to scheduled payments, prepayments and defaults. The question is: what percentage of defaults might we expect for the $100 million pool that remains?

If we know (from the default timing curve) that approximately 30% of the defaults typically occur during the first year in repayment (i.e., 70% of the defaults occur after the loans have been in repayment for a year), then the projected defaults for the seasoned pool would be $8.75 million (i.e., 70% x 10% of $125 million), and the projected cumulative default rate would be 8.75% (i.e., $8.75 million/$100 million). The projected 8.75% cumulative default rate for the seasoned pool is lower than the (assumed) 10% cumulative default rate for the original pool over its entire life. In this case, the seasoning adjustment resulted in a projected cumulative default rate for the remaining seasoned pool that was 1.25 percentage points lower than the rate for the unseasoned pool.

The net effect of seasoning depends on whether a higher percentage of (1) the lifetime defaults or (2) the total amortization occurs during the seasoning period. In the example in Exhibit 5, 30% of the lifetime defaults were assumed to occur during the seasoning period, while only 20% of the total amortization ($25 million/$125 million) was assumed to occur during that period. That lowered the *remaining* defaults as a percentage of the *remaining* principal balance (i.e., the cumulative default rate for the seasoned pool was lower than for the unseasoned pool).

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[29] The calculation of default performance in static pools determines whether interest accrued during the school and grace periods is defaulted in the cash flow analysis. The repayment balance does not include the interest accrued during the deferment or forbearance periods.

[30] We typically consider a pool to be "seasoned" if the weighted average age (measured by the number of payments made) of the pool since repayment is at least 12 months. By this measure, most US private student loan securitizations are backed by "unseasoned" pools.

[31] Our adjustment for seasoning, if any, is dependent on the quality of the data provided by the issuer.

However, if in the example, 40% (instead of 20%) of the pool had paid down in the first year of repayment (i.e., to a balance of $75 million ($125 million x 60%)), then the projected cumulative default rate for the seasoned pool would have been 11.7% (i.e., $8.75 million / $75 million), which is higher than the (assumed) 10% cumulative default rate for the original pool, over its entire life.

In most cases, though, we expect the lifetime defaults to occur at a faster rate than the general amortization rate early in the life of the pool, resulting in a seasoning adjustment that would lower the projected cumulative default rate for a seasoned pool *vis-à-vis* an unseasoned pool. However, for pools with less than 12 months seasoning, the overall effect is typically negligible, and we generally make no change to the "unseasoned" expected cumulative default rate derived from vintage performance.

3.3.5. Delinquency and Forbearance Rates

Loans that are delinquent have a greater likelihood of defaulting than loans that are current. Therefore, changes in delinquency rates can be an early indicator of forthcoming changes in default rates. Consequently, in addition to reviewing static pool default information, we consider trends in delinquency rates on the issuer's portfolio,[32] and compare the delinquency rate on the pool being securitized to the rates on the portfolio and on other static pools. In addition, we adjust reported delinquency numbers to include forbearances since forbearances can conceal delinquencies that otherwise would have occurred.

3.4. Recoveries

We use the historical recovery experience of the issuer (i.e., both the recovery rate[33] and the timing of recoveries) as the basis for projecting the expected recovery rate on the pool of loans to be securitized. Cash recoveries on defaulted private student loans generally range from 10% to 30% of cumulative defaults. This recovery amount is low despite the fact that private student loans, unlike other unsecured consumer credit products, are generally non-dischargeable in the event of a borrower's bankruptcy.[34] We expect that this treatment aids lenders in collecting on private student loans and results in somewhat higher recoveries compared with other unsecured consumer loans. In addition, in states that grant state agency lenders special administrative tools to collect on loans (such as wage garnishment and the ability to divert the borrower's and/or the co-signer's state income tax, lottery winnings, and property tax refunds to repay amounts owed on defaulted loans), recovery rates are often higher, typically ranging from 40% to 70%.

Static pool recovery data typically are measured from the time of default. The lag between default and recovery tends to be longer for student loans than for other types of consumer assets; it is not unusual to realize recoveries on a significant number of defaulted student loans for up to typically 10 to 15 years after default. If a borrower defaults soon after entering repayment, it might take a long time for the borrower to establish a financial position that would enable loan repayment. Further, the borrower may only be motivated to repay the defaulted loan and clean up his or her credit history when trying to get a credit card, auto loan or mortgage loan at some point in the future. As a result of the long recovery period, we incorporate into our analysis the risk that some of those recoveries might not be of benefit to investors if they are realized after a security matures.

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[32] Similar to portfolio default data, delinquency data while helpful in giving an up-to-date view of an issuer's overall performance, are difficult to interpret and apply to the potential future defaults on a new pool of securitized loans because (1) changes in the size of a portfolio can cause changes in observed delinquency rates that are independent of trends in the true underlying credit quality of the loans; (2) the overall portfolio often contains a mixture of loans originated under different origination and underwriting standards over time; and (3) the years the loans enter repayment vary so borrowers first become subject to delinquency at different points in time.

[33] The recovery rate is typically defined as the cash portion of the total defaulted principal plus accrued interest recovered on a pool of loans, less collection costs, divided by the total cumulative defaulted balance of the pool.

[34] A bankruptcy discharge releases the debtor from personal liability for certain specified types of debts. In other words, the debtor is no longer legally required to pay any debts that are discharged. The Bankruptcy Abuse Prevention and Consumer Protection Act of 2005, effective October 17, 2005 amended the language of Section 523(a)(8) of Title 11, Chapter 5 of the US Bankruptcy Code to include an exception to discharge for "qualified education loans, as defined in section 221(d)(1) of the Internal Revenue Code of 1986." The definition of qualified education loan includes most private student loans, including for-profit and non-governmental entities. Before this change, only private student loans funded in whole or in part by a governmental unit or non-profit institution were exempt from discharge.

3.5. Potential Variability of Private Student Loan Pool Losses

After we estimate the expected cumulative net loss rate of the pool of student loans to be securitized (i.e., the mean of the loss distribution), we evaluate the variability of the loss estimate (i.e., the variance of the loss distribution).

The credit risk in any asset-backed security is largely due to the uncertainty about the level of losses over the life of the transaction. That uncertainty can be estimated, in part, by the variability of historical experience – that is, looking at the variability of losses on prior similar static pools. However, typically the relevant historical data provided by some private student loan issuers covers no more than 10 years from when the loans enter repayment, a time span and range of scenarios that is too narrow to represent all future loss possibilities, particularly given the relatively long term of private student loans. As our ratings are forward-looking opinions, we assume that the variability of loss contemplates a wide range of environments – some that may be more stressful and some less stressful – than those generally experienced over a 10-year period. Those potential scenarios, in general, include severe recessions, industry turmoil, and servicer instability. Therefore, we could, for example, stress the observed variability of loss to incorporate those potential events. The level of the stress factor would be determined on a qualitative basis due to the absence of data from which to make a quantitative determination.

An alternative approach, and the one currently employed by us is to determine the variability of the loss estimate indirectly. In this approach, the judgment of a rating committee is used to assess the level of credit enhancement that would be consistent with a Aaa rating for the given asset pool, implicitly expressing a view on the variability of loss of the asset pool. The rating committee assessment, hereafter referred to as the "Aaa level of credit enhancement,"[35] can then be utilized to infer the standard deviation of the loss distribution.

We use benchmarking to help determine the Aaa level of credit enhancement for a new transaction. We start with the transaction's expected net losses and then apply a multiple implied by the relationship between the expected cumulative net losses and the associated Aaa level of credit enhancement on prior private student loan transactions that we have analyzed, including those for the issuer and others.

3.5.1. Factors in Assessment of Variability of Future Losses

The relationship (multiple) between a private student loan transaction's expected net loss rate and our Aaa level of credit enhancement (i.e., the implicit volatility) is adjusted for a number of factors:

3.5.1.1. EXPECTED LOSS LEVELS

Low expected net losses have the potential for higher volatility than higher expected net losses. Therefore, a loan pool with a low level of expected net loss typically has a higher ratio of Aaa level of credit enhancement to expected net loss (i.e., a higher multiple) compared with a loan pool with a higher expected net loss (all else being equal).

3.5.1.2. HISTORICAL PERFORMANCE DATA: QUANTITY, QUALITY AND RELEVANCE

Generally, the higher the historical volatility of cumulative net loss experience, the higher the Aaa level of credit enhancement (all else being equal). Moreover, we stress the historical volatility if it is based on a relatively short period or was generated in an unusually stable economic environment. In other words, we assess whether the historical performance reflects the impact of economic environments that are representative of the environments that the securitized asset pool may experience in the future or whether it was biased by either a strong or a weak economic environment.

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[35] In transactions where the rating of the senior class is not Aaa based on asset performance (e.g., monoline insured deals where the underlying rating on the senior class is typically in the A category), the credit enhancement level for the desired rating of the senior class is assessed by a rating committee in a similar fashion.

In addition, the volatility of future losses would depend on the extent to which the data used to project losses were applicable to the pool underlying the transaction being rated. For example, as noted earlier, static pool data generally contain more applicable information than data from a dynamically changing portfolio, and stratifying the static pool data can provide the means to an even closer match to the securitized pool. Furthermore, additional information on variables such as delinquency rates, forbearance rates and pool factors can provide for a more robust analysis, reducing the uncertainty associated with the data.

The volatility of future losses would also depend on the extent to which the data used to project losses were relevant to the pool underlying the transaction being rated. As discussed earlier, static pool information is less valuable as an analytical tool when inferences about the future cannot appropriately be drawn from historical information.[36] The relevance of the data is dependent on whether the factors that drove the historical performance are representative of the factors that are expected to drive the performance of the asset pool being securitized. Key considerations include whether the credit underwriting guidelines, origination strategies, and servicing and collection policies that led to the historical performance are consistent with those that would apply to the securitized asset pool.[37] Furthermore, expanding or shifting loan origination strategies and the pervasive use of underwriting exceptions can result in variability of loan quality and performance and possibly credit performance inconsistent with expectations.

For some new pools, the most comparable past pools are those that were originated by the same lender; however, for an issuer with limited comparable historical pools, the most useful benchmark pools might be those that had been originated by other lenders. However, we recognize that pools with similar observable characteristics may perform differently simply because of some unobservable "originator factor"; therefore, in those cases in which we use pools from other issuers as benchmarks, we account for that additional uncertainty by increasing our assessment of the variability of the projection.

3.5.1.3. CONCENTRATIONS IN LOAN POOL

Concentrations of certain loan attributes can have a considerable impact on pool performance variability; high concentrations may lead us to an assessment that a transaction should have a higher level of credit enhancement – everything else being equal – to be consistent with a Aaa rating. Random events such as a natural disaster or recession can have a significant effect on many borrowers; however, diversification reduces the impact of such events because fewer borrowers would tend to be affected by a single event. Potential concentrations in private student loan pools include:

- **Degree Program Concentrations:** A pool consisting of loans made to borrowers pursuing many types of degrees tends to have lower risk than a pool of loans made to borrowers pursuing only one or a few degree-types, holding all other factors constant, because the fortunes of the diverse pool are not tied to the fortunes of one particular industry. For example, the future performance of pools that consist of a large percentage of borrowers attending law school is tied closely to the future job market for lawyers.
- **School Concentrations:** Similarly, a pool consisting of loans made to borrowers attending many different schools tends to have a lower Aaa level of credit enhancement than a pool consisting of loans made to borrowers attending one or a few schools, holding all other factors constant, because the fortunes of the diverse pool are not tied to the fortunes of a small number of particular schools. For example, a pool that is concentrated with loans to students at a particular for-profit proprietary school would be riskier than a pool with a more diverse universe of proprietary schools, since the bankruptcy

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[36] For more information, see section 3.3.2.4 under the heading "Is the past representative of the future?"

[37] For example, if the originator has expanded or shifted its operations into new markets, the characteristics of the pool of loans to be securitized may be different from those originated under the original guidelines.

of the for-profit school could lead to a sharp increase in defaults[38] from borrowers who had been enrolled in the school.

» **Geographic Concentrations:** A geographically diverse pool tends to have a lower Aaa level of credit enhancement than a concentrated pool, holding all other factors constant. If the borrowers are geographically concentrated in a few states or zip codes,[39] then it could be more prone to the impact of an economic shock to a particular region.

3.5.1.4. QUALITY OF POOL CHARACTERISTICS INFORMATION

Our assessment of the risk of a pool is also driven by the extent to which material information is available relating to the credit characteristics of both the pool being securitized and the pool or pools for which we have historical performance information. The critical credit characteristics include those relating to the obligors' creditworthiness (e.g., their credit scores) and key loan characteristics (whether the loan is co-signed or not, the origination channel and the school-type, etc.). All else being equal, the availability of such information for the historical pool(s) and for the securitized asset pool allows us to assess the relevance of the historical performance data to the future performance of the pool to be securitized. As a result, it can help reduce the potential uncertainty around the loss estimate for the securitized pool and can lead to a lower Aaa level of credit enhancement.

3.5.1.5. SERVICING

A disruption in servicing can lead to a significant deterioration in the quality of servicing and the credit quality of the portfolio.[40] The ability of the servicer (or successor servicer) to continue to collect on the loans, mitigate losses, and maximize recoveries has a direct impact on the volatility of the loss performance of a pool. Therefore, in general, the lower the servicing stability of the transaction, the higher the Aaa level of credit enhancement (all else being equal). In certain situations of weak servicer stability, it may not be possible for to achieve the highest ratings on securities backed by pools of private student loans.

Since periods of servicer instability are relatively rare (especially for servicers that are still active), historical performance data typically do not reflect the impact of periods during which the servicer's stability - and hence the servicing quality – was impaired by financial stress. Our analysis considers the possibility that such financial stress may occur during the life of the rated securities. As a result, for pools of comparable expected loss, all else being equal, one serviced by a higher-credit quality servicer would have a lower Aaa level of credit enhancement than one serviced by a lower-credit quality servicer.

To assess the likelihood and extent of potential future servicing interruptions, we review the transaction’s servicing stability, which includes the financial and operational stability of the servicer and the back-up servicing arrangement, if any. As part of that analysis, we review the servicer’s technology systems, management experience, staffing levels and training, quality control and internal audit procedures, and disaster recovery provisions. In addition, we analyze whether the transaction’s servicing fee would provide the servicer – either the original servicer or a successor servicer – with adequate incentives to perform in the interests of investors, even in environments where delinquencies and losses experience severe stress.[41]

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[38] Students attending a for-profit institution that declares bankruptcy often litigate successfully to have their loans “forgiven” if they are unable to transfer the credits or if no certification has been achieved. A “forgiven” loan has a more severe impact on the trust than a simple loan default, as no recoveries are expected from this loan.

[39] Typically, we receive information on where the borrower lives at the time of loan origination. We are rarely presented with information on where the borrower lives after graduation. However, we believe that the former is a good proxy for the latter.

[40] The performance of a securitization transaction is closely dependent on the effective performance of the master servicer(s)/administrator(s) and servicer(s). We review the specific responsibilities of such key transaction parties as well as risks in the continuity of the duties of such key transaction parties for each private student loan transaction. For more information, see our methodology for assessing counterparty risks in structured finance transactions. A link to a list of our sector and cross-sector methodologies can be found in the “Moody’s Related Publications” section.

[41] For more information on our framework to servicer quality assessments, see www.moodys.com.

In addition, we review how the specific servicing responsibilities are divided among the master servicer/administrator and servicers of the transaction. Typically, the sponsor of the transaction is the master servicer/administrator. The responsibilities of the master servicer/administrator vary greatly from transaction to transaction. In some cases, the master servicer/administrator performs a largely administrative role, compiling information from several servicers. In other cases, the master servicer/administrator oversees the servicer's operation in great detail, including participating in loan loss mitigation decisions. In addition, many master servicers/administrators outsource the collection activity on at least some of the delinquent loans from the servicer(s) to third-party collection agencies, sometimes specifically for loans that are delinquent for more than 30 or 60 days, for example. In these cases, the master servicer/administrator manages and oversees the collections agencies and is heavily involved in loan loss mitigation decisions.

3.5.1.6. PRE-FUNDING AND REVOLVING FEATURES[42]

Transactions that include a pre-funding and/or a revolving feature could acquire additional loans after closing, which introduces the risk that the new loans could reduce the overall credit quality of the pool. That risk can add uncertainty to the loss estimate of a securitized pool and can lead to a higher Aaa level of credit enhancement than for a similar transaction with no such features.[43]

The increase in the Aaa level of credit enhancement can be mitigated if an originator has a long track record of consistent originations. The risk could also be mitigated by transaction documents that provide credit criteria and/or loan concentration limits placed on the loans that can be added.

3.6. Pool Data

As noted earlier, we project defaults on a pool to be securitized based on the performance of prior pools with similar characteristics. Consequently, in analyzing a new transaction, we request the issuer to provide information on the extent to which the performance-driving characteristics, as described earlier, are present in the pool. We may receive loan-by-loan data on the pool to be securitized. If loan-by-loan data is not available, a typical set of information, among other possible data, that we would request is as follows:

1) Percentage of the pool that consists of co-signed loans
2) Percentage of loans that were originated through the school-channel and the percentage originated directly to consumers
3) Percentages of loans made to borrowers attending the various types of schools: 4-year, 2-year, graduate, or proprietary/vocational, etc.
4) Percentages of loans made to borrowers pursuing particular degree-types such as associate, bachelors, law, medical, etc.
5) List of individual schools (with pool concentrations and historical dropout rates)
6) Percentages of loans made to borrowers in each class year (e.g., freshmen, sophomore, junior, or senior)
7) Percentages of loans made to borrowers in various in-school payment statuses (i.e., deferment of principal and interest, payments of interest only, payments of interest and principal)

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[42] Pre-funding and revolving periods both allow for additional receivables to be added to the trust after the closing date; in a "pre-funded" transaction some of the proceeds from the closing of the transaction are set aside in a pre-funding account to be used to purchase additional receivables during the pre-funding period; in a "revolving" deal, principal collections from the loans can be used to purchase additional receivables during the revolving period.

[43] For master trusts, a new pool of loans is added each time a new series of bonds is issued so there is always a risk that the new loans could reduce the overall credit quality of the pool. For discrete trusts, this risk only exists if there is a pre-funding and/or revolving feature.

8) Credit scores for both co-signers and student borrowers including:
   - average credit score of the pool;
   - percentages of the pool that falls within various buckets of the credit score range
9) Geographic concentrations
10) Percentages of loans whose interest rates are fixed and those tied to various indexes including:
   - averages and distributions of fixed interest rates and of margins over floating indexes
11) Cross Stratifications: Percentages of the pool that fall within various buckets of credit score ranges and the average credit score for:
   - co-signed loans and non-co-signed loans
   - school-type
   - degree-type
   - origination channel
12) Any other information that would affect future pool performance (e.g., debt levels, debt-to-income ratios, etc.)

Furthermore, we typically receive an issuer's historical loan-by-loan performance data for as long a period as possible. If loan-by-loan data is not available, we would receive historical pool stratifications and static pool performance data (e.g., delinquency, default, forbearance, amortization, prepayment, and recovery information) provided by repayment vintage for as long a period as possible by the following key characteristics:[44]

1) Co-signed and non-co-signed loans
2) Credit score
3) Origination channel
4) School type
5) Loan payment options (See section 3.2.6.)

Data on historical performance, broken out by key loan characteristics, provide us with an understanding of the factors that have been correlated with past performance. Data on the characteristics of the pool being securitized help us understand the relevance of the past data for the transaction being rated. Projections based on limited data of either kind will be inherently less precise than projections based on more complete sets of data. Therefore, the credit enhancement level that we would consider consistent with a particular rating would typically be higher for student loan-backed bonds with limited data, to offset the greater risk from data variability.

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[44] We prefer to receive this information cross-stratified by those key characteristics, wherever possible.

4. Private Student Loan-Backed Securitization Structures

4.1. Capital Structures

In virtually all private student loan transactions, multiple classes of securities (or tranches) are issued with the transaction documents setting forth rules for allocating loan losses and student loan payments among the classes. A typical securitization structure issues (1) multiple Aaa-rated senior classes that pay sequentially, (2) a mezzanine class and (3) a subordinate class. Weighted average lives of the various securities within a securitization typically range from one to 15 years. The interest rates on the bonds are usually indexed to either a one-month or three-month reference rate but can also be fixed rate or indexed to the prime rate or the Treasury bill (T-bill) rate.

Investors in private student loan ABS typically are protected against net losses on the underlying pool through one or more forms of credit support, including (but not limited to) the subordination of the interests of other investor classes (subordination), assets that exceed the value of the liabilities of the structure (i.e., over-collateralization, or OC), a cash reserve account and excess spread (i.e., the income on the assets each period minus the sum of interest costs on the bonds and other transaction expenses during the period). Excess spread available for each rated security depends on the specific structure and the cost of funds of the securitization.

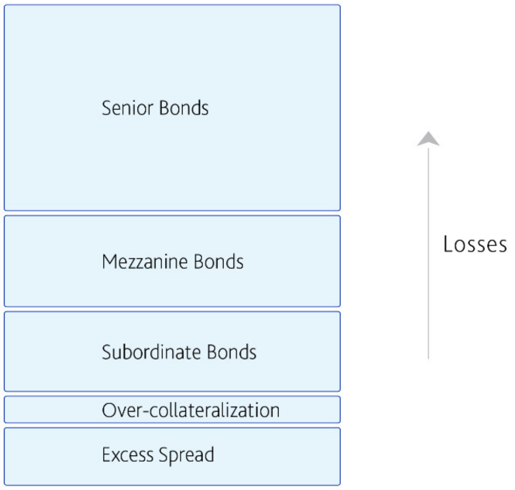
The amount of excess spread that may be generated in a transaction depends on the evolution of multiple factors over the life of the transaction and is therefore highly uncertain. Consequently, as outlined in section 5.3, we evaluate a variety of scenarios with different excess spread implications in assessing the extent to which investors are protected against losses.

In addition, since private student loan programs typically permit borrowers to defer interest and principal payments in various circumstances during the life of the loan, there is a risk that cash flows from the pool of assets will be insufficient to meet the obligations of the transactions during these periods absent any structural accommodation. Therefore, many transactions often include liquidity support in the form of a capitalized interest account and/or a reserve account, described later in section 4.3.

As mentioned above, private student loan-backed securitizations typically use a senior/subordinated structure. Losses on the underlying pool of loans are first allocated to the available excess spread, then to the over-collateralization, if any, next to the subordinate bonds, then to the mezzanine bonds, and after that to the senior bonds (typically in reverse order of payment allocation) as shown in Exhibit 6.

EXHIBIT 6

Loss Allocation in Senior/Subordinated Structures



Source: Moody's Investors Service

In general, before a transaction's specified "step-down" date (usually three to five years from the start of the transaction), all principal is allocated to a single security, usually the most senior, until it is paid down in full. After that, all principal is allocated to the next most-senior security until it is paid in full. The process continues until all of the senior tranches are paid in full. Next, all principal is allocated to the mezzanine tranche until paid in full and then to the subordinate tranche until paid in full. In this type of sequential payment system, the mezzanine and subordinate classes are said to be "locked out" until the step-down date.

The excess spread generated during a payment period is used to cover the pool's losses during the period; that is, to the extent excess spread is available, the losses on the underlying pool do not result in a draw on other forms of credit enhancement. Instead, excess spread in the amount of the pool losses is paid to investors as principal, effectively resulting in an "involuntary" prepayment of the loans that were written off. During the lock-out period, if the gross excess spread exceeds the pool losses in a given period, the "excess" of the excess spread, or excess spread after covering pool losses for the period, is also used to pay down bonds sequentially. This pay-down results in a reduction in the liabilities of the trust without reducing the assets (since the excess spread is essentially excess income and not a payment of asset principal) and therefore builds up over-collateralization, further protecting the remaining investor interests. Typically, once the over-collateralization has increased to a specified limit, or "target" (i.e., a target asset-to-liability ratio) subsequent net excess spread is paid to the residual holder instead of investors.

After the step-down date, if the transaction passes specified performance tests, or "triggers," the principal is allocated pro-rata among the senior, mezzanine and subordinate securities without regard to seniority. However, within the senior class of notes, principal continues to be allocated sequentially. The notes are paid down so as to maintain the target asset-to-liability ratio. That is, once the target asset-to-liability ratio is reached, some of the principal is distributed to the residual holder such that the target ratio is maintained after such release. Typically, if loan performance deteriorates such that any of the triggers are breached (described in section 4.4.1), the principal allocation switches to sequential-pay, thereby further protecting senior tranches at the expense of the more subordinated tranches. The two most common performance triggers are cumulative default triggers and asset-to-liability ratio triggers. Some triggers are curable (i.e., turn on and off depending upon the satisfaction or breach of the specified performance triggers) whereas other triggers are non-curable.

4.2. Forms of Credit Enhancement

4.2.1. Subordination

The level of subordination in a private student loan securitization is typically expressed as a percentage of the total amount of bonds that are issued. For example, a private student loan securitization with 10% subordination has total subordinated securities equaling 10% of the total issuance amount of the bonds and senior classes that are 90% of the total issue size.

Subordination provides credit support to senior securities as losses in the underlying pool of student loans, net of excess spread and other forms of credit enhancement, are borne first by subordinated noteholders and only later by senior noteholders. That is, losses in the asset pool, net of other credit enhancement, are first allocated to the subordinate securities and then, once the subordinated securities have been completely written off, to the senior securities.

4.2.2. Over-collateralization

OC is the amount by which the loan pool balance exceeds the amount of the outstanding bonds. As long as pool losses (that are not covered by other forms of credit enhancement) are less than the over-collateralization amount, there will still be sufficient assets to repay investors.

Some private student loan securitization structures start with an over-collateralization dollar amount that is allowed to decline on a pro rata basis with the interests of investors, as the transaction amortizes. For example, if the pool balance is $105 and the security balance is $100 at the transaction closing, then the over-collateralization is $5. If the transaction is structured such that the excess spread is released to the residual holder when the total asset-to-liability ratio is at least 105%, then if the loans pay down to $80, the amount of the security would need to be $76.19 (i.e., $80 / 105%) to maintain the target asset-to-liability ratio of 105%. In this case, the required over-collateralization amount would decline from $5 to $3.81, entailing a release of cash of $1.19 to the owner of the residual interest in the securitization.

In some cases, the decline in over-collateralization is limited by a minimum asset coverage amount, i.e., an over-collateralization floor, typically expressed as a fixed minimum dollar amount. Until the floor is reached, the owner of the over-collateralization interest will not receive further payments (and hence the remaining over-collateralization amount will not decline) until investors are paid in full. Therefore, once the over-collateralization floor is reached, the ratio of the fixed over-collateralization amount to the remaining pool balance rises over time, increasing the protection provided to investors in percentage terms.[45] This can be particularly important toward the end of a transaction. With fewer loans remaining near the end, there is an increase in the probability of a large percentage of them defaulting; the increase in the percentage protection provided by a fixed dollar amount of over-collateralization can offset that risk.

Securitizations that are under-collateralized at the start of a transaction pose an additional risk to investors, as any under-collateralization that is not eradicated represents an additional draw on credit enhancement and an additional potential loss to investors. Therefore, investors are exposed to the total prepayment rate (i.e., defaults and principal prepayments) on the pool, since the higher the total prepayment rate, the less future excess spread that will be available to eliminate the under-collateralization (i.e., to build to parity). Issuers can mitigate that risk by structuring transactions that are likely to build to parity in a relatively short period. In our analysis, we examine the adequacy of credit enhancement to protect investors by stressing both the default rate and principal prepayment rate of the loans, as described in section 5.4.5.

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[45] For example, if the pool balance is $105 and the bond balance is $100 at the transaction closing, then the over-collateralization is $5 and the ratio of over-collateralization to remaining pool balance is 4.8%. If excess spread is released when the over-collateralization is $5, then if the loans pay down to $60, the bond amount would need to be $55 in order to maintain the over-collateralization floor of $5. In this case, the ratio of over-collateralization to remaining pool balance would rise to 8.3%.

4.2.3. Excess Spread

Excess spread is generated within asset-backed securitizations during a payment period whenever the period's cash income generated by the securitized assets exceeds the expenses of the transaction. *Gross excess spread* during a period is defined as the difference between (a) the interest payments accrued on the securitized pools of loans plus any investment income and (b) the sum of interest paid on the bonds plus all the fees within the transaction, including servicing fees, administration fees and trustee fees.

To calculate excess spread, we need to know the amount of interest accrued during a period. The accrued interest can come into the transaction as borrower interest payment. In case of borrowers not making payments to cover the entire accrued interest amount, the unpaid portion will either be paid in the following periods or be capitalized:

FORMULA 1

Gross Excess Spread

$$\text{Gross Excess Spread} = (\text{loan interest accrued} + \text{investment income}) - (\text{trust expenses} + \text{interest paid to the investors})$$

Source: Moody's Investors Service

As noted earlier, excess spread during each payment period is used to cover the period's net losses on the underlying private student loans before any other forms of credit enhancement are utilized. If the transaction is below its required over-collateralization level, any remaining excess spread would be used to build up over-collateralization of the trust. If not required to build over-collateralization, excess spread is typically paid out to the holder of the residual ownership interest in the trust, often the sponsor of the securitization.

The exact amount of excess spread that will be available to cover losses on the loans over the life of a particular transaction is not known with certainty at the start of the transaction. Both the income and expenses of the transaction in each period are uncertain, causing the amount of available excess spread in each period to be unpredictable. Furthermore, potential timing mismatches between excess spread and losses can allow some excess spread to be paid to other transaction participants instead of being used to cover losses.

Specifically, the dollar amount and availability of excess spread depends on the following factors:

- The extent to which defaults and voluntary prepayments accelerate the amortization of the loans (i.e., lower the pool's average life), reducing the length of time that excess spread is earned, thereby reducing the dollar amount of excess spread earned over the life of the transaction.[46]
- The extent of the over-collateralization of the assets over the liabilities.
- The difference between the interest rates on the assets and the interest rates on the liabilities.
- The extent to which borrowers utilize deferment and/or forbearance to extend the length of the loan and build up loan balances (through capitalized interest), potentially increasing the amount of future excess spread paid on the loans.
- The extent to which borrowers in the pool realize various discounts, known as "borrower incentives," such as reductions in interest rates for good payment performance.

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[46] For example, if a loan pool earns a weighted average interest rate of 10% and the weighted average bond interest rate is 6% and the trust expenses are 1%, then if the weighted average life (WAL) of the loan pool is seven years, the cumulative gross excess spread would be 21% [i.e., (10% - 6% - 1%) x 7 years]. If the WAL of the loan pool is reduced to five years by voluntary prepayments and defaults, then the cumulative gross excess spread would be only 15% [i.e., (10% - 6% - 1%) x 5 years].

- The extent to which borrowers drop out of school, leading to less buildup in the asset base (from the interest that would have accrued during the in-school and grace periods) and reducing the length of time the loan is outstanding, and therefore, the total amount of excess spread that it generates.[47]
- The conditions under which excess spread, after covering the period's pool losses, is required to fund a reserve account or to build up over-collateralization rather than reverting back to the residual holder. Net excess spread[48] that is used to fund a reserve account or to build over-collateralization would be available to cover subsequent losses, but would not be if released to the residual holder. This is sometimes referred to as the "use-it-or-lose-it" effect.

Consequently, in evaluating the risk faced by investors in a particular security, we analyze the specifics of the transaction's allocation mechanism for excess spread and scenarios representing a variety of combinations of (1) the pool's lifetime losses and prepayments, (2) the timing of those losses and prepayments, (3) the difference between the interest rates on the assets and the liabilities, (4) the utilization of deferments, forbearances and borrower incentives on the pool's loans, (5) and the percentage of borrowers who drop out of school. Those cash flow scenarios are discussed in more detail in section 5.3.

4.2.4. Third-Party Guarantees

In some private student loan securitizations, a third-party guarantor may agree to compensate the securitization for defaulted loans within a pool, either in full or up to a specified dollar limit for the pool. Typically, upon paying claims on a defaulted loan, the guarantor becomes the owner of the loan and is entitled to the loan's recoveries. Thus, guarantees on a pool of loans can affect our assessment of the recovery rate on defaulted loans (from the perspective of the securitization), but does not affect the assessment of the default rate on the underlying pool.

Some guarantees are structured to reimburse the securitization for 100% of the value of defaulted loans in the pool, while others have coverage limits that cover losses only up to a maximum aggregate amount. Alternatively, other insurance policies provide coverage on a specific "layer" of risk; that is, the insurance policy is required to pay only after losses reach a specified "attachment" point and then only until losses reach a specified "detachment" point.

The value of a guarantee depends on (1) the credit quality of the guarantor, (2) the conditions and limits that may affect availability of the guarantee and (3) the willingness of the guarantor to pay in a timely manner.[49] We assess the credit quality of the insurance provider to understand if the provider is capable of paying claims and if they are willing to make payments. Further, we examine the terms of the insurance policy to determine whether there are any "carve-outs", i.e., conditions or limits under the policy that may affect the availability of the guarantee and when the guarantor is obligated to make a payment after a default occurs. Typically, the guarantee on a defaulted loan can be rejected if the loan was not originated or underwritten according to the lender's guidelines or as a result of a loan servicing error.

4.3. Liquidity Support: Reserve Accounts and Capitalized Interest Accounts

As mentioned in section 3, many private student loan programs permit borrowers to defer interest and principal payments while they are in school, grace, deferment or forbearance. Therefore, most private student loan transactions have a high percentage of loans that, at least temporarily, are not producing cash flow at various points during the transaction, especially at the beginning of the transaction. To reduce the risk that the cash flows from the pool of assets will be insufficient to meet the timely obligations of the transactions during these periods, the transactions typically have cash accounts or other forms of liquidity that can be drawn upon to enable the trusts to make timely payments of trust expenses and interest of the security. The cash accounts are typically funded with a portion of the proceeds from the issuance at closing of the securities.

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[47] For example, if a borrower is expected to spend four years in school and has a 20-year repayment term, the total length of the loan is 24 years. However, if that borrower drops out as a freshman, the total length of the loan is reduced to 21 years.

[48] Net excess spread is defined as gross excess spread less pool loan losses in a given period.

[49] The willingness of the guarantor to pay in a timely manner also depends on the servicer's ability to process claims in a timely and contractual fashion for full coverage under the policy.

There are two types of cash accounts used for liquidity, a *capitalized interest account* and a *reserve account*. Capitalized interest accounts provide liquidity support in the early years of transactions and are typically fully funded at closing. The account is drawn upon to pay interest on the securities and either all or some of the trust fees and expenses when collections from the underlying assets are insufficient.[50] Amounts drawn from the capitalized interest account are not replenished.

Typically, amounts in the capitalized interest account are scheduled to be released at certain dates as specified in the transaction documents. At such dates, the funds are released through the trust waterfall to first pay trust expenses and interest, and then principal of the securities until the target asset-to-liability ratio is reached. The capitalized interest account is usually scheduled to be fully released within two to five years after the transaction closing.

Reserve accounts provide liquidity support throughout the life of the transaction and credit support at the legal final maturity date. The reserve fund is available to cover interest payments on the securities and either some or all of the trust's periodic expenses but can only be drawn upon to cover principal payments on the securities at the legal final maturity date.

Reserve accounts are usually fully funded at closing, typically at 0.25% to 1.00% of the initial pool balance. The dollar amount in a reserve account is generally allowed to decline over time, as long as it remains at its initial percentage of the then-outstanding pool balance.[51] However, the reserve account can also have a minimum requirement (i.e., a floor), expressed as a specific fixed-dollar amount. Once the floor is reached, the ratio of the reserve account balance to the remaining pool balance rises over time as the pool balance pays down, increasing the protection provided to investors in percentage terms. Amounts drawn from the reserve account are replenished up to the required level as excess funds become available after such excess funds are used for loss allocation.

In section 5.5, we discuss how we analyze the extent to which a transaction's liquidity is sufficient to make timely required payments to investors.

4.4. Other Structural Features

Some of the other typical structural features we observe in private student loan securitizations include:

- Triggers
- Excess spread release mechanisms
- Revolving structures
- Pre-funded structures
- Swaps, caps and other derivative instruments

4.4.1. Triggers

Private student loan transactions typically are structured with performance tests or "triggers" that redirect cash flows under certain conditions, typically to further protect senior tranches at the expense of the more subordinated tranches if the loan credit performance deteriorates. For example, with a "subordinated interest rate trigger," if cumulative defaults exceed specified (trigger) levels at certain points in the transaction's life or if the transaction's asset-liability ratio falls below a specified level, cash that would otherwise be allocated to pay interest to subordinated investors would then be used to accelerate principal payments to senior investors. Similarly, with a "subordinated principal trigger," if specified criteria were breached, principal that would otherwise be allocated to pay down the subordinated securities on a "pro-rata" basis would now be distributed to senior investors to reduce their exposure to subsequent losses more quickly.

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[50] This might occur due to higher-than-expected utilization rates of deferment and/or forbearance, higher-than-expected defaults or lower-than-expected voluntary prepayments in the early years of the securitization.

[51] In some transactions, the reserve account is expressed as a percentage of the note principal balance.

The protection provided by triggers varies, depending in part on the trigger levels that are specified and on the time path and volatility of the underlying performance variables. For example, a transaction that experiences high defaults early in its life is likely to hit a cumulative default trigger and start paying down the senior tranches at an accelerated rate relatively early in the transaction, providing considerable additional protection to the senior investors. On the other hand, another transaction that has the same lifetime cumulative defaults, but experiences the vast majority of the defaults late in its life, will not hit the trigger early enough to realize much protection from the accelerated payments. Consequently, in analyzing the credit quality of the senior and subordinate tranches, we examine not only the expected time path of the trigger variables, but "stressed" time paths as well (such as a "back-ended" default curve), in which the triggers would not provide as much protection. These types of scenarios are described in more detail in section 5.7.3.

4.4.2. Excess Spread Release Mechanisms

Many securitizations allow for the release of excess cash to the sponsor after trust expenses, interest and principal payments on the securities have been made and the reserve account requirement has been met. As noted earlier, cash may be released from the trust provided the assets exceed the liabilities by a specified level (i.e., provided the transaction meets its target asset-to-liability ratio). The greater the difference between the target asset-to-liability ratio and the initial asset-to-liability ratio, the more protection that excess spread is likely to provide.

In addition, sometimes excess spread release is conditional upon loan default rates being below specified levels. The protective value that these excess spread release triggers provide to investors depends on the specific time path followed by the trigger variables. Consequently, our analysis includes an assessment of the protective value in a variety of scenarios, described in section 5.4.2.

That analysis accounts for the possibility that, even in high-loss scenarios, some of the excess spread may not be utilized to support the rated bonds but rather may have been released or "leaked" to the residual holder because of the specific time path of loan losses. For example, excess spread may be released to the residual holder in the early months of a transaction before losses have reached a sufficiently high level to utilize that credit enhancement. Once the funds have been released from the trust to the residual holder, it is no longer available for the benefit of the investors.

4.4.3. Revolving Structures

Some private loan securitizations have periods in which the pools revolve. As discussed in section 3, loans purchased during the revolving period can differ from the existing loans in the transaction's pool because of differences in loan characteristics such as the loan-type, credit scores, school-type, loan interest rate and loan maturities, etc. The potential for the pool composition to deteriorate due to the addition of assets can add uncertainty to the securitization. This risk is typically partly mitigated through credit criteria and loan eligibility limits placed on the receivables that can be added, specified in the transaction's legal documents. However, typically the eligibility criteria provide some flexibility to issuers for some variation in loan quality from the initial pool and do not cover all of the material loan characteristics.

We incorporate those risks into its analysis by assuming "stressed" characteristics for loans that may be added to the pool after closing. We typically apply a different, more severe, expected net loss and Aaa level of credit enhancement to loans that may be added during a revolving period. The expected net loss of the potential new loans will partly be determined by the criteria for additional loans that the issuer incorporates into the transaction structure. In addition, for those loans, the ratio of the Aaa level of credit enhancement to the expected net loss will be higher, to address the uncertainty inherent in the precise characteristics of the potential new loans.

4.4.4. Pre-Funded Structures

In some private student loan securitizations, the issuance proceeds initially are only partially invested in loans, with the rest deposited in a "pre-funding" account. The intention is to use the account to purchase additional loans as they become available during a limited period (the "pre-funding" period). The amount of cash initially in the pre-funding account can range from a small percentage of the transaction up to the entire securitization amount. Pre-funding periods typically last no more than two years; the actual length of time depends on the speed with which the sponsor originates suitable new loans. Similar to revolving pools, a pre-funded pool introduces the risk that the loans to be acquired are unknown and could be of lesser quality. We apply an analysis that is similar to that used in revolving pools to arrive at the expected net loss and Aaa level of credit enhancement for pre-funded pools.

Money in the pre-funding account typically earns an interest rate lower than the rate on the loans in the pool.[52] Consequently, if a securitization has a large pre-funding account for an extended period, excess spread can be squeezed; in the extreme, the securitization could even be in a "negative carry" situation, where the pre-funding interest rate is lower than the interest rate on the securities and hence principal assets are used (diminished) to make timely, current interest payments. To mitigate that risk, most pre-funded securitizations allow only a relatively short pre-funding period and provide that any unused pre-funded amounts at the end of the pre-funding period are used to redeem principal. In our analysis, we examine the implications for investors of no originations, and varying lengths of pre-funding periods, where the lengths are based on our evaluation of the issuer's ability to obtain new loans that meet the specified credit criteria in a timely manner.

4.4.5. Swaps, Caps and Other Derivative Instruments

To mitigate interest rate mismatches between assets and liabilities, some private student loan securitizations include derivative instruments such as interest rate swaps and caps and floors, which either limit or eliminate the potential spread between the interest rates on the assets and the liabilities. The interest rate risk generally results from the mismatch between the interest rate received on the loans and the interest rate due on the securities. The mismatch can be caused by a difference in the instruments behind the benchmark reference rates, in the tenors of the base instruments (e.g., one-month versus three-month), or in the reset dates (e.g., a single day in the month versus the monthly average).

In our analysis, we evaluate the extent to which interest rate risk may remain in some scenarios, even after the hedge is accounted for. That risk may arise because of some remaining gap between the rates on the (hedged) assets and the liabilities, because the "notional" amount on which the hedge payments are based may not be structured to match the balance of the amortizing assets at all times during the securitization, or because the hedge terminates before the legal final maturity date of the securities. Section 5.7.2 describes how we examine different scenarios to evaluate the risk posed by the remaining gap. In addition, we evaluate other risks that may be introduced by the derivative instruments, including counterparty risk.

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[52] The funds in the pre-funding account are typically invested in eligible, liquid or "safe" investments until such funds are needed to purchase available loans.

Counterparty risk in derivative contracts may be effectively eliminated if the contracts comply with our published approach[53] that set forth, among other things, rating triggers at which the counterparty would be obligated to post collateral or replace itself. Derivative contracts that do not comply with our approach are likely to be viewed as being exposed to counterparty risk and are modeled accordingly.

5. Credit and Liquidity Support Evaluation

5.1. Introduction

In section 2, we described the conceptual framework that we use to obtain the "Aaa level of losses" for a simple generic securitization structure, and hence the level of credit enhancement that we would consider consistent with a Aaa rating, that transaction structure, and the transaction's particular pool of private student loans. In that section, however, we also noted that the complexity of actual securitizations makes uncertain the actual amount of credit enhancement that will be available to cover pool losses at the time a transaction is closed. That is primarily because of uncertainties regarding the size of excess spread from period to period and the timing of both excess spread and pool losses. Furthermore, as described in section 4, the effects of triggers in reallocating cash flows and altering the amount of risk faced by the various classes of securities depends on the timing and volatility of the variables underlying the triggers. In addition, as described in sections 3 and 4, there is considerable uncertainty about the timing of the cash flows that will be generated by private student loans, and therefore uncertainty regarding whether there will be sufficient cash flows from the loans to make timely payments of the interest and expenses of the securitization, as well as full payment of principal by the maturity of the securities.

Consequently, in addition to determining the level of lifetime pool losses that is consistent with a particular rating, our analysis includes an assessment of how likely it is that the particular transaction structure and collateral pool can protect investors against those losses and provide timely payment for a particular security. That analysis is scenario-based. We would deem securities to be consistent with a relatively high rating if it were relatively highly likely that the pool losses would be covered (i.e., the transaction has low credit risk) and all payments made in a timely manner (i.e., the transaction has low liquidity risk); hence those securities would be expected to be able to pay investors in full even in highly "stressful" scenarios. On the other hand, to be consistent with a relatively low rating, a security might only be able to pay in a full and timely manner in relatively benign scenarios and would default in the higher-stress situations.

In the remainder of this section, we describe how we assess the ability of a security to withstand three types of stresses:

» **Credit stress**: tests the extent to which credit enhancement protects investors against losses on the underlying assets and against adverse movements in interest rates;

» **Liquidity stress**: tests whether cash will be available to make timely payment of interest and expenses; and

» **Maturity stress:** tests whether investors will be paid off fully by the security's legal final maturity.

Our assessment of a security's ability to withstand those stresses is based on the results from modeling the security's cash flows in scenarios in which the variables are stressed in various combinations.

Our methodology incorporates a higher level of stress for more highly rated securities. Hence, the set of stresses is progressively more severe for higher ratings. A transaction must "pass"[54] each of the stresses that are consistent with a particular rating level to be considered for that rating. If the transaction does not pass the cash flow run, we would consider whether the security is consistent with a lower rating, or the issuer may increase the credit enhancement or liquidity support, as appropriate, or alter the structure in some other way, and we would perform the analysis again taking into account the new terms.

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[53] For more information, see our methodology for assessing counterparty risks in structured finance transactions. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[54] To pass a particular cash flow run, the cash flows must be sufficient to pay timely bond interest and trust expenses and all bond principal by the legal final maturity date.

The cash flow analyses are used by the rating committee to determine the rating level consistent with the issuer's proposed credit enhancement levels for the different tranches. These preliminary results lead to a model output; the ratings that we assign also include qualitative considerations. Qualitative considerations would include the impacts of factors such as the experience and expertise of transaction parties, the roles and responsibilities of such transaction parties, and legal protections. Therefore, the actual ratings that would be assigned could differ from the cash flow results. As mentioned in section 2.4, the synthesis of the quantitative and qualitative information leads to a rating for each specific tranche determined collectively through the exercise of judgment by a rating committee.

5.2. Cash Flow Modeling Assumptions: General Principles

We analyze a transaction using specific modeling inputs and assumptions that reflect our view of the stresses that the transactions must withstand to achieve the target rating. For each rating category, a different set of assumptions is applied and the stresses are more severe the higher the requested rating.[55]

For the pool being securitized, we formulate base case, or "expected," assumption for each cash flow variable based on the characteristics of the given loan pool, the originator's latest available set of historical performance information, the underwriting criteria, the servicing and collections policies of the issuer, and the experience and expertise of the originator and servicer.

We then stress those base-case levels to arrive at cash flow modeling assumptions that we deem appropriate for each targeted rating category. The level of stress applied to each cash flow variable depends primarily on the collateral characteristics, the starting base case assumption and the volatility of the historical performance data. The specific stresses placed on such variables are issuer-specific and are determined on a case-by-case basis. The stresses applied typically are not in excess or in violation of document stipulated levels or criteria.

When formulating the stress assumptions, we consider the aggregate effect of the set of individual stresses applied to the securitization. That is, when assessing the appropriate level of stress for the targeted ratings, our assumptions take into consideration the combined effect of these assumptions on the cash flows. Since we are stressing many variables simultaneously, we might not need to stress all of the variables as much as we might if we were stressing them one at a time, since the probability of all of the factors "going bad" at the same time is lower than the probability of any single variable going bad. For example, if a 10% constant prepayment rate (CPR) is only slightly above the expected rate, it would not be a Aaa stress by itself; however, it could be a Aaa stress when modeled simultaneously with a (stressed) cumulative gross default rate that is 4 times that of the base rate.

In general, we apply different types of stress to the cash flow variables to test for the different risks. For example, as discussed in the later sections, increasing the forbearance rate and reducing the prepayment rate adds liquidity pressure to the transaction, but increases the amount of excess spread the transaction has available to offset net losses. Thus, we might test the transaction's liquidity by examining a scenario with a high forbearance rate and a low prepayment rate but test the transaction's credit protection in a scenario with a low forbearance rate and high prepayment rate.

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[55] This only applies to the credit stress as we only evaluate liquidity support at the highest requested rating level and apply only one maturity stress to test the adequacy of the legal final maturity date.

Finally, the cash flow modeling assumptions and stresses that we use in examining the risks of a proposed private student loan transaction may vary across transactions and exceptions may apply, depending on the idiosyncrasies of individual transactions. For example, in analyzing a new securitization with an interest rate hedge that is not "balance guaranteed"[56] our cash flow modeling assumptions would be based on the risks inherent in such a hedge and would reflect the fact that the benefit of the hedge can vary in different economic environments. For non-balance guaranteed swaps, we typically model additional scenarios with different interest rate and prepayment rate paths to assess the risk of a mismatch between the notional balance for the derivative hedge and the actual loan pool balance.

5.2.1. Pre-Funding and Revolving Accounts in the Underlying Securitization

For transactions with pre-funding and/or revolving features, our base case assumptions for the additional pool of loans are based on the issuer's historical portfolio mix and any other information that the issuer provides regarding the loans to be added. We then stress the loan characteristics in our cash flow analysis, reflecting the additional uncertainty regarding the as-yet unspecified loans. The specific stresses applied depend on whether we are assessing the adequacy of the available credit support, liquidity support or legal final maturity of the securities.

In developing cash flow stress assumptions for the additional loans to be acquired, we review the length and stability of the origination history of the issuer and assess the extent to which market competition might cause the issuer to change credit standards. Further, we take into account credit criteria and/or loan concentration limits specified in the transaction documents regarding the receivables that can be added. We also consider the quality of oversight that is provided to check that the collateral to be acquired adheres to the credit criteria and/or loan concentration limits. In those cases where an issuer has identified a specific pool of loans to be acquired, our assumptions will reflect the characteristics of the identified pool.

5.3. Credit Stress Cash Flow Analysis

Our credit analysis includes cash flow runs that are used to determine whether the loan pool's cash flows and available credit enhancement – given the structural features of the transaction – are sufficient to make timely payments of interest as well as full payments of principal by the legal final maturity date to the investors of a security when both (1) net losses and (2) the excess spread available as credit enhancement[57] are stressed to a level consistent with the particular rating of the tranche.

Each dollar of excess spread applied against a pool loss or used to build over-collateralization essentially protects against a dollar of loan losses. In analyzing the potential benefit for investors in a particular security, we assess how much excess spread would be generated in stressed scenarios and how it would be applied to that security under the transaction's cash flow allocation provisions. In Appendix II, we apply the credit stress cash flow assumptions to a sample private student loan transaction to demonstrate an example of the impact of our combined Aaa stresses on the transaction's excess spread compared with the base case scenario.

The directions in which we stress the cash flow variables from the base case to analyze credit risk are shown in Exhibit 7 and discussed in more detail in the following sections.

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[56] For a balance-guaranteed interest rate hedge, the notional of the hedge adjusts over time to account for principal amortization, voluntary prepayments and defaults experienced on the asset side.

[57] See section 4.2.3. for a discussion of the variables that impact excess spread as credit enhancement.

EXHIBIT 7

Credit Stress Cash Flow Assumptions

Cash flow variables	'Ba' Credit stress	'Baa' Credit stress	'A' Credit stress	'Aa' Credit stress	'Aaa' Credit stress
Cumulative Gross Default Rate	Increasing defaults				
Default Timing Curve	Applied across all rating levels (1) Base Case Curve (2) Back-Ended Curve				
Recoveries	Base case applied across rating levels				
Voluntary Prepayment (CPR)	Increasing voluntary CPR				
Deferment / Forbearance Rate and Duration	Lower-than-base case rates and durations applied across rating levels				
Percentage of Borrowers Who Drop Out of School	Increasing percentage of dropouts				
Basis Risk (Spread between Assets and Liabilities)	Decrease spread				
Investment Rate on Cash Accounts	Base case applied across rating levels				
Borrow Benefit Utilization	Increasing utilization				

Source: Moody's Investors Service

- Furthermore, for transactions with pre-funding and/or revolving features, we typically assume in the credit stress that the new loans to be acquired will have (1) a higher-than-expected percentage of loans made to students in their final year of school, (2) the minimum loan terms consistent with the issuer's policy and (3) lower-than-expected levels and durations of deferment and forbearance. All of these stresses effectively shorten the length of the loan, decreasing the excess spread generated throughout the life of the transaction. The stresses applied are typically not in excess or in violation of document stipulated levels or criteria.

- For transactions that have pre-funding accounts, we perform a review of the expectations and timing for drawing down the pre-funding accounts to determine the timing assumptions that we deem appropriate for cash flow modeling. We typically assume that loans will be acquired at later dates than expected to address the possible negative effects on excess spread of holding cash for long periods of time.[58] If the issuer does not provide data regarding the timing of historical loan acquisitions, we typically assume that the new loans will be acquired on the last day of the pre-funding or revolving period.

5.3.1. Summary of Typical Aaa Credit Stress Cash Flow Assumptions

In this section, we provide a summary of our typical Aaa credit stress cash flow assumptions. Each cash flow assumption is described in detail in section 5.4. Below is a list of illustrative assumptions:

- 3.0x to 7.0x the base case cumulative gross default rate.

- A base case default timing curve (typically 40% to 55% of total defaults occurring in the first three years) and a back-ended default timing curve, where we typically assume that 10% of the lifetime defaults occur in each of the first seven years and 15% of the lifetime defaults occur in each of the last two years.

- Recovery rates of 10% to 30% uniformly distributed over 10 years.

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[58] If a particular transaction is structured such that funds available in the acquisition and/or revolving account can be used to make interest and principal payments, we may require cash flow runs where all of the assets are acquired on the first day of the acquisition period.

- For loans in repayment status, a prepayment rate that starts as low as 4% and gradually rises to a rate as high as 22% over a period of two to four years.
- Deferment and forbearance rates between 0% and 15% for a shorter-than-expected duration. The assumption is applied immediately to the loans when they enter repayment.
- Thirty percent of borrowers that are in-school enter repayment in 12 months (i.e., a dropout rate of 30%).
- PSL securitizations have basis risk because the securitizations can contain several combinations of asset and liability benchmark reference rates. Our basis risk assumptions test the ability of a securitization to withstand rates on the securities that are high relative to loan interest rates. On the asset side PSL earn the stated borrower interest rates which are either variable, often indexed to the one-month benchmark reference rate, or fixed. On the liability side, the interest rates on securities are often pegged to the one-month benchmark reference rate or fixed. In instances there is a mismatch between the interest rates on the assets and liabilities, we assume the PSL transaction is subject to a low interest rate until the securities are paid in full.
- Cash accounts generally earn the T-bill rate unless there is a guaranteed investment contract (GIC) in place at closing that meets our criteria.
- Borrower benefit rate stresses ranges between 55% and 100% ACH (automated clearing house) utilization.

5.3.2. Typical Excess Spread Reduction in Aaa Stress Case Versus Base Case

The reduction in total excess spread generated by the typical private student loan securitization when moving from the base case scenario to the Aaa stress scenario ranges from 20% to 60%. The magnitude of reduction depends on the specific stresses applied to the variables that affect excess spread, as described below in section 5.4 and the specific transaction structure. The cumulative default rate and voluntary prepayment rate stresses have the largest impact on the reduction of excess spread.[59]

5.4. Variables that Impact Credit Enhancement Amounts to Cover Losses

5.4.1. Cumulative Gross Defaults[60]

As discussed in section 3, our analysis starts with estimating the amount of cumulative lifetime net losses for the underlying loan pool, consistent with each rating requested. That is, we determine the base case lifetime net loss rate. However, for a given amount of net losses, a higher gross default rate (with a corresponding higher recovery rate) is more stressful to the transaction. That is because if a loan defaults (even if the entire defaulted amount is subsequently recovered) it stops generating excess spread (assuming the interest it is earning is higher than the securitization expenses that it is creating.)

To illustrate the point, consider the extreme case where two pools have a 0% net loss rate in the first period. Assume that in one case no loans default, while in the other case 10% of the loans default but the entire principal on the underlying loans is recovered. In the first case, all of the loans will continue to earn excess spread, which will potentially protect investors against future net losses; in the second case, only 90% of the original pool (i.e., the remaining, non-defaulted loans) will continue to generate excess spread as future protection.

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[59] See Exhibit 19 in Appendix II.

[60] The dollar amount of defaults that we apply in the cash flow runs is calculated based on the way in which the issuer's default rates are calculated. If the default rates are calculated by dividing the defaulted dollar amount by the original disbursed balance, the cumulative default rate assumption is applied to the original loan principal amount. On the other hand, if the default rates are calculated by dividing the defaulted dollar amount by the repayment balance, the cumulative default rate assumption is applied to the repayment balance (i.e., the original loan principal amount plus the total interest accrued during the school and grace periods).

To account for the risk that a transaction, at any particular net loss level, would experience a higher stress on its excess spread because of a higher gross default rate (with a correspondingly higher recovery rate), we analyze a cash flow run in which the entire stress on net losses is the result of an increase in gross defaults. For example, suppose the base case lifetime net loss rate was 8%, resulting from an expected cumulative default rate of 10% and an expected cumulative recovery rate of 20% (i.e., net loss rate = default rate x (1 - recovery rate)). Then if the stressed lifetime net loss rate for the security's desired rating were 28%, we would examine a cash flow run in which the stressed cumulative default rate was 35% and the recovery rate was the expected cumulative recovery rate, 20%.

Base case cumulative default rates are stressed to a level consistent with each rating level. Typical base case cumulative gross default rates range from 1.5% to 25%. In our transaction-specific research that we publish at offering or issuance, we disclose the base case cumulative default rate that was applied in rating the transaction.

In the Aaa credit stress scenario, the base case cumulative default rate is typically stressed by 3.0 to 7.0 times. The actual stress applied depends on a number of factors, which are discussed in section 3.5.1 under the heading, "Factors in Assessment of Variability of Future Losses."

5.4.2. Default Timing Curve

For a given aggregate lifetime amount of loan losses, the shifting of those losses to earlier points in the life of the transaction can imply either more or less stress on a transaction, depending on the particular structure of the transaction. Therefore, we separately analyze the transaction in a scenario with expected default timing (i.e., base case default timing curve) and in a scenario with defaults occurring later than expected (i.e., a "back-ended" default timing curve).

The actual base case default timing curve is front ended for most private student loan pools. The cumulative amount of defaults rises sharply in the first couple of years after repayment begins, and then gradually flattens. (See Exhibit 4 in section 3.) A front-ended default curve has two somewhat offsetting effects on the securitization; the net effect depends on the particular transaction's structure. A front-ended curve means that defaulted loans will generate less total excess spread, since those loans will be outstanding for a shorter period. That is more stressful for a transaction, especially if the losses are at a level such that other forms of credit enhancement are being drawn upon. However, a front-ended default curve also means that, in those structures that would otherwise allow net excess spread to be paid out to the residual holder (as discussed in section 4), less excess spread will "leak out" early in the life of the transaction, since it will be used to cover (the higher early) losses. That increases the overall protective power of a given amount of lifetime excess spread, causing less stress on the transaction.[61]

Exhibit 8 shows a typical base case cumulative default timing curve and a back-ended default timing curve applied in the credit stress cash flow runs. The numbers in the table represent the percentage of lifetime gross defaults experienced in each repayment year. We typically use the same default timing curves regardless of the rating category. In addition, for loan pools with significant seasoning, we adjust the curve to account for such seasoning.

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[61] Looked at in the other direction, a relatively back-ended default timing curve allows for early releases of excess spread to the sponsor, since the spread would not be needed to cover the relatively low losses early in the transaction's life. Those transactions may be vulnerable to the higher defaults occurring at the tail end of the securitization, since the released excess spread would no longer be available to cover those tail-end defaults. A back-ended default curve increases the amount of excess spread released from the trust, thus reducing the value of excess spread in covering the transaction's losses.

EXHIBIT 8

Typical Base Case and Back-Ended Default Timing Curves

(Applied across all Rating Levels)

Repayment Year	Base Case Default Timing Curve	Back-Ended Default Timing Curve
1	20%	10%
2	20%	10%
3	10%	10%
4	10%	10%
5	10%	10%
6	10%	10%
7	10%	10%
8	5%	15%
9	5%	15%
Total	100%	100%

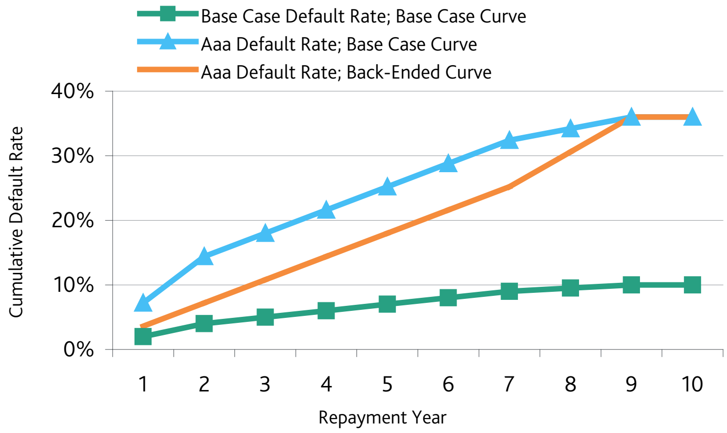
Source: Moody's Investors Service

The default timing curve is applied starting in the loans' first period of repayment (that is, after the loans leave school, grace, deferment or forbearance status). For students who drop out, that means the curve starts in the year in which the borrower is assumed to drop out.

Exhibit 9 shows the typical base case cumulative default curve (i.e., base case default rates and timing) compared with our two typical stressed Aaa cumulative default curves, one with base case timing and the other with back-ended timing. The curves are consistent with an assumed lifetime cumulative default rate equal to 10% for the base case and 36% for the Aaa stress scenario,

EXHIBIT 9

Typical Cumulative Default Timing Curves Applied in Base Case and Credit Stress Scenarios



Source: Moody's Investors Service

5.4.3. Higher Dropout Levels Can Reduce Credit Enhancement

For a given amount of net losses, a higher dropout rate tends to be more stressful for transactions, for two reasons:

1. Typically, issuers place borrowers who drop out of school into repayment immediately. If a borrower drops out of school, that reduces the length of time the loan is outstanding[62] and therefore the total amount of excess spread that it generates.[63] As a result, the higher a pool's dropout rate, the lower will be the protection against a given dollar amount of pool losses. Consequently, for a given amount of net losses over the life of a transaction, the higher the percentage attributable to dropouts, the more stressful it is for the transaction from a credit perspective.
2. Applying a higher-than-expected dropout rate also has the effect of making the loss curve more front-ended. That is because borrowers who drop out tend to default earlier in the securitization than borrowers who graduate.

To incorporate the risk that a high dropout rate might make the assumed amount of net losses more stressful for the transaction, we incorporate into our cash flow runs a higher dropout rate than we expect to occur, given the issuer's and industry's historical averages and trends.

For issuers who cannot provide such information, we apply the generic stressed dropout percentage that is shown in Exhibit 10. The percentages are based on historical averages and trends of all issuers for which we receive information.

EXHIBIT 10

Illustrative Dropout Assumptions

Rating Category	Dropout Assumptions*
Base Case	20% of borrowers in school enter repayment 12 months earlier than expected
Aaa	30% of borrowers in school enter repayment 12 months earlier than expected

* Apply the assumption to those loans scheduled to enter repayment after 12 months.

Source: Moody's Investors Service

In our cash flow analysis, the stressed level of dropouts is subjected to the other performance stresses (i.e., default and prepayment stresses) starting in the period in which the student is assumed to drop out.

5.4.4. Level and Timing of Recoveries on Defaulted Loans

As discussed in section 3, we formulate our lifetime recovery expectation for a pool of loans – that is, the percentage of the value of defaulted loans that we expect to eventually be recovered – based on the characteristics of the given loan pool, the originator's latest available set of historical performance information, and the issuer's underwriting, servicing, and collections policies. Our recovery estimates net out collection agency fees and expenses. In our cash flow runs, the lifetime recovery percentage is distributed over the recovery period, based on the historical time path indicated by the data. For example, as mentioned in section 3, a total of 20%-30% of the value of defaulted loans is typically recovered, with the cumulative recovery percentage increasing fairly smoothly over the initial 10-to-15-year period. In addition and as mentioned in section 3, in states that grant state agency lenders special administrative tools to collect on loans (such as wage garnishment and the ability to divert the borrower's and/or the co-signer's state income tax, lottery winnings, and property tax refunds to repay amounts owed on defaulted loans), recovery rates are often higher, typically ranging from 40-70%.

If the available historical data are not sufficient to obtain an estimate over the full recovery period (10 or more years), we apply a total recovery rate that typically ranges between 10% and 20%, which we typically divide equally over a range of 6- to 10-year time frame[64] unless the recovery timing data imply otherwise. However, we typically apply higher recovery rates to private student loan pools originated by state agency lenders with special administrative tools to collect on loans. We apply the base case level and timing of recovery rates to securities at all rating levels.

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[62] For example, if a borrower is expected to spend four years in school and has a 20-year repayment term, the total length of the loan is 24 years. However, if that borrower drops out as a freshman, the total length of the loan is reduced to 21 years.

[63] Borrowers who drop out of school are no longer allowed to defer payments and to accrue interest. Therefore, a higher dropout rate leads to less buildup in the asset base (from the interest that would have accrued during the in-school and grace periods), everything else being equal.

5.4.5. Voluntary Prepayment Rates

A voluntary prepayment is a payment by the borrower in excess of the loan's scheduled payment.[65] A borrower can prepay any amount in excess of the scheduled payment up to the full balance. Borrowers often choose to fully prepay loans, for a variety of reasons, including:

» to combine loans into a consolidation loan (for the convenience of making only one payment for several outstanding loans, to lower overall costs, or to extend the term of existing loans),

» to find more affordable financing through other means (often home equity lines) or

» for the convenience of retiring a loan that has already been paid down to a low balance, rather than continue with scheduled payments.

Like defaults, voluntary prepayments reduce the outstanding balance of student loan collateral pools, accelerate their amortization, and reduce the amount of subsequent excess spread available to cover losses. Therefore, investors have less protection provided by excess spread in high-prepayment scenarios. However, unlike defaults, voluntary prepayments do not reduce available credit enhancement.

In our analysis of the potential impact of the voluntary prepayment rate, we establish a base case voluntary prepayment assumption based on the characteristics of the given loan pool, the originator's historical performance information, and the issuer's underwriting, servicing, and collections policies. For the base case, we typically assume that the prepayment rate rises gradually in the first couple of years of the repayment period and then levels off. This is consistent with the historical data that we have analyzed. We then stress that base case level to arrive at voluntary prepayment modeling assumptions that we deem appropriate for each targeted rating category. The higher the rating level, the higher the prepayment speed applied.

For loans in repayment, base case voluntary prepayment rates typically start at 2% to 4% and gradually rise to 8% to 10% over a period of two to four years. In the Aaa credit stress scenario, we typically assume the prepayment rates shown in Exhibit 11 for unseasoned loan pools. The actual stress applied depends primarily on the collateral characteristics, the starting base case prepayment assumption and the volatility of the historical performance information.

EXHIBIT 11

Prepayment Rate Assumptions (excluding Refi loans)

Loan Status	AAA Voluntary Prepayment Rate Assumptions	Notes
Loans in-school, grace, deferment and forbearance	Flat rate ranging from 0% to 3%.	Dollars of voluntary prepayments as a percent of balance of total loans in school, grace, deferment and forbearance outstanding at the beginning of each period.
Loans in repayment	Rate starts at 4% and gradually rises to as high as 12% over a period of three to four years.	Dollars of voluntary prepayments as a percent of balance of total loans in repayment outstanding at the beginning of each period.

Source: Moody's Investors Service

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[64] This corresponds to the lowest expected recovery rate (net of collections costs) observed in the historical recovery information for the sector.

[65] According to typical loan payment nomenclature, a prepayment other than a prepayment in full is referred to as a "curtailment" and a prepayment in full is referred to as a "prepayment."

If the loan pool is more than one year seasoned, we shorten the prepayment curve by subtracting the number of years of seasoning.

5.4.6. Deferment and Forbearance Rates and Duration

Deferments and forbearances, by allowing borrowers to delay payments and accrue interest, tend to shift cash flows in a transaction from the early periods to the later periods. In delaying required loan payments through deferment and forbearance, loan balances accrue at a higher interest rate than the interest rate paid on the securities, increasing the credit protection for investors. As a result, lower deferment and forbearance rates tend to put more credit stress on a transaction (assuming unchanged pool loss rates).

The forbearance rate of private student loan portfolios (i.e., at any point in time, the percentage of the repayment portfolio that is in forbearance) varies widely from lender to lender.[66] Further, lenders occasionally change their forbearance criteria, resulting in changes in their portfolio's forbearance utilization rate. The change in forbearance policies can impact credit performance, as discussed in section 3.2.7 under the heading "Forbearance Policies." Therefore, we apply different forbearance stresses to account for the risk that forbearance rates may vary over the life of the securitization.

We establish the base case deferment and forbearance rates and timing based on the characteristics of the given loan pool, the originator's historical performance information, and the issuer's underwriting, servicing and collections policies.

Our credit stress for deferment and forbearance utilization rates entails examining scenarios in which lower-than-expected deferment and forbearance rates are utilized over shorter-than-expected periods. For example, if we have established that we expect forbearance rates to be 15% for 24 months, we might apply a 5% forbearance rate only for the first 12 months and then a 0% rate thereafter. Thus, in this stress scenario, aggregate deferment and forbearance rates over the life of the transaction are lower than the base case. We typically apply the same stressed deferment and forbearance rate schedule for all rated tranches of a particular transaction.[67]

In the Aaa credit stress cash flow runs, we typically apply deferment and forbearance rates ranging from 0% and 15% for a lower-than-expected duration. The assumption is applied to the loans when they enter repayment. The actual stress applied depends primarily on the collateral characteristics, the starting base case deferment and forbearance assumptions and the volatility of the historical performance information.

5.4.7. Interest Rate Stresses

In private student loan transactions, the loan interest rates are typically indexed to the T-bill, prime rate or other benchmark rates, while the securities' interest rates are typically indexed to prime rate or another benchmark rate. If there is a mismatch between the base interest rates of the assets and liabilities, investors are subject to the risk that the spread between the two indexes will narrow, depressing excess spread. Similarly, in cases where fixed rate securities are backed by floating rate assets, investors are exposed to the risk that excess spread will fall if short-term market rates fall.

We assess interest rate risk by examining the sufficiency of credit enhancement in cash flow runs that incorporate lower-than-expected interest rate spreads between the assets and liabilities, net of any hedges provided by derivative instruments, based on historical spreads and the issuer's desired rating for the security. Our methodology incorporates a higher level of stress on interest rate spreads for more highly rated securities. Hence, the set of stresses is progressively more severe for higher ratings.

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[66] Forbearance policies vary widely from lender to lender and are typically not governed by industry regulations. The exception is that the forbearance policies of private student lenders that are banks are governed by banking regulations.

[67] In the cash flow runs, the frequency of interest capitalization (i.e., upon repayment, semi-annually or quarterly) should be applied according to the originator's or servicer's policies.

The absolute level of interest rates also impacts the trust's ability to generate excess spread. Therefore, we may apply different levels of interest rates in the cash flows depending on the deal structure to test the ability of the transaction to make timely payments of interest and principal payments by legal final maturity. For example, high or low interest rate environments impact over- or under-collateralized trusts differently. A high interest rate environment benefits a trust that is over-collateralized but negatively impacts the performance of a trust that is under-collateralized. For example, in a transaction that is over-collateralized by $100, there is $100 more interest-earning assets than interest-paying liabilities. In a 5% interest rate environment, these $100 assets will yield $5 of excess spread versus $1 in a 1% interest rate environment. In our transaction-specific research that we publish at offering or issuance, we describe the interest rate scenarios that were applied in analyzing the transaction.

5.4.8. Bank Accounts and Investments

Transactions typically allow the trustee to invest funds that are placed in cash accounts (such as capitalized interest accounts, reserve accounts, pre-funding accounts, and collection accounts) in certain investments.[68] (For more information, see section 6.4.6 under the heading, "Bank Accounts and Investments.") The cash is generally invested in low-risk, low-yielding securities. For trusts that have large balances in these accounts, the low yield would reduce excess spread since the interest rate earned on the cash is less than on the loans; in fact the interest rate on the cash account balances could be even lower than the interest rate earned on the liabilities (i.e., a situation in which we have "negative carry"). To address the risk of low interest rates on cash account balances, we assume in our cash flow analysis that all cash accounts earn a T-bill rate, which is typically the lowest of short-term market rates. However, in cases in which the trust enters into a guaranteed investment contract[69] at closing, we assume the funds in the cash accounts earn the specified GIC rate.

5.4.9. Servicing Fees

As noted in section 3, part of our analysis of the credit risk of the loans is an assessment of whether the servicing fee is sufficient to provide the servicer (or a successor servicer) with the incentive to devote the attention and resources needed to maintain the credit quality of the loan portfolio. However, the cost of retaining a high-quality servicer may rise over time if the credit quality of the pool declines or if the original servicer would need to be replaced in the event of a servicer default.[70] As a result, our analysis incorporates an assessment of the adequacy of the structure's cash flows to pay off investors even in the event that the servicing fee would need to be increased.

Typically, the servicing fee is capped in the operative documents as a percentage of the outstanding pool balance.[71] Current servicing fees across standard private student loan portfolios generally range from 0.25% to 1.25%. We stress the base case servicing fee in the cash flow analysis if the servicing fee is considering under the fair market price a third party may require as a successor servicer for a loan portfolio in stress, even if that price is above the maximum fee stated in the underlying operating documents. That servicing fee is applied to all stress cases.

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[68] For more information, see our cross-sector methodology that describes our general approach for assessing counterparty risks in structured finance transactions. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[69] GICs are used in these transactions to provide a predetermined rate of return on funds – such as debt service reserve, acquisition and revenue funds – deposited with the trustee under the transaction documents. The earnings on investment agreements contribute to the issuer's ability to pay debt service.

[70] In some transactions the trustee or noteholders, in the event of a servicer default, may terminate the servicer and appoint a successor servicer. Typical conditions under which a servicer default can be declared include, but are not limited to, failure to make deposits as required by the trust documents, failure to observe or to perform any term, covenant or agreement, and insolvency of the servicer.

[71] Most student loan servicers charge a fixed dollar amount per serviced loan. Therefore, the amount of the fees in absolute terms will remain constant as long as the number of loans does not change. However, the servicing fee will increase on a percentage basis over time relative to the declining pool balance. In addition, most third-party servicers charge a higher fee for loans in repayment than in school and forbearance status and yet a higher fee for delinquent loans. Hence, if the portfolio experiences extreme stress and delinquencies increase, the servicing fee will also increase.

5.4.10. Borrower Benefits

Many sponsors offer borrowers reduced loan interest rates if they have their loan payments deducted automatically from their bank accounts (i.e., the ACH benefit) or if they make a specified number of payments without a delinquency.[72] Borrower benefit programs can improve pool performance by motivating borrowers to make on-time payments, resulting in reduced delinquencies and defaults. However, these programs reduce the interest rates on the loans, and therefore, the excess spread generated by the trust.

Our analysis includes an assessment of the adequacy of the transaction's cash flows to pay investors in the event that borrowers earn these benefits at a rate higher than expected.[73] The stress we consider is typically higher for higher rating levels and is based on (1) the conditions a particular issuer places on qualifying for the benefits and on disqualifying once they have received the benefit, and on (2) the historical rates at which borrowers have earned the benefits. For example, a typical servicer might offer a reduction in the loan interest rate of 0.25% for Automated Clearinghouse (ACH) payments, with roughly 20% of the borrowers taking advantage of that benefit. In such a case, we might assume the stressed levels of ACH usage for rating securities that are shown in Exhibit 12.

EXHIBIT 12

Illustrative Assumptions for Interest Rate Reduction

Rating Category	Interest Rate Reduction for ACH Utilization Rates
Base Case	20%
Aaa Assumption	50%

Source: Moody's Investors Service

We would incorporate similar types of stresses for any other borrower benefits offered by the servicer. In general, lower qualification hurdles would be consistent with more stressful cash flow assumptions because more borrowers are likely to qualify and the benefit could be in effect for a longer period.

5.4.11. 'Natural' Spread Compression

Excess spread is likely to decline to some extent over the life of transactions in which lower-coupon senior classes are repaid before the higher-coupon subordinate classes. In such cases, the weighted average cost of funds of the liabilities would rise over time, reducing excess spread over the course of the transaction. That effect is modeled directly in the liabilities side of the cash flow runs.[74]

5.5. Liquidity Stress Cash Flow Analysis

As noted earlier, because private student loan pools consist of borrowers who may be in school, grace, deferment or forbearance status, a significant portion of the loan pool may not be making interest and principal payments at some points in the life of a securitization. Therefore, there is considerable uncertainty about the timing of the cash flows that are generated by the underlying student loan pool, and therefore uncertainty regarding whether there will be sufficient cash flows from the loans to make the required payments of the interest and expenses of the securitization. However, during such periods of reduced cash flow, interest and principal on securities backed by such collateral may still be due.

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[72] Alternatively, they might offer a reduction in principal balance.

[73] Securitizations that issue auction rate notes sometimes include an available funds cap (i.e., net loan rate), which captures reductions in the loan interest rate resulting from borrower benefits.

[74] In addition, excess spread could decline naturally over the course of a transaction because of two other effects. First, many private student loans have been priced based on the lender's assessment of the loan's risk, i.e., lower credit risk loans carry lower spreads and the higher credit risk loans are priced at higher spreads. Therefore, defaults, which presumably would be dominated by the higher-credit-risk borrowers, could cause the weighted average interest coupon (WAC) of the remaining loans in the pool – and therefore excess spread – to fall over time. Second, borrowers whose loans have relatively high interest rate spreads have more incentive to prepay. To the extent they prepay faster than the rest of the pool, the WAC of the remaining pool would fall, thereby reducing excess spread. We do not model an assumed decline in the weighted average interest rate of the trust student loan pool.

Consequently, our analysis includes cash flow runs that are used to determine whether the available cash flow and liquidity support and the structural features of the transaction are sufficient to make timely payments of security's interest and trust expenses. This is a risk regardless of the credit quality of the collateral. Since the cash flows from the collateral pool and the fixed amount of liquidity support are available to all of the rated securities in the securitization, the adequacy of the liquidity support to make timely payments of interest and expenses is only evaluated in the stress cash flow stress scenario for the highest rating category of the capital structure. In Appendix II, we apply the liquidity stress cash flow assumptions to a hypothetical private student loan transaction to demonstrate an example of the impact of our combined stresses on the transaction's liquidity compared with the base case scenario.

When we derive a rating, the liquidity stress cash flow run must indicate that the collateral pool and available liquidity support is sufficient to pay timely interest and trust expenses when we simultaneously apply the following stresses:

- Higher-than-expected cumulative gross default rates, since defaulted loans reduce the amount of cash available to make the required payments to investors.
- Base case default timing curve.
- Base case level and timing of recoveries. In order to stress liquidity, recovery receipts are uniformly distributed over time so that cash outflows due to defaults occur early in the life of the transaction, while cash inflows from recoveries occur later.
- Lower-than-expected voluntary prepayment rate. In this case, there would be less prepayments available to be used to pay interest and trust expenses early in the life of the transaction.
- Lower-than-expected percentage of borrowers who drop out of school. Borrowers who drop out and do not default are making loan payments earlier, mitigating liquidity risk.
- Higher-than-expected deferment and forbearance rates for the maximum term allowable according to the policy of the issuer, applied to the loans when they enter repayment.
- Lower-than-expected spread between the interest rates on the assets and the liabilities.
- All cash accounts earn a T-bill rate unless there is a GIC in place at closing
- For transactions with pre-funding and/or revolving features, we assume in the liquidity stress that the new loans to be acquired will have (1) a higher-than-expected percentage of loans made to freshmen, (2) the maximum loan terms consistent with the issuer's policy and (3) higher-than-expected levels of deferment and forbearance for the maximum term allowable according to the policy of the issuer, which delays the loans' cash flows. The stresses applied typically are not in excess or in violation of document stipulated levels or criteria. We assume that loans will be acquired at later dates than expected to address the possible negative effects on excess spread of holding cash for long periods of time.[75] If the issuer does not provide data regarding the historical timing of loan acquisitions, we typically assume that the new loans will be acquired on the last day of the pre-funding or revolving period.

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[75] If a particular transaction is structured such that funds available in the acquisition and/or revolving account can be used to make interest and principal payments, we may require cash flow runs where all the assets are acquired on the first day of the acquisition period.

Thus, our liquidity stress is significantly different from the credit stress, where we apply the base-case default timing curve, higher-than-expected percentage of dropouts, higher-than expected prepayments and lower-than-expected rates and durations of deferment and forbearance.

5.6. Maturity Stress Cash Flow Analysis

The exact term of private student loans is uncertain because of the uncertain number of years that borrowers will spend in non-paying statuses (i.e., school, grace, deferment and forbearance) over the life of their loans. However, since security-holders only have the right to the principal and interest payments of the trust student loans until the legal final maturity date of their bonds, extensions of the terms of the loans beyond the legal final maturity would mean that investors would have access to less of the loan payments. That would mean that the loan payments received by investors might be insufficient to fully amortize the bonds. Therefore, we analyze the extent to which loan payments will be made prior to the legal final maturity date, allowing for the possibility that the loan lives effectively may be extended. This is a risk regardless of the credit quality of the collateral.

The purpose of the maturity stress is to test the ability of the trust to pay timely interest and redeem all notes on or before their respective legal final maturity dates given the particular transaction structure and collateral pool. In that scenario, we stress a variety of variables that effectively extend the life of the underlying loan pool. The required legal final maturity date is the longest date set by the cash flows in either the credit, liquidity or maturity stress cash flow runs. In Appendix II, we apply the maturity stress cash flow assumptions to a hypothetical private student loan transaction to demonstrate an example of the impact of our combined stresses on the legal final maturity date of the bonds compared with the base case scenario.

When we derive a rating, the cash flows must be sufficient to repay investors in full by the tranche's legal final maturity date when we simultaneously apply the following stresses:

- A cumulative default rate less than or equal to the base case.
- Base case default timing curve.
- Base case level and timing of recoveries (uniformly distributed).
- Lower-than-expected voluntary prepayments to extend the maturity of the loan pool.
- Lower-than-expected percentage of borrowers who drop out of school, since those borrowers start repayment earlier than scheduled.
- Higher-than-expected deferment and forbearance rates for the maximum term allowable according to the policy of the issuer, since deferments and forbearances extend the original term of the loans. The assumption is applied to the loans when they enter repayment.
- Lower-than-expected spread between the interest rates on the assets and the liabilities.
- All cash accounts earn a T-bill rate unless there is a GIC in place at closing.
- For transactions with pre-funding and/or revolving features, we assume the loans that are subsequently acquired have (1) a higher-than-expected percentage of loans made to freshmen, (2) the maximum loan terms consistent with the issuer's policy and (3) higher-than-expected levels of deferment and forbearance for the maximum term allowable according to the policy of the issuer, to effectively extend the life of the acquired loan pool. The stresses applied typically are not in excess or in violation of document stipulated levels or criteria. We assume that loans will be acquired at dates later than expected to extend the life of the acquired loan pool. If the issuer does not provide data regarding the historical timing of loan acquisitions, we typically assume that the new loans will be acquired on the last day of the pre-funding or revolving period.

Thus, our maturity stress is significantly different from the credit stress, where we apply a higher-than expected default and prepayment rate, a higher-than expected percentage of dropouts, and lower–than-expected rates and durations of deferment and forbearance.

5.7. Other Considerations in Cash Flow Analysis

5.7.1. Third-Party Guarantees

If the loan pool to be securitized has a third-party guarantee and the loan guarantor is rated lower than the rating for the securities, we typically assume the guarantee is available for only limited periods during the early life of the transaction in the cash flow stress scenarios, depending on the rating of the guarantor. In addition, our analysis stresses the historical time to default reimbursement by the guarantor. Our cash flow runs reflect the fact that guarantors typically purchase defaulted loans for the gross amount of the loans that are outstanding; subsequent recoveries are paid to the guarantor and do not benefit investors.

5.7.2. Derivatives

In rating a new securitization, we evaluate the extent to which any derivative instruments, such as swaps or caps, mitigate investors' cash flow risk, if the counterparty is highly rated.[76] The cash flow modeling would incorporate receipts from, or payments to, the hedge counterparty. Our cash flow modeling assumptions are based on the risks inherent in such derivative instruments and reflect the fact that the benefit of the hedge can vary in different economic environments. [77]

5.7.3. Cash Flow Allocation Triggers

As discussed in section 4, senior/subordinate transactions are often structured with "triggers" that typically redirect cash flows to further protect senior tranches at the expense of the more subordinated tranches if the loan credit performance deteriorates. Our analysis of the benefit of subordination takes into account the principal allocation rules and transaction triggers and the fact that the benefit can vary depending on the time path of the trigger variables. Consequently, in analyzing the credit quality of the senior tranches, we examine "stressed" time paths of the trigger variables, in which the triggers would not provide as much protection. For example, a transaction that experiences high defaults early in its life is likely to hit a cumulative default trigger and start paying down the senior tranches at an accelerated rate relatively early in the transaction, providing considerable additional protection to the senior investors. On the other hand, in another scenario, the same transaction could experience the same lifetime cumulative defaults, but the vast majority of the defaults could occur late in its life; in that "stressed" scenario, the transaction will not hit the trigger early enough to provide much protection from the accelerated payments to the senior investors.

6. Legal and Operational Risks

6.1. General Legal Considerations

We review a transaction's structure and the provisions of the related operative documents to determine whether it is exposed to risks other than the credit and interest rate risk related to the performance of the private student loans. Section 6 discusses certain common legal issues that we consider when rating a transaction. In addition, in reviewing a transaction, we may identify legal risks other than those listed below.

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[76] For private student loan securitizations with Aaa-rated tranches, derivatives from non-Aaa-rated counterparties would receive benefit only if substitution and/or cash collateralization provisions are in place. For more information, see our methodology for assessing counterparty risks in structured finance transactions. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[77] For example, if the interest rate hedge is not balance-guaranteed, we typically model additional scenarios with different interest rate and prepayment rate paths to assess the risk of a mismatch between the notional balance for the derivative hedge and the actual loan pool balance. For a balance-guaranteed interest rate hedge, the notional of the hedge adjusts over time to account for principal amortization, prepayments and defaults experienced on the asset side.

Legal risks identified in our review will be discussed in the rating committee to determine the effect on the ratings, if any.

Throughout the section, we describe what we generally view as necessary so that the ratings will not be negatively affected by legal risks. If any of the elements are missing, we determine the extent to which the risk may be mitigated in other ways. In the absence of sufficient mitigating factors, additional credit enhancement may be needed to achieve a certain rating, or we may assign a lower rating.

6.2. Bankruptcy of the Sponsor

Our legal analysis of the potential bankruptcy of the sponsor is an assessment of three key questions:

» Have the receivables actually been sold?

» Would the owner of the assets (the securitization trust) be substantively consolidated with the sponsor in the event of the sponsor's bankruptcy?

» Can the securitization trustee enforce its ownership or security interest in the collateral once the sponsor has filed for bankruptcy protection?

Therefore, we assess the likelihood that the bankruptcy proceeding of a sponsor – whether voluntary or involuntary – would delay or reduce the payments on the notes. The degree to which the securitization has protection against these risks determines the extent to which its ratings can be higher than those of the sponsor's own rating.

6.2.1. Risk of Sponsor Bankruptcy Differs by Type of Sponsor

The risk of a sponsor bankruptcy varies depending on whether the sponsor of the securitization is a state agency, a not-for-profit corporation, or a for-profit corporation.

6.2.1.1. STATE AGENCIES

As governmental units, state agency sponsors are not subject to involuntary bankruptcy under either Chapter 7 or Chapter 11 of the US Bankruptcy Code. Under certain circumstances, state agencies can file for voluntary bankruptcy under Chapter 9. We review the legal opinion provided by the state agency's legal counsel to determine that the state agency is a "governmental unit" under the Bankruptcy Code and whether the state agency is authorized to file a voluntary bankruptcy petition.

6.2.1.2. NOT-FOR-PROFIT CORPORATIONS

Our bankruptcy risk analysis of a transaction sponsored by a not-for-profit corporation focuses on the status of the corporation under the Bankruptcy Code. Not-for-profit corporations are generally not subject to involuntary petitions by creditors under the Bankruptcy Code.

Our assessment of the risk is typically informed by a reasoned opinion from the not-for-profit's counsel that the issuer would not be subject to an involuntary bankruptcy petition.

Unlike state agencies, not-for-profit issuers are able to seek the protection of a bankruptcy court by filing a voluntary petition. However, there is a significant reduction in the risk of a voluntary bankruptcy filing if the not-for-profit issuers have limited the scope of their activities to the specified functions of securitizing student loans, have no additional flexibility to engage in other activities and have several independent directors or independent managers (or a similar governance mechanism).

6.2.1.3. FOR-PROFIT SPONSORS

For-profit securitization sponsors are subject to both voluntary and involuntary bankruptcies. As part of our analysis, we review legal opinions to obtain assurance regarding the key legal risks in a transaction. Our analysis of the potential bankruptcy of the originator takes into consideration the following factors:

- Operational risk: the risk of disruption of the transaction's cash flows that could result from non-performance of the key transaction parties.
- Whether the originator has actually sold the private student loans, known as "true sale."
- In the event of a sponsor's bankruptcy, whether a court would consolidate the securitization trust with the sponsor, known as "substantive consolidation."
- Whether the securitization trustee can enforce its ownership or security interest in the collateral once the originator has filed for bankruptcy protection (perfection)
- Demonstrated willingness and ability of the sponsor to support the transaction.

6.3. Bankruptcy of the Special Purpose Entity (SPE)

A bankruptcy filing may be either involuntary or voluntary. In our analysis of the bankruptcy risk of the SPE, we assess characteristics of the legal structure of the SPE that mitigate the risk.[78]

6.4. Legal Opinions

6.4.1. General

As part of our analysis of a transaction's legal and structural risks, we review the legal opinions delivered by the securitization's counsel to the issuer in connection with the transaction. Generally, we only give credit to opinions that explicitly disclose all their underlying assumptions. Therefore, we give no credit to TriBar opinions, which are opinions that rely on cross-references to sections from the Legal Opinion Accord of the American Bar Association Section of Business Law (1991).

Below we discuss the typical opinions. However, at any time, we may request additional opinions or legal analysis. This is particularly the case when the regulations or law governing the private student loan assets are changed or are contemplated to be changed, including the application and interpretation thereof. We review legal opinions as a basis to inform us of the issuer's understanding of the legal issues in the transaction. True Sale, Non-Substantive Consolidation, Inability to Voluntary Petition and Security Interest Opinions

For transactions relying on a "true sale" treatment, we expect that the securitization's external counsel will deliver true sale and perfected security interest opinions addressing each stage of the asset transfer from the originator to the issuer, as well as a non-substantive consolidation opinion between the originator and the seller of the transferred assets to the issuer.

For transactions that rely on the originator being shielded from involuntary bankruptcy petitions, we expect external counsel to provide opinions supporting such conclusion in accordance with the criteria in section 6.2 above, together with perfected security interest opinions.

6.4.2. Tax Opinions

Another important consideration in rating a transaction is whether the cash flows from the securitized assets may be taxed at the issuer level, possibly reducing the funds available to make distributions on the rated securities. We review legal opinions concluding (a) that the transaction is in compliance with applicable tax law, (b) the transaction has been structured so that the issued notes will be treated as debt for United States federal income tax purposes, and (c) that the issuer will be a tax-exempt entity in light of the contemplated transaction.

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[78] For more information, see our methodology for assessing bankruptcy remoteness for special purpose entities in structured finance transactions. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

6.4.3. Enforceability, Organizational and Investment Company Act Opinions

We also seek several other key legal opinions, including:

- Enforceability opinions providing that the governing transaction documents are legal, valid, binding and enforceable in accordance with their terms against the transaction parties;
- Organizational opinions providing that the transaction parties were duly formed and authorized to execute the agreements to which they are party, that the execution of such documents were permitted under their organizational documents and do not conflict with any applicable law or rules or regulations of any governmental authority or with other material agreements of such transaction parties and that there is no material pending or threatened litigation against such parties to the best of their knowledge that would interfere with their performance; and
- Investment Company Act opinions providing that the issuer is not subject to the requirements of the Investment Company Act of 1940.

6.5. Operative Documents

6.5.1. Representations and Warranties and Covenants

The benefit that we ascribes to the representations and warranties and covenants (collectively, R&Ws) depends upon (a) the content of the R&Ws, (b) the contractual oversight and remedies in place for breaches of R&Ws, (c) the financial strength and the ability, willingness and explicit commitment of the R&W provider to comply with its contractual and other legal obligations, and (d) the strength and integrity of the origination process and procedures. Weak R&Ws generally will be viewed by us as adding additional credit risk to the transaction.

6.5.2. Identification and Enforcement of Representations and Warranties Breaches

Clear accountability and procedures help provide investors with appropriate protection from loan-level R&W breaches. Transactions usually include provisions that require a breach of a R&W to be remedied only when the breach "materially and adversely affects the value of the private student loan or the interests of the noteholders therein." A rating committee will review these provisions on a case-by-case basis to assess the likelihood of identifying remediable breaches.

In addition to determining when a remediable breach has occurred, there must be appropriate remedies to reimburse the trust for such breach and specific procedures to enforce such remedies. Typically, transactions provide for loans that breach R&Ws to be either repurchased or substituted and the issuer to be indemnified for any costs associated with the breach and/or repurchase. We review these remedies as well as the specific procedures for enforcing those remedies to determine their credit impact. We expect the documents to contain provisions that require that both breaches of R&Ws and the extent to which any breaches were cured be reported to transaction participants.

6.5.3. True Sale Transfer of Loans to the Issuer

In cases when our analysis relies on a true sale of the loans, the ownership transfer of the loans to the issuer should provide the indenture trustee with the necessary documentation to foreclose against the loans. To achieve this, we expect the transaction's operative documents to stipulate that all of the loan documents necessary to effect the ownership transfer should be transferred to the custodian at closing. Furthermore, we expect that one of the deal parties will be obligated to record any UCC filing or other document whose recording is required to make the assignment of the private student loan effective against the student. The insufficiency of such provisions may weaken the transaction.

6.5.4. Servicing and Indenture Trustee Standard of Care

Student loan securitizations typically set forth the standards pursuant to which a master servicer and/or servicer (collectively, servicer) will service the collateral and the indenture trustee will act as trustee for the collateral. We view as credit-neutral a standard that obligates the servicer or the indenture trustee to use (a) customary and usual servicing or trustee practices of prudent institutions which service or provide trustee services for student loans or similar collateral, (b) a degree of care that is no less than what the servicer or indenture trustee itself exercises when servicing or providing trustee services for comparable assets for itself, affiliates and third parties, and (c) which standard is without regard to the servicer's, the indenture trustee's or any of their respective affiliate's ownership of any of particular securities. Moreover, we expect that servicers and indenture trustees will be held liable for actions that are negligent and that they should not seek indemnification from the collateral or trust estate or the investors for any negligence claims arising from the performance of their duties. Standards and degrees of liability that are less stringent than those described above will be considered by the rating committee and may be viewed as imposing additional credit risk.

6.5.5. Servicer and Custodial Arrangements

Regardless of whether the originator is a private or public or quasi-public entity, we also consider the following factors with regard to the servicing and custodial arrangements of the transferred assets (collateral):

- Segregating the collateral (including limitations on the commingling of the collateral's cash flows) from the originator's, its agents' and the indenture trustee's other assets
- Limitations on the originator's and its agents' employees from access to the collateral
- Explicit guidelines on the agency terms (e.g., indenture trustee, master servicing, servicing, and custodian responsibilities)

Such factors have increased importance if the servicer or custodian of the receivables is related to the originator, particularly in the case where a "true sale" is being relied on in our bankruptcy analysis.

Inadequate servicer and custodial provisions may weaken the transaction.

6.5.6. Bank Accounts and Investments

As mentioned previously, transactions typically allow the servicer or indenture trustee to place cash receipts in certain bank accounts or in investments. We have an approach addressing the temporary use of funds within a securitization structure. To receive credit neutral treatment, eligible accounts and investments must satisfy those criteria.[79]

6.5.7. Events of Default

Transactions are typically structured so that the failure to pay a scheduled amount of interest or principal to the investors on a given distribution date is an event of default. Events of default typically include non-payment of rated interest and rated principal (i.e., at legal maturity and not unrated sinking fund or turbo redemptions), bankruptcy or insolvency of the issuer (but not any other transaction parties), and breaches of

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[79] For more information, see our methodology for assessing counterparty risks in structured finance transactions. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

R&Ws of the issuer (but not any other transaction parties).[80] To the extent that the transaction provides for other kinds of events of default, including servicer termination events, we will review whether such events could have a credit impact.

6.6. E-Signature Loans

A number of private student loan lenders have included electronic signature (i.e., e-signed) loans in their securitizations. An e-signature loan is a loan that does not have a wet signature on the promissory note. According to the Uniform Electronic Transactions Act, an electronic signature "means an electronic sound, symbol, or process attached to or logically associated with a record and executed or adopted by a person with the intent to sign the record." The key risk in student loan-backed securitizations containing e-signed loans is that the electronic promissory notes will not be deemed as legal, valid, enforceable and transferable.

For private student loans, there is no clear guidance on how to implement an e-signature program like for FFELP student loans.[81] There are two laws that deal with e-signature, the federal Electronic Signatures in Global and National Commerce Act (E-SIGN) and state law Uniform Electronic Transactions Act (UETA). These laws were meant to be “technology-neutral” and are intended to permit the marketplace to develop standards and procedures. As a result, they do not specify how their requirements are to be satisfied.

For an e-signed note under E-SIGN to be legal, valid, enforceable and transferable, the following requirements must be met:

- the lender must disclose to the borrower that they are not required to use the e-signed note, but can sign a paper note
- the borrower must consent to the use of the e-signed note
- the e-signature must be logically associated with the record of the note
- the authenticity of the signature must be established (i.e., the signature must be attributable to the borrower)
- a copy of the signed note must be available to the borrower in printable form
- the e-signed note must be stored as a “non-modifiable” electronic record

Although E-SIGN establishes these requirements, the law does not provide guidelines as to how each of these requirements is satisfied.

Moody’s typically performs a review of the e-signature process focusing on the abovementioned requirements. In addition, Moody’s requests an enforceability opinion and a perfected security interest opinion specifically addressing e-signature loans.

6.7. Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of securities backed by a portfolio of US private student loans. We evaluate the risk following our cross-sector methodology that describes our general principles for assessing these ESG issues[82] and may incorporate it in our analysis.

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[80] If the transaction contains other events of default not mentioned above or contains broad R&Ws, we consider whether 100% of the noteholders are required to vote to accelerate the rated debt and/or liquidate the collateral. This mechanism prevents market value risk caused by certain noteholders acting against the interests of the minority noteholders by deciding to accelerate the debt and liquidating the collateral below the par value of the rated securities.

[81] In 2001 the U.S. Department of Education (DOE) outlined standards for Electronic Signatures that protect against the loss of the government guarantee and the interest subsidy payments (ISP), and special allowance payments (SAP). If a FFELP loan is determined to be legally unenforceable based solely on the processes used for the electronic signature or related records, the loan will still be eligible for the guarantee and ISP and SAP. The DOE does not extend the same protections to an e-signed loan from a borrower attending an eligible foreign school. Under the Higher Education Act, a security interest in FFELP e-signed student loans is perfected by a UCC Filing.

7. Monitoring

7.1. Monitoring Process

Our surveillance process on private student loan-backed ABS includes, but is not limited to, the following steps:

1) We review performance data we periodically receive for private student loan-backed securitizations. We assess the adequacy of the requirements in the documentation for the periodic reporting of key performance and other transaction data necessary for proper surveillance; otherwise, we arrange for such information from the issuers.
2) We review transactions on a periodic basis to identify those with unusual trends in important performance variables, such as delinquency rates, forbearance rates, default and recovery rates, pool factors, parity levels, prepayment rates, and funding costs, and those with changes in servicing and administration functions.[83]
3) For those identified transactions, we perform a more detailed analysis, comparing trust performance since inception with our original expectations and assessing the impact of any operational changes. We supplement the updated trust performance data with any other updated static pool data from the issuer and information on industry trends from other issuers, where applicable.[84]
4) We seek additional insights into understanding any changes by discussing the performance and any operational changes with the issuer.
5) We convene a rating committee to discuss the updated information, which typically includes loan and trust performance from servicing reports, additional static pool information received from the issuer, operational issues, issuer feedback, coverage analysis (as described in section 7.2, below), and structural features. The analysis focuses on the causes of the observed changes, whether the changes are likely to be short-term or long-term,[85] and the implications for the risk that investors will not receive their promised principal and interest payments. Furthermore, we consider if the current information is sufficient to reach a conclusion on a rating action or if more information is needed.[86]

7.2. Transaction Performance

With the updated performance data and static pool information, we re-evaluate the pool's expected remaining net loss and the volatility of the net loss. In some cases, we may conclude that the additional information that has been accumulated since the issuance of the transaction reduces the uncertainty inherent in the data. In those cases, we may lower our estimates of the variability of loss going forward and, as a result, apply a lower multiple over the base case net loss rate in the credit stress scenario in our credit analysis.

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[82] For more information, see our methodology that describes our general principles for assessing ESG issues. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[83] For information on how we analyze these variables, see sections 3 and 5.

[84] Information from other trusts of the issuer or from other issuers is of particular importance in cases in which the performance data of the pool in question is based on relatively few loans that are in repayment status and if those loans have only recently entered repayment. We select other issuers based on the comparability of the loan characteristics, servicing and collection procedures and default policies. See section 3.2 for information on the important loan characteristics.

[85] For example, if the observed change is concentrated in a specific loan type, the effect may be short-term if there are relatively few loans of that type remaining in the pool.

[86] For example, in methodologies where models are used, modeling is not relevant when it is determined that (1) a transaction is still revolving and performance has not changed from expectations, or (2) all tranches are at the highest achievable ratings and performance is at or better than expected performance, or (3) key model inputs are viewed as not having materially changed to the extent it would change outputs since the previous time a model was run, or (4) no new relevant information is available such that a model cannot be run in order to inform the rating, or (5) our analysis is limited to asset coverage ratios for transactions with under-collateralized tranches, or (6) a transaction has few remaining performing assets.

As noted in section 3.3.4, data on seasoned loans often require special adjustments in making projections. Those adjustments often take on increasing importance in the monitoring process, as we project the remaining performance of loans that are, by definition, more seasoned than at the start of the transaction.

After we have updated our projections of losses for the pool, as described above, we then analyze the rating of the security by determining the multiple of those losses afforded by the remaining credit enhancement available to the security. We call such analysis "coverage analysis." We then compare the calculated ratio of total available credit enhancement to the expected lifetime net loss rate (i.e., multiple) to those of other securities with similar pools and structures to determine the new rating.

7.3. Pool Size

In assessing pool diversity for US PSL transactions, we look beyond the nominal number of borrowers in a pool to take into account the actual size of the borrowers' loans. We express this pool diversity measurement, referred to as the effective number, in terms of equal-sized exposures, using Formula 2.

We typically use loan-level information to calculate an effective number of borrowers or loans.

FORMULA 2

$$Effective\ Number\ of\ n\ Borrowers\ (or\ Loans) = {}^{1}/_{\sum_{i=1}^{n}(W_i)^2}$$

Where:

» W_i is the weight of a borrower (or loan) *i* in the total pool.

Source: Moody's Investors Service

We do not assign nor maintain ratings on securities backed by US PSL pools in structures – defined as a group of securities that share support – with the following characteristics:

» Structures without support mechanisms, such as a credit enhancement floor or reserve fund floor, when any of the underlying pool(s) has decreased to an effective number of borrowers or loans of 75 or below. If we cannot obtain the effective number, we will use a threshold of 130 instead.

» Structures with a reserve fund or credit enhancement floor, which partially compensates for the increased exposure to single borrowers, when any of the underlying pool(s) has decreased to an effective number of borrowers or loans of 50 or below. If we cannot obtain the effective number, we will use a threshold of 90 instead.

However, we make exceptions for securities with ratings that do not rely on our assessment of individual obligor creditworthiness, such as those that benefit from a full and unconditional third-party guarantee, whether at pool or security level,[87] or for securities that benefit from full cash collateralization.

EXHIBIT 13

Sample Coverage Analysis

Reporting Date	10/31/2009	Notes
Current Total Parity (without Reserve Account)	98.25%	From servicing report
Current Senior Parity (without Reserve Account)	114.95%	From servicing report

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[87] For more information, see our rating methodology for assessing transactions based on a credit substitution approach. A link to a list of our sector and cross-sector methodologies can be found in "Moody's Related Publication" section.

EXHIBIT 13

Sample Coverage Analysis

Reporting Date	10/31/2009	Notes
Current Total Parity (with Reserve Account)	98.50%	From servicing report
Current Senior Parity (with Reserve Account)	115.20%	From servicing report
Original Pool Adjusted for Pre-funding	185,000,000	From servicing report
Current Assets		
Total Current Pool Balance	100,000,000	From servicing report
Current Reserve Account	250,000	From servicing report
Current Total Assets	**100,250,000**	
Securities		
Class A-1	51,192,650	From servicing report
Class A-2	35,800,000	From servicing report
Class B	8,911,000	From servicing report
Class C	5,873,000	From servicing report
Current Total Liabilities	**101,776,650**	
Excess Spread per Annum	3.20%	Calculated from servicing reports
Remaining Weighted Average Life	5.00	Calculated from servicing reports
Lifetime Expected Default % of Original Pool Balance	16.00%	Committee result
Lifetime Recoveries % of Default	20.00%	Committee result
Lifetime Net Loss	**12.80%**	= 16.00% x (1-20.00%)
Cum Default $	15,725,000	From servicing report
Cum Default % of Original Pool Balance	8.50%	= 15,725,000 / 185,000,000
Cum Recoveries $	2,000,000	From servicing report
Cum Recoveries % of Cum Default	12.72%	= 2,000,000 / 15,725,000
Cum Net Loss % of Original Pool Balance	7.42%	= 8.50% x (1-12.72%)
Remaining Net Loss % of Current Pool Balance	**9.96%**	= (12.80% - 7.42%) x (185,000,000 / 100,000,000)
Current Class A Credit Enhancement Available (OC is w/o Reserve)	**% of Loans**	
Total OC (without Reserve Account)	-1.78%	= (100,000,000 - 101,776,650) / 100,000,000
Subordination	14.78%	= (8,911,000 + 5,873,000) / 100,000,000
Reserve (non-declining)	0.25%	= 250,000 / 100,000,000
Excess Spread Utilization Rate	50.00%	Committee result
Total Excess Spread	8.00%	= 3.20% x 5.00 x 50.00%
Total Credit Enhancement (CE)	**21.26%**	= Total OC + Subordination + Total Excess Spread
Expected Net Loss on Remaining Pool	9.96%	Calculated above
CE/Net Loss Coverage	**2.13 x**	= 21.26% / 9.96%

Source: Moody's Investors Service

Appendix I: Static Pool Analysis to Project a Pool Cumulative Default Rate

The "delta" default timing curve method is one approach we employ to construct the default timing curve. This method analyzes the incremental (i.e., delta) defaults experienced by the vintages from period to period, as illustrated in Exhibits 14 through 17. For example, Exhibit 14 represents an originator's historical static pool default information. The default data are segregated by the year the borrowers entered repayment. All loans that entered repayment in the same year are grouped into vintages; the data for each vintage form a column. The original loan balance (disbursed balance) at the start of the repayment period is recorded for each vintage at the top of the table. The data in each row of Panel A represent the percentage of the disbursed balance that defaulted in each six-month period following the year the loan entered repayment; therefore, each of the data points represents the cumulative default rate experienced by the loans in a particular vintage. The data in each row of Panel B represent the incremental delta default rate experienced by the vintages from period to period calculated from the cumulative default rates in Panel A.

The first step is to calculate the average incremental default rates across the vintages for each period (see "Average Delta Default" column in Panel B of Exhibit 14).[88] For example, the average incremental default rate experienced across all vintages in Panel B during the first six months after repayment is 1.21% (see arrow 1 in Panel B) and the average incremental default incurred between six and twelve months after repayment is 0.96%.

EXHIBIT 14

Delta Default Timing Curve Method - Calculating Average and Cumulative Delta Default Rate

Repayment Year	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Disbursed Balance	**$597m**	**$363m**	**$455m**	**$489m**	**$626m**	**$889m**
Current Pool Factor	**30%**	**37%**	**45%**	**55%**	**67%**	**82%**
Months in Repayment	**Panel A: Cumulative default Rates**					
0	0.00	0.02	0.05	0.01	0.01	0.01
6	1.80	1.28	1.20	1.18	1.11	0.76
12	3.20	2.28	2.25	2.05	1.91	1.42
18	4.33	3.18	3.10	3.15	2.67	
24	5.30	4.18	4.07	4.00	3.34	
30	6.20	5.04	4.92	4.80		
36	6.98	5.79	5.67	5.45		
42	7.82	6.42	6.33			
48	8.64	7.07	6.86			
54	9.34	7.57				
60	9.96	7.97				
66	10.47					
72	10.87					

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[88] Alternatively, one could use the average of the absolute level of defaults. However, the timing of the incremental defaults tends to be more stable than the absolute levels and is thus preferable for projection purposes.

EXHIBIT 14

Repayment Year	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**		
	Average calculation: Average of month 6 = 1.21						①	
Months in Repayment	**Panel B: Incremental Default rates**							
0	0.00	0.02	0.05	0.01	0.01	0.01	0.02	0.02
6	1.80	1.25	1.15	1.18	1.10	0.75	1.21	1.22
12	1.40	1.00	1.05	0.87	0.80	0.66	0.96	2.18
18	1.13	0.90	0.85	1.10	0.76		0.95	3.13
24	0.97	1.00	0.97	0.85	0.67		0.89	4.02
30	0.90	0.86	0.85	0.80			0.85	4.88
36	0.78	0.75	0.75	0.65			0.73	5.61
42	0.84	0.63	0.66				0.71	6.32
48	0.82	0.65	0.53				0.67	6.99
54	0.70	0.50					0.60	7.59
60	0.62	0.40					0.51	8.10
66	0.51						0.51	8.61
72	0.40						0.40	9.01
	Cumulative calculation at month 12: 0.02 plus 1.21 plus 0.96 = 2.18						②	

Source: Moody's Investors Service

Next, the cumulative average "delta" default rates are calculated by cumulating the average delta default rates (see "Cumulative Delta Default" column in Panel B of Exhibit 14). In this example, the cumulative "delta" default rate after 12 months in repayment is 2.18% (i.e., 0.02% + 1.21% + 0.96%; see arrow 2 in Panel B).

In this example the static pool performance history encompasses 72 months of data for the oldest vintage, which has paid down to a pool factor of 30%. Given that the pools in the example are not fully paid down, there are more defaults likely to be incurred in these static pools over their remaining lives. Therefore, the next task is to determine the "anchor" or terminal value of the cumulative delta default curve.

There are various methods for forecasting the anchor value, and one such method is illustrated in Exhibit 15. In this case, we analyze the trend of the deltas (measured over 12-month periods)[89] observed to date[90] to project 12-month deltas over the remaining life. Those projections are added to the life-to-date default rate to determine the anchor or terminal default rate. In Exhibit 15, the four remaining projected 12-month deltas (i.e., 0.60%, 0.40%, 0.30%, and 0.20%, respectively for months 72-84, 84-96, 96-108, and 108-120 or arrow 3 in Exhibit 15) are added to the life-to-date defaults at month 72 (i.e., 9.01% or arrow 4 in Exhibit 15) to give an anchor value of 10.51%.

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[89] Twelve-month deltas are the incremental losses incurred in each consecutive 12-month period, namely months 0-12, months 12-24 and so on.

[90] The remaining 12-month deltas could be determined through quantitative techniques, or, as in this example, on a qualitative basis, subjectively “eyeballing” the data and extrapolating.

EXHIBIT 15

Delta Default Timing Curve Method - Projecting the Anchor

Repayment Year	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**			
Disbursed Balance	**$597m**	**$363m**	**$455m**	**$489m**	**$626m**				
Current Pool Factor	**30%**	**37%**	**45%**	**55%**	**67%**	**82%**			
Months in Repayment	**incremental default rates**						**Average Delta Default**	**Cumulative Delta default**	**12 Month Delta Default**
0	0.00	0.02	0.05	0.01	0.01	0.01	0.02	0.02	
6	1.80	1.25	1.15	1.18	1.10	0.75	1.21	1.22	
12	1.40	1.00	1.05	0.87	0.80	0.66	0.96	2.18	2.17
18	1.13	0.90	0.85	1.10	0.76		0.95	3.13	
24	0.97	1.00	0.97	0.85	0.67		0.89	4.02	1.84
30	0.90	0.86	0.85	0.80			0.85	4.88	
36	0.78	0.75	0.75	0.65			0.73	5.61	1.59
42	0.84	0.63	0.66				0.71	6.32	
48	0.82	0.65	0.53				0.67	6.99	1.38
54	0.70	0.50					0.60	7.59	
60	0.62	0.40					0.51	8.10	1.11
66	0.51						0.51	8.61	
72	0.40						0.40	9.01	0.91
84									
96									
108									
120								72-84 Projection	0.60
								84-96 Projection	0.40
								96-108 Projection	0.30
								108-120 Projection	0.20

③

Anchor calculation: 9.01 + 0.60 + 0.40 + 0.30 + 0.20 = 10.51 ④

Anchor
10.51

Source: Moody's Investors Service

EXHIBIT 16

Delta Default Timing Curve Method - Projecting the Cumulative Default Rate

Repayment Year	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**			
Disbursed Balance	**$597m**	**$363m**	**$455m**	**$489m**	**$626m**	**$889m**			
Current Pool Factor	**30%**	**37%**	**45%**	**55%**	**67%**	**82%**			
Mos. in Repayment			**Cumulative default rates**				**Average Delta Default**	**Cumulative Delta Default**	**AVERAGE Default TIMING CURVE**
0	0.00	0.02	0.05	0.01	0.01	0.01	0.02	0.02	0%
6	1.80	1.28	1.20	1.18	1.11	0.76	1.21	1.22	12%
12	3.20	2.28	2.25	2.05	1.91	1.42	0.96	2.18	21%
18	4.33	3.18	3.10	3.15	2.67		0.95	3.13	30%
24	5.30	4.18	4.07	4.00	3.34		0.89	4.02	38%
30	6.20	5.04	4.92	4.80			0.85	4.88	46%
36	6.98	5.79	5.67	5.45			0.73	5.61	53%
42	7.82	6.42	6.33				0.71	6.32	60%
48	8.64	7.07	6.86				0.67	6.99	66%
54	9.34	7.57					0.60	7.59	72%
60	9.96	7.97					0.51	8.10	77%
66	10.47						0.51	8.61	82%
72	10.87						0.40	9.01	86%
84									
96									
108									
120									
Loss projection: 10.87 / 86% = 12.68		⑥		Loss curve calculation: 9.01 / 10.51 = 86%				⑤	
Projection:	12.68	10.34	10.31	10.22	8.72	6.82	**Anchor**	Average	
							10.51	9.85	

Source: Moody's Investors Service

The average default timing curve (Average Default Timing Curve in Exhibit 16) represents the percentages of the terminal cumulative default rate that has occurred throughout the various points in the life of the pool, that is, the average cumulative "delta" defaults (Cumulative Delta Default in Exhibit 16) in each period divided by the anchor amount of 10.51%. In this example, the static pools, on average, experienced 86% (9.01% divided by 10.51% or arrow 5 in Exhibit 16) of their lifetime defaults within the first 72 months after repayment. The average default timing curve can then be used to project the cumulative default rate for each of the vintages by dividing the life-to-date default rate for any vintage by the corresponding value of the average default timing curve. For example, the oldest vintage has a cumulative default rate projection of 12.68% (10.87% divided by 86% or arrow 6 in Exhibit 16).

In some cases where lengthy static pool information for a particular originator is unavailable, information on the default timing curves based on more complete information from other, comparable, lenders can be incorporated to project the lifetime cumulative default rate of the originator's static pools. The comparable sponsors would be selected based on those that have similar underwriting, servicing, collections, and default policies as well as similar pool characteristics.

Appendix II: Modeling an Illustrative Example Private Student Loan Securitization

In this appendix, we describe our typical stresses on the cash flows of a sample private student loan-backed transaction. We show the assumed characteristics of the pool in section A, the assumed structural features in section B, the cash flow stress assumptions in section C, the transaction's balance sheet in section D, and the results of the cash flow runs in sections E-G.

A. Characteristics of Collateral Pool

Underlying Collateral Pool	100% private student loans
Total Pool Balance	$1,300,000,000
Loan Repayment Term	20 Years
Loan Interest Rate	3-month LIBOR + 4.50%
Frequency of Capitalization of Interest	Once when loans enter repayment
Percentage of Balance by Loan Status	See below

Loan Status	Percentage of Total Pool	Percentage of Repayment Balance
In School*	70%	
Grace*	10%	
Deferment*	2%	10%
Forbearance*	2%	10%
Repayment	16%	
Total	**100%**	**20%**

* Full deferment of principal and interest while the loan is in in-school, grace, deferment or forbearance status.

Source: Moody's Investors Service

B. Summary of Structural Features

Credit Enhancement	Over-collateralization of 13.0% and excess spread equal to approximately 2.40% per annum.
Total Parity (i.e., Total Assets / Total Liabilities) at Closing	115.0%
Reserve Account	Fully funded at closing at 0.25% of the initial student loan balance. The account is non-declining.
Capitalized Interest Account	Fully funded at closing at $80,000,000. Funds remaining in the account after 3 years since securitization closing are released through the waterfall.
Excess Spread Release	No release of excess cash to the residual holders until the security's principal is paid in full.
Structural Triggers	None
Pre-funding or Revolving Features	None

Source: Moody's Investors Service

C. Cash Flow Modeling Assumptions Sheet for Hypothetical Private Student Loan Securitization

Assumption	Base case	Aaa Credit Stress Case	Aaa Liquidity Stress case	Maturity Stress	Comments
Cumulative Default Rate	10%	35%	35%	10%	Dollar amount of defaulted loans as percent of the balance of loans entering repayment. Default capitalized interest.
Timing of Defaults					
Base Case Curve	20/20/10/10/10/10/10/5/5	(1) 20/20/10/10/10/10/10/5/5	20/20/10/10/10/10/10/5/5	20/20/10/10/10/10/10/5/5	Percent of total defaults incurred in each subsequent year of repayment. Adjust the default curves to ensure the full lifetime default rate is applied.
Back-Ended Curve		(2) 10/10/10/10/10/10/10/15/15			
Recoveries	20%	20%	20%	20%	Uniformly distributed over 10 years.
In-School and Grace	Actual % and term	Actual % and term	Actual % and term	Actual % and term	
Deferment	10% for 18 months	5% for 12 months	20% for 24 months	25% for 24 months	Deferment balance as percent of balance of loans entering repayment.
Forbearance	10% for 18 months	5% for 12 months	20% for 24 months	25% for 24 months	Forbearance balance as percent of balance of loans entering repayment.
Payment lags	30 days	30 days	30 days	30 days	Borrower payment lag. No late fees coming into the trust.
Prepayment Rate	Ramp from 3% to 8% over 4 years	Ramp from 4% to 12% over 4 years	Ramp 0% to 8% over 8 years	0%	Dollars of voluntary prepayments as a percent of the balance of total loans in repayment outstanding at the beginning of each period.
T-bill Scenario	Forward Libor Curve - 50 bps	1.0%	1.0%	1.0%	Ramp from current T-bill level to 1.0% over 12 months.
Libor	T-bill + 50 bps	T-bill + 100 bps	T-bill + 100 bps	T-bill + 100 bps	
Investment Rate	T-Bill	T-bill	T-bill	T-bill	Or GIC rate if a GIC is in place at closing.
Dropout Rate	20% of borrowers in school enter repayment in 12 months.	30% of borrowers in school enter repayment in 12 months.	10% of borrowers in school enter repayment in 12 months.	10% of borrowers in school enter repayment in 12 months.	Apply the assumption to those loans scheduled to enter repayment after 12 months.
Borrower Benefits 0.25% Interest Rate Reduction for ACH	20%	50%	50%	35%	Percentage of current balance of loans that is eligible to receive the borrower benefit.

Source: Moody's Investors Service

D. Balance Sheet

Assets		% of Assets	% of Loans	Interest Rate	base case WAL
Pool Balance (Principal + Accrued Interest)	$1,300,000,000	94.0%	100.0%	LIBOR + 4.50%	10.2 Years
Capitalized Interest Account	$80,000,000	5.8%	6.0%		
Reserve Account	$3,250,000	0.2%	0.0%		
Total Assets	**$1,383,250,000**	100.0%	106.0%		
Liabilities		**% of Assets**	**% of Loans**	**Interest Rate I**	**base case WAL**
Class A Notes	$1,202,826,087	87.0%	92.5%	LIBOR + 1.30%	6.7 Years
Total Liabilities	**$1,202,826,087**	87.0%	92.5%		

Total Parity (Total Assets / Total Liabilities)	**115.0%**	
		(Assets - Liabilities) / Assets
Over-collateralization	**13.0%**	

Source: Moody's Investors Service

E. Credit Stress Cash Flow Results Compared with Base Case

Exhibit 17 shows that, in this example, the lifetime gross excess spread[91] generated by the hypothetical securitization in the Aaa credit stress case with base case default timing is approximately 56% less than in the base case. In the stress case, the transaction uses only $183.6 million of gross excess spread to cover losses, representing 14% of the original loan balance, compared with 0% of the original loan balance in the base case.

The magnitude of the reduction in total gross excess spread when moving to the Aaa credit stress scenario from the base case scenario varies from transaction to transaction and typically ranges from 40% to 60%, as noted in section 5.3. The magnitude of the reduction for a particular transaction depends on the specific transaction structure and the specific stresses applied to the variables that affect excess spread, as described in section 5.4.

In the Aaa credit stress scenarios, the aggregate amount of excess spread generated when the base case curve is applied is slightly lower than when the back-ended default curve is applied because the majority of loans default early, leaving a lower remaining pool balance to generate excess spread.

EXHIBIT 17

Total Gross Excess Spread

Cash Flow Results	Base Case	Aaa Credit Stress; Base Case Curve	Aaa Credit Stress; Back-Ended Curve
Interest Paid on the Loans	$668,667,880	$483,266,625	$494,834,324
Capitalized Interest on the Loans	$118,485,727	$139,001,146	$139,001,146
Investment Earnings	$7,142,996	$7,343,004	$7,179,574
Less: Interest Paid	$191,103,759	$330,410,963	$301,304,180
Less: Expenses Paid	$109,512,039	$81,986,543	$83,412,192
Total Gross Excess Spread	$493,680,805	$217,213,269	$256,298,672
% of Original Loan Balance	**38.0%**	**16.7%**	**19.7%**
% Change from the Base Case	**N/A**	**-56.0%**	**-48.1%**
Gross Excess Spread used to Cover Losses	$0	$183,576,072	$183,575,985
% of Original Loan Balance	0.0%	14.1%	14.1%

Source: Moody's Investors Service

Exhibit 18 shows the annualized gross excess spread as a percentage of current total assets over the life of the securitization for the base case scenario compared with the Aaa credit stress scenario with base case default timing. The level of excess spread generated in the beginning of the cash flows are similar in the two scenarios because a large amount of loans are not in repayment and are not yet subject to the default and prepayment stresses which causes the largest reduction in excess spread.

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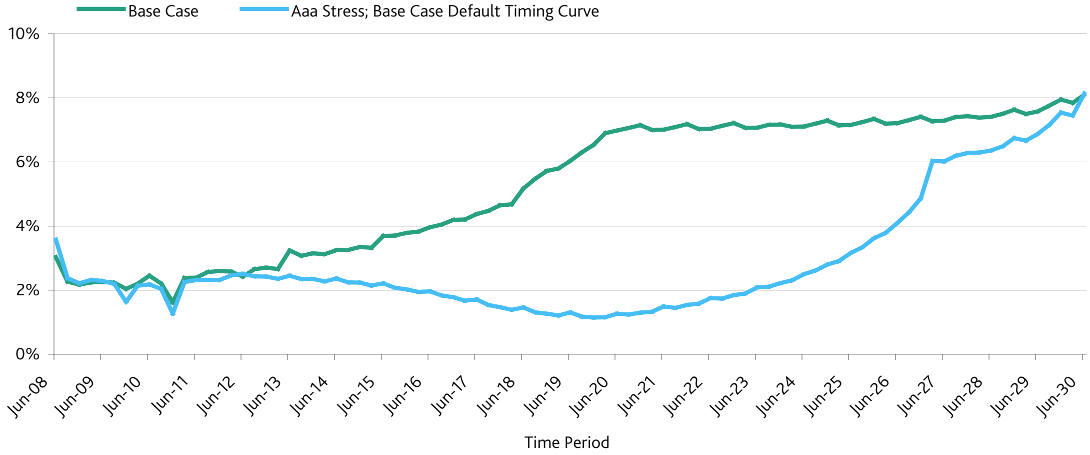
[91] Gross Excess Spread = Interest Paid on the Loans + Capitalized Interest Accrued on the Loans + Investment Earnings – Interest Paid on the securities – Transaction Expenses Paid.

EXHIBIT 18

Annualized Gross Excess Spread as a Percentage of Total Assets



Source: Moody's Investors Service

In section 5.3, we noted that the components of the Aaa credit stress that have the largest impact on the reduction in excess spread are the cumulative default rate and voluntary prepayment rate stresses. This is illustrated in Exhibit 19 for our example. In the exhibit, we show the base case scenario compared with four scenarios. In each of the four scenarios, one of the components is changed from the base case assumption to the Aaa credit stress assumption while all the other variables are held constant. The scenarios are as follows:

Scenario 1: Base case with Aaa deferment and forbearance rate and duration credit stress assumptions

Scenario 2: Base case with Aaa cumulative default rate credit stress assumptions

Scenario 3: Base case with Aaa voluntary prepayment rate credit stress assumptions

Scenario 4: Base case with Aaa dropout rate credit stress assumptions

The largest reduction in excess spread, 46%, occurs when the base case cumulative default rate is changed to the Aaa stressed rate. (See Scenario 2.) The second largest reduction in excess spread, 16%, occurs when the base case voluntary prepayment rate is changed to the Aaa stressed rate. (See Scenario 3.) There is only a minimal reduction in excess spread when moving from the base case deferment, forbearance and dropout scenarios to the Aaa stressed scenarios.

EXHIBIT 19

Total Gross Excess Spread

	Base Case	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Changed Variable		**Deferment and Forbearance Rate**	**Cumulative Default Rate**	**Voluntary Prepayment Rate**	**Dropout Rate**
Assumptions					
Cumulative Default Rate	10.0%	10.0%	36.0%	10.0%	10.0%
Default Curve	base case	base case	base case	base case	base case
Recovery Rate (uniformly distributed over 10 yrs)	20%	20%	20%	20%	20%
Voluntary Prepayment Rate	3%-8% over 4 yrs	3%-8% over 4 yrs	3%-8% over 4 yrs	4%-12% over 4 yrs	3%-8% over 4 yrs
Forbearance Rate	10%	5%	10%	10%	10%
Duration	18 months	12 months	18 months	18 months	18 months
Deferment Rate	10%	5%	10%	10%	10%
Duration	18 months	12 months	18 months	18 months	18 months
Percentage of borrowers in school that enter repayment in 12 months	20%	20%	20%	20%	30%
Results					
Interest Paid on Loans	$668,667,880	$655,144,340	$510,064,049	$545,514,369	$659,103,715
Capitalized Interest	$118,485,727	$105,719,163	$118,485,727	$118,485,727	$109,618,687
Investment Earnings	$7,142,996	$7,165,224	$7,721,596	$7,018,125	$7,147,666
Less: Interest	$191,103,759	$183,916,333	$276,100,710	$161,212,015	$185,776,635
Less: Expenses	$109,512,039	$106,339,761	$94,206,420	$95,434,727	$107,293,947
Total Gross Excess Spread	$493,680,805	$477,772,634	$265,964,241	$414,371,479	$482,799,485
% of Original Loan Balance	**38.0%**	**36.8%**	**20.5%**	**31.9%**	**37.1%**
% Change from the Base Case		**-3.2%**	**-46.1%**	**-16.1%**	**-2.2%**

Source: Moody's Investors Service

F. Liquidity Stress Cash Flow Results Compared with Base Case

Exhibit 20 shows the aggregate net cash (i.e., total cash minus expenses)[92] generated by the transaction in the base case and in the Aaa liquidity stress case during the transaction's first 2.5 years. In the Aaa liquidity stress run, the aggregate net cash is -$68.9 million. However, the liquidity support provided by the $80 million capitalized interest account and $3.25 million reserve account is available to cover this cash shortfall. The reduction of aggregate net cash in the Aaa liquidity stress scenario compared with the base case scenario is $119.9 million, a difference of -235%.

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[92] Aggregate Net Cash = Interest Paid on Loans + Principal Paid on Loans + Loan Prepayments + Defaulted Principal Recovered + Investment Income – Interest Paid on the Security – Transaction Expenses.

EXHIBIT 20

Aggregate Net Cash (Total Cash Minus Expenses) for the First 2.5 Years* from Securitization Closing

Cash Flow Results	Base Case	Aaa Liquidity Stress
Interest Paid on Loans	$45,412,371	$45,343,247
Principal Paid on Loans	$31,769,694	$17,705,385
Loan Prepayments	$44,701,795	$6,458,262
Defaulted Principal Recovered	$311,032	$956,440
Investment Income	$2,930,257	$1,399,724
Less: Bond Interest Paid	$45,079,296	$111,447,684
Less: Expenses	$29,083,466	$29,345,305
Aggregate Net Cash	$50,962,387	-$68,929,932
% of Original Loan Balance	**3.9%**	**-5.3%**
Difference from the Base Case		**-$119,892,318**
Amount of Cash Drawn from Capitalized Interest Account and Reserve Account in first 2.5 Years	$1,802,401	$72,987,592

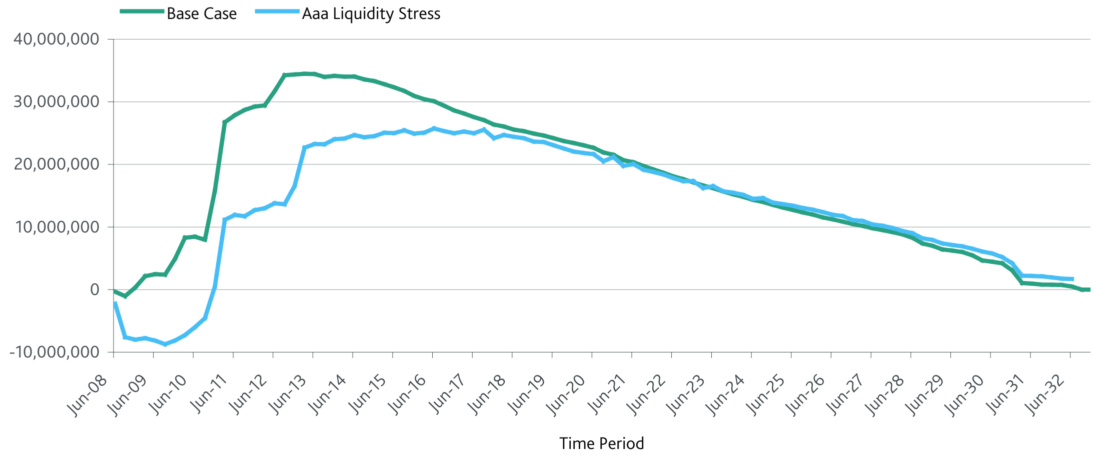
* The measurement period is the first 2.5 years from securitization closing because that is when the aggregate net cash is negative in the Aaa liquidity cash flow run.

Source: Moody's Investors Service

Exhibit 21 shows the net cash generated in each period of the securitization's life for the base case scenario compared with the Aaa liquidity stress scenario. Until December 2010, the net cash is negative in every period for the Aaa liquidity cash flow run but positive in every period for the base case run except for first two quarters when the net cash is slightly negative.

EXHIBIT 21

Net Cash



Source: Moody's Investors Service

G. Maturity Stress Cash Flow Results Compared with Base Case

Exhibit 22 shows that the last redemption date of the Class A Note is 4.2 years longer in the maturity stress cash flow run than in base case cash flow run. In addition, the weighted average life (WAL) of the Class A Note is extended by 3.7 years and the WAL of the student loan pool is extended by 6.6 years in the maturity stress cash flow run compared with the base case run.

EXHIBIT 22

Legal Final Maturity Date of Class A Note

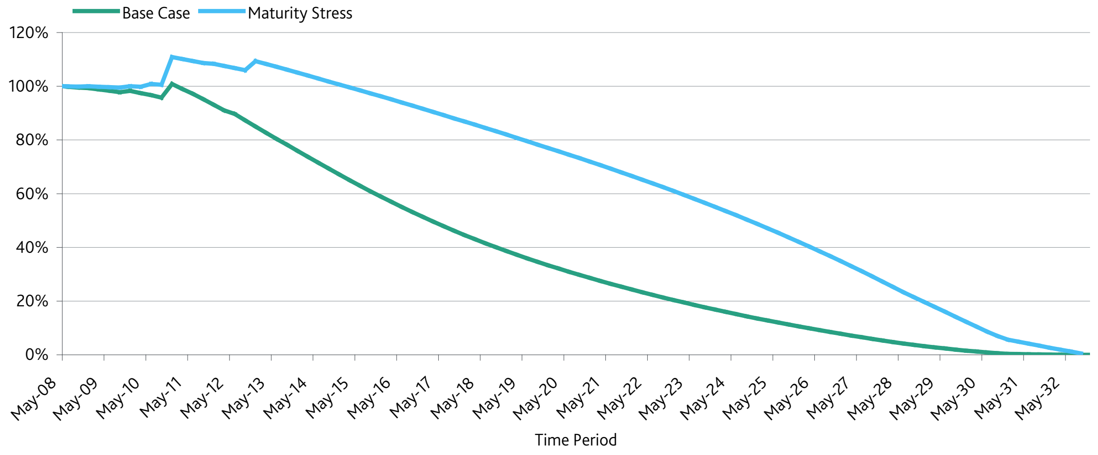
Cash Flow Results	Base Case	Maturity Stress
Class A Last Redemption Date	2/25/2020	5/25/2024
Difference from the Base Case (Years)		**4.2**
Class A WAL	6.7	10.4
Difference from the Base Case (Years)		**3.7**
WAL of Loan Pool	10.2	16.8
Difference from the Base Case (Years)		**6.6**

Source: Moody's Investors Service

Exhibit 23 shows the current pool balance divided by the original pool balance (i.e., pool factor) at each period during the life of the transaction for both the maturity stress cash flow run and the base case cash flow run. The results indicate that the repayment rate – which incorporates the effects of required principal payments, voluntary prepayments, defaults, forbearances, and deferments – is considerably slower in the maturity stress case. As a result, the final redemption date of the Class A note in the maturity stress case is 4.2 years later than in the base case.

EXHIBIT 23

Pool Factor



Source: Moody's Investors Service

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