MOODY'S INVESTORS SERVICE

RATING METHODOLOGY

UK Income-Contingent-Repayment Student Loan Securitisations Methodology

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This rating methodology replaces *UK Income-Contingent-Repayment Student Loan Securitizations* published in April 2020. We clarified our approach on guarantees in the "Pool Size" section, and we made limited editorial updates.

Scope

This rating methodology applies to securities backed by income-contingent-repayment student loans.

In this methodology, we explain our approach to assessing credit risks for asset-backed securities (ABS) that are mainly backed by well-seasoned "income-contingent-repayment" (ICR) student loans in the United Kingdom (UK), i.e., student loans on which the repayment amounts owed depend on the borrowers' income over the life of the loan. We typically consider ICR loans to be well-seasoned when borrowers have been in the workforce for at least five to seven years. Some pools may include less seasoned loans; however, if there are more than a *de minimis* amount of less seasoned loans, we adjust our analysis to account for the greater uncertainty regarding the borrowers' future income and employment and, as a result, at least some parts of this methodology may not apply.

We may adjust this approach for less seasoned loans of more recent graduates, whose recent income streams may be more volatile and therefore less predictive of future cash flow.[1]

We discuss the asset and liability analysis, including associated modelling, as well as other considerations. We also describe our monitoring approach.

[1] For more information on seasoned vs. unseasoned ICR loans, see Appendix A.

Rating Approach

In this section, we describe the key characteristics of ICR student loans and summarise our approach to assessing credit risks for securities backed by ICR loans, including quantitative and qualitative factors that are likely to affect rating outcomes in this sector.

Asset Overview

ICR loans were introduced by the UK Government in 1998. There are two main types, tuition loans and maintenance loans.

» Tuition loans cover the cost of tuition fees and are paid directly to the higher education provider.

» Maintenance loans are disbursed directly to students and designed to cover living costs for full-time undergraduates and those in initial teacher training courses.

ICR loans are widely available to students in the UK. Eligibility is based mainly on enrollment in qualifying courses at eligible colleges and universities, with no criteria regarding borrower income or credit quality. While attending higher education, borrowers reapply for a new loan prior to each year of study and receive disbursements prior to the start of each academic semester.

Interest on an ICR loan accrues from the date the loan is disbursed, but repayment begins when (1) the borrower graduates or otherwise leaves higher education, and (2) the borrower's annual income in the tax year is above a threshold amount (the "Repayment Threshold") applicable for that year. Other terms of the loans vary by loan type and location within the UK but share the following general characteristics:

» ICR Loans have no predefined amortisation schedule; instead, the loan repayment is determined by the borrower's future income experience. In addition to the income-contingent repayments, borrowers can make voluntary prepayments to the Student Loans Company (SLC), which is the delegate of the master servicer, the Secretary of State for Education (SoS).

» The repayment obligation each year is 9% of the amount by which the annual income exceeds the Repayment Threshold for the year. For all pre-2012 ICR loans, the Repayment Threshold changes each year based on the inflation rate (Retail Price Index Growth or RPI Growth).

» Interest on ICR loans depends on the basis of the product type.

» Borrowers primarily repay loans through the UK tax system. For most borrowers, employers collect repayments on behalf of Her Majesty's Revenue and Customs (HMRC) department directly from monthly salary payments, similar to income tax withholding. "Self-assessed" borrowers, such as the self-employed, make annual loan repayments as part of their self-assessment tax payments. HMRC reconciles the total amounts collected and provides repayment information to the SLC, a not-for-profit, government-owned organisation, to enable the SLC to update borrower accounts. Payments to the SLC from HMRC are made on an annual basis.

» According to rules and regulations of UK student loans, a borrower's liability cannot be cancelled or discharged through bankruptcy.

The borrower's liability to repay continues until the earliest of the following: (1) the loan is repaid in full, (2) the borrower dies, (3) the borrower is unable to work because of permanent disability, or (4) a product-specific period elapses, for example, the oldest ICR are cancelled when the borrower reaches the age of 65.

Key Risks in ICR loans

The key risk inherent in securities backed by ICR loans is the uncertainty about the size of the payment obligations for each borrower and the extent to which those payment obligations will be large enough to pay off the loans prior to cancellation. The size of an individual borrower's annual payment obligation depends on the difference between the borrower's income and the income-payment threshold for ICR loans. Consequently, the major risk factors in ICR loans are:

» Growth in real (i.e., after-inflation) income. To the extent that inflation affects both the rate of growth of nominal income and the Repayment Threshold, we do not consider it an additional risk factor for ICR loans.

» Likelihood of the borrower's unemployment.

» Likelihood of loan cancellation, which depends on the borrower's age, as well as the likelihood of the borrower's death or disability.

In addition, we consider in our analysis the risk of borrowers emigrating from the UK. Borrowers moving abroad are, by definition, outside the UK tax collecting authority. Even though borrowers are still required to make loan repayments, those repayments are not automatically collected but instead require borrowers to proactively contact the SLC and make remittance payments.

Analysis Framework

Exhibit 1 below describes the framework used for analysing ABS backed by ICR student loans.

EXHIBIT 1
Overview of Rating Approach

Separate borrowers into groups	• Four groups are defined by observed repayment pattern over past three years.
Macro scenario	• Project Real Income Growth throughout transaction life conditioning on age at start of projection. • Project Employment level throughout transaction life conditioning on age at start of projection and gender.
Project total future loan-by-loan repayments	• Conditional on economic path, adjust future income and employment level. • Project future threshold to calculate repayment. • Prepayment rate is assumed constant across all four groups independent of the macro scenarios.
Project future debt outstanding	• Adjust loan balance for death and migration.
Calculate loss	• To calculate an individual loan's loss, we use the difference between (1) the present value of the principal repayments for the loan, and (2) the original loan balance. • The pool loss is the sum of the losses of each individual loan.
Liability analysis	• Calculate the securities' losses using a cash flow model of the structure that represents the transaction's allocation mechanisms.
Other factors	• Model output could be adjusted to consider a variety of other factors: (i) swap risk, (ii) sovereign risk, (iii) operational risk and (iv) account bank and investments risk.

Source: Moody's Investors Service

In ICR loans, the amount owed in each annual period is contingent upon the borrower's annual income. Therefore, the key risk in our analysis of ABS backed by ICR loans is the uncertainty about whether the borrower's future income will create payment obligations sufficient to pay off the loan before the loan is cancelled. Cancellation occurs at the earliest of the following: (1) the borrower's death, (2) the borrower's disability, or (3) a product-specific period elapses. As a result, we focus our analysis on the borrowers' projected income levels – and the corresponding payment obligations – as well as the borrowers' ages and the likelihood of mortality and emigration.

In our asset analysis, we assume the borrowers' incomes – and, therefore, the repayment of the loans – depend on future macroeconomic real income growth and unemployment levels. We use our macroeconomic forecasts to develop a "baseline" path for real income growth and unemployment levels. We then determine the portfolio's baseline loss by combining the baseline paths for real income growth and unemployment with the other important characteristics of the individual loans in the portfolio: the size of the loan, the borrower's age, gender, employment experience, and most recent annual income.

We also consider the likelihood of borrower death and emigration. We typically do not model disability risk because we anticipate that it will be very low for typical ICR pools, although we may adjust this assumption if deemed appropriate. We use historical data to develop a "Aaa-stress" path for income and unemployment and use those paths to calculate the Aaa-stress level of losses for the portfolio. We then use the portfolio's baseline and Aaa-stress losses to determine the probability loss distribution, which associates a probability to each loss scenario for the portfolio. We assume the loss distribution to be lognormal.

To determine the tranche's expected loss, we use a cash flow model that represents the major features of the transaction's liability structure. We use the cash flow model to calculate the loss to investors resulting from each portfolio loss scenario of the lognormal distribution. The model then weights each loss with the corresponding probability of the loss scenario to calculate the tranche's expected loss.

We combine the tranche's expected loss with an estimate of the tranche's average life to derive the tranche's model output; the model output is determined by comparing the tranche's calculated expected loss to Moody's Idealized Cumulative Expected Loss table[2] for each rating category, at the appropriate average life for the tranche. To derive the tranche's assigned rating, we adjust the model output to incorporate our analyses of operational and legal risks and other sources of losses, such as unhedged interest rate mismatches.

As with all rating methodologies, in applying this methodology, where appropriate, we consider all factors that we deem relevant to our analysis. In addition to our quantitative assessments, our rating committees also consider various qualitative factors in their analysis. If, for instance, actual performance or performance trends are not in line with the assumptions described in this methodology, we may consider or reflect that in our analysis. As such, the assigned rating may differ from the model output.

[2] For more information, see the discussion of Idealized Probabilities of Default and Expected Losses in *Rating Symbols and Definitions* (a link can be found in the "Moody's Related Publications" section) and in the "Loss Benchmarks" section.

Asset-level Analysis and Related Modelling

In this section, we explain how we analyse the underlying assets that back ICR loan securitisations and how we estimate potential losses on those assets.

Portfolio Baseline and Aaa-Stress Losses

A key step in our methodology is the individual loan analysis which enables us to formulate both an aggregate baseline portfolio loss and a Aaa-stress loss. In general, the Aaa-stress would be consistent with the highest achievable rating in the country, which, in this case is our local currency country ceiling for bonds in the UK. We use those two loss levels to infer the portfolio's probability distribution of losses, as described in the subsequent section, "Using the Baseline and Aaa-Stress Losses to Derive the Probability Distribution of the Portfolio's Losses."

Our approaches to determining a loan's baseline and Aaa-stress levels of loss are similar. In both cases, for each loan in the portfolio, we project the difference between the borrower's income and the repayment threshold in each future period of the loan and calculate the resulting implied repayment obligation in each period. We then calculate the present value of the projected repayments and compare it to the loan balance to determine the loan loss, if any. The discount rate we use depends on the loan type and the unhedged risk exposure in the transaction. To derive the portfolio's baseline and Aaa-stress loss, we aggregate the loss of each loan in the portfolio. The only difference between the loan's baseline loss calculation and its Aaa-stress loss results from differences in assumptions for two components of our income projections, those representing real income growth and unemployment.

In our baseline and Aaa scenarios, we also adjust the loan balance for the likelihood of death and emigration. The adjustments that we apply are equal in both scenarios and tend to have only minor impacts when applied to large pools.

In projecting a borrower's income, we typically base our analysis on the following borrower-level data: (1) age, (2) gender, (3) income for at least three years, (4) loan repayment data for at least three years, and (5) outstanding loan principal balance. If repayment data is not provided, we estimate the repayment amount using reported income and Repayment Thresholds of the last three years. We may consider other factors if we deem them relevant. Our modelling approach on well-seasoned loans does not typically differentiate among different types of schools, degrees or borrower locations. For well-seasoned loans, when borrowers have been in the workforce for at least five to seven years, we expect that the borrower's location, type of school and degree(s) become less relevant than recent income information to determine the borrower's future income. The initial salary we use in the model is the salary in the year of the borrower's most recent repayment within the three years prior to the analysis date. For borrowers who did not make a repayment in that period, we use the latest salary of the borrower. In projecting a borrower's income, we consider real income growth, unemployment, and certain additional factors, as described in the following sections. We may adjust this approach for less seasoned loans of more recent graduates because they may have more volatile and less predictive income and employment patterns.

Real Income Growth

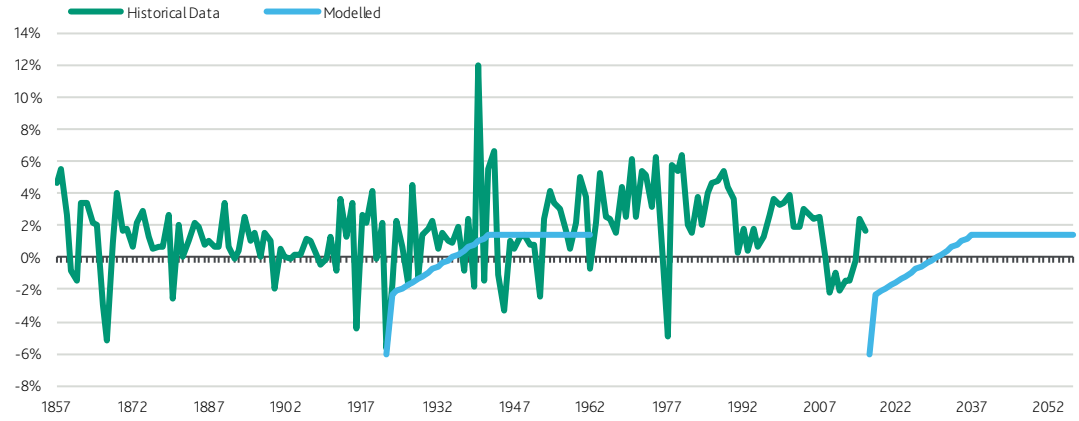
We project a borrower's income using the two components of nominal income: inflation and real income growth. However, as noted in the "Key Risks" section, only real income growth has a material impact on the transaction's risk. For each borrower, we typically have income data for the prior three years.

Our assumption regarding real income growth has an important impact on expected pool cash flows. We develop two scenarios for each borrower's real income growth in each future period. In the baseline

scenario, we use an "expected" growth rate derived from our latest macroeconomic forecast. In the Aaa-stress scenario, we assume real income falls by 6% in the first year (representing a potential severe shock to the UK economy) and then gradually returns over a 20-year period to the assumed real income growth in the baseline scenario. We base the stress on our examination of historical data extending back to the late 1850s, focusing on the 1920s, when real income growth and the employment rate fell materially without an immediate rebound to the historical average. We chose that period because it was the worst combined stress for real income growth and employment. (See the "Unemployment" section below for more information.) We show the Aaa-stress scenario for real income growth (as well as historical data) in Exhibit 2 below.

EXHIBIT 2

Historical Data for Real Income Growth and Illustration of Aaa-Stress Scenario.



Source: The Bank of England - A millennium of macroeconomic data and Moody's Investors Service

Unemployment

Borrowers who are unemployed, as well as those who are employed but earn less than the Repayment Threshold, are under no obligation to make ICR loan repayments. Consequently, as part of our baseline and stress scenarios, we model a path of unemployment rates for each borrower which we then use to haircut the repayment cash flows. The unemployment rate assumption has a higher impact on the loan repayment timing than on the total amount ultimately repaid under the loans.

In both scenarios, we establish a starting unemployment rate based on the borrower's repayment experience during the three years prior to securitisation (as illustrated in Exhibit 3 below.) For seasoned portfolios, we assume the transition is limited and neutral, meaning that absent any employment transition due to age, if a person transitions from one group to another it will be offset by one person making the reverse transition.

EXHIBIT 3

Initial Unemployment Rate Assumptions

Unemployment Group	# of Repayments Made in Prior 3 Years	Initial Unemployment Rate Assumption
1	3	0%
2	2	33%
3	1	66%
4	0	100%

Source: Moody's Investors Service

For example, we assume borrowers who have made two repayments in the past three annual collection periods (hence have missed one repayment) have an initial unemployment rate of 33% at the start of the projection. We model this by applying a 33% haircut on the cash flows derived for these borrowers. The relative proportion of borrowers in each unemployment group in the pool at the transaction's closing directly impacts the expected pool cash flows during the transaction's life.

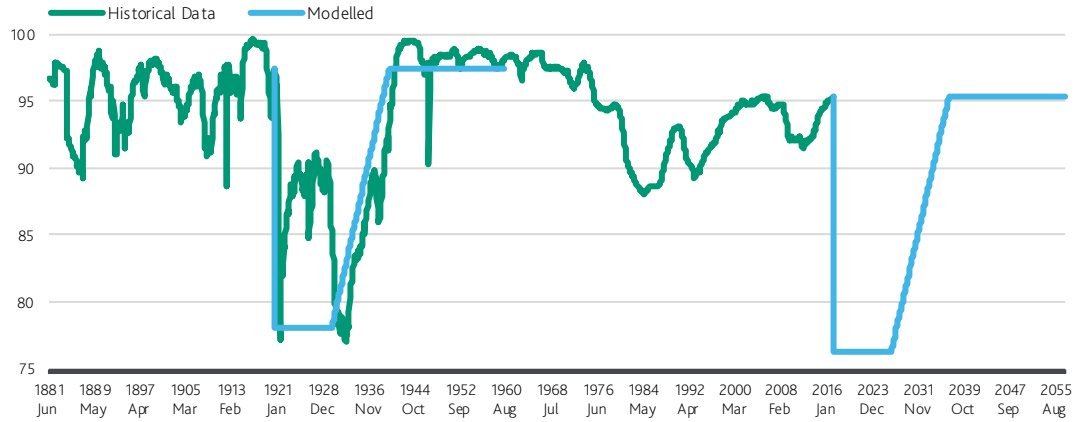
In both the baseline and Aaa-stress scenarios, we project the lifetime path of unemployment rates from each borrower's starting rate by applying macroeconomic and demographic factors in each future period. The demographic factors are the same for both scenarios and described in the next section, "Additional Adjustments."

For the baseline scenario, we derive the macroeconomic factors from our five-year macroeconomic forecast of unemployment, which we extrapolate for the life of the loans.[3] We use the changes in unemployment in that (extrapolated) forecast to adjust the unemployment rate that we apply in each period to each loan.

For the Aaa-stress scenario, we intend the macroeconomic factors to represent a severe economic contraction. To generate the Aaa-stress scenario, we apply an immediate stress to the baseline employment scenario that is consistent with a 20 percent decline in employment from the current level. We keep the employment rate flat for 10 years and then model a gradual 10-year increase in the employment rate back to the baseline employment rate, followed by a constant employment rate at that baseline for the transaction's remaining years. The scenario is roughly consistent with the UK's historical employment experience of the 1920s and 1930s and represents our view of what might happen to the UK economy during a severe recession. (See Exhibit 4 below.)

EXHIBIT 4

Historical Employment Data and Illustration of Aaa-Stress Scenario



Source: The Bank of England - A millennium of macroeconomic data and Moody's Investors Service

Additional Adjustments

We apply several adjustments to the income projections based on the individual borrower's age and gender. The adjustments we make are equal in the baseline and Aaa–stress scenarios.

Demographic Effects

1) On average, workers tend to have a life cycle of real income growth. Growth rates in real income tend to be highest early in a career and lower later. Consequently, we adjust the real income change applied to each borrower in each period to reflect that borrower's age.

[3] For more information, see Appendix B.

2) In calculating the unemployment rate that we use to haircut each loan's repayment cash flows, we adjust the forecasted official unemployment rate for typical changes in labour participation rates ("inactivity" rates) over a worker's lifetime. On average, inactivity rates[4] tend to vary with age and gender.[5] Typically, inactivity rates decline slightly as younger workers age and then rise more sharply as people approach retirement age.[6] We use slightly different adjustments for males and females based on historical observations.[7]

3) We reduce the debt outstanding in each period by a factor reflecting the likelihood that some borrowers might die, cancelling the remaining loan obligation and reducing future cash flows. The factor in each period is based on the borrower's age and gender. Mortality rate assumptions are based on publicly available mortality rate tables and typically range between 0% and 1.5% annually, increasing with age.[8]

4) We eliminate the remaining debt of any borrower whose loan reaches the cancellation date in our projections.

Prepayment

We may incorporate prepayments in our analysis to reflect historical prepayment patterns. The prepayment assumption is transaction-specific based on historical prepayment data received, but will likely be very low for seasoned loan pools. By definition, borrowers falling into unemployment group 4 will typically have insufficient earnings in our projections to generate any cash flows. Hence, any cash flows observed from historical data for this group will be classified in our analysis as prepayments.

Emigration

Borrowers who emigrate from the UK are responsible for the same ICR loan payments as borrowers who remain in the UK. However, since emigrants are outside the taxing authority of HMRC, they are responsible for making the payments on their own, and therefore it may be more likely that a disruption in payments occurs. Consequently, we reduce the outstanding debt balance in each period reflecting the likely emigration rate and the lower likelihood of repayment on loans of borrowers who emigrate. We rely on publicly available estimates of migration to inform our assumptions; generally, we expect that emigration rates will range between 0% and 1%, typically decreasing with age. However, emigration rates may increase due to changes in pool composition, as well as political or economic shocks. Consequently, we may adjust the base case or test the impact of political shocks via sensitivity analysis in the model. For borrowers who have already migrated and show a consistent pattern of payments, we may adjust our prepayment assumption up.

In Exhibit 5, we show the repayment profiles of a loan to borrowers in each of the four unemployment groups defined in Exhibit 3. We made the following assumptions to generate the amortisation vectors: (1) baseline scenario for real income growth and employment rate, (2) initial loan balance = £9.000, (3) borrower's age = 38 years, (4) initial borrower's salary = £27.000,[9] (5) Repayment Threshold = £16.910, (6) borrower's gender = male, and (7) prepayment rate = 0.1%; migration rate = 0% and mortality rate = 0%.

[4] The inactivity rate is the proportion of the population of working age who are not active in the market. It is calculated by dividing the inactivity level for those aged from 16 to 64 by the population for that age group. See "A guide to labour market statistics," Office of National Statistics, August 17, 2016, p.15, for a definition of the UK's inactivity rate.

[5] For more information, see Appendix C.

[6] The Labour Force Survey Inactivity curves are only available for select age groups; for age groups that are not provided, we interpolate the data between the age groups that are provided.

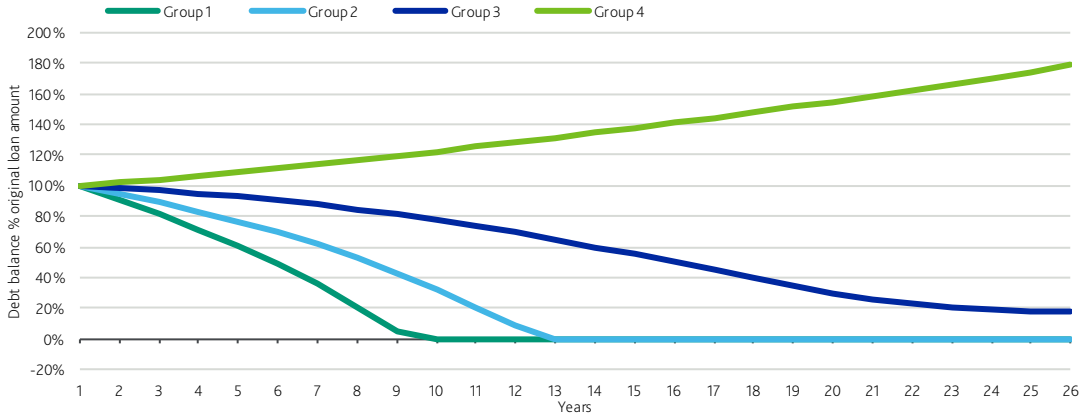
[7] Labour Force Survey – Office for National Statistics

[8] Source: Office for National Statistics

[9] In line with the average UK annual salary of full-time employees.

EXHIBIT 5

Example of Repayment Profiles by Unemployment Group – Case 1



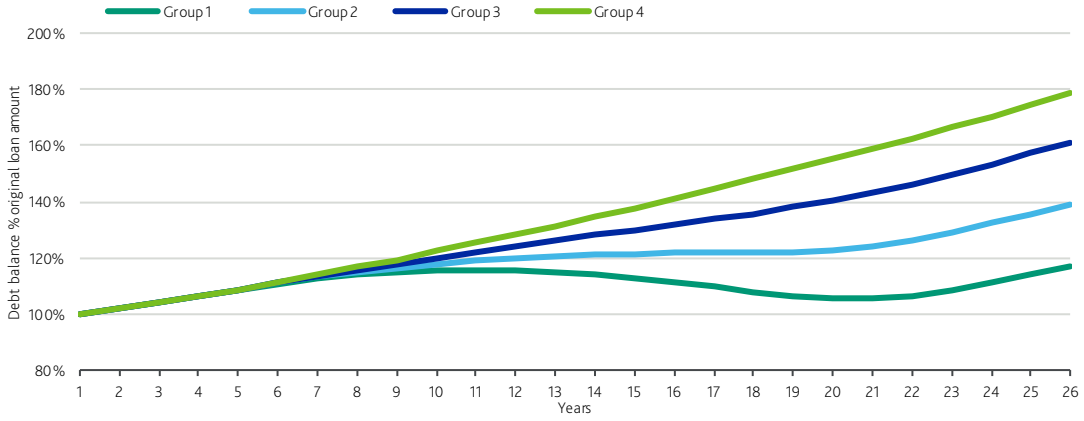
Source: Moody's Investors Service

Exhibit 5 shows that the borrowers in Groups 3 and 4 are unable to repay the debt (i.e., are unable to pay the debt balance down to 0%) before the loan is cancelled. The borrowers in Groups 1 and 2 repay the loan in full by years 10 and 13, respectively.

In Exhibit 6, we again show the repayment profiles of a loan to borrowers in each of the same four unemployment groups; however, in this case, we assume that the initial borrower's salary is equal to £16.000, i.e., just below the threshold. All other assumptions are the same as those described above and used in Exhibit 5.

EXHIBIT 6

Example of Repayment Profiles by Unemployment Group – Case 2



Source: Moody's Investors Service

Exhibit 6 shows that all the borrowers are unable to repay their debts. Only borrowers in Groups 1 and 2 are able to make some principal payments before the loans are cancelled.

Portfolio Losses in Base Case and Aaa-Stress Scenarios

The key model output from our analysis is the repayment cash flows for the portfolio, which is the sum of the repayment of each individual borrower. For an individual loan's loss, we calculate the difference between (1) the present value of the repayments for the loan and (2) the original loan balance. As outlined above, each borrower's repayment profile depends mainly on our assumptions regarding future real income

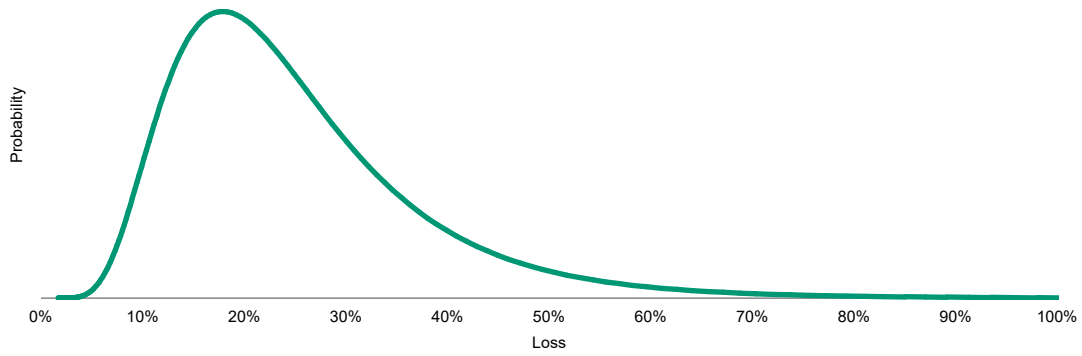
growth and the employment rate, which we adjust to consider age- and gender-related effects and macroeconomic factors.

Probability Distribution of Portfolio Losses

We use our assessment of the loan portfolio's baseline losses and Aaa-stress losses to derive a specific probability distribution of the portfolio's losses. The probability distribution is a curve that associates each potential loss scenario with its corresponding probability. For portfolios that are well-diversified, with relatively small, similar-sized loans, we typically assume the losses are lognormally distributed. Exhibit 7 below shows the general shape of the lognormal distribution curve.

EXHIBIT 7

Lognormal Distribution - Illustrative Example



Source: Moody's Investors Service

A specific lognormal loss distribution is defined by two loss points and their probabilities. We use the baseline loss and the Aaa-stress loss that we derived from our analysis of the loan portfolio – along with the probabilities that we assign to those scenarios – to derive the specific lognormal distribution for the portfolio we are analysing. Once we derive the specific probability distribution, we can then derive the probability of any loss scenario, which we use in the next step of our methodology.

Structural Analysis and Liability Modelling

In this section, we explain how we analyse the structural features of an ICR loan securitisation, including how we model and allocate cash flows to different classes of securities, taking into account asset cash flows and available credit support.

Cash Flow Model

Once we determine the probability distribution of the pool's losses, we calculate the losses, if any, that investors in each rated security would suffer in a multitude of portfolio loss scenarios. We calculate the investor losses using a cash flow model of the structure that represents the transaction's allocation mechanisms (i.e., the cash flow waterfall, triggers, etc.) and the size and availability of credit enhancement. In the modelling, we consider any mismatch between the interest rates on the securities and the loans, and the extent to which it is hedged. If a transaction is not fully hedged and there are no other structural mitigants, we generally stress the interest payable on the securities or apply a haircut to the available cash flows from the assets. For this purpose, we typically size the stress or haircut in accordance with the

principles in our approach to assessing the impact of linkage to swap counterparties,[10] with adjustments as necessary to address the nature of the unhedged risk.

Expected Loss Calculation

To determine the tranche's expected loss, the cash flow model calculates the loss to investors resulting from each portfolio loss scenario of the lognormal distribution and then weights each loss with the corresponding probability of the loss scenario. We combine the tranche's expected loss with an estimate of the tranche's average life to evaluate the model output with reference to Moody's Idealized Cumulative Expected Loss table.

Loss Benchmarks

In evaluating the model output for UK ICR student loan ABS transactions, we select loss benchmarks referencing the Idealized Expected Loss table[11] using the Standard Asymmetric Range, in which the lower-bound of loss consistent with a given rating category is computed as an 80/20 weighted average on a logarithmic scale of the Idealized Expected Loss of the next higher rating category and the Idealized Expected Loss of the given rating category, respectively. For initial ratings and upgrade rating actions, the upper-bound of loss consistent with a given rating category is computed as an 80/20 weighted average on a logarithmic scale of the Idealized Expected Loss of the given rating category and the Idealized Expected Loss of the next lower rating category, respectively. When monitoring a rating for downgrade, the upper-bound of loss is computed as a 50/50 weighted average on a logarithmic scale. That is, the benchmark boundaries of loss appropriate for evaluating rating category R are given by:

EXHIBIT 8

$$[1]\ Rating\ Lower\ Bound_R = exp\{0.8 \cdot log(Idealized\ Expected\ Loss_{R-1}) + 0.2 \cdot log(Idealized\ Expected\ Loss_R)\}$$

$$[2]\ Initial\ Rating\ Upper\ Bound_R = exp\{0.8 \cdot log(Idealized\ Expected\ Loss_R) + 0.2 \cdot log(Idealized\ Expected\ Loss_{R+1})\}$$

$$[3]\ Current\ Rating\ Upper\ Bound_R = exp\{0.5 \cdot log(Idealized\ Expected\ Loss_R) + 0.5 \cdot log(Idealized\ Expected\ Loss_{R+1})\}$$

Where:

- *Rating Lower Bound*$_R$ means the lowest Idealized Expected Loss associated with rating *R* and the expected loss range of rating *R* is inclusive of the *Rating Lower Bound*$_R$.
- *Initial Rating Upper Bound*$_R$ means the highest Idealized Expected Loss associated with rating *R* that is either initially assigned or upgraded and the expected loss range of rating *R* is exclusive of the *Rating Upper Bound*$_R$.
- *Current Rating Upper Bound*$_R$ means the highest Idealized Expected Loss associated with rating *R* that is currently outstanding and the expected loss range of rating *R* is exclusive of the *Rating Upper Bound*$_R$.
- *R-1* means the rating just above *R*.
- *R+1* means the rating just below *R*.
- The Rating Lower Bound for Aaa is 0% and the Rating Upper Bound for C is 100%. These are not derived using the formula.

Source: Moody's Investors Service

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

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

Other Considerations

Along with our asset, structural and liability analysis, we consider other quantitative and qualitative factors in our credit analysis such as transaction counterparties, legal risks, reliability and completeness of historical and portfolio data, country ceilings, and environmental, social and governance (ESG) considerations.

Counterparty Risks

We consider various counterparty-related risks at different stages throughout our credit analysis. More specifically, the risks we consider include hedge counterparties and operational risks.[12] Based on our review, we may adjust our assumptions, inputs or model results. If information is limited, we may also adjust the rating level.

Operational Risk

For any structured finance security, we evaluate the risk of disruption in the transaction's cash flows that could result from the non-performance of a third party, such as the master servicer, the servicer, cash manager, or trustee.[13] Because of the special structure of ICR loans - for which collections are conducted almost exclusively through the national tax system - our analysis focuses on any operational risk posed by SoS, HMRC and SLC.

SERVICING AND COLLECTION PRACTICES

As noted earlier, SLC, which is mainly owned by the Secretary of State for Education, is a delegate of the master servicer and responsible for servicing ICR loans. The majority of payments are made to HMRC, which transfers the loan data to SLC. SLC uses the data to reconcile borrowers' balances on an annual basis. We incorporate into our ratings our evaluation of SLC's and HMRC's capabilities with respect to servicing and collections. Furthermore, any changes to those practices could have an impact on our analysis.

Legal Risks

We assess legal risks that may affect the expected losses posed to investors. In particular, we consider the potential legal consequences of whether the issuer is bankruptcy remote. Our analysis focuses on the legal risks posed by the potential bankruptcy of the transaction's originator, securitisation entity, servicer, collections account bank and other relevant parties. We also assess consumer protection laws and regulations applicable to the consumer loan contracts, obligors and originators. We review legal opinions at closing to further inform our views on the key legal risks identified in a transaction.

Data Quality Evaluation

We assign ratings to securities issued by an ICR loan securitisation when we have sufficient information from reliable sources. Data quality is also important throughout the life of an ICR loan securitisation, as described in the "Monitoring" section. [14]

A key element of our portfolio analysis is an evaluation of the ICR loan characteristics. In analysing these characteristics, we rely on data provided to us. Consequently, our analysis depends on the extent to which the data are likely to provide an accurate representation of the asset characteristics. We perform a data

[12] 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.

[13] For more information on how we assess operational disruption risk, see our cross-sector methodology for assessing counterparty risks in structured finance. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

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

quality assessment on the data provided, including a review of third-party verification reports, if available, and a review of the representations and warranties for the transaction.

Local Currency Ceiling Considerations

ICR loans are originated under the laws of England, Scotland and Wales. Furthermore, the UK government is the originator, and the issuer is located in the UK. Consequently, an ICR transaction is exposed to the UK's systemic economic, legal and political risks, which could affect its ability to pay investors as promised. We usually incorporate sovereign risk in our analysis of ICR transactions by applying our local currency ceilings (LCC) in accordance with our sovereign ceiling methodology.[15] In particular, when generating our assumed portfolio loss distribution, we typically define the portfolio credit enhancement consistent with the highest rating achievable in the country (i.e., the LCC). A rating committee may also consider modifying appropriate assumptions or defining minimum credit enhancement levels required to achieve a particular rating.

Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of securities backed by a portfolio of ICR loans. We evaluate the risk following our cross-sector methodology that describes our general principles for assessing these ESG issues and may incorporate it in our analysis.[16]

Monitoring

In this section, we describe our approach when monitoring transactions.

Transaction Performance

In monitoring transactions, we generally evaluate the same factors that we incorporate into our original credit rating analysis. For transactions backed by ICR loans, our monitoring includes an assessment of the repayment performance of the loans compared to our initial expectations. For any performance that differs from expectations, we evaluate the factor or factors causing the deviation and assess the likelihood that the deviation will continue. The key factors in our evaluation include trends in national income levels, unemployment and emigration, and our updated macroeconomic forecasts of the unemployment rate and real income growth; any legal or regulatory issues that could affect ICR loan status; and the ability of SoS, SLC and HMRC to service and collect on the loans. We also consider updated data regarding the borrowers' income and unemployment status. When we update our macroeconomic forecasts for unemployment and real income growth, we periodically update our baseline assumptions.

We may incorporate all of the updated transaction information into a new loss distribution and use the resulting updated expected loss estimate – given the credit protection still available to investors to assess whether the ratings assigned to the transaction are still appropriate. Our evaluation of the credit protection considers both the current levels of credit enhancement as well as the transaction's structural features, such

[15] For more information, see our cross-sector methodology for assessing local currency country risk ceilings. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[16] 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.

as the cash allocation mechanics among the various classes of investors and the extent to which the transaction allows for the release of credit enhancement.[17]

In monitoring these transactions, we also take into account any developments regarding the servicer, swap counterparties, credit support providers, and any other important parties to the transaction, as changes in the performance or financial stability of any of the key parties could impact the transaction's future performance.

Pool Size

In assessing pool diversity for ICR student loan-backed securitisations, 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 the formula in Exhibit 9.

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

EXHIBIT 9

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

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 ICR student loans with the following characteristics:

» Transactions without support mechanisms, such as a credit enhancement floor or reserve fund floor, when the underlying pool 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.
» Transactions with a reserve fund or credit enhancement floor, which partially compensates for the increased exposure to single borrowers, when the underlying pool 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,[18] or for securities that benefit from full cash collateralisation.

[17] For example, in methodologies where models are used, modelling 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 undercollateralised tranches, or (6) a transaction has few remaining performing assets.

[18] 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.

Appendix A: Seasoned vs. Unseasoned ICR Loans

In this methodology, we focus on transactions backed by pools of seasoned ICR loans. Seasoned loans typically behave somewhat differently than unseasoned loans for the following reasons:

- Pools of recent graduates will on average show: (i) higher levels of non-payment, as the borrowers switch jobs relatively frequently and have lower starting salaries, and (ii) higher earnings growth in the first years of employment.
- It typically takes several years until borrowers reach their long-run income/employment status.
- Once higher-earning borrowers reach their long-run earnings levels, a relatively high percentage rapidly pay down their ICR loans. As a result, well-seasoned pools typically have higher concentrations of low-income or high-unemployment borrowers who have not had sufficient earnings to pay down their ICR loans.

Appendix B: Summary of Baseline and Aaa-Stress Scenario

The following shows indicative baseline and Aaa assumptions for real income growth, unemployment and the other assumptions in our analysis of transactions backed by ICR loans. We may adjust those assumptions depending on the portfolio-specific characteristics and our updated macroeconomic forecasts.

EXHIBIT 10

Indicative Baseline and Aaa Assumptions

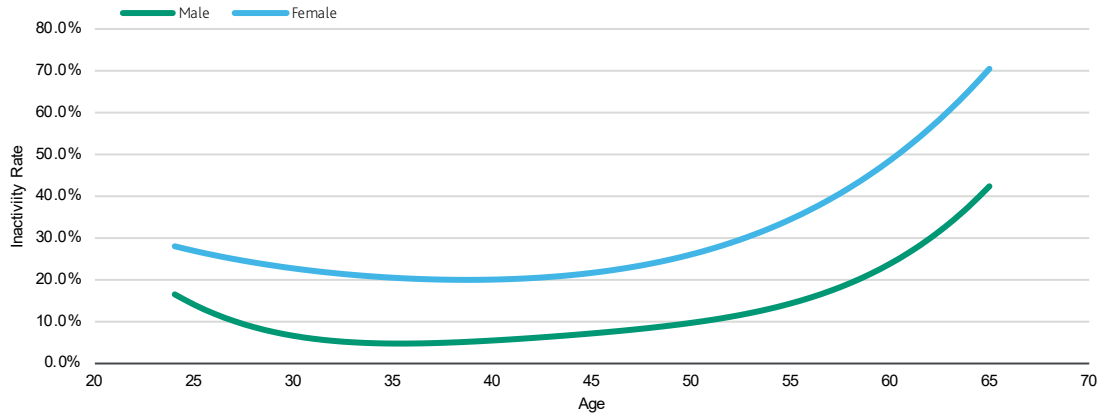
Assumptions	Baseline scenario	Aaa-Stress Scenario
Real Income Growth (RIG)	Our macroeconomic forecast updated on a periodic basis. We use a five-year macroeconomic forecast for the income growth. We generally assume the forecast for year 5 will continue in years 6-10. We take the average of our 10-year macroeconomic forecast and assume the average applies from year one until the final term of the collateral loans.	Y1: - 6.0% (sharp drop) Y2: 0.5*(-6%+ baseline RIG%) (50% recovery) Y3-Y21: linear reversion over 19-year period to baseline RIG
Employment	Our macroeconomic forecast updated on a periodic basis. We use our five-year macroeconomic forecast for the unemployment level. We generally assume the unemployment rate forecast for year 5 will continue in years 6-10. We convert the unemployment rate to an employment rate. We calculate the average of the 10-year employment rate. Baseline scenario is calculated as: -[(10-year average employment / employment rate at year 0) -1]. The stress is applied from year one until the final term of the collateral loans.	Y1: 20% decrease Y2-Y10: flat at 20% decrease Y11-Y20: reverts back to the baseline employment rate.
Other Assumptions	**These assumptions are the same for baseline and Aaa-stress scenarios**	
Prepayment Rate	Annualised rate based on historical observed rates.	
Mortality	Based on mortality tables published by the Office for National Statistics. Varies by borrowers' age and gender. Typically between 0% and 1.5% per year.	
Unemployment due to Age	Derived from the Labour Force Survey Inactivity Curve. Varies by borrower's age and gender.	
Income Adjusting Factor due to Age	Based on historical observed rates. Varies by borrower's age and gender. Typically between -15% to 25%.	
Migration	Based on historical observed levels. Typically between 0% to 1% per year.	

Source: Moody's Investors Service

Appendix C: Inactivity Rates by Gender and Age

EXHIBIT 11

Inactivity Rates by Gender and Age



Source: Labour Force Survey and Moody's Investors Service

Moody's Related Publications

Credit ratings are primarily determined through the application of sector credit rating methodologies. Certain broad methodological considerations (described in one or more cross-sector rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. A list of sector and cross-sector credit rating methodologies can be found here.

For data summarising the historical robustness and predictive power of credit ratings, please click here.

For further information, please refer to *Rating Symbols and Definitions*, which includes a discussion of Moody's Idealized Probabilities of Default and Expected Losses, and which is available here.

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