MOODY'S INVESTORS SERVICE

RATING METHODOLOGY

Tobacco Settlement Revenue Securitizations Methodology

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This rating methodology replaces *Tobacco Settlement Revenue Securitizations Methodology* published in November 2019. We added a footnote for further transparency on our approach to monitoring transactions, and we made limited editorial updates. The updates do not change the substantive approach of the methodology.

Scope

This methodology describes our approach to rating securitizations backed by future payments that certain tobacco manufacturers owe to various states and territories pursuant to a Master Settlement Agreement (the MSA).

Rating Approach

Asset Overview

On 23 November 1998, the attorneys general of 46 states, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the US Virgin Islands, American Samoa and the Northern Marianas (the states) entered into the MSA with the four largest domestic tobacco companies at that time: Philip Morris Inc., R.J. Reynolds Tobacco Company, Brown & Williamson Tobacco Company and Lorillard Tobacco Company (the original participating manufacturers, or OPMs).[1] Other tobacco companies have since joined the MSA (the subsequent participating manufacturers, or SPMs). The securitizations include payments made by all of the participating manufacturers, or PMs (i.e., both OPMs and SPMs).[2]

1 Since the signing of the MSA, both Brown and Williamson and Lorillard have merged with R.J. Reynolds.

2 The MSA settled litigation between the public entities and the major tobacco manufacturers and represented the resolution of a large potential financial liability of the tobacco industry for smoking-related health injuries. The MSA requires that tobacco manufacturers, among other obligations, make payments in perpetuity to the settling states and commit to more stringent advertising restrictions. In exchange for the payments and undertakings, the states agree to release the participating tobacco manufacturers from past, present and future smoking-related health claims.

Under the MSA, each PM makes cash payments to the states in specified amounts relative to its market share. The payments are subject to upward or downward adjustments that account for, among other things, inflation, changes in the volume of domestic cigarette shipments and a potential reduction in the aggregate market share of the PMs. The MSA specifies how to divide these payments among the states. In a tobacco settlement securitization, a state transfers its rights to those payments to a special purpose vehicle (the issuer) for the benefit of investors in the securitization.

Our analysis focuses on the following key risks in tobacco settlement securitizations:

» The risk that PM payments will be insufficient to make bond payments to investors, due to declines in domestic cigarette shipments, market share declines or the bankruptcy of one or more of the major PMs

» The risk that the transfer of the settlement cash flows from the public entity to the special purpose vehicle will be revoked at some point in the future

» The risk that the bankruptcy of a public entity will interrupt the cash flows to the special purpose vehicle

» The risk that the special purpose vehicle becomes bankrupt, disrupting cash flows to investors

Our ratings reflect both quantitative and qualitative considerations. We use Monte Carlo simulation to model a wide variety of potential future scenarios of MSA payments. For each class of rated securities, the model allocates these payments according to the transaction's priorities of payments and determines the frequency of defaults, any losses in the payment of interest or principal and the resulting decline in yield resulting from these losses.

We analyze the model output by matching the calculated average yield reduction to our benchmarks for each rating category.[3]

In a second step, we also analyze the model outputs across tranches based on the highest rate of annual decline in cigarette shipments at which each tranche would fully amortize without a payment default, i.e., the breakeven lifetime rate of annual decline in cigarette shipment (the "breakeven rate of decline"). This is then compared to our indicative ranges of breakeven rates of decline generally associated with corresponding ratings levels (as well as with levels observed in other comparable tobacco transactions). The analysis of breakeven rate of declines is an important factor in the overall rating analysis of the transaction.

We determine our final ratings by combining the model outputs with our qualitative assessment of legal and operational risks of the transaction. 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 the quantitative assessments described above, our rating committees also consider other qualitative and quantitative factors in our analysis. If 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. A rating committee ultimately assigns our ratings, taking into account the unique characteristics of each transaction.

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

[3] For more information, see the discussion of Internal Rate of Return Reduction 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 Modeling

Future Settlement Payments Under the MSA

The MSA specifies a base annual payment amount that the OPMs in aggregate must make for each year, as Exhibit 1 shows. However, that base amount is subject to a number of adjustments, based principally on the future inflation rate, the volume of cigarettes the PMs shipped domestically each year and the PMs' market share. Consequently, in evaluating risks to a transaction, we analyze how each of those factors could affect future MSA settlement payments. In addition to these adjustments, we lower the calculated total payment amount by 3% to cover miscellaneous deductions and offsets, including the offset for miscalculated or disputed payments from prior years, the Federal Tobacco Legislation offset[4] and the deduction for payment defaults by bankrupt PMs. We apply this additional reduction to account for the deductions and offset that the National Association of Attorneys General (NAAG) does not consistently disclose, and that we do not include in our other modeling assumptions.

Furthermore, the actual aggregate amount paid by the OPMs depends on whether any of them default on a payment obligation under the MSA. If an OPM defaults, the aggregate amount due (the sum of all payments due from the OPMs) is reduced by the amount of the payment missed by the defaulting OPM. The MSA obligations are several, but not joint obligations of the OPMs, which means there is no requirement for the other OPMs to make up for defaulted amounts. Therefore, we incorporate the risk of default by each of the OPMs in our assessment of the risk of the transaction, as we describe in Appendix 6.

In addition to the aggregate amount the OPMs must pay to the states each year, the MSA specifies that each SPM must make settlement payments that depend on its market share. The SPMs' payments are subject to a slightly different formula than the OPMs' payments. Consequently, in analyzing the transaction, we include an assessment of future market shares for the SPMs based on the data reported by NAAG and other market participants.

EXHIBIT 1

MSA Base Payment Schedule*

Year	Initial Payments	Annual Payments	Strategic Contribution Payments**
1999	$2,400,000,000		
2000	$2,472,000,000	$4,500,000,000	
2001	$2,546,160,000	$5,000,000,000	
2002	$2,622,544,800	$6,500,000,000	
2003	$2,701,221,144	$6,500,000,000	
2004-2007		$8,000,000,000	
2008-2017		$8,139,000,000	$861,000,000
2018 +		$9,000,000,000	

* OPMs make all three types of payments; SPMs are exempt from the initial payments.

** Strategic Contribution Payments: In addition to the Annual Payments, the MSA requires that the PMs make additional payments of $861 million per year for 10 years, from 2008 to 2017.

Source: Moody's Investors Service

[4] An offset equal to the amount by which any newly enacted federal statute would cause the tobacco companies to pay funds that are then made available to the states.

Inflation Rate Adjustment

Under the MSA, the PMs' payments include an inflation adjustment. The base annual payments will increase by the greater of 3% or the actual year-over-year change in the Consumer Price Index for All Urban Consumers for December. The inflation adjustment compounds annually. We describe in Appendix 2 the current inflation adjustment assumption used in our model.

Volume Adjustment

The MSA uses the number of cigarettes shipped to the US domestic market in 1997 as the base point for the volume adjustment to the MSA payments. For subsequent years, the MSA payments will either increase or decrease relative to the 1997 shipments of cigarettes in the US domestic market.

We evaluate historical information and recent trends in domestic cigarette shipments to derive future shipment volume assumptions we deem consistent with different rating levels; typically, for higher-rated securities we use an assumption that base shipments will decline more sharply than in the assumption used for lower-rated securities. We then simulate shipment projections for each year using an assumed probability distribution of annual percentage changes in cigarette shipments. In the probability distribution, we incorporate our assessment of the potential volatility to our base shipment assumptions by adjusting the variance of the distribution and the range of possible values in the distribution.[5]

NPM Adjustment

The PMs' payments under the MSA could serve as a competitive disadvantage for the PMs relative to the non-participating manufacturers (NPMs) and could lower the PMs' market shares. To mitigate that risk, each state that signed the MSA has enacted its version of a model statute requiring the NPMs to make payments into an escrow account roughly equal to the payments otherwise required under the MSA had the NPMs participated.

The MSA provides for a reduction in the required annual payments by an individual PM as a result of the NPM adjustment if the following three conditions apply:

1) The PMs' aggregate market share falls by more than two percentage points from the market share in 1997.
2) A nationally recognized economic consulting firm determines that provisions of the MSA were a "significant factor" in the loss of market share.
3) A state failed to "diligently enforce" its version of the model statute or the statute is declared invalid or unenforceable.

If the first two conditions of the NPM adjustment have been met, the third condition, "diligent enforcement," must be determined by an arbitration panel, a process that can result in a long lag before the resolution of the NPM adjustment. In the interim, the PMs can reduce their payments to the states by the amount of the NPM adjustment (either by depositing it into an escrow account or withholding it), pending an arbitration panel's determination.

The MSA links the amount of the NPM adjustment to a reduction in the PMs' market share from the 1997 market share. Upon the diligent enforcement decision, only those states that have not diligently enforced their respective versions of the model statute during a specific year will be subject to the payment reduction by the amount of the NPM adjustment for that year. The MSA requires the allocation of this reduction

[5] See Appendix 3 for a description of our current assumptions about the base assumptions and the probability distribution.

among the "non-enforcer" states in proportion to their allocable shares. The reductions can be significant, and in some cases could reduce the PMs' payment to a state to zero for a given year.

Conversely, the states that are found to have diligently enforced the statutes will recover 100% of their share of the NPM adjustment withheld or escrowed by the PMs.

In a December 2012 settlement of disputes over NPM adjustments from 2003-12 involving certain states and territories and PMs, the calculation of future NPM adjustments for the states and territories that joined the settlement agreement was altered.

An October 2015 settlement of disputes over NPM adjustments from 2004-14 between New York State and the PMs incorporated new offsets for the PMs, which will be applied to the future annual payments owed to New York State. Appendix 4 outlines the changes to the calculation of the NPM adjustment and the terms of payment of the disputed amounts.

We assess the likely impact of the NPM adjustment, as well as the new settlement offsets on future cash flows for both the states and territories that entered into the December 2012 and the October 2015 agreements (the "settling states"), as well as those that did not settle their NPM adjustment disputes (the "non-settling states"). We provide details of that analysis in Appendix 5.

PM Bankruptcy Risk and Impact on Future Settlement Payments

The bankruptcy of a PM could cause a disruption to, or loss of some or all, the settlement payments the PM owes at the time of bankruptcy. We quantify that risk by imputing a probability of default for each of the largest tobacco companies from its rating, and by using that default probability in each cash flow run to simulate whether each company defaults each year. We also incorporate an assumption about the market share and, therefore, the payment obligation of the bankrupt PM, the length of the disruption in the defaulted company's payments and the amount and timing of any recovered payments. We list our assumptions in Appendix 6.[6] As part of our analysis, we assess whether a transaction would have sufficient liquidity to make the required bond payments in the event the bankruptcy court imposed a temporary stay on payments by the bankrupt PM until the court had time to sort out the claims by the company's creditors.

Future Settlement Payment Simulations

Since the amounts of future settlement payments under the MSA are subject to some uncertainty, we determine a probability distribution of the main factors, including cigarette shipments and the bankruptcy of the largest PMs, which can affect future settlement payments for each year of a transaction.

The base payments established by the MSA serve as the foundation for the Monte Carlo simulations. We adjust the base payments by factoring in assumed values for the inflation adjustment. We then simulate a number of scenarios for the volume adjustment and for the impact of potential defaults by the largest PMs. We base the simulation of the volume adjustment on an assumed probability distribution whose mean and variance we derive from our analysis of historical trends in cigarette shipments, as provided by NAAG. Our simulation of the impact from potential defaults by the largest PMs is based on the probability of default we impute from their ratings and market shares. We then adjust the simulated payments in each scenario by factoring in the 3% adjustment for miscellaneous items as well as the NPM adjustment. Appendices 1, 2, 3, 5, and 6 describe our assumptions.

[6] For a discussion of the legal risks arising from the bankruptcy of a PM, see the "Legal Implications of a Potential Tobacco Company Bankruptcy" section.

Structural Analysis and Liability Modeling

Cash Flow Model

We use a cash flow model of the transaction to calculate in each settlement payment scenario the funds available for the required payments to each class of rated securities. The cash flow model takes into account the following:

» Liability structure of the transaction, including the interest rates on the liabilities

» Priorities of cash flow and loss allocations among the various parties in the transaction, including the different classes or tranches of bonds

» How triggers can change those allocations

» Credit enhancement, such as reserve funds, available to provide protection to the various classes of bonds

» Interest earned on funds on deposit in the transaction's accounts, such as the collection account and any reserve accounts[7]

Model Output Analyses

Monte Carlo Simulation Output

For each Monte Carlo simulation of the cash flow model, we record whether a default has occurred and, if so, how much of a loss each rated tranche has incurred. The model calculates the loss for each tranche. In addition, the model converts the losses in each simulation into a reduction to the internal rate of return (IRR) an investor would suffer on each tranche and averages the internal rates of return across the multiple simulation scenarios. We then map the average reduction in the IRR to our benchmarks for each rating level.[8]

Breakeven Rate of Decline

We test the reasonableness of the results and the consistency of the ratings across tranches and across transactions by calculating, for each tranche, the maximum, constant rate of annual decline in cigarette shipments at which the tranche would amortize by maturity without a loss. We then compare the breakeven rate of decline for the security to our base case shipment decline assumption (Appendix 3). We expect similar tranches with similar ratings to have roughly similar breakeven rates of decline. Tranches that can withstand rates of annual decline in cigarette shipments significantly higher than our expected breakeven rates of decline will generally carry higher ratings.

The three primary factors that determine a bond's breakeven rate of decline are its leverage, term to maturity, and the availability of cash reserves. Transactions with high leverage (i.e., with a high ratio of debt to MSA revenue), lower cash reserves, or bonds with longer maturities have a weaker capacity to withstand a steady, prolonged decline of cigarette shipment volumes.

Exhibit 2 provides illustrative ranges of breakeven rates of decline generally associated with different rating levels.

7 For more information, see Appendix 7.

8 For more information, see the discussion of Internal Rate of Return Reduction in *Rating Symbols and Definitions* (a link can be found in the "Moody's Related Publications" section) and in the "Loss Benchmarks" section.

The ratings generally associated with the ranges of breakeven rates of decline, as provided in Exhibit 2, are analyzed in conjunction with the model output from the Monte Carlo simulations. The analysis of the breakeven rates of decline is an important factor in the credit analysis of the overall transaction.

EXHIBIT 2

Illustrative Breakeven Rate of Decline Ranges in Cigarette Shipments Generally Associated with Various Rating Levels

Ratings	Breakeven Rate of Decline
Aaa	Payment certainty irrespective of future tobacco shipment volumes
Aa	>40%
A	15-40%
Baa	8-15%
Ba	5-8%
B and lower	<5%

Source: Moody's Investors Service

Loss Benchmarks

In rating tobacco settlement revenue securitizations, we use an Internal Rate of Return benchmark when assessing the model output. Modeled IRR reductions are associated with benchmark ratings in Moody's IRR Reduction Rates table,[9] which indicates the internal rate of return reduction interval associated with each given rating level.

Other Considerations

Legal Analysis

Among the main elements of our legal analysis of a tobacco settlements transaction are assessments of the following:

» Irrevocability of the transfer of settlement cash flows from the state, county or other municipality to the legally separate entity that will issue the securities

» Insulation of the transaction from the effects of a transferor's bankruptcy

» Bankruptcy remoteness of the entity that will issue the securities

» Legal risks posed by a PM bankruptcy

» Potential legal challenges to any subsequent settlements entered into between the states and the PMs

Irrevocability of the Transfer

One of the risks in a tobacco settlement transaction is that the sponsor (i.e., the state, county, city or other entity receiving the settlement payments) could at some point change the terms of transfer of the tobacco settlement payments to the transaction's issuer and claim some or all the payments for its own benefit, to the detriment of bondholders. In assessing that risk, we examine the irrevocability of the transfer of the tobacco settlement payments, whether the transfer was established by statute or some other means, and whether the language describing the transfer was clear and unambiguous.

9 For more information, see the discussion of Internal Rate of Return Reduction in *Rating Symbols and Definitions*. A link can be found in the "Moody's Related Publications" section.

Insulation from Sponsor Bankruptcy

If the sponsor of a securitization became bankrupt, the creditors of the entity could make a claim on the cash flows from the settlement payments, which, if successful, could lead to a disruption in payments to bondholders. Therefore, we assess how well the transaction is insulated from a potential bankruptcy of the sponsor, focusing on the following factors:

» Does the sponsor have a legal basis to become a debtor under the bankruptcy code? Some types of transaction sponsors (e.g., states) cannot become debtors under the bankruptcy code; however, the bankruptcy code permits others (e.g., counties, cities and other public entities) to become debtors. Consequently, we assess whether the entity has a legal basis to become a debtor under the bankruptcy code and, if it does, whether other protections in the transaction mitigate that risk.

» Is the legal separateness of the transferor and the issuer clearly established, and is the sale of the tobacco settlement payments structured as an arms-length transaction, protecting the issuer from consolidation with the sponsor, and the transaction from potential re-characterization as a secured financing, in the event of the sponsor's bankruptcy?

» Does the transaction have sufficient cash reserves to protect against a disruption to payments in the event of an "automatic stay" (i.e., temporary suspension of payments) upon a PM's bankruptcy filing?

In an event of a bankruptcy filing by a PM, the bankruptcy court could stay all the payment obligations of the PM. We examine how much the transaction's reserves can mitigate the risk of an interruption of payments to investors because of a stay.

Bankruptcy Remoteness of the Issuer

As in other securitizations, the bankruptcy of an issuer raises the possibility that creditors outside the securitization might make a claim on the securitization assets or that the cash flows to investors will be subject to an automatic stay and be delayed through the bankruptcy filing. An issuer with a very low likelihood of bankruptcy – one that is "bankruptcy remote" – mitigates that risk.

Our analysis of the likelihood of an issuer bankruptcy focuses on two main factors: (i) the likelihood that a third-party creditor will successfully petition the owner of the assets into an involuntary bankruptcy proceeding; and (ii) the likelihood that the owner of the assets will voluntarily seek the protection of the bankruptcy courts. In tobacco settlement securitizations, the issuer is typically organized by the states and counties under the not-for-profit corporation law of the state or established as a state instrumentality, and it therefore cannot be forced into involuntary bankruptcy. In these cases, bankruptcy issues are limited to voluntary bankruptcy.

For transactions in which involuntary bankruptcy is a possibility, we assess the characteristics that mitigate the risk, such as any charters or authorizing legislation of the issuer requiring that the issuer:

» have no assets other than the tobacco settlement payments

» have no other indebtedness beyond the securitization debt

» cannot engage in activities that could give rise to contractual or other liabilities

» cannot change its business purpose or amend its articles of incorporation

We also assess any limitations on the issuer's responsibility to pay expenses. Similarly, factors that can mitigate the risk of a voluntary bankruptcy include (i) charter documents of the owner of the assets requiring that directors be independent of the affiliated company, and (ii) a unanimous vote of the directors as a condition to filing a voluntary bankruptcy.

Legal Implications of a Potential Tobacco Company Bankruptcy

Two major risks arise from a PM's bankruptcy. First, all or part of the amount owed under the MSA by the bankrupt PM at the time of the bankruptcy could be lost if the PM is ultimately unable to make the payment. We describe our analysis of this risk in Appendix 6. Second, the bankruptcy court could consider the MSA an "executory contract." In such a scenario, the bankrupt manufacturer would have the choice of one of three main alternatives:

» Accept the MSA and pay the required ongoing payments

» Reject it and lose the benefits provided by the MSA

» Attempt to renegotiate the MSA's terms and conditions

If a manufacturer were to successfully reject the MSA, payments to bondholders could be reduced because the bankrupt entity would effectively become an NPM and would no longer have a payment obligation under the MSA. For that risk to be realized, however, a series of events would need to occur:

» The bankruptcy of a PM

» The retention of a significant market share (and payment obligation) by the PM prior to bankruptcy

» The failure of a state to take action to cause the bankrupt PM to affirm the MSA

To analyze the magnitude of the risk of a manufacturer successfully rejecting the MSA, we assess the likelihood of bankruptcies of the largest PMs, the likely impact that an impending bankruptcy would have on the market share (and therefore, the payment obligation) of a PM, and the likelihood that the state would not take action to cause the bankrupt PM to affirm the MSA. We describe our assumptions about these factors in Appendix 6.

Potential Legal Challenges to Current Settlements

A number of states that did not join the 2012 settlement agreement term sheet, pursuant to which a final settlement agreement was executed at the end of 2017, challenged its legality and enforceability. In subsequent years, the courts dismissed many of these claims. Although further attempts to overturn either settlement are not likely to be successful, the potential impacts of any reversals would be negative to the settling states' securitizations.

Monitoring

We generally apply the key components of the approach described in this methodology when monitoring transactions, except for those elements of the methodology that could be less relevant over time. More specifically, we examine the likelihood that the tobacco settlement revenue is sufficient to meet the debt service payments and fully amortize the bonds by their respective final maturity dates. We assess the effects of any market developments that could affect future tobacco settlement revenue, such as cigarette shipment volume trends, and evaluate the implications of any material deviations of actual revenues from our previous expectations. In addition, we monitor the debt service coverage ratio (DSCR) for each rated bond, accounting for the specific definition of debt service in each transaction, and the interest coverage ratio (ICR), which provides a uniform view of all transactions.

We typically review the updated level of cigarette shipments periodically and review our expectations about future cigarette shipment volumes. If updated information results in us materially revising our expectations, we typically rerun our cash flow simulations incorporating the new expectations. In addition, we typically recalculate the breakeven rates of decline for each rated tranche to make sure that tranches with similar ratings have roughly similar breakeven rates of decline.

News that could affect future tobacco settlement revenue could prompt us to revise modeling assumptions and conduct additional cash flow analyses. We also monitor MSA-related litigation, outstanding NPM adjustment disputes and regulatory developments, and adjust our modeling assumptions and qualitative analyses as needed.[10]

[10] 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 undercollateralized tranches, or (6) a transaction has few remaining performing assets.

Appendix 1: OPM and SPM Market Share Assumptions

Each OPM and SPM owes MSA payments to the states severally, but not jointly, based on their shares of the domestic cigarette market. SPMs pay pursuant to a slightly different formula than the OPMs under the MSA. We therefore make assumptions about market shares of OPMs and SPMs. The remaining market share is allocated to NPMs.

We base our market share assumptions on our view of the US tobacco industry, as well as publicly available information, including any market share disclosures by NAAG. In addition, because the required payment per cigarette shipped is higher for the OPMs than for the SPMs, we may assume a lower-than-expected market share for OPMs and a higher-than-expected market share for SPMs, which provides a net stress to the overall net payments.

Appendix 2: Inflation Adjustment Assumptions

The MSA provides for an upward adjustment of annual payments to account for inflation. The adjustment is equal to the greater of 3% or the actual year-over-year change in the Consumer Price Index for All Urban Consumers (CPI) for December, compounded annually.

We assume a 3% inflation adjustment on future annual MSA payments, compounded annually, for the life of the transaction. This is subject to change according to market conditions, or other factors.

Appendix 3: Volume Adjustment Assumptions

To generate the cigarette shipment volumes throughout the life of the transaction in each scenario, we start with the latest available cigarette shipment figures from NAAG. We then simulate each year's percentage change in cigarette shipments, using an assumed probability distribution of annual percentage changes in cigarette shipments.

We assume the probability distribution is a truncated normal distribution. Our assumptions for the mean percentage change, the standard deviation and the truncation levels can differ based on the rating of the transaction, as Exhibit 3 shows.

EXHIBIT 3
Shipment Volume Assumptions

	Mean Annual Percentage Change in Cigarette Shipments (Base Case)	Standard Deviation	Upper Bound of Cigarette Shipment Decline	Lower Bound of Cigarette Shipment Decline
Assumptions for Tranches Rated Below A3 (sf)				
1st and 2nd years	-4.00%	5.00%	-2.00%	-9.00%
3rd and subsequent years	-4.00%	5.00%	0.00%	-11.00%
Assumptions for Tranches Rated A3 (sf) and Higher				
1st and 2nd years	-4.00%	5.00%	-2.00%	-10.00%
3rd and subsequent years	-4.00%	5.00%	-1.00%	-15.00%

Source: Moody's Investors Service

Appendix 4: NPM Adjustment for the Settling States

Since the signing of the MSA, there have been two subsequent settlements that we take into consideration.

In the December 2012 settlement agreement term sheet, pursuant to which a final settlement agreement was executed at the end of 2017, a number of states and territories (the joining states) and the PMs settled their NPM adjustment dispute for 2003-12. The settlement they signed also sets forth new formulas and procedures for the NPM adjustment for the joining states, starting with the 2013 sales year.

Our cash flow analyses reflect the following elements of the settlement. The settlement provided that the joining states receive 54% of the disputed amount, with the PMs receiving the remaining 46%. The PMs will receive their share in the form of offsets against their future MSA payments from 2013-17, with 50% of the offsets credited against the 2013 MSA payment and the remaining offsets evenly distributed among the 2014-17 MSA payments. As additional states join this settlement or a settlement with similar terms, the cash flow modeling would follow the assumptions applied for joining states.

In October 2015, New York State and the PMs settled their NPM adjustment dispute for 2004-14 and set forth new formulas and procedures for the calculation of future NPM adjustments starting with the 2015 sales year. Our cash flow analyses reflect the following elements of the New York State settlement.

The settlement provided that (i) New York receive 100% of the amounts held in the Disputed Payments Account ("DPA"), as attributable to the 2004-14 NPM Adjustments, in April 2016, and (ii) the PMs would receive some specific offsets against their future MSA payments beginning with the 2016 payment. The offsets vary based on the year settled. Offsets applied in years 2017-2019 will include interest accrued at the prime rate from 2016. Exhibit 4 provides details on the offset amounts.

EXHIBIT 4

New York Settlement Offset Year of Allocation

Offset Category	General	SET-PAID NPM Adjustment	Other Payments (specifically Non-SET-Paid Tribal NPM Adjustment)	
Years Settled	Prior to 2011	2015+	2011-2014	2015+
Agreed Upon Offset	approx. 10% of Funds in DPA Account	3*escrow amt. If subject to safe harbor provision, then 0.	approx. $90mln in each year (based on 150 mm Tribal NPM Pack assumption per settlement agmt/year along with $0.60 credit)	Based on Schedule from Settlement Agreement for non-SET-paid Tribal NPM Sales
Payment Date Offset Applied	4/15/2016	4/15/2017+	4/15/2016 - 4/15/2019	4/15/2017+

Source: New York State Tobacco Settlement Agreement

NPM Adjustment Calculations for the Settling States

The NPM adjustment settlements base the NPM adjustment calculation for the settling states on two categories of cigarette sales by the NPMs: (1) cigarettes on which state excise taxes were paid (SET-paid NPM adjustment), and (2) cigarettes on which no such taxes were paid (non-SET-paid NPM adjustment per the December 2012 settlement or non-SET-paid Tribal NPM Adjustment per the October 2015 settlement). In the 2015 settlement, the non-SET-paid Tribal NPM adjustment will be based on future volumes of cigarettes sold on tribal land to non-tribe members (Tribal NPM packs).

SET-paid NPM Adjustment

Both the December 2012 and the October 2015 settlements introduced an NPM adjustment based on the number of SET-paid NPM cigarettes sold in each state for which NPMs have not deposited the required escrow amount, specified in the state's version of the model statute. The SET-paid NPM adjustment is equal to three times the per-cigarette escrow deposit rate for each SET-paid NPM cigarette sold in a state, for NPMs that have not deposited escrow amounts. A settling state will not be subject to this adjustment if the escrow amounts were properly deposited for at least 96% of all SET-paid NPM cigarettes sold in that state, or if the number of SET-paid NPM cigarettes sold in that state for which escrow was not deposited did not exceed 2 million (the Safe Harbor provision).

For example, if: (1) a state's escrow deposit rate is $0.02 for each NPM cigarette; (2) 300 million of SET-paid NPM cigarettes are sold in that state during the year; and (3) the state did not collect escrow on 25% of the 300 million SET-paid NPM cigarettes (i.e., 75 million cigarettes), then the SET-paid NPM adjustment will be calculated according to the following formula:

FORMULA 1

$$\textit{SET-paid NPM adjustment} = 3 \times 300 \text{ million} \times 25\% \times \$0.02 = \$4.5 \text{ million}$$

Source: Moody's Investors Service

The SET-paid NPM adjustment is not subject to the diligent enforcement standard. Therefore, there will be no arbitration proceedings. The SET-paid NPM adjustment amounts will be subject to repayment by the PMs to the extent that the NPMs deposit the escrow amounts during subsequent years. We expect the amount of these repayments will be small, and they will not have a material impact on the credit quality of the bonds.

Non-SET-paid NPM Adjustment

According to the December 2012 settlement agreement term sheet, pursuant to which a final settlement agreement was executed at the end of 2017, the non-SET-paid NPM adjustment will be applied starting with sales year 2015. The MSA NPM adjustment formula does not change for the non-SET-paid NPM adjustment. However, if a joining state is found to be non-diligent in enforcing its version of the model statute, its liability will be reduced relative to the MSA approach by the percentage of the NPM cigarettes on which SET was paid. This reduction will take place after an arbitration panel determines the states' diligent enforcement of their respective versions of the model statute, i.e., 10 or more years after the application of the non-SET-paid NPM adjustment. For example, if a state is found to be not diligent in enforcing the statute in 2010, its non-SET-paid NPM adjustment liability would have been reduced by approximately 90% in 2020 or later.

The PMs have agreed to either withhold or escrow only 50% of the amount in dispute each year, pending the diligent enforcement determination, down from the original MSA allowance of 100%. This will benefit the securitizations because the funds that previously would have been withheld will be used to reduce the outstanding principal bond balances.

The October 2015 New York settlement agreement provides for an additional payment offset to the annual payments due to New York by the PMs that is linked to Tribal NPM pack sales. This offset was applied starting with the April 2016 payment date, and for future years it will be based on future non-SET-paid Tribal NPM pack sales, as well as the agreed-upon schedule of offsets for each non-SET-paid Tribal NPM pack sold, as listed in Exhibit 5 We will refer to this offset as the non-SET-paid Tribal NPM sales adjustment for New York State.

EXHIBIT 5

Tribal NPM Pack Schedule of Offsets

Volume of Tribal NPM Pack per Year (from min to max)		Amount per Tribal NPM Pack
0	< 50M	$0.47
50M	< 75M	$0.54
75M	< 100M	$0.60
100M	< 125M	$0.67
≥ 125M		$0.70

Source: New York State Tobacco Settlement Agreement

For the 2015 sales year and subsequent years, the non-SET-paid Tribal NPM sales will be determined every two years by an independent investigator chosen by both New York and the PMs.

Appendix 5: NPM Adjustment Assumptions

To reflect the settlement of the NPM adjustment dispute by certain states, we maintain two sets of the NPM adjustment assumptions: one for the settling states, and one for the non-settling states.

NPM Adjustment Assumptions: Settling States

SET-paid NPM Adjustment Assumptions

As we mentioned in Appendix 4, the calculation of the SET-paid NPM adjustment is made by each state according to the following formula and subject to the Safe Harbor provision:

FORMULA 2

SET-paid NPM adjustment =
3 x [escrow deposit rate x number of NPM SET-paid cigarettes for which no escrow was deposited]

Source: NPM Adjustment Settlement Agreement

We make the following assumptions about the state-specific variables in this formula:

- Escrow deposit rate: the actual escrow deposit rate for each state
- Number of SET-paid cigarettes: historical data on the tobacco tax revenue collected by that state, as reported by the US Census Bureau's Annual Survey of State and Local Government Finances and project expected annual volume rate
- Number of NPM SET-paid cigarettes: the number of SET-paid cigarettes multiplied by either of the following:
  - a state-specific rating committee assessment of the future NPM market share in the state, for states that provide their historical NPM market share information
  - a rating committee assessment of the future national average NPM market share, based on historical information from NAAG,[11] for states that do not provide information on NPM market share in the state
- Number of SET-paid NPM cigarettes with no escrow deposited:
  - a rating committee assessment for the states that provide information on their historical escrow deposit rates
  - 25% of NPM SET-paid cigarettes
- Duration of the NPM adjustment: the life of the transaction

Non-SET-paid NPM Adjustment Assumptions

Apply the original MSA NPM adjustment formula starting with the sales year of 2015:

FORMULA 3

NPM adjustment = 3 x [(1997 aggregate PM market share – 2%) – actual aggregate PM market share]

Source: MSA

11 In the absence of the state-specific information, NAAG is the only source of the NPM market share information.

We make the following assumptions about the NPM adjustment for states that joined the December 2012 settlement term sheet agreement, pursuant to which a final settlement agreement was executed at the end of 2017:

» NPM adjustment: 13% (based on historical information from NAAG)

» Portion of the NPM adjustment withheld from immediate payment to states: 50% (i.e., we assume the other 50% will be paid to the states in the year of the NPM adjustment)

» Diligent enforcement determination: future arbitration panels ultimately determine that the states are diligent in enforcing their versions of the model statute. Therefore, the states recover the amounts withheld with a lag

» Lag to determination of diligent enforcement: generally 15-20 years, depending on the timing of arbitration panel decisions

» Duration of the NPM adjustments: life of transaction

We make the following assumptions about the NPM adjustment for New York State per the October 2015 settlement:

» NPM adjustment: for 2011-14 sales years, 150mm of non-SET-paid Tribal NPM pack sales per year; for 2015 and subsequent sales years we will project future non-SET-paid Tribal NPM pack sales, as described below

» Diligent enforcement determination: New York is unlikely to be subject to the diligent enforcement standard. Therefore, there will likely be no arbitration proceedings

» Lag to determination of diligent enforcement: Not applicable

» Duration of the NPM adjustments: life of transaction

The volume of non-SET paid Tribal packs is a significant factor in the determination of the amount of cash available to the state, and subsequently to the New York tobacco settlement bonds. Therefore, as part of the proposed updates, we will run both a base and stress scenarios in order to project the future non-SET paid Tribal NPM Adjustment, and will also look at information provided by New York State as well as the independent investigator in order to adjust future expectations. Future non-SET-paid Tribal NPM Sales:

» Base case scenario: 150 million packs per year, decreasing annually at the same rate as our assumption for the yearly volume decline of cigarette shipments. We will update this scenario each year that New York provides information with respect to the credit calculated by the independent investigator.

» We will run additional scenarios to test the resiliency of ratings to stresses to this assumption.

We derive our base and stress case assumptions from our assessment of New York's cigarette related statutes,[12] past court decisions upholding the state's right to collect taxes on cigarette sales made on reservations to non-Indian tribe members,[13] and evidence of enforcement of the collection of taxes on Tribal NPM cigarettes.[14] New York State has been highly incentivized since the 2009 recession to enforce the collection of taxes on Tribal NPM cigarettes, and we believe the state will continue to have high incentives to do so in order to continue receiving its annual share of the MSA payments.

[12] The Family Smoking Prevention and Tobacco Control Act and the Prevent all Cigarette Trafficking Act

[13] 2011 United States Court of Appeals Second Circuit's unanimous decision

[14] 2013 settlement with the Oneida tribe regarding the collection of state excise taxes on cigarettes sold by the tribe to non-tribal members

NPM Adjustment Assumptions: Non-Settling States

- We assume states that sponsored securitizations and were found to be diligent in 2003 will be found to have been diligent in the subsequent years. Therefore, we expect those states to recover 100% of their withheld NPM adjustments in past and future years, based on our analysis of the arbitration panel's decisions for 2003.
- We assume the NPM adjustment in future years will be 13%.
- We assume the states will recover the withheld amounts with a lag. The lag is 15 to 20 years, depending on the timing of the arbitration panel decisions.
- We assume the NPM adjustment lasts for the life of deal.

Appendix 6: Potential Bankruptcy of a PM Assumptions

Our cash flow analysis includes simulations of the potential bankruptcies of the largest PMs. The simulations are based on the default probabilities we impute from the companies' ratings. When we simulate a company as having defaulted, we make the following assumptions:

» The company does not make its required payment the year it files for bankruptcy.

» In the year following the bankruptcy, the company makes a payment equal to 30% of the MSA payment that it owed but failed to pay in the year it filed for bankruptcy. However, if the company is an SPM, we assume zero recovery on the defaulted MSA payment.

» The company resumes making its required payments in the year following the bankruptcy.

» In accounting for the potential bankruptcies of the PMs, we incorporate their ratings along with the imputed default probabilities and market share assumptions. We will adjust our market share assumptions if there is a significant shift in the PMs' market share.

Appendix 7: Reinvestment Rate Assumptions for Debt Service Reserve Account and Collection Account

Generally, we assume a 0.50% per annum reinvestment rate on funds deposited in the cash accounts of the transactions starting in the current year, increasing the rate by 0.25% annually up to a cap of 2.00% per annum. We might assume a higher reinvestment rate on any cash accounts, including the debt service reserve account and the collection account, if the rate is guaranteed as part of the transaction documents by a guarantee counterparty of sufficiently high credit quality.

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For data summarizing 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 Internal Rate of Return Reduction, and which is available here.

Report Number: 1221864

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