RATING METHODOLOGY
24 July 2024

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Rating Methodology

# US Public Finance Special Tax Debt

This rating methodology replaces the *US Public Finance Special Tax Methodology* published on January 26, 2021. We have narrowed the scope of this methodology and maintained the current rating approach. We have also made editorial changes to enhance readability.

For additional information, please see the related Request for Comment, published on January 16, 2024, and Results of Consultation, published on July 24, 2024.

## Scope

This methodology applies to special tax debt instruments in the US that are not an obligation of a US state, territory, city, county or K-12 public school district. Special tax obligations are debt instruments secured by a pledge of taxes other than real property taxes (e.g., sales taxes), including fees, transaction-based charges, allocations or disbursements the entity receives, and similar types of revenue (collectively, special taxes).

Special taxes also include excise taxes; tourist-related taxes and fees (tourist development, hotel/motel, rental car, meals); income and occupational taxes; utility user taxes; gas taxes and motor vehicle user fees; stadium-related and convention development taxes; real property transfer taxes or mortgage fees; court fines and fees; mandatory assessments on payrolls, insurance policies, or other non-property based taxes; and disbursements or fixed payment allocations of any of the above from a higher level of government.

This methodology also applies to instruments that are supported by a pledge of special tax revenues assigned by multiple governments or an independent special purpose entity that is not governed by a US state, territory, city, county or K-12 public school district, or where the independent special purpose entity is controlled by multiple governments.

Also rated using this methodology are special tax instruments that are an obligation of a related entity of a US state, territory, city, county or K-12 public school district, but where the entity has independent decision-making powers over operations. These powers include borrowing, the independent authority to levy and collect the pledged revenues or meaningful operating risk (defined as a measurable and reasonable expectation that operating stress could result in additional leverage on the instrument or a potential disruption of cash flow or bankruptcy in the event of severe operating stress) beyond what is reflected in the issuer rating, such as a mass transit enterprise.

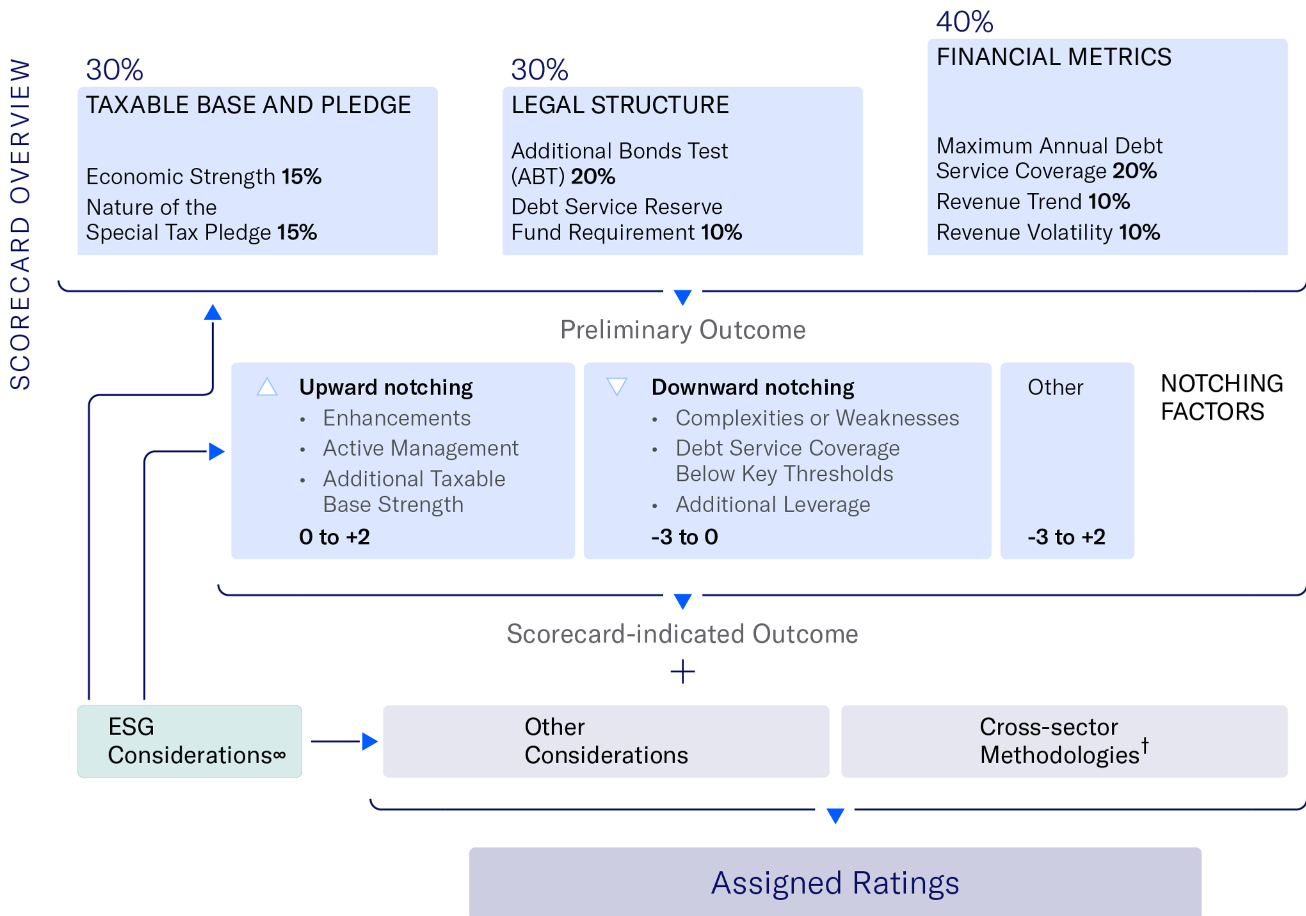
This methodology also applies to special tax instruments where the credit profile of a US state, territory, city, county or K-12 public school district is not a highly relevant driver for the instrument. For example, the special tax pledged to the debt instrument is levied on a narrow project area with a significantly smaller economic base than the state, territory or local government entity; such as a tax levied on sales from one shopping center.

This methodology does not apply to special tax debt instruments that we rate in relation to an issuer rating of a US state, territory, city, county or K-12 public school district. This methodology also does not apply to bonds secured by dedicated property assessments.[1]

## Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of special tax bonds issued in the US public sector and rated using this methodology, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Exhibit 1
**Illustration of the US public finance special tax debt methodology framework**




∞ Environmental, social and governance (ESG) considerations, including, where available, our opinions of exposure to them as expressed in Issuer Profile Scores (IPSs), may affect scorecard factors and other considerations outside of the scorecard. For more information, see the "Other considerations" section.
† Some of the methodological considerations described in one or more cross-sector methodologies may be relevant to ratings in this sector. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
*Source: Moody's Ratings*

## US public finance special tax debt scorecard

For general information about how we use the scorecard and for a discussion of scorecard mechanics, please see the "Using the scorecard to arrive at a scorecard-indicated outcome" section. The scorecard does not include or address every factor that a rating committee may consider in assigning ratings in this sector. Please see the "Other considerations" and "Limitations" sections.

Exhibit 2
**US public finance special tax debt scorecard**

| | Weight | Aaa | Aa | A | Baa | SG |
|---|---|---|---|---|---|---|
| Factor: Taxable Base and Pledge (30%) | | | | | | |
| Economic Strength | 15% | Very strong and very well-diversified economic base with solid growth OR PCI/MFI is 200% or greater of national median for primarily residential bases. | Strong and well-diversified economic base with solid growth OR PCI/MFI is 125%-200% of national median for primarily residential bases. | Developed and reasonably diversified economic base with average growth OR PCI/MFI is 75%-125% of national median for primarily residential bases. | Small to evolving economy with modest diversification and some concentration with slow to declining growth OR PCI/MFI is 50%-75% of national median for primarily residential bases. | Deteriorating economic base with very little diversification or significant concentration with declining growth OR PCI/MFI is 50% or below of national median for primarily residential bases. |
| Nature of the Special Tax Pledge | 15% | Very Broad (e.g., sales, utility, income, and gas taxes, motor vehicle registration fees; fixed payments from the state depending on state's rating). | Broad (e.g., sales, utility, income, and gas taxes, motor vehicle registration fees; fixed payments from the state depending on state's rating). | Average (e.g., sales, utility, income, and gas taxes, motor vehicle registration fees). | Narrow (e.g., hotel, car rental, meals, lottery, liquor, and cigarette taxes). | Very Narrow (e.g., document stamp, hotel, car rental, meals, lottery, liquor, and cigarette taxes). |
| Factor: Legal Structure (30%) | | | | | | |
| Additional Bonds Test (ABT) | 20% | 3.0x or higher OR a closed lien | 1.76x - 2.99x | 1.26x - 1.75x | 1.0x - 1.25x | NO LIMIT |
| Debt Service Reserve Fund Requirement | 10% | DSRF funded at level greater than 1-year of MADS. | DSRF funded at 1-year of MADS. | DSRF funded at lesser of standard 3-prong test. | DSRF funded at level less than 3-prong test or a springing DSRF. | NO DSRF (or DSRF funded with low-rated to below-investment-grade surety provider). |
| Factor: Financial Metrics (40%) | | | | | | |
| Maximum Annual Debt Service Coverage | 20% | Over 4.5x | 2.51x - 4.5x | 1.51x - 2.5x | 1.1x - 1.5x | Less than 1.1x |
| Revenue Trend | 10% | Significantly improving with one to no historic declines. | Generally improving with few historic declines. | Stable with some historic declines. | Declining. | Rapidly Declining. |
| Revenue Volatility | 10% | Has never declined. | Negative fluctuations generally within 0% to 5%. | Negative fluctuations generally within 5% to 10%. | Negative fluctuations generally within 10% to 15%. | Negative fluctuations greater than 15%. |
| Preliminary outcome | | | | | | |

| Notching factors (-3 to +2 notches) |
| --- |
| Upward notching |
| Enhancements |
| Active Management |
| Additional Taxable Base Strength |
| Other |
| Downward notching |
| Complexities or Weaknesses |
| Debt Service Coverage Below Key Thresholds |
| Additional Leverage |
| Other |
| Scorecard-indicated outcome |

*Source: Moody's Ratings*

## Sector overview

A special tax bond rating using this methodology is primarily based on the type of security pledged, the legal structure and protections provided to bondholders and the debt service coverage. The underlying strength of the taxable base is a key scorecard factor.

There are two broad types of special tax bonds:

» Instruments secured by a pledge of special tax receipts specifically dedicated for capital or a specific project or purpose. These special tax revenues are passive in nature, and the cash flows are likely to be highly leveraged, with lower debt service coverage ratios given their intended nature as a capital financing vehicle. These bonds have a closed loop flow of funds, whereby excess cash flows are restricted for specific uses by the issuing government. The restricted use of these funds could be viewed positively as they add liquidity and could be used for early bond redemption.

» Instruments secured by a pledge of special taxes that are co-mingled with a government's operations. These special tax revenues are also passive in nature, but the cash flows are usually less leveraged, with traditionally high debt service coverage ratios in order to yield material excess revenues needed to support general government operations. Thus, these bonds typically have an open loop flow of funds, allowing for excess cash flows to be distributed to the issuing government after debt service is paid. In instances where special taxes are not a large revenue source for the government (typically less than 30% of operating revenue), the government is not likely to maintain higher coverage ratios to ensure an adequate amount of excess cash for operations from this special tax revenue source.

Special tax bonds typically have a basic level of legal protection that includes a defined revenue pledge (gross or net), an additional bonds test limiting the issuance of future parity debt, a debt service reserve fund, and a defined flow of funds, typically administered by a third party, with monthly segregation of collected special tax revenues in an amount equivalent to at least one-sixth of the upcoming semi-annual interest payment and at least one-twelfth of the annual principal payment.

Most special tax bonds are distinguished by some important limitations, including the passive and leveraged nature of the dedicated special tax, the limited nature of the security pledge and limited bondholder recourse.

Some entities use certain special taxes, such as sales and income taxes, as the primary sources of debt repayment for general capital purposes instead of using general obligation property tax bonds, either because special taxes do not require voter approval or because they are designated to be repaid from taxes and fees on the users of the projects funded with the bonds.

## Discussion of the scorecard factors

In this section, we explain our general approach for scoring each scorecard factor or sub-factor, and we describe why they are meaningful as credit indicators.

### Factor: Taxable Base and Pledge (30% weight)

**Why it matters**

The type of special tax pledge and the strength of the taxable base on which it is levied drives an entity's ability to generate special tax revenues to meet debt service costs. This factor provides important indications of the intrinsic strength of the taxing jurisdiction's revenue base.

*Economic Strength*

Economic strength is based on the taxable base's diversity, size, breadth, stability and growth potential, as well as an assessment of the area's socioeconomic indicators.

Socioeconomic indicators are key for primarily residential areas because they provide an indication of the entity's ability to generate future pledged special tax revenues. Socioeconomic indicators include population and unemployment trends, per capita income (PCI), and median family income (MFI).

*Nature of the Special Tax Pledge*

The nature of the special tax pledge is important because it differentiates the relative strength of the tax being pledged based on essentiality (i.e., what is being taxed), as well as historical tax revenue volatility through economic cycles and expectations for future performance.

**How we assess it for the scorecard**

*Economic Strength*

In considering a special tax pledge, we review the geographical base's size and composition from which the revenue is derived. We assess the economic size of the taxable base by the jurisdiction's population and current full (or market) property valuations for local governments. We also consider whether a diverse mix of industries exists to support job growth, tax base stability or growth, and a range of primary revenue streams for an entity. Greater stability in tax revenues typically occurs where it is imposed across a larger base, where it is less likely that one economic event will affect all payers simultaneously as compared to a smaller geographic base. We typically score tourist-based taxes similar to the broader local economy, unless there is notable concentration among actual taxpayers in the area (i.e., few hotels).

*Nature of the Special Tax Pledge*

In assessing the nature of a special tax pledge, we consider that stronger special tax pledges (sales, income and utility taxes) are levied on more essential items or consumer-based services. Stronger special tax pledges are also typically applied broadly and are more resilient during economic downturns compared with more volatile tourist-based taxes (hotel/motel, car rental and meals) and taxes related to real estate transactions, such as home sales (documentary stamp and transfer taxes), which may decline significantly in a short period. The number of special taxpayers or taxable transactions is also a key consideration. Special taxes levied statewide or countywide are stronger than those levied in a smaller city or village, given the larger taxable bases and typically score higher for this sub-factor.

We assess the various types of special tax pledges below. We use Very Broad to Average categories for sales, income and gas taxes or motor vehicle registration fees, given the strengths referenced above. Narrow is typically reserved for tourist-related (hotel/motel, meal, rental cars) and liquor and cigarettes taxes, while Very Narrow is mostly associated with real estate transactions, given their volatility in various economic cycles. We also apply the Very Narrow category in in certain circumstances on tourist, liquor and cigarette taxes, typically where they are based on economic activity in a small geographic area.

### Factor: Legal Structure (30% weight)

**Why it matters**

The legal structure provides important indications of bondholder safeguards that provide a buffer against non-payment during periods of economic disruption or a short-term interruption of revenues. In establishing the legal structure, issuers often seek to balance a desire to derive maximum benefit from the pledged special tax revenues (by leveraging them and retaining access to excess revenues during the life of the pledge) with maintaining adequate bondholder protections.

Additional bonds tests are meaningful to credit quality. These tests in the legal documents stipulate certain criteria that must be met for the entity to issue parity bonds in the future. Such tests are typically designed to ensure that the revenues available to repay the original bonds, and any current and proposed parity bonds, will be sufficient.

Debt service reserve fund (DSRF) requirements can also have a meaningful impact on the credit quality of special tax bonds. The passive and highly leveraged nature of many special taxes coupled with the vulnerabilities associated with economic cycles and potential delays or disruption in the collection cycle highlight the importance of the debt service reserve in the legal structure. Cash-funded, full-year reserve fund requirements are stronger than “springing reserves,” which are funded only when debt service coverage drops below a prescribed level.

**How we assess it for the scorecard**
Scoring for this factor is based on two sub-factors: the Additional Bonds Test; and Debt Service Reserve Fund Requirement.

*Additional Bonds Test*

In instances where the special tax legal structure allows for the issuance of future parity debt, we consider the level of the additional bonds test (ABT). Highly leveraged special tax pledges with a low additional bonds test typically result in a lower score for this sub-factor compared with a modestly leveraged special tax pledge that does not allow for the issuance of additional parity bonds.

We typically also consider whether the ABT is applied historically versus only prospectively. A historical application is more conservative given that prospective ABT's usually assume revenue growth. However, when special tax revenues are in decline, applying the ABT historically is less conservative than a prospective ABT, given the higher historical performance relative to current and projected performance. We typically score ABT in the scorecard at its defined level and may make notching adjustments (see *Notching Factors*) based on our view of the level of projected performance.

*Debt Service Reserve Fund Requirement*

The scorecard ranks the relative strength of the debt service reserve funding requirements, recognizing the industry norm of the lesser of the standard three-prong test (i.e., 10% of initial principal, maximum annual debt service, or 125% of average annual debt service). We typically score this sub-factor at its defined level.

We also typically score DSRFs that are backed by an investment-grade surety bond equal to a cash-funded reserve fund, on the view that the liquidity available is comparable.

## Factor: Financial Metrics (40% weight)

**Why it matters**
Financial metrics provide important indications of the volatility and likely direction of special tax revenues.

A key financial ratio used is the maximum annual debt service (MADS) coverage ratio. MADS coverage indicates to what extent future peak debt service can be covered from the current year's pledged revenues. This is a particularly important ratio for newly levied special tax pledges that have a limited collection history or those that have an ascending debt service schedule over many years.

Historical and projected revenue trends and revenue volatility are also meaningful to credit strength. Given the volatile nature of most special taxes, the pledged revenues typically experience multiple economic cycles, which can increase or decrease pledged revenues over the typical life of the bonds.

**How we assess it for the scorecard**
*Maximum Annual Debt Service (MADS) Coverage*

We calculate MADS coverage by dividing the current year's collected and legally available pledged special tax revenues by the largest single year future principal and interest debt service payment on all outstanding parity bonds. For subordinate lien bonds, we calculate coverage based on total pledged revenues divided by combined senior and subordinate debt service.

In cases where an ascending debt service schedule requires future revenue growth for full debt repayment and MADS coverage is 1.1x or lower, we consider whether the issuer's revenue growth assumptions are reasonable. If we project a high likelihood of sufficient future revenue growth, we typically apply upward notching (see *Notching factors*) to offset or lessen the impact of the low MADS coverage score. We consider interest rates on variable rate special tax bonds on a case-by-case basis and typically incorporate a reasonable assumption of a fixed interest rate compared with current and historical short-term market rates. We also consider hedging arrangements where they exist, including counterparty credit quality and transaction terms.

*Revenue Trend and Revenue Volatility*

We consider special tax performance trends during past economic cycles to assess elasticity and project future performance. We consider revenue volatility based on the magnitude of historical revenue declines. Large one-year declines or large sequential year peak-to-trough declines typically result in a lower score on volatility than multiple consecutive modest declines because they indicate

greater volatility and the higher possibility of a revenue shock within a short period. In assessing the longer-term revenue trend, we consider both the magnitude of the annual declines as well as the number of consecutive years in which the declines occur.

## Notching factors

The scorecard contains notching factors. Our assessment of the notching factors may result in upward or downward adjustments to the preliminary outcome that results from the three weighted factors. We apply this adjustment in half-notch increments, typically with an aggregate maximum of two alphanumeric notches up and three down from the preliminary scorecard-indicated outcome to arrive at the scorecard-indicated outcome.

In cases where we consider that the credit weakness or credit strength represented by the notching factors, or by these factors in aggregate, is greater than the scorecard range, we incorporate this view into the rating, which may be different from the scorecard-indicated outcome. For a discussion of scorecard mechanics, please see the "Using the scorecard to arrive at a scorecard-indicated outcome" section.

### Upward notching

- **Enhancements**: We expect a certain amount of basic legal bondholder protection, as discussed above, but additional elements may result in greater bondholder protection. In such cases, we may adjust the scorecard-indicated outcome to reflect the additional credit strength of the enhancement. One example of an enhancement is where special taxes are collected by the state and legally structured whereby the state pays a local entity's full year's debt service payment from first-in special tax receipts directly to a trustee prior to any distribution to the entity. Additional liquidity in the form of other dedicated reserves not required by the bond indenture may also provide greater bondholder strength if the balances have been stable to growing in the past and are expected to remain stable in the future.
- **Active Management**: The ability to raise a special tax rate relatively quickly, coupled with a history of doing so, provides additional credit strength as it is unusual for the sector. We assess the process to raise rates and the political will to do so, noting that rate increases requiring constitutional or legislative oversight are considered less likely than those requiring the approval of only the local entity. We typically apply a one-half notch uplift for the ability to raise the rate relatively quickly and a full notch uplift for a demonstrated willingness or a legal requirement to do so (see Appendix B regarding Adjustable Assessment bonds). We also consider legislative changes that increase the rate or breadth of the pledge and the ability and willingness to attach additional pledged securities to the bonds, which may result in upward notching.
- **Additional Taxable Base Strength**: While the first sub-factor of the Taxable Base and Pledge factor in the scorecard captures the general economic strength of the taxable base, it does not always adequately capture the regional importance of some issuers for shopping and services, the tourist draw some tax bases have and the relative stabilizing presence of university and government institutions. These attributes draw additional people into a tax base, resulting in higher special tax revenues than would otherwise be collected from residents within the base. Regions anchored by universities or a significant government presence such as state capitals, are often better able to weather economic downturns. We may apply one notch of uplift to credits with notable additional strength, whereas a one-half notch of uplift may be applied to regionally important economic centers.

  **Other**: There may be other potential notching factors that do not fall into one of the above categories, and we may adjust the scorecard-indicated outcome accordingly. For example, we may consider a voter-approved cap on the issuance of additional bonds to strengthen bondholder protections, especially if the ABT is low and we consider the legal limitation to mitigate the low ABT. In such a case, we may apply upward notching to offset the impact of a low ABT score. Also, a debt service reserve is of less importance for issuers that score "Very Strong" for Economic Strength and Debt Service Coverage and have minimal likelihood of revenue disruption. In these cases, we typically apply upward notching to offset a low DSRF requirement score.

Downward notching

» **Complexities or Weaknesses**

- **Subordinate lien**: In addition to typically receiving a lower MADS coverage score on the scorecard, we typically also apply a downward notch for a subordinate lien pledge, due to its lower position in the obligor's flow of funds. An exception to this may be made if the senior lien has been closed to additional issuance and the outstanding senior debt is relatively small or limited in tenor.
- **Release of pledges**: In cases where more than one special tax secures the rated bonds, there sometimes exists the potential to release a special tax pledge after a specified period if certain coverage levels are maintained. The significance of this release provision depends on how much the released pledged revenue stream factored into the original outcome and how the release affects projected debt service coverage. If the release would detract from the overall credit (e.g., remove a more reliable or substantial revenue stream in favor of a weaker one) then the release provision itself could warrant a notching adjustment downward.
- **Complex debt structure with notable swap and variable rate exposure**: Most special tax bonds are issued as fixed-rate long-term bonds with level debt service payments over the life of the bonds. However, some have been issued as variable rate demand obligations and may have associated swaps to hedge the interest rate risk. Such a debt structure introduces additional risks, including counterparty, basis, liquidity facility rollover and market disruption risks that are not as easily managed due to the passive nature of most special taxes. We may also consider a rising amortization schedule that requires significant tax receipt growth to be riskier than the scorecard factors indicate. We may determine that such debt structures warrant downward notching to reflect these additional risks.
- **Appropriation risk**: In atypical structures, special tax bonds do not have an absolute and unconditional pledge of payment from the special tax receipts but require the issuer or a related government to appropriate annually in its budget an amount sufficient to pay bondholders. We may apply one downward notch for this appropriation risk, with additional notches for less essential projects. The presence of appropriation risk would limit the rating of a special tax bond to no higher than one notch below that of the appropriating government's general obligation or issuer rating.
- **Refinancing risk**: If there is a significant amount of debt with a bullet maturity (including balloon payments and "put" bonds) requiring refinancing prior to final debt maturity, we may consider applying one or more downward notches, depending on the extent of the refinancing risk.
- **State allocation risk**: In some instances, the special tax is collected at the state level and distributed to the underlying local entities according to a formula. Some states have the ability to lower these distributions in times of state budgetary stress, as has occurred on occasion in past economic downturns. In this instance, we consider that bondholders are more protected in states where the state has explicitly stated that it can only reduce distributions to underlying entities to a level that would not impair the protection of the bondholders (i.e., a non-impairment clause). In states without non-impairment clauses, where the risk of lower distributions is present or rising, we may apply one or more downward notches.
- **Lack of monthly segregation**: An assumed basic level of bondholder protection for most indenture-governed special tax bonds is the monthly segregation of pledged receipts in an amount equal to at least one-sixth of the next bond semi-annual interest payment and at least one-twelfth of the next bond annual principal payment into an account held by a third-party trustee. The lack of this type of monthly segregation may result in an adjustment downward by one notch, depending on the history of management distributing funds in a timely manner to meet payment obligations. If the special tax credit has "Very Strong" MADS coverage (typically 2.51x or higher), we may only apply a one-half notch downward adjustment. Quarterly segregation may also result in only a one-half notch downward adjustment. The timing of debt service payments should allow for a reasonable period of delay and fund accumulation.

» **Debt Service Coverage below Key Thresholds**

 – **MADS coverage below additional bonds test**: An early sign of fiscal stress appears when the maximum annual debt service coverage ratio (MADS coverage) falls below the legally stated additional bonds test (ABT). We typically apply downward notching of one or more notches if the calculated MADS coverage is below the ABT.

 – **MADS coverage below 1.0 and/or draw on debt service reserve fund**: When the MADS coverage falls below 1.0 or there is a draw on the debt service reserve fund or other funds are used to pay debt service, we typically apply downward notching of one or more notches, depending on the magnitude of the draw, likelihood of replenishing the reserve, the likelihood of a rebound in the MADS coverage, or the long-term recovery rate expected on the bonds.

» **Additional leverage**: Where the Additional Bonds Test does not adequately capture the potential additional leverage of a special tax pledge, we may adjust downward to account for an expected dilution of bondholder protection.

» **Other**: There may be other potential notching factors that do not fall into one of the above categories, and we may adjust the scorecard-indicated outcome accordingly. Some identified factors that may result in a downward adjustment may include:

 – Revenue concentration from a few special taxpayers;

 – The special tax requires reauthorization or expires or sunsets prior to bond maturity;

 – The use of other reserves or funds besides the pledged DSRF to pay debt service;

 – Prospective additional bonds test;

 – A weakening competitive position likely to notably erode revenues;

 – Mass transit system operating risk;

 – GARVEE bond reauthorization risk (see Appendix A).

## Other considerations

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors can include the quality of financial reporting; the quality and experience of management; assessments of environmental, social and governance considerations, and possible interference from other levels of government. Regulatory, litigation, liquidity and technology risk, as well as changes in demographic and macroeconomic trends, can also affect ratings.

The following are examples of additional considerations that may be reflected in our ratings and that may cause ratings to be different from scorecard-indicated outcomes.

### Environmental, social and governance considerations

Where environmental, social and governance (ESG) issues are meaningful for credit profiles, we incorporate them into our ratings analysis in a variety of ways in the application of our sector-specific methodologies. As one part of our overall credit analysis, we consider how ESG considerations could affect the qualitative and quantitative factors and sub-factors in the scorecard.

Even where ESG considerations do not affect the measures in the scorecard, or where they cannot be quantified, we incorporate them into our overall analysis of credit drivers that are meaningful to the rating. As a result, we may incorporate these ESG risks qualitatively outside of the scorecard. As part of our ratings analysis, we may establish Issuer Profile Scores (IPSs), which indicate our opinion of the extent to which a given issuer is exposed to E, S and G risks (incorporating ESG-specific mitigants) or benefits from its exposure to E, S or G. The IPSs are inputs to credit ratings. For more information, please see our methodology that describes our general principles for assessing ESG risks.[2]

### Relationship of special tax ratings and general obligation ratings

In nearly all cases where an issuer has both a general obligation and special tax rating, the special tax rating is at or below the issuer's corresponding general obligation rating, given the strength of the full faith and credit pledge backing the general obligation rating.

We only assign a special tax rating that is higher than the general obligation rating where the pledged special tax revenue stream is legally separated from the entity's general credit.

State governments can achieve legal separation by constitutionally dedicating the pledged revenues or through the legal divergence of the pledged revenue away from the state, thus precluding the state from accessing the revenues for its general operations. Local governments achieve legal separation similarly through legal divergence and may also require special state level legislation to create a special purpose entity to which the state treasurer diverts first-in revenues until the year's debt service payments are fully or substantially set aside prior to distributing any revenues to the local government.

Where special tax ratings exceed general obligation ratings, the general obligation rating is also typically lower than would otherwise be indicated by the strength of the economy and tax base alone. This usually occurs in cases where an issuer's economic base is large, diverse and mature, but the general obligation rating is constrained by weak finances, management or governance issues.

Where investment-grade special tax ratings exceed their corresponding general obligation rating, they are typically no more than two notches above the general obligation rating, although there can be cases where the difference is greater. We do not explicitly limit the number of notches by which a special tax rating can exceed its general obligation rating. However, the more the special tax revenue stream is tied to the general economy, the less the extent of rating separation between the special tax and the general obligation ratings. The extent of any separation between special tax and general obligation ratings is typically based on idiosyncratic considerations that are specific to the issuer or its pledges.

### Financial controls

We rely on the accuracy of audited financial statements to assign and monitor ratings in this sector. The quality of financial statements may be influenced by internal controls, including the proper tone at the top, centralized operations, and consistency in accounting policies and procedures. Auditors' reports on the effectiveness of internal controls, auditors' comments in financial reports and unusual restatements of financial statements or delays in regulatory filings may indicate weaknesses in internal controls.

### Management strategy

The quality of management is an important factor supporting an issuer's credit strength. Assessing the execution of business plans over time can be helpful in assessing management's business strategies, policies and philosophies and in evaluating management performance relative to performance of competitors and our projections. Management's track record of adhering to stated plans, commitments and guidelines provides insight into management's likely future performance, including in stressed situations.

### Additional metrics

The metrics included in the scorecard are those that are generally most important in assigning ratings to entities in this sector; however, we may use additional metrics to inform our analysis of specific entities. These additional metrics may be important to our forward view of metrics that are in the scorecard or other rating factors.

### Event risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness, which may cause actual ratings to be lower than the scorecard-indicated outcome. Event risks — which are varied and can range from natural disasters, sudden changes in state law or regulation, material litigation, pandemics or cybercrime events — can have a material credit impact on even a stable special tax issuer.

## Using the scorecard to arrive at a scorecard-indicated outcome

### 1. Measurement or estimation of factors in the scorecard

In the "Discussion of the scorecard factors" section, we explain our analytical approach for scoring each scorecard factor or sub-factor,17F and we describe why they are meaningful as credit indicators. When a factor comprises sub-factors, we score at the sub-factor level. Some factors do not have sub-factors, in which case we score at the factor level.

The information used in assessing the sub-factors is generally found in or calculated from information in the company's financial statements or regulatory filings, derived from other observations or estimated by Moody's analysts. We may also incorporate non-public information.

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends of an issuer's performance, as well as for peer comparisons. Financial metrics,18F unless otherwise indicated, are typically calculated based on an annual or 12-month period. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more.

Financial metrics may incorporate analytical adjustments that are specific to a particular special tax issuer or issuance.

### 2. Mapping scorecard factors to rating categories

After estimating or calculating each factor or sub-factor, each outcome is mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, and Speculative Grade, also called alpha categories). For example, we specify what level of maximum annual debt service coverage is generally acceptable for an Aa-rated compared with an A-rated credit. Each sub-factor is mapped in the scorecard separately.

### 3. Determining the overall scorecard-indicated outcome

To arrive at the scorecard-indicated outcome, each of the assigned scores for the sub-factors is converted into a numeric value based on the following scale:

Exhibit 3

**Numeric equivalents for qualitative factor and sub-factor scores**

| Aaa | Aa | A | Baa | SG |
|---|---|---|---|---|
| 1 | 2 - 4 | 5 - 7 | 8 - 10 | 11 - 21 |

*Source: Moody's Ratings*

Each sub-factor's numeric value is multiplied by its assigned weight and then summed to produce a composite weighted average score. This score is then mapped to the ranges specified in the table below, and a corresponding alpha-numeric outcome is determined based on where the total score falls within the ranges. This scorecard-indicated outcome is then adjusted up or down, in minimum half-notch increments, for applied notching considerations. A half-notch adjustment up or down may not necessarily result in a rating change, depending on the raw scorecard-indicated score.

Exhibit 4

**Scorecard-indicated outcome**

| Scorecard-Indicated outcome | Overall weighted score |
|---|---|
| Aaa | 0 to 1.9 |
| Aa | 1.91 to 4.9 |
| A | 4.91 to 7.9 |
| Baa | 7.91 to 10.9 |
| Ba to C | 10.91 to 21 |

*Source: Moody's Ratings*

The mapping scale is based on the assumption that the raw score for most credits will be investment grade, consistent with historical experience, and that below investment grade credits are those with prior investment grade ratings that have been downgraded primarily due either to extraordinary circumstances or significantly underperforming tax receipts leading to coverage ratios below 1.0.

The best possible score from the scorecard is a 1.0, which is very rare; scores up to 1.90 map to Aaa. At the lower end of the scale, scores in excess of 10.9 map to speculative grade ratings, which are categorized more broadly in the scorecard given the rare instances of scoring in this range.

## Assigning instrument-level ratings

After considering the scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we assign ratings to special tax instruments.

## Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.[3]

## Limitations

In the preceding sections, we have discussed the scorecard factors and many of the other considerations that may be important in assigning ratings. In this section, we discuss limitations that pertain to the scorecard and to the overall rating methodology.

### Limitations of the scorecard

There are various reasons why scorecard-indicated outcomes may not map closely to actual ratings.

The scorecard in this rating methodology is a relatively simple reference tool that can be used in most cases to approximate credit profiles of issuers in this sector and to explain, in summary form, many of the factors that are generally most important in assigning ratings to special tax instruments. Credit loss and recovery considerations, which are typically more important as an issuer gets closer to default, may not be fully captured in the scorecard. The scorecard is also limited by its upper and lower bounds, causing scorecard-indicated outcomes to be less likely to align with ratings for issuers at the upper and lower ends of the rating scale.

The weights for each factor and sub-factor in the scorecard represent an approximation of their importance for rating decisions across the sector, but the actual importance of a particular factor may vary substantially based on an individual entity's circumstances.

Factors that are outside of the scorecard, including those discussed above in the "Other considerations" section, may be important for ratings, and their relative importance may also vary from issuer to issuer. In addition, certain broad methodological considerations described in one or more cross-sector methodologies may be relevant to ratings in this sector.[4] Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers, the assessment of credit support from other entities, and the relative ranking of different classes of debt.

We may use the scorecard over various historical or forward-looking time periods. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way.

### General limitations of the methodology

This methodology document does not include an exhaustive description of all factors that we may consider in assigning ratings in this sector. Issuers in the sector may face new risks or new combinations of risks, and they may develop new strategies to mitigate risk. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

## Appendix A: Federal grant anticipation revenue vehicles (GARVEEs)

### Overview

Federal grant anticipation revenue vehicles (GARVEEs) are bonds that are either backed solely by anticipated federal highway or transit grants, or that are paid first from those sources and then have a secondary pledge of other revenue. Although GARVEES share many similar credit factors with other special tax bonds, their distinct characteristic is their exposure to the risk of federal grant reauthorization, which has varied in its dollar amount and period of authorization over time. This appendix provides additional information about our approach to rating GARVEES that are rated using this methodology.

While GARVEE issuers use federal funds to pay debt service, the federal government is under no obligation to provide specific levels of transportation aid to states or transit agencies or to reauthorize its transportation aid program. This risk is partially mitigated by the economic essentiality of transportation infrastructure and a long history of federal transportation assistance. Although there is no obligation to reauthorize the program, the federal government was involved in the creation of this security class and specifically authorized that grant aid could be pledged to bondholders, which mitigates the risk of program discontinuation.

### Special tax scoring factors applied to GARVEEs

Through our special tax methodology, we examine three broad scorecard factors divided into seven sub-factors. Below, we describe how those factors are assessed for GARVEEs. The weights applied to each factor and sub-factor are the same as those for the scorecard in the methodology. Future changes to the federal program structure or changes in our views of the risks to future federal revenue amounts and timing could result in adjustments to the way we score GARVEEs in the scorecard.

**Factor: Taxable Base and Pledge**

*Economic Strength*

Our assessment of economic strength for GARVEEs focuses on the breadth, size and diversity of the US economy, from which the federal gas tax and other national highway user fees pledged to GARVEEs are derived.

*Nature of the Special Tax Pledge*

In assessing the strength of the tax pledge for GARVEEs, we focus on the essentiality of gasoline, historical performance of the pledged revenues and expectations for future growth. We consider the price inelasticity of demand for gasoline, which historically made this revenue stream less volatile and more predictable than most special taxes. Offsetting this strength is the limited scope of the tax compared to a broader tax, such as a sales tax. In addition, we consider the extent to which gains in fuel efficiency or changes in technology are expected to erode the value of a flat per-gallon gas excise tax over the long term.

**Factor: Legal Structure**

*Additional Bonds Test and Debt Service Reserve Fund Requirement*

GARVEE additional bonds tests and debt service reserve fund requirements are treated in the scorecard the same as other special tax bonds.

**Factor: Financial Metrics**

*Maximum Annual Debt Service Coverage*

Many GARVEEs have debt service coverage ratios and additional leverage constraints designed to protect bondholders from unexpected material reductions in federal transportation aid. In our coverage calculation of GARVEE instruments, the numerator is the issuer's obligation authority for the latest available year, and the denominator is MADS. Obligation authority is a limit on the amount of the federal government's obligation, or commitment, to pay a state or transit agency the federal share of project costs for a fiscal year. This amount may be different in the short term from actual receipts, which tend to fluctuate based on project work that can be variable. Receipts over the long term are typically more closely aligned with trends in obligation authority.

*Revenue Trend*

In evaluating the revenue trend for GARVEEs, we consider historical and projected performance of obligation authority. We use an issuer's obligation authority to consider revenue trend because the obligation authority captures underlying trends better than actual receipts, which typically reflect the timing of project outlays.

Due to the historical funding level trend for highways and transit over time, including meaningful variability across administrations and periods of decreases or stagnation, GARVEE's revenue trend scores have generally been constrained from reaching Aaa or Aa. Should the outlook for funding levels change materially, we would adjust this score upward or downward for each state or transit system accordingly.

*Revenue Volatility*

In evaluating revenue volatility for GARVEEs, we consider the historical and projected stability in national and state or transit-specific funding levels. We use an issuer's obligation authority to consider revenue volatility because the obligation authority more captures changes in grant funding better than actual receipts, which typically reflect the timing of project outlays.

### Notching adjustments for GARVEEs

We may apply notching to the preliminary scorecard-indicated outcome for GARVEEs based on legal, governance, economic or other characteristics. Our typical notching for GARVEEs is three downward notches from the scorecard-indicated outcome. Some of the factors that may contribute to this notching for GARVEEs are the following:

- Reauthorization risk
- Maturity
- Prioritization
- State appropriation risk
- Formula risk

**Reauthorization risk**: We apply downward notching to the scorecard-indicated outcome for GARVEEs to reflect federal reauthorization risk and federal budget shutdown risk. GARVEEs' principal risk is that the federal government is under no legal obligation to continue the federal aid highway program or to make federal grants for transportation at current levels or, theoretically, at all. Our assessments of GARVEES incorporate a view that GARVEE reauthorization risk is partially mitigated by the federal government's established commitment to finance essential transportation infrastructure and a long history of uninterrupted federal funding, despite steady declines in federal gasoline tax collections. Nonetheless, GARVEEs that are solely backed by anticipated federal highway or transit grants are notched down for this consideration, typically by two notches, to reflect federal reauthorization risk and federal budget shutdown risk.

Another risk is that there may be a lapse between authorizations, constraining the ability of the Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) to process grants. Any timing of debt service payments at the beginning of the federal fiscal year on October 1 or shortly thereafter increases the risk that prompt payment of principal and interest could be affected by a delay in reauthorization without a temporary extension. A transaction with heightened administrative risk, e.g., with debt service payment dates that come due prior to an expected federal budget adoption, and without a debt service reserve fund, typically results in one additional downward notch.

Also, federal grants are made on a reimbursement basis for project costs incurred. In a direct GARVEE structure, the FHWA directly reimburses an issuer for debt service costs. Debt service for indirect GARVEEs, on the other hand, is paid out of federal aid reimbursements for ongoing construction or capital costs. Direct GARVEEs are exposed to the risk that a lapse in authorization or other interruption in reimbursements will coincide with a debt service payment date and thus impede the reimbursement of debt service. Payment of debt service on indirect GARVEEs relies on the maintenance of a continuous flow of reimbursements for project work.

For GARVEEs that have a secondary pledge of special tax revenue, in addition to the primary pledge of federal highway or transit grants, we typically assess the secondary pledge as discussed in this methodology and do not factor in reauthorization risk. Revenue that is available but has not been pledged is not considered an effective secondary pledge.

**Maturity**: GARVEE bonds with maturities longer than the current maximum of 18 years would likely receive one-half or more downward notches to reflect the higher risk of a change in federal transportation funding policy. A sustained pattern of shorter federal re-authorizations may cause us to apply a downward adjustment for bonds with maturities longer than the historical median of 12 years.

**Prioritization**: GARVEEs typically benefit from a requirement included in the bond documents that the state's or territory's department of transportation request reimbursement or set aside funds for debt service prior to any other use. Lack of prioritization is a credit negative and could result in one-half or one downward notch.

**State appropriation risk**: Some GARVEEs are exposed to state appropriation risk as certain states require the appropriation of federal aid as an additional step before it can be applied to debt service. We consider the risk of non-appropriation as minimal. Several factors mitigate non-appropriation risk, including the prioritization of debt service ahead of other uses, the narrow permitted uses of federal transportation grant funds and the possibility of diminished access to capital markets in the event of non-appropriation. Non-appropriation would likely result in an additional downward adjustment to the scorecard-Indicated outcome.

**Formula risk**: Beyond the reauthorization risk common to all GARVEEs, we typically apply further downward notching to the preliminary scorecard-indicated outcome in cases where the GARVEE is outside the normal funding formula and where there is reliance on discretionary rather than formula funding.

### Additional considerations for GARVEEs

» Mass transit

» Revenues available but not pledged

» Donor/donee status

» Treasury offset program

**Mass transit**: Mass transit agencies receive funding through the mass transit account of the highway trust fund. We do not make a rating distinction based on transportation mode because the split of federal revenues between highway and transit has been fairly consistent over the past few authorizations. Political support for mass transit is less universal than for highways. Given the wider base of political support, we consider highway spending levels to be more resilient to budgetary pressure than transit. Where we view a new transportation funding authorization as reducing distributions to transit systems, we typically apply that projection to our assessments of the nature of the tax pledge and maximum annual debt service coverage.

Mass transit issuers of GARVEEs are also exposed to labor provisions within federal transit law. The US Department of Labor must certify that certain protective arrangements are in place as a condition of federal financial assistance, including the grants that secure transit GARVEEs. We do not make a rating distinction, however, as the risk is small. Denial of transit grants due to labor issues is rare because both labor and transit management have an incentive to maintain the flow of federal grants, and a process is in place to address labor issues before a grant is denied.

Mass transit GARVEEs are also exposed to the risk of a federal shutdown. The FTA is mostly funded through the federal general fund and therefore cannot process grants in the event of a shutdown. The FHWA, funded mostly through the highway trust fund on the other hand, is able to process grants. Transit GARVEEs are typically structured with a debt service reserve or advanced set-aside that mitigates federal shutdown risk. Absence of such a mitigant could result in a lower rating.

**Revenues available but not pledged**: Some states and transit systems make available additional revenues outside of those pledged to bondholders. Only pledged revenues are considered in scoring the financial metrics factor. Revenues that are available but not pledged generally do not result in ratings uplift because those revenues are outside of the legal contract between the issuer and bondholders.

**Donor/donee status**: With GARVEEs, some states ("donor states") receive less in federal highway funds than highway users have paid into the highway trust fund, while "donee states" receive more in highway funds than highway users are estimated to have paid. Donee states face some risk that a new authorization changes the distributions to more closely match payments into the fund. Where we view a new transportation funding authorization as reducing distributions to donee states, and where we assess the future revenue trend to be more negative, we typically apply that projection to our assessments of the nature of the tax pledge and maximum annual debt service coverage.

**Treasury offset program (TOP)**: The TOP is a federal program that withholds money from federal payments to pay off delinquent debts. Debt owed by states to a federal agency can be referred to the US Treasury to be paid back with the next federal payment to be made to that state or any entity sharing its Taxpayer Identification Number (TIN). We consider the risk to be low, as offsets of federal monies owed to states or municipal entities have historically been infrequent, and issuers can prevent debts owed by related entities affecting their federal transportation grants by obtaining their own TIN. Sharing of a TIN with an entity that is vulnerable to being referred to the TOP may result in a lower rating.

# Appendix B: Adjustable assessment bonds

## Overview

Adjustable assessment bonds are special tax bonds that are backed by tax-like adjustable assessments, where the rate of taxation can be adjusted to result in sufficient revenues to pay debt service and other costs. Although these obligations share many similar credit factors with other special tax bonds, the flexibility of the assessment mechanism itself is an important distinction. This appendix provides additional information about our approach to rating the adjustable assessment bonds using this methodology.

## Adjustable assessment bonds distinguished by ability to adjust necessary charges

Adjustable assessment financings are secured by a pledge of revenues derived from mandatory assessments on a base of broad or specific economic activity, and on which the issuer has the ability to set the assessment rate on at least an annual basis to ensure adequate debt service coverage. Adjustable assessment bonds have been issued by a variety of entities, including state-run insurance entities and governmental financing authorities. The different pledged assessments include those on insurance policies and employment payrolls.

A distinguishing credit factor for this subset of credits is that the assessment mechanism allows the assessment rate to be adjusted without regulatory or political approvals. The assessments are typically applied to an already existing bill and can result in substantial penalties if unpaid.

Adjustable assessment bonds also include a number of disaster-related bonds issued by state-run property and casualty insurers. These bonds can be issued on a pre-event or post-event basis, in either case for the purpose of providing liquidity to pay claims in the event of a major storm. These financings are typically backed by assessments on insurance policies, are included on homeowners' insurance bills and can cause loss of the insurance policy if they are not paid.

### Adjustable assessment credits share many characteristics with tax-backed credits

Debt secured by adjustable assessments is similar to debt secured by taxes and shares a number of credit factors. The assessment bases may be small or large, narrow or diverse, similar to the variation in economic bases underlying tax-backed pledges. Payment of assessments is highly enforceable and non-payment of assessments tends to result in steep penalties, also similar to most taxes. In our analyses, we consider both assessment-backed and tax-backed obligations within a specific economic base and evaluate the nature of the pledge and strength of the legal structure.

Within the context of the special tax methodology, the two key differentiating factors of adjustable assessment bonds are: (i) the ability and obligation to set the assessment rate on at least an annual basis to insure coverage of bond debt service, a feature that is not included in most special tax-backed bonds; and (ii) some of the bonds in this category have been issued by disaster-related entities for the purpose of paying damage claims after a major storm. This type of event risk and potential for operating or revenue disruption are typically not found in most tax-backed bonds.

The event and insurance industry risks associated with disaster-related bonds arise from the potential disruption brought about by major storms. While the assessment mechanisms may have very strong legal protections, collections of insurance or operations of the insurer could be interrupted if there is significant devastation in the tax base from a hurricane, for example. Most tax-backed bonds in the municipal sector are not susceptible to storm risk. However, some have tax bases that are also located in storm-prone areas, exposing them to a similar level of storm risk.

Revenue vulnerability, however, tends to vary depending on the pledge. In some cases, we have seen increases in sales tax revenues after a storm as residents increase purchases to replace damaged goods and for clean-up needs.

## Applying the special tax scorecard to adjustable assessment bonds

### Special tax methodology scoring factors applied to adjustable assessment bonds

In this methodology, we examine three broad scorecard factors divided into seven sub-factors. Below, we describe how those factors are applied to adjustable assessment bonds, where they are different from the standard treatment in this methodology. The weights applied to each factor and sub-factor are the same as those for the scorecard in the methodology.

**Factor: Taxable Base and Pledge**
*Economic Strength*

For each assessment bond, we evaluate the size, diversity and growth prospects of the assessment base, which typically encompass an entire state.

*Nature of the Special Tax Pledge*

To evaluate the strength of an assessment bond pledge, we focus on the broadness of the pledge. Assessments levied on all employers within a state are the strongest, whereas assessments levied on a smaller subset of employers, such as insurers of a specific line of coverage, are by their nature a weaker pledge.

**Factor: Legal Structure**
*Additional Bonds Test*

We score this sub-factor in the same way as for all special tax bonds. Most adjustable assessment bonds are not structured with an additional bonds test, and therefore the bonds typically score low for this sub-factor. Other types of leverage constraints may exist, however, such as limits on overall assessments or issuance, which would be reflected in an upward notching adjustment.

*Debt Service Reserve Fund Requirement*

We score this sub-factor in the same way as for all special tax bonds. While some adjustable assessment bond structures do include debt service reserve funds, many do not because of the greater extent of certainty in collecting adequate debt service due to the adjustable assessment. Disaster-related issuers may also issue bonds for pre-event liquidity, in which case proceeds are not drawn unless a major storm strikes; these bonds may also have springing reserve fund requirements.

**Factor: Financial Metrics**
*Maximum Annual Debt Service Coverage*

We score this sub-factor in the same way as for all special tax bonds. MADS coverage is often narrower for adjustable assessment bonds than other special tax bonds. Because issuers of these bonds have the ability to set the assessment rate, resulting in a greater extent of certainty for debt service coverage, we typically apply upward notching where we consider the negative impact of the scorecard scoring for MADs coverage is mitigated.

*Revenue Trend*

We use the trend in the size of the assessment base as a proxy for revenue. Changes in revenue resulting from rate changes are excluded as they do not reflect the underlying economic trend.

*Revenue Volatility*

We use the trend of assessment base volatility as a proxy for volatility of revenue collections. Volatility caused by changes in the assessment rate is excluded as it does not reflect the underlying economic trend.

## Notching factors for adjustable assessment bonds

**Upward notching**

**Active management**: The scorecard-indicated outcomes for all adjustable assessment bonds typically receive a one-notch uplift reflecting the ability to set the assessment rate on at least an annual basis without onerous external approval. We consider the ability to set rates to meet debt service coverage requirements as a fundamental credit strength of adjustable assessment bonds and the primary difference between them and all other special tax bonds. Pledged revenues for most other special tax bonds are determined by a set rate and a base of economic activity that varies and do not benefit from active management of the rate setting process. Whereas in the case of adjustable assessment bonds, pledged revenues can be increased by adjusting the tax rate, a process that is typically governed by bond documents.

**Enhancements**: Many adjustable assessment bonds do not have debt service reserve funds and are scored as such. However, some have structural features that provide additional liquidity, which we may reflect with upward notching. For example, some bonds are issued to provide liquidity to pay claims in advance of a potential hurricane. There may be no formal debt service reserve because the expectation is that bond proceeds will remain with the trustee and be used to pay debt service (assuming there is no hurricane). In the event of a storm, where bond proceeds are drawn down, there may be a “springing” debt service reserve (a reserve required to be funded at that time). In another example, a bond that does not have a formal debt service reserve but requires that the assessment be annually set at greater than 1 times debt service, is likely to have a liquidity cushion available in most cases.

With features and structures such as these, we typically apply one notch of uplift. Also, a limitation on debt issuance or overall assessment combined with a rate covenant may offset the lack of an additional bonds test.

**Downward notching**

We typically apply one downward notch for material operating risks, such as vulnerability to legislative changes or management issues that could impede an issuer's ability to collect assessments for debt service in a timely manner.

## 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 methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. A list of sector and cross-sector methodologies can be found here.

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 is available here.

## Endnotes

1 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

2 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

3 A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

4 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

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